COMPANY'S TRANSFORMATION PROCESS EFFECTIVENESS THROUGH THE PRISM OF SOCIO-PSYCHOLOGICAL AGING OF THE PERSONNEL

DOCTORAL THESIS

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Resumen amplio

En el apartado 1 "General context of the doctoral thesis/ Contexto general de la tesis doctoral del capítulo 1 "Antecedentes/Background" se exponen los argumentos conceptuales y las consideraciones prácticas que nos han llevado a realizar un estudio sobre un concepto recién introducido, (el de la edad socio-psicológica y el envejecimiento socio-psicológico en la actividad laboral) así como aquellos otros componentes asociados (cultura organizativa, preferencias de valores organizativos de los empleados, auto-actitudes, bienestar subjetivo, evaluación de la edad por parte de los empleados y por parte de los gerentes, etc.). Además, se explica sobre la relevancia social y metodológica del tema para culminar con el propósito del trabajo que lleva al planteamiento de los objetivos de la investigación.

El tema de la edad siempre ha estado de actualidad para científicos de diferentes ámbitos del conocimiento: biólogos, médicos, sociólogos, psicólogos, antropólogos. Sin embargo, hasta hace poco, la mayoría de las investigaciones se han centrado en el estudio de niños y edades tempranas. Sin embargo, en las últimas décadas, el estudio en edades más avanzadas está cobrando especial relevancia. Esto no es casual ya que en las últimas décadas la idea de prolongar el periodo activo de la vida laboral ha estado en la agenda de la mayoría de los países. Por otra parte, la economía experimenta una escasez de personal debido al envejecimiento de la población. Pero estas dos tendencias no resuelven el problema de dotar a la economía de personal de calidad.

El desarrollo económico del siglo XXI va más rápido que nunca. No solo hay una revolución tecnológica, sino también una revolución de la gestión (Glazyev, 2020; Schwab, 2017). Los cambios en el mercado laboral debidos a la llegada de un nuevo paradigma tecnológico de la Industria 4.0, la profundización de la crisis económica mundial y el salto digital están conduciendo a una reducción del tiempo necesario para mejorar las competencias y reciclar a los trabajadores, de manera que en una perspectiva de 5 años, podría conducir a la reducción de 85 millones de puestos de trabajo (World Economic Forum, 2020). El impacto de los factores externos globales, los conflictos regionales que conducen a una gran incertidumbre, o la pandemia de COVID-19, están acelerando estas tendencias.

Rusia está experimentando tendencias globales de desarrollo económico (Leonova et al., 2020). Hablamos de una desaceleración del crecimiento global de la economía mundial en el mediano y largo

plazo a un nivel por debajo del 3% debido a la disminución de los procesos de integración global, los conflictos regionales, el aumento de los precios de la energía, el envejecimiento de la población y el lento crecimiento de productividad laboral; el inicio de un nuevo orden tecnológico con las transformaciones fundamentales que lo acompañan que afectan los sistemas sociales, políticos y económicos, así como un contenido fundamentalmente nuevo del trabajo y nuevas formas de gestion.

Al mismo tiempo, la evaluación de la Organización para la Cooperación y el Desarrollo Económicos (OCDE, 2017) con respecto al crecimiento de la economía rusa en los próximos años está por debajo de las previsiones de los países desarrollados (1,5 - 1,8%).

Entre los factores graves que limitan el crecimiento económico, los expertos señalan, entre otros, la baja productividad laboral y la disminución de la mano de obra (Abramova y Grishchenko, 2020; Vaisburd et al., 2016). Si la baja productividad laboral viene determinada por el retraso innovador de muchas empresas rusas, la reducción de la mano de obra está relacionada con el envejecimiento de la población, incluido el personal. El periodo de transición a los nuevos límites de la edad de jubilación planteados por la nueva reforma de las pensiones en Rusia que elevó esta edad en 5 años, (la medida aprobada para el gobierno ruso en 2018 aumentó la edad de jubilación a los 65 años en el caso de los hombres y a los 60 años para las mujeres, frente a los niveles de 60 y 55 respectivamente que se aplican en la actualidad), finalizará en 2028. Al mismo tiempo, la población activa en Rusia se prevé que aumentará gradualmente de 75,8 millones de personas en 2018 a 79,2 millones de personas en 2036. Se supone que el problema del envejecimiento del personal se resolverá aumentando la edad de jubilación. Sin embargo, es poco probable que un recurso humano adicional en forma de trabajadores mayores mediante la aplicación de una reforma de las pensiones contribuya automáticamente a la consecución de objetivos serios de desarrollo económico (Stuken y Korzhova, 2019). Es ampliamente conocido que, según los estereotipos de edad y de género, los trabajadores séniores, y las mujeres en particular, no suelen ser los mejores candidatos para ser contratados y retenidos (Mihalčová et al., 2018). Y las tecnologías clave de la Industria 4.0 que está en marcha en todo el mundo -el análisis de Big data, los robots autónomos, la simulación (modelización), la integración de los sistemas informáticos, el internet industrial de las cosas, la ciberseguridad, la computación en la nube, la realidad aumentada, y las

competencias relacionadas no coinciden con las características de los trabajadores que se les da segun los estereotipos de género y edad (Cassioli et al., 2020). Las nuevas cualidades profesionalmente importantes que exigen las empresas a sus empleados son: la creatividad, la aceptación de las innovaciones, el dinamismo, la disposición constante a aprender y el autoaprendizaje, que tradicionalmente se asocian al personal masculino joven, lo que determina las dimensiones de edad y género del mercado laboral (Kipper et al., 2021). No sólo en Rusia, sino también en los países desarrollados, los empleadores no están interesados en contratar a mujeres y a trabajadores de mayor edad, especialmente en ocupaciones de alta tecnología. Algunos de estos estereotipos asociados a trabajadores de mayor edad suelen ser: resistencia al cambio organizativo; falta de flexibilidad; disminución de la motivación y bajo nivel de implicación en el proceso de trabajo; fatiga; conservadurismo, falta de capacidad de aprendizaje; pérdida de autonomía; falta de disposición a asumir responsabilidades personales; exposición al estrés; enfermedad (Neves y Vetere, 2019). Aunque también hay atributos positivos: disposición al acuerdo, fiabilidad y lealtad, o experiencia, mayor tolerancia a las condiciones de trabajo, lo que también es importante (Zaniboni et al., 2019). En cuanto a los estereotipos de género, se basan en las ideas tradicionales sobre los roles sociales de las mujeres en la sociedad. La transición a un nuevo orden tecnológico puede desplazar aún más a las mujeres, especialmente a las de mayor edad, hacia sectores de baja tecnología y trabajos mal pagados, exacerbando las desigualdades de género existentes.

Al mismo tiempo, los estereotipos influyen en la propia persona, que ya encuentra manifestaciones de ellos en sí misma (Kornadt, 2016; Specht, 2017; Stephan et al., 2015). Los trabajadores bajo la influencia de los estereotipos de edad comienzan a experimentar desventajas subjetivas relacionadas con su actividad laboral.

Mientras tanto, existen también opiniones negativas sobre la edad de los jóvenes (Raymer et al., 2017). Entre ellas, podemos citar estereotipos asociados a la escasa competencia o su ausencia total, su no implicación, el distanciamiento, la pasividad, la falta de responsabilidad, el egoísmo, la baja capacidad de aprendizaje y la menor adaptabilidad al trabajo, el deseo de recompensa inmediata, la orientación al autodesarrollo en condiciones de trabajo cómodas con horario flexible en una empresa

con una buena marca, incapacidad para concentrarse durante mucho tiempo, retraimiento hacia sí mismo, falta de deseo de crecimiento profesional, deseo de liberalizar las condiciones de trabajo, o la comunicación con un supervisor en igualdad de condiciones (Kucherov et al., 2019).

Por ello, algunos autores sugieren que la edad cronológica pierde cada vez más su carácter interpretativo en relación con el comportamiento de las personas, incluso en la actividad laboral (Goecke y Kunze, 2018; Staudinger, 2015). A pesar de estos estereotipos, cualquier observador imparcial puede ver a muchos trabajadores sénior trabajando con éxito en empresas innovadoras. Sin embargo, los estereotipos existen y siguen formándose. Si una persona tiene más de 45 años es percibido como un conservador cansado, y si es menor de 30 años como un pensador de mosaico.

Es muy importante la percepción que tiene el empleador del conjunto de sus características reales de un empleado y no en función de su edad cronológica, sino de la socio-psicológica, formada sobre la base de la autopercepción del complejo de competencias físicas, intelectuales y sociales, correlacionadas con las características típicas de alguna edad cronológica más joven o posterior. Por otro lado, este fenómeno incluye un conjunto de características de la percepción humana por parte de los representantes sociales, incluidos los empleadores y colegas (Zakharova et al., 2018).

El proceso de desarrollo y envejecimiento es complejo y multifacético. Los investigadores distinguen varios tipos de envejecimiento biológico, psicológico y social (Ksenda y Tatarko, 2018). Este proceso es individual e interactivo (Staudinger, 2015). Hay opiniones que afirman que el envejecimiento es un proceso natural y que es necesario tomárselo con calma, conociéndose a sí mismo y los significados que conlleva, y es difícil no estar de acuerdo con ellas (Mrzljak, 2022). Al mismo tiempo, no se puede negar a las personas el derecho a aplazar esta etapa de su desarrollo ontogenético en la medida de lo posible y aprovechar las oportunidades de autorrealización no sólo en las actividades familiares y recreativas, sino también en las laborales.

El énfasis en la actividad como fenómeno central en el análisis de la edad socio-psicológica está bastante fundamentado científicamente. En primer lugar, las concepciones clásicas de los periodos de edad están relacionadas con la identificación de la actividad principal, es decir, la actividad en cuyo contexto un individuo adquiere las principales cualidades personales, competencias mentales y

conductuales (Elkonin, 2019). En segundo lugar, los sujetos de la evaluación se especifican en cada tipo de actividad: en la actividad laboral, el empleador o los compañeros de trabajo; en las actividades relacionadas con la realización de las funciones de un miembro de la familia, el cónyuge, los hijos, los parientes lejanos y cercanos evalúan la edad socio-psicológica de una persona. Sus criterios de evaluación pueden ser muy diferentes de los del empresario. Y por último, lo más probable es que la edad socio-psicológica pueda ser diferente en distintas actividades: una persona puede ser psicológicamente joven en las relaciones románticas y vieja en las relaciones laborales.

Las ideas sobre la interactividad del proceso de envejecimiento socio-psicológico de un empleado permiten considerarlo, de acuerdo con la teoría de T. Parsons, como una acción social. Esto ofrece la oportunidad de estudiar este proceso en el contexto de su determinación sistémica en los niveles de la cultura nacional, la cultura organizativa, la personalidad y el organismo (nivel de determinación psicofisiológico) (Parsons, 2010). Parece que el papel clave en la determinación del desarrollo socio-psicológico de un empleado pertenece a los determinantes culturales, porque contienen valores que son predictores del comportamiento social (Schwartz et al., 2012). Y si los valores culturales generales son bastante difíciles de gestionar, entonces los valores organizativos pueden ser analizados por la dirección y convertirse en objeto de gestión, ya que la cultura organizativa tiene su origen en la dirección (Meng y Berger, 2019). La cultura organizacional, se basa en los valores del comportamiento laboral y del desarrollo organizacional, así como en los modelos de comportamiento que corresponden a estos valores (Schein, 2010).

Como resultado surge la relevancia del estudio del envejecimiento socio-psicológico en relación con la actividad laboral como un problema de regulación social y organizativa de las manifestaciones de la edad, cuya solución exitosa garantizará la reducción e incluso la eliminación de la influencia de los estereotipos de edad en el mercado laboral.

En este contexto, el problema de la edad socio-psicológica en la actividad laboral adquiere una gran importancia. La solución de este problema no sólo podría aumentar las posibilidades sociales y de gestión de la creación de capital humano de las empresas.

En términos científicos concretos, la relevancia del estudio propuesto puede servir para conocer los mecanismos sociales de interacción destinados a frenar el envejecimiento socio-psicológico del personal en la actividad laboral.

Esto ofrece una oportunidad única para mejorar la capacidad de recuperación de las empresas mediante el desarrollo y la aplicación de tecnologías sociales para la selección, la formación y la gestión del personal con diferentes características de edad y género.

Al grado de desarrollo científico del problema esta dedicado el apartado 2 del capitulo 1 "Justification of research area/Justificacion del área de investigación" - el estudio de los problemas de gestión del envejecimiento socio-psicológico del personal en las organizaciones modernas nos permite identificar una serie de áreas de pensamiento sociológico y psicológico, que reflejan tres grupos y temas de relevancia para el tema del trabajo: 1) desarrollo socio-económico en el contexto de los cambios de paradigmas económicos y de gestión,

2) la sociología de la edad y género,

3) la sociología de las organizaciones, del trabajo y la gestión.

Al mismo tiempo, la naturaleza integral y compleja del estudio predetermina su carácter interdisciplinario. La base del estudio incluía, naturalmente, la teoría y los resultados de la investigación en el campo de la psicología de la edad y la organización, la teoría de la organización y la gestión, y el capital humano.

El primer grupo de estudios sobre el socio-económico en el contexto de los cambios de paradigmas económicos y de gestión examina el impacto del progreso tecnológico y el desarrollo innovador en la sociedad y el mercado laboral.

El impacto del progreso científico y tecnológico y de las últimas tecnologías en la sociedad se trata en los trabajos sociológicos modernos de K. Ashton (Ashton, 2009), L. Atzori, A. Iyer, G. Morabito et al. (Atzori et al., 2011), W. Bauer M. Hammerle, S. Schlund, K. Vocke (Bauer et al., 2015), D. Bastos, M. Shackleton, F. El-Moussa, F. (Bastos et al., 2018). El estudio del impacto a gran escala de la cuarta revolución industrial y el nuevo orden tecnológico en la sociedad y el mercado laboral es conducido activamente por el presidente del Foro Económico Mundial K. Schwab y sus expertos (Schwab, 2017).

Hay bastantes trabajos dedicados a las particularidades del desarrollo de la innovación de la Rusia moderna (Glazyev, 2018; Mau, 2019; Shirov, 2019; Zamaraev y Kiyutsevskaya, 2015). Hay muchos trabajos dedicados al tema de las competencias de la personalidad innovadora teniendo en cuenta los requisitos del desarrollo tecnológico (Dumitrescu et al., 2019; Fitsilis et al., 2018; Hecklau et al., 2017).

Dada la radicalidad de los cambios que se están produciendo, es especialmente importante la investigación sobre la resiliencia de las organizaciones ante los retos globales (Barasa et al., 2018; Duchek, 2020; McCarthy et al., 2017; Riley, 2020; Robb, 2000; Vogus y Sutcliffe, 2007) y del personal en particular (Everly Jr et al., 2020; Porter et al., 2017; Stoddard, 2020). Varios autores dedicaron sus trabajos al problema de la adaptación del personal de las empresas rusas modernas a las condiciones ambientales modernas (Kuzminov et al., 2019; Popova et al., 2019; Temnitskiy, 2021; Yasin, 2015).

Estos estudios han demostrado que el personal de un gran número de empresas rusas todavía no está adaptado a las condiciones de una economía de mercado, lo que se manifiesta en la incertidumbre del empleo, la inestabilidad de los salarios, que varían en función de la cualificación profesional y la contribución laboral personal, la competitividad en el trabajo, y mantiene las expectativas del proteccionismo estatal, que es contrario a las exigencias del nuevo orden económico, pone en duda el éxito de la innovación. Esto predetermina la relevancia de la búsqueda de nuevos mecanismos y métodos de gestión eficaces.

El segundo grupo de estudios de la sociología de la edad y género se centra en el tema de la edad como un fenómeno complejo y un reto para la sociedad moderna.

Hay una serie de trabajos centrados en el tema de los aspectos biológicos, psicológicos y sociales del envejecimiento (Ksenda y Tatarko, 2018; Makita et al., 2021), la edad cronológica, biológica (Gómez-Campos et al., 2018; Jylhävä et al., 2017; Soriano-Tárraga et al., 2018), psicológica (Montepare, 2020; Pinquart y Wahl, 2021; Staudinger, 2015; Wahl et al., 2022) y la edad social (Rose, 1972; Stodd, 2014). La importancia de la actividad laboral en el mantenimiento de la salud y el bienestar positivo de una persona mayor está demostrada por las investigaciones de B. Rowe y R. Kahn (Rowe y Kahn 2015), W. Staudinger, R. Finkelstein, E. Calvo y K. Sivaramakrishnan (Staudinger et al., 2016). El problema del "envejecimiento productivo" para referirse a la capacidad de personas mayores para

integrarse a la fuerza laboral remunerada, en trabajos de voluntariado o al interior de su familia, con el fin absoluto de mantener su independencia o a cualquier actividad desarrollada por una persona mayor que produce bienes o servicios, sea remunerada o no, o desarrolla capacidades para producirlos está ampliamente descubierta en varias investigaciones (Grigoryeva y Bogdanova, 2020; Lebedeva-Nesevrya et al., 2019; Moody, 2005; Martin et al., 2015; Rowe y Kahn, 2015). Por tanto, envejecer de manera dinámica y exitosa debería reflejar el sentirse socialmente productivo en mayor medida que económicamente productivo; es decir el sentirse útiles a la sociedad, que se beneficiaría de este proceso, tanto como el anciano que disfrutaría de su vejez en vez de solo soportarla. Concretamente, Janssen y Backes-Gellner (2016) revelaron que las mujeres que ocupan puestos de trabajo estereotipados como masculinos están significativamente menos satisfechas con el clima laboral y el contenido del trabajo que las que ocupan puestos estereotipados como femeninos, pero están más satisfechas con sus ingresos en esos mismos puestos. Y los resultados de la investigación de Zaniboni et al. (2019) sugieren que los estereotipos de edad tanto implícitos como explícitos pueden perjudicar la capacidad de contratación de los solicitantes de empleo de mayor edad. Rowe y Kahn (2015) señalaron que el envejecimiento exitoso a nivel de la sociedad obviamente facilitará el envejecimiento exitoso a nivel del individuo y, muy probablemente, viceversa. I. Grigoryeva y E. Bogdanova (2020) señalaron que la pandemia de infección por coronavirus actualizó los límites de edad y obligó a recordar las peculiaridades fisiológicas del organismo que envejece, donde la lucha por la inclusión de las personas mayores ha sido sustituida (temporalmente) por una lucha por su exclusión. La dimensión de la edad y el género del personal socio-psicológicamente resistente mostrando que los trabajadores mayores pueden estar en desventaja en su búsqueda de empleo debido a los estereotipos de edad explícitos que, y que a pesar de los grandes avances hacia la igualdad de género realizados en muchos países occidentales en los últimos 50 años, la segregación de género sigue siendo persistente, y las mujeres ocupan puestos de trabajo peor pagados con peores perspectivas de carrera tiene un impacto en su bienestar socio-psicológico esta ampliamente descubierta en varias investigaciones (Janssen y Backes-Gellner, 2016; Zaniboni et al., 2019).

El tercer grupo de estudios de la sociología de las organizaciones, del trabajo y la gestión se centra en el problema de la predicción del comportamiento organizativo laboral y directivo.

En los estudios de los clásicos de la sociología O. Comte y E. Durkheim mostraron que los predictores del comportamiento son los valores (Comte, 1988; Durkheim, 2014). Gracias a M. Weber, se desarrolló el concepto de valor como norma con aplicación a la tipología e interpretación de la acción social. Concretamente, Shalom H. Schwartz desarrolló justificaciones teóricas sobre la naturaleza y las funciones de los valores y sus interrelaciones en la estructura de la personalidad (Schwartz et al., 2012). Al mismo tiempo, los valores en este concepto son considerados como nociones de metas que sirven como principios rectores principales en la vida humana. Representan algunos criterios para la elección y evaluación de las acciones de una persona, así como la evaluación de otras personas y eventos. Así, los valores actúan como criterios por los que una persona construye su actitud hacia el mundo, incluida su actitud hacia sí misma (autoactitud).

Este enfoque sentó las bases para el desarrollo del enfoque valor-racional en la gestión. El tema de los valores en el pensamiento sociológico occidental del siglo XX se presenta en las obras de E. Giddens (Giddens, 1987), R. Merton (Merton, 1977), T. Parsons (Parsons, 2017), N. Smelser (Smelser, 2020), J. Habermas (Habermas, 1990), J. Homans (Maris, 1970) y otros investigadores. Según estos autores los valores forman la base de la regulación social del comportamiento, se refieren a actividades que inciden en el clima sociopsicológico de la sociedad y de los grupos sociales. Si son adecuados como un sistema de creencias que refleja el espíritu, la identidad individual de una persona y la sociedad, entonces la sociedad comienza a comportarse como un sistema de creencias y se reúne. Expresan el espíritu de una nación en particular. Así, investigadores como E. Durkheim y M. Weber incluyeron este fenómeno en la estructura y vida de la sociedad. Creían que los valores están destinados a crear un conjunto de leyes reguladoras y, de hecho, coercitivas que permitan mantener el sistema existente, administrarlo y mantenerlo en equilibrio. La función principal de los valores es regular el comportamiento, que es una acción consciente en determinadas condiciones sociales. En general, el sistema de orientaciones de valores es una característica importante de la personalidad y un indicador de su desarrollo. El grado de formación de las orientaciones de valor y sus características en el curso de la formación permiten hablar sobre el nivel de desarrollo personal. Muestra la integridad y estabilidad de sus orientaciones.

La problemática de los valores, la cultura y la regulación motivacional de las relaciones sociales y laborales y las peculiaridades de la gestión en las condiciones de los cambios actuales y las nuevas exigencias al personal de las organizaciones ha sido estudiado en los trabajos de T. Peters y R. Waterman (Peters y Waterman, 2017), G. Hofstede (Hofstede, 2001), y E. Schein (Schein, 2010). Estos autores señalaron la importancia de aplicar el principio de dirección por valores. La gestión por valores es un tipo de gestión de una organización basada en su sistema de valores (un conjunto limitado establecido de valores clave), enfocado al desarrollo a largo plazo de la empresa y compartido por todos sus miembros. Obviamente, en el rápido cambio actual, el llamado tsunami de información del mundo VUCA, cuando las instrucciones y los procesos comerciales se vuelven obsoletos más rápido de lo que se formalizan, y las metas y los KPI (indicadores clave de rendimiento) cambian antes de que se descompongan al nivel de un especialista ordinario, es importante tener una base sólida de reglas simples y claras para la interacción dentro de la organización y con el entorno externo.

Uno de los temas importantes del enfoque de valores en la sociología de la gestión es el problema de la cultura organizacional, que es el contexto socio-psicológico de los cambios en curso en las condiciones de la nueva forma de vida tecnológica y de revolución tecnológica. La problemática de la cultura organizacional es el tema de los trabajos de E. Schein (Schein, 2010), G. Hofstede (Hofstede, 2001), J.W. Newstrom (Newstrom, 2014), J. Kotter (Kotter, 2012). Los temas del valor, la cultura y la regulación motivacional de las relaciones sociales y laborales y las peculiaridades de la gestión en las condiciones de los cambios actuales y las nuevas exigencias al personal de las organizaciones se descubren en las obras de G. Hofstede (Hofstede, 2001), E. Schein (Schein, 2010), etc. Uno de los temas importantes del enfoque de valores es el problema de la cultura organizativa, que es el contexto socio-psicológico de los cambios en curso en las condiciones de la nueva forma de vida tecnológica y la revolución tecnológica. El triángulo de la cultura organizativa de Edgar Schein dice que hay diferentes capas en las culturas de las organizaciones. Hay capas superficiales que tienen cierto impacto en la cultura de una organización o que pueden ser una indicación de cómo es realmente una cultura. También hay capas más profundas que proporcionan una visión mucho más amplia de cómo es realmente una cultura. El investigador de gestión holandés Geert Hofstede creó la teoría de las dimensiones culturales

en 1980 (Hofstede, 1980). Las dimensiones culturales de Hofstede tienen su origen en un amplio estudio que realizó entre los años 60 y 70 para examinar las diferencias de valores entre las distintas divisiones de IBM, una empresa multinacional de fabricación de ordenadores. Hoftstede, utilizando un método estadístico específico llamado análisis factorial, identificó inicialmente cuatro dimensiones de valores: individualismo y colectivismo, distancia de poder, evitación de la incertidumbre y masculinidad y feminidad.

De particular importancia para el objetivo de presente estudio es el tema de la transformación de los valores de la sociedad rusa moderna en las condiciones de cambio de los modos tecnológicos y las innovaciones tecnológicas y socioeconómicas que se presenta en las obras de A.G. Zdravomyslov (Kosintseva et al., 2017), N.M. Lebedeva y A.N. Tatarko (Lebedeva y Tatarko, 2007), V.A. Fedotova (Fedotova, 2017), T. I., Shnurenko, y T. P Belikova (Shnurenko y Belikova, 2021), N. Mastikova (Mastikova, 2020), investigaciones de VCIOM (Prioridades vitales de los rusos: familia, dinero o creatividad, VCIOM, 2017) y Levada – centro. El período de transición en la economía rusa, que continúa en los años 90 del siglo XX y continúa hasta el presente, brinda amplias oportunidades para la investigación fundamental sobre los problemas de la sociología en el campo de la regulación social del comportamiento individual, colectivo y organizacional. Esto se debe a que en la sociedad hay un cambio en los valores reguladores de la conducta, debido al tránsito de la economía del paradigma mando-administrativo de gestión al mercado. Este proceso está dirigido a identificar detecciones de distintos niveles: desde la comisión de delitos intrafamiliares e interpersonales. La reflexión crítica sobre los valores anteriores en la sociedad rusa moderna a menudo va acompañada de su negación total y la negación de toda la experiencia de las generaciones anteriores. Al respecto, se afirma una crisis de valores en la conciencia pública. De hecho, los valores en la Rusia moderna pueden contradecirse entre sí. Muchos ya no quieren vivir como antes, pero al mismo tiempo esto se combina con la decepción por las nuevas realidades, metas que se han vuelto inalcanzables o falsas para muchos. La nostalgia de un gran país a veces convive tranquilamente con el aislacionismo y la xenofobia. La percepción de libertad e iniciativa privada, por un lado, y la falta de voluntad para asumir responsabilidades, por el otro. El deseo de proteger la vida privada de uno de la intrusión del estado se acompaña fácilmente del deseo de

"una mano fuerte que ponga orden". Estas son solo algunas de las contradicciones reales en el sistema de valores actual. En consecuencia, los estudios mencionados confirman que los valores son tanto un fenómeno estable e inerte como predictores del comportamiento, que no ceden a las influencias de los gerentes y que no forman un modelo de comportamiento en el formato de cooperación sobre la base de valores de mercado no tradicionales para Rusia. Concretamente, Lebedeva y Tatarko (2007) han identificado los factores culturales universales que promueven y dificultan las actitudes innovadoras productivas de los rusos, independientemente de la edad y el origen étnico: los valores de Autonomía Intelectual y Dominio promueven, y los valores de Jerarquía dificultan las disposiciones innovadoras del individuo. Shnurenko y Belikova (2021) descubrieron a su vez que la formación de los valores de los jóvenes tiene lugar en condiciones de guerra de la información, bajo cuya influencia existe la posibilidad de formación de valores ajenos a la educación y la tradición rusas, así como manifestaciones negativas de la brecha de valores intergeneracional. La manifestación del conflicto intergeneracional tiene un impacto negativo en la consolidación de la sociedad rusa y en el nivel educativo; esta consolidación se basa en la confianza en los valores básicos tradicionales que muestran estabilidad en la conciencia de valores de las diferentes generaciones. En su investigación sobre los valores de los ciudadanos rusos, Mastikova (2020) ha descubierto que, aunque los valores de los encuestados difieren, la mayoría tiende a inclinarse por tener un fuerte locus de control interno. Descubrimos que más de un tercio de nuestros encuestados (la mayoría de ellos menores de 30 años) creen que tienen suficiente fuerza de voluntad para cambiar drásticamente su estilo de vida. Estos encuestados constituyen el núcleo de valores modernos de la sociedad rusa y tienen acceso a una gran cantidad de recursos, como una buena educación, ingresos elevados y una cómoda posición de liderazgo en la escala profesional. Las nociones de los encuestados sobre el futuro del país difieren según la edad. La mayoría de los encuestados tradicionalistas están muy preocupados por la creciente disparidad económica de la sociedad rusa.

El análisis de la literatura existente nos permite concluir que el problema de la regulación social y organizativa de las manifestaciones de comportamiento relacionadas con la edad en relación con el personal de múltiples edades en la transición a un nuevo modo tecnológico y la cultura organizativa

multivariada prácticamente no ha sido ampliamente tratado por lo que requiere de más investigación.

El apartado 3 del capitulo 1 “Development and purpose of doctoral work/Desarrollo y finalidad del trabajo doctoral” esta dedicado al definir la población, tema y objetivos del estudio.

Población de estudio: empleados de empresas rusas

*Tema del estudio**:*** la edad socio-psicológico del personal de las empresas rusas.

Objetivo general: desarrollar el concepto de gestión del envejecimiento socio-psicológico del personal en el mercado de trabajo de la Industria 4.0.

Objetivos específicos:

1. Analizar los fundamentos teóricos y metodológicos del estudio de la edad
2. Desarrollar un modelo teórico de gestión para la determinación de la edad socio-psicológica y el envejecimiento del personal de las empresas.
3. Llevar a cabo la comprobación empírica del modelo teórico de gestión de la determinación de la edad socio-psicológica y del envejecimiento del personal de las empresas con diferente implicación en los procesos de innovación.
4. Revelar la especificidad de las manifestaciones del envejecimiento socio-psicológico para el personal masculino y femenino de diferentes edades, diferentes clases de profesiones en las condiciones organizativas de las empresas innovadoras y ordinarias.
5. Revelar el papel de los estereotipos de edad y del personal directivo en el desarrollo innovador de las empresas en el advenimiento del orden económico de la Industria 4.0.
6. Desarrollar los principios de gestión del envejecimiento socio-psicológico en las condiciones de las exigencias del mercado laboral de la Industria 4.0.

El capitulo 2 “Conceptual frame/Marco conceptual” esta dedicado a introducir el marco teorico para la investigacion emprica de presente estudio.

El apartado 1 del capitulo 2 “Organizations, organizational behavior, organizational culture/ Organizaciones, comportamiento organizativo, cultura organizativa” se centra en los temas de organizaciones, comportamiento organizativo y cultura organizativa.

Como han señalado acertadamente S. Guimond y otros autores (Guimond et al., 2010; Rauthmann, 2021; Snyder y Deaux, 2012) que las causas externas actúan a través de las condiciones internas, hoy en día está fuera de discusión que la personalidad y el comportamiento humano deben ser estudiados en contextos (Guimond et al., 2010; Hughes et al., 2021), es decir, en condiciones tanto sociales como organizacionales, y en el contexto de tareas que generan desafíos para las cualidades y competencias personales del actor. Las condiciones organizacionales son fundamentales porque desde la primera infancia la persona actúa como parte de diversas organizaciones y su influencia es decisiva para el desarrollo de la personalidad, las relaciones de la persona y el establecimiento de modelos de comportamiento (Tolbert & Hall, 2015). Parece oportuno que los estudios de estas ciencias puedan darnos respuestas a las preguntas sobre los modelos de origen y desarrollo del comportamiento organizacional y su impacto en el desarrollo de las organizaciones y las relaciones humanas.

Se presenta un análisis de la comprensión científica de las organizaciones, comportamiento organizativo (Burke & Cerven, 2019; Daft et al., 2017; Drucker, 2012; Herzberg, 2008; Hitt et al., 2017; Mayo, 2017; McGregor, 1960; Velikorossov et al., 2020).

Se señala en la sección actual que desde el punto de vista de la situación económica y tecnológica actual en el mundo una de las necesidades urgentes para la gestión de las organizaciones modernas es la necesidad de desarrollo. Las fuentes de desarrollo pueden encontrarse tanto fuera como dentro del entorno organizativo. Entre los factores externos se encuentra la competencia, los factores económicos, políticos, globales, demográficos, sociales y éticos (Pocztowski & Miś, 2010). Los factores internos, a veces relativamente independientes pero más a menudo secundarios a los factores externos, están relacionados con la puesta en marcha de determinados proyectos dentro de la organización cuando la dirección no está satisfecha con el estado del entorno interno.

Los problemas del desarrollo de las economías impulsadas por la innovación fueron abordados por primera vez por J. Schumpeter en 1934 (Lazzarotti et al., 2011). Lo que complica más las cosas es

que los gerentes suelen dudar de la capacidad de recuperación de las innovaciones. Según algunos autores (Kesting et al., 2015; Wei et al., 2019) los gerentes utilizan métodos inadecuados en las actividades innovadoras. Los empleados se resisten tan a menudo a los cambios que esa resistencia se considera con bastante frecuencia una cualidad intrínseca. La conciencia de que la sociedad necesita esforzarse por conseguir formatos de desarrollo innovadores no hace que esta tarea sea fácil de resolver. La lentitud de la transición y los problemas encontrados por la dirección hablan de graves limitaciones. De ello se desprende que existen conflictos aparentes y que es necesario investigar su alcance y características. Como han observado numerosos investigadores (Daft et al., 2017; Velikorossov et al., 2020), en la época de la mecanización masiva, la automatización y la informatización de la producción, los factores técnicos entran en conflicto con los factores personales porque los empleados se cansan de las operaciones repetitivas centradas y pierden el interés por el trabajo, el rendimiento disminuye debido a las ausencias injustificadas, la rotación de personal, etc. Todo ello demuestra que las relaciones organizativas son cada vez más conflictivas y afectan a la productividad laboral. Los estudios demuestran que las actividades innovadoras y la alta productividad requieren algo más que un determinado conjunto de competencias. Lo que se necesita es el compromiso con unos valores concretos y una motivación específica. Y esto es cierto no sólo para los desarrolladores de nuevos productos, tecnologías y nuevos modelos de organización de la producción y la gestión, sino para la sociedad en su conjunto.

La ampliación de funciones y el enriquecimiento de los puestos de trabajo para un rendimiento eficaz de una organización moderna son relevantes no sólo para los empleados, sino también para los gerentes. No es casualidad que un gran número de trabajos y escritos científicos estén dedicados a la eficacia y las características de los gerentes por far frente a la complejidad de la vida y la gestión de las organizaciones (Ahmadi et al., 2021; Arshad et al., 2021; Filstad et al., 2021; Kong, 2021, Kotter et al., 2021; Martinez et al., 2021; Sherf & Liu, 2022; Wallo et al., 2021).

Se presentan los diferentes modelos de gestión (Newstrom y Davis, 2007) observando que lo más eficaz para las organizaciones en la realidad actual son modelos de apoyo y colegiado porque se basan en una gestión que crea un entorno que promueve el desarrollo individual de los empleados y la

utilización de sus capacidades en interés de la organización y se caracteriza por las relaciones de asociación entre personas que forman un grupo y se esfuerzan por alcanzar un objetivo común (Tabla 1).

Tabla ES 1

Modelos de interacción organizativa

Características	**Autocrático**	**Paternalista**	**De apoyo**	**Colegiado**
La base del modelo	Poder	Recursos económicos	Administración	Asociación
Orientación de los gerentes	Credenciales	Dinero	Soporte	Trabajo en equipo
Orientación de los empleados	Sumisión	Seguridad y beneficios	Realización de tareas de trabajo	Comportamiento responsable
Resultado psicológico para empleado	Dependencia del jefe	Dependencia de la organización	Participación en la dirección	Autodisciplina
Satisfacción de las necesidades del empleado	En la existencia	En la seguridad	En reconocimiento de estado	En la autorrealización
Participación de los empleados en proceso de trabajo	Mínimo	Cooperación pasiva	Energía despertada	Entusiasmo expresado, compromiso personal
Participación de los empleados en	Jerárquico	Clan	Mercado	Adhocracia

Se presenta un análisis de la comprensión científica de la cultura organizativa (Chiavacci, 2023; Pudelko, 2009; Schonberger, 2007). Diversos trabajos dedicados a los estudios de los cambios organizativos defienden ampliamente que los cambios organizativos siempre vienen acompañados de cambios en la cultura organizativa de una empresa (Anderson, 2018; Brown & Harvey, 2021; Waddell et al., 2018). La gran importancia de la cultura organizacional en la vida de la organización ha sido confirmado por una serie de estudios realizados a finales del siglo XX, que mostró, que es esencial en la vida organizacional de cualquier empresa y afecta el rendimiento de los empleados y la calidad de los servicios prestados por las organizaciones (Aronson, 2018; Klein et al, 1995), la satisfacción laboral (Addae & Boso, 2020; Jackofsky, 1987), la innovación (Lorsch, 1985; Qi & Lee, 2019; Sakikawa, 2022) la toma de decisiones directivas (Alexiou et al, 2019; Hartner-Tiefenthaler, 2021; Sackmann, 2021; Sapienza, 1985), la productividad (Denison & Mishra, 1995; Ibrahim et al., 2022; Zeb et al., 2021) y la

eficacia de la aplicación de las políticas de diversidad (Park & Shin, 2019; Suharnomo, 2018).

Una gran importancia en la creación y modificación de la cultura organizativa se atribuye a la dirección de la organización como un proceso consciente y controlado. (Sobirovna et al., 2021). El enfoque sugiere que las organizaciones construyen y desarrollan una cultura orientada a la estabilidad y la eficacia. La dirección de una organización influye en la cultura organizativa y la modifica si es necesario, transmitiendo un conjunto de normas, valores y creencias plasmados en las políticas y procedimientos de la organización, tanto a nivel grupal como individual. Se presentan varios instrumentos para inventario de la cultura organizativa desarrollados por diferentes investigadores - Organizational Culture Inventory (OCI) desarrollado por Cooke ay Lafferty (Calciolari y Prenestini, 2022), Culture Gap Survey desarrollado por Kilmann and Saxton (Williams, 2022), Organizational Beliefs Questionnaire por Sashkin (Saad & Abbas, 2018), Corporate Culture Survey por Glaser (Yang et al., 2019), y Organizational Culture Profile por O'Reilly (Baird et al., 2018), Chatman y Caldwell (Chatman, 2021), E. Shein (Schein, 2010).

Esa misma sección de esta tesis se centra más en el análisis de la cultura organizativa utilizando el instrumento de Cameron y Quinn (OCAI) que clasifica la cultura organizativa en función de los valores que compiten en seis dimensiones e identifica cuatro tipos básicos: jerarquía, mercado, clan y adhocracia. La combinación adecuada de los valores culturales dominantes, la estrategia aplicada, la estructura organizativa y los aspectos específicos del entorno contribuyen a la máxima eficacia organizativa.

Un sistema de control social que moldea los comportamientos individuales de los miembros de una organización e influye directamente en la dinámica de un determinado grupo, la cultura organizacional es relevante también para el comportamiento de los empleados como una de las manifestaciones de la vida de la organización (Dogra & Dixit, 2016; Kouassi, 2018).

Finalmente, en este apartado concluimos que la identificación de la base de valores de la cultura es de gran importancia para el análisis del comportamiento, ya que los valores son sus reguladores básicos. Cameron y Quinn (2011) mostraron razonablemente que cada uno de los tipos asignados de cultura organizacional atrae y concentra a los gerentes con un cierto tipo de valores y determina las

manifestaciones de las características individuales-psicológicas de los empleados en el formato de los patrones de comportamiento de la cultura organizacional de tipo específico. Así, la cultura organizativa, por un lado, une al personal con determinadas características y, por otro, contribuye a la formación de determinadas características en el personal en su conjunto. El personal con características psicológicas que no se corresponden con la cultura organizativa establecida, o bien abandona finalmente la empresa, o bien, de un modo u otro, absorbe los valores de la cultura.

El apartado 2 del capítulo 2 "Modern labor market transformation and company's development: a theoretical and methodological analysis / Tendencias modernas en la transformación del mercado laboral y desarrollo de la empresa: análisis teórico y metodológico" está dedicado al estudio de los cambios en el mercado laboral en el contexto de la transición al nuevo modo tecnológico de la Industria 4.0, los nuevos requisitos de las competencias de los empleados y la cuestión de la resiliencia de la organización. Se introduce el concepto de la edad y envejecimiento socio-psicológico del personal de las empresas como característica que afecta a la resiliencia de la empresa. En esa sección se desarrolla también un modelo teórico de gestión de envejecimiento socio-psicológico del personal y su determinación sistémica.

Se presenta un análisis de la comprensión científica de la resiliencia organizativa en condiciones de inestabilidad socioeconómica (Buzzanell, 2018; Downes et al., 2013; Spears et al., 2015; Wieland y Wallenburg, 2013; Wieland y Durach, 2021) asi como del ruolo de la resiliencia del personal (Bonanno, 2004; Mowbray, 2014, Robb, 2000; Everly et al., 2013; Vogus y Sutcliffe, 2003).

El estado del mercado laboral actual refleja las tendencias del desarrollo de la Industria 4.0 e impone nuevos requisitos de competencias al trabajador, determinando su resiliencia socio-psicológica en el nuevo entorno (Cameron et al., 2003). Los requisitos clave incluyen la disposición a los constantes cambios tecnológicos, de gestión y organizativos, la implicación personal en el proceso laboral y la vida organizativa de la empresa, la disposición a aprender y desarrollarse, asumir la responsabilidad de la autoeducación y, como resultado, la capacidad de sobrevivir al estrés organizativo de los cambios (Schwab, 2017). Estas características suelen asociarse a la edad joven y a la identidad de género masculina (Bobbitt-Zaher, 2011; Zaniboni et al., 2019) según los estereotipos existentes en la sociedad.

Se revelan los desafíos a la resiliencia de las empresas rusas asociados a las transformaciones retrospectivas y prospectivas del mercado laboral que determinan la falta de preparación a nivel de valores y competencia de una parte significativa del personal potencial y real de las empresas a los cambios socioeconómicos en curso.

Entre los retos retrospectivos se encuentran la prolongada transición de un modelo administrativo-burocrático de economía a un modelo de mercado e innovación (Yasin, 2015), que genera una brecha de innovación en Rusia y que le lleva a ocupar el puesto 47 en el mundo en cuanto a capacidad de innovación (World Intellectual Property Organization, 2020). También la sostenibilidad de los estereotipos de edad y género (Sillaste, 2020), cuyas características no son compatibles con los requisitos de la economía en rápida digitalización (Nelson, 2004). Los estereotipos actúan tanto sobre los empleados de mayor edad como sobre los más jóvenes (Kucherov et al., 2019), lo que hace que el rango de edad de los empleados se reduzca a 30-45 años para un empleador típico.

Entre los retos prometedores se encuentra la reforma de las pensiones en curso. Una gran parte de la población no apoya el aumento de la edad de jubilación (para las mujeres la edad aumenta de 55 a 60 años y para hombres de 60 a 65 años), lo que supone una confirmación indirecta de la validez de los estereotipos de edad (Larina et al., 2016). Esta categoría de retos incluye también las condiciones de la pandemia del COVID-19, que han agravado los problemas del mercado laboral y, sobre todo, de las personas mayores, que se encuentran en un grupo segregado de trabajadores que requieren condiciones laborales especiales (Dinku et al., 2020).

En nuestra tesis introduciremos los conceptos de envejecimiento socio-psicológico y edad socio-psicológica utilizando la teoría de la acción social de T. Parsons como base metodológica (Parsons, 2010), y en donde el envejecimiento socio-psicológico se considerará como una acción social determinada por contradicciones específicas en los niveles de la cultura de la sociedad, la cultura organizativa, la personalidad y el organismo donde los predictores del comportamiento son los valores.

Tabla ES 2

Definición de la edad socio-psicológica y envejecimiento socio-psicológico

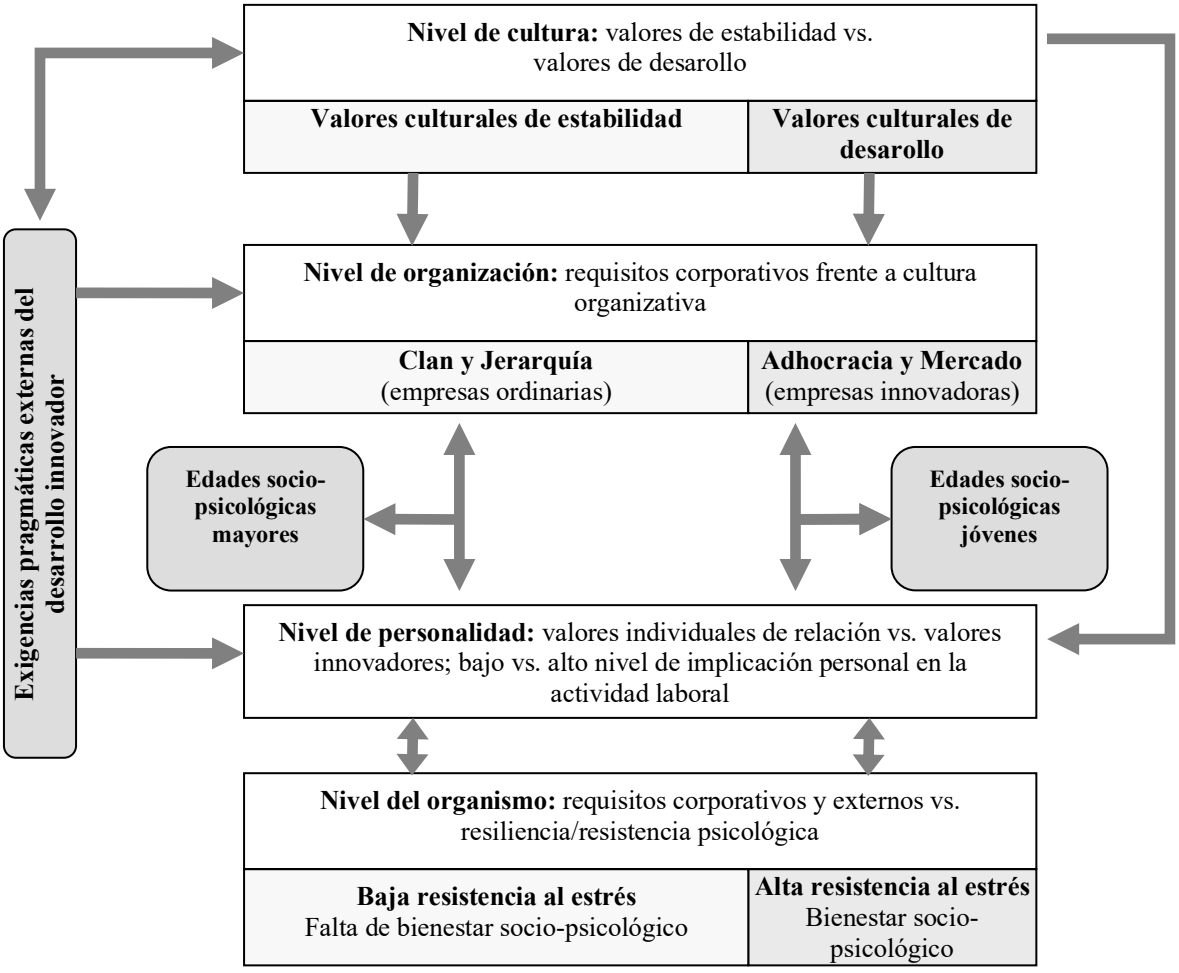
Concepto	**Definición**
Envejecimiento socio-psicológico del personal	Proceso interactivo con determinantes internos y externos, caracterizado por la pérdida de un conjunto de importantes características de adaptación que una persona, como sujeto de trabajo, necesita para realizar la actividad laboral en evolución en su totalidad en el curso de su trayectoria vital. Estas pérdidas se fijan en las características de los estereotipos socio-psicológicos de la vejez.
Edad socio-psicológica del personal	Fenómeno subjetivo y social que recoge el sentido de la edad de una persona, formado a partir de la autopercepción de un conjunto de competencias físicas, intelectuales y sociales correlacionadas con las características típicas de la edad cronológica real, más joven o más tardía, y un conjunto de características de su percepción por parte de los miembros de la sociedad

La cultura organizativa de la empresa se presenta como el principal determinante del envejecimiento socio-psicológico en la actividad laboral y un método sistemático de gestión del personal se define; la cultura organizativa es un mediador social entre los valores inertes de la cultura de la sociedad y los requisitos de resiliencia de la empresa en condiciones de inestabilidad socioeconómica, capaz de cambiar los valores individuales de un trabajador, creando reguladores organizativos y emocionales de la actividad laboral al determinar una o otra edad socio-psicológica de un trabajador.

La figura 1 presenta un modelo teórico de gestión para la determinación del envejecimiento socio-psicológico en relación al mundo laboral bajo que es característica típica de las empresas rusas.

Figura ES 1

Modelo teórico de determinación sistémica del envejecimiento socio-psicológico del personal



Se analizan también las actitudes valorativas de los empleados rusos en relación con las actividades laborales. La especificidad de valores del nivel de cultura de la sociedad rusa contemporánea consiste en el dominio incondicional de los valores de seguridad, relaciones y estabilidad (VCIOM, 2017). La especificidad de edad y género se manifiesta en las orientaciones de valores, las actitudes hacia el trabajo y las actitudes hacia la tecnología, de manera que en general las mujeres son algo más conservadoras, mientras que un número significativo trabajadores rusos de edad avanzada son más bien optimista y tienen una actitud positiva hacia el trabajo y las nuevas tecnologías (Haerpfer et al., 2022), lo que apunta a un recurso para el desarrollo innovador de la sociedad que todavía no se está utilizando eficazmente. Los datos muestran que existen serias barreras a los puntos fuertes del personal de las

empresas: Rusia ocupa el puesto 30 en cuanto a la calidad del capital humano, y el puesto 60 en cuanto a los resultados de la innovación (World Intellectual Property Organization, 2020).

El débil consenso de valores de la sociedad con respecto al cambio, directamente relacionado con la edad socio-psicológica y el envejecimiento socio-psicológico del personal, predetermina la diferenciación de valores de la cultura organizativa de las empresas rusas modernas. Los datos sobre las preferencias de los empleados y managers en materia de cultura organizativa lo confirman: independientemente del tipo de empresa, se ha formado una cultura organizativa innovadora en las empresas innovadores, y una cultura organizativa de tipo clan y jerárquica en las empresas ordinarias, lo que deja lugar al fenómeno de la cultura amorfa (Zakharova et al., 2017). La tabla 3 presenta los indicadores de edad del personal de las empresas rusas, elaborados a partir de la comparación de las características de resiliencia del personal de las empresas ordinarias y empresas innovadores y de los estereotipos de edad (Leonova et al., 2019).

Tabla ES 3

Indicadores de la edad socio-psicológica del personal de las empresas rusas (tendencias)

(Leonova et al., 2019)

Indicadores	**Formas de resiliencia socio-psicológica y edad socio-psicológica del personal**		
	Estereotipos de la vejez	Resiliencia táctica. Edad socio-psicológica "Senior"	Resiliencia estratégica Edad socio-psicológica “Joven”
Valores prioritarios para el desarrollo de la organización	Falta de preparación para el cambio y el desarrollo	Estabilidad, mantenimiento de las relaciones establecidas	Éxito en un entorno competitivo, desarrollando y manteniendo las relaciones establecidas
Motivación del personal	Baja motivación laboral	El predominio de la privada sobre lo laboral	Equilibrar la motivación del trabajo y la vida privada
El nivel de responsabilidad de las decisiones del personal	Bajo	Bajo	Alto
El nivel de apertura de las decisiones del personal	Bajo, miedo por su situación	Bajo	Alto

Nivel de confianza en los gerentes	Bajo	Bajo	Alto
Tipo de conflicto organizativo	De valores	De valores	Instrumental
Estrategias de comportamiento en la situación de conflicto predominantes	Evasión y acomodación	Formas pasivas con una demostración de voluntad de cooperación	Equilibro de la cooperación y rivalidad con el control de las relaciones
Exposición a los estereotipos anteriores a las reformas en las empresas: prioridad de la solidaridad sobre la competitividad, dominio administrativo etc.	Alta	Alta	Moderada
Exposición al estrés organizativo	Alta	Alta	Baja
Estrategias para afrontar el estrés	Priorización de las identidades sociales fuera de la profesión y del estatus oficial	Retirada a funciones extraprofesionales, tratando de mantener las condiciones organizativas anteriores a la reforma	La comunicación, buscando la claridad y en sus competencias no sólo para adaptarse sino también para adelantarse al cambio

En la misma sección se introduce el concepto de edad social en la actividad laboral (Rose, 1972; Stodd, 2014; Zakharova et al., 2018). La conveniencia de introducir este concepto y el desarrollo de tecnologías de diagnóstico de la edad social está condicionada por la tarea de reducir significativamente e, idealmente, eliminar la influencia en la evaluación del personal de los factores subjetivos. El concepto de edad social que se va a desarrollar debe reflejar la correspondencia de la competencia social de una persona con los requisitos pertinentes para la etapa moderna de desarrollo socio-económico de la sociedad. Lo más probable es que en diferentes ámbitos de la vida una persona manifieste las características de diferentes edades sociales, pero esto no reducirá en absoluto las posibilidades interpretativas que ofrece el uso de este concepto en la actividad laboral. Un esquema lo suficientemente sencillo (ver figura 2) permite comprender la idea básica de utilizar las características de la edad social para tomar decisiones de gestión sobre los empleados reales o potenciales, independientemente de su edad cronológica.

Figura ES 2

Categorías de empleados en función de la edad social (Leonova, 2021)

Alta	2	4
Baja	1	3
	Baja	Alta

Por supuesto, este esquema presenta una imagen simplificada de las edades sociales. Sin embargo, nos permite identificar grupos específicos de personal, para los que se pueden tomar determinadas decisiones de gestión y aplicar diversas estrategias de formación empresarial.

En el capítulo 3 "Methodology/ Metodologia", se fundamenta los métodos utilizados de acuerdo con el modelo teórico de gestión de la determinación sistémica del envejecimiento socio-psicológico del personal presentado en el capítulo 2. Se indican las características de la población y muestra del estudio, el contenido de las etapas de la investigación y se dan a conocer los detalles de los métodos utilizados. Se tomaron como indicadores de envejecimiento los indicadores clave de cumplimiento/incumplimiento de las características del personal con los estereotipos de edad.

La tabla 4 presenta los indicadores clave y los métodos utilizados en la validación empírica del modelo teórico de gestión de la determinación del nivel de envejecimiento socio-psicológico del personal.

Tabla ES 4

Indicadores y métodos de investigación empírica

Nivel de determinación de envejecimiento socio-psicológico del personal	**Indicadores**	**Métodos**
Nivel de cultura organizativa	Tipo de cultura organizativa de las empresas innovadoras y ordinarias	Método de C. Cameron y R. Quinn (OCAI) para diagnosticar la cultura organizativa

<table>
<tr><td>Nivel de cultura organizativa</td><td colspan="3">Disposición de los valores para la dirección innovadora del desarrollo de la organización</td><td>Método de C. Cameron y R. Quinn (OCAI) de preferencias organizativas y culturales del personal</td></tr>
<tr><td>Tipo de personalidad</td><td colspan="3">Participación personal en las actividades laborales (implicación)</td><td>Método de M. Kuhn y T. McPartland sobre las autoidentificaciones personales reales y prospectivas (TST test)</td></tr>
<tr><td rowspan="7">Nivel del organismo</td><td rowspan="7">Bienestar</td><td colspan="2">Exposición al estrés organizativo</td><td>Método R. Kessler (Kessler Distress Scale)</td></tr>
<tr><td colspan="2">Autoevaluación de la salud (en general, sistema cardiovascular y nervioso)</td><td rowspan="6">Cuestionario de bienestar subjetivo en el trabajo (de elaboración propia)</td></tr>
<tr><td rowspan="3">Fatiga</td><td>De las condiciones organizativas</td></tr>
<tr><td>Del trabajo</td></tr>
<tr><td>Del trabajo en casa</td></tr>
<tr><td colspan="2">Distancia de poder</td></tr>
<tr><td colspan="2">Bienestar psicológico en el lugar de trabajo</td></tr>
<tr><td>Componente psicológico de la edad socio-psicológica</td><td colspan="3">Autoevaluación de la edad</td></tr>
<tr><td>Componente social de la edad socio-psicológica</td><td colspan="3">Evaluación de la edad de los empleados por parte de los managers</td><td>Opinión de los expertos (de elaboración propia)</td></tr>
<tr><td></td><td colspan="3">Edad social del personal</td><td>Cuestionario "Uso de la información en las actividades profesionales" (de elaboración propia)</td></tr>
</table>

El estudio empírico se realizó en tres fases con las siguientes características (Tabla 5).

Tabla ES 5

Parte empírica del estudio: etapas, métodos, encuestados

Fase	**Título**	**Metodología**	**Muestra**	**Periodo**
1	Definición de la base empírica - "Diagnóstico del nivel de innovación de las empresas"	Un método para que gerentes y expertos de empresas evalúen las innovaciones tecnológicas y de gestión utilizando el método de escalado ("Escala de innovaciones tecnológicas y de gestión" (de elaboración propia)) y el método de K. Cameron y R. Quinn para diagnosticar la cultura organizativa de una empresa (instrumento OCAI).	14 expertos externos, 56 gerentes, 96 ingenieros/médicos de 8 grandes organizaciones de Nizhny Nóvgorod - 4 empresas de producción y 4 empresas médicas (7 gerentes y 12 representantes de cuerpos de ingenieros (médicos) de cada organización participaron en la investigación) (N=166)	Marzo-Abril 2018

2	Estudio de las manifestaciones de la edad socio-psicológica del personal en empresas ordinarias e innovadoras con diferentes edades cronológicas		Empleados (ingenieros y médicos) de 4 (2 empresas manufactureras y 2 empresas médicas ordinarias e innovadoras), (N=850) tres grupos de edad - mujeres menores de 35 años, de 35 a 54 años, de 55 años en adelante; hombres menores de 35 años, de 35 a 59 años, de 60 años en adelante. 7 gerentes de cada organización participaron como expertos (N=28)	Noviembre de 2018
	Diagnóstico de las preferencias organizativas y culturales del personal	El método de C. Cameron y R. Quinn para diagnosticar la cultura organizativa, las preferencias organizativas y culturales ("The Cameron-Quinn Organizational Culture Assessment Instrument" (OCAI)		
	Encuesta sobre el compromiso del personal con la actividad laboral	M. Kuhn y T. McPartland metodo sobre las autoactitudes personales actuales y prospectivas ("The Kuhn-McPartland Twenty Statements Test" (TST)		
	"Bienestar subjetivo del personal en las empresas"	R. Método de autoevaluación de Kessler ("Escala de malestar psicológico de Kessler" (K10) y Cuestionario "Bienestar social y psicológico en el trabajo" (de elaboración propia) y Cuestionario “Evaluación experta de la edad del personal por parte de los gerentes" (de elaboración propia).		
3	“Estudio de la edad social del personal con diferentes edades cronológicas en empresas ordinarias e innovadoras”	Cuestionario "Uso de la información en las actividades profesionales" (de elaboración propia)), Cuestionario "Autoevaluación de la edad y de bienestar en el trabajo "(de elaboración propia), método de autoidentificación personal actual y prospectiva de M. Kuhn y T. McPartland ("The Kuhn-McPartland Twenty Statements Test" (TST)	Empleados de dos empresas manufactureras de la 2ª fase del estudio, (mujeres de 55 años o más, hombres de 60 años o más), (N=250)	Mayo de 2020

En el capítulo 4 “Results /resultados” se analizan los resultados de un estudio empírico sobre la edad y envejecimiento socio-psicológico del personal de las empresas innovadores y ordinarias del sector médico de servicios y de la industria productiva.

En la sección 4.1. “Level of innovation of the companies/ Nivel de innovación de las empresas”:

Los datos obtenidos en la primera fase de la encuesta sobre el nivel de innovación de las empresas se complementan con los resultados del estudio previo sobre las barreras psicológicas al desarrollo innovador y la resiliencia de las empresas en la región de Nizhny Novgorod. La investigación sobre las barreras psicológicas al desarrollo innovador y la resiliencia de las empresas ha sido llevada a cabo por los colegas de la Universidad Estatal de Investigación Lobachevsky de Nizhny Novgorod desde el año 1999, por lo que ha permitido presentar información sobre cuatro empresas de nuestra encuesta estudiadas en 2006 para tener una idea de la dinámica de su capacidad de innovación (Zakharova, 2008).

Los datos de la tabla 5 muestran las valoraciones de los gerentes de las empresas. Por un lado, los gerentes conocen la situación de la empresa para la que trabajan, pero, por otro lado, no se registran ni una sola vez las puntuaciones inferiores a 5 puntos. Incluso en las empresas con problemas muy grandes, los gerentes no consideraron que sus empresas fueron significativamente "peores" que otras. Esto se aplica tanto a 2006 como a 2018.

Tabla ES 6

Evaluación de las innovaciones tecnológicas y de gestión por parte de los gerentes de la empresa y expertos externos

№	**Evaluación de la innovación tecnológica**						**Evaluación de las innovaciones en la gestión**					
	2006			2018			2006			2018		
	Espertos	Gerentes	W	Espertos	Gerentes	W	Espertos	Gerentes	W	Espertos	Gerentes	W
1p				7.2	7.6	-				8.5	6.2	*
2p				8.3	8.5	-				8.5	7.0	T
3p	6.2	6.8	-	9.4	9.2	-	8.2	7.9	-	9.0	7.2	*
4p				4.4	5.5	*				4.1	5.5	*
5m	3.5	6.0	**	3.5	5.8	**	3.0	6.2	**	3.0	5.7	*

6m	3.7	5.5	**	3.5	6.2	**	3.5	6.5	*	3.5	5.0	**
7m				3.7	5.6	**				3.5	5.7	**
8m	6.4	6.6	-	8.7	8.8	-	6.7	8.0	*	8.6	8.3	T

En la tabla: p – empresas industriales, m - empresas médicas; W - prueba W de Wilcoxon: * -p ≤ 0,05; ** - p ≤ 0,01, T - tendencia; - sin diferencias estadísticamente significativas.

La eficacia de la gestión en las empresas innovadoras se confirma al analizar las bases de valor de la cultura organizativa (tabla 7).

Tabla ES 7

Evaluación de la cultura organizativa de la empresa por parte de los gerentes y el personal (ingenieros y médicos)

№	**Valores de cultura organizativa, 2018**											
	Clan		W	Adhocracia		W	Mercado		W	Jerárquia		W
	M	E/D		M	E/D		M	E/D		M	E/D	
1p	30.6	27.5	T	19.5	20.5	-	30.5	33.2	-	19.4	18.8	-
2p	33.3	30.5	-	20.4	19.3	T	31.0	32.4	-	15.3	17.9	-
3p	24.8	25.5	-	20.0	18.5	-	30.2	31.5	-	25.0	24.5	-
4p	25.6	41.5	*	17.2	12.4	*	22.4	19.2	*	34.8	26.9	*
5m	**23.5**	**40.5**	*	**19.1**	**10.7**	*	**20.5**	**16.6**	*	**36.9**	**32.2**	*
6m	21.6	34.5	*	17.5	12.5	*	20.5	15.4	*	40.4	37.6	T
7m	30.3	35.5	*	17.8	14.1	*	18.5	12.2	*	33.4	38.2	*
8m	**25.5**	**24.6**	-	**20.5**	**23.0**	**T**	**23.5**	**17.1**	*	**28.5**	**34.5**	*

En la tabla: p - empresas industriales, m - empresas médicas; E - ingenieros, D – médicos, W - prueba W de Wilcoxon: * -p ≤ 0,05; ** - p ≤ 0,01, T - tendencia; - - no hay diferencias estadísticamente significativas

Así, el análisis de los datos nos ha permitido señalar dos empresas manufactureras (№3 - innovadoras y №4 - ordinarias) y dos empresas médicas (№5 - ordinarias y №8 - innovadoras) como bases para la investigación empírica en la etapa principal. Al mismo tiempo, el deseo de la dirección de las empresas ordinarias de promover la transición de las organizaciones al formato innovador de desarrollo encuentra una resistencia considerable del personal.

La seccion 4.2. "Organizational culture and personal involvement of personnel in work activities/Cultura organizativa e participacion individual del personal en las actividades laborales" está

dedicada al análisis de los resultados de la investigación empírica sobre las características de la cultura organizativa, las preferencias de valores del desarrollo organizativo (Fig. 3 y 4) y la participación individual del personal en las actividades laborales implicación personal en el trabajo del personal de las empresas innovadores y ordinarias (Tabla 7).

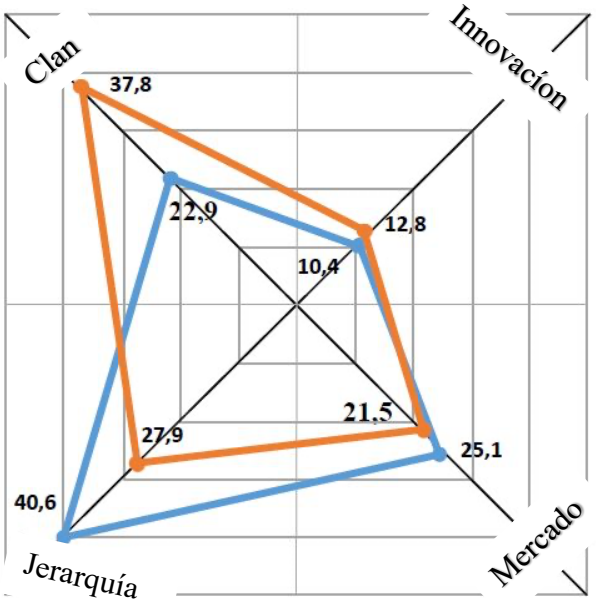


Figura ES 3. Evaluación de la cultura organizativa y preferencias organizativas y culturales del personal de la empresa ordinaria

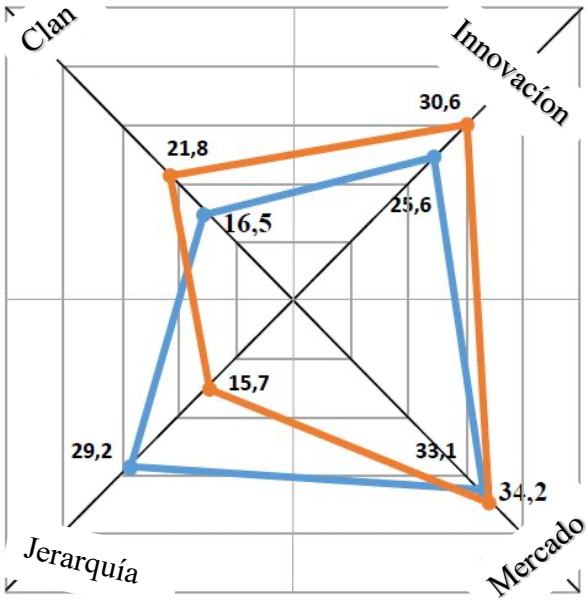


Figura ES 4. Evaluación de la cultura organizativa y preferencias organizativas y culturales del personal de la empresa innovadora

Los datos indican que las culturas organizativas se corresponden plenamente con las características de la cultura organizativa de las empresas innovadores y empresas ordinarias. Con ciertas peculiaridades de las preferencias de valores dependientes del sector de la economía (médico o industria) y algunas diferencias de género, se identificó el fenómeno de la unidad organizativa-cultural de edad, que consiste en que el personal dentro una cultura organizativa independientemente de la edad cronológica, género y su pertenencia al sector de la economía que está más cerca por las características de las preferencias de valores que el personal que trabaja en una cultura organizativa de otro tipo.

La cultura organizativa de las empresas innovadores, que tiene un marcado componente de adhocracia, frena el envejecimiento socio-psicológico del personal: el personal apoya la cultura organizativa existente y está dispuesto a continuar el desarrollo innovador de la empresa. El personal de

las empresas ordinarias está preparado para los cambios organizativos, pero de orientación conservadora - fortalecimiento a la prioridad absoluta del componente de clan de la cultura organizativa. En cuanto a sus valores, el personal de las empresas ordinarias, independientemente de la edad cronológica, se corresponde con los estereotipos de la vejez, mientras que el personal de las empresas innovadores no.

Los datos sobre la participación personal en las actividades laborales del personal masculino y femenino de diferentes edades de las compañías innovadores y ordinarias confirman los datos sobre las preferencias de la cultura organizativa.

Tabla ES 8

Compromiso de los ingenieros y doctores de las empresas innovadores y ordinarias con la actividad laboral

Indicadores	**Edad**																	
	Jóven						Media						Senior					
	Mujeres			Hombres			Mujeres			Hombres			Mujeres			Hombres		
	O	I	W	O	I	W	O	I	W	O	I	W	O	I	W	O	I	W
API-E	0.9	1.6	*	1.4	1.9	*	0.9	1.5	*	1.6	1.9	T	1.1	1.5	*	1.25	1.5	T
PPI-E	0.5	1.4	**	1.1	2.2	*	0.8	1.5	*	0.6	1.6	*	0.5	1.2	*	0.3	1.7	*
U	T	-		-	-		-	-		-	-		*	-		*	-	
ASI-E	2.1	1.4	*	1.6	1.1	*	2.1	1.5	*	1.4	1.1	T	1.9	1.5	T	1.75	1.5	T
ASI-E	2.5	1.6	*	1.9	0.8	*	2.2	1.5	*	2.4	1.4	*	2.5	1.8	*	2.7	1.3	*
U	-	-		-	-		-	-		*	-		*	-		*	-	
API-D	1.7	1.8	-	1.5	2.3	*	1.2	2.0	*	1.7	2.2	*	1.4	2.3	*	1.8	2.4	*
PPI-D	1.2	2.6	*	1.5	2.4	*	0.9	2.8	*	1.8	2.5	*	0.8	2.0	*	1.1	2.2	**
U	T	*		-			-	*		-	T		*	-		*	-	
ASI-D	1.3	1.2	-	1.5	0.7	*	1.8	1.0	*	1.3	0.8	*	1.6	0.7	*	1.2	0.6	*
ASI-D	1.8	0.4	*	1.5	0.6	*	2.1	0.2	*	1.2	0.5	*	2.2	1.0	*	1.9	1.8	*
U	T	*		-	-		-	*		-	-		*	-		*	*	

En la tabla: API - actual, PPI - prospectiva (en cinco años) autoidentificación profesional y laboral; ASI - actual, ISI - prospectiva autoidentificación privada y familiar; O – empresa ordinaria, I - empresa innovadora; E - ingenieros, D - médicos; U - prueba de Mann-Whitney, W - prueba de Wilcoxon, * -$p \leq 0{,}05$; ** - $p \leq 0{,}01$, T - tendencia; - sin diferencias estadísticamente significativas.

El personal de las empresas innovadores, independientemente de la edad y el sexo, está estadísticamente más implicado en el trabajo que el personal de las empresas ordinarias. Estas diferencias se extienden a lo largo de un horizonte temporal de cinco años, incluyendo los grupos de

personal de mayor edad. Además, el personal de las empresas innovadores, incluido el de mayor edad, no se ajusta a los estereotipos de edad de la vejez en cuanto a las características del compromiso, mientras que el personal de las empresas ordinarias sí lo hace, incluido el personal cronológicamente más joven.

Con la mayor implicación laboral general del personal de la empresa médica innovadora en comparación con la ordinaria, la especificidad de edad y género de los médicos se manifiesta de forma significativamente diferente. Los datos demuestran que los médicos están significativamente más implicados en la actividad laboral que los ingenieros. En el momento del estudio, las diferencias se manifiestan principalmente como una tendencia, ya que los hombres se implican menos que las mujeres. En la perspectiva de cinco años, las diferencias en la gran mayoría de las comparaciones son estadísticamente significativas entre médicos e ingenieros en cuanto a la implicación laboral, sobre todo en los médicos de más edad.

Tabla ES 9

Significación estadística de las diferencias entre los indicadores de compromiso con la actividad laboral de ingenieros y médicos de diferentes grupos de edad de empresas ordinarias e innovadoras

Indicadores comparables de ingenieros y médicos	**Edad**											
	Jóven				Media				Senior			
	Mujeres		Hombres		Mujeres		Hombres		Mujeres		Hombres	
	O	I	O	I	O	I	O	I	O	I	O	I
Autoidentificación actual profesional y laboral	*	-	T	-	-	*	-	T	T	*	T	*
Autoidentificación prospectiva (en cinco años) profesional y laboral	*	*	T	-	-	*	*	*	T	*	**	*

En la tabla: O – empresa ordinaria, I - empresa innovadora; W - prueba de Wilcoxon, * -$p \leq 0,05$; ** - $p \leq 0,01$, T - tendencia; - sin diferencias estadísticamente significativas.

Una conclusión significativa es que los empleados del grupo de mayor edad de las empresas innovadoras son significativamente más proclives a seguir trabajando que los empleados de todas las edades de las empresas ordinarias. Así, los datos sobre las autoidentificaciones personales del personal

apoyan los datos sobre las prioridades de valores del personal y hacen que el cuadro de la disposición al cambio, como indicador de la edad socio-psicológica, sea más completo.

En lo que respecta a los valores también existe un patrón, que consiste en que, a pesar de cierta especificidad de género, edad y profesión, los grupos de empleados se aproximan en cuanto a los indicadores dentro de la misma cultura organizativa y difieren significativamente de los empleados de las empresas con un tipo de cultura organizativa diferente. Una imagen más detallada de las preferencias de valores con respecto al desarrollo organizativo y la implicación laboral del personal de las empresas ordinarias e innovadoras puede obtenerse analizando las correlaciones entre los componentes de valor de la cultura organizativa y estos indicadores.

Los datos de las tablas 10 y 11 muestran las particularidades del impacto de la cultura organizativa establecida de las empresas ordinarias en las condiciones de los cambios organizativos sobre las preferencias de valores del personal femenino y masculino en el desarrollo organizativo de la empresa y la implicación laboral de su personal.

Tabla ES 10

Correlaciones entre los indicadores de compromiso con la actividad laboral, el estado actual de la cultura organizativa y las preferencias de valores para el desarrollo organizativo del personal femenino de diferentes edades de las empresas ordinarias

		Cultura organizativa preferible								**Implicación**			
		C		A		M		H		Actual		5 años a partir de ahora	
		E	D	E	D	E	D	E	D	E	D	E	D
Cultura organizativa actual	C	-.08	.27	.00	-.33	-.03	-.21	.08	-.06	.26	-.19	.13	-.16
	A	.04	-.19	-.06	.32	-.09	.16	-.08	-.03	.11	.01	-.06	-.05
	M	.44	-.34	-.34	.28	-.08	.18	-.29	-.07	-.38	-.29	-.43	.17
	H	-.21	.08	.21	-.10	.09	-.08	.18	.16	-.07	.01	.17	.01
Edad cronológica		.15	.11	.19	.07	-.18	-.13	-.15	-.01	.14	-.02	-.02	-.02

En la tabla: C - Clan, A - Adhocracia, M - Mercado, H – Jerarquía, E- ingenieros, D-médicos.

Tabla ES 11

Correlaciones entre los indicadores de compromiso con la actividad laboral, el estado actual de la cultura organizativa y las preferencias de valores para el desarrollo organizativo del personal masculino de diferentes edades de las empresas ordinarias

		Cultura organizativa preferible								**Implicación**			
		C		A		M		H		Actual		5 años a partir de ahora	
		E	D	E	D	E	D	E	D	E	D	E	D
Cultura organizativa actual	C	.15	.82	-.25	-.69	-.09	-.68	.20	.19	.05	-.74	-.05	-.51
	A	-.15	-.61	.14	.87	.05	.49	.03	-.57	.14	.66	.01	.56
	M	-.50	-.69	.55	.47	.65	.84	-.45	-.32	.14	.43	.12	.38
	H	.54	.30	-.47	-.46	-.62	-.52	.22	.63	-.27	-.23	-.16	-.38
Edad cronológica		-.07	.37	.17	.01	-.13	-.40	.18	-.12	-.09	-.04	-.25	-.08

En la tabla: C - Clan, A - Adhocracia, M - Mercado, H – Jerarquía, E- ingenieros, D-médicos.

Podemos ver que los hombres, independientemente del ámbito de la empresa, tienen reacciones más definidas a las condiciones organizativas que las mujeres. Las mujeres responden a un aumento del componente de mercado con un aumento del deseo de reforzar el valor normativo de las relaciones (r = 0,44 para los ingenieros y r = 0,34 para los médicos), mientras que para los hombres estas conexiones tienen el carácter opuesto: los hombres empiezan a querer reducir los componentes de clan y jerárquicos: r = -,50 para los ingenieros y r = -,69 para los médicos, r = -,45 para los ingenieros y r = -,32 para los médicos, respectivamente. Así pues, en esta parte, el personal femenino se ajusta a los estereotipos de género. La edad cronológica de las mujeres no afecta a sus preferencias de desarrollo organizativo. En los hombres, el indicador de la edad cronológica es evidente en los médicos: cuanto más mayores, más desean el crecimiento del clan y la reducción del componente de mercado: r = 0,37 y r = -,40, respectivamente.

Los ingenieros varones no ven incentivos significativos para reforzar el componente de mercado, ni ven ningún otro cambio en las condiciones organizativas. Lo más probable es que estos hechos se expliquen por el hecho de que el componente de mercado se manifiesta de forma mucho más tangible en la remuneración laboral de los médicos que de los ingenieros. Por ello, los médicos varones están más dispuestos a la innovación y a las relaciones de mercado que los ingenieros de ambos sexos. Las

doctoras son más prudentes y conservadoras, lo que confirma su conformidad con los estereotipos de género. La influencia de la edad cronológica en el nivel de implicación laboral no se observó ni en los hombres ni en las mujeres de los ordinarios.

Las tablas 12 y 13 presentan datos sobre las preferencias de valores y la implicación laboral de los empleados y empleadas de las empresas innovadoras. Estos datos difieren significativamente de los del personal de las empresas ordinarias.

Tabla ES 12

Correlaciones entre los indicadores de implicación personal en la actividad laboral, el estado actual de la cultura organizativa y las preferencias de valores para el desarrollo organizativo del personal femenino de diferentes edades de las empresas innovadoras

		Cultura organizativa preferible								**Implicación**			
		C		A		M		H		Actual		5 años a partir de ahora	
		E	D	E	D	E	D	E	D	E	D	E	D
Cultura organizativa actual	C	.24	**.44**	-.20	**-.39**	-.14	**-.24**	.05	**.27**	.04	-.18	-.03	-.19
	A	-.23	**-.32**	.00	**.56**	.20	-.01	-.04	**-.37**	**.31**	.14	.28	**.29**
	M	-.12	**-.34**	.00	**.37**	.22	**.28**	.00	**-.33**	-.09	**.23**	.03	**.28**
	H	.11	.18	.12	**-.47**	-.22	.03	-.01	**.31**	-.14	-.14	-.14	**-.26**
Edad cronologica		-.24	.08	.29	**.30**	.12	**-.65**	-.15	**.31**	-.02	.00	-.27	-.11

En la tabla: C - Clan, A - Adhocracia, M - Mercado, H – Jerarquía, E- ingenieros, D-médicos.

Tabla ES 13

Correlaciones entre los indicadores de implicación personal en la actividad laboral, el estado actual de la cultura organizativa y las preferencias de valores para el desarrollo organizativo del personal masculino de diferentes edades de las empresas innovadoras

		Cultura organizativa preferible								**Implicación**			
		C		A		M		H		Actual		5 años a partir de ahora	
		E	D	E	D	E	D	E	D	E	D	E	D
As-is organizational culture	C	.20	.17	-.05	**-.51**	**-.40**	.00	**.49**	.26	.05	.12	.26	-.15
	A	.16	.30	.25	.04	**-.37**	-.29	.12	.03	.15	-.22	-.21	-.17
	M	-.10	.06	-.13	-.24	.30	.07	-.24	.15	-.20	-.19	-.23	-.27
	H	-.15	-.30	.08	**.35**	.28	.19	-.18	-.28	.23	.14	.20	**.35**
Edad cronologica		-.28	.17	.17	**.43**	.24	**-.41**	-.10	-.19	.06	.19	-.04	.04

En la tabla: C - Clan, A - Adhocracia, M - Mercado, H – Jerarquía, E- ingenieros, D-médicos.

Las únicas correlaciones significativas comunes a los ingenieros y los médicos de ambos grupos de género son la relación inversa entre el componente adhocrático de la cultura organizativa y la preferencia de su componente de clan. Al parecer, a pesar de los modelos establecidos de cultura organizativa de las empresas, el personal sigue teniendo miedo de reforzar el componente de clan, lo que contribuye al desarrollo de la pseudoinnovación. El personal de las empresas ordinarias no tiene tales temores, porque todavía no ha sentido la innovación como un vector positivo de desarrollo, y el componente de clan es natural y deseable como medio de protección psicológica contra las transformaciones innovadoras del mercado.

La actitud hacia la jerarquía también determina las diferencias entre hombres y mujeres en cuanto a la implicación prospectiva: mientras que los hombres creen que su implicación aumentaría a largo plazo si aumentara la jerarquía (r = 0,35), para las mujeres disminuiría (r = -,36). Estos datos evidenciarían la elección positiva a favor de las relaciones de mercado de los médicos de manera que cuanto más mayores son los médicos, menos apoyan el componente de mercado orientado a la competencia interna y a garantizar el beneficio de la empresa. Sin embargo, están dispuestos a apoyar el crecimiento de la capacidad de innovación: r = 0,43 para los hombres y r = 0,38 - para las mujeres. Los ingenieros son más reticentes a las transformaciones del mercado; no hay conexiones significativas con la edad cronológica. Así pues, en las empresas innovadoras se observa un aumento de la disposición a innovar junto con la edad.

Para resumir, podemos señalar que las culturas organizativas de las empresas manufactureras y médicas difieren en cuanto al componente de clan pronunciado, que es más típico de las empresas médicas. Al mismo tiempo, las diferencias de las culturas organizativas entre las empresas ordinarias y las innovadoras son mucho más significativas. En cuanto al componente de mercado, hay diferencias entre el personal médico y el de ingeniería. Los médicos apoyan menos la transformación del mercado que los ingenieros. Incluso en una empresa médica innovadora, sólo el personal más joven tiene esta disposición. En las empresas ordinarias, el personal, independientemente de la edad y la identidad de género, tiende a reforzar el componente de clan en la cultura organizativa, lo que constituye un factor de contención de los cambios organizativos. Al mismo tiempo, la parte masculina de la plantilla de las

empresas ordinarias, a pesar de las orientaciones de clan expresadas, está dispuesta a algunos cambios, muy modestos, de carácter innovador en el mercado. Las mujeres de las empresas ordinarias muestran características de falta de preparación para los cambios organizativos, típicas de los estereotipos de género. La dependencia de la preparación para los cambios organizativos y la implicación laboral en la edad cronológica se reveló en los médicos de las empresas ordinarias: junto con la edad crece el deseo de prioridad de las relaciones de clan en las condiciones organizativas. En el personal de ambos grupos profesionales de las empresas innovadoras la dependencia de la edad del crecimiento de la disposición a las innovaciones y el rechazo de las transformaciones del mercado en los médicos.

No se identificaron estereotipos de género entre el personal femenino de las empresas innovadoras.

Estos resultados, por un lado, indican que las condiciones organizativas, que se reflejan en la cultura organizativa, son los determinantes de la preparación/impregnación del personal para los cambios organizativos de carácter innovador en el mercado. Por otro lado, esta determinación no es directa: está mediada por el tipo de actividad profesional, su pertenencia a una determinada clase de profesiones.

La sección 4.3. "Fatigue, stress, health: subjective well-being of personnel as an emotional regulator of socio-psychological age/Fatiga, estrés, salud: el bienestar subjetivo del personal como regulador emocional de la edad socio-psicológica" está dedicado al análisis de los datos de bienestar subjetivo del personal de diferentes edades de las empresas estudiadas.

El concepto de bienestar subjetivo es muy importante en el contexto de las cambiantes condiciones organizativas en general y de los patrones tecnológicos en particular. El bienestar subjetivo es parte integrante de la calidad de la vida laboral, que, por un lado, se manifiesta en las condiciones de trabajo físicas, organizativas y psicológicas favorables para los empleados y, por otro, contribuye a la eficacia y al desarrollo sostenible y resiliente de la empresa (Leonova, 2020).

El crecimiento de la calidad de la vida laboral se asocia a la humanización del entorno de trabajo, al enriquecimiento significativo y tecnológico del trabajo, a la satisfacción de las necesidades humanas básicas, incluidas las de orden superior (Leonova, 2020).

La comparación de las características de los estereotipos de edad y las características de la resiliencia socio-psicológica del personal de las empresas innovadoras y ordinarias permitió identificar los indicadores de la edad socio-psicológica (Zakharova et al, 2019).

El análisis de los indicadores revelados de la edad socio-psicológica permite distinguir un criterio más importante - el bienestar subjetivo del personal de diferentes edades.

La fatiga es un proceso complejo de cambios temporales en el estado fisiológico y psicológico de un empleado, que se desarrolla como resultado de la acción del trabajo extenuante o prolongado, la enfermedad y el estrés. La fatiga se está convirtiendo en una queja común de las personas mayores y es un sistema de alerta fisiológico. La fatiga es autodeclarada por el individuo en función de su malestar, que suele basarse en una serie de síntomas que van desde el vacío total, la alteración del sueño, la irritabilidad hasta la dificultad para concentrarse y el dolor muscular (Marcora et al., 2009). También es claramente visible para el observador, ya que la fatiga se refleja en el aspecto de la persona (Mills et al., 2010; Schwarz et al., 2017; Wong y Shobo, 2017).

El aumento de la fatiga y la consiguiente sensación de cansancio en el envejecimiento pueden estar causados por diversos factores, como los cambios relacionados con la edad en la producción o el uso de energía, los mecanismos inflamatorios y la carga de trabajo (Eldadah, 2010). El cansancio y la fatiga se consideran un indicador temprano del proceso de envejecimiento. Hay varias explicaciones biológicas, fisiológicas y sociales para la fatiga: se considera un indicador autoevaluado de debilidad; un estado fisiológico de mayor vulnerabilidad a los factores de estrés; un resultado de la disminución de las reservas fisiológicas y la desregulación de múltiples sistemas fisiológicos; una consecuencia del efecto combinado de factores sociales, mentales y biológicos a lo largo del curso de la vida (Avlund, 2010; Schwarz et al., 2017; Smartt et al., 2016).

Son especialmente importantes los datos sobre cómo la fatiga y el cansancio están más relacionados con el estrés percibido, así como con el estado de salud autopercibido (Mills et al., 2010;

Schwarz et al., 2017). Se ha demostrado que el cansancio también es el resultado de acontecimientos vitales privados negativos, y es más característico de las mujeres y de los miembros de las clases sociales más bajas (Kocalevent et al., 2011).

La conexión entre la fatiga y el estrés es especialmente significativa cuando se considera el problema de la edad en el trabajo ya que el desarrollo de la fatiga puede considerarse un resultado de la inadaptación en condiciones de cambio organizativo.

Tabla ES 14

Fatiga, estrés y autoevaluación de la salud del personal de las empresas innovadores y ordinarias

Edad	**Compania**	**Fatiga organizativa**			**Estrés**			**Salud** (sistema cardiovascular)		
		Hombres	Mujeres	W	Hombres	Mujeres	W	Hombres	Mujeres	W
Jóven	OP	8.8	8.3	-	20.5	28.0	*	2.4	2.7	-
	IP	3.1	4.2	*	14.0	19.5	**T**	3.6	4.3	-
	U	**	**		*	**		*	*	
	OM	8.7	6,2	*	32.6	29.7	*	1,6	2.3	**T**
	IM	4.5	4.7	-	26.5	24.1	-	1,9	3.5	*
	U	**	*		**	*		**T**	*	
Media	OP	7.2	6.7	*	23.0	25.9	-	1.5	2.4	-
	IP	4.3	4.8	-	13.4	18.4	*	3.6	3.8	-
	U	*	*		**	*		**	**	
	OM	6,9	5.8	-	27.5	25.7	-	1.5	2.9	*
	IM	5,0	4.3	-	22.5	20.0	-	2.0	3.1	**T**
	U	*	*		*	*		*	-	
Senior	OP	4.9	5.2	-	21.8	25.2	*	0.7	1.6	*
	IP	3.1	4.0	-	16.5	16.3	-	2.1	3.0	**T**
	U	*	T		*	**		*	*	
	OM	5.7	4.4	T	27.1	26.2	-	1.1	2.0	**T**
	IM	2.9	3.7	*	16.9	18.7	-	2.4	3.3	**T**
	U	**	*		**	**		*	*	

En la tabla: OP- empresa industrial ordinaria, IP – empresa industrial innovadora; OM - clinica medica ordinaria, IM - clinica medica innovadora; significación estadística de las diferencias mediante la prueba U de Mann-Whitney; prueba W de Wilcoxon: * -p ≤ 0,05; ** - p ≤ 0,01, T - tendencia, - sin diferencia estadísticamente significativa.

El personal de las empresas ordinarias está más cansado de las condiciones organizativas que el de las empresas innovadoras. Aquí también hay algunas diferencias de género: las mujeres son más sensibles al estrés que los hombres pero estas diferencias son menores que entre los grupos de personal

de las empresas innovadores y ordinarias. Las mismas tendencias se observan en la autoevaluación de la salud en general y en el estado de los sistemas nervioso y cardiovascular. A partir de la edad media, la autopercepción de la salud cardiovascular es peor para los hombres, pero aun así, los hombres de las empresas innovadores se sienten mejor consigo mismos que los de las empresas ordinarias.

Sin duda, entre los indicadores del bienestar subjetivo el estrés por el cambio organizativo es clave, que se manifiesta en la sensación de fatiga y en los indicadores de salud cardiovascular.

En las medidas de fatiga, estrés y estado de salud autodeclarado, los niveles de bienestar subjetivo son significativamente mayores en las empresas innovadores. Esto se aplica a todos los grupos de edad y es independiente del género. Los empleados de las empresas innovadores, independientemente de la clase profesional, la edad cronológica y el género, se sienten significativamente mejor que sus homólogos de las empresas ordinarias. Se caracterizan por su buena salud, experimentan los cambios organizativos sin angustia y se fatigan menos por las condiciones organizativas de las empresas. Al mismo tiempo, también existe una especificidad relativa en la manifestación de la fatiga. En las empresas ordinarias, la fatiga laboral es mayor para los ingenieros que para los médicos, y las mujeres de las empresas ordinarias de fabricación se fatigan más por las condiciones organizativas que los hombres y los médicos.

De los índices de fatiga podemos deducir que el personal masculino y femenino de las empresas innovadoras de todos los grupos de edad se caracteriza por una edad socio-psicológica más joven que el personal de las empresas ordinarias. Esto sugiere que las diferencias tradicionales de género y edad son más comunes en las empresas ordinarias.

Los datos recogidos en nuestro estudio mostrarían que tanto el personal masculino como el femenino de todos los grupos de edad de las empresas ordinarias experimentan un estrés significativamente mayor que el personal de las empresas innovadoras.

Los datos muestran que sólo los empleados jóvenes, hombres y mujeres, de las empresas ordinarias e innovadoras no presentan diferencias estadísticamente significativas en la valoración global de la salud. En los demás grupos de edad sí se observan, y todas ellas no a favor de las empresas ordinarias (Tabla 13).

Estos datos no afectan significativamente al resultado principal: según las autoevaluaciones del personal, tanto los médicos como los ingenieros de las empresas innovadoras se sienten menos cansados y más sanos que el personal de las empresas ordinarias. Y lo que es más importante, las diferencias en las evaluaciones no se observan tanto entre grupos de edad, sino entre culturas organizativas de distinto tipo. En consecuencia, en la empresa innovadora los indicadores no sólo son más altos, sino que su descenso de edad se produce más tarde (Leonova et al., 2020).

En el caso de los hombres es especialmente interesante la autoevaluación del estado cardiovascular. En las empresas innovadoras, esta autoevaluación es significativamente mejor en todos los casos que en el caso del personal de las empresas ordinarias, aunque los médicos obtienen mejores resultados que los ingenieros en sus grupos de edad. Las mujeres puntúan mejor que los hombres tanto en la categoría de ingenieros como en la de médicos. Estos datos indican que los médicos de mayor edad, tanto de las clínicas ordinarias como de las innovadoras, controlan más su salud, pero que los médicos de las clínicas innovadoras la gestionan mejor, aparentemente debido a los menores niveles de estrés que experimentan.

Resumiendo, del análisis de los datos obtenidos podemos llegar a la conclusión que el del personal de las empresas innovadoras tiene mejores indicadores de autoevaluación de la salud. Mientras que en las empresas ordinarias hay un deterioro de la salud con la edad, especialmente en el sistema cardiovascular de los hombres, en las empresas innovadoras los indicadores de salud son mucho más estables. Por supuesto, la autoevaluación del estado de salud puede diferir del estado objetivo. Sin embargo, el estado subjetivo de una persona es decisivo a la hora de tomar determinadas decisiones, reaccionar ante los cambios organizativos, aplicar tal o cual modelo de comportamiento organizativo.

La seccion 4.4. "Socio-psychologial age of personnel in organizational cultures of different types: self-assessment and evaluation by managers / La edad socio -psicológica del personal en culturas organizativas de distinto tipo: autopercepción y valoración de los gerentes" se dedica a estudiar los indicadores de bienestar socio-psicológico en un colectivo laboral, la autopercepción de la edad y la valoración de la edad del personal por parte de los gerentes de las empresas innovadores y ordinarias.

Los datos obtenidos, mostrarían que, independientemente de la edad cronológica, el género y el sector de economía, los empleados de las empresas innovadores se sienten significativamente más jóvenes que sus homólogos de las empresas ordinarias. Estas diferencias son especialmente evidentes en las empresas industriales, que se caracterizan por el predominio de los empleados masculinos (tabla 15).

Tabla ES 15

Bienestar psicológico, autoevaluación de la edad y evaluación de la edad del personal masculino por parte de los managers de las empresas innovadores y ordinarias

Edad	**Empresas**	**Bienestar psicológico en el lugar de trabajo**	**Autoevaluación edad**				**Evaluación de la edad por parte de los gerentes (en %)**		
			La diferencia con edad cronologica	Más joven	Corresponde a edad chronologica	Más senior	Más joven	Corresponde a edad chronologica	Más senior
Jóven	OP	-2.3	10.6	15.0	15.0	70.0	37.5	16.0	46.5
	IP	3.4	-2.8	47.5	29.5	23.0	40.0	35.0	25.0
	U	**	**						
	OM	0.8	10.7	15.5	19.5	55.0	30	15	55
	IM	3.2	-1.7	35.5	50.0	14.5	45	30	25
	U	**	**						
Media	OP	-2.6	7.3	15.0	15.0	70.0	14.7	15	70.3
	IP	3.7	-6.0	70.5	20	9.5	33.0	45.0	22.0
	U	**	**						
	OM	2,4	10.3	27.5	12.0	60.5	15	39	46
	IM	4,2	-3.2	49.5	16.0	34.5	45	40.5	14.5
	U	*	**						
Senior	OP	1.5	8.8	-	23	77	24.5	15.0	60.5
	IP	3.5	-7.4	50	36	14	16.0	46.0	38,0
	U	*	**						
	OM	1.8	5.6	13.0	30.5	56.5	5.5	15	79.5
	IM	4.4	-3.2	34.5	50.5	15.0	45.5	39.5	15.0
	U	**	**						

En la tabla: OP- empresa industrial ordinaria, IP – empresa industrial innovadora; OM - clínica medica ordinaria, IM - clínica medica innovadora; significación estadística de las diferencias mediante la prueba U de Mann-Whitney; prueba W de Wilcoxon: * -$p \leq 0,05$; ** - $p \leq 0,01$, T - tendencia, - sin diferencia estadísticamente significativa.

Las evaluaciones de los gerentes sobre las manifestaciones de edad del personal coinciden en general con las autoevaluaciones del personal, con la excepción del grupo de edad más avanzada de las mujeres de las empresas ordinarias. Se puso de manifiesto el fenómeno de la contradicción en la autoevaluación de la edad del personal femenino de las empresas ordinarias y su evaluación por parte de los supervisores, de manera que estos ven una mayor falta de implicación/participación del personal femenino mayor de las empresas ordinarias lo que confirma una vez más que los managers se centran no sólo en las manifestaciones de la edad cronológica, sino también en la edad socio-psicológica en términos de estereotipos de edad. De esta forma, los managers de las empresas ordinarias tienen ciertas expectativas sobre el personal joven, esperando que estos apoyen los cambios organizativos de forma innovadora. Sin embargo, el poder de la cultura organizativa supera los esfuerzos de los managers y los empleados jóvenes resultan no ser mejores que los empleados mayores. Estos estereotipos de edad son tan fuertes entre los gerentes que, a pesar de los hechos evidentes y de su propia insatisfacción con todos los grupos de edad del personal, siguen creyendo que tarde o temprano los empleados jóvenes demostrarán su valía.

Por otra parte, los empleados femeninos y masculinos de mediana edad son los que peor se sienten en una empresa manufacturera. Los trabajadores mayores se sienten mejor que otros grupos de edad en una empresa manufacturera, ya que se han adaptado totalmente a las exigencias de la dirección, y no hay una presión especial del mercado laboral sobre ellos ya que tendrían la posibilidad de jubilarse si las cosas se ponen demasiado difíciles.

Tabla ES 16

Bienestar socio-psicológico, autoevaluación de la edad y evaluación experta de la edad del personal femenino por parte de gerentes de empresas ordinarias e innovadoras

Edad	**Empresa**	**Bienestar psicológico en el lugar de trabajo**	**Autoevaluación de la edad**				**Estimación de la edad por parte de los gerentes (en %)**		
			La diferencia con edad cronolo-gica	Más joven	Correspon-de a la edad cronoló-gica	Más senior	Más joven	Correspon-de a edad chronologi-ca	Más senior

Jóven	OF	-1.4	7.3	20.0	10.0	70.0	34.5	10.5	55.0
	IF	2.8	-4.1	63.0	20.5	16.5	53.0	35.0	12.0
	U	**	**						
	OMC	1.2	6.5	24.5	15.0	60.5	42.5	1.5	56.0
	IMC	3.9	-3.7	55.0	25.0	20.0	54.4	11.7	33.9
	U	**	**						
Media	OF	-4.1	4.7	10.5	35.5	54.0	23.0	20.0	57.0
	IF	3.8	-5.5	70.0	20.5	9.5	43.0	35.0	22.0
	U	**	**						
	OMC	3.3	5.2	23.5	20.0	56.5	43.5	5.0	51.5
	IMC	4.5	-4.7	36	46.5	17.5	46.7	19.4	33.9
	U	*	**						
Senior	OF	-2.2	-5.9	50.0	25.0	25.0	4.5	22.5	72.0
	IF	4.0	-6.2	74.5	20.5	5.0	45.5	35.0	19.5
	U	**	-						
	OMC	2.6	-3.5	42.0	14.0	44.0	38.5	0	61.5
	IMC	4.4.	-3.9	39	39.5	21.5	46.7	16.1	37.2
	U	*	-						

En la tabla: OP- empresa industrial ordinaria, IP – empresa industrial innovadora; OM - clínica medica ordinaria, IM - clínica medica innovadora; significación estadística de las diferencias mediante la prueba U de Mann-Whitney; prueba W de Wilcoxon: * -$p \leq 0,05$; ** - $p \leq 0,01$, T - tendencia, - sin diferencia estadísticamente significativa.

Los datos de la investigación muestran de forma convincente que el personal de las empresas innovadoras se siente mucho más joven que sus colegas y compañeros de las empresas ordinarias. Los ingenieros jóvenes son los más afectados. Una vez en un entorno organizativo conservador y burocrático, las jóvenes ingenieras se sienten más de 7 años mayores, y los hombres jóvenes se sienten más de 10 años mayores que su edad cronológica. La diferencia disminuye un poco con el paso de los años, siendo más significativa en las mujeres que en los hombres. Los médicos tienen una imagen de bienestar relacionada con la edad muy similar a la de los ingenieros, pero hay diferencias de género notables. Los médicos de la empresa ordinaria estiman que su edad es significativamente mayor que la de las mujeres. El exceso de edad cronológica en la autoevaluación de los médicos jóvenes es de 10,7 años, en el grupo de edad media - 10,3 años, en el grupo senior - 5,6 años. Al mismo tiempo, en el grupo de mujeres jóvenes el exceso es de 6,5 años, en el grupo de mediana edad - 5,2. años, y en el grupo senior la autoevaluación de la edad ya está en la zona negativa: las mujeres evalúan su edad más joven que la cronológica en 5,9 años (Leonova et al., 2018).

Las mujeres tienden a ser especialmente sensibles a su edad. El entorno organizativo de las empresas innovadoras les ayuda a sentirse más jóvenes. En todos los grupos, independientemente del

ámbito empresarial, las mujeres que trabajan en empresas innovadoras se sienten significativamente más jóvenes que sus homólogas en empresas ordinarias. Curiosamente, las ingenieras se sienten más jóvenes que las doctoras.

En el caso de las mujeres de empresas ordinarias, las diferencias no son tan pronunciadas: las ingenieras se sienten mayores, por término medio, en el intervalo de 7,3 a 4,7 años, y las doctoras de 6,5 a 5,2 años. Cabe destacar que, independientemente del ámbito empresarial y del carácter innovador de la empresa, las mujeres mayores se sienten más jóvenes que sus años: es más pronunciado en el caso de las ingenieras: 5,9 años en una empresa ordinaria y 6,2 años en una innovadora. En el caso de las doctoras mayores, estos indicadores son de 3,5 años en una empresa ordinaria y de 3,9 años en una innovadora.

Los datos de la tabla muestran diferencias estadísticamente significativas en los indicadores de bienestar psicológico y edad psicológica. Se puede observar que existen ciertas diferencias en los indicadores dentro de los grupos profesionales y de género, pero las diferencias entre el personal de las empresas ordinarias e innovadoras superan significativamente las diferencias intragrupo. Además, las diferencias de género y de grupo de edad son más evidentes en las empresas ordinarias, lo que refleja el mayor tradicionalismo en la vida organizativa de las empresas ordinarias. En las empresas innovadoras, las diferencias de género y edad son mucho menos evidentes. Tales diferencias sólo aparecen entre los ingenieros en la autoevaluación de la edad por parte de los grupos de edad joven y media: los hombres del grupo de edad media se sienten más jóvenes que el propio grupo joven -6 y 2,8 años respectivamente, lo que puede explicarse por la mayor adaptación de los empleados del grupo de edad media a las condiciones organizativas y laborales.

Los resultados del estudio de la determinación psicofisiológica del envejecimiento socio-psicológico del personal mostraron la dependencia de este proceso de la cultura organizativa de la empresa. Los resultados se presentan en las tablas 17 y 18.

Tabla ES 17

Correlaciones entre los indicadores de la cultura organizativa, las preferencias organizativas y culturales y el bienestar subjetivo del personal femenino de diferentes edades de empresas ordinarias e innovadoras

		Bienestar psicológico		**Autoevaluación de la salud**						**Autoevaluación de la edad**	
				Sistema nervioso		Sistema cardiovascular		Nivel general			
		E	D	E	D	E	D	E	D	E	D
Cultura organizativa actual	C	.25	.07	.14	-.21	-.20	-.11	.08	-.13	.07	.23
	A	.05	.06	.21	.12	-.12	.06	.20	.16	.01	.01
	M	-.17	-.01	.15	.13	-.14	.09	-.36	-.38	.38	.64
	H	-.14	-.10	.12	.08	-.04	-.02	.04	-.21	-.19	-.01
Cultura organizativa preferida	C	-.15	-.16	-43	-.36	-48	-.38	-.38	-.32	.15	.43
	A	.16	.27	.38	.32	.36	.37	-.53	.34	-.16	-.31
	M	.32	.17	.43	.29	.53	.40	-.48	.34	-.24	-.31
	H	-.26	-.17	-0.8	.03	.08	-.03	.12	-.10	.15	.02
Edad cronológica		-.12	.20	-.30	.08	-.34	-.05	-.40	-.17	.57	.74
Stress (general)		-42	-.38	-.71	-.51	-.72	-.39	-.68	-.43	.20	.16
Fatiga	Trabajo	-.27	-.18	-.53	-.47	-.38	-.26	-48	-.34	.18	.20
	Condiciones de la organización	.10	-.45	-.48	-.36	-22	-.12	-53	-.35	-.33	-.39

En la tabla: C - Clan, A - Adhocracia, M - Mercado, H – Jerarquía, E- ingenieros, D-médicos.

Tabla ES 18

Correlaciones entre los indicadores de la cultura organizativa, las preferencias organizativas y culturales y el bienestar subjetivo del personal masculino de diferentes edades de empresas ordinarias e innovadoras

		Bienestar psicológico		**Autoevaluación de la salud**						**Autoevaluación de la edad**	
				Sistema nervioso		Sistema cardiovascular		Nivel general			
		E	D	E	D	E	D	E	D	E	D
Cultura organizativa actual	C	-.23	.18	-.38	-.48	-38	-.56	-63	-.73	.06	.42
	A	.12	-.24	.54	.46	.43	.54	.38	.48	.13	-.13
	M	-.23	-.20	.48	.46	.54	.47	.48	.54	-.35	-.64
	H	-.13	.27	-.14	-.26	-.24	-.21	-.12	.02	.19	.26
Cultura organizativa preferida	C	-.23	.33	-54	-.49	-.54	-.64	-56	-.70	.15	.57
	A	.33	-.35	.43	.43	.50	.52	.36	.47	.04	-.27
	M	.33	-.31	.38	.51	.64	.55	.63	.59	-.31	-.58
	H	-.30	.18	-.34	-.33	-.14	-.28	.08	-.14	.16	.07
Edad cronológica		.51	.17	-.45	-.02	-.46	-.15	-.49	-.27	.86	.89
Stress (general)		.21	.11	-.40	-.64	-.39	-.65	-.38	-.58	.15	.13
Fatiga	Trabajo	-.22	.02	-54	-.50	-.20	-.28	-53	-.37	-.29	.05
	Condiciones de la organización	-.30	-.03	-48	-.42	-.14	-.26	.24	-.09	-.47	-.39

En la tabla: C - Clan, A - Adhocracia, M - Mercado, H – Jerarquía, E- ingenieros, D-médicos.

En las empresas innovadoras las conexiones entre los indicadores de bienestar subjetivo, la autopercepción de la edad y la cultura organizativa tienen sus propias especificidades (tablas 19 - 20).

Así, el bienestar psicológico del personal de hombres y mujeres depende de la cultura organizativa. Cuanto más representado esté el componente adhocrático en la cultura organizativa, mejor será el bienestar psicológico en el colectivo laboral.

Tabla ES 19

Correlaciones entre los indicadores de la cultura organizativa, las preferencias organizativas y culturales y el bienestar subjetivo del personal femenino de diferentes edades de las empresas innovadoras

		Bienestar psicológico		**Autoevaluación de la salud**						**Autoevaluación de la edad**	
				Sistema nervioso		Sistema cardiovascular		Nivel general			
		E	D	E	D	E	D	E	D	E	D
Cultura organizativa actual	C	-.04	-.27	-.29	-.29	-.01	-.25	-.07	-.25	-.05	.25
	A	.34	.48	.06	.32	.00	.21	-.11	.17	.20	-.03
	M	-.07	.18	.21	.37	-.13	.43	.17	.27	-.10	-.34
	H	.07	-.35	-.09	-.29	.21	-.25	-.05	-.11	-.10	.08
Cultura organizativa preferida	C	-.14	-.35	-.21	-.24	-.12	-.20	-.27	-.18	-.05	.21
	A	.08	.38	.47	.51	.12	.25	.35	.25	-.01	.15
	M	.16	-.03	.24	-.05	.09	.19	.16	.08	-.49	-.60
	H	-.22	-.08	-.27	-.20	-.18	-.25	-.13	-.21	.08	.37
Edad cronológica		.10	.20	.25	.21	-.25	-.16	.09	-.15	.80	.79
Stress (general)		-.19	-.43	-.21	-.41	-.10	-.28	-.04	-.22	.06	-.17
Fatiga	Trabajo	-.24	-.09	-.22	-.12	.00	-.03	-.02	-.03	-.06	-.17
	Condiciones de la organización	.02	-.44	-.04	-.16	.01	-.11	-.07	-.28	.04	.02

En la tabla: C - Clan, A - Adhocracia, M - Mercado, H – Jerarquía, E- ingenieros, D-médicos.

Tabla 20

Correlaciones entre los indicadores de cultura organizativa, las preferencias organizativas y culturales y el bienestar subjetivo del personal masculino de diferentes edades de las empresas innovadoras

		Bienestar psicológico		**Autoevaluación de la salud**						**Autoevaluación de la edad**	
				Sistema nervioso		Sistema cardiovascular		General level			
		E	D	E	D	E	D	E	D	E	D
Cultura organizativa actual	C	-.10	-.35	-.15	-.27	-.15	-.13	-.04	-.29	.05	.10
	A	.36	.48	-.02	.00	.11	-.18	.25	-.02	.05	.29
	M	-.06	-.25	.10	-.13	.03	-.03	-.14	.22	-.06	-.31
	H	-.10	-.33	.01	.17	-.02	.15	.10	.07	.10	-.10
Cultura organizativa preferida	C	-.03	-.32	-.18	-.20	-.26	-.26	-.34	-.28	.50	.45
	A	.27	.55	.13	.68	.03	.52	.04	.33	.04	.18
	M	-.07	.08	.31	.05	.34	.41	.35	.39	-.35	-.49
	H	-.11	-.31	-.11	-.51	-.18	-.49	-.22	-.28	.01	-.09
Edad cronológica		-.27	.24	.22	-.17	-.25	.18	.01	-.17	.79	.85
Stress (general)		-.10	-.43	-.16	-.34	-.30	-.34	-.12	-.14	.44	-.25
Fatiga	Trabajo	-.04	-.38	.03	-.46	.14	-.57	.12	-.45	.13	.04

	Condiciones de la organización	.03	-.43	.24	-.49	.13	-.55	.17	-.36	-.17	.00

En la tabla: C - Clan, A - Adhocracia, M - Mercado, H – Jerarquía, E- ingenieros, D-médicos.

Esta sección también estudia el análisis de la cultura organizativa como el determinante más importante del cambio organizativo y el factor subyacente que inhibe o contribuye al envejecimiento socio-psicológico del personal. Los resultados del estudio mostraron vínculos significativos entre el tipo de la cultura organizativa, el bienestar subjetivo, la implicación personal en el proceso de trabajo y la autoestima relacionada con la edad.

La figura está organizada de tal manera que el componente adhoc de la cultura organizativa es central, porque la capacidad de innovación es un punto de referencia inalcanzable para una empresa ordinaria y un estado natural de las cosas en una empresa innovadora. En la figura podemos ver que el componente de clan, fuerte en el momento del estudio y más deseado por la plantilla a largo plazo, está relacionado en correlación inversa con la implicación personal de los empleados en el proceso de trabajo (autoidentificación profesional). Esto subraya una vez más el hecho de que el fortalecimiento del componente de clan debilita el componente innovador de las condiciones organizativas.

Los resultados indican directamente que la tarea de desarrollo innovador de la empresa puede resolverse mediante la construcción de una cultura corporativa adhocrática de mercado y el cambio de la cultura organizativa existente en esta dirección. La prioridad deseada por el personal del componente del clan conduce a una negación de la innovación y a un aumento de la autoestima de la edad.

En los datos del personal por parte de los gerentes como manifestación del tipo de cultura organizativa y determinante de la autopercepción de la edad se muestra el peso de la interacción gerencial como mecanismo para implementar la tarea de desarrollo innovador de la empresa, se realiza un análisis comparativo de los modelos de interacción gerencial que establecen la distancia de poder en empresas ordinarias y innovadoras (tabla 21).

Tabla ES 21

La distancia de poder en la forma en que los managers se dirigen

a las diferentes edades del personal en las empresas ordinarias y innovadoras

Edad	Empresa/ sexo	Formas de dirigirse a los subordinados por parte del superior jerárquico					
		Tipo de situación		W	Actitud		W
		Trabajo	Informal		Satisfecho	Insatisfecho	
Joven	OP-Mujeres	2.9	2.7	-	3.3	4.5	*
	IP -Mujeres	1.9	1.4	*	1.9	3.3	**
	U	**	**		*	**	
	OP- Hombres	3.6	3.5	-	3.7	4.4	-
	IP- Hombres	2.2	2.3	-	2.0	3.3	**
	U	**	**		**	**	
Media	OP- Mujeres	4.1	3.9	-	3.7	4.3	-
	IP - Mujeres	2.8	2.5	-	2.3	3.8	**
	U	**	**		**	-	
	OP- Hombres	4.3	3.9	-	4.2	4,5	-
	IP- Hombres	2.4	2.3	-	2.1	3.7	*
	U	**	**		**	*	
Senior	OP- Mujeres	4.8	4.1	*	3.9	4.6	*
	IP - Mujeres	3.8	2.6	-	1.8	3.5	*
	U	**	*		**	*	
	OP- Hombres	4.0	4.2	-	3.8	4.8	*
	IP- Hombres	4.0	3.5	-	2.8	3.3	*
	U	-	*		-	*	

En la Tabla: OP- empresas ordinarias, IP – empresas innovadoras; significación estadística de las diferencias mediante la prueba U de Mann-Whitney; prueba W de Wilcoxon: * -$p \leq 0,05$; ** - $p \leq 0,01$, T - tendencia, - sin diferencia estadísticamente significativa.

Se demuestra que los gerentes de las empresas innovadoras establecen una menor distancia de poder con sus subordinados. Los managers de las empresas ordinarias son mucho más severos en situaciones de insatisfacción de los subordinados que los managers de las empresas innovadoras. Estos datos son una prueba indirecta de la implantación de un estilo autocrático de interacción gerencial en las empresas ordinarias, que sin duda es un factor de estrés que reduce el nivel de bienestar subjetivo y es un determinante de las autopercepciones relacionadas con la edad.

La seccion 4.5. "Social age characteristics of senior personnel groups of manufacturing companies / Características de la edad social de los grupos de personal de edad senior de las empresas manufactureras" se dedica al análisis de la categoría de edad social, que elimina el subjetivismo del componente psicológico de la edad socio-psicológica. La edad social se considera como un conjunto de competencias sociales del empleado de una empresa, que corresponde o no a los retos socio - económicos de la sociedad en desarrollo.

Los resultados de la implicación en el proceso laboral y las peculiaridades de la autoevaluación de la edad del personal de las empresas innovadoras y ordinarias ya se han discutido anteriormente: los empleados del grupo de mayor edad de la empresa innovadora están significativamente más implicados en el proceso laboral que los empleados de la empresa ordinaria, sin tener en cuenta la identidad de género, tanto en el momento del estudio como en la perspectiva de 5 años. Las diferencias son más pronunciadas entre los hombres, pero las diferencias entre los subgrupos de género de las empresas innovadoras y ordinarias no alcanzan el nivel de significación estadística.

El personal masculino de las empresas innovadoras y ordinarias también difiere significativamente en la autoevaluación de la edad: mientras que los ingenieros de una empresa ordinaria son significativamente mayores que su edad cronológica según la autoevaluación, los ingenieros de una empresa innovadora son estadísticamente significativamente más jóvenes. Y, como se ha señalado anteriormente, no hay diferencias estadísticamente significativas entre la autoestima del personal femenino superior de las empresas ordinarias e innovadoras. Sin embargo, al igual que en el caso de los hombres, existen diferencias estadísticamente significativas entre los grupos femeninos en cuanto a la implicación laboral, tanto en el momento del estudio como en un horizonte temporal de 5 años.

Estos datos sobre la diferente implicación personal de las empleadas del grupo de mayor edad en la actividad laboral se ven bastante confirmados por los indicadores de edad social. Se observa que las ingenieras de una empresa ordinaria están estadísticamente muy por detrás de sus compañeras en la actividad de autoformación, en el conocimiento de tecnologías avanzadas y en la subjetividad del puesto. Prácticamente no hay diferencias significativas sólo por el indicador de participación en la formación empresarial planificada. En el caso de las ingenieras este indicador es ligeramente superior (6,2 frente a 5,2), pero en las empresas innovadoras la formación corporativa suele ser más activa y las ingenieras asisten a más eventos. Al mismo tiempo, la ausencia de diferencias estadísticamente significativas en la presencia de dichos indicadores de contenido confirma el hecho de que el personal femenino superior de una empresa ordinaria participa en la formación corporativa de forma mucho más pasiva y formal que sus colegas y compañeros de una empresa innovadora. Los indicadores de subjetividad de la posición parecen ser especialmente significativos; indican que las ingenieras de más edad participan en

la formación corporativa como desarrolladoras de cursos o módulos, formadoras y supervisoras. Estos indicadores están naturalmente relacionados con los indicadores de alta implicación laboral e indican la edad social madura de las ingenieras. El indicador de autoeducación también merece atención (Tabla 22).

Tabla ES 22

Características de la edad social del personal de las empresas con diferente implicación en los procesos de innovación

Género / Empresa	**Autoidenti-ficación profesional actual**	**Autoidentifi-cación profesional prospectiva (5 años)**	**W**	**Autoed-ucación (máx. 16 puntos)**	**Formación empresarial (máx. 8 puntos)**	**Conocimien-tos de tecnología avanzada (máx. 4 puntos)**	**Posición subjetiva (máx.12 puntos)**	**Autoeva-luación de la edad**
OP - Mujeres	1.0	0.4	*	4,5	5.2	1.4	4.5	-5.9
IP -Mujeres	1.5	1.3	-	9,6	6.2	3.5	7.2	-6.2
U	*	*		**	-	**	*	-
OP (Hombres)	1.25	0.8	T	5.0	4.9	2.1	3.5	8.8
IP (Hombres)	1.7	1.5	-	12,4	5.4	3.5	8.4	-7.4
U	**	*		**	-	*	**	**
Mujeres - Hombres (OP)	-	*		-	-	*	-	**
Mujeres - Hombres (IP)	-	-		T	-	-	*	-

En la tabla: OP - empresa industrial ordinaria, IP - empresa industrial innovadora; U - significación estadística de las diferencias por la prueba de Mann-Whitney, W - por la prueba de Wilcoxon: * -$p \leq 0,05$; ** - $p \leq 0,01$, T - tendencia, - sin diferencias estadísticamente significativas.

En este apartado también proponemos una tipología de la edad social, basada en la combinación de la motivación laboral y las competencias requeridas en un campo de trabajo concreto en una etapa determinada de su desarrollo (Figura 5).

Figura ES 5

Tipología de la edad social (Leonova et al., 2019)

Competencia			
	alta	Envejecimiento social: los empleados actuales o potenciales aún conservan la competencia, pero en ausencia de motivación y de la necesidad de desarrollo constante, pronto perderán la competencia y se convertirán en empleados socialmente mayores.	Edad social de crecimiento: personas muy motivadas para desarrollarse, pero que aún no tienen suficientes competencias.
	baja	Edad social de la vejez: los empleados actuales o potenciales carecen de motivación y competencias laborales.	Edad social de la madurez: personal motivado y competente que trabaja para mantener y desarrollar las competencias necesarias.
		baja	alta

Motivación laboral

Los datos sobre la relación cuantitativa de los distintos tipos de edad social del personal de más edad en los diferentes entornos organizativos se presentan en la tabla 23.

Tabla ES 23

Representación de los diferentes tipos de edad social entre el personal de la empresa ordinaria y innovadora

La empresa	Tipos de edad social (en %)			
	"Vieja"	"De envejecimiento"	"Crecimiento"	"Madura"
Innovadora	24	25	20	31
Ordinaria	44	35	5	16

CHAPTER 1.

BACKGROUND.

1.1. General context of doctoral thesis

This chapter presents the conceptual arguments and practical considerations that led us to undertake a systematic study on a newly introduced concept of socio-psychological age and socio-psychological aging in labor activity together with its components (assessment of the state of art of organizational culture, organizational values preferences of the employees, self-attitudes assessment, subjective well-being evaluation, self-assessment of age by the employees, assessment of age of employees by managers etc.). In addition, the arguments that make the social and methodological relevance of the subject are developed, to culminate with the purpose of the work that leads to the statement of the research objectives and hypotheses.

The topic of age has always been topical for scientists from different spheres of scientific knowledge - biologists, medics, sociologists, psychologists, anthropologists. Until recently researchers wereinterested mainly in children and young ages, but in recent decades the problem of older ages is becoming particularly relevant. This is not accidental, because in recent decades the idea of extending the active working-age period of one's life has been on the agenda of most people. On the other hand, the economy is experiencing a shortage of personnel due to the agingof the population. But these two trends do not solve the problem of providing the economy with quality personnel.

Economic development in the twenty-first century is going faster than ever before. There is not only a technological revolution, but also a managerial revolution (Glazyev, 2020; Schwab, 2017). Changes in the labor market due to the advent of a new technological paradigm of Industry 4.0, the deepening world economic crisis and the digital leap are leading to a reduction in the time needed to improve skills and retrain workers, and in a 5-year perspective, according to the World Economic Forum's report 2020 "The Future of Jobs," could lead to the reduction of 85 millions of jobs (World Economic Forum, 2020). The impact of global external factors, regional conflicts leading to high uncertainty, COVID-19 pandemic in 2020 for all of humanity, are accelerating these trends.

Russia is experiencing global trends in economic development (Forecast of socio-economic development of the Russian Federation for the period up to 2036, 2018). At the same time, the expert assessment provided by the Organization for Economic Cooperation and Development (OECD) with regard to growth of the Russian economy in the next few years is below the forecasts for developed countries (1.5 - 1.8%) (OECD, 2017; OECD, 2018).

Among the serious factors limiting economic growth experts among other objective factors point out low labor productivity and a shrinking labor force (Abramova & Grishchenko, 2020; Vaisburd et al., 2016).

If low labor productivity is determined by the innovative backwardness of many Russian enterprises, the reduction of the labor force is connected with the aging of the population, including personnel. The transition period to the new limits of the retirement age posed by new pension reform in Russia that raised this age by 5 years will end in 2028. At the same time the number of the labor force in Russia during the whole forecast period will gradually increase from 75.8 million people in 2018 to 79.2 million people in 2036. The problem of personnel aging is supposed to be solved by raising the retirement age. However, an additional human resource in the form of senior workers through the implementation of a pension reform is unlikely to automatically contribute to the achievement of serious economic development goals (Stuken & Korzhova, 2019). It is widely known that, according to age and gender stereotypes, senior workers, and women in particular, are generally not the best candidates to be employed and retained (Mihalčová et al., 2018). And key technologies of the Industry 4.0 that is under way in all over the world (Big data analysis, autonomous robots, simulation (modeling), integration of IT systems, industrial internet of things, cybersecurity, cloud computing, augmented reality), and related competencies do not match gender and age stereotypes (Cassioli et al., 2020). New professionally important qualities that are required from employees by companies are: creativity, acceptance of innovations, dynamism, constant readiness to learn and self-learning, which are traditionally associated with young male personnel, determining the age and gender dimensions of the labor market (Kipper et al., 2021). Not only in Russia, but also in developed countries, age and gender stereotypes are alive and well developed, according to which employers are not interested in hiring women and older workers,

especially in high-tech areas of employment. Here's just a partial list of age stereotypes: resistance to organizational change; insensitivity to new things due to lack of flexibility; decreased motivation and low level of involvement in the work process; fatigue, often chronic; conservatism, lack of learning ability due to decreased intelligence; loss of autonomy; unwillingness to take personal responsibility; exposure to stress; illness (Neves & Vetere, 2019). There are also positive attributes: a readiness for agreement, reliability and loyalty, and experience. Older employees are more tolerant to the conditions of work, which is also important (Janssen et al., 2016; Nelson, 2004; Zaniboni et al., 2019). However, there are more negative characteristics. As for gender stereotypes - they are based on traditional ideas about the social roles of women in society. The transition to a new technological order may further displace women, especially older women, into low-tech sectors of the economy for low-paid jobs, exacerbating existing gender inequalities.

At the same time stereotypes influence a person himself, and he/she already finds manifestations of stereotypes in him/herself (Kornadt, 2016; Specht, 2017; Stephan et al., 2015). At the same time, studies do not confirm a total decrease in a person's mental functions at older ages (Hessel et al., 2018; Vo et al., 2015). Workers under the influence of age stereotypes begin to experience subjective disadvantage related to labor activity, along with approaching the age of forty in anticipation of impending problems, with doubts about their suitability and labor prospects.

So, is it possible to achieve serious economic development goals simply by obtaining an additional human resource in the form of older workers? Only if the employee is willing and able to work, so to say in case emotional regulators in the form of subjective well-being at the workplace in the context of ongoing technological and managerial changes will work, and in case management will be convinced of the high value of such employees and as a result, will not share age and gender stereotypes. Otherwise, senior workers will join the ranks of the unemployed or will overstay at economically unpromising jobs (Gimpelson et al., 2018).

At the same time, negative age stereotypes of youth are gaining strength too (Raymer et al., 2017). But without young personnel the company's future is not only in the long term, but also in the medium term. They include weak competence or its complete absence, non-involvement, aloofness,

trust in social networks, passivity, lack of responsibility, egoism, low learning ability and less adaptability to work, desire for immediate reward, orientation to self-development in comfortable working conditions with flexible schedule at a company with a good brand, inability to concentrate for a long time, withdrawal to self, lack of desire for career growth, desire to liberalize conditions of work, communication with a supervisor on an equal footing, and lots of encouragement (Kucherov et al., 2019).

In science and practice, there is a growing understanding that chronological age is increasingly losing its interpretative character in relation to the behavior of people, including in labor activity in the context of the transition of companies to an innovative format of development (Goecke & Kunze, 2018). Despite these stereotypes, any unbiased observer can see many senior workers successfully working in innovative enterprises. Nevertheless, stereotypes exist and continue to form. If a person is over 45, he/she is a tired conservative, and if he/she is younger than 30 he/she is a cliched thinker.

But the employer does not always make decisions based on the gender group and the chronological age of the employee. Of great importance is the employer's perception of an employee in the totality of his/her actual characteristics and according not to chronological but socio-psychological age, which, on the one hand, fixes the self-perception of a person, formed on the basis of self-perception of the complex of physical, intellectual and social competences, correlated with typical characteristics of some younger or later chronological age. On the other hand, this phenomenon includes a set of characteristics of human perception by social representatives, including employers and colleagues.

The process of development and aging is complex and multifaceted. Researchers distinguish biological, psychological, and social aging in it (Ksenda & Tatarko, 2018). This process is individual and interactive (Staudinger, 2015). The modern man can and often does a lot to maintain his health, physical shape, appearance, mental functions, behavioral patterns at the level that seems necessary and appropriate to the social challenges. There are views that aging is a natural process and it is necessary to take it calmly, knowing yourself and the meanings it carries, and it is difficult to disagree with them (Mrzljak, 2022). At the same time, one cannot deny people the right to postpone this stage of their ontogenetic development as much as possible and use the opportunities for self-realization not only in

family and recreational activities, but also in labor activities.

The emphasis on activity as a central phenomenon in the analysis of socio-psychological age is quite scientifically substantiated. Firstly, the classical conceptions of age periods are related to the identification of the leading activity, i.e., the activity in the context of which an individual acquires the main personal qualities, mental and behavioral competences (Elkonin, 2019). Secondly, subjects of evaluation are specified in each type of activity. In labor activity this is the employer or his representative, work colleagues. In activities related to the realization of roles of a family member, a spouse, children, distant and close relatives evaluate a person's socio-psychological age. Their evaluation criteria may be quite different from the employer's. And finally, most likely, the socio-psychological age can be different in different activities: a person can be psychologically young in romantic relations and old in work relations.

Ideas about the interactivity of the process of social-psychological aging of an employee allow considering it, in accordance with the theory of T. Parsons (2010), as a social action. This offers an opportunity to study this process in the context of its systemic determination at the levels of national culture, organizational culture, personality and organism (psychophysiological level of determination) (Parsons, 2010). It seems that the key role in determining an employee's socio-psychological development belongs to cultural determinants, because they contain values that are predictors of social behavior (Schwartz et al., 2012). And if general cultural values are rather difficult to manage, then organizational values can be analyzed by management and become an object of management, since organizational culture has its source in management (Meng & Berger, 2019). The organizational culture is based on the values of labor behavior and organizational development, as well as models of behavior that correspond to these values (Schein & Schein, 2020).

As a result, comes the relevance of the study of socio-psychological aging in relation to labor activity as a problem of social and organizational regulation of age manifestations, the successful solution of which will ensure the reduction and even removal of the influence of age stereotypes on the labor market.

In this context the problem of socio-psychological age in labor activity, the principal components of which are a combination of self-perception of the employee with the social perception of age manifestations on the part of the employer becomes of a high importance. The solution of this problem could not only increase social and managerial possibilities of creating human capital of companies but could also contribute to the solution of the fundamental problem of sociology - management of human social behavior.

In specific scientific terms, the relevance of the proposed study can be defined as the disclosure of social mechanisms of managerial interaction aimed at restraining the socio-psychological aging of the personnel in labor activity.

The applied aspect of the research is determined by the coexistence in modern Russia of companies that are dynamically entering the new technological revolution, with successful multi-aged personnel, and companies that have not been able to take the innovation barrier for many years. This provides a unique opportunity to improve the resilience of companies through the development and application of social technologies for the selection, training and management of personnel with different age and gender characteristics.

1.2. Justification of research area

The study of the problems of management of socio-psychological aging of the personnel in modern organizations allows us to identify several areas of sociological and psychological thought, which reflect certain blocks and topics of relevance to the subject of work: it is socio-economic development in the context of changing economic and managerial paradigms, sociology of age, gender sociology, sociology of organizations, sociology of labor and management.

At the same time, the integral and complex nature of the study predetermines its interdisciplinary nature. The basis of the study naturally included the theory and results of research in the field of age and organizational psychology, organization, and management theory, as well as human capital.

The first group of studies examines the impact of technological progress and innovative development on society and the labor market.

The topic of the impact of scientific and technological progress and the latest technologies on society is covered in the modern sociological works of K. Ashton (Ashton, 2009), L. Atzori, A. Iyer, G. Morabito (Atzori et al., 2011), W. Bauer, M. Hammerle, S. Schlund, K. Vocke (Bauer et al., 2015), D. Bastos, M. Shackleton, F. El-Moussa, F. (Bastos et al., 2018). The study of the large-scale impact of the fourth industrial revolution and the new technological order on society and the labor market is actively conducted by the President of the World Economic Forum K. Schwab and his experts (Schwab, 2017). There are quite a lot of works devoted to the specifics of innovation development of modern Russia (Glazyev, 2018; Mau, 2019; Shirov, 2019; Zamaraev & Kiyutsevskaya, 2015). There are a lot of works dedicated to the topic of competences of innovative personality taking into account the requirements of technological development (Dumitrescu et al., 2019; Fitsilis et al., 2018; Hecklau et al., 2017).

Given the radicality of the changes taking place, research on the resilience of organizations in the face of global challenges is of particular importance (Barasa et al., 2018; Duchek, 2020; McCarthy et al., 2017; Riley, 2020; Robb, 2000; Vogus & Sutcliffe, 2007) and personnel in particular (Everly Jr et al., 2020; Porter et al., 2017; Stoddard, 2020). Several authors dedicated their work to the problem of personnel adaptation of modern Russian enterprises to modern environmental conditions (Kuzminov et al., 2019; Popova et al., 2019; Temnitskiy, 2021; Yasin, 2015).

Studies have shown that the staff of many Russian companies is still not adapted to the conditions of a market economy, manifested inthe uncertainty of employment, unstable wages, varying depending on professionalqualifications and personal labor contribution, competitiveness in labor, and maintains expectations of state protectionism, which is contrary to the requirements of the new economic order, puts in doubt the success of innovation. This predetermines the relevance of the search for new effective management mechanisms and methods.

The second group of studies focuses on the topic of age as a complexphenomenon and a challenge to modern society

There are a number of papers focused on the topic of biological, psychological and social aspects of aging (Ksenda & Tatarko, 2018; Makita et al., 2021), chronological, biological age (Gómez-Campos et al., 2018; Jylhävä et al., 2017; Soriano-Tárraga et al., 2018), psychological (Montepare, 2020;

Pinquart & Wahl, 2021; Staudinger, 2015; Wahl et al., 2021) and social age (Rose, 1972; Stodd, 2014).

The significance of work activity for maintaining health and positive well-being of an elderly person is proved by research of Mandal and Rowe (2007) and W. Staudinger, R. Finkelstein, E. Calvo, and K. Sivaramakrishnan (2016). The problem of the "productive aging" and age and gender dimension of socio-psychologically resilient personnel are widely discovered in several studies (Grigoryeva & Bogdanova, 2020; Lebedeva-Nesevrya et al., 2019; Shapovalenko, 2017; Zaniboni et al., 2019). Namely, Janssen and Backes-Gellner (2016) reveled that women in stereotypically male jobs are significantly less satisfied with their work climate and job content than in stereotypically female jobs but more satisfied with their income in those same jobs. And the results of Zaniboni et al. (2019) research suggest that both implicit and explicit age stereotypes may harm older job applicants' hireablity. Rowe and Kahn (2015) pointed out that successful aging at the societal level will obviously facilitate successful aging at the level of the individual, and, most likely, vice versa. I. Grigoryeva and E. Bogdanova (2020) pointed out that pandemic of coronavirus infection actualized age boundaries and forced to remember the physiological peculiarities of the aging organism where the struggle for the inclusion of the elderly has (temporarily) been replaced by a struggle for their exclusion.

The third group of studies focuses on the problem of predicting labor and managerial organizational behavior

In the studies of the classics of sociology O. Comte, E. Durkheim showed that the predictors of behavior are values (Comte, 1988; Durkheim, 2014). Thanks to M. Weber, the concept of value as a norm was developed with application to the typology and interpretation of social action. Namely, Shalom H. Schwartz developed theoretical justifications for the nature and functions of values and their interrelationships in the structure of personality (Schwartz et al., 2012). At the same time values in this concept are considered as notions of goals that serve as the main guiding principles in human life. They represent some criteria for a person's choice and evaluation of his actions, as well as the evaluation of other people and events. Thus, values act as criteria by which a person builds his attitude to the world, including his attitude to himself (self-attitude).

This approach laid the foundation for the development of the value-rational approach in

management. The issues of value, culture and motivational regulation of social and labor relations and management peculiarities in the conditions of current changes and new requirements to the personnel of organizations are discovered in the works of G. Hofstede (Hofstede, 2001), E. Schein (Schein, 2010) etc. One of the important topics of the value approach is the problem of organizational culture, which is the socio-psychological context of the ongoing changes in the conditions of the new technological way of life and the technological revolution. Edgar Schein's Organizational Culture triangle says that there are different layers to the cultures within organizations. There are shallow layers that have some impact on an organizations culture, or which may be some indication of what a culture is actually like. There are also deeper layers which provide a much greater insight into what a culture is actually like. The Dutch management researcher, Geert Hofstede, created the cultural dimensions theory in 1980 (Hofstede, 1980). Hofstede's cultural dimensions originate from a large survey that he conducted from the 1960s to 1970s that examined value differences among different divisions of IBM, a multinational computer manufacturing company. This study encompassed over 100,000 employees from 50 countries across 3 regions. Hoftstede, using a specific statistical method called factor analysis, initially identified four value dimensions: individualism and collectivism, power distance, uncertainty avoidance, and masculinity and femininity.

The theme of transformation of values of modern Russian society in the conditions of change of technological orders and technological and socio-economics innovations is presented in the works of A.G. Zdravomyslov (Kosintseva et al. 2017), N.M. Lebedeva and A.N. Tatarko (Lebedeva & Tatarko, 2018), T. I. Shnurenko, T. P. Belikova, (Shnurenko & Belikova, 2021), N. Mastikova (Mastikova, 2020), surveys of Russian Public Opinion Research Center (VCIOM) (VCIOM, 2017) and Levada - center (Larina et al., 2016). The above-mentioned studies empirically confirmed the theoretical statement that values are both a stable, inert phenomenon and predictors of behavior, not yielding to managerial influences and not forming a model of behavior in the format of cooperation on the basis of non- traditional market values for Russia. Namely Lebedeva and Tatarko (2007) have identified universal cultural factors that promote and hinder productive innovative attitudes of Russians regardless of age and ethnicity: the values of Intellectual Autonomy and Mastery promote, and the values of

Hierarchy hinder innovative dispositions of the individual. Shnurenko and Belikova (2021) in their turn found out that the formation of young people's values takes place under conditions of information warfare, under the influence of which there is the possibility of formation of values alien to Russian education and tradition, as well as negative manifestations of the intergenerational value gap. The manifestation of the intergenerational conflict has a negative impact on the consolidation of Russian society and the educational level; this consolidation is based on trust in traditional basic values that show stability in the value consciousness of different generations. In her research of the values of Russian citizens Mastikova (2020) has discovered that, while the respondents' values do differ, the majority tend to lean towards having a strong internal locus of control. We discovered that over a third of our respondents (most of them aged under 30) believe that they have enough willpower to dramatically change their lifestyle. Such respondents make up the modern value core of Russian society and have access to a wealth of resources, such as good education, high income, and a comfortable leadership position on the career ladder. The respondents' notions of the country's future differ by age. The majority of traditionalist respondents are highly worried about the growing economic disparity in Russian society.

The analysis of the existing literature allows us to conclude that in the studies of major foreign and Russian research centers, research groups and individual scientists the problem of social and organizational regulation of age-related behavioral manifestations in relation to multi-ages personnel in the transition to a new technological mode and multivariate organizational culture is practically not touched upon now. Accordingly, the solution of these problems requires further research, which predetermined the choice of the topic of the thesis research, its object, subject, purpose and objectives.

1.3. Development and purpose of doctoral thesis

Population of the study: the personnel of Russian companies in the conditions of the requirements of the labor market Industry 4.0.

Subject of the study: management of socio-psychological aging of thepersonnel of Russian companies.

Objective: to develop the concept of management of socio-psychological aging of personnel in the workplace under the requirements of the labor market of Industry 4.0.

Tasks:

1. To analyze the theoretical and methodological foundations of the study of age in the sphere of modern socio-humanitarian knowledge.
2. To develop a theoretical management model for the determination of socio-psychological age and aging of the personnel of the companies.
3. To carry out empirical testing of theoretical management model of determination of socio-psychological age and aging of personnel of companies with different involvement in innovation processes.
4. To know the specificity of manifestations of socio-psychological aging for male and female personnel of different ages, different classes of professions in the organizational conditions of innovative and ordinary companies.
5. To investigate the role of age stereotypes and senior staff in the innovative development of companies in the advent of the economic order of the Industry 4.0.
6. To develop the principles of management of socio-psychological aging in the conditions of the labor market requirements of the Industry 4.0.

CHAPTER 2.

CONCEPTUAL FRAME

2.1. Organizations, organizational behavior, organizational culture

2.1.1. Organizations: the social vector of development in management

As has been rightly pointed out by S. Guimond et al. and other authors (Guimond et al., 2010; Rauthmann, 2021; Snyder & Deaux, 2012) that external causes act through internal conditions, today it is beyond argument that personality and human behavior should be studied in contexts (Guimond et al., 2010; Hughes et al., 2020), namely, social as well as organizational conditions, and in the context of tasks that generates challenges for personal qualities and competences of the actor. Organizational conditions are fundamental because from early childhood a person acts as part of various organizations and their influence is decisive for the personality development, the person's relationships, and establishment of behavioral models (Tolbert & Hall, 2015). It seems appropriate that studies in these sciences can give us answers to questions concerning patterns of the origin and development of organizational behavior and its impact on the development of organizations and human relationships.

Today, the term "organization" usually denotes a certain social unity that is aimed at achieving a certain goal, is built as a specially structured and coordinated system designed for certain activities, is related to an external environment and, therefore, is dynamic in its responses to changes in such environment. Practically all researchers agree on this point (Daft, 2010; Hitt et al., 2017; Luthans, 2021; Thompson et al., 2017).

Besides denoting a social unity, the notion of organization is used in other two meanings. First, as a human activity aimed at putting in order and coordinating parts of a whole. And second, as a degree of internal order, coordination and coherence of parts of a whole (Burke & Cerven, 2019; Velikorossov et al., 2020). Hence, the factors triggering organizational behavior can be sought in the structure of an organization as a social unity, in activities aimed at maintaining internal coordination and in the environment for different degrees of internal order in all sub-systems of an organization. The key point here is the management's activity because it is the management that sets goals and rules and organizes

employees' work in organizational sub-systems. The history knows various forms of work organization. The forms most common for the 20th century are F. Taylor's rationalism (Mouzelis, 2017) with the concept of an optimized rational organization as a formal structure, which is of key importance for the management development, and H. Fayol's administration theory (Ramakrishna, 2019) stemming from M. Weber's concept (Weber, 2019) of an ideal bureaucratic organization. Classical management traditionally ignores social and psychological qualities of employees and focuses on the organizational structure, planning, coordination, and control over activities of subordinate employees through format instructions and orders.

The organization and management theory saw its second stage of development in the 1920-1930-s. The foundation was provided by ideas of the school of human relations, which emerged at Harvard University, E. Mayo's studies (Mayo, 2017), in the first place. Researchers of this school started by measuring the influence of physical conditions of work on fatigability and productivity to show the significance of social need for small groups and its satisfaction as a work motivation factor. Among significant deliverables was a policy of human relations with a set of measures aimed at psychological employee-employer identification. Social functions of management were recognized as equally and even more important than administrative functions.

In the 1950-1960-s, a new trend in the theory of management – a school of social systems – was coming to the foreground. According to T. Parsons (Parsons & Shils, 2017) and Ch. Barnard (Isomura, 2020), organization as any community of people is a natural social system where relationships and interactions between people are determined not only by formal orders, directives and official instructions but also by a specific social and psychological mechanism. Any organization is now regarded to be an open system of communications functioning in an ever-changing hardly predictable environment and capable of surviving and achieving set goals. This capacity for goal achievement rests on the natural social and psychological regulatory mechanism as well as on conscious, task-oriented control – management. In his essays on organizational sciences, A. Bogdanov (1989) wrote that "power is the organizer's attitude towards the one who is organized". According to the theory of social systems (Bausch, 2001), the key function of the management is to make decisions and motivate work activities

by aligning goals of the formal organization with group norms, which, in its turn, can be done by developing a system of formal and social-and-psychological communications.

This approach has given rise to several studies that have revealed a system of social determinants of effective management. Among them are studies by H. Simon and J. March who prove that it is important to bring personal values and motivations of people working in an organization, managers, in the first place, in line with the organization's goals (March & Simon, 1975). The works of D. McGregor who features the influence of differences in managers' attitudes towards employees on the management style in use and on the ultimate effectiveness are to be mentioned as well (McGregor, 1960). F. Herzberg (Herzberg et al., 1959) identified hygiene and motivation workplace factors and validated the concept of job enrichment and the need for its improvement through creativity. R. Likert (Likert, 1967) described psychological qualities of an effective manager if the employee is allowed to be more independent; Ch. Argyris established a new type of organization that allows its members to participate in the making of decisions they will later implement (Argyris, 1957).

These ideas were expanded in the situational-empirical approach by P. Drucker (2012). In his concept of management by objectives, the management's focus shifts from the process to objectives. These changes are undoubtedly due to the technology development and continuous technical upgrade. P. Drucker shows that in such conditions intellectual energy of people becomes the main factor for successful development of almost any kind of organization. He was one of the first to introduce the criterion of the quality of work life to assess the management's performance.

As it has been observed by numerous researchers, at the time of mass mechanization, automation and computerization of production, technical factors come into conflict with personal factors because employees get tired of focused repetitive operations and lose interest to work, performance declines due to unexcused absence, staff turnover, etc. All this shows that organizational relationships are becoming more and more conflict and it affects labor productivity. The character of labor and the quality of work life need changing (Demerouti et al., 2001; Schaufeli et al., 2017).

On the one hand, intellectual energy is released through expansion of the scope of work and enrichment of its content – the two prevailing methods of the reorganization of work in the concept of

the quality of work life, on the other hand, as through implementation of two management strategies: empowerment and decentralization of management. According to this concept, employees achieve individual and corporate goals by working in teams (Matthews et al., 2003; Vogt & Murrell, 1990).

The contemporary research ideas underlying management directly involve realization of human potential in work. It is worth mentioning, for example, the "Job Demands – Resources" model by E. Demerouti, which suggests that besides various organizational resources, identification, and update should be applied also to human resources, from psychophysiological qualities to values, as conditions for the high efficiency of an individual employee and of the whole organization (Bakker & Demerouti, 2013; Demerouti et al., 2017).

Today, management considers changes in the life span. People live and work longer. It creates extra challenges to qualifications of managers and to employees (Koellen, 2021).

Thus, in its development management has been historically approaching sociology and psychology by extending the scope of social and psychological regulator of work activities.

2.1.2. Organizational behavior of managers as an integrated management characteristic and a source of employee organizational behavior

Functional extension and job enrichment for efficient performance of a modern organization are relevant not only for employees but also for managers. It is not by chance that a great many scientific works and writings are dedicated to the effectiveness of managers.

Many studies have been conducted by now to describe personal characteristics of an effective manager. Such studies reveal managerial specifics and characteristics (Ahmadi et al., 2021; Arshad et al., 2021; Martinez et al., 2021; Sherf & Liu, 2022), basic managerial roles for managers of various levels, personal qualities and biographical data, the impacts of conditions and circumstances relating to business profiles on the effectiveness of managers (Kong, 2021; Kotter, 2008), and interrelations between performance and specifics of management activities (Filstad, Olsen & Karp, 2021; Wallo et al., 2021).

Much consideration is given also to behavior of managers. J. Hannaway (2019) points out specific aspects of the social environment wherein managers act. She states that managerial activities are carried out in a hierarchical social system characterized by uncertainty of tasks, absence of any rigid connection between actions of managers and achieved results, and biased feedback. What appears to be fundamental in managerial work is that managers act according to the situation, rather than along planned behavioral patterns, and make quick decisions in changing conditions. Managers are guided, to a great extent, by experience and intuition rather than by a rational approach to solving the emerging tasks and tend to pursue their own mode of operation rather than meet the job demands (Daft, 2020; Mintzberg, 2019).

The findings of these studies refer mainly to values, attitudes, personality traits and behavioral modes, under which a manager of a certain level demonstrates by his behavioral strategy values and personality traits in a given managerial situation.

For example, leadership behavior is a function that depends, on the one hand, on personal characteristics – knowledge, attitudes, experience, and motivation, and on the other hand – on certain aspects of the external environment (Davis et al., 2018). These include the job content and the reward system. F. Fiedler's classical research shows that whether or not a situation is favourable for a certain style used by the manager depends on three variables: the level of relationships, job structuring and leadership power (Perugini & Castro, 2013). Subsequent studies, models and approaches extended the knowledge about situational leadership as a key condition for effective management. Such studies are very important because when studying a manager's behavior in an attempt to find a key to his effectiveness, theorists and experts analyze the manager's behavior in two main roles: manager as such and leader. Individual and psychological qualities of leaders have been described (Bass & Riggio, 2006; Griffin et al., 2016; Kark et al., 2018): from leadership motivation and cognitive abilities to post-conventional commitment to moral standards.

Despite a variety of findings, the main conclusion is that managers behave according to their personal characteristics, which in some situations appear to be adequate to the set tasks, and in other cases – not adequate. For this reason, some managers are effective while others are not. It is evidenced

by the fact that numerous studies feature diversified personality types of managers that manifest in different management styles (Huertas-Valdivia et al., 2019; Sulich et al., 2021; Vale et al, 2020).

J. Newstrom and K. Davis (2007) have suggested quite an effective approach by developing a typology of models of organizational behavior of managers as it is the manager who initiates and organizes work activity in a workgroup and ensures integration of the group's activity not only "horizontally" but also "vertically", how doers will behave, i.e. interactions between participants of the work process and joint activities on the whole, depends, to a large extent, on the model of the manager's behavior.

The manager is professionally competent if he chooses an adequate model of behavior, according to goals, education and qualifications of doers, conditions of work, etc. (Vakkayil, 2017).

The autocratic model of organizational behavior is based on power. In autocratic conditions, managers are oriented towards formal, official powers delegated through the right to give orders to subordinates, and the employees' duty is to execute orders in full obedience (Syaifoelida et al., 2019). It is assumed that employees need to be directed, forced to work and this is the main task of the management. This approach translates into the tight control of the management over the working process.

Managers keep underlining that the only thing that employees are expected to do is to work by precisely executing managers' orders because this is exactly what they are paid for. The autocratic organizational model remains effective for unskilled labor and their activities implying quick and absolute execution of decisions. It is about work in extreme situations.

If applied outside this context, the autocratic model leads to low performance and low loyalty of employees, low productivity and low quality of output, employees' dissatisfaction with salaries and management in general (Puni et al., 2016). Such dissatisfaction can manifest in a negative form – absence from work, thefts, breakdown of equipment, false sick leaves, etc. (Owen, 2019).

The paternalistic model, when implemented, depends on economic resources. This organizational behavior model is oriented towards material rewards, safety and dependence of employees on the

organization. The organization's management seeks to provide funds and resources in order to pay salaries and grant benefits. As the basic needs of employees are duly satisfied, the employer sees its employee's demand for safety as the main motivating factor. Paternalism makes employees more dependent on the organization. The employee feels that his security and wellbeing depend much more on the organization rather on his immediate superior.

And it is not uncommon that even if an employee does something that harms the organization (stays absent from work, steals), the employee will be forgiven as if he were a careless child who needs greater care. Usually, salaries in such organizations do not depend on the personal work contribution and the quality of work, which significantly reduces motivation of the most effective employees. Often employees are not interested in the work process as much as they are concerned about getting benefits, being treated fairly and having their part of care provided by the organization.

The most obvious disadvantage of the model is that the labor efforts of the majority of employees are only somewhere close to their performance potential because they are not motivated to demonstrate higher performance. The model best suits employees with low ambitions. Real professionals quickly give up on this model or lose their qualifications without noticing it. In Russia, the custodial model is generally not effective because employees often lack discipline, are oriented towards getting benefits, and value rest more than work (Faulks et al., 2021). In such conditions, this organizational behavior model quickly leads to reduction of labor productivity.

The supportive organizational behavior model rests on R. Likert's (1967) supportive relationship principle. This author demonstrated the place and the role of supportive management in a triad: organizational factors, human resource factors and performance. Management and other organizational processes should make it most probable that with all interactions with the organization each of its members who has his own experience, significance, and expectations feels the supportive approach that makes him feel his self-worth and importance (and to preserve this feeling). The table 1 shows the correlation between the methods of managerial interaction and the company's organizational culture (Newstrom & Davis, 2007).

In today's environment, even the transactional approach is not sufficient, despite its functionality. What is required is full interaction, mutual communication that includes empathy. This is because the purpose of interaction is to bring people together when expectations, predictions, and behavior of the participants are determined not by individual, but by common needs (Groshev et al., 2019). Achieving communications at the level of interaction should solve the problem of staff retention and reinforcement of the clan component of the organizational culture, in which employees unite against the introduction of innovation. Looking at customer communications from this perspective, it is clear that customers will reduce image- destroying claims to companies on social media, as companies will find ways to resolve the resulting contradictions within the interaction and, using the experience gained, to improve processes within the company itself. Corporate culture influences the company's employees through managerial interaction, restraining or stimulating their aging. The manager's values are reflected in the manner of communication that he or she establishes with the executive part of the staff.

Table 1

Models of organizational interaction

Features	**Autocratic**	**Paternalistic**	**Supporting**	**Collegial**
The basis of themodel	Power	Economic resources	Manual	Partnership
Orientation management	Credentials	Money	Support	Work in
Orientation employees	Submission	Safety and benefits	Performing work assignments	Responsibl ebehavior
Psychologic alemployee result	Dependence on direct supervisor	Dependence on the organization	Participationat the helm	Self- discipline
Meeting needs employee	In the existence of	Safe	In Status and Recognition	In self-realization
Employee participation in the laborprocess	Minimum	Passive cooperation	Awakene denergy	Expressed enthusiasm, personal involvement
The dominant component of the organizational cultures	Hierarchical	Clan	Market	Adhocratic

The supportive model rests on management that creates an environment promoting the individual development of employees and utilization of their capabilities in the interests of the organization (Caesens et al., 2017). The management's purpose is to direct and focus employees' efforts on executing job tasks, to involve employees in cooperation and to increase labor productivity. The manager is willing to help and collaborate with his subordinates, believing, at the same time, that his employees are expert in what they do and are ready to contribute to the organization's well-being by their work.

In the supportive organizational behavior model, the manager is interested, above all, in the result of labor but does not criticize the employee if his performance fails to meet standards or expectations and, instead, starts a constructive dialogue with the employee (Newstrom & Davis, 2007). With the assistance of the manager (perhaps, engineer or process specialist), the employee seeks to understand what causes low performance, i.e., acts as an expert. Managers give much support to employees who aim at enhancing business processes and present behavioral models of such employees as an example for others to follow. Employees feel the manager's care and see that their work is evaluated by their involvement, the quantity and the quality of results. Constructive interaction with the manager boosts self-esteem and self-worth, increases labor productivity and loyalty to the organization.

When the leader supports employees' efforts, employees feel involved in the organizational decision-making and feel they can say 'we' instead of 'them' when referring to the organization. Their work motivation becomes stronger because their needs in status and recognition are satisfied on a higher level. In this way, employees are internally driven to work.

The collegial model is a further refinement of the supportive organizational behavior model (Newstrom & Davis, 2007). The term "collegial" features partnership relations between people who form a group and strive to achieve a common goal. This model is widely used in organizations promoting creativity of employees towards their job duties because it is most adequate for intellectual labor and gives employees much freedom in action.

The collegial model is effective if employees are made to feel (under the guidance of the management) the sense of partnership, that they are needed and are useful (Syaifoelida et al., 2019). Management of such organizations is focused on teamwork; the manager is regarded as a mentor who

forms a winning team. Employees respond to this by feeling responsible when a job task is completed well not because it has been ordered to be done by the manager or under the threat of punishment but because the employee feels obliged to perform at his best.

In terms of psychology, the collegial model develops self-discipline with employees when, feeling responsibility, the employee himself sets frames and patterns for his behavior in the team (Wibowo, 2017). In such organizational environment, employees usually feel that they fulfill their duties, contribute to the achievement of common goals, and engage in self-realization, which, in its turn, make them feel enthusiastic when performing job tasks.

Modern organizations demonstrate all of the listed organizational behavior models. This extensive analysis of organizational behavior models allows for the following conclusions (Wibowo, 2017):

– each model corresponds to a certain stage of personnel management development in an organization, which, in its turn, depends on the organization's technology resources and, therefore, social, cultural, educational, and intellectual development of employees.

– organizational conflicts and personnel resistance can emerge if the organizational behavior model implemented by managers fails to correspond to the organization's technical development and development of its personnel. By the social mechanism of their origin and development, such conflicts are similar to conflicts between parents and children when parents take no notice that their child goes over onto a new level of mental and social development and continue using the same manipulation techniques that were established at the previous stage of their interaction with the child.

Nor conflicts are manifest when parents or teachers start using manipulation methods that outgrow the child in his mental and social development.

The situation in organizations is similar. If managers in a stagnant organization try to apply management techniques designed for motivated personnel to employees who look no further than getting paid and being provided with social benefits, it leads to misunderstanding, rejection, conflict tension or even overt conflicts. High-tech organizations with educated and intellectually developed personnel can encounter conflict rejection of managers who implement the autocratic organizational behavior model.

To better understand the action of this mechanism of misalignment in an organizational behavior model and employees' willingness to follow it, let us analyze situations involving technical upgrade of organizations and their transition to innovative forms of development.

2.1.3. Development of organizations and resistance of employees to changes

One of the urgent needs for the management of modern organizations is the need for development. Sources for development can be found both outside and inside the organizational environment. Among external drivers is competition, economic, political, global, demographic, social and ethical factors (Pocztowski & Miś, 2010). Internal factors, sometimes relatively independent but more often secondary to external factors, relate to the implementation of certain projects within the organization when the management is not satisfied with the state of the internal environment.

Today, there are several co-existing theoretical models of organization development. According to the structural-contingency model (Drach-Zahavy & Freund, 2007; Lawrence & Robinson, 2007), an organization is regarded to be a complex artificial system in a state of passive rational adaptation to the external environment. Adaptive mechanisms are developed through the manager's rational activity. Development of this model implies not only organizational effectiveness but also survival as organizational efficiency criteria. The concept of effectiveness is conventional and is directly linked to the idea of organizational goal orientation whereas survival is not such obvious as a criterion. Survival does not mean existing on the verge of bankruptcy but the ability of an organization to remain in the pathway towards development and in a phase of prosperity. A strong point of this approach is evolutionism of organizational changes and, therefore, minimum probability of conflicts situations in times of changes because employees have time to get psychologically ready to what is happening. Advanced technologies, for example, total quality management (TQM), often prove to be effective.

It is clear that in today's Russia this model is not always and not quite adequate because the majority of organizations can hardly claim to maintain a phase of prosperity due to the economic situation (Mau, 2019). More adequate is the innovation model that had taken shape by the beginning of the 1970-s. Under this model, an organization is defined as an artificial-rational, instrumental, and goal-

specific system, constantly modified to solve new tasks and viewed through the prism of introduction of innovations. With the innovative vector of organizational development the role of the management is very important because it is the management that fully determines the course of development and sets future system properties (Argyris, 2017). Not always such course of development suggests introduction of innovations. For major transformations managers apply technologies such as re-engineering, restructuring, etc. But also these, relatively independent technologies are quite often a requirement for the introduction of innovations.

The problems of the development of innovation-driven economies were first tackled by J. Schumpeter in 1934 (Lazzarotti et al., 2011). Indeed, innovations entail changes but are associated with high risks because the outcome remains uncertain for some time. Still, the demand for innovations is growing worldwide. For example, Daft (2020) observed that in 2000 10% of Western companies demanded innovations from third-party developers whereas in 2004 this figure grew to 35% and in 2010 – already to 50%. Experts point out that innovations are one of most complicated instruments of management during transformations. Many large Western companies set up separate creative department to manage innovations (Daft, 2020).

What makes things more complicated is that managers often doubt the resilience of innovations? According to experts, inappropriate methods are used by managers in innovative activities (Kesting et al., 2015; Wei et al., 2019). Employees so often resist changes that such resistance is quite commonly viewed as an intrinsic quality. Awareness that the society needs to strive for innovative development formats does not make this task easy to solve.

The slow pace of transition and the problems encountered by the management speak of serious constraints. It follows that there are apparent conflicts, and their scope and characteristics need to be investigated. Various researches expressly state that conflict-free introduction of innovative changes and acceptance of innovations in an organization is the exception rather than the rule (Amarantou et al., 2018; Darmawan & Azizah, 2020).

Authors singles out five most typical success factors in innovations management: organizational cohesion (cooperation, capability of uniting a team, etc.); the extent of the manager's involvement in

innovative activities; being able and willing to quickly regroup employees, having courage to risk, being willing and ready for quick changes; ethics (when business goals are subject to ethical standards); entrepreneurial spirit (Mousavi et al., 2022; De Oliveira et al., 2018). It is pointed out that the resistance to innovative changes includes any actions of employees aimed to discredit, delay or oppose innovations. Resistance to innovations can vary by its intensity. It can be either as passive, more or less latent opposition to changes that manifests itself in the form of absenteeism, reduction of productivity or the desire to change the job, or active, manifest opposition to reforms (for example, in the form of strikes, explicit avoidance of innovations). Resistance of employees to innovative changes tends to be latent rather than manifest. It is pointed out that to succeed in overcoming employee resistance to innovative changes, the manager should have clearly set objectives of changes, incorporated in the organization's development strategy, and visualize the stages of the introduction of changes (Savchenko et al., 2019). Again, analysis goes no further than goals.

The quality of management and the quality of human capital are factors with a significant motivational component. Studies show that innovative activities and high productivity take more than just a certain set of competences. What is needed is commitment to some specific values and specific motivation. And this is true not only for developers of new products, technologies and new models of production and management organization but for society overall.

Of course, innovation motivation of developers is different from innovation motivation of those who implement and maintain innovations with their everyday effort. Those who create something new are innovation-driven thanks to their psychological potential. They form a separate cohort. It is a known fact that the number of innovation-driven people with motivation for creativity varies from 5% in the society to 30% in intellectual, academic and professional communities (Magun & Rudnev, 2008). Owing to a certain combination of their intellectual and motivational characteristics, such people are capable of creating even when the environment is not motivating. For them, innovative activities have an inherent value.

Zakharova (2010) describes four types of innovation motivation: a) Expressed motivation of innovation expectation ensures demand for innovations and is more representative of man with a social role of consumer; b) The motivation of the manager's search for innovations accounts for the manager's assertiveness towards innovative production technologies and innovative managerial approaches; c) Motivation for innovative creation is intrinsic to developers of innovative products and technologies and promotes the appearance of innovations as deliverables of productive creativities; d) Motivation for acceptance and support of innovations is a desirable characteristic for those employees who are doers. It provides for survival of innovations and constant psychological readiness for development.

Innovation motivation implies that the desire for positive changes in the social and object environment steadily outweighs the desire to preserve stability. It is psychological readiness to live at the "times of changes" with a clear perception of numerous related costs. Generally, costs relate to satisfaction of all deficiency needs (Navy, 2020).

Of course, resistance to changes is quite typical for many organizational realities determinated by a broad range of barriers to changes (Pocztowski & Miś, 2010). To organizational barriers authors attribute authority allocation and conflicts, differences in the functional focus, mechanistic structure, and organizational culture. Group barriers include group norms, group cohesion and groupthink. Individual barriers are manifested in established habits, the feeling of uncertainty and insecurity. It appears that conflicts are not coordinated in the context of the listed barriers but are a result of their manifestation when a person has to deal with a risky innovation being introduced. This situation requires developing and implementing a new strategy of development, new patterns and forms of activity, new behavioral responses.

2.1.4. Organizational culture as a social context and a social regulator of personnel behavior

Various papers dedicated to studies of organizational changes extensively advocate those organizational changes always come with changes in a company's organizational culture (Anderson, 2018; Brown & Harvey, 2021; Waddell et al., 2018). The same concept is supported by the AGIL (Adaptation, Goal Attainment, Integration, Latency) model by American sociologist T. Parsons

(Schlenkrich, 2021). His model implies that in order to survive and prosper any organization should be capable of adapting itself to the constantly changing conditions of the external environment, attaining its set objectives, integrating all its parts into one whole and, ultimately, of being recognized by the society and other organizations. This model assumes that organizational culture values are the key means or instruments to serve the model's functions. If beliefs and values transmitted by an organization help it to adapt itself, to attain goals, to get integrated and to prove its usefulness for the society and other organizations, such culture is sure to contribute to the organization's success.

Organizational culture contains the values, attitudes and corresponding behavioral patterns and expectations of the members of the organization, encapsulating the functions of external adaptation and internal integration (Schein, 2010). If the strategy tells the staff what to do, then organizational culture dictates how to do it.

The first works that mentioned the concept of organizational culture appeared in the middle of the 20th century. Organizational culture drew the attention of researchers due to the emergence of new forms of business patterns, scientific and technical progress, the increasing uncertainty of the external environment and, as a result, search of new forms and mechanisms determining competitive advantages both on the micro- and macro levels. In particular, one of the factors that boosted studies of organizational culture was an apparent opposition between the Japanese and the Western organizational management models (Chiavacci, 2018; Pudelko, 2009; Schonberger, 2007). Against a deep economic downturn in the US in the 1970-s, Japanese companies demonstrated exceptional performance. A series of studies revealed that it was on account of specifics of the Japanese forma mentis, the national culture and traditions that, in their turn, influenced organizational culture of businesses (cohesion of employees, domination of organizational interests over personal concerns, loyalty and commitment to the organization). So, directions for future studies of organizational culture are directly linked to the enthusiasm for research in the field of national culture. Almost simultaneously with the advancement of cross-cultural studies, researchers assumed that the notion of culture could be extrapolated to the context of organization so that each organization could be deemed as a separate culture. If people living in one country are expected to stick to similar values, norms and fixed behavioral models, the studies of

organizational culture suggest that within an organization its members also have quite a few features in common (Schein, 2010).

The special role of organizational culture in the life of the organization has been confirmed by a number of studies conducted at the end of the twentieth century, which showed, that it is essential in the organizational life of any company and affects employee performance and the quality of services provided by organizations (Aronson, 2018; Klein et al., 1995), job satisfaction (Addae & Boso, 2020; Jackofsky, 1987), innovation (Lorsch, 1985; Qi & Lee, 2019; Sakikawa, 2022) managerial decision-making (Alexiou et al., 2019; Hartner-Tiefenthaler, 2021; Sackmann, 2021; Sapienza, 1985), productivity (Denison, 1995; Ibrahim et al., 2022; Zeb et al., 2021) and the effectiveness of implementing diversity policies (Park & Shin, 2019; Suharnomo, 2018) (e.g., for people with disabilities).

As for the functions of organizational culture, they are multi-faceted, but the three basic functions of organizational culture can be formulated as follows: ensuring organizational stability; employee community; involvement of all the organization's members in the common goal, and attainment of strategic objectives.

Despite the gained knowledge, the argument about what is organizational culture and how it can be studied continues. The concept of organizational culture has been steadily established in the theory of management already for two decades, but reviews of research papers show that scholars are not unanimous in defining this concept (Paais & Pattiruhu, 2020), in many respects because there is no consensus of opinion in the definition of social culture (Garcia & Gluesing, 2013).

In our opinion, it would be logical to refer to the point of view of cultural anthropologists since most of the currently used definitions of organizational culture stem from anthropological studies of national cultures that first define the notion of culture, which is reflected under such approach in a community of ideas, behaviors and artifacts, and then conclude that the concept can be extrapolated to the organizational context (Shin & Park, 2019). By analogy with the anthropological traditions, researchers J. Beyer and H. Trice (1987) extensively explored the topic of "cultural forms" in an organization such as rites, myths, folktales, symbols, ceremonials, and several other elements that

feature a hidden layer of organizational life, namely – organizational culture. A similar view is taken by T. Deal and A. Kennedy (1983) who assert that the notion of organizational culture covers shared values, employees embodying such values, rites and ceremonials, and a cultural network that consolidates the values and the essence of organizational culture. W. Ouchi's definition of organizational culture rests on the core role of symbols, ceremonies and myths that give an organization's members important indications about values and beliefs. In the course of the further analysis of the approaches to organizational culture it becomes clear that the most profound investigation of this concept in psychology found in Edgar Schein's works also follows the anthropological thinking. According to E. Schein, organizational culture is a total of collective valuable basic rules invented, discovered, or established by a certain group of people as such group of people learns to deal with problems relating to the adaptation to the external environment and internal integration. Accordingly, new members of the group should learn such rules as the only right way to comprehend things, to think and to feel when having to solve similar problems (Shein, 2010).

Among all numerous definitions of organizational culture offered by researchers we should single out two approaches far apart. The first is the phenomenological approach adopted by A. Pettigrew, M. Louis, S. Robbins and others. This approach presents organizational culture as a supra-rational phenomenon that resists changes and impacts productive efficiency but only indirectly, by influencing the process of perception and interpretation of the situation (Shah & Sarkar, 2017). In this interpretation, the effect on organizational culture appears to be questionable. The rational pragmatic approach to defining organizational culture hypothesizes that an organization's future development is conditioned on the organization's past experience. This follows from the assumption that behaviors of an organization's members are determined by the values and basic beliefs established on the basis of the organization's historical development. Besides, a big role in the creation and modification of organizational culture is attributed to the organization's management as a conscious and controlled process. (Sobirovna et al., 2021). The approach suggests that organizations build and develop a culture targeted at stability and effectiveness. An organization's management influences and modifies

organizational culture if and where necessary by transmitting a set of norms, values and beliefs embodied in the organization's policies and procedures both on the group and individual levels.

But ethnographic research is criticized by E. Schein (2010) who adheres to the clinical research" method and, pleading that ethnographic research takes too much labor input and time, suggests an experimental approach as "the most effective and reasonable way to decipher culture. (Schein suggests that researchers and "internal agents" (employees) should interact as partners when collecting data on artifacts, basic beliefs and values, and advocates analysis and discussion for their interpretation.

In their "Diagnosing and Changing Organizational Culture" K. Cameron and R. Quinn (2011) offer 3 strategies to collect data:

– holistic (the investigator becomes immersed in the culture and engages in in-depth practical observation);

– metaphorical (or language) – the investigator uses language patterns in documents, reports, stories and conversations;

– quantitative – the investigator uses questionnaires and/or interviews to assess particular dimensions of culture.

Though the quantitative approach to diagnosing organizational culture is often questioned by researchers (some hold that qualitative approaches are more reliable), being the OCAI (Organizational Culture Assessment Instrument) developed by K. Cameron and R. Quinn (2011) one of the most popular instruments.

Other instruments should be the Organizational Culture Inventory (OCI) developed by Cooke and Lafferty (Calciolari & Prenestini, 2022), the Culture Gap Survey developed by Kilmann and Saxton (Williams, 2022), the Organizational Beliefs Questionnaire by Sashkin (Saad & Abbas, 2018), the Corporate Culture Survey by Glaser (Yang et al., 2019), and the Organizational Culture Profile by O'Reilly (Baird et al., 2018), Chatman and Caldwell (Chatman, 2021).

K. Cameron and R. Quinn hold that a key aspect is that changes in organizational culture cause changes in the kernel of organizational culture. And such values cannot be changed without a

corresponding impact on the employees' basic personal values determining their individual behaviors (Hultman, 2019).

Understanding the structure of organizational culture gives some idea about the area of impact in case of organizational changes. E. Schein (2010) divides organizational culture into three levels: surface, beneath and deep. Manifestations of organizational culture in the external environment as products and services provided by the organization, slogans, technologies in use, and the formal language communication are at the surface. Beneath are beliefs and values shared by members of the organization. Shareability or non-shareability of such values by employees is voluntary. And, finally, the third deep level is formed by employees' underlying personal values, which sometimes are difficult to discern for employees themselves. These are those invisible assumptions that determine organizational behaviors of the organization's members and their acceptance/rejection of organizational values.

Value priorities and the dominating motivation of an employee's personality explain specifics of the problematic field and can significantly influence organizational behaviors of employees and, consequently, the effectiveness of organizational transformations. It can be naturally assumed that just like in a society where identifications of its members change with changes in the social and psychological environment, identifications of an organization's employees change under the influence of organizational changes.

The theoretical model of the Competing Values Framework developed by R. Quinn and J. Rohrbach (1983) has gained wide popularity among researchers and experts. Those authors explored the interrelation between culture and organizational effectiveness and identified differences between various effectiveness indicators depending on flexibility, stability, and the degree of integration as organizational values suggesting six most probable dimensions reflecting fundamental values of organizational culture (Cameron & Quinn, 2011):

1. The dominant characteristics, or what the overall organization is like; 2. The leadership style that permeates the organization; 3. The management of employees or the style that characterizes how employees are treated and what the working environment is like; 4. The organizational glue or bonding

mechanisms that hold the organization together; 5. The strategic emphases; 6. The criteria of success that determine how victory is defined and what gets rewarded and celebrated. The above mentioned Cameron and Quinn's organizational culture assessment instrument (OCAI) ranks organizational culture on the basis of competing values in six dimensions and identifies four basic types – hierarchy, market, clan and adhocracy. The right combination of dominant cultural values, the applied strategy, organizational structure and specific aspects of the environment contributes to the maximum organizational effectiveness.

The hierarchy organizational culture is characterized by the emphasis on the strategy within the organization and a sequence of actions in a stable environment. In this organizational culture, symbols, patterns to follow and ceremonies underline the significance of collaboration, traditions, and compliance with approved policies. Organizations with this organizational culture are successful owing to their coherent internal integration and economic efficiency. Among the key values of success are a clear distribution of decision-making authority, standardized rules and procedures, accounting and control mechanisms. This culture is effective in stable, foreseeable conditions but is unlikely to be effective in a situation of uncertainty or crisis.

The market organizational culture refers to a type of organization that functions as a market, i.e., is oriented towards the external environment instead of internal affairs. With this culture, an organization is united by the aspiration to win. Success is determined in terms of the market share and the degree of market penetration, outpacing competition, and gaining market leadership. Profitability is the main target of organizations with this organizational culture type. Organizations with this organizational culture type can remain fairly effective in situations of uncertainty and risk.

Organizations with the clan organizational culture are characterized by organizational values and objectives shared by all employees, cohesion, individuality, and a sense of "we-ness". A clan is formed on the basis of a certain system of values, shared by all its members, teamwork and consensus.

The adhocracy culture is characterized by dynamism, entrepreneurship, and creativity in work, when people are ready to sacrifice themselves and take risks. The glue that holds an organization together is commitment to experimentation and innovation.

Obviously, each organizational culture corresponds to a certain type of leader that is one of the criteria of organizational effectiveness.

Being a system of social control that shapes individual behaviors of an organization's members and directly influencing the dynamics of a certain group, organizational culture is relevant also for employee behavior as one of manifestations of the organization's life (Dogra & Dixit, 2016; Kouassi, 2018).

It has been demonstrated that in comparison with individualistically oriented organizations, employees in collectively oriented organizations have less direct contract and engage more in remote interaction, which leads to more frequent conflicts (Hofhuis, van Der Zee & Otten, 2012). Researchers account for it by referring to a self-identification mechanism that is characterized exactly by a collectively oriented approach when organizational membership comes first and prevails over all other personal characteristics. In such organizations employees identify themselves as part of a work group they belong to and oppose themselves to another group.

The change of a management paradigm is naturally accompanied by changesof organizational culture as new values come into the organizational life, the company searches for new ways of internal integration for increase or acquisition of competitiveness (Anderson, 2019; Cummings Worley, 2008; Duchek, 2020).

Nevertheless, the formation of organizational culture is considered by many researchers, experts and managers as a conscious and controlled process (Mohelska & Sokolova, 2018; Sueldo & Štreimikienė, 2019). As a rule, the management of companies forms and develops such culture in the organization, which would promote development and achievement of efficiency of activity. The company's management influences the organizational culture as necessary by transferring a set of norms and values embodied in the policy, corporate regulations and procedures ofthe company, models of behavior and managerial interaction. For understanding of essence, functions and dynamics of organization the results of studies and the concept of K. Cameron and R. Quinn have great value (Quinn & Cameron, 2019). The analysis of this model allows us to understand the underlying value differences in different types of organizational culture. The authors did not aim to develop a typology based on

differentiation of basic, general cultural values, they were rather guided by pragmatic motives, but, nevertheless, the analysis of their model allows revealing the value differences by types of organizational culture (Filep, 2019).

Identification of the value basis of culture is of fundamental importance for the analysis of behavior because values are its basic regulators, predictors. Cameron and Quinn (2011) reasonably showed that each of the allocated types of organizational culture attracts and concentrates managers with a certain type of values and determines manifestations of individual-psychological features of employees in the format of behavioral patterns of organizational culture of specific type. Thus, organizational culture, on the one hand, unites personnel with certain characteristics, and on the other hand, contributes to the formation of certain characteristics in the personnel as a whole. Personnel with psychological features that do not correspond to the established organizational culture, either gradually leave the company, or, in one way or another absorbs the values of the culture.

2.2. Modern labor market transformation and company's development: a theoretical and methodological analysis

2.2.1. Company resilience and personnel resilience

Modern society in the era of the global economy is characterized by socio- economic instability and geopolitical uncertainty. Uncertainty makes it difficult to predict the development of the economic situation, and this has an extremelynegative effect on business. Quite often when characterizing uncertainty, H. Courtney's model (1997) is used, which includes four levels: slow changes in well-defined situations where the results of forecasting are reliable; situations where there is a limited set of future results depending, for example, on the profit of one major contract; situations where conditions and results are uncertain, but one can still determine which of them are improbable or implausible; extremely complex, ambiguous and unstable with Uncertainty increases with the complexity of conditions and the rate of change. Level 4 situations are now becoming more and more probable.

Since competition, instability and uncertainty are the natural conditions of modern business, the

notion of resilience is increasingly entering the context of organizational research. Resilience is defined as the ability of a system to cope with change (Buzzanell, 2018; Wieland & Wallenburg, 2013; Wieland & Durach, 2021). The term resilience began to be used quite actively since the year 1981, but mostly in relation to ecology, living systems and groups, while the study of company resilience began relatively recently as a result of the analysis of socio- economic consequences of the global economic crises (Downes et al., 2013; Spears et al., 2015).

Strategic organizational resilience implies the ability of the system to cope with and predict the development of crises, to respond quickly and viably to these threats and prevent the unfolding of negative consequences associated with the decline of business power, the willingness to overcome them, taking into account a variety of factors (Duchek, 2020; Hillmann & Guenther, 2021; King et al., 2016; Robb, 2000). A resilience organization can be called one that provides flexible solutions, promptly creating or eliminating structures if necessary along with external and internal challenges, is able to manage the emotional consequences of constant changes and transformations, is an organization that is constantly in motion, growing and developing (Conz & Magnani, 2020).

In general, the resilience of the enterprise is understood as the ability to maintain stability and activity without going beyond the defensive position in the emergence of expected and unexpected changes, the ability to increase the ability to respond, make tactical and strategic decisions, and as a result, gaining real competitive advantages by improving safety, increasing parties, interested in the preservation of the company, and the growth of shareholder value. There is a growing perception of the threats against which early warning and response capabilities must be built to ensure the growth of enterprise resilience. These threats include traditional (financial, natural, geopolitical, legal and physical security risks) and new risks: cyberattacks, innovation, communication channel problems, intellectual property protection, dramatic shifts in consumer tastes and the activation of non-traditional competitors, and corporate culture (Everly et al., 2013; Everly & Lating, 2019; Vlikangas &Hamel, 2003).

Many countries view organizational resilience as integral to national security, creating national standards for organizational resilience. The standard directs the enterprise to identify and develop programs to counteract risks and their consequences, which, as a result, can be controlled and reduced.

The work involvescontinuous search and planning, implementation with training and development of special competencies of personnel, evaluation and adjustment of results with full documentation of processes. The key to a company's resilience is the social and psychological resilience of itspersonnel. The key characteristics of a resilient workforce include competence, decentralization and openness in decision-making, caring and trustworthiness that generate trust in groups, at all organizational levels, cooperation within the organization and the ability to cooperate with other organizations, dynamism as the opposite of rigid organization, low mobility of processes (Vogus & Sutcliffe, 2007). These characteristics provide the emergence and maintenance of trust in difficult conditions, which generates in employees the ability to survive stress without distress, a sense of security and willingness to act, showing dynamism, moving away from unproven rules and algorithms. The problem of the connection between the age of employees and the task of ensuring the resilience of the company, at first glance, is quite obvious: according to the stereotypes of a lot of managers, older employees find it more difficult to cope with stress, to work under uncertainty, the more quickly adapt to the rapid changes in the external environment of the organization.

In Western countries with a long history of free market and self-regulating economy the social and psychological aspects of the resilience of companies and personnel are of particular importance, while in Russia these factors are practically not taken into account. In Russian practice, as a rule, only staff motivation is noted, as well as the construction of working interaction along the chain: from the owner and CEO to the manager and employee, which generally indicates a rather hierarchical structure and a model of rigid response in the form of a prearranged algorithm of a mobilization nature, whose success can be expected only in relation to foreseeable threats.

In general, the authors consider the above phenomenon through the integrating interrelation of psychological manifestations determining the ability of a person to adapt at different sublevels, asa dynamic ability of the system to stability, to maintain its subsystems without becoming distressed in changing external and internal conditions (Bonanno, 2004; Everly et al., 2013; Mowbray, 2014). Psychological resilience of personnel can be considered as the ability toovercome or mitigate the effects of stress of organizational nature, by adequateemotional, cognitive, physiological, behavioral

responses, generated by specific organizational conditions (Duchek, 2020; Mowbrey, 2014; Robb, 2000).

Summarizing the existing views on company resilience and the function of personnel in ensuring it, we can justifiably assert that, regardless of what thesubject aspects of reducing company resilience are (insufficient information, employee errors, structural failures, computer viruses and attacks on company information systems, terrorism, etc.) and what their sources are (economics, geopolitics, managerial environment, society and technology), one of the significant and immediate root causes of reduced resilience is the fact that a company's resilience can be reduced by its employees (Downes et al., 2013; Lazarus, 2016; Leonova et al., 2018).

The organizational conditions that allow a rigid or resilient response tohazards are created, maintained and changed by the company management ininteraction with all personnel groups, so the human element in ensuring the resilience of the company is of fundamental importance.

Organizational resilience, according to K. Cameron et al. (2003), is considered at threelevels: personal, collective and organizational. Cameron connects resilience formation on the personal level with individuals gaining the skill to overcome and achieve success, which ensures the formation and further increase in self-efficacyto continue to achieve success and a new level of competence in the future. In this way the foundations are laid for cycles of skill growth.

At the group or collective level, Cameron presents a more complexreality, since it is the coherence of attitudes and actions that determine the sustainability of groups. Certainly, important is the diversity of experience thattakes place by bringing people together in a group, but also important is the shared belief in the successful pooling of capabilities to obtain the resources necessary to achieve the desired outcome. Collective resilience thus materializes depending on the employee's perception of the effectiveness and/or operational capabilities of the group. This perception then forms the basis for building each individual's resiliencethrough their motivation to face new challenges together as a group.

At the organizational level, resilience emerges from processes that increase search activity to threats and new challenges, awareness, and the ability to recombine and reallocate resources for new ways of doing things. Conscious mindfulness improves the ability to recognize and respond

appropriately to unexpected and potentially threatening situations before they get out of hand. Nowhere are we talking about the need for selection on the basis of stress tolerance, except in professions involving special conditions, nor are we talking about age limits for workers. If such requirements were imposed, the number of unemployed would increase quite dramatically. The organization must cope with the challenges of its resilience through the special training of multi-age personnel, ensuring their social and psychological resilience, which is formed, among other things, by the personal and professional experience of multi-age employees.

D. Robb (2000), a famous researcher and consultant in the field of organizational resilience (his name is associated with the first mention of organizational resilience), proposed and tested in the practice of telecommunications business his model of providing enterprise resilience by creating two organizational subsystems, the interaction of which can provide resolution of the contradiction between algorithmic and the need for creativity. One of the subsystems - Productive - is responsible for productivity and achieving operational goals, solving problems in the current environment. The second subsystem, Adaptive, is responsible for the long-term resilience of the company by constantly working on an image of the possible future and developing new ways, ideas, modes of operation and behavioral norms. He convincingly justifies his approach by the fact that theorganizational architecture, culture and skills of the people working in these subsystems are significantly different and cannot be effectively combined. Thus, Robb extends the problem of ensuring the resilience of a company from the managerial content field to the managerial-psychological one. Ensuring the resilience of the company has a socio-psychological basis, as it involves the appropriate development of personnel, acquiring new cognitive and behavioral competencies under conditions of uncertainty and variability of operating conditions (Robb, 2000).

Thus, modern management considers the problem of effectiveness within a relatively new direction of research, which is revealed as the problematics of organizational resilience. One of the basic conditions of organizational resilience is the psychological resilience of the personnel. And despite the fact that, on the one hand, the problem of an employee age is not considered by researchers as being of key importance, the main qualities of employees contributing to work in an environment of continuous

corporate change and transformation are usually associated with a younger chronological age, as well as male gender affiliation (Lipinska-Grobenly & Wasiak, 2010; Menon & Gena, 2017; Pradhan et al., 2016). In this regard, the interest of enterprise management in a socially and psychologically viable workforce tends to have an age and gender dimension (Bobbitt-Zaher, 2011; Zaniboni et al., 2019).

2.2.2. Challenges to personnel resilience: Russian specificities

In modern Russia there are challenges to the resilience of the companies, common with the global, and specific, which should be considered when solving the problems of increasing the innovative development of companies and improving the psychological resilience of staff. The advent of the new technological mode is a general challenge affecting the world economy as a whole. Significant transformations in the nature of labor and the structure of employment are inherent characteristics of the fourth industrial revolution. The new technological modechanges the essence of existing labor relations, displaces many habitual professions, and causes the need to change the role of the worker. Key technologies of the Industry 4.0 form new employers' demand for new competencies such as adaptability, flexibility, responsiveness, and quick learning are replacing the need for purely hard skills. Some of the competences most in demand also include the ability to interact with diversified teams, individuals and groups in high-tech communication systems, management of complex automated complexes, dynamic consumer demands, project skills, etc. But this process of labor market reforming in Russia is taking place against the backdrop of some specific social and economic peculiarities, which aggravate the dangers for the resilience of many companies. These features include the following:

- **The long-standing change of the paradigm of socio-economic development**. The main vector of economic development in recent decades is the transition from an administrative-command model to a market and market-innovative model (Leonova et al., 2019). It is constantly noted in the expert community (Yasin, 2015) and at the level of the country's top leadership that the managerial legacy of the administrative-command model is still in place, and an inertial scenario in the economy and social policy is being implemented. The country continues to experience difficulties with modernization of

production and transition of the economy to an innovative format of development. Building a new growth model for the country's economy, capable of operating even under deteriorating external conditions, is becoming absolutely necessary. To date, in Russia there are enterprises that have faced long-term problems of modernization and unsuccessfully tried to solve the problem of initiating an innovative way of development (hereinafter ordinary companies), which without state support would have ceased to exist, and innovative successful enterprises with a high level of resilience, which are still in the minority. Russia significantly lags behind the developed countries in terms of innovativeness - in 2020 the country has moved to 47th place in the world ranking of innovativeness against 46th and 2018 and 45th in the year 2017.

The forecasts for upcoming years are even worse. This means that a lot of effort will be required to transition the economy to sustainable innovative development. Experts are quite reserved in evaluating the feasibility of future innovations dynamics in Russia pointing out the factors constraining innovative development: from limited prospects for the creation of new technologies without any background in the form of already mastered advanced technologies, excessive monopolism, Russia's lagging behind all developed countries in investments in research and development, immature infrastructure for support and implementation of innovations, to internal and external brain drain.

Up to now the staff of many companies has not yet adapted to the conditions of a market economy, manifested in the uncertainty of employment, unstable pay, which varies depending on professional qualifications and personal work contribution, competitive labor, and maintains expectations of state protectionism (Akindinova et al., 2016). Such personnel has a significant resistance to market-innovative transformations. And this is not accidental, because personnel management is often carried out in accordance with the approaches characteristic of the administrative-command model without taking into account modern dynamic socio-economic realities that require not only other personal qualities, but also new behavioral models: value commitment to innovation, change of managerial style from administration to leadership, decision-making style not traditionally closed, but open type with the adoption of personal responsibility (Judge et al., 2015).

Transition to the innovative ways of development is rather a complicated process that required adequate management. Typically, Russian managers think of innovations management as a fusion of classical management and related disciplines – marketing, intellectual property management, leasing, project management, etc. while Western researchers offer instruments specific for innovations management, which are effectively used by innovative companies. Another problem is that traditionally modernization processes in Russia are "top-down" and are traditionally opposed to by employees, which speaks of a conflict confrontation between reform initiators and decision executors. Innovations are a management area where coercion is least effective because the focus on creativity, innovativeness and dynamism of organizational processes, inherent in innovation-driven economies, are psychologically correlated to individual freedom and motivation for personal self-realization in work skillfully promoted by the management. It means that the management should seek to promote the supportive and the collegial organizational behavior models and identifying social and organizational conditions under which innovations would be largely welcomed by employees is a pressing research issue.

A specific feature of the organizational development in today's Russia is that the transition from the state-run concept of management to the market-driven model is still in progress.

Table 2 shows the fundamental differences between two major management paradigms – administrative and market-driven.

Table 2

Differences between the state-run and the market-driven management approaches

Characteristics of the social and economic management method	**State-run management typical of Russia before reforms**	**Market-driven management typical of today**
Ownership	State monopoly	Pluralism of ownership, mixed economy
Management entity	Executive establishment	Owner, entrepreneur, manager, employee
Objective	Fulfillment of plan targets, increasing economic efficiency by prioritizing national interests	Increasing economic efficiency (deriving profit) through commoditization

Main principle	Subordination of inferior organizations to superior organizations	Equal partnership relations between elements of the economic system
Structure	Hierarchical management structure on the basis of vertical ties between its elements	Concentrical management structure with a focus on horizontal ties between its elements
Functions	Priority of distribution of resources and centralized assessment of output targets	Autonomous management of the main element and centralized regulation of economic development
Methods	Priority of organizational and administrative actions (instructions, regulations, norms, directives and orders)	Priority of economic methods of management (cost accounting, leverage and incentives)
Style	Autocratic, power-based	Democratic
Processes and technology	Manual labor, low mechanization	Computerization and information technologies

The table shows the internal consistency of management paradigms. In the context of personnel management, a management paradigm characterizes organizational conditions on the system level and determines individual psychological criteria of managerial effectiveness. The basic content of a management paradigm in its components can be summarized as follows: management values and philosophy; the vector of organization development; criteria of the effectiveness of an organization as a whole, its business units and task forces; principles and methods of management, including personnel management and employee relationship systems; basic organizational realities distinctly representing the effectiveness of management principles and methods in use (model of the manager's organizational behavior, leadership style, decision-making strategy, forms of work organization, quality of work life, system of incentives, etc.); organizational communication technologies. The misalignment of the elements of the paradigm, for example, between proclaimed market values and non-market reward concepts, between demand for initiative and the autocratic organizational behavior model of the management, etc. is natural during a transition period and makes employees fee uncertain in the

perception of the situation. Uncertainty is one of the major causes of tension and stress, which are key conflictogenic factors (Baxtiyarovna et al., 2022).

In case of a shift in management paradigms, employees can find themselves as far from the ideal motivation as never before, having to deal with serious controversies in the management system that only aggravate the natural contradictions in the attitudes of employees who have not yet adjusted themselves to new economic and social conditions (Khayrutdinov et al., 2020).

In developed economies at this time models of "resilient leadership" and "organizational culture of resilience" (Duchek, 2020; Everly et al., 2013) are already being developed and implemented.

- Age and gender stereotypes. The New Economy of Industry 4.0 needs an engaged workforce that can initiate new ideas, being responsible, sharing the innovative aspirations of enterprise management, constantly upgrading their skills and being responsible for self-learning (Fossen & Sorgner, 2018; Kergroach, 2017; Kvachev & Yudina, 2017; Leonova, 2020). But there are still stable age and gender stereotypes whose characteristics are not compatible with therequirements of a rapidly digitalizing economy. It is clear that employers areguided in their managerial decisions by a number of factors, which include subjective factors in addition to legal norms. Explanations of age and gender discrimination are based on stable negative social stereotypes of old age and the growing value of youth in the public consciousness (Zakharova et al., 2019). Studies of stereotypes of old age show that although there are several positive characteristics of late age, such aswillingness to accept, reliability and loyalty, and experience, yet negative associations prevail. Summarizing the negative characteristics of aging in relation to employers' prejudices against older employees, they include, first of all, unresponsiveness to new things due to lack of flexibility, unpreparedness for organizational change, loss of the ability to learn as a result of declining intelligence, commitment to stereotypes in thinking and behavior, loss of autonomy and, therefore, unwillingness to take personal responsibility, exposure to stress, illness (Aldwin, 2010; Chiu et al., 2001; Gordon & Arvey, 2004; Kornadt, 2016; Nelson, 2004; Posthuma, 2009; Rauschenbach et al., 2012). The danger of age stereotypes lies not only in the fact that they contribute to preconceived attitude to senior people, but the main reason for this is that they tend to be projected onto the senior person himself, creating in him a lack of confidence in himself, in his

competences, in his ability to learn, which forces him to take a more conservative position than he could, especially since, as a rule, neither he sees any changes in his mental functions (Kornadt, 2016; Miklyaeva, 2018), and scientific research does not confirm a total decrease in mental functions (Hessel et al., 2018; Vo et al., 2015).

Like any other stereotypes, social stereotypes of old age are stable habitual forms of thinking and acting, which reduce decision-making time by eliminating the differentiated individual view of those or other characteristics of a particular person. The key feature that explains the stability, intergenerational translatability,and power of influence of social stereotypes is that they belong to a class of unconscious phenomena (Nelson, 2004).

At the same time, along with age stereotypes of the elderly, negative stereotypes ofthe young age are beginning to form. Negative characteristics of young age include passivity, irresponsibility, lack of self-learning and adaptability to the work environment, lack of involvement, excessive reliance on social networks, and more (Bowen et al., 2011; Kucherov et al., 2019). Of course, these stereotypes also have their effect on the labor market, whenemployer representatives demonstrate a lack of confidence in the competence of young staff. By now there is a tendency in Western countries not to hire young people if it is possible to find an experienced worker of older age. There is also a more differentiated approach, originating from the generational theory of W. Strossand N. Howe, who identified key types and characteristics of generations of actors (Howe & Strauss, 1997). Currently, the most relevant and discussed are the characteristics of generations X, Y, which are the main ones on the labor market, and the approaching millennials Z.

The characteristics of the generations X and Y are quite contrasting as far as the competences demanded by the labor market are concerned. If for the representatives of generation X (born 1981 in 1961) pragmatism, self-reliance, global awareness, readiness for changes, technical literacy, individualism, informality of views, readiness for changes are characteristic. Despite the fact that all these characteristics in general correlate with the requirements of the new labor market, representatives of this generation have already crossed the age of 40 and according to existing stereotypes, will soon begin to have problems with employment. Representatives of Generation Y (born between 1982 and

2004), as opposed to Generation X, according to experts, embody the following not entirely positive traits that employers do not want see in their organizations. These are selfishness, a low degree of responsibility, a lack of ability to learn and self-study, a low adaptability to work, and a reluctance to build a progressive career path, and a need for immediate rewards.

Representatives of generation Z (born in 2000) are characterized as self- development-oriented in comfortable working conditions with flexible schedules ata well-branded company, who love travel, are unable to live without social networks; they prefer communication with their boss as equals, are unable to concentrate for long periods and choose liberal working1 conditions (Brazhnikov, 2016; Kucherov et al., 2019). Such characteristics will clearly not be conducive to easy employment of young employees, especially in an industry that primarily requires innovative change, but where hierarchical management principles continue to be justifiably implemented.

Gender stereotypes are also alive in society. Gender stereotypes, as well as stereotypes of age bias, increase the problems of women's employment and make it more problematic for them to stay in the organizational space (Aaltio-Marjosola, 1994; Bobbitt-Zeher, 2011; Dubois-Shaik & Fusulier, 2017; Heilman, 2012; Sieben et al., 2016) except for organizational cultures based on values that are close to those of women (Aaltio-Marjosola, 1994; Cameron et al., 2003).

Gender stereotypes are based on ideas about the traditional social roles of women in society. At the same time, the onset of the new technological order may become even more dangerous for women, especially older women, because it will force them into low-tech sectors of the economy and into low-paid jobs, which willexacerbate existing gender inequality; at the same time, the need for gender equality in access to all types of[l] work is the epicenter of the new gender order in the economic and social space of the sharply expanded labor market. Nevertheless, women themselves are much less eager than men to master professions related to the digital economy and, in accordance with the reverse effect of stereotypes, consider themselves more suitable for traditional, often moribund occupations (Sillaste, 2020;).

According to gender stereotypes, women are unsuitable for many professional roles and positions, they are less involved in the work process than men, less autonomous and more willing to

maintain informal relationships at work, use them to obtain certain preferences, bring an undesirable emotional component to the psychological climate of the organization, are more conservative and do not support progressive organizational changes, including technological and managerial innovations, they are more likely to use sick leave and administrative leave, which creates difficulties in the management of the company (Leonova, 2020). There are at the same time some positive stable characteristics of female personnel: they are more responsible and efficient, more resistant to monotony than men, but the negative characteristics clearly prevail (Castellano & Rocca, 2016; Heilman, 2012).

In general, gender stereotypes are close to age stereotypes, so according to it,women of almost any age appear psychologically older than men. According to thereport of the World Economic Forum in 2020 the Russian Federation was at 81st position out of 152 in the rating of gender equality, having lost 6 positions since a year 2018; the positions of Russian women in the economic and political spheres are especially weak (World Economic Forum, 2020). Therefore, women must compete on the labor market not only with representatives of younger chronological age, but also with men of their age group. The effectiveness of stereotypes and their impact on the labor market is confirmed by objective facts of discrimination and differentiation depending on gender and age in terms of wages (Gimpelson et al., 2018).

It is stereotypes that largely prevent employers and managers from makingan adequate impression of a particular employee, especially a potential employee, to assume and even notice effective work of numerous employees of both older and younger ages, attributing certaingenerational, age, and gender stereotypical characteristics to them.

New Pension Reform. Several studies have recorded a decline in the ratings of Russians' trust in government institutions as a result of the pension reform (Levada Analytical Center, 2018). The expectations of most people of pre-retirement age are negative, related to the emergence of uncertainty in the future and insecurity in old age. Previously, the basis for confidence was a pension. The tension of the social environment, formed because of changes in the pension system, is created by a combination of negative reactions of the population: fears of inactivity in their profession, loss of work, reduction of wages and overall income, increase in requirements from the employer, deterioration of health

(Vasilenko, 2020).

According to the same surveys, more than 25% of Russians believe that the current retirement age in Russia is undervalued (Levada Analytical Center, 2018). At present, two trends are colliding in society among those who have a negative attitude toward raising the retirement age. Half (51%) of Russians surveyed said they stopped working when they reached retirement age. Among the reasons for having to leave work, they most frequently cited health, physical and psychological fatigue (58% of those surveyed), i.e., one part of workers would like to stop working, feeling ill health and fatigue (Levada Analytical Center, 2018). But they would have to work for a few more years. Another part wanted to receive a pension but continue to work. It is no secret that a large proportion of citizens view even a small pension in a massively low-wage environment as the basis for a better quality of life for themselves and their adult children (Leonova et al., 2019).

In 2019, the high government officials emphasized that life expectancy is a key baseline indicator of the well- being of citizens and the country as a whole, and that by 2030 the goal is set for Russia to cross the "80 plus" barrier as an average life expectancy; it was emphasized that it is active and healthy life expectancy that should grow at a dynamic pace (Leonova, 2020).

However, experts believe that the older generation of Russians suffers from technophobia, and the new technological order is coming all over the world. Russia is lagging behind. For example, it is one of the last countries in the world in terms of the number of robots per 10,000 workers and is the only country to have reduced the number of robots between 1993 and 2014 (International Federation of Robotics, 2017). This means that most of Russia's population, and not just older people, have not even seen robots except in television programs. The key technologies of Industry 4.0: big data analytics, autonomous robots, simulation (modeling), IT systems integration, industrial internet of things, cybersecurity, cloud computing, augmented reality do not match age stereotypes (Krotenko & Zhernakova, 2019; Tarasov, 2018). According to the report of the Accounts Chamber, the government program “Digital Economy of the Russian Federation”, which provides for the development of digital technology, is not being implemented to the extent that it was intended - by May, 2021 only 11% of the allocated funds had been utilized (Grinkevich & Grigoryeva, 2020).

Studies conducted in economically developed countries show how importantparticipation in the workforce is for the health and positive psychological well- being of the elderly (Albrecht et al., 2003; Mandal & Roe, 2008; Staudinger et al., 2016). Multifactorial and long-term studies reveal the links between the participation of older people in work, the size of a country's gross domestic product and life expectancy after the 65 years. Thus, the data collected and analyzed by Johnson et al. (2015) for the period 1980 - 2010 showed that countries with a higher share of older people in the labor force have a higher life expectancy of the population. Noteworthy is the finding that older people's labor force participation serves as a suppressor for government spending: while the direct effect of government spending on life expectancy is positive, government spending indirectly reduces life expectancy by reducing labor force participation (Johnson et al., 2015). Thus, labor force participation of people in the senior age group in labor activity has both social and economic positive effects.

But even those who would like to continue working have a lot of problems. According to statistics, while 80 percent of Russians still have a job between the ages of 50 and 54, once they cross the age of 55, and between 55 and 59 years - only every second person (58%) already has a job, and only 18% of those over 60 are employed (Russian Public Television, 2019).

Of course, gender and age discrimination cannot be random. Experts in the field of employment note that a person of age around 50 and even under with a solid experience is not desirable to an employer. Employers believe, not unreasonably, that older people have reduced physical strength, stamina, responsiveness, an employee may become ill more often, they are not as quick to learn new technology, they do not aspire to a long-term career and growth, and they simply sit out their retirement years. As the majority of employers strive to transfer their enterprises to the innovative format of development, they need the personnel corresponding to those challenges, which the conditions of organizational changes of such enterprise impose on professional and personal competences of an employee. If a job-seeker at the age of 50-55 is a good specialist or engineer, he finds a job rather quickly and quite easily, but on one condition - that he has been studying and developing his skills all his life (Russian Public Television, 2019).

But such people are few on the labor market because they usually do notlose their jobs.

Experts note that the organizational conditions of a large part of enterprises, which are technologically backward, not only do not motivate employees to demonstrate a high level of competence but also from improving their qualification and adding new needed competences to their staff.

As a result of dismissal such employees look for a job with similar characteristics to the one, they were laid off or dismissed from, and as a rule without success. At the same time, one can observe men and women of different ages working perfectly well in high-tech jobs. Thus, we are not talking about age per se, but rather about a certain readiness of a person to work in an evolving innovative organizational environment. There are legitimate questions about the determinants of such readiness and its dependence on the chronological age of a person. It is clear that work in the conditions of organizational changes and implementation of innovations requires significant efforts from a company employee and is accompanied by a whole complex of psychological costs arisingas deprivation of needs of all levels: from increase of tension, change of dynamic stereotypes and anxiety about safety of workplace to reduction of interpersonal communication, change of management attitude and doubts in own competence. Of particular importance are doubts about the need to introduce innovative technologies, robotization of jobs where there is not even evidence of their economic justification with low wages for human labor.

The list of psychological costs could go on and on. But the main thing is thatit is easy to notice: these costs apply to employees of all ages. But it is easier for older people than for younger ones to leave the workplace along with the costs, butnot for all of them.

2.2.3. Socio-psychological aging as a social barrier to company resilience: a theoretical managerial model of determination as a social action

Sociological surveys show that 62% of the Russian population believes that old age has many advantages: closer communication with loved ones, free time, theopportunity to do things they love, etc. (Leonova, 2020). However, research and consultative practice show that the pension reality is not as pleasant as many had expected. Joyful anniversaries end in tears and, often, depression. In case a person of retirement age has not left his/her job, he/she develops a fear of losing his/her job, age-related changes

increase, and the social perception of his/her management, colleagues, family members as a pensioner are gradually formed in accordance with the stereotypes of old age (Leonova et al., 2019). Of course, this is perceived quite painfully, which encourages the development of stress and unfavorable feelings especially from people who generally assess themselves as quite active (Aldwin, 2010; Bowen et al., 2011). This is especially true for women (Aureli & Baldazzi, 2001; Moore & Sailor, 2017), mostly representatives of the feminine type of gender identity.

Negative attitudes toward aging permeate even the most intimate spheres of life. Zelikova (2018) shows in her study that in modern Russia the construction of old age is carried out, in particular, through the control of sexuality in the form of denying older people the right to sexual activity. Intimacy, corporeality, andsexuality of the elderly are perceived as a deviation from the norm and a failure to conform to expectations. This phenomenon should be described as ageism, as thesepractices produce a marginalizing and stigmatizing discourse about older people (Zelikova, 2018).

Researchers (Miklyaeva, 2018) note the widespread use of infantilizing practices in society both in the family and in society as a whole. For example, 66.7% of older respondents noted that their children were treated as children, 16.1% noted such treatment by doctors and nurses. More than half of the respondents (57.1%) noted that they actively dislike it, women experience such attitude three times more often thanmen and those elderly people who have a pension as their only source of income and live together with younger relatives who take a patronizing position The spread of infantilizing practices could also be seen in the context of the COVID-19 pandemic. Under the guise of protection and assistance, older people became"grandmothers" and "grandfathers", i.e., family social status became status in society, although it is clearthat family grandfather status, which a person can easily acquire in the age of 40 years, has a very distant and indirect relation to society. In the workplace, older people have been placed in a disadvantaged group, which has not only perplexed many, but also caused very negative feelings and distress.

It is not only the socio-psychological aspects of aging and the associated loss of psychological well-being that are significant in the analysis of the specifics of the late ages. Revealing the dependence of positive psychological well-being, life expectancy and even economic development of the country on

the participation of older people in labor activity makes quite understandable the introduction of the concept of "successful aging", or its semantic analogues, into the scientific turnover in recent years - "successful aging," "productive aging" (Martin et al., 2015; Rowe & Kahn, 1997). These concepts imply life satisfaction, longevity, freedom from disability, mastery and growth, active participation in life and independence (Moody, 2005). The growth of longevity due to the development of medicine, the action of the whole complex of social and cultural factors causes the formation of a new view of life in the so-called period of late adulthood, in which I. Burnside et al. (1979) distinguished a period of four decades with its features ofmorpho-functional characteristics, health, cognitive processes and personal tasks to curb the aging process and achieve new levels of adaptation . These are the pre-aging period (young old) - from the age of 60 up to the age of 69 – from 70 up to the age of 79 (middle-aged old), late senility from 80 years up to the age of 89 (old-old), and very old from the age of 90.

The most interesting, from the psychological point of view, are the years belongingto the range from 60 to 85.This is the age period when the person himself or herself has considerable opportunities to influence his or her own adaptation to the coming age-related changes and challenges (Leonova et al., 2018). Along with the growing interest in the late ages, new aspects of the problem of age as a fundamental scientific problem are becoming more and more distinct.

Complex biosocial determination is manifested to a much greater extent inlate ages than in early ages, and it is with regard to late ages that the ambiguity ofthe phenomenon of age is revealed. It is late ages to a much greater extent than early ages that reveal the ambiguity of the phenomenon of age and its. Researchers distinguish biological, psychological, socio-psychological and social aging aspects in the phenomenon of aging (Ksenda & Tatarko, 2018). In the general phenomenon of age, researchers distinguish, as a minimum, chronological, biological (Jylhävä et al., 2017; Nakamura & Miyao, 2003), and psychological (Montepare & Lachman, 1989; Staudinger, 2015), socio-psychological (Leonova et al., 2019) and social (Leonova, 2021; Rose, 1972; Stodd, 2014) ages. The reproductive and marital ages are changing their chronological outlines. More and more marriages, including first marriages, are being contracted by people significantly older, the birth rate is decreasing, and more and more children are being born to women over 30 and more, no matter how much demographers and

doctors worry about the health of the nation and the growth of the birth rate (Arkhangelsky, 2013; Gladkaya et al., 2017; Goltsova & Leshchenko, 2010; Syme & Cohn, 2016). The exception is societies with strong religious attitudes in the population (Laktukhina & Antonov, 2014). Studies show how hard older people try to stay young and maintain romantic relationships (Gewirtz-Meydan & Ayalon, 2018; Moody, 2005; Moore & Sailor, 2018).

Russia has its own specifics of entering the psychological world of aging. It is a very easy entrance, and it begins before the term indicated by I. Burnside, which is caused by early retirement in Russia. As a result, this period is fixed as pre-retirement age (Burnside, 1979). This is the socially accepted period of life, which lies between middle adulthood and old age.

Ease of entry is facilitated by**:**

1. The early retirement age is 55 for women and 60 for men. The onset of this age is preceded by a growing psychological readiness to accept it.

2. Conscious motivation:

- monetary motivation: against the background of small salaries, manybelieve that they will continue to work, and the pension will create a raise, and the quality of life will improve;

- motivation of security: even if you lose your job, even if modest, but the means of subsistence will be available, especially since retirees are entitled to certain benefits;

- motivation for closer social integration at the family level: the opportunity to focus on helping children and grandchildren;

3. Social, somewhat sly support from family and friends/friends – “when you retire, you'll have a great life”. Some people need a babysitter, others wish they weren't the only ones to know what retirement life is like;

4. Psychological identification with the new social role of the pensioner and the associated social roles that come to the fore: gardener, fisherman, grandmother and grandmother-in-law, etc.

But there are also beforehand, usually unconscious consequences that create a psychological difficulty of being:

1. The state-approved status of the old man/old woman, recorded in the pension certificate, is much more painful than people usually assume. Joyful anniversaries end in tears and, often, depression.

2. Loss of confidence in employment.

3. Social perception by others as a retiree.

4. Forming insecurity, anxiety, and other unfavorable mental states.

The analysis of numerous life scenarios shows how important and multi- variant quality social creativity becomes (Leonova, 2020). The key point in adapting to new social realities is the well-known in social psychology phenomenon of the dependence of self-perception on other people's perception of you. Their circle includes not just acquaintances and strangers, but spouses, potential life partners (potential brides and grooms).

Women are often characterized by special psychological difficulties (Horney, 1993; Rychtaříková, 2019). Her husband perceives her as a pensioner, a veteran of labor, a woman who has lost herreproductive function, and this is a sign of youth, even though he has often not yet reached retirement age and has not yet retained his reproductive function. Inaddition, the social requirements for men (behavior, appearance, even health at the level of domestic consciousness) is not significantly higher than for women. Thus, a woman becomes aware of her aging sooner rather than later against the background of a psychologically younger husband, relatives, legally younger, but growing up and even aging children, etc.

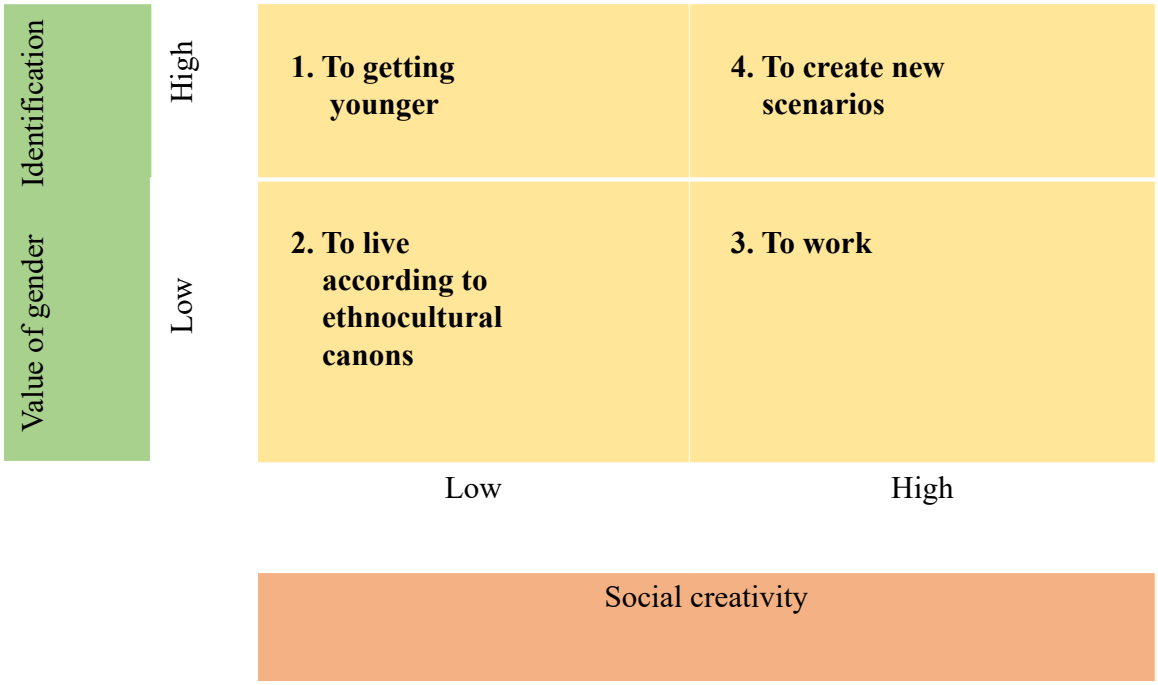
For men, aging is often not indifferent either (Åberg et al., 2020). It is not easy for an active man who is used to making independent decisions to give up his dominant position, especially if he feels quite able to work, and self-fulfillment in labor activity is significant for him. Researchers note that retirement is psychologically an easier decision for a woman than for a man, because her help is always or almost always needed in her own family or that of her children (Mandal, Roe, 2008). But the scientific results provide us with data on trends, but do not answer specific questions about specific fates. A person is not necessarily part of the majority. And the 62% who see retirement as a plus is not 100%.

The picture in the 1.1.1 format of mapping technology, of course, somewhat simplified, shows

some of the scenarios used by people who are approaching or have already reached certain age criteria. Some of them do not reveal their approaching new stage in life to anyone in advance, keeping it secret, if possible,by hiding their pension card in a safe. Of course, this may seem like a Polichenel secret. But even the husband and the employer are subject to socio-psychological laws: they see the person in front of them in the totality of his characteristics, they communicate with the person with whom they interact, they receive psychologically colored information from other sources and are naturally guided in many cases by their perception of psychological, not passport age of a person.

Figure 1

Four aging scenarios



The content of the scenarios can be summarized in the following phrases, which reflect a person's inner attitude. They are similar for men and women

1. I'm so happy to retire and just be a grandmother; I'm a grandfather, it's great to be able to do grandchildren and fishing.
2. Yes, I am a pensioner, full of resilience and feminine attractiveness; Yes, I am a pensioner, but still a wow!
3. I'm a great worker, I'd (would) like to see who does a better job here.
4. I am a beautiful woman (quite an articulate man), an interesting person, a creative worker

who is not yet thinking about retirement, unless and until he is reminded

"well-wishers".

The table 3 contains examples of signs of aging that are quite easily corrected by the person himself or with the help of a hairdresser, doctor, orpsychologist. Their amplification or removal contributes to the formation of the image of a person of a particular age. It is possible to distinguish specific psychological signs of aging that manifest themselves in the workplace. They are somewhat different from manifestations of aging in other situations, where a person is less dependent on higher-status people. So, for example, if usually a sign of aging is an increase of criticism and preaching, then in the situation of organizational relations a retirement-age employee usually overcomes, but not always the desire to preach and, consequently, to come into conflict with management. Many older employees, especially women, have lost their jobs, and many have not gained their jobs, after the manager received advice from older women or men who were old enough to betheir mothers or fathers.

Table 3

Psychological signs of aging (examples)

№	**Appearance**	**Behavioral**
1	Posture	Criticism and admonition, especiallyin relation to younger ages
2	Gait	Stereotypical judgments
3	Condition of skin, teeth, etc.	Non-critical positive evaluationof the past
4	Old style clothing and footwear (style,color,price, etc.)	Complaints about his health and lengthy accounts of his deplorable condition
5	Wrapping	Social uncertainty in public places
6	Out of fashion jewelry, accessories, eyeglass frames, etc.	Anxiety, apprehension
7	Unfashionable gadgets	Growing difficulties in socializing with younger people, especially outside the family

Manifestations of aging in the workplace include the following:

- priority of bureaucratic values as a manifestation of the desire forcertainty;
- fear of change: a manifestation of fear of not being able to cope with newdemands, a reluctance

to spend additional resources;

- the desire for the predominance of the clan component in the organizationalculture as a means of psychological protection;
- fear of authority;
- the priority of common-life motivation, which manifests itself in extra-professional and extra-job self-identifications;
- adherence to stereotypes (the little man, the priority of solidarity over competitiveness; administrative dominance; defensive behavior, etc.);
- fatigue.

Aging is generally understood as biological changes in the body that occur after passing a point of optimal maturity (Harman, 2001). Regardless of which theory of aging is more valid: the theory of natural aging, stochastic theories of aging or the theories of genetically programd aging, a person is forced to follow this inevitable path, experiencing stress, which is one of the key factors of aging, undergoing morphofunctional changes that affect appearance, condition of sensory systems, muscles, bones, internal organs, acquiring chronic diseases (Aldwin, 2010; Hayflick & Moorhead, 1961; De Magalhães & Passos, 2018; Toussaint et al., 2002; Saretzki & Von Zglinicki, 2002). Cognitive abilities change, first of all the speed of intellectual operations, and mental health problems arise. However, these changes affect people in very different ways.

Aging in the general phenomenon of aging occupies a special place in relation to labor activity. It can be defined as a loss of a whole set of important adaptation characteristics necessary for a person as a subject of labor to performthe developing labor activity in its entirety during the course of life. These losses are fixed in the characteristics of socio-psychological age stereotypes of old age.At the same time, the trajectory of socio-psychological aging in labor activity consists in its relative independence from its biological and even psychological component. It is impossible to fully consider the changes that occur as a loss of unambiguously present one or another characteristic. Simple observations show thatchronologically a young person can be personally uninvolved in the labor process conservative, he may not want to improve his skills, and even more so, not learn independently, not be

committed to progressive organizational development, often take justified and unjustified sick leaves and exhibit the whole complex of characteristics fixed in the age stereotypes of old age. Another thing is that chronologically, a young person in other activities may manifest the way most of his peers manifest themselves. That is why it is relevant to develop the notions of socio-psychological aging and socio-psychological age in labor activity, as an activity of special social importance in modern conditions of economic development. The process of human development and aging is complex and multidimensional, involving as its determinants a complex of external and internal factors of different nature, this process is individual and interactive (Staudinger, 2015).

In the modern era, man can do many things to maintain mental functions, health, fitness, and behavioral patterns at the level he sees to be fit and in line with socialchallenges. At the same time, there are quite popular views according to which aging should be perceived as natural process and treat it calmly, gradually becoming aware of all the newmeanings that aging embodies (Sapogova, 2011). But at the same time, one cannot deny people the right to postpone this stage of their ontogenetic development as far as possible and take advantage of the possibilities of self-realization not only in family and recreational, but also in labor activity.

The relativity of the value of chronological age is a consequence of the fact that the process of aging itself is characterized by a significant plasticity and non-linearity. A number of factors such as the level of education received, social roles learned, as well as cultural, psychological and economic contexts influence the way a person's psychological age can manifest itself. Psychological age is understood as an age-related self-perception of a person, finding in himself on the basis of his personal motivation, psychological and somatic well-being, features of his appearance, correspondence to this or that younger or older chronological age, as he imagines important characteristics of this age (Aureli & Baldazzi, 2011; Staudinger, 2015). If one wants to curb the process of aging, to change one's self-perception of age, one can do it with the helpof modern medical and cosmetological technologies, by leading a healthy lifestyle. The signs of aging are well known, and it is possible to make age-related adjustments depending on one's own goals. A person can use full-fledged conscious self-regulation from goal-setting and planning to performance assessment and flexible correction. But more often social

learning mechanisms are used, in which there may be a strong unconscious component related to the choice of a behavioral model. It can be for a woman her own daughter or her son's girlfriend. For a man - son or a younger acquaintance. In any case, this will be a psychological age, in which the balance of the psychological and social is shifted in favor of the psychological. In working life, everything is more complicated. It is much more difficult to cope with the manifestations of aging in the workplace on one's own, since one settles down to work, not to monitor age-related manifestations. It seems that a more constructive concept in relation to labor activity, where the importance of social assessment is difficult to overestimate, would be the concept of socio-psychological aging (Leonova, 2019).

An employer, when making a decision regarding a real or potential employee, is certainly guided by the norms of law, which reflect the characteristicsof a person's chronological age. But not only that. According to the age stereotypesthat the employer may share, if the person in front of him is older than 45 he is a tired conservative, and if younger than 30 years – he is a carrier of clique mentality (Leonova, 2019). However, he does not always make decisions based on the gender and chronological age of the employee. Neither is he aware of the employee's or optant's age. Of great importance is the employer's perception of the employee in the totality of his actual characteristics and according not to chronological but socio-psychological age.

Socio-psychological age in working conditions is a subjective and social phenomenon, in which a person's age self-sensation, formed on the basis of self-perception of a complex of physical, intellectual and social competences, correlated with typical characteristics of some younger or later chronological age, and a complex of characteristics of his/her perception by representatives of society, is fixed (Leonova, 2019). A person cannot demand to be perceived as motivated, competent and efficient, he can only be so, convincing the others by his whole appearance and behavior patterns. And the employer with different degree of consciousness correlates the characteristics of his perception ofa person with the characteristics of this or that chronological age, as he imagines them, getting the basis for making a decision.

In this case, socio-psychological aging in labor activity is understood as an interactive process with internal and external determination, characterized by loss of a set of important adaptation

characteristics necessary for a person as a labor subject to perform the developing labor activity in its entirety in the course of life. These losses are fixed in the characteristics of socio-psychological stereotypes of old age (Leonova, 2018).

Counseling practice shows that, also with varying degrees of awareness, a significant number of people, more often women, less often men, sometimes independently, or with the help of a psychologist-advisor uses the psychological mechanism to replace chronological age with social psychological age, which often helps solve any personal problems and overcome negative attitudes of the employer (Saralieva et al., 2018).

The interactivity of the socio-psychological aging process and its complex determinacy allows us to reasonably raise questions about the self-management and management of this phenomenon. We can see young employees of a company thinking and acting as people who fall under the stereotypes of old age: dissatisfied with everything, grumpy, tired, trying to avoid qualification improvement, afraid of new things, etc. We can see people of a solid age, dynamic, eager to learn new things, mastering new technologies, unwilling to stop growing in their competencies. What factors account for this or that trajectory of personal development, manifesting itself as a socio-psychological age, obviously not coinciding with the chronological one? Where do the young old and the old young come from? This is a question of uncovering the determinants of socio-psychological aging.

Theoretical analysis of such a complex phenomenon as socio-psychological aging can be based on the methodology that allows to investigate its activity phenomenon.

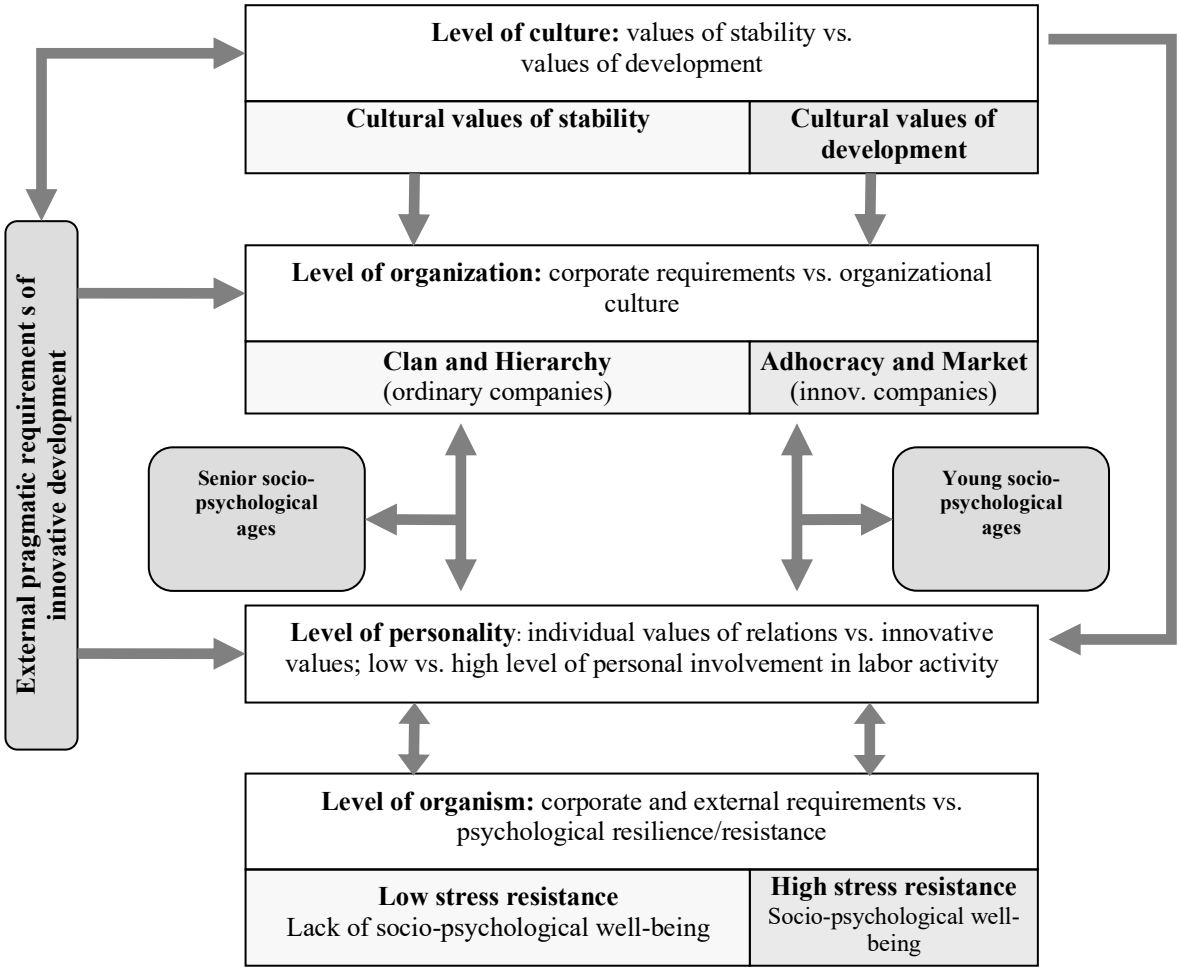
The application of T. Parsons' fundamental theory of social action opens up the possibility of the most complete research of system-related determinants of aging at the levels of society's culture, in which one or another phenomenon considered as social action is observed, at the level of the personality of people whose actions manifest the phenomenon, and, finally, at the level of the body in the fullness of significant psychophysiological and physiological characteristics (Leonova, 2020).

Figure 2 shows a theoretical managerial model of the determination ofsocio-psychological aging. The model is based on T. Parsons' ideas about the structure and determinants of social action (Parsons, 2000). Socio-psychological aging is viewed as a social action; therefore, values are considered

as predictors of behavior (Schwartz, 2012; Scott et al., 2009; Zdravomyslov, 1986). Since socio-psychological aging is considered in labor activity, it is natural to identify organizational culture as its context (Schein, 2004). This model allows us to understand what complex set of influences a person experience, and what level of their own activity people (employees) can use to restrain socio-psychological aging. Thus, the first level - the values of national culture - influences the person very strongly.

Figure 2

Theoretical model of system determination of socio-psychological aging



The level of organizational conditions is influenced by the values of nationalculture, but the need to maintain the resilience and competitiveness of the company prompts to follow values that do not always coincide with the obvious values of national culture. For example, what should an employee choose as the vector of hisor her work activity: solidarity or competitiveness? innovativeness or traditionalism?

The level of personality with individual motivation encourages the employeeto follow or resist corporate requirements, to strive for social and organizational security or for creative fulfillment in the workplace.

The psychophysiological level of determining socio-psychological aging is also not indifferent to the influences of the first three levels: “I would like to use new technologies, but my personal anxiety and lack of confidence in my own abilities stop me”; “low level of capacity for work may not allow you to actively improve your skills, especially after a day of work: fatigue develops too quickly”; “one would like to continue working, but the stress of not fulfilling traditional obligationsstops”. And these examples can go on and on. However, it is also possible to approach these issues in a constructive way, removing problems at the level of self-regulation and management.

In the complex of determinants of aging, a special role seems to belong tothe organizational culture of the company, which is a mediator between the culture ofsociety and personnel. The organizational culture context of labor activity and the systemic method of personnel management, provided that managers use this method.

2.2.4. Socio-cultural and organizational culture values as preconditions for differences in the socio-psychological age of personnel

The study of the possibility of controlling socio-psychological aging is connected with the disclosure of the external determinants of aging. This approach is consistent not only with T. Parsons' theory, but also the classical principle of psychology formulated by S.L. Rubinstein (Rubinstein, 2003), about mediation of external factors by internal ones, the ideas of modern European psychology about

the necessity to study personality in external contexts (Guimond et al., 2010). The model of determination of socio - psychological agingcontains two contextual levels: the level of society's culture and the level of organizational culture. Atthe level of society's culture, the determinants of labor behavior, appropriate or inappropriate to age stereotypes, are cultural values, which, at first sight, are common to all subjects of labor behavior. However, it is not quite so.

The Value Attitudes of Russians Regarding Labor Activities: Gender and Age Aspects

The value specificity of the level of culture of modern Russian society, of which the staff of organizations is a natural part, consists in the unconditional dominance of the values of security, relationships and stability (Lebedeva & Tatarko, 2018).

The fact is that the crisis of the social identity of Russians is usually considered a consequence of the radical reform of society and its basic institutions, the result of "cultural trauma" (Stompka, 2000). This term refers to the condition of the population of post-communist countries, especially characteristic of the first stage of radical transformations in the economy, politics and other spheres of social life. P. Darendorf emphasized that the "post" condition contains a confrontation of two tendencies - the pressure of the past and, on the contrary, its public denial (Darendorf, 1958). The long-standing research of E. Danilova and V. Yadov proves the variability of social identifications. A certain stability of identifications is observed only in one "link" - in the circle of close people. The other sectors of the identification matrix are constantly changing. In 1992-2002, the all-Russian sample recorded changes in the social self-determination of Russian citizens, or the answers to the question of who the respondents considered "their" groups and communities, of whom they could say: "That's us" (Danilova & Yadov, 1997). The immediate environment - family, friends, colleagues - forms a stable basic complex of social self-determination. Identities with larger communities are unstable; political identities are more insignificant. Commitment to family and personal self-identifications is a “protective identification” in in times of changes and social transformations.

It seems justified to assume that basic values of employees with dominant personal self-identifications are in conflict with basic values of organizational culture that implies plunging in the

work process, aiming at self-actualization within organizational realities and unconventional thinking at the times of change.

Moreover, the value of stability, according to Russian Public Opinion Research Center (VCIOM) (Russian Public Opinion Research Center, 2017), does not only stand at the first place but is becoming stronger throughout the years whereas the values of progress and development, which are more correlated with innovativeness, were also present before 2017 and even strengthened, yet seriously inferior to the values of stability (Fedotova, 2017; Leonova, 2020; Lebedeva & Tatarko, 2009).

To date, Russia has undergone quite significant changes in the system of values. Factors of individual activity in labor activity play an increasingly smaller role. Thus, the value of social status decreased from 73 points in 2009 to 39 p. in 2017 ((Russian Public Opinion Research Center, 2017). Career growth at the same time took the last place in the established hierarchy (-15 points - falling from 14 points in the year 2014). Also, less significant than in previous years has been discovered the material well-being of the family, and what is more surprising is this data goes along with a multi-year drop in real income (90 points vs. 95-97 points) (Russian Public Opinion Research Center, 2017). These data show that society has reached a certain level of adaptation to the existing economic conditions, and most of the society does not see the possibility, and therefore has no desire to make efforts to change the conditions.

At the same time, age-specific studies of the values of Russians have shown little value consensus. This means that the general trends identified in the sociological surveys are not unifying, and this is especially true for the values of “Openness to changes - Preservation," directly related to the socio-psychological age of personnel as a part of society (Leonova et al., 2019; Magun & Rudnev, 2010). These data are important for understanding the value heterogeneity of Russian society in relation to the variability of living and working conditions. Moreover, Russians are very heterogeneous in their values, and the existence of an "average Russian" is quite questionable. And this is a good thing, from the point of view of the development of society. Most Russians share traditional values, but not all. Studies show that the development of technology is closely related to the organization of social life: more democratic communities produce more innovations, while traditional communities are doomed in this sense, so

value diversity in Russian society is a prerequisite for its innovative socio-economic development (Magun et al., 2017).

More detailed information about Russians' value attitudes can be obtained byreferring to the results of the World Values Survey (2017-2020) (WVS-2017). Table 4 presents data only on issues related to age and gender attitudes toward social transformation, labor, and technology (Haerpfer et al., 2022).

Table 4

Results of the survey of Russians' value attitudes toward social transformation, labor, and technological development (in %) (WVS-2017)

Evaluation	**Gender**		**Age**		
	Women	Men	Until 29	30-49	50 and older
Question 39. People whodon't work, get lazy					
Totally agree	26.8	28.7	21.3	28.9	30.3
Agreed	34.9	36.1	37.2	33.7	35.9
I completely disagree	3.4	2.0	2.2	3.7	2.2
Question 41. Work is always should come first, even if it means less free time					
Totally agree	12.7	15.5	9.0	14.5	16.3
Agreed	20.6	21.1	14.9	20.3	24.6
I completely disagree.	6.4	5.6	7.9	7.1	4.1
Question 42. This card depicts three basic types of attitudes toward the society in which we live. Please choose the one that best corresponds toin your opinion					
The entire way our society is organized must be radically changed by revolutionary by transformations	11.1	16.2	16.2	13.1	12.0
Our society must graduallyimprove through reforms	69.5	67.3	64.8	70.6	68.9
Our current society must be protected from allsubversive forces	10.9	9.9	11.4	10.3	10.0
Question 43. I will read out a list of various changes in your lifestyle that may occur in the near future. Please check off if it had happened, as it would have been for you. The lesser importance of work in our lives.					
That would be very good	25.9	29.1	32.7	29.8	22.2
Indifferent	17.3	18.7	19.4	17.4	17.4
That would be bad.	50.2	45.9	39.8	47.6	53.6

Question 44. I will read out a list of various changes in your lifestyle that may occur in the near future. Please check off if it were to happen, how would it be for you. Greater emphasis on technology development					
That would be very good.	72.2	76.0	76.4	72.7	73.5
Indifferent	14.7	12.4	11.1	14.2	14.7
That would be bad.	9.4	7.9	39.8	47.6	53.6
Question 46. If you combine all the influencing factors, can you say that you					
Very happy.	15.2	14.5	23.4	13.3	11.4
All in all, happy (happy)	66.2	66.7	64.1	71.7	63.2
Not happy at all (nothappy)	1.2	1.3	0.7	1.1	1.7
Question 47. How would you generally characterize your current state ofhealth? Would you say that it ...					
Very good	6.2	11.3	20.4	7.4	2.5
Good	41.8	44.6	58.3	53.2	25.4
Very bad	0.8	1.7	0.3	0.2	2.8

The results of WVS-2017 show the self-assessment of well-being and value differentiation of Russians depending on age and gender affiliation. Health deteriorates significantly with age, in case of men more than in case of women. But people feel less happy without significant differences by gender affiliation, but it is noticeable that the feeling of happiness is not as markedly related to self-assessment of health as one might assume. People find opportunities to be happy while understanding the legitimate deterioration of health. These indicators are indirect confirmation of the adequacy of the other responses, and they are quite interesting. Age-related features can also be traced in attitudes toward society and the type of its desired transformation. Supporters of the existing order, which should be actively defended, number about 10-11%, and the number of elderly people among them, although insignificantly, is still lower than in other age groups. Supporters of revolutionary transformations are few: expectantly more among young people - 16.2%, and the least among seniors - 12.0%; there are more among men than women. Most of them believe that society needs improvement, but by means of consistent reforms; their supporters are greatest among middle-aged people - 70.6%, less among young people - 64.8%, and middle-aged people occupy an intermediate position between the young and middle-aged groups - 68.9%, the difference from the middle-aged group is insignificant - about 1%.

The first important result concerns attitudes toward work. For women it is less important than for men. But people over 50 years of age are more confident than other age groups in the importance of labor, in the fact that not working people become lazy. If we summarize the results on positive attitudes

toward work,we can see that 40.9% of older people are committed to the value of work versus 23.9% of younger people and 34.8% of middle-aged people.

However, the data on the possible reduction of dependence on work brings some nuance to the understanding of these results. People in the older group see a decrease in the importance of work as a negative factor: more than everyone else. Especially whencompared to the younger group. There, only 39.8% view the diminished importance of work as a negative factor, while 32.7% would perceive very positively the freedom from having to work. Among older people this proportion issubstantial, but still less - 22.2%.

The second important result is attitudes toward technology (Haerpfer et al., 2022). Men are more technology-oriented than women. Older people are quite positive about the development of technology and strengthening its role in life: they are 73.5%, slightly, but still more than among middle-aged people (72.7%) and are inferior only to the younger group, supporters of strengthening the development of technology, among whom 76.4% (Haerpfer et al., 2022).

These results confirm the diversity of values in Russian society. Women are somewhat more conservative than men. At the same time, quite a few older Russians, for all their health problems and social cautiousness, are quite optimistic and have a positive attitude toward labor and new technologies. This means that society has an age resource for innovative development. If it is not so noticeably embodied in life, it is most likely due to the problems of managing this resource. It is reasonable to consider them at the level of another external context - the organizational culture of the companies.

Organizational Culture of Russian Companies: Value Specifics of the Transition Period

In companies, the external determinants are organizational conditions, which manifest themselves in the organizational culture and the related style of managerial interaction. Organizational culture of the companies, though also steady enough, but nevertheless much more changeable, than culture of a society, and now is variable, i.e., in different companies values of organizational culture have the specificity. Weak value consensus in the cultureof the society in relation to changes contributes to the value differentiation of organizational culture.

Based on the theory of organizations and organizational development of Newstrom & Davis

(Newstrom, 2014) we can reasonably assume that the ongoing transition from administrative-command to market- innovative model of economic development should be accompanied by a corresponding change in the socio-psychological context of organizational processes, which is the organizational culture of the companies. The fact of influence of external conditions on behavior and efficiency of the personnel is recognized practically by all researchers of managerial behavior. Stressing the complex connection between personal characteristics and production productivity, in particular, Schmitt (2014) showed the importance of the influence of the context mediating this connection.

Considering the conditions that are relevant for transition economies, the results of research that have been conducted in countries with a long history of freemarket, market economy cannot be fully transferred, for example, to the Russian realities, where contrary to the laws of economic expediency and in the conditions of formation of a certain organizational culture by management, not corresponding to the realities of today, and the challenges of the competitive environment, many companies can maintain their market position due to the wide use of non-market factors - closed domestic market, protectionist policy etc. An organizational culture that is ineffective under market conditions can therefore remain characteristic of a company in a transition economy indefinitely.

In the conditions of Russian transitive economy, the main vector of change of organizational conditions is associated with the transition from the administrative-command management system to a market paradigm with the task of moving to an innovative way of development (Alexeev & Weber, 2013). The results of many years of research of the organizational culture of Russian enterprises in the transition period allow us to give a brief characteristic of its dynamics and current state.

According to the data at the end of the nineties the organizational conditions at the enterprises were estimated by the managers as hierarchical-clannish, which fully corresponds to the administrative model of management. The share of market relations was estimated at 17.5%, and the level of innovativeness was just over 10% (Zakharova et al., 2017). The perception of organizational conditions by the executives was fundamentally different. They saw the presence of hierarchical, clan and market relations in approximately equal proportions - about 30% each. Apparently, the differences in assessments with respect to the market component are explained by the fact that the executives have

already felt the market requirements, while the managers have not seen the expected results from these requirements.

But the end of the nineties stands out for the special mood of both managers and employees of the companies. These are the years of hope for market relations as a positive factorin overcoming the existing problems in the economy. While managers associate future success with an increase in the market component to 35%, i.e. twice asmuch, some growth of innovativeness with a statistically significant reduction in the clan and bureaucratic component, the ordinary employees accept the established order with the acceptance of market requirements. But then comes disappointment, and the executive staff in majority begins to want to restore the priority of the clan component of the organizational culture.

By 2010, according to the evaluation of managers of a large part of the companies (Zakharova & Korobeynikova, 2015), they were not able to achieve the desired reduction of the clan component of the organizational culture. Its presence even slightly increased - from 21.5% in the year 2003 to 24.5% in the year 2010. Apparently, resistance of the personnel made itself felt, who also noted insignificant strengthening of the clan component and set the task to strengthen it even more - up to 37%. According to managers' evaluations, they did not manage to strengthen the innovation component in principle, it averaged 14.5%, so the managerial task remained the same.

However, if at the end of the nineties the differentiation of enterprises by the level of innovativeness had not yet occurred, then, starting with the year 2000, such differentiation has already occurred and is increasing, although most of the enterprises are called ordinary, both due to their large number, and due to the proximity of the organizational conditions to the pre-reform ones. It is no coincidence that in 2012 the higher officials and experts noted that the majority of domestic enterprises are characterized by organizational and cultural backwardness, which is an obstacle to development of the economy (Gershanok & Malyshev (2018).

That’s saying a lot. And first and foremost, that performers over the past decades not only have not become adherents of innovation, but they have become supporters of a hierarchical order that makes organizational conditions at least understandable. Reducing managerial demandingness with

bureaucratic certainty, the rigidity of the market component, and maximizing the value of relationships, inthe estimation of the performers, would have made the organizational conditions quite acceptable.

For more than twenty years the values of creativity, innovativeness, and innovation have remained the most weakly expressed (Borisova, 2017). By now the tendency in desire to considerably increase innovativeness at the most part of ordinary enterprises remains mainly at managers level (Graves et al., 2019). At the same time the main part of the personnel of these companies is not ready to innovations that predetermines amorphous organizational culture as the phenomenon of organizational and cultural uncertainty caused by conflicting attempts to change the paradigm of management and non-acceptance of changes by the personnel of enterprises (Zakharova et al., 2017). This phenomenon reveals the problem of imbalance of management processes and is manifested in the organizational culture ofspecific companies by close characteristics of almost all types (the exception is the innovation component - its presence is traditionally insignificant).

As a trend, the predominance of hierarchical and clan elements of organizational culture in the nineties, replacing by the present time the hierarchical-market characteristics should be highlighted. The results allow us to see the peculiarities of managerial behavior based on the analysis of the values to which managers are adherents. Firstand foremost, it is the doomed to failure struggle with the clan component of the organizational culture. People undoubtedly want human relations of support and goodwill to dominate the workplace and the organization as a whole. Behind this value are the basic needs for security and acceptance. In Russian managerial practice,unfortunately, the satisfaction of these needs leads to a decrease in the intensity andquality of work, which makes managers look for rigid ways of management, strengthening the hierarchical component of organizational culture and increasing the power distance, already very pronounced in Russian conditions (Hofstede, 2001; Chudnovskaya & O'Hara, 2016), thus moving away from the target innovative benchmarks. Employees continue to work, forming a new ratio of conflicting goals: genuine and those proposed by managers, the organizational situation remains stable or undergoes minor changes (Hryazeva, 2017; Unsworth et al., 2013; Unsworth et al., 2021;). Nevertheless, to date in Russia, there are enterprises that have faced years of modernization problems in a changing management paradigm and have unsuccessfully tried to solve the problem of

innovative development, which would have ceased to exist without state support, and innovative enterprises that have successfully entered the new technological stage with a high level of resilience. This makes it possible to compare personnel requirements in different management models and to identify the prevailing specificity of the socio-psychological characteristics of personnel, including socio-psychological age.

Companies developing in the innovative format have developed a specificorganizational culture that is fundamentally different from the culture of ordinary companies, regardless of the type of business. In innovative companies the key element of organizational culture is a democratic component, hence the staff's commitment to the value of innovativeness. The study of personnel resilience has shown that its characteristics are fundamentally different in innovative and ordinary companies. The analysis of numerous facts, the phenomenon of organizational life of modern Russian enterprises and empirical data allowed to distinguish two main forms of personnel resilience: tactical situational(tactical) and prospective(strategic) (Volkov et al., 2017). The personnel of ordinary companies is characterized by the tactical resilience, and the personnel of innovative companies- by the strategic socio-psychological resilience of the personnel. The situational form of this resilience provides personnel with the ability to keep jobs, to overcome threats and difficulties, related to personal, general life motivation. It is determined by the attitude to work, mainly as a means of ensuring satisfaction of non-labor needs. Situation comprehensibility, its stability and predictability, releasing from labor tension are those characteristics that accompany situational socio- psychological resilience. The strategic form of resilience, its determinants and patterns of manifestation is of much greater research interest, as it is based on the determinism on the development of the organization in a strategic perspective. Perspective/strategic organizational resilience is characteristic for those organizations in which employees possess corresponding competences, values and motivation, sharing and accepting strategy of development of the company (Leonova et al., 2019). Here the special role of organizational culture and management interaction is observed because the necessary conditions are created, which help to the critical mass of the personnel to successfully overcome stress of organizational changes and show readiness to constant personal and professional development. Willingness tochange and overcoming it

without distress returns to the problem of age stereotypes. Table 5 presents the results of comparison of characteristics of tactical and strategic socio-psychological resilience of personnel with characteristics of age stereotypes of old age.

Table 5

Socio-psychological age indicators of the personnel of Russian enterprises (trends)

(Leonova et al., 2019)

Indicators	**Forms of socio-psychological resilience and socio-psychological age of personnel**		
	Stereotypes of old age	**Tactical resilience - "Old" socio-psychological age**	**Strategic resilience - "Young" socio-psychological age**
Value Priorities for Organizational Development	Unpreparedness for change and development	Stability, maintaining established relationships	Success in a competitive environment, development, maintenance current relationship
Motivation of personnel	Low work motivation	The predominance of the dormitory over the labor	The balance of labor and dormitory motivations
Level of responsibilityof personnel's decisions	Low	Low	High
Level of openness of personnel's decisions	Low, Concern for his position	Low	High
Level of confidence with managers	Low	Low	High
Type of organizational conflicts	Value	Value	Instrumental
Predominant strategies of conflict behavior	Avoidance and accommodation	Passive forms with a demonstration of willingness to cooperate	The balance of cooperation and competition with relationshipcontrol
Exposure to pre-reform stereotypes: priority of solidarity over competitiveness, administrative dominance, "small of the man, etc.	High	High	Moderate
Exposure to organizational stress	High	High	Low

Strategies for coping with stress	Priority of social self-identifications outside the profession and official status	Retreat into extra-professional roles, striving to preserve pre-reform organizational conditions	Communication, the desire to clarify the situation and in their competencies not only to adapt, but also to be ahead of changes

The content of the table shows the relation of the situational form of the socio-psychological resilience of the personnel with the older chronological ages due to the coincidence of its characteristics with the stereotypes of old age. Noteworthy is the fact that the characteristics of the two forms of resilience were obtained in studies that showed no statistically significant relationship between the indicators of socio-psychological resilience and the chronological age of employees (Leonova & Zakharova, 2016). The differences are related to enterprise resilience, i.e., the form of situational socio-psychological resilience is characteristic of enterprises with long-term modernization difficulties, and the strategic form of resilience is characteristic of personnel of the enterprises developing in the innovative format. Thus, value, motivational, communicative characteristics, characteristics of decision-making and resistance to organizational stress can be referred to the indicators of socio-psychological age asdetermining the socio-psychological resilience of personnel and as corresponding to the stereotypes of old age.

Analyzing the obtained results, in terms of the requirements of the management model of organizational culture to the psychological characteristics of personnel, we can see that the traditional hierarchical-clannish type of organizational culture, characteristic of the administrative-command model of economic development, supports the pre-reform requirements to the employees of the companies and the new model of organizational relations forms new requirements. They concern not only professional competences of employees, but also their socio-psychological characteristics, which probably change gender and age stereotypes, and, as a consequence, the demand for their carriers in the modern labor market. The coexistence of companies with different levels of involvement in innovation processes and havingdifferent types of organizational culture allows us to approach the study of manifestations of socio-psychological ageof personnel, basing on social age stereotypes.

2.2.5. Psychophysiological level of regulation of socio-psychological aging: subjective well-being of the personnel

Of particular interest for the answer to the question about the regulators of readiness of multi-age personnel to organizational change, including the adoption of innovations, is the psychophysiological level of regulation of socio-psychological aging as a social action.

Is it possible to achieve serious economic development goals simply by getting an additional human resource in the form of older workers? Only if the worker is willing and able to work, and the employer will be convinced of the high value of such workers and, as a result, will not share age stereotypes. It is no coincidence that the principles and methods for developing an integral index to assess the well-being of the elderly in Russia are being sought (Pavlova et al., 2018). It is clear that in modern conditions the well-being of seniorpeople cannot be considered outside the issues of their access to employment. This does not mean that older people should work, but those of them who have strength and desire should not be deprived of the opportunity to continue working, because it creates the prerequisites for increasing the material and psychological, emotional well-being of a significant number of people (Bowen et al., 2011; Hessel et al., 2018). There are questions about the subjective well-being of different age, including senior, personnel in the workplace under the conditions of organizational changes of innovative nature, which is most relevant for the current stage of socio-economic development:

1. How do mixed-age female and male employees feel in the workplace in ordinary and innovative companies?
2. How does the stress of organizational change affect personnel in organizational cultures of different types?

It is known that behavior is regulated by many factors: external and internal motivation, consciously set goals, unconscious or partially unconscious urges (Deci & Ryan, 2008). Of particular importance are, of course, emotional regulators. In labor activity they include perceived quality of work life, satisfaction with work in all its fullness: from labor conditions of different order to satisfaction with

oneself in the labor process, including in conditions of organizational changes. No matter how much a person tells himself that it is necessary to achieve his own and company's goals, if these efforts are connected with constant experience of weariness which does not leave forces for family, private life, realization of interests outside work, everything that makes up a person's everyday life, if it seems that work takes away health, is connected with constantly experienced stress, management cannot count on the commitment of company's personnel and personal involvement in labor activity and life of organization as a whole. As A. Leontiev (1977) rightly noted, any activity is polymotivated, and labor activity is stimulated not only by the needs of life support, communication, creativity, self- realization, but also correlates with the basic needs (Vigotsky et al., 2004). Deprivation of these needs is manifested in negative emotional experiences, and if they are systematically accompanied by stable labor activity, a person develops a sense of threat from labor activity as a whole or at a particular enterprise, in a particular structural subdivision, negative labor attitudes are formed. Needs of different types have their own specific manifestations in different gender and age groups of staff.

The grouping of personnel according to some meaningful characteristics is important, it is pushed to it by the manager and age stereotypes. It guides management to build adequate management strategies. It is also important because one cannot ignore the general trend toward the demand of younger personnel to liberalize the work environment, especially the attraction of the most highly skilledyoung workers. In order to successfully retain an employee in the workplace, it is essential that he or she enjoys the workplace in the context of the established and evolving organizational environment and feels well and positive emotions rather than a constant feeling of fatigue, guilt, a desire to retire or go looking for another place of work. Among the reasons why Russians who have reached retirement age have left their jobs, health, physical and psychological fatigue are most often cited (Levada Analytical Center, 2018). These are indicators of obvious subjective disadvantage. Another part would like to receive a pension, to continue working in order to maintain the level of their modest income, i.e. based purely on utilitarian motives, which also cannot be considered a manifestation of subjective well-being. Both tendencies are based on the necessity of choice. Compulsion does not create motivation to build up one's own competence to the requirements of the new economy, reinforcing the stereotypical perception of

older workers by employers. The change in citizens' attitudes toward the pension reform will depend on the semantic linkage of the continuation of work activity and subjective well-being. The key requirement of the new economy for personnel is personal involvement in the labor process. Because it is personal involvement that determines the presence or absence of other necessary qualities, such as responsibility and initiative, constant professional development along with the labor process and self-learning (Kvachev & Yudina, 2017). It is no coincidence that personnel resistance is becoming an increasingly urgent problem for management. Personnel who is in a value conflict with management, experiencing subjective well-being, resist organizational change. Subjective well-being is understood as an emotional assessment of life satisfaction in general or its specific spheres, including labor activity (Linley et al., 2009; Snyder et al., 2011). In the works of E. Diener (1999), a classic of subjective well-being research, the desire for change against the background of positive emotions related to work is named as its key component in relation to labor activity.

The concept of subjective well-being is very important in the context of changing organizational conditions in general and technological patterns in particular. Subjective well-being does not include consideration of any specific objective characteristics of human life, and in the case of its study in relation to labor activity such important aspects of labor as production technology, wages, style of managerial interaction, built by management are not considered. Subjective well-being is an integral part of a quality of working life, which, on the one hand, is manifested in physical, organizational, psychological working conditions favorable for employees, and on the other hand, contributes to the effectiveness and sustainable and resilient development of the company (Leonova, 2020). The growth of the quality of working life is associated with the humanization of the working environment, meaningful and technological enrichment of labor, satisfaction of basic human needs, including those of a higher order (Leonova, 2020). And this despite the fact that some employees negatively perceive the practice of labor content enrichment, naturally occurring with the introduction of innovations (Leonova, 2020). Only the emotional perception of a life or work situation, but behind this there are many factors that influence a person's perception of his life. A decomposition of the determinants of this perception can provide important insights for management improvement.

Comparison of the characteristics of age stereotypes and characteristics of the socio-psychological resilience of the personnel of innovative and ordinary companies allowed us to identify indicators of the socio-psychological age. Thus, "young" and "old" socio-psychological age differ in value priorities of organizational development, characteristics of the balance of work and life motivation,the level of responsibility and openness of decision-making, the level of trust in managers, the predominance of instrumental or value type of conflict, conflict strategies, commitment to stereotypes, exposure to organizational stress of change, strategies for preventing and overcoming stress.

The analysis of the revealed indicators of socio-psychological age allows to distinguish one more important criterion - it is subjective well-being of the personnel of different ages in conditions of organizational cultures of different types. Subjective well-being is determined based on the level of fatigue, health, experienced stress, age-related well-being and self-perception in the work environment (Bretones & González, 2010; Leonova et al., 2019).

Fatigue is a complex process of temporary shifts in the physiological and psychological state of an employee, which develops as a result of the action of strenuous or prolonged work, illness, and stress. Fatigue is becoming a common complaint of the elderly and is a physiological warning system. Fatigue is self- reported by the individual based on poor well-being, which is usually based on a range of symptoms from complete emptiness, sleep disturbance, irritability to difficulty concentrating and muscle soreness (Marcora et al., 2009). It is clearly visible to the observer as well, since fatigue is reflected in the appearance of the person (Mills et al., 2010; Schwarz et al., 2017; Wong & Shobo, 2017).

Increased fatigue and the resulting feeling of fatigue in aging can be caused by a variety of factors, including age-related changes in production or energy use, inflammatory mechanisms, and workload (Eldadah, 2010). Tiredness and fatigue are considered an early indicator of the aging process. Fatigue is a strong predictor of functional limitations, mortality, and other adverse outcomes. There are several biological, physiological and social explanations for fatigue: it is seen as a self-assessed indicator of weakness; a physiological state of increased vulnerability to stressors; a result of decreased physiological reserves and dysregulation of multiple physiological systems; a consequence of the combined effect of social, mental and biological factors throughout the life course (Avlund, 2010;

Schwarz et al., 2017; Smartt et al., 2016). There are several biological, physiological and social explanations for fatigue: it is seen as a self-assessed indicator of weakness; a physiological state of increased vulnerability to stressors; a result of decreased physiological reserves and dysregulation of multiple physiological systems; a consequence of the combined effect of social, mental and biological factors throughout the life course.

Of particular importance is data on how fatigue and tiredness are most related to perceived and previously perceived stress as well as self-perceived health status (Mills et al., 2010; Schwarz et al., 2017). It has been shown that fatigue is also the result of negative private life events and is more characteristic of women and members of lower social classes (Kocalevent et al., 2016).

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The connection between fatigue and stress is particularly significant when considering the problem of age at work. New organizational requirements make it necessary to sufficiently. The stress in its classical understanding in the conditions of organizational changes takes place. Stress in this case can take both forms of flow in the form of eustress or distress. Stress, of course, in any case leads to exhaustion, but in the case of eustress it is not so noticeable for the subject experiencing stress. Distress can be accompanied by the development of serious diseases. Therefore, it is a constant challenge for management to work on the adaptation of personnel to new requirements (Cranwell-Ward & Abbey, 2005). The development of fatigue can be seen as a result of maladaptation under conditions of organizational change. Until the beginning of the XXI century corporate demands were not considered as a source of stress at all, although workplace stress was actively researched. In 2005, C. Cooper and S. Cartwright, analyzing the fundamental causes of workplace stress, in the first place named changes

in corporate culture, leading to significant shifts in management style (Donald et al., 2005). Accordingly, these transformations are the basis of uncertainty and uncertainty - the classic causes of stress.

With the data obtained from the survey here below we are answering the following research questions:

1. What are the indicators of subjective well-being of medical and engineering staff in innovative and ordinary companies under conditions of organizational change?
2. What are the age and gender specifics of the subjective well-being of the personnel of innovative and ordinary companies?
3. What is the influence of the subjective well-being of the staff of innovative and ordinary companies?

2.2.6. Social age as a perspective of the research

The age of an employee is a very important characteristic in today's environment. Voluntarily or involuntarily, employers focus on age manifestations. Naturally, this primarily concerns people of older ages or approaching them. Therefore, even while the age-related phenomenon has not yet been sufficiently investigated, quite a few people intuitively understand its significance and put a lot of effort into looking attractive to employers: healthy, young, engaged, ready for constant learning, and innovative. Someone understands the need for this intuitively, and someone develops entire programs to maintain a state of psychological youthfulness. The Internet is filled with advice on how to stay as young as possible for as long as possible. Often, this advice relates toone's private life, less often to one's work life.

The perception of an employee as suitable or unpromising in any case will depend on the presence or absence of age stereotypes by the representative of the employer, on the chronological age of the latter, on the employer's commitment to a particular type of organizational culture (Zakharova & Korobeynikova, 2015). Thus, it is known that older managers are more positive towards employees of the same age group, female executives tend to have women in their staff, religious leaders, other things

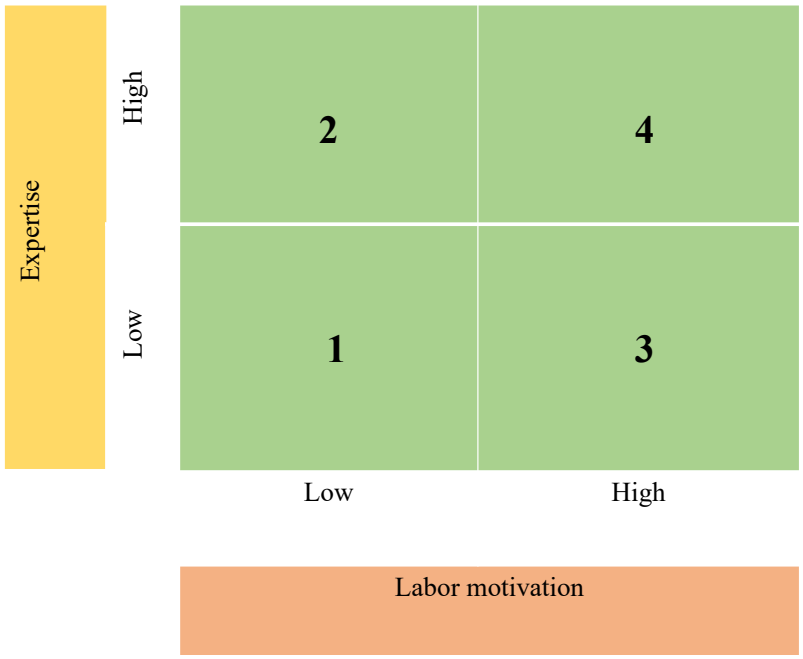
being equal, will opt for religious people, etc., which in general indicates that the own qualities of the employer and its representatives affect the decision-making, although many prefer to talk about their impartiality (Kornadt, 2016; Nelson, 2004).

Therefore, the introduction of the concept of social age in labor activity (Rose, 1972; Stodd, 2014) seems promising. The expediency of introducing this concept and the development of social age diagnostic technologies is conditioned by the task of significantly reducing, and ideally, eliminating the influence on assessment of the staff of subjective factors. The concept of social age should reflect the correspondence of a person's social competence to the requirements relevant for the modern stage of socio-economic development of society. Most likely, it will turn out that in different spheres of life a person will manifest the characteristics of different social ages, but this in no way will reduce the interpretive possibilities provided by the use of this concept in labor activity. According to I. Séguy et al.(2019), social age is a reflection of the place occupied by an individual at a particular point in time within the society to which he/she belongs. This age, with its corresponding rights and duties, is a relative measure that depends on individuals' personal perceptions of the continuities or discontinuities of their life, and on social perceptions of the stages that make up the life cycle. It should also be noted that there are clear links between biological and social age. For example, Gowland (2006) has stated that we may refer to an age obtained from long bone lengths as a biological age, when in fact it is affected by a number of social and environmental factors. Although social aging can differ from one individual to another, it is also profoundly influenced by the perception of aging that is part of a society's culture. If a society views aging positively, the social aging experienced by individuals in that society will be more positive and enjoyable than in a society that views aging negatively.

A simple enough scheme makes it possible to understand the basic idea of using the characteristics of social age in making managerial decisions about actual or potential employees, regardless of their chronological age.

Figure 3

Categories of employees depending on social age (Leonova, 2021)



The first quadrant: people do not have labor motivation and do not have the necessary competencies. Regarding labor activity, this is the "old" social age. The social age of old age.

Second quadrant: people still retain competence, but in the absence of motivation and the need for constant development, they will soon lose competence and become equal to the people in the first quadrant. In terms of work activities, this is the aging workforce. The social age of aging.

The third quadrant: people who are highly motivated to develop, but at the moment they do not yet have sufficient competencies. In terms of labor activity, these are growing staff. Socialage of growth.

Fourth Quadrant. Motivated competent people working to maintain and develop necessary competencies. Social age of maturity.

Of course, this scheme presents a simplified picture of social ages. Nevertheless, it allows us to identify specific groups of personnel, for whichcertain managerial decisions can be made and various strategies in corporate training can be implemented. Mixing representatives of different social ages in the same training group can demotivate both the socially younger and the older participants. The

younger ones will feel like they are wasting their time, the older ones may become even more insecure and therefore less loyal.

A separate task is to identify the key competencies of social age. Difficult questions arise on the change for a person of the group of his age in the context of social age. But it is also clear that the development of a set of core competencies will significantly reduce the subjective risks and dependence of assessments on the level of development of a particular enterprise, which loses vitality from the lackof human capital development.

What kind of policy should management pursue regarding old social age personnel? There are likely to be labor positions in companies that have not been affected by technological innovations. If an employee, even motivated not bylabor, but by social life, can cope with specific types of work, i.e. has the competences of yesterday, he may well continue to work in the company. There is practically no sense to motivate him personally, to make him participate in corporate training, it will only increase personnel costs, and the effect will probably be minimal, because the employee does not correspond to corporatevectors of development in terms of value. He himself and his colleagues will soon realize that such participation in the life of the company is undesirable, and they will need to look for another place to work, if they do not change their attitude to labor activity and organizational development. Such employees retain value for the company and need not so muchactual competence development as motivation, value reorientation. Probably for a number of reasons the employee has lost emotional regulators of involvement in the company's life activity. If we are talking about some hitherto valuable employees, then we can look for sources of organizational stress that affected their subjective well-being.

2.3. Objectives of the study

Age and gender stereotypes are a generalized form of perceived characteristics of people belonging to a specific group with chronological age and gender. They do not cover age and gender groups completely.

The introduction of the notions of socio-psychological age and socio-psychological aging allows

to consider the phenomenon of aging of the personnel and to study its determinants. It seems productive to consider aging as a trajectory of development in the direction of the characteristics of age stereotypes: gradual loss of desire and ability to make progressive organizational changes, personal involvement in the labor process, health self-assessment along with the increasing exposure to organizational stress and negative experiences associated with it. In accordance with the theoretical views of T. Parsons socio-psychological aging can be considered as a social action. This approach opens up opportunities to manage socio-psychological aging of the personnel, taking into account its determination at the levelof national culture, organizational culture, personality and organism, as well as to formulate research hypotheses of socio-psychological age and socio-psychological aging. For each level of regulation of social action in the conditions of external requirement of innovative organizational development ofthe company the specific contradiction which is a determinant of socio-psychological aging of employees is observed. At the level of national culture, it is a contradiction between the values of traditional culture and the values of organizational development; at the level of the organization - between the requirements of corporate culture and organizational culture;at the level of the individual - between corporate requirements and individual values; at the level of the organism - between corporate requirements and a set of characteristics of subjective well-being of the employee.

CHAPTER 3.

METHODOLOGY

In order to study these concepts, we carried out a study with the following methodology

3.1. Participants.

3.1.1. Involved organizations.

In order to carry out our research, we decided to conduct our study in three stages. At the first stage the empirical basis of the research were determined. For the purposes of research, it was fundamental to find companies with different involvement in innovative processes: those successfully entering the new phase of technological revolution and those with significant problems of transition to innovative way of development. It was important to find companies with significant history, which would allow to analyze socio-psychological age of personnel with different chronological ageand gender affiliation not as a result of targeted selection of innovatively motivated personnel, but as a result of management work in the context of specific types of organizational cultures. To remove the issue of possible influence on study results of the type of business and the specifics of the labor activity of the personnel connected to it, our aim was to identify the companies with different types of business and employees belonging to different classes of professions (ex. engineers and doctors).

With the help of external bodies (Association of Industrialists and Entrepreneurs of the region of Nizhny Novgorod and Volga Medical Research University) we have identified eight large companies eligible for our research (four manufacturing and four medical) situated in a typical industrial city of the Russian Federation (the city of Nizhny Novgorod). Firstly, industry and medicine are the spheres where the need for innovativeness is obvious - the level of development of industry is at the basis of national economy wealth whereas the development of medical sector assure the social wealther to the national economy. Secondly, we analyzed the data of respondents - representatives of different classes of professions - "man-human", "man-technique" (Klimov, 1990). In this regard, the results of the study are quite extrapolable to other sectors of the economy, where the need for innovation is not refuted, as well as to enterprises belonging to the mentioned classes of professions. These companies fully met the

selection criteria described above - all companies with a Soviet history, some of them have a reputation of innovative companies, and some of them are companies with longstanding problems of modernization, recently with serious difficulties in readiness to work in a new technological mode (hereinafter - ordinary companies). The choice to focus attention on manufacturing and medical industries was made due to the importance of those industries to the overall innovative development of the country. One of the main priorities of any state has always been and remains health care. After all, the level of healthcare development affects such important indicators for the state as the gross domestic product, the economically active population, the quality and standard of living of the population, and the position of the state in various international rankings. Stimulation of innovative activity in the medical industry is necessary not only for the development of the industry itself, but also for the entire economy as a whole. As for industrial enterprises the use of innovative technologies in its management makes it possible to play in the competitive struggle in modern conditions. The market economy, by its very nature, is exceptionally receptive to innovation.

The initial data collection (1rst stage) of the study was carried out in the organizations described below.

The information is taken from the official websites of the companies and has been slightly modified to respect the principle of confidentiality. The official information was complemented by the anonymous evaluation of the factories and medical clinics made by employees and clients taken from the specialized websites. For the factories the evaluation was made in the range from 1 to 5, for the medical clinics the proposed evaluation on the dedicated website was figured out scaling the feedback on positive, neutral and negative. This information served as an additional, preliminary information for our research giving some details on the overall perception of the factories and medical clinics and helping us to realize whether it was coherent in some sense with the results obtained in the main part of research.

Factory 1. (321 engineers). Factory 1 is a modern, dynamically developing enterprise, one of the most experienced among the suppliers of parts for the Russian automotive industry and other industries. During its 120-year biography the plant has become famous as a manufacturer of

competitive quality fasteners for the largest automotive enterprises of Russia, CIS and foreign countries. Close cooperation with the largest auto plants and customers from other industries ensures Factory 1. leadership in development and implementation of modern types of fasteners into production. The technological portfolio of the design bureau has many of its own promising developments. The company has a full production cycle: from design to electroplating and packaging. In addition to the necessary production facilities, which are large shops of the main production, the company has its own instrumental production, two laboratories, machine tool production. Today Factory 1 is experiencing a significant expansion of the product range, development of quality improvement mechanisms, modernization of the production fleet, orientation of all services of the enterprise to achieve a high level in all fundamental indicators. The online assessment is made on 80 of employee and clients feedback with an average score of 3.3.

Factory 2. (256 engineers) Consumers of mechanical equipment by Factory 2 is present in almost all branches of industry and national economy. Factory 2 is a reliable supplier of the largest enterprises of shipbuilding, ship repair, fish processing, machine building, mining, agricultural, forestry, cement industries. The company pursues a policy of continuous improvement of technical equipment and processes to meet modern quality standards. Factory 2 has a production base, which is equipped with European automatic production lines, its own design bureau, and a testing laboratory. The production capacity of the enterprise allows to produce more than 20 thousand tons of products per year. High level of specialists' training, constant implementation of modern technologies, experience accumulated over the years ensure fulfillment of various tasks: from drawing and 3D model development to direct production of finished products. Factory 2 manufactures a wide range of certified products and offers its customers a flexible pricing policy. The online assessment was completed by 40 employees and clients with an average score of 1,9.

Factory 3. (428 engineers) is one of the leading scientific and production centers for the development of radar technology. For more than 70 years, the institute has been successfully working in the field of development, creation, and serial production of sophisticated radar technology. In recent years, unique models of defense technology have been developed at Factory 3: a mobile multi-band

radar complex and a dual-band three-axis radar. Today, Factory 3 is ramping up production, creating new types of in-demand and competitive radar technology, and expanding the markets for its products. An important area of development is the extensive modernization of radar technology, increasing the efficiency of technological processes and the introduction of a modern electronic component base. The demand for its products, a good research and production base, an efficient management system, high professionalism and coordinated work of the entire staff are the main principles of the enterprise's work. The online assessment was completed by 52 employees and clients with an average score of 4,6.

Factory 4. (316 engineers) is one of the leading machine-building companies in Russia. Using the existing potential of production and intellectual capabilities, the company produces a new generation of products, satisfying consumers in all parameters. There is a gradual transition to the creation of products more complex in terms of engineering. The quality of both manufactured and newly developed products is continuously improved, the products manufactured are renewed and upgraded, the sales market for the Factory 4 products is expanded, new markets for civilian products are mastered while maintaining production in the segment of special machine-building. At the same time, Factory 4 seeks to use its production capabilities to master the production of new types of civilian and special purpose products for new customers. The online assessment was completed by 2 people with an average score of 3.

Medical clinic 1. (242 doctors) Medical clinic 1 has been in operation since 1960. Gradually the hospital expanded, and new departments were opened. In 2005, 2 polyclinics were added to the hospital. Now in structure of Medical clinic 1 there are some divisions: polyclinic departments (adult and child), operational block, clinical diagnostic laboratory, roentgenologic department, stationary branches: 3 non-surgical, cardiological, neurological, surgical, physiotherapeutic, traumatological, maxillofacial surgery, 2 pediatric departments. Medical clinic 1 provides diagnosis, consultation and inpatient treatment of patients with various types of traumas, brain tumours and vascular pathologies, spinal cord, spinal cord and peripheral nervous system injuries, cardiac, oncological, endocrinological, dermal and neurological diseases, diseases of the circulatory system and digestive organs, pediatric

cardio-rheumatological, pulmonological and gastroenterological and urological diseases. Out of 394 online feedbacks there were 213 positive ones (54,1%), 6 neutral (1,5%), 175 negative ones (44,4%).

Medical clinic 2. (256 doctors) is a multidisciplinary clinic for children and adults. Functional diagnostics: MRI (magnetic resonance imaging), bioimpedance imaging, fetal CTG, spirography, EEG, ECG, daily blood pressure monitoring, daily ECG monitoring by Holter. Dermatoscopy, laboratory diagnostics, endoscopic diagnostics are offered. In the outpatient center an endocrinologist, surgeon, phlebologist, trichologist, traumatologist, therapist, rheumatologist, psychotherapist, proctologist, ophthalmologist, neurologist, mammologist, ENT, cryologist, cardiologist, immunologist, nutritionist, dermatologist, gastroenterologist, venereologist, allergologist. There is a therapeutic center and a dental center. Vaccinations, medical checkups, and medical certificates are provided. The diagnostic center combines all currently known methods of examination of organs and systems. Out of 821 reviews exposed on the website 694 (84.5%) were positive, neutral were 44 (5.3%), negative were 83 (10.1%).

Medical clinic 3 (220 doctors) serves the population (including children), and has 10 specialized inpatient departments, 2 diagnostic departments, and an outpatient department, represented by an antenatal clinic, an adult, and a child outpatient clinic. In the Medical clinic 3 diagnosis and treatment of diseases of cardiology, pulmonology, non-surgical, gastroenterological and surgical diseases, neurological, traumatological, dentistry, gynecology, urology, otolaryngology and otorhinolaryngology are made. Of the 419 reviews, 300 were positive (71.6%), 10 were neutral (2.3%), and 109 were negative (26%).

Medical clinic 4 (243 doctors) has been functioning since 1920 and today is the largest multidisciplinary non-state medical institution of the Nizhny Novgorod region, providing medical care to the population. The Medical clinic 4 hospital includes several subdivisions: 2 24-hour in-patient departments, 2 adult polyclinics, a dental polyclinic, and a women's consultation. There are also specialized centers: urological, neurological, gastroenterological, women's health. The Medical clinic D hospital provides all kinds of consultative and diagnostic, outpatient and inpatient medical care: a wide range of examinations; Inpatient care in the following specialties: vascular surgery, therapy,

cardiology, surgery, ophthalmology, gynecology, neurosurgery, gastroenterology, urology, otolaryngology, neurology; outpatient care in the following specialties: dentistry, pediatrics, allergology, orthopedics, therapy, gastroenterology, obstetrics and gynecology, otolaryngology, surgery, ophthalmology, dermatovenerology, neurology, infectious diseases, endocrinology, cardiology, urology, rheumatology, physiotherapy. Of the reviews 278 positive were 244 (87.8%), negative were 34 (12.2%).

As a results of first stage of the survey 4 companies have been selected for the second stage of the survey - the analysis of the data allowed us to identify two manufacturing companies (Factory 3 - innovative and Factory 4 - ordinary) and two medical companies (Medical clinic 5 - ordinary and Medical clinic 8 - innovative) as bases for the empirical study of the main phase.

At the third stage manufacturing companies from the second phase of the survey were involved.

In all the companies involved in the study (Factories & Medical clinics) the Human Resources Area supported the research by authorizing us access to the facilities for fieldwork, providing information on how involved departments were structured around processes, providing lists of available personnel for data collection, and facilitating coordination with labor representatives (trade unions). This applied also to communication with Association of Industrialists and Entrepreneurs of the region of Nizhny Novgorod and Volga Medical Research University.

3.1.2. Sample.

The data collection covered 100% of the accessible population in the production area of each of the organizations according to the established criteria. The accessible population was considered to be those employees representing the key departments with core competences and those who create the added value for the company. In case of manufacturing companies; the engineering departments; In the case of medical clinics; doctors. Inclusion criteria for participation in the study included those who had passed three-year period in the organization and were regularly attending work during the established period, excluding those who were on scheduled leave or on sick leave or for other reasons during the probationary period were admitted to the survey. The equal age distribution (women and men younger than 35 years old, women from 35 to 55 years old and men from 35 to 60 years old, women older than

55 years old and men older than 60 years old) was also one of the strict criteria for the selection of participants and that had to be taken into account, this corresponded to the aim of the research – to show the specificities of socio-psychological age in relation to the real chronological age. Different approach to age groups for women and men in the case is explained by pension law stating that the retirement age for women is 55 and for men — 60.

For the first stage of the survey (see Appendix 1) to assess the level of innovativeness of 8 companies 7 managers and 12 representatives of the engineering/medical staff from each organization participated in the study and 14 external experts (7 from medical sector and 7 from manufacturing sector) (n=166). For manufacturing companies experts were managers of the Nizhny Novgorod Association of Industrialists and Entrepreneurs, for medical companies experts were employees of the Volga Medical Research University.

Table 6

Participants of the 1st phase of research

Companies	External experts	Employees	Managers
4 Factories	7	48 (12 x 4)	28 (7 x 4)
4 Medical clinics	7	48 (12 x 4)	28 (7 x 4)
Total (n=166)	14	96	56

For the purposes of research there has been a strict balance in the number of employees for each age group (young, middle and senior) – 16 people for each age group (young, middle, senior) in the factories and 16 people for each age group (young, middle, senior) in the medical clinics. The gender factor has also been taken into consideration in case of employees, so there was an equal number of males and females in the survey – 24 female employees in the factories and 24 female employees in the medical clinics.

For the second stage of the survey (see Appendix 2) engineers of 2 ordinary and innovative manufacturing companies, (occupational class "man-technique") and doctors of 2 ordinary and innovative clinics (occupational class "man-person" according to Klimov (1990) of three age groups

(women and men younger than 35 years old, women from 35 to 55 years old and men from 35 to 60 years old, women older than 55 years old and men older than 60 years old) have taken part in the survey. In total 850 employees.

Table 7 (women) and 8 (men) shows the distribution of participants in this second stage per chronological age and type of company. All respondents had at least three years of experience in the company.

Table 7

Distribution of women participants per age (2nd phase)

Age	**Factory 1 (Inn)**		**Factory 2 (Ord)**		**Clinic 1 (Inn)**		**Clinic 2 (Ord)**	
	N	%	N	%	N	%	N	%
Under 35	25	25,8	34	31,5	39	33,6	40	33,6
35 – 54	37	38,1	41	37,9	41	35,3	42	35,3
55and more	35	36,1	33	30,6	36	31	37	31,1
TOTAL	97	100	108	100	116	100	119	100

Table 8 shows the distribution of male participants' ages.

Table 8

Distribution of men participants per age (2nd phase)

Age	**Factory 1 (Inn)**		**Factory 2 (Ord)**		**Clinic 1 (Inn)**		**Clinic 2 (Ord)**	
	N	%	N	%	N	%	N	%
Under 35	34	30,9	35	30,4	30	32,2	32	34,8
35 – 59	40	36,5	39	33,9	35	37,6	34	37
60 and more	36	32,7	41	35,7	28	30,1	26	28,2
TOTAL	110	100	115	100	93	100	92	100

Table 9 shows the distribution of participants' ages. If in case of female and male participants we use different age scales – to group the results we assign the age groups “under 35” the name “young”, “35-54” (women) and “35-59” (men) – “middle” and “55 and more” (women) and “60 and more” (males) – “men”. The distribution of ages is quite equal.

Table 9

Distribution of participants per age (2nd phase)

Age	**Factory 1 (Inn)**		**Factory 2 (Ord)**		**Clinic 1 (Inn)**		**Clinic 2 (Ord)**	
	N	%	N	%	N	%	N	%

Young	59	28,5	69	30,9	69	33	72	34,1
Middle	77	37,2	80	35,9	76	36,4	76	36
Senior	71	34,3	74	33,2	64	30,6	63	29,9
TOTAL	207	100	223	100	209	100	211	100

Table 10 shows the distribution of participants per gender. As a result, a total of 850 employees participated in the research, with a slight reduced proportion of female participants in manufacturing organizations (47,7% vs. 52,3%) where the majority of the staff of the engineering department and were male and vice versa in medical clinics (55,9% are females and 44% - males).

Table 10

Distribution of participants per gender (2nd phase)

Age	**n**	**%**	**Total**
Women (total)			850
Men (total)			850
Factories (Women)	205	47,7	430
Factories (Men)	225	52,3	430
Clinics (Women)	235	55,9	420
Clinics (Men)	185	44	420
TOTAL	850		

Seven managers from each company participated as experts (N=28) in the survey. Those managers were the same as those who participated in the first part of the research. We didn't take into consideration the gender and age of managers in our research though in medical clinics the majority of managers was female whereas in the manufacturing industry – the majority were males.

At the **third stage participants** in the study were the senior engineering staff of innovative and ordinary manufacturing companies from the second phase of the study (women aged 55+, men aged 60+), with 250 people in roughly equal proportions. At the third stage a pilot study of social age of senior staff in manufacturing companies has been conducted. The aim of the study was to identify the specifics of the social age of senior staff of companies with different involvement in innovation processes and the possibility of its diagnostics on the basis of behavioral indicators. Table 11 shows the distribution of participants per gender.

Table 11

Distribution of participants per gender (3rd phase)

Age	n	%	Total
Women (total)			250
Men (total)			250
Factory 1 (Women)	59	48,4	122
Factory 1 (Men)	63	51,6	122
Factory 2 (Women)	62	48,4	128
Factory 2 (Men)	66	51,6	128
TOTAL	250		

3.1.3. Survey environment

Data collection took place at the premises of each of the two factories and two medical clinics (located in the Nizhny Novgorod region, Russia). All the companies have a presence in the local market and are regulated by the relevant regulatory authorities. The facilities of both factories and medical clinics have working environments that meet the industrial safety and occupational health conditions established by local regulations.

The data obtained for the present study come from an 'open environment' field survey, in which the control of variables had to be established by means of uniform instructions prepared prior to the data collection. Subjects were invited to participate on the basis of lists of personnel assigned to the different workplaces on the designated days.

In all cases, the survey took place in a social area called the 'staff canteen' with comfortable tables and chairs, so that participants were able to answer the questionnaires with a sufficient degree of privacy and without major distractions or interference. Data collection took place during scheduled break or refreshment periods. In addition, the researcher provided direct assistance to clarify doubts, answer questions or respond to other concerns of the participants. This form of implementation ensured that the answers were given by the subjects themselves in all cases.

3.2. Study variables and research design.

3.2.1. Study variables.

As noted in the section on the purpose and objectives of the empirical part of research are:

- To check the productivity of the approach to determining the age and socio-psychological aging through the compliance/non-compliance of personnel characteristics with age stereotypes;
- To carry out empirical testing of theoretical management model of determination of personnel socio-psychological aging in the companies with different involvement in innovation processes (at organizational, personal and physiological level);
- To reveal the specificity of manifestations of aging in male and female personnel of different ages, different classes of professions in the organizational conditions of innovative and ordinary companies;
- Discover the basic characteristics of the social age of personnel in the form of a pilot study.

As socio-psychological age criteria that is in the center of our research to reach these objectives we took indicators of compliance/non-compliance of personnel characteristics to age stereotypes that are psychological/attitudinal variables: valuepreferences of organizational development diagnosis of staff organizational and cultural preferences (perceived organizational values and desired ones), personal involvement in labor process (professional and private roles balance),psychological well-being at workplace (health status, level of fatigue from labor activity and organizational relations, organizational stress, age self-assessment and social and psychological well-being in labor environment under conditions of organizational changes related to innovation), assessment of socio-psychological age by managers. (assessment of perceived age through mental and a number of behavioral characteristics shown through the work activity), social age assessment (working with information in professional activities assessment combined with psychological well-being at workplace and personal involvement in labor process). Thus, the selected indicators relate to both conformity-disconformity with age stereotypes, and to alllevels of determination of the socio-psychological aging: organizational, personal, psychophysiological.

In this relation several groups of variables have been studied in the empirical part of research:

a) psychological - specifically attitudinal -,

b) socio-demographic and organizational, defined in detail in the previous theoretical review chapter.

Socio-demographic variables were individual variables considered in our study: age and gender.

- For the age variable, measured in years, age groups associated to 3 different ranges (young, middle, senior) were used.

The organizational socio-demographic variables were: professional area (engineer/doctor) and position hierarchy (employee/manager).

- Both the professional area and the hierarchical position in the organization responded to the organizational structures in force.

The variables studied are essentially ordinary and lend themselves easily to nonparametric statistical analysis.

3.2.2. Research design.

A descriptive, quantitative, cross-sectional research was chosen in order to make evident some interactions between the constructs studied (Namakforoosh, 2000).

3.3. Instruments and procedure.

3.3.1. Instruments used.

To study the different variables mentioned above (innovation, age stereotypes, socio-psychological aging), we used the following instruments:

Table 12

Variables of the research

Stage	Title	Methodology	Period
1	Defining the empirical basis - "Diagnosis of the level of innovativeness of enterprises"	A method for company managers and experts to evaluate technological and managerial innovations using the scaling method (“Scale of technological and managerial innovations”) and K. Cameron and R. Quinn's method for diagnosing the organizational culture of a company (OCAI instrument).	March-April 2018
2	“Study of manifestations of the socio-psychological age of staff in ordinary and innovative enterprises with different chronological ages”		November 2018

	- “Diagnosis of staff organizational and cultural preferences”	C. Cameron and R. Quinn's method of diagnosing organizational culture, organizational and cultural preferences by C. Cameron and R. Quinn (“The Cameron-Quinn Organizational Culture Assessment Instrument” (OCAI))	
	- “Survey of staff involvement in work activity”	M. Kuhn and T. McPartland's method of personal current and prospective self-attitudes (“The Kuhn-McPartland Twenty Statements Test” (TST)	
	- "Subjective well-being of staff in enterprises"	R. Kessler Self-Assessment Method (“Kessler Psychological Distress Scale” (K10), Self-Designed Questionnaire "Social and psychological well-being in the workplace", Self-Designed Questionnaire “Expert assessment of the age of staff by managers”	
3	“Study of the social age of staff with different chronological ages in ordinary and innovative enterprises”	Self-Designed Questionnaire "Working with information in professional activities", Self-Designed Questionnaire "Socio-psychological well-being in the team and age assessment", M. Kuhn and T. McPartland method of personal current and prospective self-attitiudes (“The Kuhn-McPartland Twenty Statements Test” (TST)	May 2020

Table 13

Indicators and empirical research methods through social action theory prism

<table>
<tr><th>Determination level</th><th colspan="3">Indicators</th><th>Methods</th></tr>
<tr><td>Level of organizational culture</td><td colspan="3">Type of organizational culture of innovative and ordinary companies</td><td>C. Cameron and R. Quinn's (OCAI) method to diagnose organizational culture</td></tr>
<tr><td>Level of organizational culture</td><td colspan="3">The provision of values for the innovative management of the organization's development.</td><td>The C. Cameron and R. Quinn (OCAI) method of staff organizational and cultural preferences</td></tr>
<tr><td>Personality level</td><td colspan="3">Personal participation in work activities (involvement)</td><td>The method of M. Kuhn and T. McPartland on real and prospective personal self-identifications (TST test).</td></tr>
<tr><td rowspan="6">Organism level</td><td rowspan="6">Subject
The positive well-being of the
best people</td><td colspan="2">Exposure to organizational stress</td><td>The R. Kessler Method (Kessler Distress Scale)</td></tr>
<tr><td colspan="2">Health self-assessment (general, cardiovascular and nervous system)</td><td rowspan="5">Subjective well-being at work questionnaire (own elaboration)</td></tr>
<tr><td rowspan="3">Fatigue</td><td>Organizational conditions</td></tr>
<tr><td>From work</td></tr>
<tr><td>From work at home</td></tr>
<tr><td colspan="2">Power distance</td></tr>
</table>

		Psychological well-being in the workplace	
The psychological component of socio-psychological aging	Self-assessment of age		
The social component of socio-psychological aging	Employee age assessment by managers		Expert opinion (own elaboration)
	Social age of personnel		Questionnaire "Use of information in professional activities" (own elaboration)
	Statistical indicators		Mann-Whitney and Wilcoxon non-parametric tests, Spearman's rank correlation method

At the first stage the problem of assessing the innovativeness of companies was particularly difficult. But such assessment was necessary because comparative analysis,especially at the initial stages of the research, can give important information aboutthe characteristics of personnel and management. It is not always possible to obtain reliable information about the level of innovativeness of a company on its website, based on the work of its PR-service. Analysis of economic activity indicators is often inaccessible for researchers. Of course, a company's innovativeness is primarily judged by the product it produces and the technologies it uses. However, questions arise about the sustainability of the company in the realization of its innovation potential over time. Therefore, the company's journey to its current state of innovation is of natural interest. For example, several studies (Dziallas, 2020; Mazzucato, 2018) rightly suggest analyzing the dynamics of the company's innovation activity level over the past 10 years. The study of the way of formationof innovativeness is especially significant when the company is not created as innovative but has overcome the barriers of innovative development. It is in these cases that it is possible to study the set-up of those organizational conditions that affect the innovative dynamics of the development of the company.

To date, several studies (Daft, 2020; Kafashpoor et al., 2013) have identified those characteristics in the activities of companies that prove its innovativeness. A brief list of the company's innovativeness indicators is presented in the table 14. It is possible to see that not only products and technologies, applied or created in the company are of interest for researchers, but also characteristics of management of the company as a whole and the personnel, in particular. Exactly these characteristics seem to be especially

significant in socio-psychological research perspective, directed on study of specific features of personnel of ordinary and innovative companies, formation of human capital with innovative orientation in development of the companies.

Table 14

Indicators for assessing the innovativeness of a company

Indicators	-	+
Know-how and technology		
Sources of know-how	Borrowed (dependence on external source)	Internal (high degree of autonomy)
Type(s) of know-how	Adaptive, type -improving	Providing a significant break from the point reference, type - radical
Technological innovations, the ratio of the cost intensity of technological innovationsand the share of innovative goods, works, services	Low level of innovation activity	Striving to produce high-tech products, high level of innovation activity
Human capital		
Values	Relationship values and hierarchies	The values of innovativeness and competitiveness
Employee attitudes towards innovation	Lack of desire and motivation to learn, unwillingness to take responsibility, uncompromising	Purposefulness, willingness to learn and self-study, willingness and ability to take on responsibility, ability to compromise
Managing		
Organizational structure and management tools	Hierarchical and inflexible structure, rigid distribution of responsibilities, bureaucracy	Flexible, horizontal structure, interdisciplinary working groups, adhocracy, and networking interaction
Level of centralization	High	Optimal

So, the first type of variables was the assessment of the level of innovativeness by external and internal experts.

Scale of technological and managerial innovations. The instrument to assess the innovativeness at Technological and Managerial Level in the company was composed of 10 items that had to be answered in reference to the concrete company (fabric or medical clinic). The questionnaire had to be answered by marking on a 10-point scale, with different labels, ranging from 1 'None', 'Very Low', 'Quite Low', 'Low' and 'Average' with ordinary value of (1), to 'Above average', 'Quite High', 'High', 'Very high' and 'Extremely high' with value of (10); (Appendix).

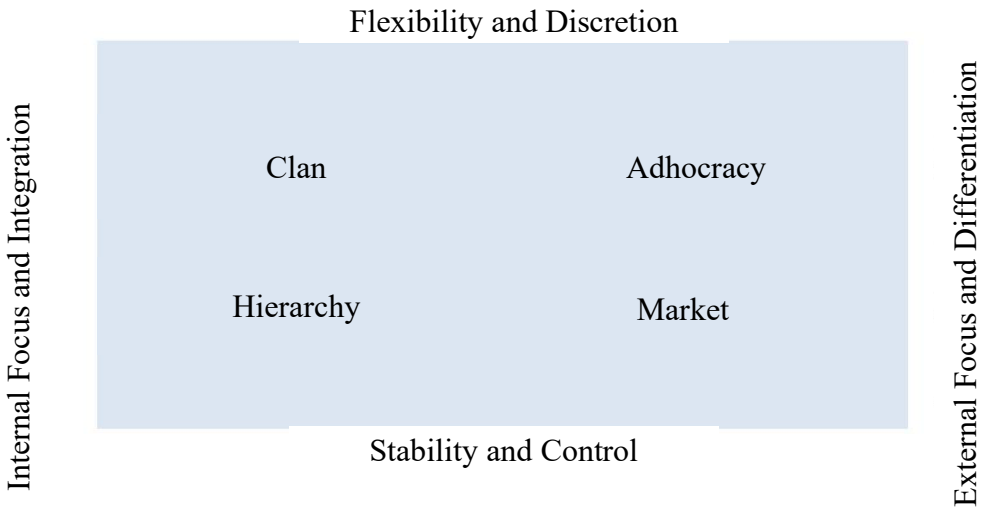
The Cameron-Quinn Organizational Culture Assessment Instrument (OCAI), described in their "Diagnosing and Changing Organizational Culture", is used to assess organizational and cultural states of the organizations participating in the research. The OCAI is based on the Competing Values Framework CVF (Quinn & Rohrbaugh., 1981): one of the most used and useful frameworks in business (ten Have, 2003). The CVF can fit diverse types of organizational settings and is utilized to measure types, congruence, and strengths of organizational culture using commonly associated terms: the core cultural values, interpretations and assumptions that characterize organizations (Cameron & Quinn, 2011). It also provides a framework for studying and understanding OC that can reflect a mixture of multiple cultural types as well as diverse characteristics of a particular cultural type (Colyer, 2000; Denison & Spreitzer, 1991; Lund, 2003). This instrument has been used since it is extensively applied in international investigations and studies, has proved to be reliable and valid and fits the tasks set before the organizations participating in the research because K. Cameron and R. Quinn (2011) developed this instrument for companies preparing for organizational changes. Over 10,000 companies used it. The Competing Values Framework CVF is validated by a ton of research (Denison & Spreitzer, 1991; Howard, 1998; Deshpandé & Farley, 2004). It is aligned with other dimensions that describe how people behave when organizing (Cameron & Quinn, 2011; Linnenluecke, 2010; Ralston et al., 2006). The OCAI instrument is kind of theoretical and practical guidelines for the management of such companies as it offers techniques for diagnosing organizational culture, alternative solutions on the basis of

obtained data and methods to determine the role of managerial staff in this process. That is why this instrument ideally fits the purpose of our research because the participating organizations seeked ways towards modernization and need adequate methodological advice and support. OCAI, a classification approach (Lim, 1995) was developed to evaluate organizational culture with six core attributes: Dominant Characteristics; Organizational Leadership; Management of Employee; Organization Glue; Strategic Emphases; Criteria of Success. The questionnaire includes 24 items divided into four alternatives, which correspond with the four cultural types labelled Clan, Adhocracy, Market, and Hierarchy (Cameron & Quinn, 2011).

In combination, these content dimensions reflect fundamental cultural values and implicit assumptions about the way the organization functions. They reflect the idea about “how things are” in the organization. The authors of the instrument single out two major dimensions, based on which indicators of a certain organizational culture are attributed to one of the four main clusters. One dimension differentiates organizational effectiveness criteria that emphasize flexibility and dynamism from stability and control criteria. The continuum of this dimension ranges from organizational versatility on one end to organizational steadiness and durability on the other end. The second dimension differentiates effectiveness criteria that emphasize an internal orientation and integration from criteria relating to an external orientation and differentiation. The continuum of this dimension ranges from organizational cohesion and consonance on one end to organizational independence on the other. Together these two dimensions form four quadrants, each representing a distinct set of organizational effectiveness indicators that define what people value about an organization’s performance, i.e. the core values on which judgements about the organization are made. On the basis of this value-based organizational culture typology, the authors identify four types of organizational cultures: clan, adhocracy, market and hierarchy (Fig. 4).

Figure 4

Cameron-Quinn organizational culture typology



The basic value of the clan culture is good relationships among employees and their mutual support. The basic values of the adhocracy culture include innovativeness and creative self-actualization of employees. The market organizational culture is based on the value of success in a competitive environment. The basic values of the hierarchy organizational culture include order, subordination, abidance by law and known tested algorithms. In real life, organizations usually have a mixed-type organizational culture with certain dominant components. The Cameron-Quinn organizational culture diagnosis instrument is designed to assess six key dimensions of an organization's organizational culture. The instrument does not operate in terms of right or wrong answers, just as there is no right or wrong culture. Each of six items of the questionnaire offers four alternatives, with a scale of 100 points to be divided among these four alternatives depending on the extent to which each alternative is similar to the respondent's own organization. First, the respondent should divide points in the "Now" column, and then answer the same questions from the respondent's "ideal" perspective of organizational culture by completing the "Preferred" column.

In this research, this instrument is the basic method because by determining individual organizational value preferences of employees on different levels we can identify the value balance at the time of the research and employees' value priorities that employees think to be appropriate for

structuring or re-structuring organizational life. And this vector of the value preferences either matches the market-adhocracy pattern for the development of an organizational culture that will promote the transition to the innovative form of development or blocks its establishment by triggering latent repression conflicts. In the first phase of research this instrument was used because characteristics of personnel of the companies, as a rule, are not known to external experts, therefore for an estimation of value orientations and preferences of employees of the companies the OCAI instrument was applied, allowing to reveal prevailing values of organizational development of the personnel in a social-psychological context of labor activity.

The Kuhn-McPartland Twenty Statements Test (TST) is an unstandardized self-description in free format with (in some modifications) a number of responses. Respondents are requested to give 20 responses to one question relating to themselves: "Who am I?" The instrument developed by M. Kuhn and T. McPartland (1954) is based on M. Kuhn's self-concept. The theoretical framework for the instrument are concepts of social roles and role behavior that set a way in which a person perceives himself as a role player; this is what is reflected in self-descriptions of respondents. The test covers not only role aspects but also all areas of a person's beliefs about his personality and its core – "Self". Due to the limited time, most respondents find it difficult to complete all 20 items of the questionnaire (in the original version) as, unlike closed-end surveys, this questionnaire requires creativity. In this context, in order to obtain reliable data and to avoid negative reactions of respondents, we have reduced the number of responses: 10 items request respondents to characterize themselves now, and 10 items – to describe how they see themselves in 5 years. The respondents were requested to answer as if they were responding to themselves and not to someone else and to rank responses in the order that they occurred to them without worrying about the logic.

In this research, the TST instrument is a supportive technique used to increase reliability of the interpretation and conclusions made on the basis of the organizational culture diagnosis as values are fixedly linked to a person's prioritized social roles determined on the basis of personal self-identifications. Exactly for this purpose, similarly to the organizational culture diagnosis where organizational culture is evaluated in two dimensions (the current state of organizational culture and the

preferred organizational culture), it appeared reasonable to ask the question “Who am I?” from the two perspectives – at the present moment and in the foreseeable future.

Kessler Psychological Distress Scale (K10) (Kessler et al., 2002) is used in the present study to assess the level of psychophysiological determination of socio-psychological aging. This is a 10-item questionnaire intended to yield a global measure of distress based on questions about anxiety and depressive symptoms that a person has experienced in the most recent 4 weeks period. It is a measure of psychological distress. The numbers attached to the patients 10 responses are added up and the total score is the score on the Kessler Psychological Distress Scale (K10). Scores will range from 10 to 50.

Self-designed questionnaire "Social and psychological well-being in the workplace" (Leonova et al., 2019) was also used, combining questions with direct scaling method,aimed to identify the degree of fatigue from professional activities, organizationalrelations and housework, self-assessment of health in general, the state of thecardiovascular and nervous system, psychological well-being in the workplace.The questionnaire consists of two parts. The first includes questions aimed at identifying the psychological component of personnel age and its organizational psychophysiological determinant - the stress of introducing innovations (Caesens et al., 2017; Everly et al., 2013: Kitaev-Smyk, 2009). As indicators of psychological well-being the self-assessment of fatigue and health as the first signs of aging, as well as the assessment of the age self-perception were taken as the age component of age. The second part of the questionnaire consists of questions aimed at assessing the social component of the socio-psychological age of the staff, manifested in references to the staff and assessment of their age by direct supervisors. Immediate supervisors assessed age manifestations in respondents, distributing personal cards of their subordinates according to three criteria: "older", "younger" and "corresponds to their chronological age".

Self-designed questionnaire “Expert assessment of the age of staff by managers” (see Appendix 2) was developed to assess the perception of age of each chronological group of employees by managers taking into account the gender as well. The objective of this tool was to cross the data from self-assessment (psychological side) made by the employees with the assessment made by the manager

(social side). The six questions of the questionnaire were formulated in the follow way: “Do male/female employees (of a certain age group) generally seem younger or older than their chronological age to you?” The answer was to be given in % - those who seem younger and those who seem older.

Self-designed questionnaire "Working with information in professional activities" (see Appendix 3) was developed to assess the social competences of the employees that are expected to have personnel of modern companies. The following were taken as key competences: self-education; subjective position in corporate professional development; use of English for professional development; knowledge of advanced technologies of the nearest future in their professional sphere. The questionnaire consisted of 13 questions. Social age was determined by a combination of the work involvement scores and the questionnaire scores.

Secondary analysis of databases

- Russian Public Opinion Research Center (VCIOM) (2016, 2017) on the values of Russian society;
- Russian Public Opinion Research Center (VCIOM) (2018), Public Opinion Foundation (FOM) (2018), ANO Levada-Center (2018); and (2018) on attitudes toward the new pension reform;
- Public Opinion Foundation (2020) on age and gender discrimination;
- World Values Survey (2017-2020) by the World Values SurveyAssociation;
- World Economic Forum's Global Gender Gap Study (The Global GenderGap Report 2020);
- Statistical collection of the Federal State Statistics Service "Women andMen of Russia" (2016);
- Global Key Indicators of Labor Market (KILM) Survey of theInternational Labor Organization (2014).

3.3.2. General procedure.

As described in previous paragraphs, the following stages were conceived for the data collection and processing, which were carried out in the order described.

Table 15

Description of the procedures applied

Activity	Description
Selection of participants	The search for and identification and selection of organizations in which to carry out the study was carried out, exploring the level of innovativeness through external expert assessment, the assessment of organizational culture by managers and a group of employees as well as availability of access to employees under the indicated criteria
Data collection	Once the authorizations were received (from the Director of this Doctoral Work, top managers and the Human Resources Managers of the organizations), at the first stage the use of direct scaling method from 1 to 10 of the level of technological and managerial innovations in the company and Kim Cameron and Robert Quinn's diagnostic method for value-based organizational and cultural preferences (Organizational Culture Assessment Instrument questionnaire (OCAI)) have been used to assess the current state of art and a 5-year perspective. The direct scaling method of the level of innovations (technological and managerial ones) have been used in case of external experts. At the second stage Kim Cameron and Robert Quinn's diagnostic method for value-based organizational and cultural preferences (Organizational Culture Assessment Instrument questionnaire (OCAI)), Personal Self-Attitudes Questionnaire by M. Kuhn and T. McPartland to assess the labor involvement, the Ronald Kessler's distress scale, the author's questionary "Socio-Psychological Well-Being in Labor Context", comprising questions and direct scaling method, author's Questionnaire of Personnel Age Perception by Managers At the third stage author's Questionnaire "Use of information in professional activity", "Socio-Psychological Well-Being in Labor Context", Personal Self- Attitudes Questionnaire by M. Kuhn and T. McPartland
Coding And Debugging	Each of the ballots was checked in the field upon receipt to ensure that key information was not missing. Once the survey was completed in all the organizations involved, the information was coded and cleaned, resulting in a database.
Statistical Analysis	After coding, transcription and data cleaning, statistical analysis was carried out using the STATISTICA (12 version) package (commercialized by Tibco Software Inc.)

Preparation Of Results	Results, frequencies and contingency tables were prepared for reporting. Non-parametric descriptive statistical indicators were used. non-parametric methods to determine the statistical significance of differences between populations characterizing groups of respondents - Mann-Whitney and Wilcoxon tests, Spearman's indices to determine correlations.
Analysis And Preparation Of Conclusions	Each table was reviewed and studied in order to establish results for reporting, and to arrive at conclusions for decision making in the context of people management.

In this way, the guidelines for the present research were established. We worked with a diverse sample in terms of age and professional area that will allow us to study the relationships between the variables and constructs, responding to the objective and hypotheses of the research.

CHAPTER 4.

RESULTS

The aim of the study: to identify age and gender characteristics of value- motivational readiness of staff to organizational change in enterprises with different involvement in innovation processes.

Research Questions:

1. Are the values of all types of organizational cultures of modern companies coherent with the existing/suport stereotypes of old age, namely concerning the unpreparedness of older employees for prospective changes and their weak work motivation? Or there are some differences in the organizational culture contexts to this purpose?

2. What is common and distinctive in the characteristics of value readiness for change and work motivation of different-age personnel in the organizational cultures of different types?

3. How does the gender specificity of work motivation and value readiness for change of different-aged personnel in the organizational cultures of different types manifest itself?

In order to carry out a data analysis that coincides with the conceptual line set out in the purpose of the research, the findings will be presented in the following sequence:

- Level of innovativeness of organizations by external experts and managers and pilot assessment of organizational culture and cultural preferences by the employees;
- Personnel organizational and cultural preferences staff involvement in work activity in selected organizations with different level of involvement in innovation processes;
- Subjective well-being of staff (fatigue, stress, health) as an emotional regulator of socio-psychological age;
- Socio-psychological age of personnel in organizational cultures of different types: self-assessment and evaluation by managers;
- Social age assessment;
- Correlations between the variables under study, complementing the analyses for the four hypotheses of the study.

The results of the processing of the data contained in 166 questionnaires answered by the employees of the eight factories, external experts and managers studied in the first phase, 878 questionnaires answered by the employees and managers of the four organizations from the second phase and 250 questionnaires answered by the employees of the two manufacturing factories from the third stage, are presented below. Aggregated results from all the four organizations from the second phase and two organizations from the third stage will be given as if they were a purposive sample, but the findings will also be presented and analysed in a disaggregated manner by manufacturing factories (207 subjects in Factory 1 and 223 in Factory 2) and medical clinics (209 subjects in Medical clinics 1 and 211 subjects in Medical clinics 2) in order to establish comparisons and make evident both similarities and differences between the groups studied.

4.1. Level of innovation of the companies.

The data obtained from the first phase of the survey are added by the results of previous study of the psychological barriers to innovative development and resilience of the companies in Nizhny Novgorod region. Research on psychological barriers to innovative development and resilience of companies has been conducted by the colleagues from National Research Lobachevsky State University of Nizhny Novgorod since a year 1999, so it was possible to present in the tables the information on four companies from our survey studied in 2006 to get an idea of the dynamics of their innovativeness (Zakharova, 2008).

The data in the table 16 show how difficult it is to trust the assessments of the management of the companies. On the one hand, managers know the state of affairs in the company they work for, but, on the other hand, not once the scores below 5 points are recorded. Even in companies with very big problems the management does not consider their companies significantly "worse" than others. This applies both to 2006 and 2018.

Table 16

Assessment of technological and managerial innovations by

company managers and external experts

№	Evaluating technological innovation						Assessment of managerial innovations					
	2006			2018			2006			2018		
	Experts	Managers	W	Experts	Managers	W	Experts	Managers	W	Experts	Managers	W
1p				7.2	7.6	-				8.5	6.2	*
2p				8.3	8.5	-				8.5	7.0	T
3p	6.2	6.8	-	9.4	9.2	-	8.2	7.9	-	9.0	7.2	*
4p				4.4	5.5	*				4.1	5.5	*
5m	3.5	6.0	**	3.5	5.8	**	3.0	6.2	**	3.0	5.7	*
6m	3.7	5.5	**	3.5	6.2	**	3.5	6.5	*	3.5	5.0	**
7m				3.7	5.6	**				3.5	5.7	**
8m	6.4	6.6	-	8.7	8.8	-	6.7	8.0	*	8.6	8.3	T

In the table: p - manufacturing, m - medical companies; W – Wilcoxon W- test: * -$p \leq 0.05$; ** - $p \leq 0.01$, T - trend; - no statistically significant differences

Comparing their company to the others that are more innovative provokes managers to maintain their typical score in the 5.5 - 6.2 range. Experts assign innovation scores in the range of 3.0 - 4.1 points to ordinary companies. Most of the comparisons revealed statistically significant differences between managers' and experts' evaluations. The proximity of technological and managerial innovativeness scores attracts attention. The assessments of managerial innovativeness are somewhat lower than those of technological innovativeness, but there are no statistically significant differences. Apparently, this is not accidental: managerial innovativeness should lead to technological innovativeness, but the preservation of traditional managerial approaches leaves technological innovativeness at a low level.

A confirmation of this can be seen if we turn to the data obtained in the study of companies ranked as innovative by experts (Zakharova, 2008). In the year the 2006 manufacturing factory (#3) had an expert assessment of technologicalinnovativeness of 6.2 points, and the managerial one – of 8.2 points. In the year 2018 the corresponding indicators were already 9.4 and 8.2 points respectively. That is, managerial advance in organizational changes provided technological growth as well. There is a

similar picture of indicators at medical company #8. In 2006 experts estimated technological innovativeness at 6.4 points, while in 2018 it is already at 8.7 points. The growth in assessments of managerial innovation is also evident: scores 6.7 in the year 2006 and scores 8.6 in the year 2018. And in this innovative company managers are ahead in assessments of experts, which confirmsthe noted trend of special commitment of managers to their company, although differences do not reach the level of statistical significance, appearing as a trend. Assessments of experts and managers of innovative companies are very close when assessing technological innovativeness, there are no statistically significant differences between them. But this does not apply to the assessment of managerial innovativeness in the year 2018. Assessment of managers of innovative companies are significantly lower than estimates of experts assessment, although statistically significantly higher than estimates of managers of problem companies. This proves that managers understand that they are acting in the right direction (this confirms successful technological development), but also that the prospects for optimization of management processes are still great.

The effectiveness of management in innovative enterprises is confirmed when analyzing the value bases of organizational culture (Table 17).

Table 17

Assessment of the company's organizational culture by managers

and personnel (engineers and doctors)

№	**Values of organizational culture, 2018**											
	Clan		W	Innovative		W	Market		W	Hierarchical		W
	M	E/D		M	E/D		M	E/D		M	E/D	
1p	30.6	27.5	T	19.5	20.5	-	30.5	33.2	-	19.4	18.8	-
2p	33.3	30.5	-	20.4	19.3	T	31.0	32.4	-	15.3	17.9	-
3p	**24.8**	**25.5**	**-**	**20.0**	**18.5**	**-**	**30.2**	**31.5**	**-**	**25.0**	**24.5**	**-**
4p	**25.6**	**41.5**	*	**17.2**	**12.4**	*	**22.4**	**19.2**	*	**34.8**	**26.9**	*
5m	**23.5**	**40.5**	*	**19.1**	**10.7**	*	**20.5**	**16.6**	*	**36.9**	**32.2**	*
6m	21.6	34.5	*	17.5	12.5	*	20.5	15.4	*	40.4	37.6	T
7m	30.3	35.5	*	17.8	14.1	*	18.5	12.2	*	33.4	38.2	*
8m	**25.5**	**24.6**	**-**	**20.5**	**23.0**	**T**	**23.5**	**17.1**	*	**28.5**	**34.5**	*

In the table: p - manufacturing, m - medical companies; M – managers, E - engineers, D – doctors, W - Wilcoxon's W -test: * -$p \leq 0.05$; ** - $p \leq 0.01$, T - trend; - - no statistically significant differences, green color – innovative company, orange color – ordinary company.

Both managers and the engineers and doctors of innovative companies are unanimous in their

assessment of the innovative component of organizational culture. It ranges from 18.5% to 23.0%. This significantly exceeds the estimates of the presence of innovativeness in the assessments of organizational culture in ordinary companies, where the presence of this component in the assessments of engineers is 10.7 - 14.1%.

Managers of ordinary companies in this case also show statistically significantly higher evaluations than the personnel of these companies. The range of their evaluations is 17.2 - 19.1%. This is not statistically significantly different from the assessments of the personnel of innovative enterprises. This example clearly shows that managerial assessments are not enough to assess innovativeness. The values of innovative companies correspond to the assessments of technological and managerial innovativeness, whereas the assessments of managers and personnel differ significantly, but at the same time there is a remarkable correspondence of expert assessments and organizational culture assessment by engineers and doctors. Other value components of organizational culture confirm the general picture of innovativeness in the studied companies. It is possible to see, that organizational culture type in innovative companies is based on market values with preservation of the developed relations in working teams and the expressed innovative component. The hierarchical component in manufacturing companies is presented less, than the market one. This ensuresinternal competition, which does not destroy human relations, but stimulates innovativeness. The picture is somewhat differentin medical companies. Innovative companies maintain a high level of hierarchy. This apparently refers to the manifestation of the specificity of professional activity. In ordinary companies, the organizational and cultural situation is fundamentally different. Management assumes that the organizational situation is under complete control. Hierarchical component is present in the range 33.4 - 40.4%, but only in one medical - company nº 7 where doctors recognize this dominance. For the rest, the engineers/doctors evaluate the presence of clan values as dominant - from 34.5% to 41.5%, which shows the vulnerability of the autocratic approach: employees always find ways to soften its effect. But this mitigation does not promote either innovative values or market ones: both are minimally represented. This once again confirms the fact that the preservation of traditional clan- hierarchical approaches in management in Russia is often a insurmountable barrier to innovative development.

Analysis of the data allowed us to single out two manufacturing companies (№3 - innovative and №4 - ordinary) and two medical companies (№5 - ordinary and №8 - innovative) as bases for empirical research at the main stage. At the same time the desire of management of ordinary companies to promote transition of the organizations to innovative format of development meets considerable resistanceof the personnel.

4.2. Organizational culture and personal involvement of personnel in work activities.

4.2.1. Organizational culture assessment of ordinary and innovative companies.

The data of the tables 17 and 18 show that the established organizational culture of ordinary and innovative companies corresponds to the expert assessments made in the first stage of the research to identify innovative and ordinary companies. In ordinary companies, regardless of the sphere of business, the hierarchical-clannish type of organizational culture dominates, in innovative companies the market component dominates, combining with the hierarchical in manufacturing companies and with the clan component - in medical companies. The organizational culture of ordinary and innovative companies differs in both manufacturing and medicine sectors. What is common is the significant dominance of relationship values in ordinary companies compared to innovative ones: the evaluations differ statistically significantly in all age groups.

In the ordinary companies the estimates of the presence of the value of relations is statistically higher in all age groups. The situation is different with respect to the market and innovation components: their scores are statistically significant in all age groups. There are also noteworthy distinguishing characteristics. While the hierarchical and clan components dominate in ordinary companies, the hierarchical component is stronger in production companies, and the clan component is stronger in medical companies. Thus, the representation of the clan component in a manufacturing ordinary company varies in the range 22.9 of 28.3%, with younger and older women having higher scores than their male counterparts. In the ordinary medical company the clan component isrepresented in the range of 25.4 - 37.8%, with women in all age groups significantlyhigher than their male counterparts. Thus, the personal solidarity of doctors is statistically significantly higher than the same indicator in the

engineering community. The higher estimates of the clan component for women shows that apparently women themselves can create warmer relationships than men, which is reflected in their organizational culture evaluations.

Paradoxical as it may seem, the strength of managerial power and technical regulations is higher in the production sphere in ordinary companies, where the quality of techniques and technologies is at stake, than in medicine, where the measure of professional responsibility is the health and life of the patient. Thus, the hierarchical component of organizational culture in an ordinary manufacturing company, according to the respondents, ranges from 38.5 to 40.9%, while in a medical ordinary company it ranges from 29.4 to 33.8%. The innovative component is least pronounced in the organizational culture of ordinary companies. Its indicators practically do not differ in gender and age groups.

Table 18

Organizational culture and values of organizational development of different-age personnel (engineers) of ordinary and innovative manufacturing companies

Age	**Company**	**Organizational Culture Values**											
		Clan			Innovation/ Adhocracy			Market			Hierarchy		
		As-is (%)	To-be (%)	W	As-is (%)	To-be (%)	W	As-is (%)	To-be	W	As-is (%)	To-be	W
Young women	OF	26.1	37.2	*	13.7	12.4	-	19.2	18.3	-	40.9	32.1	*
	IF	20.5	27.3	*	18.3	25.7	*	33.2	30.6	-	28.1	16.4	**
	U	*	*		*	**		*	**		*	**	
Young men	OF	22.9	37.8	**	10.4	12.8	-	25.1	21.5	T	40.6	27.9	*
	IF	17.6	23.9	*	28.3	33.2	*	35.7	32.1	-	27.1	16.5	*
	U	*	*		**	**		*	*		*	*	
Middle age women	OF	26.2	41.5	**	13.2	12.6	-	21.8	15.7	*	38.8	30.3	*
	IF	19.8	21.5	-	19.5	27.4	*	32.0	35.7	T	28.7	15.4	**
	U	*	**		*	**		*	**		*	**	
Middle age men	OF	28.3	38.2		11.4	12.4	-	19.1	17.6	-	39.2	31.8	T
	IF	17.4	18.3		27.5	33.4	*	38.8	38.7	-	25.9	14.5	*
	U	*	**		**	**		*	**		*	*	
Senior women	OF	27.2	40.4	**	15.5	14.6	-	18.9	16.3	-	38.5	28.8	*
	IF	17.9	24.0	*	22.2	29.7	T	31.6	32.2	-	28.3	14.2	**
	U	*	*		*	**		*	**		*	*	
Senior men	OF	24.1	35.0	*	13.6	15.6	-	21.2	18.5	-	38.7	30.8	T
	IF	16.5	21.8	T	25.6	30.6	T	33.1	34.2	-	29.2	15.7	*

	U	*	*		*	*		*	**		*	*	

In the table: Young women/men - up to 35 years, Middle age women/men - from 36 to 55 years for women, from 36 to 59 - for men, Senior females/males - from 55 years for women and 60 - for men; OF – ordinary manufacturing company, IF – innovative manufacturing company; As-is – actual state of organizational culture, To-be - preferred state of organizational culture, U - Mann-WhitneyU test, W - Wilcoxon test, * -$p \leq 0.05$; ** - $p \leq 0.01$, T - trend; - - no statistically significant differences.

Table 19

Organizational culture and values of organizational development

of different-age personnel (doctors) of ordinary and innovative companies

Age	**Com pany**	**Clan organizational culture values**			**Innovative organizational culture values**			**Market organizational cultures values**			**Hierarchical organizational culture values**		
		As-is (%)	To-be (%)	W	As-is (%)	To-be (%)	W	As-is (%)	To-be (%)	W	As-is (%)	To-be (%)	W
Young women	OMC	33. 3	41.9	*	16.4	18.2	-	19.8	19.4	-	30.5	20.5	*
	IMC	20.2	27.1	*	23.1	26,5	T	34.2	35.7	-	22.5	10.7	**
U		**	**		*	*		*	**		*	*	
Young men	OMC	25.4	28.9	*	17.1	18.8	-	27.0	25.0	-	30.5	27.3	T
	IMC	20.8	20.1	-	18.8	23.0	*	33.6	39.5	*	26.8	17.4	**
		*	*		-	*		*	**		*	**	
Middle age women	OMC	37.8	44.1	*	14.6	17.5	-	20.4	19	-	27.2	19.4	*
	IMC	21.7	31.4	*	28.9	30.2	-	31.4	22.3	*	18.0	16.1	-
U		**	*		**	*		*	-		*	-	
Middle age men	OMC	30.9	35.7	T	16.8	18.4	-	29.9	21.3	-	29.4	24.5	T
	IMC	27.7	21.3	-	24.1	28.4	*	30.3	35.5	*	26.3	14.8	*
		*	*		*	**		*	*		-	**	
Senior women	OMC	35.3	42.6	*	17	19.8	-	16.7	16.9	-	31	20.7	*
	IMC	23.1	27.8	T	25.1	33.8	*	28.7	20	*	23.1	18.4	T
U		*	**		*	*		*	-		*	-	
Senior men	OMC	29.7	38.4	*	18.2	18.8	-	18.2	16.6	-	33.8	26.2	*
	IMC	20.2	25.8	T	26.0	31.5	*	28.9	26.9	-	24.8	15.8	*
W		*	*		**	**		**	*		*	*	

In the table: Young women/men - up to 35 years, Middle age women/men - from 36 to 55 years for women, from 36 to 59 - for men, Senior women/men - from 55 years for women and from 60

- for men; OMC – ordinary medical clinic, IMC – innovative medical clinic; As-is – actual state of organizational culture, To-be - preferred state of organizational culture, U - Mann-WhitneyU test, W - Wilcoxon test, * -$p \leq 0.05$; ** - $p \leq 0.01$, T - trend; - - no statistically significant differences.

There are some differences between the innovativeness indicators between the evaluations of engineers and doctors. For example, doctors rate the level of innovativeness higher than engineers. This applies to both young and senior personnel groups (Table 19), but somehow or other, this component is most poorly represented in both medical and production ordinary companies. Innovative companies in different business spheres have much more in common than distinctive: the business component of organizational culture dominates. At the same time, doctors' assessments of the level of companies' innovativeness are significantly higher than those of engineers in all age groups. The exception is young male doctors. Their assessment of innovativeness is practically the same as in the similar age and gender group of the resident clinic (17.1% in the ordinary clinic and 18.8% in the innovative clinic). It is noteworthy that in manufacturing companies, there were young men who differed most in their assessments of innovativeness (10.4% in the ordinary and 28.3% in the innovative, $p \leq 0.01$). Perhaps these differences are related to gender professional adaptation: male doctors are reticent to evaluate innovativeness, trying not to show incomplete readiness to work in a high-tech environment. Young engineers, due to theirprofessional specifics, cannot hide this; it is well known that training at a technical university does not always keep up with the technologies of advanced companies. One way or another, in general, doctors of the innovation clinic very definitely perceive their innovativeness, regardless of gender and belonging to a certain age group, and, judging by the pronounced business component, they try to use innovative opportunities actively, responsibly and in their entirety.

Table 20

Statistical significance of differences between the organizational culture assessment and organizational culture preferences by engineers and doctors of different age groups of ordinary and innovative companies

Comparable subgroups	**Organizational culture**							
	Clan		Adhocracy		Market		Hierarchy	
	As-is	To-be	As-is	To-be	As-is	To-be	As-is	To-be
Engineers								

Young OF engineers - Middle age OF engineers (Women)	-	-	-	-	-	-	-	-
Young OF engineers - Middle age OF engineers (Men)	*	-	-	-	-	-	-	-
Young OF engineers - Senior age OF engineers (Women)	-	T	-	T	-	-	-	-
Young OF engineers - Senior age OF engineers (Men)	T	T	-	*	-	-	-	-
Middle age OF engineers - Senior age OF engineers (Women)	-	-	-	-	-	-	-	-
Middle age OF engineers - Senior age OF engineers (Men)	T	-	-	-	-	-	-	-
Young IF engineers - Middle age IF engineers (Women)	-		-	-	-	T	-	-
Young IF engineers - Middle age IF engineers (Men)	-	*	-	-	-	-	-	-
Young IF engineers - Senior age IF engineers (Women)	*	-	-	*	-	-	-	-
Young IF engineers - Senior age IF engineers (Men)	-	*	-	-	-	-	-	-
Middle age IF engineers - Senior age IF engineers (Women)	-	-	*	-	-	-	-	-
Middle age IF engineers - Senior age IF engineers (Men)	-	-	-	-	T	-	-	-
Doctors								
Young OMC doctors - Middle age OMC doctors (Women)	-	-	-	-	-	-	-	-
Young OMC doctors - Middle age OMC doctors (Men)	T	*	-	-	-	-	-	-
Young OMC doctors - Senior age OMC doctors (Women)	-	-	-	-	-	T	-	-
Young OMC doctors - Senior age OMC doctors (Men)	-	*	-	-	-	-	-	-
Middle age OMC doctors - Senior age OMC doctors (Women)	-	-	-	-	T	-	-	-
Middle age OMC doctors - Senior age OMC doctors (Men)	-	-	-	-	-	-	-	-
Young IMC doctors - Middle age IMC doctors (Women)	-	-	-	-	-	T	-	*
Young IMC doctors - Middle age IMC doctors (Men)	-	-	-	-	-	-	-	-
Young IMC doctors - Senior age IMC doctors (Women)	-	-	-	T	*	*	-	*
Young IMC doctors - Senior age IMC doctors (Men)	-	-	-	-	-	*	-	-
Middle age IMC doctors - Senior age IMC doctors (Women)	-	-	-	-	-	-	-	-
Middle age IMC doctors - Senior age IMC doctors (Men)	-	-	-	-	-	-	-	-
Engineers - Doctors								
Young OF engineers – Young OMC doctors (Women)	T	*	-	*	-	-	*	*

Young IF engineers – Young IMC doctors (Women)	-	-	*	-	-	T	T	T
Young OF engineers – Young OMC doctors (Men)	-	*	*	*	-	-	T	-
Young IF engineers – Young IMC doctors (Men)	-	-	*	*	-	T	-	-
Middle age OF engineers – Middle age OMC doctors (Women)	T	-	-	-	-	-	*	*
Middle age IF engineers – Middle age IMC doctors (Women)	-	*	-	-	-	-	*	*
Middle age OF engineers – Middle age OMC doctors (Men)	-	-	T	*	-	*	*	*
Middle age IF engineers – Middle age IMC doctors (Men)	-	-	T	*	T	*	-	-
Senior age OF engineers – Senior age OMC doctors (Women)	*	-	-	*	-	-	*	*
Senior age IF engineers – Senior age IMC doctors (Women)	-	-	-	*	-	-	*	*
Senior age OF engineers – Senior age OMC doctors (Men)	-	-	*	-	-	-	-	-
Senior age IF engineers – Senior age IMC doctors (Men)	-	-	-	-	-	*	-	-

In the table: OF – ordinary manufacturing company, IF – innovative manufacturing company; OMC – ordinary medical clinic, IMC – innovative medical clinic; As-is – actual state of organizational culture, To-be - preferred state of organizational culture, * -$p \leq 0.05$; ** - $p \leq 0.01$, T - trend; - - no statistically significant differences

Summarizing the comparative analysis of organizational culture of ordinary innovative companies, it is possible to see those organizational conditions of innovative companies, irrespective of sphere of business, at some distinctions, are more promoting introduction of innovations, than in ordinary companies. The formed business (market) component of organizational culture focuses the personnel on achievement of success in the competitive environment that is possible only on the basis of use and constant updating of high technologies.

4.2.2. Value preferences of organizational development of the personnel of ordinary and innovative companies.

Solving the problem of determining the readiness of personnel of different ages to organizational changes related to the implementation of innovation, it is important not only to assess the organizational conditions manifested in the organizational culture,but also to analyze the value

preferences of different-age personnel in relation to the organizational development of the company.

If we analyze the values of organizational development, we can see two fundamentally different vectors. In ordinary companies, regardless of the type of business, the staff wants unconditional reinforcement to the maximum values of relationship values (from 22.9 – 28.3% up to 35% - 41.5% in a manufacturing company and from 25.4 – 37.8% up to 28.9 - 44.1% in a medical company), in all cases of comparison the statistical significance of differences prevails, in two cases differences appear as a trend, not reaching the level of statistical significance insignificantly.

Also, the staff would like to weaken the hierarchy component (from 38.5 - 40.9% to 27.9 - 32.1% in manufacturing companies, and from 27.2 - 33.8% to 19.4 - 27.3% in medical companies), differences in all age and gender groups are statistically significant, in the two age groups of doctors appear as a trend. If we compare the indicators of doctors and engineers among themselves, we can see that female doctors have a greater need for a stronger clan component than men (Table 19). It seems that women need the psychological support given by these relationships more than men do. In innovative companies there is also a desire to somewhat strengthen clan component in the organizational culture and reduce the level of hierarchy. But the logic here is different and depends on the type of business. In a manufacturing company the dominance of the hierarchy is replaced by the dominance of the market component, reaching levels of 30.6 - 38.7% in a manufacturing company, which would give the company more dynamism, purposefulness, responsibility. In a medical company, there is little desire for growth of the market component. Doctors wish to keep it at the level they have reached, with the exception of young men (from 33.6 to 39.5%, $p \leq 0.05$), and senior women would even like to reduce thepresence of the market component in organizational settings (from 28.7 to 20.0%, $p \leq 0.05$). Thus, the majority of doctors, especially older ones, are wary of market transformations, but innovativeness, as in case of engineers, is a priority for them.

Regardless of business type, almost all age groups of personnel of innovativecompanies have a statistically significant tendency to increase innovativeness upto 33.4% in a production company, with the maximum increase in innovativeness desired by male engineers regardless of chronological age (young - up to 33.2%, senior - up to 30.6%). For doctors, gender differences in innovativeness values

werenot revealed, but even here, mid- and senior-aged doctors consider a priority increase in innovativeness to be desirable, considering it necessary to increase innovativeness to the level of 23.0 - 33.8%. The table 19 data show that doctors and engineers, especially younger ones, differ in their desire for innovativeness, these differences in favor of younger ages. But there are also differences among the senior staff of innovative companies, as with regard to innovativeness, senior female doctors are greater proponents of it than female engineers (33.8 vs. 29.7% respectively), and senior male engineers are more oriented than male doctors toward market presence in organizational settings (34.2 vs. 26.9%, respectively). Thus, regardless of gender or type of business, women and men in the senior age group choose to maintain a balance of innovation and market elements. They are more cautious and restrained about the ongoing changes, but, in general, they approve of them and do not show a desire to move to a more conservative organizational environment. And this is the main thing: men and women, regardless of age, are quite capable of taking the "innovation barrier. The figures 5 - 12 illustrate the data on value organizational and cultural preferences of men - engineers and doctors of young and old age.

Figure 5

Organizational culture and organizational culture preferences of male engineers of the young age of the ordinary company

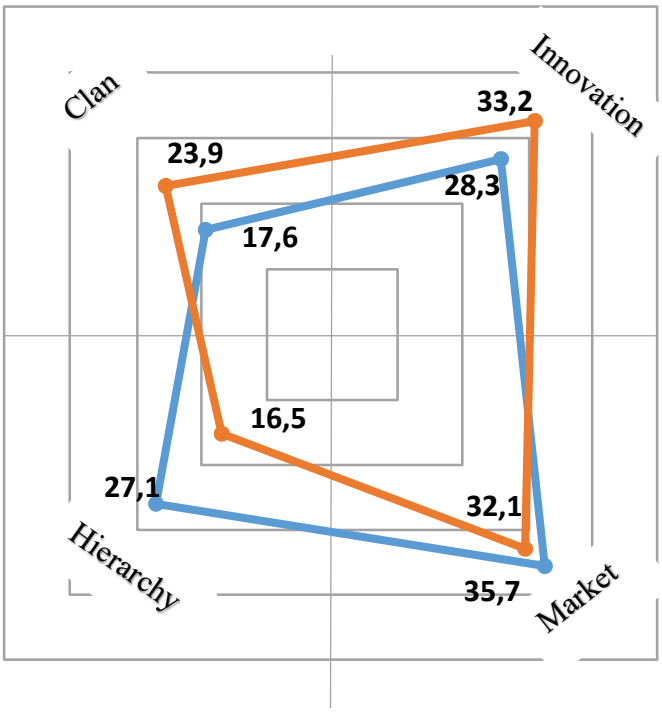


Figure 6

Organizational culture and organizational culture preferences of men engineers of young age in an innovative company

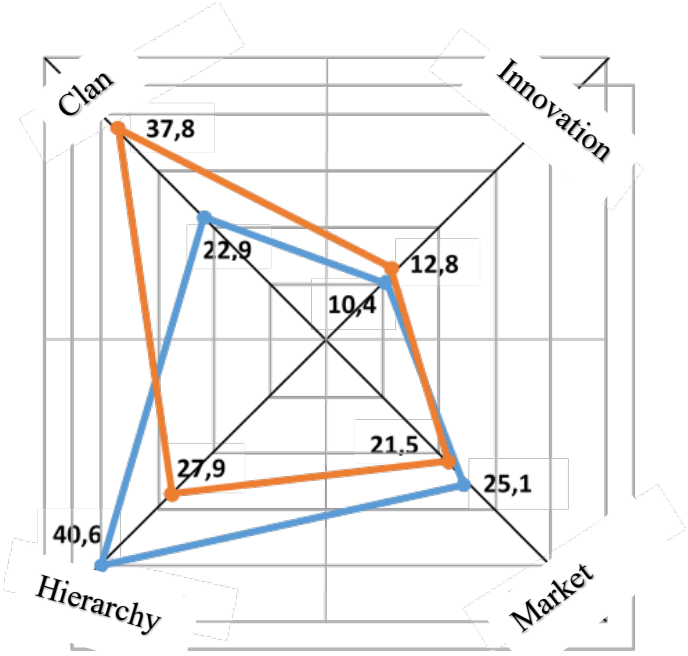


Figure 7

Organizational culture and organizational culture -preferences of senior male engineers of the ordinary company

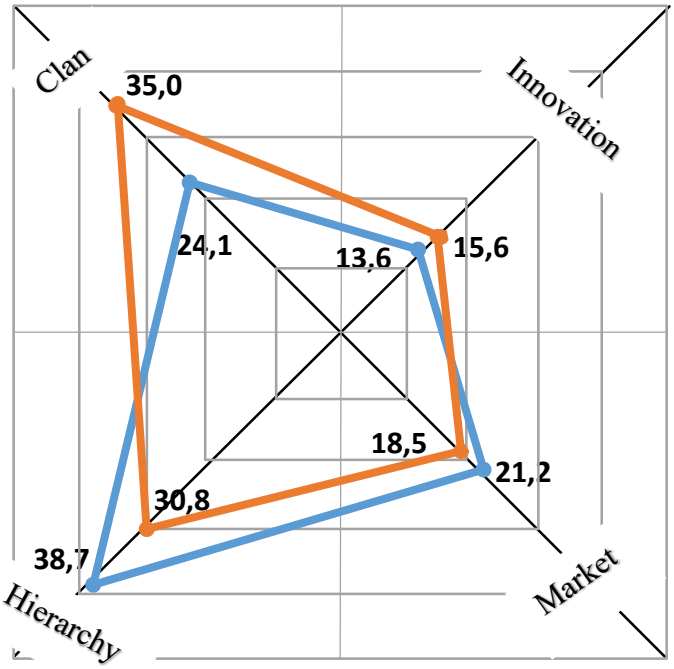


Figure 8

Organizational culture and organizational culture preferences of male engineers of an innovative company

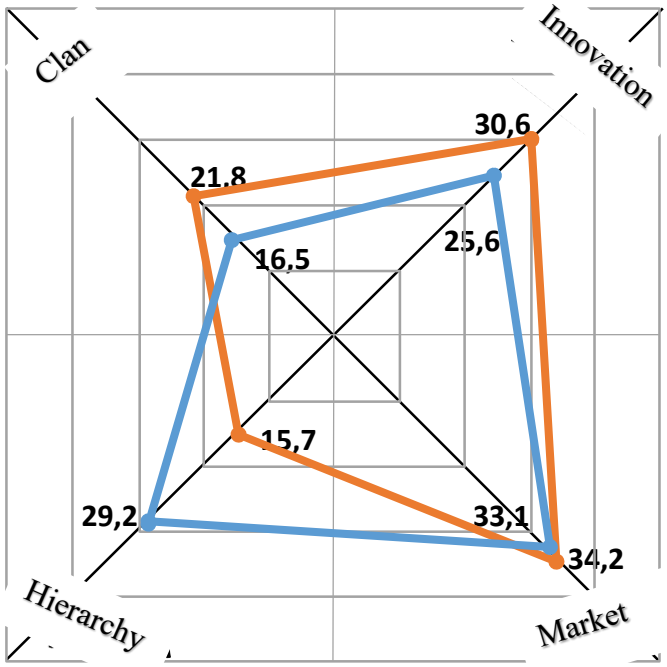


Figure 9

Organizational culture and organizational culture preferences of men doctors of the young age of the ordinary company

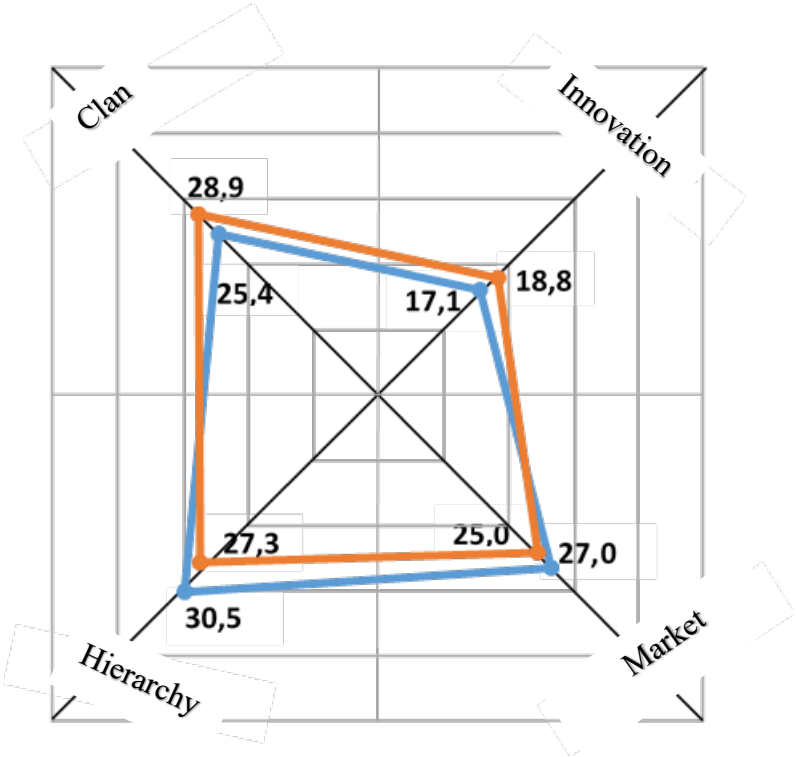


Figure 10

Organizational culture and organizational culture preferences of men doctors of the young age of the innovative company

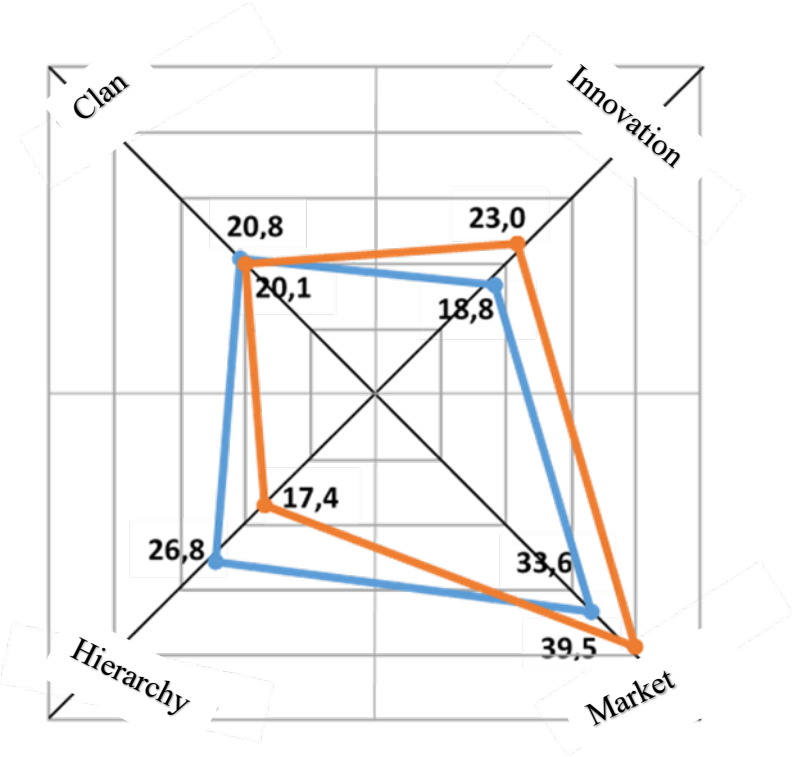


Figure 11

Organizational culture and organizational culture preferences of senior men doctors of the ordinary company

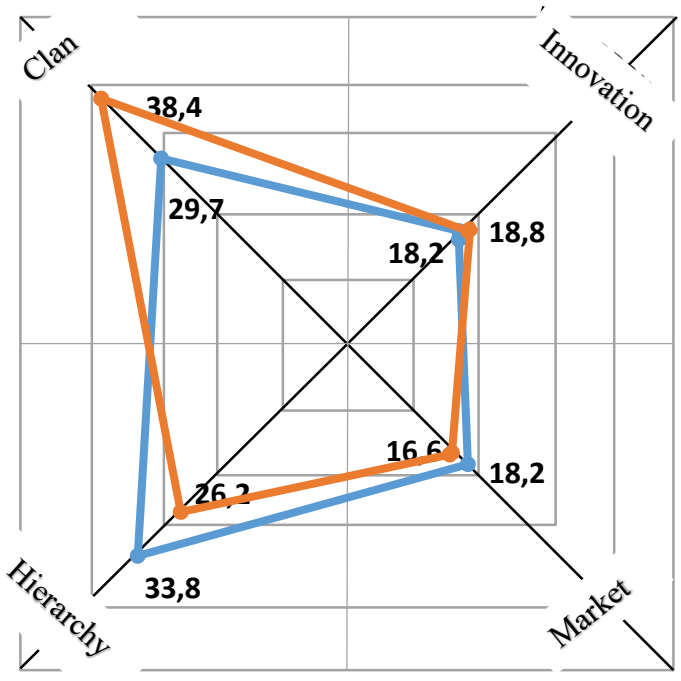
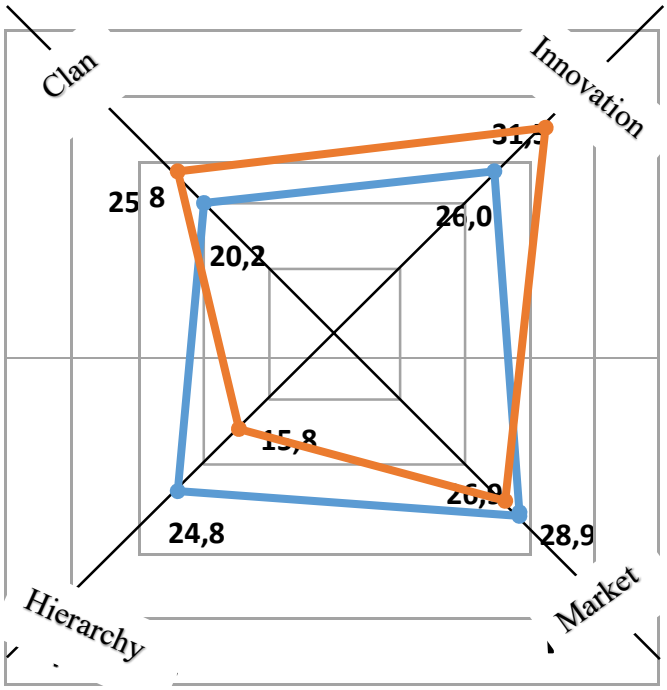


Figure 12

Organizational culture and organizational culture preferences of senior men doctors of an innovative company



The data in the figures show how close the value organizational-cultural preferences of the younger and older groups within the same culture are. They are also close in their desires for organizational development. We can see that the organizational culture of medical companies is somewhat different from production companies,nevertheless the overall value order is closer by the ordinariness-innovativeness criterion than by the occupational class criterion: man-technical - man-human. Analyzing the data from the point of view of compliance - non-compliance of personnel with age stereotypes, the following question can be put: staff of which companies more corresponds to the key characteristic of age stereotypes of old age concerning the non-readiness for organizational and progressive change: senior staff of innovative companies or young staff of ordinary companies? The answer is obvious: the young staff of ordinary companies. And vice versa: the personnel of which companies do not fall under age stereotypes according to the criterion of readiness to innovative organizational conditions: young personnel of ordinary companies or senior personnel of innovative

companies? The answer is also obvious: the senior staff of innovative companies. The answeris also obvious: the senior staff of innovative companies.

4.2.3. Personal involvement in the work activity of the staff of ordinary and innovative companies.

As for the data obtained from the Twenty Statements Test (TST), which measures employees' self-perception now and in five years' time, we found differences between employees of ordinary and innovation companies. This is the more detailed indicator of readiness of different-age personnel of ordinary and innovative companies in different business spheres to organizational changes related to innovations implementation can be obtained by comparing indicators of personal involvement in labor activity (Table 21). This indicator refers both to the requirements to the personnel in the new economic structure and to the characteristics of age stereotypes.

Table 21

Personal involvement in work activities of engineers and doctors

of ordinary and innovative companies

Indica-tors	**Age**																	
	Young						Middle						Senior					
	F			M			F			M			F			M		
	O	I	W	O	I	W	O	I	W	O	I	W	O	I	W	O	I	W
API-engineers	0.9	1.6	*	1.4	1.9	*	0.9	1.5	*	1.6	1.9	T	1.1	1.5	*	1.25	1.5	T
PPI-engineers	0.5	1.4	**	1.1	2.2	*	0.8	1.5	*	0.6	1.6	*	0.5	1.2	*	0.3	1.7	*
U	T	-		-	-		-	-		-	-		*	-		*	-	
AFI-engineers	2.1	1.4	*	1.6	1.1	*	2.1	1.5	*	1.4	1.1	T	1.9	1.5	T	1.75	1.5	T
API-engineers	2.5	1.6	*	1.9	0.8	*	2.2	1.5	*	2.4	1.4	*	2.5	1.8	*	2.7	1.3	*
U	-	-		-	-		-	-		*	-		*	-		*	-	
API-doctors	1.7	1.8	-	1.5	2.3	*	1.2	2.0	*	1.7	2.2	*	1.4	2.3	*	1.8	2.4	*
PPI-doctors	1.2	2.6	*	1.5	2.4	*	0.9	2.8	*	1.8	2.5	*	0.8	2.0	*	1.1	2.2	**
U	T	*		-			-	*		-	T		*	-		*	-	
AFI-doctors	1.3	1.2	-	1.5	0.7	*	1.8	1.0	*	1.3	0.8	*	1.6	0.7	*	1.2	0.6	*
API-doctors	1.8	0.4	*	1.5	0.6	*	2.1	0.2	*	1.2	0.5	*	2.2	1.0	*	1.9	1.8	*
U	T	*		-	-		-	*		-	-		*	-		*	*	

In tables 21 and 22: API - actual, PPI - prospective (in five years) professional and job self-attitudes; AFI - actual, PFI - prospective private and family self- attitudes; O - ordinary, I - innovative company; U - Mann-Whitney U test, W - Wilcoxon W test, * -p ≤ 005; ** - p ≤ 0.01, T- trend; - - no statistically significant differences.

Table 22

Statistical Significance of Differences Between Personal Work Involvement Indicators of Engineers and Doctors in Different Age Groups of Ordinary (O) and Innovative Companies (I)

Comparable indicators of engineers and doctors	**Age**											
	Young				Middle				Senior			
	F		M		F		M		F		M	
	O	I	O	I	O	I	O	I	O	I	O	I
Current Professional self-attitudes	*	-	T	-	-	*	-	T	T	*	T	*
Prospective (5-years) professional self- attitudes	*	*	T	-	-	*	*	*	T	*	**	*

The results show that personal involvement in labor activity is significantly more peculiar to the personnel of innovative companies, regardless of age, gender and professional affiliation. In the absolute majority of comparison cases the differences are statistically significant. Only in two cases they appear in the formof trends, while not reaching the level of statistical significance. This applies to male engineers of middle and older age. In one case, no statistically significant differences are found: these are young female doctors. Apparently, middle-aged and senior male engineers are more inclined to work, regardless of organizational conditions, and young female doctors have priority social family roles.

Similarly, the staff of ordinary and innovative companies differ significantly in their commitment to family social roles and roles related to other aspects of private life. For the employees of ordinary companies the priorities are clear - private life. Statistical significance of the differences is recorded almosteverywhere. The exceptions are for young males in ordinary companies and young females in innovative companies in the five-year time horizon. Young male personnel of ordinary enterprises expect to pay more attention to family over time: thechange in the index from 1.2 up to a score of 2.4, and the indicators of young womenof innovative enterprises change within the statistical error: from 1.4 up to a score of 1.2. Such dynamics of young men's commitment at ordinary enterprises

may well be seen as disbelief in organizational change: their indicators are closer to those of older men and women.

Of course, we cannot reproach the employees of innovative enterprises for neglecting family, culture, and private life. It is only a question of an indicator of involvement in labor activity: professional and job roles are at the top of the list of self-identifications for most of them.

The high labor involvement of innovative companies' personnel can also be traced in the attitude to continue labor activity. We can see (Table 20) that in ordinary companies a decrease in labor involvement can be traced in the long run, while in innovative companies the level of labor involvement has been maintained or even increased. While this seems quite natural for younger age groups, for senior age groups this trend is quite noteworthy. Professional differences can be observed here. While engineers retain their inherent involvement as they age, men are more likely than women to do so. For example, male engineers and female engineers of senior age have similar rates of actual work involvement: 1.5 score, which is statistically significantly higher for women compared to women engineers of the ordinary company, and for men these differences are presented asa trend (for female engineers of the ordinary company this indicator is 1.1, for male engineers - 1.5). In a five-year perspective, senior male and female engineer of innovative company, they retain their inherent involvement, while women's averages slightly decrease and men's increase, but the differences are statistically insignificant. In the ordinary company there is a significant decrease in involvement: up to 0.5 points for women and up to 0.3 points for men (Table 20). At the same time there is a strong increase in family role involvement scores to the absolute priority, for both men and women.

And in general, for the employees of ordinary companies, regardless of gender and age, a statistically significant decrease in job and professional self- identifications is a key characteristic: the young have weaker, the older - stronger. Only middle-aged engineers show stability of labor involvement, but at a lower level than in an innovative company. If we recall that all of them recognized the necessityand desirability of increasing the level of innovativeness, albeit in combinationwith clan changes rather than market changes, the self-identification data indicate young employees' disbelief in the prospects of development.

With the overall higher labor involvement of the staff of the innovative medical company compared to the ordinary one, the age and gender specificity of doctors manifests itself significantly differently (Table 21).

The data in the table demonstrate that doctors are significantly more involved in labor activity than engineers: in the long run, more strongly than at the moment of the research. At the time of the study, the differences manifest themselves mainly as a trend, with men being less involved than women. In the five-year perspective, the differences in the vast majority of comparisons are statistically significant between doctors and engineers on work involvement, especially in older male doctors. Whereas in senior male engineers, the index of actual involvement score 1.5 and prospective - 0.7 points (differences are statistically insignificant), the corresponding indicators for senior male doctors are 2.4 points and 2.2. The differences are statistically insignificant, but between the professional categories the differences are significant at the level of $p \leq 0.01$. This seems to manifest the specificity of the profession of the "man - human" class, which generates a greater labor motivation.

A significant conclusion is that employees of the older age group in innovative companies are significantly more inclined to continue working than employees of all ages in ordinary companies. Thus, the data on the personal self- identifications of the personnel support the data on the value priorities of the personnel and make the picture of readiness for change, as an indicator of socio-psychological age, more complete. With regard to the values there is also a pattern, which consists in the fact that despite certain gender, age and professional specificity, the groups of employees are close in terms of indicators within the same organizational culture and differ significantly from the employees of companies with a different type of organizational culture. Moreover, the personnel of ordinary enterprises have recorded disbelief in the feasibility of the organizational changes proposed by the management that is manifestated in their value preferences of organizational values, which has a negative impact on the personal involvement in labor activity,

A more detailed picture of value preferences with respect to organizational development and labor involvement of the personnel of ordinary and innovative companies can be obtained by analyzing the correlations between the value components of organizational culture and these indicators.

4.2.4. Organizational culture and workforce involvement in the work activity in ordinary and innovative companies: correlation analysis

The data in the tables 23 and 24 show the specifics of the impact of the established organizational culture of ordinary companies under the conditions of organizational changes on the value preferences of female and male personnel in the company's organizational development and the labor involvement of its personnel.

Table 23

Correlations between the indicators of personal involvement in labor activity,current state of organizational culture and value preferences for organizational development of different-age female staff of ordinary companies

		Preferable organizational culture								**Involvement**			
		C		A		M		H		Current		5 Years from now	
		E	D	E	D	E	D	E	D	E	D	E	D
As-is organiza-tional culture	C	-.08	.27	.00	**-.33***	-.03	-.21	.08	-.06	.26	-.19	.13	-.16
	A	.04	-.19	-.06	**.32***	-.09	.16	-.08	-.03	.11	.01	-.06	-.05
	M	**.44***	**-.34***	**-.34***	.28	-.08	.18	-.29	-.07	-.38	**-.29***	**-.43***	.17
	H	-.21	.08	.21	-.10	.09	-.08	.18	.16	-.07	.01	.17	.01
Chronological Age		.15	.11	.19	.07	-.18	-.13	-.15	-.01	.14	-.02	-.02	-.02

In Tables 23 - 26: C - Clan, A - Adhocracy, R - Market, H – Hierarchy, E- engineers, D-doctors

Table 24

Correlations between the indicators of personal involvement in labor activity,current state of organizational culture and value preferences for organizational development of different-age male personnel of ordinary companies

		Preferable organizational culture								**Involvement**			
		C		A		M		H		Current		Years 5 from now	
		E	D	E	D	E	D	E	D	E	D	E	D
As-is organizational culture	C	.15	**.82****	-.25	**-.69***	-.09	**-.68***	.20	.19	.05	**-.74****	-.05	**-.51***
	A	-.15	**-.61***	.14	**.87****	.05	**.49***	.03	**-.57***	.14	**.66***	.01	**.56***
	M	**-.50***	**-.69***	**.55***	**.47***	**.65***	**.84****	**-.45***	**-.32***	.14	**.43***	.12	**.38***
	H	**.54***	**.30***	**-.47***	**-.46***	**-.62***	**-.52***	.22	**.63***	-.27	**-.23***	-.16	**-.38***
Chronological Age		-.07	**.37***	.17	.01	-.13	**-.40***	.18	-.12	-.09	-.04	-.25	-.08

We can see that men, regardless of the field of business, have more definite reactions to organizational conditions than women: the significant correlation coefficients are significantly higher. Men and women react differently, primarily to management's attempts to strengthen the market component of organizational conditions. Women respond to an increase in the market component with an increase in the desire to strengthen the regulatory value of relationships (r_{xy} = .44 for engineers and r_{xy} = .34 for doctors, $p \leq 0.05$), while for men these connections have the opposite character: men start wanting to reduce clan and hierarchical components: r_{xy} = -.50 for engineers and r_{xy} = -.69, $p \leq 0.05$ for doctors, r_{xy} = -.45, $p \leq 0.05$ forengineers and r_{xy} = -.32, $p \leq 0.05$ for doctors, respectively. Thus, in this part, the female staff of ordinaries conforms to gender stereotypes. Strengthening of the market component of OC prompts men to strive for its strengthening and maintenance of the market component of OC as well, and they are better at innovation in the growth of the market component than women. Women-engineers under market pressure do not want innovations: r_{xy} = -.34, $p \leq 0.05$ women-doctors see this connection, but give it significantly less significance: for men-doctors r_{xy} = .47, $p \leq 0.05$ and for women-doctors r_{xy} = .28.

Attempts of management to strengthen the innovation component find a certain response among male doctors: they start wanting to reduce the clan component: r_{xy} = -.61, $p \leq 0.05$ to strengthen the market component: r_{xy} = -.87, $p \leq 0.01$ thehierarchical component: r_{xy} = -.57, $p \leq 0.05$. Female doctors react positively to strengthening the innovation component by being ready to support it: r_{xy} = .32, $p \leq 0.05$ but without any losses in relations and without strengthening the market component. Female engineers are indifferent to management's attempts to reinforce innovativeness. Thus, the female staff of ordinaries shows significantly less readiness than the malestaff for market-innovative changes. Women's chronological age does not affect their preferences for organizational development. In men, the chronological age indicator is evident in doctors: the older, the more male doctors want growth of the clan and reduction of the market component: r_{xy} = .37, $p \leq 0.05$ and r_{xy} = -.40, $p \leq 0.05$ respectively. The low level of labor involvement of the female staff of ordinary companies is influenced by management's attempts at market transformation: for female engineers at the level of actual involvement,

the response to these attempts manifests itself as $r_{xy} = -.38$, $p \leq 0.05$ in perspective - $r_{xy} = -.43$, $p \leq 0.05$. For female doctors the reaction is more restrained, but also in the form of a drop in actual involvement $r_{xy} = -.29$.

Men have richer reactions to changes in organizational conditions, especially doctors. The inverse correlation between the strength of the clan component and labor involvement seems important, both at the time of the study and in the five-year perspective: $r_{xy} = -.74$, $p \leq 0.01$ and $r_{xy} = -.51$, $p \leq 0.05$ respectively. This seems to mean that no matter how nice it is to work in the clan model of organizational culture, it has a negative effect on work motivation. Employees are immersed in private and family roles, in relationships with each other, but do not direct their efforts toward patients as they might under other circumstances. Female doctors and engineers in both gender groups do not show this negative relationship in correlation coefficients, but the reasons are different. Engineers belong to a different class of professions (man-technique), and female doctors are so strongly immersed in relations and put a lot of efforts to maintain them, that stability of priority of clan component is inviolable under any circumstances. Male doctors respond to market transformations by an increase labor involvement both at the time of the study and in the long run: $r_{xy} = .43$, $p \leq 0.05$ and $r_{xy} = .38$, $p \leq 0.05$ respectively. Male engineers see no significant incentives for themselves to strengthen the market component, nor do they see any other changes in organizational conditions. Most likely, these facts can be explained by the fact that the market component is muchmore tangibly manifested in the labor remuneration of doctors than engineers. Thatis why male doctors are more ready for innovation and market relations than engineers of both gender groups. Female doctors are more cautious and conservative, confirming their conformity gender stereotypes. The influence of chronological age on the level of labor involvement was not observed in either men or women of the ordinaries. The tables 24 and 25 present data on value preferences and labor involvement of male and female employees of innovative companies. These data differ significantly from those of the staff of ordinary companies.

Table 25

Correlations between the indicators of personal involvement in labor activity,current state of organizational culture and value preferences for organizational development of different-age female personnel of innovative companies

		Desirable organizational culture								**Involvement**			
		C		A		M		H		Current		5 Years from now	
		E	D	E	D	E	D	E	D	E	D	E	D
As-is organizational culture	C	.24	**.44***	-.20	**-.39***	-.14	**-.24***	.05	**.27***	.04	-.18	-.03	-.19
	A	-.23	**-.32***	.00	**.56***	.20	-.01	-.04	**-.37***	**.31***	.14	.28	**.29***
	M	-.12	**-.34***	.00	**.37***	.22	**.28***	.00	**-.33***	-.09	**.23***	.03	**.28***
	H	.11	.18	.12	**-.47***	-.22	.03	-.01	**.31***	-.14	-.14	-.14	**-.26***
Chronological Age		-.24	.08	.29	**.30***	.12	**-.65***	-.15	**.31***	-.02	.00	-.27	-.11

Table 26

Correlations between the indicators of personal involvement in labor activity,current state of organizational culture and value preferences for organizational development of different-age male personnel of innovative companies

		Desirable organizational culture								**Involvement**			
		C		A		M		H		Current		5 years from now	
		E	D	E	D	E	D	E	D	E	D	E	D
As-is organizational culture	C	.20	.17	-.05	**-.51***	**-.40***	.00	**.49***	.26	.05	.12	.26	-.15
	A	.16	**.30***	.25	.04	**-.37***	-.29	.12	.03	.15	-.22	-.21	-.17
	M	-.10	.06	-.13	-.24	**.30***	.07	-.24	.15	-.20	-.19	-.23	-.27
	H	-.15	**-.30***	.08	**.35***	.28	.19	-.18	-.28	.23	.14	.20	**.35***
Chronologcial Age		-.28	.17	.17	**.43***	.24	**-.41***	-.10	-.19	.06	.19	-.04	.04

Significant correlations were found in the data of almost all doctors. The only significant correlations common to engineers and doctors in both gender groups are the inverse relationship between adhocracy component of organizational culture and preference of its clan component. Apparently, despite the established models of companies' organizational culture, the personnel still have a fear of strengthening the clan component, which contributes to the development of pseudo-innovativeness. Personnel of ordinary companies do not have such fears, because they have not yet felt innovativeness

as a positive vector of development, and the clan component is natural and desirable as a means of psychological protection against market-innovative transformations. The rest of the data show the specificity of value priorities of doctors as representatives of the "man-human" class of professions (Klimov, 1990) in their characteristic organizational culture models with a pronounced clan component. Significantly more significant correlations were revealed in the data of women, while in the ordinary companies therewere more such correlations in the data of men. This suggests that male staff in ordinary companies is more sensitive to the changes that management is trying to make, while men in innovative companies show more stability in their attitudesthan women. Thus, female doctors are more emotionally supportive of increased innovativeness - $r_{xy} = .56$, $p \leq 0.05$. They feel that increased hierarchy may also have anegative effect on innovativeness - $r_{xy} = -.47$, $p \leq 0.05$, while the growth of the marketcomponent, on the contrary, will support innovativeness - $r_{xy} = .37$, $p \leq 0.05$.

Male doctors perceive the current situation as optimal, the correlation coefficients are far from approaching statistical significance. They feel sharperthan women that if the clan component strengthens, innovativeness may start to decrease $r_{xy} = -.51$, $p \leq 0.05$. Noteworthy is the significance of the connection in men's perception between the growth of hierarchy and innovativeness - $r_{xy} = .35$, $p \leq 0.05$. Probablyit can be explained by the fact that for them in a medical company it is desirable for them a greater administrative message to the development of innovativeness than it is now. On this point, they diverge significantly from the women who fear an increase in hierarchy.

The attitude toward hierarchy also determines the differences between men and women with regard to prospective involvement: while men believe that their involvement would increase in the long run if hierarchy increased ($r_{xy} = .35$, $p \leq 0.05$), for women it would decrease ($r_{xy} = -.36$, $p \leq 0.05$). In general, the personnel of innovative companies have been shown to have already achieved a high degree of personal involvement in the workplace, so for the most part the correlation coefficients are not statistically significant. At the same time, the indicators of involvement of female engineers deserve attention. They do not reach the level of statistical significance, but are close to it: women note both at the time of the study and in thefuture the dependence of their labor involvement on the growth of innovativeness in the company: $r_{xy} = .31$, $p \leq 0.05$ and $r_{xy} = .28$ respectively.

Thus, women's potential to adopt innovation in the technical sphere has not yet been reached. If in ordinary companies no significant correlations between chronological age, value preferences of organizational development and labor involvement were found, in innovative companies such correlations exist. In the data of doctors of both gender groups, an inverse correlation was found between chronological age and desirability of the market component in the organizational culture of thecompany: for women r_{xy} = -.65, $p \leq 0.05$, for men r_{xy} = -.41, $p \leq 0.05$. Thus, the data about positive choice in favor of market relations in medicine of young doctors is confirmed: the older doctors, the less they support the market component oriented to internal competition and ensuring company profit. But they are ready to support the growthof innovativeness: r_{xy} = .43, $p \leq 0.05$ for men and r_{xy}= .38, $p \leq 0.05$ - for women. Engineers are more reticent about market transformations; there are no meaningful connections to chronological age. But the innovativeness They are also ready to support: the coefficients are slightly below the level of statistical significance, but still there is a positive trend: for men: r_{xy} = .28, forwomen r_{xy} = .29. Thus, in innovative companies we can see an increase in readiness to innovate together with age. To summarize the analysis, we can note the following: The OCs of manufacturing and medical companies differ in terms of the pronounced clan component, which is more typical for medical companies. At the same time, the differences in OC between ordinary and innovative companies are much more significant. It refers first of all to the innovative component and readiness to support and even strengthen it in the time perspective. Regarding the market component, there are differences between medical and engineering personnel. Doctors are less supportive of market transformation than engineers. Even in an innovative medical company, only the younger staff have this willingness.

In ordinary companies the staff, regardless of age and gender identity, tends to strengthen the clan component in the OC, which is a restraining factor for organizational changes. At the same time, the male part of the staff of ordinary companies, despite the expressed clan orientations, is ready for some, very modest, changes of market-innovative character. Women of ordinary companies show characteristics of unpreparedness for organizational changes, typical for gender stereotypes. Dependence of readiness for organizational changes and labor involvement on chronological age was revealed in male doctors of ordinary companies: along with age the desire for priority of clan relations

in organizational conditions grows.In personnel of both professional groups of innovative companies the dependence on age of growth of readiness to innovations and rejection of market transformations in doctors.

These results, on the one hand, indicate that organizational conditions, whichare reflected in organizational culture, are the determinants of personnel readiness/unreadiness for organizational changes of market-innovative nature. On the other hand, this determination is not straightforward: it is mediated by the type of professional activity, its belonging to a certain class of professions. Thus, if representatives of the engineering departments (human-technical class of professions) easily accept their market component under appropriate organizational conditions, then doctors (man-human class of professions) differ significantly in their acceptance of the market component depending on their age. Questions arise about the need to identify the regulators of the adoption of innovation, acting within the organizational cultures of different types.

4.3. Fatigue, stress, health: subjective well-being of personnel as an emotional regulator of socio-psychological age.

4.3.1. Fatigue as an indicator of subjective well-being of different-ages personnel of ordinary and innovative companies.

The data in Tables 27 to 29 as a result of application of self-designed questionnaire "Social and psychological well-being in the workplace" (Leonova, 2019) and the Kessler distress test show that fundamental differences between the personnel of ordinary and innovative companies manifest themselves at the level of fatigue caused by organizational conditions, regardless of gender and occupational class. And these differences always mean statistically significantly higher fatigue from organizational conditions in ordinary companies.

Table 27

Fatigue, stress, and self-assessment of health by women staff

of ordinary and innovative companies

Age	**Com-pany**	**Fatigue**				**Stress**				**Health**		
		Labor	Organization	W	Home	Fatigue	Nervous	High fatigue	Overall	Gene-ral	Cardio	Nervous system
Young	**OF**	6.1	8.3	*	4.4	3.8	2.4	3.0	28,0	3,1	2.7	2.3
	IF	6.2	4.2	*	3.6	2.7	1.4	2.1	19.5	3.5	4.3	3.3
	U	-	**		-	*	*	*	**	-	*	*
	OMC	7.3	6.2	T	3.1	3.7	3.5	3.2	29.7	3.2	2.3	1.8
	IMC	6.9	4.7	*	3.5	2.9	2.7	2.4	24.1	3.9	3.5	2.1
	U	T	*		T	*	*	*	*	**	*	-
Middle	**OF**	8.0	6.7	*	5.9	3.6	2.5	2.0	25.9	2.5	2.4	1.1
	IF	5.9	4.8	-	4.2	2.5	1.4	2.0	18.4	3.9	3.8	3.4
	U	**	*		T	*	*	-	*	*	**	**
	OMC	7.0	5.8	*	3.6	3.5	2.7	2.5	25.7	3.1	2.9	1.6
	IMC	5.8	4.3	*	3.3	2.4	2.0	2.3	20.0	4.0	3.1	3.0
	U	*	*		-	*	*	-	*	*	-	**
Senior	**OF**	4.8	5.2	*	4.8	3.2	2.7	1.9	25.2	1.4	1.6	1.5
	IF	4.7	4.0	-	4.6	2.4	1.6	1.5	16.3	3,4	3.0	2.9
	U	-	T		-	T	*	*	**	**	*	**
	OMC	5,5	4.4	T	3,5	3.7	2.6	2.1	26.2	2.5	2.0	2.1
	IMC	5.0	3.7	*	3.2	2.6	2.1	1.6	18.7	3.6	3.3	3.5
	U	T	*		-	*	T	*	**	**	*	*

In Tables 27 – 29: OF - ordinary manufacturing company, IF - innovative manufacturing company; OMC - ordinary medical clinic, IMC - innovative medical clinic; Labor - fatigue from labor activity, Organization - fatigue from organizational conditions, Home - fatigue from homework; Fatigue - fatigue, Nervous - very nervous and not being able to calm down; High fatigue - feeling that any business requires a lot of effort; Overall - total stress score; General-overall self-rated health; Cardio - cardiovascular system self-assessment condition, Nervous system - nervous system self-assessment condition; Statistical significance of differences by Mann-Whitney U test; Wilcoxon W- test: * -$p \leq 0.05$; ** - $p \leq 0.01$, T - trend, - no statistically significant differences".

Table 28

Fatigue, stress, and self-assessment of health by men staff

of ordinary and innovative companies

The plant	**Com panies**	**Fatigue**				**Stress**				**Health**		
		Labor	Organization	W	Home	Fatigue	Nervous	High fatigue	Overall	General	Cardio	Nervous system
Young	**OF**	7.3	8.8	*	3.8	**3.6**	2.6	**3.2**	20.5	3.1	2.4	1.9
	IF	4.4	3.1	*	2.3	**2.7**	1.1	**1.6**	14.0	3.4	3.6	2.9

	U	**	**		-	*	**	**	*	-	*	*
	OMC	6.1	8.7	**	2.0	3.9	4.2	4.2	32.6	3.5	1.6	1.9
	IMC	5.5	4.5	-	2.3	3.5	2.9	3.5	26.5	4.5	1.9	2.1
	U	*	**		-	**T**	**	*	**	**T**	**T**	**T**
Middle	**OF**	7.6	7.2	**T**	4.2	**3.5**	2.2.	**2.8**	23.0	1.9	1.5	2.6
	IF	5.7	4.3	*	3.9	**2.2**	1. 2	**1.6**	13.4	3.7	3.6	4.1
	U	*	*		-	*	**	**	**	*	**	**
	OMC	6.2	6.9	**T**	2.9	3.6	2.9	3.4	27.5	2.8	1.5	2.0
	IMC	4.6	5.0	-	2.9	3.0	2.3	3.1	22.5	4.3	2.0	3.6
	U	*	*		-	**T**	*	*	*	*	*	*
Senior	**OF**	5.0	4.9	-	3.2	**2.4**	1.9	**2.8**	21.8	1	0.7	2.6
	IF	4.5	3.1	**	4.1	**2.3**	1.3	**2.0**	16.5	2.6	2.1	3.6
	U	-	*		T	-	*	**T**	*	**	*	*
	OMC	3.2	5.7	*	3.2	3.8	3.4	2.7	27.1	2.6	1.1	2.3
	IMC	2.7	2.9	-	2.9	2.4	2.0	1.2	16.9	4.0	2.4	4.5
	U	-	**		-	*	*	**	**	**	*	**

Table 29

Statistical significance of differences between fatigue, stress, and self-assessed health status of engineers and doctors of different age groups of ordinary and innovative companies

Comparable subgroups	**Fatigue**			**Stress**	**Self - assessment of health**	
	Labor activities	**Organiza-tional conditions**	**Homework**		**Cardiac vascular system**	**Nervous system**
Engineers						
Young OF- Mid OF (F)	**T**	*	**T**	-	-	*
Young OF- Mid OF (M)	-	-	-	-	*	*
Young OF –Senior OF (F)	-	-	-	*	**T**	**T**
Young OF –Senior OF (M)	**T**	*	-	-	**	*
Mid OF - Senior OF (F)	*	-	-	-	**T**	-
Mid OF - Senior OF (M)	*	*	**T**	-	*	-
Young IF- Mid IF (F)	-	-	-	-	-	-
Young IF- Mid IF (M)	-	-	*	-	-	*
Young IF –Senior IF (F)	**T**	-	-	-	*	-
Young IF –Senior IF (M)	-	-	*	-	*	*
Mid IF (F) - Senior IF (F)	-	-	-	-	*	-
Mid IF (M)- Senior IF (M)	-	**T**	-	-	*	-
Doctors						
Young OMC – Mid OMC (F)	-	-	-	**T**	-	-
Young OMC – Mid OMC (M)	-	*	-	*	-	-
Young OMC –Senior OMC (F)	*	*	-	-	-	-
Young OMC –Senior OMC (M)	*	*	*	**	*	-
Mid OMC (F) - Senior OMC (F)	*	-	-	-	-	-
Mid OMC (M) – Senior OMC (M)	*	-	-	**T**	*	-
Young IMC – Mid IMC (F)	-	-	-	**T**	-	-

Young IMC – Mid IMC (M)	-	-	-	-	-	*
Young IMC –Senior IMC (F)	*	-	-	-	-	-
Young IMC –Senior IMC (M)	-	*	-	*	-	*
Mid IMC – Senior IMC (F)	-	-	-	-	-	-
Mid IMC – Senior IMC (M)	-	*	-	T	-	-
Engineers - Doctors						
Young OF – Young OMC (F)	*	*	*	-	-	*
Young IF – Young IMC (F)	-	-	-	**	-	*
Young OF – Young OMC (M)	*	-	*	**	т	-
Young IF – Young IMC (M)	T	*	-	**	**	-
Mid OF – Mid OMC (F)	-	*	*	-	-	-
Mid IF – Mid IMC (F)	-	-	-	-	-	-
Mid OF – Mid OMC (M)	-	-	*	T	-	-
Mid IF – Mid IMC (M)	-	-	-	*	*	-
Senior OF – Senior OMC (F)	-	*	*	-	-	-
Senior IF – Senior IMC (F)	-	*	*	-	-	-
Senior OF – Senior OMC (M)	*	-	-	T	-	-
Senior IF – Senior IMC (M)	*	-	*	-	-	*

Only one case was recorded in which the differences in this indicator did not reach a statistically significant level, but still showed a trend in female engineers ofthe middle age group. The range of fluctuations of the "Level of Assessment of Fatigue from Organizational Conditions" in ordinary companies varies between 8.8. scores for young male engineering personnel to 4.4. scores for male doctors of the older age group. In innovative organizations, the corresponding range rangesfrom a score of 5 for middle-aged male medical company staff to a score of 2.9 in case of senior male staff.

Another fact also deserves attention - in the majority of comparison cases fatigue from labor activity of the staff of ordinary companies is statistically significantly lower than fatigue from organizational conditions. And, on the contrary, fatigue from organizational conditions in innovative companies is significantly lower than fatigue from labor activity. The exceptions are that there are no differences in the performance of senior female doctors and male middle-aged and elderly doctors. The fact that the lack of differences between work fatigue and organizational conditions is found specifically in senior personnel group showsthat these personnel groups adapt better over time to the demands of

organizationalchange. Adaptation is of a different nature. In innovative companies it is natural that older employees cope well with these requirements, while in ordinary companies senior employees have realized that it is possible not to meet these requirements, being in a latent value conflict with management. Another noteworthy fact is that, in general, employees of ordinary companies tend to experience more job fatigue than employees of innovative companies. Consequently, new technologies make labor easier, and the staff of ordinary companies is reluctant to master these technologies, apparently fearing greater fatigue from learning new and complex things.

The differences in male personnel are more pronounced than in femalepersonnel. Moreover, the closest rates of work fatigue are for young women and older group personnel. This is probably due to the fact that women and older men are more adept at taking advantage of the opportunities provided by the clancomponent of organizational culture than men and finding ways to relieve work stress. The female staff of a manufacturing ordinary company tires more than the doctors of an ordinary company of organizational conditions. This seems to be due to the fact that the hierarchical component of organizational culture is more pronounced in the production company, and the clan component in the medical company. Thus, female engineers in the ordinary company experience more management pressure than doctors. This affects the level of fatigue.

Indirect evidence of the reliability of the results is the close level of fatigue from housework among all categories of workers within the same age group. Such fatigue does not depend on organizational relationships and is rather related to the age category, with middle-aged and young women being the most fatigued in a natural way (Zakharova et al., 2019). However, even these differences do not reach the level of statistical significance and appear as trends. Undoubtedly, there are differences within age and gender groups, as well as between the fatigue rates of personnel in different classes of occupations. They show a certain specificity of fatigue. Referring to the obtained data it makes possible to see that labor activity in ordinary production and medical companies is more fatiguing for women and mostly middle-aged women. Apparently, they bear the main work loadas experienced, but not yet old people. There are no differences in work fatigue between the age or gender groups of the personnel of innovative companies. The exception is the difference in fatigue between young and older

female doctors: young women have a fatigue score of 6.9 points, and older - 5.0, $p \leq 0.05$. Apparently, young female doctors are more tired due to a combination of adaptation to high-tech professional activity and high responsibility for the result. However, in general, engineers are more tired from work activities than doctors, especially in the senior age group. Engineers, more often men than women in all agegroups, are also more tired from housework. The greater fatigue of engineers seems to be related to their greater fatigue from work activities.

Thus, in terms of fatigue, the level of subjective well-being is significantly higher in innovative companies (Leonova, 2020). This applies to all age groups and does notdepend on the gender of employees. At the same time, there is also a relative specificity in the manifestation of fatigue. In ordinary companies, work fatigue is higher for engineers than for doctors, and women in ordinary manufacturing companies are more fatigued by organizational conditions than men and doctors. Along with age, doctors of the ordinary company fatigue less than young menand women. In innovative companies, age and gender manifestations of fatigue are minimal. We can surmise from the fatigue rates that the male and female personnelof innovative companies of all age groups are characterized by a younger socio-psychological age than the personnel of ordinary companies. In the ordinary companies the differences in fatigue differs greatly for men and women, including between different age groups. This suggests that traditional gender and age differences are more common for ordinary companies.

4.3.2. Stress and self-assessment of health by the staff of ordinary and innovative companies.

The analysis of the level of stress experienced by the personnel as a factor disturbing the subjective well-being of the personnel and determinant of the feelingof fatigue shows statistically significant differences in ordinary and innovative companies (tables 26 - 27). The Kessler distress test does not accidentally include the feeling of fatigue into the direct indicators of stress. It can be seen that R. Kessler's fatigue indicators correspond on the whole to those obtained by questionnaires of respondents with division of fatigue according to its sources: work activity, organizational conditions and home work. Indicators of fatigue as a manifestation of stress most of all correspond to the indicators of fatigue from organizational conditions, which, apparently, are the most significant when carrying out organizational changes and, in particular, when introducing innovations. The indicators of fatigue as a

form of manifestation of stress in the female part of the personnel of different ages in ordinary companies in all cases ofcomparison are statistically significantly higher than the indicators of the female personnel of innovative companies. There is no such homogeneity in male indices: there are two cases of trends in the indices of young doctors and middle-aged doctors, which, apparently, can be explained by two reasons - lower stress exposure of men (lower stress indices of male doctors of ordinary companies) and higher responsibility of the "man-human" class of profession (higher indices of male doctors of innovative companies). Not only do fatigue rates show more stress of the personnel in ordinary companies, but also a number of other indicators.

Here presented indicators of strong nervous tension with the inability to cope with it fora long time and the feeling that any activity requires effort very much. These indicators show that both male and female personnel of all age groups in ordinary companies experience significantly more stress than personnel of innovative companies. It is necessary to take into account that in innovative companies organizational changes are constantly going on, and in ordinary companies managers talk about these changes more, but their attempts meet the tacit resistance of the personnel. nevertheless, those who resist get tired and nervous more than those who are engaged in real labor activity of innovative character.

Statistically significant differences are established in all cases of comparisonof the general estimations of the stress, calculated on nine indicators, and the most part of statistical significance of distinctions is $p \leq 0.01$. However there are some particular age, gender and professional distinctions in manifestation of stress (tab. 28). So we can see that the stress within one organizational culture is higher for women than for men. The range of manifestation of stress in case of women in ordinary production company is 28.0 points (young women-engineers) to 25.2 scores in senior women group, $p \leq 0.05$. In case of female doctors this range is scores from 29.7 in young age group to 26.2 points, $p \leq 0.05$. In case of male engineers of ordinary company the scores range from 23.5 points in the middle age group to 20.5 in young men group, $p \leq 0.05$. Women stress is higher than the men’s one. Note that a stress index exceeding a score of 20 points means a psychologically unfavorable situation, and respondents having such high individual indices need, if not medical, then psychological help (Kessler et al., 2002).

Stress indicators for doctors are somewhat different. For example, in the group of male doctors of an ordinary clinic the range of fluctuations of the stress index is from 32.6 points for young doctors to 27.1 for older doctors, $p \leq 0.05$. Thus, in ordinary medical companies, young doctors, both male and female, are characterized by maximum stress levels, and older doctors by minimum stress levels for this professional group. Male doctors tend to have higher stress levels than women, especially younger ones, which further confirms that women in ordinary medicalcompanies are smarter at using the value of relationship in the organizational culture as a psychological defense against stress. It is no coincidence that female doctors have lower stress scores than women engineers. In the more pronounced hierarchical dominance characteristic of manufacturing companies, it is more difficult for women to cope with stress by their usual means of establishing relationships than in a medical company, where the presence of the clan component in the organizational culture is higher.

In innovative companies the differences between age and gender manifestations of stress are less pronounced. Thus, the range of stress fluctuations in a manufacturing company for female engineers is from 19.5 points in the group of young men to 16.3 points in senior men group, differences are not statistically significant. In case of male engineers this range is from 16.5 points in senior group to 13.4 points in middle-aged group, there are no statistically significant differences. Thus, there are weak trends in inter-age differences, but they are not statistically significant, and stress below the score of 20 is within the normal range (Kessler et al., 2002).

Female doctors in the innovative clinic have a range of indicators of stress from 24.1 points in the young group to 18.7 points in the older group, $p \leq 0.05$. In male group of doctors this range is from 26.5 points in young doctors group to 16.9 points in the senior group. Thus, the most favorable situation with the experience of stress for both male and female personnel of all ages was in the production innovation company. The situation is more complicated for doctors. In the innovative medical company the stress is statistically significantly less than in the ordinary one, but still the indicators are unfavorable. Professional stress in the profession of the "man-human" class turns out to be higher than in the professionof the "human-technician" class, despite the retention of a relatively high indicator of the clan component in the organizational culture.

Differences in such components of subjective well-being of the staff ofordinary and innovative companies as fatigue and stress, with indicators of stress exceeding the norm, cause a comparison of subjective well-being of staff and at thelevel of health.

The data show that only young male and female employees of ordinary and innovative companies have no statistically significant differences in the overall assessment of health. In other age groups they are observed, and all not in favor of ordinary companies (Tables 26 - 27).

However, female doctors of the middle age group are an exception, because in relation to them the differences do not reach the level of statistical significance.

At the same time, there are several differences related to occupational class and male/female gender affiliation. Doctors of middle and senior age groups of ordinary company feel healthier compared to representatives of similar age groups of production organizations (Table 28). There are no such differences in the indicators of self-assessment of health between doctors and engineers of innovative companies, and they all feel healthier than members of the same age group of the staff of ordinary companies (Leonova, 2020).

Even more striking evidence can be seen if we analyze the health assessments for more specific spheres - the state of the nervous and cardiovascular systems. In both cases, statistically significant differences are traceable practically in all age groups and occupational classes. The exceptions are middle-aged doctors in assessments of the cardiovascular system state and young doctors in assessments of the nervous system state.

Doctors have some specificity of performance, but there is also a significant trend, which is that at young and middle ages, employees of innovative manufacturing companies feel healthier than doctors. And it is only at older ages that doctors at both innovative and ordinariate companies feel healthier than employees at manufacturing companies. This may be due to the fact that at younger ages both doctors and engineers pay less attention to cardiovascular and nervous system health, and at older ages doctors have a professional priority in maintaining their health, which is reflected in his or her self-esteem (Leonova, 2020).

These data do not significantly affect the main result: according to staff self- assessments, both

doctors and engineers of innovative companies feel less tiredand healthier than the staff of ordinary companies. And more importantly, the differences in evaluations are not so much seen across age groups, but across organizational cultures of different types. If we compare, for example, the self-assessment of the state of the nervous system in the group of female engineers of an innovative company in different age groups we can see a certain age dynamics: the score is 3.3 points in the young group, 3.4 - inthe middle group, 2.9 points - in the senior group; whereas engineers of the ordinary company, respectively, scores 2.3 points in the young group, 1.1 - in the middle group and 1.5 the senior group. Significant fall of the score is carried out earlier - in themiddle age. Consequently, in the innovative company the indicators are not only higher, but their age decrease comes later (Leonova, 2020).

Female doctors have a different dynamic. In innovative companies, young doctors have a score of 2.1 points, in the middle group - 3.0 points, and 3.5 in senior one. In ordinary companies the scores are 1.8, 1.6, 2.1 respectively and there are no inter-age statistically significant differences. Male doctors in the innovative company have scores of 2.1 in the young age group, 3.6 in the middle age group and 4.5 in the senior age group, implying a significant improvement in scores with age. In the ordinary medical clinic, the age dynamics of the nervous system status of male doctors go from 1.9 points inthe young group, to 2.0 points in the middle pushing to 2.3 points in the senior group; there are no statistically significant differences. Scores, regardless of age, are worse thanin the innovative companies, but the dynamics is different from the dynamics of the evaluation of the nervous system of engineers. Doctors see a steady increase in the indicators in the innovative company, and doctors of the ordinary company - only in the older age, but still significantly less than in the innovation company.

Men show the same indicators trends of the state of the nervous system as women: the best state of the nervous system belongs to the male personnel of innovative companies. But men have a better state of the nervous system than women. In case of men the self-assessment of the cardiovascular condition is particularly interesting. In innovative companies, this self-assessment is statistically significantly better in all cases than in the case of personnel of ordinary companies, though doctors perform better than engineers in their age groups. Women scores better than men in both engineers and doctors classes of profession. As for males of ordinary manufacturing company, the range of variation

in self-assessment of cardiovascular health scores from 2.4 points in the young engineers group to 0.7 points in the older group, $p \leq 0.01$ which means a significant deterioration with age. For male doctors in the ordinary medical clinics, the range is from 1.6 points in the young doctors group to 1.1 points in the senior group, a difference that is not statistically significant (there is deterioration, but notas significant as in case of engineers). This means that older doctors are more attentive to their health than engineers; this helps to overcome the greater impact of stress that they experience compared to engineers.

In case of men of an innovative production company the self-assessment of cardiovascular system condition varies in the range of 3.6 points in the group of young respondents, 3.7 points in the middle age group and to 2.6 points in the older group, differences are statistically insignificant. For doctors, this range is 1.9 points foryoung respondents, 2.0 points for middle-aged respondents, and 2.4 points in the older group; the differences are statistically significant in favor of doctors in theolder group: $p \leq 0.05$. These data indicate that older doctors in both regular and innovative clinics monitor their health more closely, but that doctors in innovative clinics manage it better, apparently because of lower levels of stress they experience.

Summarizing the analysis of the obtained data, we can make a confident conclusion about a significantly higher level of subjective well-being of the personnel of innovative companies by indicators of fatigue, stress and self- assessment of health. In ordinary companies there is a high level of organizational fatigue, exposure to high stress, exceeding the norm, worse health. While in ordinary companies there is a deterioration of health with age, especially in thecardiovascular system of men, in innovative companies health indicators are much more stable. Of course, self-assessment of the state of health may differ from the objective state. Nevertheless, a person's subjective state is decisive in making certain decisions, reacting to organizational changes, implementing this or that model of organizational behavior.

Thus, to briefly answer the research questions in this section, we can notethe following:

- employees of innovative companies with pronounced innovative components in the organizational culture, regardless of belonging to a certain age group, class of professions and gender

affiliation, feel significantly better than their peers in ordinary companies that are characterized by clan-hierarchical dominance. They are characterized by good health, experience organizational changes without distress, and are significantly less tired of theorganizational conditions of the companies;

- reaction to organizational change promoted by management in the form of value preferences, professional vs. private roles preferences, self-assessment of stress and health is a significant factor that reduces the indicators of subjective well-being of employees (Leonova, 2020). At first glance it may seem strange, but in the context of organizational change, the staff's desire to preserve and reinforce the clan component in organizational culture is not a factor that truly protects against stress. Rather, staff attempts to maintain the clan component in conditions where management does not deviate from the chosen vector of development of the company in the market-innovative direction, only increase the value conflict, which is a stressor, generating a sense of subjective disadvantage.

4.4. Socio-psychological age of personnel in organizational cultures of different types: self-assessment and evaluation by managers.

The study revealed significant differences in the subjective well-being of personnel of different age, gender and occupational class in companies with different involvement in innovative processes and corresponding differences in organizational culture. The following data will give the answers to the following research questions as a part of the survey and the obtained data:

1. How do the employees of manufacturing and medical companies with different types of organizational culture rate their age-related well-being?
2. How do managers of manufacturing and medical companies with different types of organizational culture rate the age of their employees?
3. How are measures of subjective well-being, age-related self-perception, and value-based organizational and cultural preferences of employees of manufacturing and medical companies with different types of organizational culture related?

The results retrieved from application of the Author’s Questionnaire on Socio-Psychological Well-being at Work (Questionnaire "Social and psychological well-being in the workplace") and Expert Assessment of Age (“Expert assessment of the age of staff by managers”) are presented in the

tables 30 - 36.

4.4.1. Socio-psychological well-being in the labor environment, psychological age of female and male personnel of companies with different involvement in innovation processes.

The obtained data on the better subjective well-being of the personnel of innovative companies are supported by the indicators of the generalizedpsychological well-being of the personnel in the workplace. It can be see that statistically significant differences were recorded in all comparison cases.Employees, regardless of gender and age group, feel better in innovative companies. These differences are especially evident in manufacturing companies. The psychological well-being scores of ordinary company engineers of both women and men, with the exception of older men, are in the negative zone. The differencestend to be highly significant: $p \leq 0.01$. For doctors all indicators are in the positive zone, but differences, nevertheless, are statistically significant: $p \leq 0.05$. Most likely, restrained assessments of psychological ill-being by doctors are explained by the fact that in conditions of more pronounced clan component of organizational culture, typical for medical companies, organizational changes go more smoothly than in production companies, and the system of established relations serves as a kind of collective support, a psychological protection from management pressure.

Table 30

Socio-psychological well-being, age self-assessment, and expert assessment of age of female personnel by managers of ordinary and innovative companies

Age	**Company**	**Socio-psychological-sense of well-being in work team**	**Age self-assessment**				**Age estimation by managers (in %)**		
			Difference with chronological age	Younger	Correspond to chronological	Older	Younger	Correspond to chronological age	Older
Young	OF	-1.4	7,3	20.0	10.0	70.0	34.5	10.5	55.0
	IF	2.8	-4.1	63.0	20.5	16.5	53.0	35.0	12.0
	U	**	**						
	OMC	1.2	6.5	24.5	15.0	60.5	42.5	1.5	56.0

	IMC	3.9	-3.7	55.0	25.0	20.0	54.4	11.7	33.9
	U	**	**						
Middle	OF	-4.1	4.7	10.5	35.5	54.0	23.0	20.0	57.0
	IF	3.8	-5.5	70.0	20.5	9.5	43.0	35.0	22.0
	U	**	**						
	OMC	3.3	5.2	23.5	20,0	56.5	43.5	5.0	51.5
	IMC	4.5	-4.7	36	46.5	17.5	46.7	19.4	33.9
	U	*	**						
Senior	OF	-2.2	-5.9	50.0	25.0	25.0	4.5	22.5	72.0
	IF	4.0	-6.2	74.5	20.5	5.0	45.5	35.0	19.5
	U	**	-						
	OMC	2.6	-3.5	42.0	14.0	44.0	38.5	0	61.5
	IMC	4.4.	-3.9	39	39.5	21.5	46.7	16.1	37.2
	U	*	-						

In Tables 30 - 32: OF-ordinary manufacturing, IF- innovative manufacturing companies; OMC - ordinary medical, IMC- innovative medical companies;Statistical significance of differences by Mann-Whitney U-test; Wilcoxon W- test: * -$p \leq 0.05$; ** - $p \leq 0.01$, T - trend, - no statistically significant differences

Table 31

Socio-psychological well-being, age self-assessment, and expert ageassessment of male personnel by managers in ordinary and innovative companies

Age	**Comany**	**Socio-psycholo-gical -sense of well-being in work team**	**Age Self-Assessment**				**Expert evaluation (in %)**		
			Difference with Chrono-logical age	Younger	Corres-pond to chrono-logical age	Older	Younger	Corres pond to chrono logical age	Older
Young	OP	-2.3	10.6	15.0	15.0	70.0	37.5	16.0	46.5
	IP	3.4	-2.8	47.5	29.5	23.0	40.0	35.0	25.0
	U	**	**						
	OM	0.8	10.7	15.5	19.5	55.0	30	15	55
	IM	3.2	-1.7	35.5	50.0	14.5	45	30	25
	U	**	**						
Middle	OP	-2.6	7.3	15.0	15.0	70.0	14.7	15	70.3
	IP	3.7	-6.0	70.5	20	9.5	33.0	45.0	22.0
	U	**	**						
	OM	2.4	10.3	27.5	12.0	60.5	15	39	46
	IM	4.2	-3.2	49.5	16.0	34.5	45	40.5	14.5
	U	*	**						
Senior	OP	1.5	8.8	-	23	77	24.5	15.0	60.5
	IP	3.5	-7.4	50	36	14	16.0	46.0	38,0
	U	*	**						
	OM	1.8	5.6	13.0	30.5	56.5	5.5	15	79.5
	IM	4.4	-3.2	34.5	50.5	15.0	45.5	39.5	15.0
	U	**	**						

Table 32

Statistical significance of differences between indicators psychological well-being and self-assessment of the age of engineers and doctors of different age groups of ordinaries and innovation companies

Comparable subgroups	Psychological well-being in the workplace	Self-assessment of age
Engineers		
Young OF- Mid OF (F)	*	*
Young OF- Mid OF (M)	-	*
Young OF –Senior OF (F)	*	*
Young OF –Senior OF (M)	*	**T**
Mid OF - Senior OF (F)	*	*
Mid OF - Senior OF (M)	*	**T**
Young IF- Mid IF (F)	-	-
Young IF- Mid IF (M)	-	*
Young IF –Senior IF (F)	-	-
Young IF –Senior IF (M)	-	-
Mid IF (F) - Senior IF (F)	-	-
Mid IF (M)- Senior IF (M)	-	
Doctors		
Young OMC – Mid OMC (F)	-	*
Young OMC – Mid OMC (M)	*	-
Young OMC –Senior OMC (F)	*	*
Young OMC –Senior OMC (M)	**T**	*
Mid OMC (F) - Senior OMC (F)	*	*
Mid OMC (M) – Senior OMC (M)	*	*
Young IMC – Mid IMC (F)	-	-
Young IMC – Mid IMC (M)	-	-
Young IMC –Senior IMC (F)	-	-
Young IMC –Senior IMC (M)	-	-
Mid IMC – Senior IMC (F)	-	-
Mid IMC – Senior IMC (M)	-	-
Doctors Engineers		
Young OF – Young OMC (F)	*	**T**
Young IF – Young IMC (F)	**T**	-
Young OF – Young OMC (M)	*	-
Young IF – Young IMC (M)	-	*
Mid OF – Mid OMC (F)	*	*
Mid IF – Mid IMC (F)	-	-
Mid OF – Mid OMC (M)	**	*
Mid IF – Mid IMC (M)	-	*
Senior OF – Senior OMC (F)	*	*
Senior IF – Senior IMC (F)	-	*
Senior OF – Senior OMC (M)	-	*
Senior IF – Senior IMC (M)	**T**	*

Female and male middle-aged employees feel the worst in a manufacturing company: women have a score of -4.1 and men -2.6. In medical sphere young employees feel worse. For women the psychological well-being index is 1.2 points, for men it is 0.8 points. Apparently, in production companies most of the work is traditionallygiven to middle-aged employees, and doctors are affected by difficulties in adapting to particularly responsible work. Senior men feel better than other age groups in a manufacturing company: they have already fully adapted to the requirements of management, they have chosen their way of resistance, there is no special pressure from the labor market on them; engineers are in short supply. Older women feel much more insecure due to the vitality of gender stereotypes and greater exposure to stress, but compared to middle-aged women, they understand the possibility of retirement if things get too hard.

Middle-aged doctors feel most comfortable in a medical ordinary company: both women with the score of 3.3. points and men – with 2.4 points. This is the acmeological age (the age at which a person reaches his or her highest point of development and self-realization), they are more confident and demanded by patients. The same category of doctors in the innovation clinic have the best psychological well-being, but the scores are statistically significantly higher, and the age of psychological well-being extends to older doctors - both women and men. Their indicators of psychological well-being are not statistically significantly different from those of middle-aged doctors but exceed those of the younger group of doctors. The hardships of adaptation to the doctor's profession are typical for young specialists in both ordinary and innovative clinics, but it is easier in innovative clinics, as young doctors are trained for innovative activities in medical universities. Therefore, the low rates of psychological well-being in ordinary clinics are the result not only of adaptation difficulties, but also of immersion in a more conservative, innovation-tolerant professional environment.

Different levels of psychological well-being manifest themselves in the age- related self-assessments of personnel or in their psychological age. Research data convincingly show that the personnel of innovative companies feel much younger than their colleagues and peers from ordinary companies. Young engineers are thehardest hit. Once in a conservative, bureaucratic organizational environment, young female engineers feel more than 7 years older, and young men feelmore than

10 years older than their chronological age. The difference diminishes somewhat over the years, with women more significantly than men. Thus, while middle-aged female engineers feel, on average 4.7 years older than their real chronological age, men feel 7.3 year older. Doctors have a very similar picture of age-related well-being to engineers, but there are noteworthy gender differences.Male doctors of the ordinary company estimate their age as significantly older than women. The excess of chronological age in the self-assessment of young male doctors is 10.7 years, in the middle-aged group - 10.3 years, in senior group - 5.6 years. At the same time, in the group of young women the excess is 6.5 years, in the middle-aged group - 5.2. years, and in the senior group the self-assessment of age is already in the negative zone: women assess their age younger than the chronological age by 5.9 years (Leonova et al., 2018).

Women tend to be particularly sensitive to their age. The organizational environment of innovative companies helps them feel younger. Across all groups, regardless of the field of business, women working in innovative companies feel significantly younger than their female counterparts in ordinary companies[1]. Interestingly, female engineers feel younger than female doctors.

For women of ordinary companies, the differences are not as pronounced: female engineers feel older, on average, in the interval 7.3 – 4.7 years, and female doctors 6.5 – 5.2 years. It is noteworthy that regardless of the sphere of business and innovativeness of the company, older women feel younger than their years: it is more pronounced with female engineers - 5.9 years in an ordinary company and 6.2 years in an innovative one. For senior female doctors these indicators are 3.5 years in an ordinary company and 3.9 year in an innovative one.

However, the study showed that senior women are significantly less involved in labor activity than their colleagues in innovative companies. Therefore, in self- assessment of their age, senior women act more like subjects of private life and demonstrate a natural female desire to hide their age, while women in innovative companies are more inclined to assess themselves as subjects of labor activity, and in it they are also younger than their chronological age in the traditional sense of itscharacteristics.

The data in the table 31 show statistically significant differences in the indicators of psychological well-being and psychological age. It can be seen that there are certain differences in the

indicators within professional and gender groups, but the differences between the personnel of ordinary and innovativecompanies significantly exceed the intragroup differences. Moreover, gender and age-group differences are mostly evident in ordinary companies, which reflects the greater traditionalism in the organizational life of ordinary companies. In innovative companies, gender and age differences are much less evident. Such differences appeared only among engineers in the self-assessment of age by the young and middle age groups: men of the middle age group feelyounger than the young group itself -6 and 2.8 years respectively, which can be explained bythe deeper adaptation of the middle age group employees to the organizational and working conditions.

The quantitative distribution of indicators on the differences in the self- assessment of age by the personnel of ordinary and innovative companies allows us to get a more detailed picture of the manifestation of the phenomenon of psychological age in different organizational settings. With the exception of older women, most of the personnel of ordinary companies feel that they are older. These figures in a manufacturing company fluctuate between 54- 70% for women and 70 –77 % for men. In a medical company these figures are respectively 44 – 60.5% for women and 55 – 60.5% for men.

Indicators of younger than chronological age were found in the group of female engineersof the ordinary company, except for the senior age in the range of 10.5 – 20.0%. In the male engineers group in the range of 15.0% in the young and middle group, no such figures were found at all in the senior group. The situation is similar among doctors, but the numbers are somewhat different. About a quarter of women self-assessed themselves as younger, except for the senior group of women. These numbers are slightly higher than for female engineers. Male doctors of an ordinary clinics perceive themselves as younger in numbers 13 – 17.5%. Thus, a large proportion of the personnel of ordinary companies feels they are older than there chronological age.

The situation is the opposite in innovative companies. 20.5% of femaleengineers and from 9.5% to 23% of male engineers feel older than their chronological age, and from 63.0% to 74.5% of women and 47.5 – 70.5% of men feel they are younger. Of course, there is an implicit gender bias in these assessments and professional factors. Women gravitate to a younger psychological age, male doctors are more inclined to define their psychological age as equal to their chronological age. But the

general pattern looks unambiguous: the personnel of innovative companies, regardless of their belonging to different age groups, occupational class, and gender, are more homogeneous and psychologically young than their colleagues and peers from ordinary companies.

4.4.2. Assessment of the age of female and male personnel by managers of ordinary and innovative companies.

But how employees of this psychological age are perceived by managers? It is managers' assessments that predetermine important career planning decisions, and especially with respect to senior personnel. Their assessments of staff age add a social component to the assessment of age, making it socio-psychological (Leonova et al., 2019). In the figures 13 – 16 the results of analysis of the data obtained from the application of the Self-designed questionnaire on Socio-Psychological Well-being at Work (Questionnaire "Social and psychological well-being in the workplace") and Self-designed questionnaire "Expert assessment of the age of staff by managers" demonstrate the differences between the self-assessment of age by company employees and its assessment by managers are clearly visible. The evaluations of managers of ordinary companies largely correspondto the self-evaluations of the personnel. At the same time, their evaluations are noticeably emotional. This can be seen from the radical assessment of the age of the personnel by managers: there is a very small share of assessments that coincide with the chronological age. And yet managers are well aware of the chronological age of personnel. So the assessments corresponding to chronological age are only 10.5 – 22.5%, less than one-quarter of the total for female engineers and 15 – 16%, just over one-sixth in the group of male engineers.

Figure 13

Results of age self-assessment and expert age assessment

of female personnel by managers of ordinary and innovative production enterprises

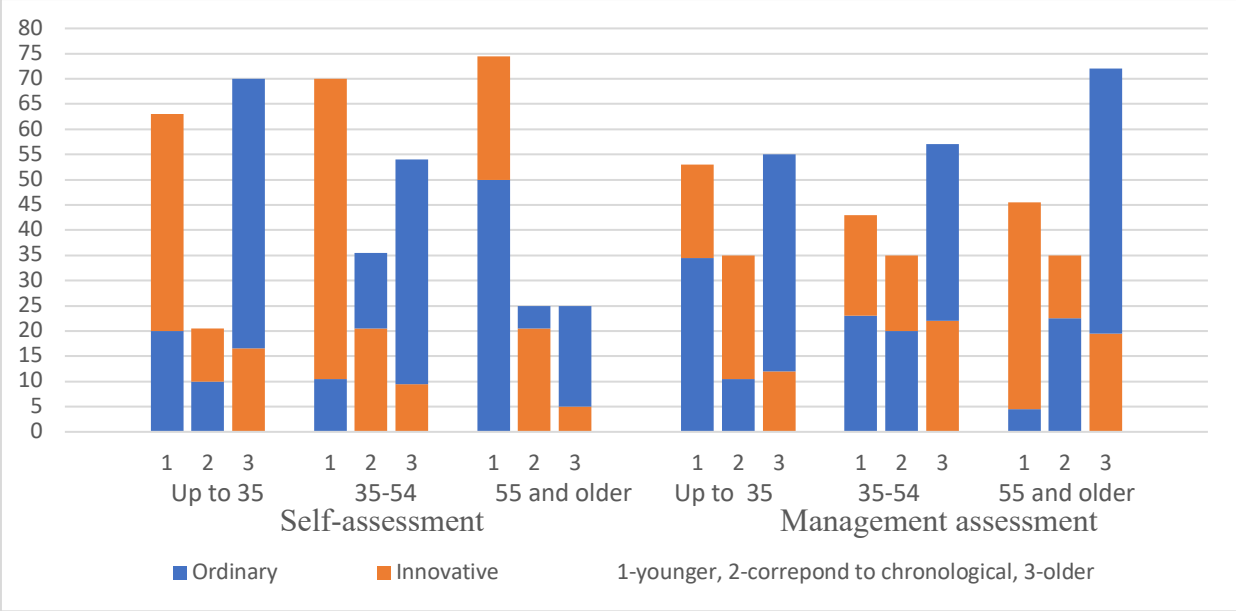
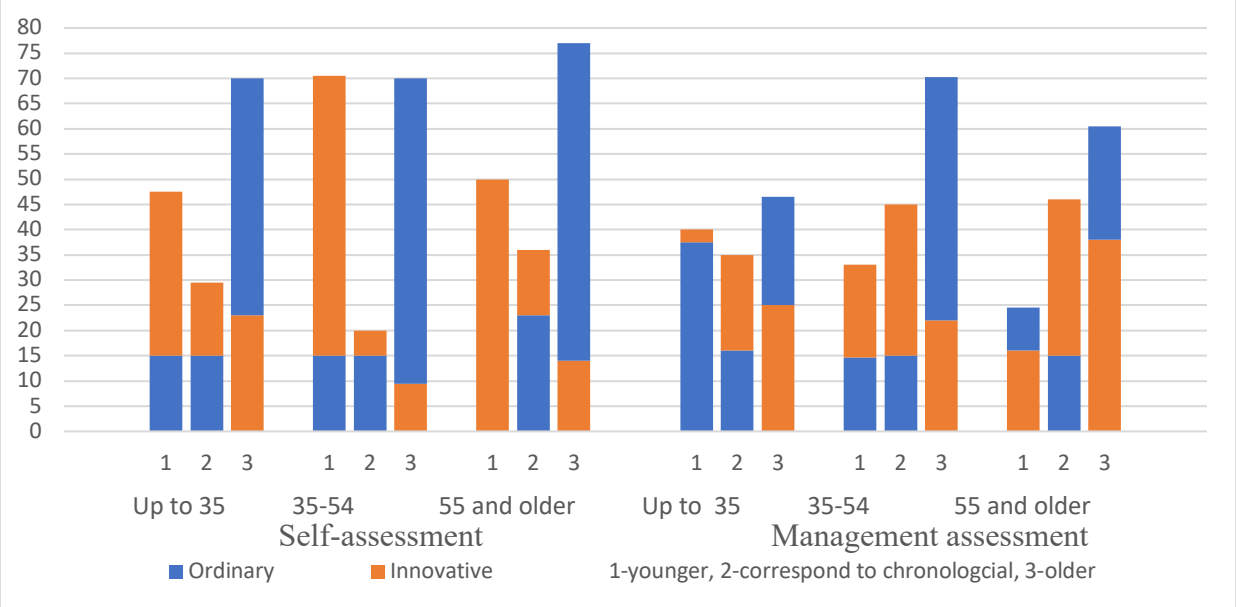


Figure 14

Results of age self-assessment and expert assessment of the age of male

personnel by managers of innovative and ordinary production enterprises



By the way, these differences in managers' assessments of the age of menand women indicate a more negative attitude of production company management toward female engineers.

Figure 15

Results of age self-assessment and expert age assessment of women's personnel by managers of innovative and ordinary medical organizations

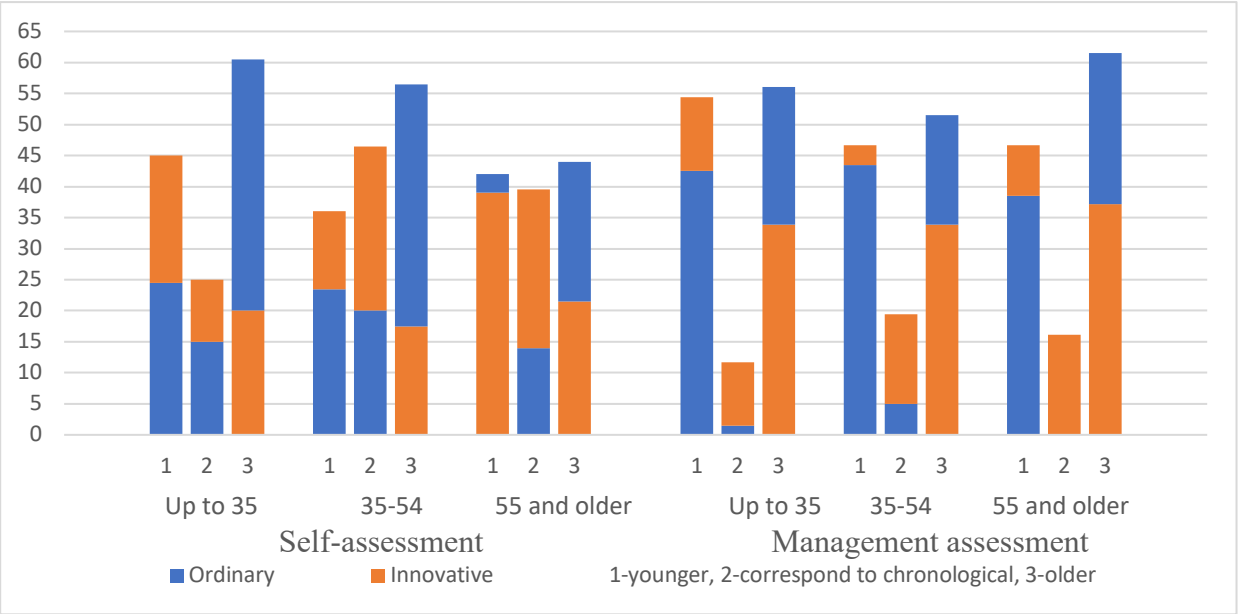
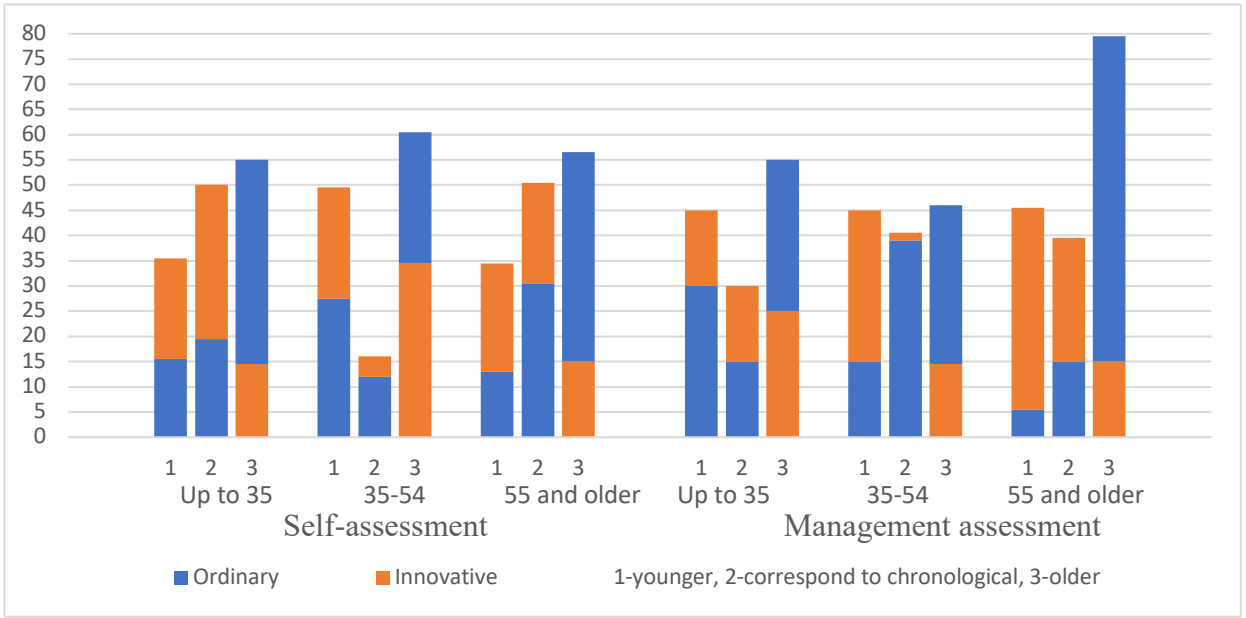


Figure 16

Results of age self-assessment and expert assessment of the age of malepersonnel by managers of innovative and ordinary medical organizations



The number of more psychologically younger women is also very small, the maximum number in the young group - 37.5%, managers as if they expect that young women will still show their readiness for organizational change and innovation in particular. In the middle age group, the younger ones are only 23%, and in the older group - 4.5%.

Male engineers in different age groups are evaluated by management in a similar fashion, but there are some nuances. Younger managers number among chronologically younger men about the same as women, 37.5%, slightly less in the middle-aged group

– 14.7%, it is felt that men more than women have not lived up to expectations. Butin the older group the more psychologically young, according to managers' estimates, are already 24.5%. Probably this is a reaction to the unpromising nature of women. Men turn out to be easier to work with, they cause fewer problems, this is reflected in a more favorable assessment of their age.

Managers' assessments of the age of doctors in the resident clinic are even more emotional. Conformity to chronological age is observed only at the 0- 5% level. The rest are divided with a certain excess towards ages above chronological and a little more mildly than the managers of the production company. The number of older people ranges from 51 to 61.5% among women. Men are treated more strictly. Older male doctors in the resident clinic are estimated by managers to range from 55% among the chronologically young to 70.3% in the middle-aged group. Again, this age group did not meet the managers' expectations. In women, the figure is 51.5%. In the older groups of engineers and doctors, however, managers assessed women more strictly: the proportion of more psychologically older male doctors was 79.5% vs. 61.5 in women. In the engineering corps, the situation is similar: managers counted more psychologically older male engineers in the number of 60.5%, and women 72.0%. Thus, managers of ordinary companies estimate the socio-psychological age of men and women differently: women are evaluated more strictly. This means that older women are more in line with age stereotypes than men.

The great emotionality of the managers' assessments of the ordinary enterprise is understandable. In the face of resistance to organizational change, those employees who are supportive of management's efforts and show interest and activity seem younger to them. They are a minority, ranging from 14.7%

in the middle-aged male group to 37.7% in the young male group. Those who resist changes, who are passive, who want to live to retirement, seem to be older - from 46% to 70%. Apparently, middle-aged men cause special discontent of managers: their estimations of age are polar: a maximum of older and a minimum of young men. This is understandable, since it is this age group that could have been the backbone of management, but it did not work out.

It is to the credit of managers that they have almost identical expectations of young men and young women. But the prevailing organizational culture is stronger than these expectations, and managers become disillusioned with their staff.

Managers' evaluations of age of the personnel in innovative companies are different. Emotionally, managers show themselves to be more neutral, adequate, and restrained in assessments: significantly more assessments coinciding with the chronological age of employees were recorded. Thus, the range of age-appropriate assessments corresponding to chronological age made by managers of ordinarily manufacturing companies is 35% in the groups of women and from 35% up to 46% inthe groups of men. In medical companies, these estimates range from 11.7% up to 19.4% in female subgroups and from 35.0% up to 39.5% in male subgroups, respectively. One can see that the large adequacy of age estimation refers to the male subgroups. Nevertheless, these scores in all cases significantly exceed the scores of managers in the groups of ordinary companies.

A common trend in the evaluations of managers of innovative companies is an excess of the share of psychologically young employees over the share of employees perceived as more psychologically old. At the same time, evaluations of female doctors in the case of innovative companies are softer than in manufacturing companies. Thus, the difference in the number of more psychologically young and more psychologically old in the group of chronologically young women reaches 41% in a manufacturing innovation company and 20.1% in a medical company, 21% and 12.8% in the middle-aged group, and 16% and 9.5% in the senior age group, respectively.

For men, the difference in the number of more psychologically young and more psychologically old in the chronologically young engineers group is 15%, fordoctors - 20%, in the middle age group - 21% and 30.5%, in the senior group - 22% and 29.5% respectively. Thus, the gender factor is actively

present, but does not become dominant in the evaluation of socio-psychological age in labor activity. Thus, femaleengineers and female doctors in the senior group assess their age as significantly younger than their chronological age, and these are the only cases of comparison ofself-assessment indicators of personnel age, when there are no statistically significant differences with the corresponding indicators of the personnel of innovative companies. 50% of senior female engineers and 42% of female doctors rated their age as significantly younger. According to managers, the situation is much more prosaic. Only 4.5% of female engineers and 38.5% of female doctors in the senior group are perceived by managers as more psychologically young (note that the coincidence with the chronological age of female doctors of the resident clinic is 0%), and as more psychologically old-72.0% and 61.5%, respectively. In a manufacturing company, the evaluation criteria are stricter than in a medical company.

The example of senior women in general is very revealing when analyzing managers' assessment of their socio-psychological age. In innovative companies, where productivity, support for ongoing organizational change, and quality of work are prioritized over age, the socio-psychological age is evaluated by managers in a fundamentally different way.

Thus, 74.5% of female engineers and 39% of female doctors in innovative companies rated their psychological age as younger than their chronological age. Manufacturing managers estimated the number to be younger at45.5%. There is a difference, but considering another 35% as matching their age, and only 22.5% in the ordinary company, we can conclude that the assessment is quite rigorous, but largely positive. Managers at the innovation clinic rated the number of younger women in the older group at 46%, more than the women themselves (39% according to self-assessment). This further shows that older women in ordinaries do not evaluate themselves in theirwork activities, but according to prevailing societal attitudes toward evaluating women's age as younger. Female employees of innovative companies distinguish much more clearly than their counterparts from ordinary companies the social rolesin which they stay during certain periods of time. That is why their self- assessments of age are made much more in relation to work activity than to the context of life in general, which was noted by managers in their assessments.

Thus, in the presence of certain specific professional and gender demonstrations of socio-

psychological age, the staff of innovative companies certainly feel much more psychologically well off and young than the staff of ordinary companies.

4.4.3. Subjective well-being, age-related self-perception, and organizational and cultural preferences of employees in manufacturing and medical companies with different types of organizational culture: analysis of correlations.

The results of the study of psycho-physiological determination of personnel's socio-psychological aging showed the dependence of this process on the organizational culture of the company. Full evaluation of the nature of this dependence and the inverse influence on the formation of values of organizational and cultural development can be assessed using for this purpose the consideration of correlation links between the indicators of organizational culture, age self-assessment, subjective well-being, and its impact on the specificity of value preferences of different-aged personnel of production manufacturing and medical ordinary and innovative companies. The results are presented in the tables 32 - 33.

The data of the tables show that the subjective well-being of the personnel ofordinary companies depends differently on the specifics of the established organizational culture in case of women andmen. Women's subjective well-being is most negatively influenced by the market component of organizational culture: an inverse correlation with the self-assessment of health isfound for both engineers and doctors. In addition, both feel psychologically older ifthey perceive the market component as strong.

Men are much more sensitive to the specifics of organizational culture. If forwomen the growth of the market component is the most unpleasant, men directly connect the possibility of strengthening innovation and market relations with the need for good health both at the time of the study and in the future. And the worse things are with health according to self-evaluation, the more pronounced clan component becomes. Increasedstress has a negative impact on all indicators of health, both men and women, and in case of women - also on the psychological well-being in the team.

Table 33

Correlations between indicators of organizational culture, organizational and cultural preferences, and subjective well-being of different-aged femalestaff of ordinary and innovative companies

		Psychological well-being		**Self-assessment of health**						**Self – assessment of age**	
				Nervoussystem		Cardiovascular system		General level			
		E	D	E	D	E	D	E	D	E	D
As-is organizational culture	C	.25	.07	.14	-.21	-.20	-.11	.08	-.13	.07	.23
	A	.05	.06	.21	.12	-.12	.06	.20	.16	.01	.01
	M	-.17	-.01	.15	.13	-.14	.09	**-.36***	**-.38***	**.38***	**.64***
	H	-.14	-.10	.12	.08	-.04	-.02	.04	-.21	-.19	-.01
Desirable organizational culture	C	-.15	-.16	**-43***	**-.36***	**-48***	**-.38***	**-.38***	**-.32***	.15	**.43***
	A	.16	.27	**.38***	**.32***	**.36***	.37	**-.53***	**.34***	-.16	**-.31***
	M	**.32***	.17	**.43***	.29	**.53***	**.40***	**-.48***	**.34***	-.24	**-.31***
	H	-.26	-.17	-0.8	.03	.08	-.03	.12	-.10	.15	.02
Chronological Age		-.12	.20	-.30	.08	**-.34***	-.05	**-.40***	-.17	**.57***	**.74****
Stress (general)		**-42***	-.38*	**-.71****	**-.51***	**-.72****	**-.39***	**-.68***	**-.43***	.20	.16
Fatigue	Labor	-.27	-.18	**-.53***	**-.47***	**-.38***	-.26	**-48***	**-.34***	.18	.20
	Org.conditions	.10	**-.45***	**-.48***	**-.36***	-22	-.12	**-53***	**-.35***	**-.33***	**-.39***

Table 34

Correlations between indicators of organizational culture, organizational and cultural preferences, and subjective well-being of different-aged male staff of ordinary and innovative companies

		Psychological well-being		**Self-assessment of health**						**Self-assessment of age**	
				Nervous system		Cardiovascular system		General level			
		E	D	E	D	E	D	E	D	E	D
As-is organizational culture	C	-.23	.18	**-.38***	**-.48***	**-.38***	**-.56***	**-63***	**-.73****	.06	**.42***
	A	.12	-.24	**.54***	**.46***	**.43***	**.54***	**.38***	**.48***	.13	-.13
	M	-.23	-.20	**.48***	**.46***	**.54***	**.47***	**.48***	**.54***	**-.35***	**-.64***
	H	-.13	.27	-.14	-.26	-.24	-.21	-.12	.02	.19	.26
Desirable organizational culture	C	-.23	**.33***	**-54***	**-.49***	**-.54***	**-.64***	**-56***	**-.70****	.15	**.57***
	A	**.33***	**-.35***	**.43***	**.43***	**.50***	**.52***	**.36***	**.47***	.04	-.27
	M	**.33***	**-.31***	**.38***	**.51***	**.64***	**.55***	**.63***	**.59***	**-.31***	**-.58***
	H	**-.30***	.18	**-.34***	**-.33***	-.14	-.28	.08	-.14	.16	.07
Chronological Age		**.51***	.17	**-.45***	-.02	-.46*	-.15	-.49*	-.27	**.86****	**.89****
Stress (general)		.21	.11	**-.40***	**-.64***	**-.39***	**-.65***	**-.38***	**-.58***	.15	.13
Fatigue	Labor	-.22	.02	**-54***	**-.50***	-.20	-.28	**-53***	**-.37***	-.29	.05
	Org.conditions	**-.30***	-.03	**-48***	**-.42***	-.14	-.26	.24	-.09	**-.47***	**-.39***

Apparently, it is the attempts of management to strengthen the market component of the organizational conditions that generate stress. This entails a deterioration of relations in the team due to the internal competition characteristic of market relations. Personnel of ordinary companies resist organizational changes,as a result, fatigue from organizational conditions causes not only stress, but asense of deterioration of the nervous system, and for women, health in general. The younger the personnel, the stronger the pressure of organizational changes on themfor female engineers r_{xy} = -.33 and for female doctors: r_{xy} = -.39, $p \leq 0.05$, for male engineers r_{xy} = -.47, r_{xy} = -.39, $p \leq 0.05$.

Work fatigue has a negative effect on the cardiovascular system and general health. The older the employees are, the worse are their state of the nervous and cardiovascular systems, the general state of health. It should be noted that chronological age is not related in doctors to health indicators. Apparently, they arebetter at dealing with age-related problems than engineers. But both have a statistically significant correlations between chronological age and psychological age: for female engineers: r_{xy} = .57, $p \leq 0.05$, for doctors r_{xy} =.74, $p \leq 0.01$, for male engineers r_{xy} = .86, for doctors r =.89, $p \leq 0.01$.

As a result, the personnel of ordinary companies, regardless of occupational class, wants to relieve stress, fatigue, and ill health. Hopes are pinned on a change in organizational conditions: all groups of staff of ordinary companies associate with the need for growth of the clan component. The worse both women and men feel, the higherlevel of clan component they desire. The range of correlation coefficients of health status with the desire for growth of the clan component is from r_{xy} = -.32, $p \leq 0.05$ to r_{xy} = -.70, $p \leq 0.01$. An analysis of this data allows us to draw the following conclusion. It consists in the fact that the staff of ordinary companies are not conservative in their beliefs and adamant in their resistance. Management in these companies are structured in a way that makes the movement along the market- innovation path too difficult, generating fatigue, taking away strength and health. Consequently, it is necessary to look for other managerial ways to achieve the set goals.

In innovative companies the connections between the indicators of subjective well-being, age self-perception and organizational culture have theirown specifics (tables 34 - 35).

Thus, the psychological well-being of the personnel depends on the OC of both men and women.

The more represented the adhocratic component in the OC, the better psychological well-being in the work collective. For female engineers r =.34, for female doctors r_{xy} = .48, for male engineers r_{xy} = .36, for male doctors r_{xy} = .48, $p \leq 0.05$.

Table 35

Correlations between the indicators of organizational culture, organizational and cultural preferences and subjective well-being ofdifferent-aged female personnel of innovative companies

		Psychological well-being		**Self-assessment of health**						**Self-assessment of age**	
				Nervous system		Cardiovascular system		General level			
		E	D	E	D	E	D	E	D	E	D
As-is organizational culture	C	-.04	-.27	-.29	-.29	-.01	-.25	-.07	-.25	-.05	.25
	A	**.34***	**.48***	.06	**.32***	.00	.21	-.11	.17	.20	-.03
	M	-.07	.18	.21	**.37***	-.13	**.43***	.17	.27	-.10	**-.34***
	H	.07	**-.35***	-.09	-.29	.21	-.25	-.05	-.11	-.10	.08
Desirable organizational culture	C	-.14	**-.35***	-.21	-.24	-.12	-.20	-.27	-.18	-.05	.21
	A	.08	**.38***	**.47***	**.51***	.12	.25	.35*	.25	-.01	.15
	M	.16	-.03	.24	-.05	.09	.19	.16	.08	**-.49***	**-.60***
	H	-.22	-.08	-.27	-.20	-.18	-.25	-.13	-.21	.08	**.37***
Chronological Age		.10	.20	.25	.21	-.25	-.16	.09	-.15	**.80****	**.79****
Stress (general)		-.19	**-.43***	-.21	**-.41***	-.10	-.28	-.04	-.22	.06	-.17
Fatigue	Labor	-.24	-.09	-.22	-.12	.00	-.03	-.02	-.03	-.06	-.17
	Org. conditions	.02	**-.44***	-.04	-.16	.01	-.11	-.07	-.28	.04	.02

Table 36

Correlations between the indicators of organizational culture, organizational and cultural preferences and subjective well-being ofdifferent-aged male personnel of innovative companies

		Psychologic alwell-being		**Self-assessment of health**						**Self-assessment of age**	
				Nervous system		**Cardiovascul arsystem**		**General level**			
		E	D	E	D	E	D	E	D	E	D
As-is organizational culture	C	-.10	**-.35***	-.15	-.27	-.15	-.13	-.04	-.29	.05	.10
	A	**.36***	**.48***	-.02	.00	.11	-.18	.25	-.02	.05	.29
	M	-.06	-.25	.10	-.13	.03	-.03	-.14	.22	-.06	**-.31***
	H	-.10	**-.33***	.01	.17	-.02	.15	.10	.07	.10	-.10
Desirable organizational culture	C	-.03	**-.32***	-.18	-.20	-.26	-.26	**-.34***	-.28	**.50***	**.45***
	A	.27	**.55***	.13	**.68***	.03	**.52***	.04	**.33***	.04	.18
	M	-.07	**.08**	.31	.05	.34	**.41***	.35*	**.39***	-.35*	**-.49***
	H	-.11	**-.31***	-.11	**-.51***	-.18	**-.49***	-.22	-.28	.01	**-.09**
Chronic Age		-.27	.24	.22	-.17	-.25	.18	.01	-.17	**.79****	**.85****
Stress (general)		-.10	**-.43***	-.16	**-.34***	**-.30***	**-.34***	-.12	-.14	**.44***	-.25
Fatigue	Labor	-.04	**-.38***	.03	**-.46***	.14	**-.57***	.12	**-.45***	.13	.04
	Org. conditions	.03	**-.43***	.24	**-.49***	.13	**-.55***	.17	**-.36***	-.17	.00

This is a fundamental difference between the personnel of innovative companies and ordinary ones: innovativeness gives a positive mood, good relationsin the team. Female doctors are more sensitive to components of organizational culture than men. For female engineers, as well as for male engineers, statistically significant correlations between health status and components of the established organizational culture were not revealed. The following correlations between health status and individual components of organizational culture were characteristic of female doctors: inverse correlations between the nervous system state, on the one hand,and the clan and hierarchical components on the other, i.e., manifestations oftraditional organizational culture patterns irritated female doctors of the innovative clinic. The same applies to the reactions of the cardiovascular system. On the other hand, a direct correlation of the cardiovascular system condition perception with the representation of the market component has been revealed. Specifically female more acute emotional reactions are behind these correlations. They are more clearly not like clannish and bureaucratic conditions; they consider the market component more natural. And the most interesting thing is that the market component of the organizational culture gives them a sense of younger age: $r_{xy} = -.34$, $p \leq 0.05$. And this despite the fact that, as shown earlier, doctors are very cautious about strengthening market relations in medical companies. The personnel of innovative companies have many characteristics in common with the personnel of ordinary companies. These are natural inversecorrelations between stress and psychological well-being, labor fatigue and psychological well-being. For male doctors inverse correlations are revealed between fatigue from work and organizational conditions, on the one hand, and health condition on the other hand, between age and cardiovascular system condition: $r_{xy} = -.34$, $p \leq 0.05$. For male engineers this correlation is also expressed, but it does not reach statistical significance level.

The main thing, of course, is the value preferences of organizational development. Personnel of innovative companies overcame the desire for clan relations as the basis of psychological well-being. Moreover, the strengthening of the clan component is associated in male doctors with an older psychological age: $r_{xy} = .45$, $p \leq 0.05$. And the strengthening of the market component in the future is associated with a younger psychological age, both in men and women in different business areas: in

female engineers r_{xy} = -.49, $p \leq 0.05$, in female doctors r_{xy} = -.60, $p \leq 0.05$, in male engineers r_{xy} = -.35, $p \leq 0.05$, in case of male doctors r_{xy} = -.49, $p \leq 0.05$. Thus, the results show that the management of innovative companies was able to overcome staff resistance, removing fears of the adverse effects of innovation-market organizational change on subjective well-being, and provided support in the form of appropriate value preferences of staff with respect to organizational development.

4.4.4. Emotional regulation of social and psychological aging in organizational cultures of different types.

Results of research showed that company's organizational culture is the most important determinant of organizational change and, accordingly, restrains socio-psychological aging or contributes to it. These results help to understand new aspects in the functions of organizational culture as a determinant of organizational development and socio-psychological aging of personnel.

Nevertheless, only new managerial competence, consisting in the ability to develop and implement a corporate culture with dominant values of innovativeness, able to transform the existing organizational culture to the characteristics inherent in the corporate culture, can ensure the company's transition to the format of innovative development and curb socio-psychological aging of the personnel.

For this purpose, it is necessary to organize the working life of the company personnel so that emotional regulators of acceptance of organizational changes andinnovations would work, so that management would not only look for and find effective managerial decisions, but also solve the most important task of ensuring the subjective well-being of the personnel in conditions of ongoing changes.

The preservation of established relations in the conditions of typical Russian enterprises hierarchical-clannish organizational conditions always makes it possible to find a reason to soften the requirements, part of the requirements innovation are replaced by pseudo-innovativeness in reports. At the same time, however, employees understand, although not experienced, at least to a significant degree, the existing relationship between innovativeness and labor involvementboth for the present and for the future: r_{xy} = .596 and r_{xy} = .468 respectively. Moreover,ordinary engineers find in their responses a strong relationship (r_{xy} = -.469) between the adhocratic, innovation, component of

organizational culture and self-assessed age. They also feel thatthe increase in hierarchy carries with it an older sense of age (r_{xy} = .327). On the one hand, this shows that management was able to achieve already good results at least at the level of personnel's understanding of a certain improvement in subjective well-being related to the ongoing organizational changes. But, on the other hand, the staff continues to be extremely cautious about enhancing innovativeness and is openly afraid of the growth of the market component. The inverse correlation between chronological age and organizational fatigue draws attention: the older thepersonnel, the less sensitive they are to management requirements (r_{xy} = -.496). This is another reason for holding back innovation and market transformations. The duration of attempts to carry them out provides the habituation of the personnel. The more managers promote market relations, the worse the staff's social and psychological well-being (r_{xy} = -.318). Apparently, the introduction of innovative-market organizational relations does not occur in an optimal way: the strengthening of administrative pressure on staff, which is a fairly common practice of using old approaches to solve new problems (Kondratyev, 2016).

At the innovative enterprise the correlations are very clear, contain no internal contradictions. This is apparently due to the fact that the company develops steadily and successfully overcomes the transition to a “new” economy. It can be seen that the market component of organizational conditions does not pressure the personnel: the more pronounced is its presence, the less organizational relations have a negative influence on the personnel in the perception of feeling of fatigue, while at the ordinary enterprise this connection has an inverse character (r_{xy} = -.368 at the innovative enterprise against r_{xy} = .337 at the ordinary one). The adhocracy and market components of organizational culture in the innovation enterprise are related: r_{xy} = .303, and the market component, like the adhocracy component, are strongly inversely related to the clan component: r_{xy} = -.757 and r_{xy} = -.617, respectively. The more adhocracy and market components of organizational culture (r_{xy} = -.512 and r_{xy} = -.315, respectively) are more pronounced, the younger the employees of an innovative enterprise evaluate themselves. Under these conditions, the correlationship between work fatigue and age-related self-perception seems natural. These differences convincingly show that in an innovative organizational culture company’s personnel aging is restrained by organizational conditions, while in an ordinary

company organizational conditions, on the contrary, contribute to the social and psychological aging of the personnel.

Consequently, ensuring and maintaining socio-psychological youthfulness and readiness for innovation requires fundamentally different approaches to personnel management than those that technocrats and rigid pragmatists tend touse.

4.4.5. Managers' treatment of staff as a manifestation of the type of organizational culture and a determinant of age-related self-perception.

The application of one or another model of managerial interaction usually depends on the existing organizational culture of the company, although, of course, managers can usedifferent models of managerial interaction depending on the circumstances in orderto enhance the managerial effect.

Certain types of labor functions are based on unskilled, routine labor, are quite strictly controlled by the managerial corps, and their performance guarantees mainly material rewards and a sense of security (conditions of autocratic and paternalistic model). Creative, intellectual, entrepreneurial types of work, innovative activities can be based only on self-motivation and teamwork, which provides a collegial and supportive model.

Thus, it is possible to see how the characteristics of behavior and psychological well-being of the personnel in an ordinary and innovative company are regular. Empirical data is obtained in the conducted research, a separate part of which is devoted to the analysis of the type of management's appeals to employees.

The results of the table 37 retrieved from the application of the Self-designed questionnaire "Social and psychological well-being in the workplace" (Leonova, 2019) show that managers of ordinary companies address male and female personnel of all age groups in formal and informal situations of interaction as more senior than it occurs in innovative companies, which in the Russian tradition is manifested as addressing by name and patronymic.

Table 37

Power distance in the form of managers' appeals to different-age personnel

in innovative and ordinary companies

Age	**Company/sex**	**Forms of address of an immediate supervisor to his subordinaries**					
		Type of situation		W	Attitude		W
		Labor	Informal		Satisfied	Dissatisfied	
Young	OF-Women	2,9	2,7	-	3,3	4,5	*
	IF-Women	1,9	1,4	*	1,9	3,3	**
	U	**	**		*	**	
	OF-Men	3,6	3,5	-	3,7	4,4	-
	IF-Men	2,2	2,3	-	2,0	3,3	**
	U	**	**		**	**	
Medium	OF-Women	4,1	3,9	-	3,7	4,3	-
	IF-Women	2,8	2,5	-	2,3	3,8	**
	U	**	**		**	-	
	OF-Men	4,3	3,9	-	4,2	4,5	-
	IF-Men	2,4	2,3	-	2,1	3,7	*
	U	**	**		**	*	
Senior	OF-Women	4,8	4,1	*	3,9	4,6	*
	IF-Women	3,8	2,6	-	1,8	3,5	*
	U	**	*		**	*	
	OF-Men	4,0	4,2	-	3,8	4,8	*
	IF-Men	4,0	3,5	-	2,8	3,3	*
	U	-	*		-	*	

In the table: OF – ordinary manufacturing company, IF – innovative manufacturing company; Statistical significance of differences by Mann-Whitney U test; Wilcoxon W- test: * -$p \leq 0.05$; ** - $p \leq 0.01$, T - trend, - - no statistically significant differences.

Differences between gender and age groups of personnel are statistically significant everywhere, and the level of significance is very high - the only exception is older men in situations of formal interaction: in both innovative and ordinary companies managers address them mostly by their first and patronymic names. Interesting for the study of psychological factors inhibiting the innovative development of Russia, is the traditional address by name and patronymic, whichis not typical in other cultures. The patronymic draws one's attention psychologically to the past generation, perhaps being a psychological barrier to the acceptance of change; in this sense, it is no accident that employees of innovative companies are treated more democratically by name, which the study also recorded.

The regulating behavior of employees, the role of addressing them in situations when a manager is satisfied or dissatisfied with employees can also be analyzed through the prism of model of

organizational behaviors of managers developed by J. Newstrom and K. Davis (2007) (Table 1).

We can see that in situations of discontent, managers of all companies studied increase the subjective distance with a subordinary, addressing him as an older person. At the same time, managers of ordinary companies are much more severe in situations of subordinaries' dissatisfaction than managers of innovative companies; the exception is women middle age: in their case the general tendency is noted, but does not reach the level of statistical significance. These data show that the implementation of autocratic style of managerial interaction in ordinary companies, which is certainly a stressogenic factor that reduces the level of subjective well-being of personnel and a determinant of age-related self- perception.

4.5. Social age characteristics of senior personnel groups of manufacturing companies

The results of the social age characteristics as a result of application of the Self-designed questionnaire "Working with information in professional activities" and The Kuhn-McPartland Twenty Statements Test (TST) compared to the characteristics of self-assessment of age are presented in the table 38.

Table 38

Characteristics of the social age of the personnel of companies with different involvement in innovation processes

Gender groups/ Company	Topical Prof. self-dentification	Prospectiv eprof. sel-dentifica-tion (5 years)	W	Self-education (max. 16 points)	Corporate education (max. 8 points)	Knowledge of advanced technology (max. 4 points)	Subject position (max. 12 points)	Self-assess ment of age
OF (Females)	1.0	0.4	*	4.5	5.2	1.4	4.5	-5.9
IF (Females)	1.5	1.3	-	9.6	6.2	3.5	7.2	-6.2
U	*	*		**	-	**	*	-
OF (Males)	1.25	0.8	T	5.0	4.9	2.1	3.5	8.8
IF (Males)	1.7	1.5	-	12.4	5.4	3.5	8.4	-7.4
U	**	*		**	-	*	**	**
Females-Males (OF)	-	*		-	-	*	-	**
Females-Males (IF)	-	-		T	-	-	*	-

In the table: OF – ordinary manufacturing company, IF - innovative manufacturing company; U - statistical significance of differences by the Mann-Whitney test, W - by the Wilcoxon test: * -$p \leq 0.05$; ** -$p \leq 0.01$, T - trend, - no statistically significant differences

The results of labor process involvement and peculiarities of age self- assessment of the personnel of innovative and ordinary companies have already been discussed earlier: the employees of the older age group in the innovative company are significantly more involved in the labor process than the employees ofthe ordinary company, without regard to gender identity, both at the time of the study and in the 5-year perspective. Differences are more pronounced betweenmen, but differences between the gender subgroups of the innovative and ordinary companies do not reach the level of statistical significance.

Men personnel of innovative and ordinary companies differ significantly in age self-assessment as well: while engineers of an ordinary company are significantly older than their chronological age by self-assessment, engineers of an innovative company are statistically significantly younger. And, as noted earlier, there are no statistically significant differences between the self-esteem of senior female personnel of ordinary and innovative companies. However, as with men, there are statistically significant differences between the female groups in work involvement both at the time of the study and over a 5-year time horizon.

These data on different personal involvement of female employees of the older age group in labor activity are quite confirmed by indicators of social age. It can be seen that female engineers of an ordinary enterprise statistically significantly lag behind their female peers in activity in self-education, knowledge of advanced technologies and in subjectivity of position. There are practically no significant differences only by the indicator of participation in planned corporate education. For female engineers this indicator is slightly higher (6.2 vs. 5.2), but in innovative companies corporate training is usually more active, and female engineers attend more events. At the same time, there are no statistically significant differences in the presence of such differences in content indicators shows that senior female staff of an ordinary company participates in corporate training much more passively and formally than their colleagues and peers in an innovative company. Indicators of subjectivity of position seem to be particularly significant; they indicate that older female engineers participate in corporate training as

course or module developers, trainers, and supervisors. These indicators are naturally related to indicators of high work involvement and indicate the mature social age of female engineers. According to this indicator and older male engineers surpass their peers and colleagues from the ordinary company, here the differences areeven more significant: $p \leq 0.01$. It should be noted that male engineers of the innovative company take a more active position than women, while there are no such differences between men and women of the ordinary company: they are equally passive.

The self-education indicator also deserves attention: in the innovation company the indicators are higher, the differences between men and women do notreach the level of statistical significance: the senior staff of the ordinary company, regardless of gender identity, is equally passive with regard to self-education, and the staff of the innovation company is almost equally active. The table does not include data on English language acquisition and use. The indicators are not very high everywhere, but at the innovative company it is still higher than at theordinary company, both for men and women.

Generalized data on the quantitative ratio of different types of social age of senior staff in different organizational settings are presented in table 39. The data of this table convincingly show that according to social age indicators the staffis heterogeneous both in an ordinary and innovative company. At the same time, there are significant differences in the representation of staff social ages the senior technological and innovative enterprises.

Table 39

Representation of different types of social age in the personnel of companies with different involvement in innovation processes

The company	**Types of social age (in %)**			
	"Old"	"Aging"	"Growth"	"Maturity"
Innovative	24	25	20	31
Ordinary	44	35	5	16

Thus, among senior personnel in the ordinary company the social ages of oldage and aging are typical for 82% of women and 65% of men, in the innovative company - for 49% of women and 39% of men. Noticeably, in the ordinarycompany there are significantly more women with the social age of old age and aging than men, in the innovative company this trend can be seen, but to a much lesser

extent.

Noteworthy is the fact that in the ordinary company there are almost no personnel of older chronological age with the social age of growth, but there are quite a few men with the social age of maturity. In the innovative company, the distribution of social ages is fairly close for men and women. There are slightly more men with growth and maturity ages, but the differences with women are not as strong as in the ordinary company. This data supports the earlier conclusion that the female staff of ordinary companies largely conforms to gender and age stereotypes. The situation is different in innovative companies - female and male employees of innovative companies are close in their indicators, with men for the most part not conforming to age and women not conforming to age and gender stereotypes.

These results indicate that older employees of innovative companies have a generally younger social age than employees of ordinary companies. Employees not only feel younger, but are more involved in work activities, take an active position in self-education and participation in mentoring and corporate training in the positions of supervisors, developers, and trainers. Assessment of social age requires the development of its criteria in relation to the requirements of organizational changes carried out in the company. At the same time, those general competences of the employee, which areconnected with the onset of a new technological mode of Industry 4.0, can serve as a basis for assessment of the social age of employees. Prospects for the study include the expansion of business areas, more meaningful work on the identification of key competencies of the new technological paradigm, the development of procedures for expert evaluation by employers of innovative companies received data on the personalities ofrespondents, so that the created technology assessment of social age can be successfully applied wherever there are problems of assessment of staff to meet therequirements of the Industry 4.0.

The data presented here are pilot and certainly need further verification. Nevertheless, they testify to the promise of the approach to assessing social age through work motivation and assessment of key competencies.

CHAPTER 5.

DISCUSSION, CONCLUSIONS AND SUGGESTIONS

5.1. Discussion.

5.1.1. Main findings and deliverables of the research.

To summarize and answer the research questions posed, we can note the following:

- Regardless of belonging to a certain age group by the criterion of chronological age, gender and occupational class, employees of companies with a pronounced innovation component in the organizational culture feel significantly younger than their peers in companies with a dominant clan-hierarchical value component in the organizational culture.

- Managers' expert assessments of the age manifestations of personnel, for the most part, coincide with personnel self-assessments, with the exception of the senior age group of women of ordinary companies. At the same time, it can be noted that assessments of managers of ordinary companies are more radical and emotional in nature. Assessments of managers of innovative companies are more restrained and more often correspond to the chronological age of the personnel.

- Self-assessment of age depends on the subjective well-being/disadvantage of personnel in the company under the conditions of organizational changes. Subjective well- being gives the personnel a feeling of greater psychological youth and readiness to participate in organizational changes of innovative character. Subjective disadvantage creates in the personnel age self-sensation of older age and desire to strengthen the clan component of organizational culture as means of psychological protection.

Thus, according to the results of the empirical study:

1. The feasibility of the approach to determining the aging and age-related characteristics of personnel was tested by identifying the compliance or non-compliance of personnel characteristics with age stereotypes. The data obtained showed that, indeed, the characteristics of the personnel of companies with different inclusion in innovative processes statistically significantly differ in a set of basic

characteristics included in age stereotypes and preventing the positive positioning of older workers in the modern labor market. These differences manifested themselves at the level of organizational culture values (conservatism, unpreparedness for progressive organizational changes), at the psychophysiological level (fatigue, poor health due to health problems, exposure to stress), at the level of personality (personal involvement in labor activity, age-related self-esteem). It was shown that in ordinary companies the staff of the senior age group corresponds to the age stereotypes of old age, but a significant part of employees, regardless of chronological age, by their characteristics corresponds to these stereotypes.

It should be noted that we are talking about progressive organizational changes, which, as a rule, is not emphasized in most of western studies of age stereotypes, apparently, due to the fact that in developed countries, whose economies aretraditionally focused on innovative development, there is no question of the possible revival of clan-hierarchical models of organizational conditions. In Russian conditions, the accentuation of this circumstance is necessary, because the personnel of ordinary companies are valuably ready for the return and even strengthening of the clan-hierarchical dominance in the organizational culture.Therefore, it cannot be said that senior staff is not ready for organizational change. The study showed that the staff of ordinary companies of any chronological age is quite ready for organizational changes, but not for innovative ones.

1. The empirical testing of the theoretical management model of determination of socio-psychological aging of the personnel with different involvement into innovative processes was carried out and the system determination of socio-psychological aging wasproved by research of this process regulation by levels in the organizational conditions of innovative and ordinary production and medical companies. It is shown that organizational conditions and managerial practices of innovative companies contribute to the containment of socio-psychological aging and, on the contrary, organizational conditions of ordinary companies contribute to socio-psychological aging.

2. In particular, the role of organismal level of determination of staff aging was revealed. This level of determination provides subjective well-being of personnel, makes a significant contribution to the quality of working life. Subjective well- being is considered as a necessary in modern conditions

emotional regulator of acceptance of organizational changes of innovative character. This emotional complex provides as effects labor involvement and value readiness to support innovative development of the company, as movement in this direction of organizational development contributes to formation of subjective well-being. Moreover, manifestations or only expectation of the possibility of return to the previous organizational conditions of clan-hierarchical nature causes negative emotional tension.

3. The set of key indicators and phenomena of socio-psychological aging as applied to labor activity in modern organizational conditions at all levels of its determination was identified. The indicators include dominant values of national culture, values of organizational culture, personal value priorities of organizational development, personal involvement in labor activity, exposure to organizational stress, characteristics of subjective well-being, including socio-psychological age. The central role of organizational culture as a regulator of staff aging was proved. The phenomenonof age organizational and cultural unity was revealed, which consists in the factthat employees within one organizational culture, regardless of belonging to a certain age group, sex and class of professions, are closer to each other by the nature of their age manifestations than employees working in organizational culture of another type. Thus, it is shown that organizational culture of innovative companies, having a pronounced adhocratic component, restrains socio-psychological aging of the personnel. The staff feels a few years younger, and managers in their assessments confirm the self-assessments of the staff. The personnel of ordinary companies with organizational culture of clannish-hierarchical type feels a few years older.

The complex of phenomena of aging was identified - different scenarios of aging, age-related organizational and cultural unity, overestimation of significance of young chronological age by managers of ordinary companies, contradictions in age-related self-assessment of female personnel of ordinary companies and its assessment by managers, four ages of socio-psychological age, each of which has a specific symptom complex of characteristics. The components of subjective well-being/disadvantage of personnel as an emotional regulator of innovation acceptance and socio-psychological age indicator: experience of organizational stress, level of fatigue from organizational conditions, self- assessment of health status, psychological well-being in the work collective, age self-assessment.

In particular, the phenomenon of variability of scenarios and trajectories of aging in labor activity has been revealed. It is shown that employees of companies can follow the trajectory of aging, and can restrain it by their own efforts, as wellas with the help of managerial, organizational and cultural influences.

The personnel of ordinary and innovative companies differ in the characteristics of socio-psychological aging. Employees with the same chronological age and duration of work in the company can keep specific features of age manifestations, different from the characteristics of the majority. Resistance to organizational-cultural and managerial influences needs special research. At the moment we can assume the presence of the influence of value specificity of other social contexts of belonging of the subject of labor: family, educational institution, as well as a number of personality traits: conformism, creativity, openness to experience, neuroticism and extraversion.

The phenomenon of failure of managerial expectations from young employees in ordinary companies was also revealed. The phenomenon is thatmanagers of ordinary companies have certain expectations of young employees, expecting that young employees will support managers' efforts to implement organizational changes of an innovative nature. However, the power of organizational culture outweighs the efforts of managers, and young employees, even those willing to participate in the innovative development of the company, eventually turn out to beno better than employees from the older age group. Nevertheless, age stereotypes are so strong in managers that they, despite the obvious facts and their owndissatisfaction with all age groups of personnel, continue to believe that sooner or later young employees will prove themselves.

The age stereotypes of the managers of ordinary companies are combined with gender stereotypes: they see women as less promising personnel than men, with the exception of young women. It should be noted that they have ample grounds for stereotypical views: the personnel show themselves in accordance withage and gender stereotypes.

The phenomenon of organizational and cultural unity, in particular, manifested itself in relation to the indicator of personal involvement - it was possible to show that the employees of innovative companies, regardless of chronological age, gender and class of profession, are significantly stronger

personally involved in labor activity than the employees of ordinary companies. The personnel of innovative companies is focused on continuing their work, and this fact is especially noteworthy with regard to senior employees. On the contrary, the personal involvement in labor activity of the staff of ordinary companies is significantly lower for all age groups. According to the involvement in labor activity it is possible to make an idea about the labor motivation of employees. The employees of innovative companies are characterized by the dominance of professional and job self-identifications. This indicates a pronounced labor motivation. For the employees of ordinary companies self-identifications related to family life and private life in general are more typical, which means the prevalence of common-life motivation. Personal non-involvement in work activities is a typical characteristic of age stereotypes of old age (Toomey & Rudolph, 2017). The research data show that the personnel of innovative companies do not correspond to this characteristic, and the personnel of ordinary companies correspond to these stereotypes. Personnel of senior age group of innovative companies according to the criterion of involvement in labor activity may well be an active actor at the modern labor market.

The phenomenon of inconsistency of age self-esteem and managerial assessment of age manifestations of senior female personnel of ordinary companieswas revealed. It is shown how this phenomenon contradicts, on the one hand, the age self-assessment of the female staff of ordinary companies with low level of involvement in labor activity, based on self-perception in family and private social roles, and on the other hand, the managers' assessment based on the observations of age manifestations of staff in social professional roles. Women give themselves self-evaluations according to which they estimate themselves to be younger than their chronological age, while managers see them as significantly older.

The study reveals certain age and gender specifics in the age of the personnelof innovative and ordinary companies. Thus, in ordinary companies gender characteristics contained in gender stereotypes are much stronger than in innovative companies. Women in ordinary companies are more conservative than men that is manifested in the data concerning the organizational value preferences and professional self-identifications - more skillfully use the dominant clan component of organizational culture, less

than men (in trend) are focused on strengthening adhocracy and market components in organizational culture, less personally involved in labor activity. Women more easily than men experience organizational stress, apparently, using the dominant value of relationships, so they feel more psychologically comfortable in the workplace under the conditions of organizational change than men, have higher scores on self-assessment of health. An interesting fact is that the women in the ordinary companies rate the presence of innovation in organizational settings higher than men. Perhaps, seeing managers' efforts to bring about change in companies, women, taking off contradictions with management, ready to recognize any change or innovation as an innovation. Men are more critically inclined. The class of professions also matters: women-doctors are significantly more attuned to strengthening the innovation component than engineers, but these differences are statistically less significant than the differences with the characteristics of the female staff ofinnovative companies. In innovative companies, the manifestations of gender characteristics are significantly less noticeable. They can include a greater value of balance in commitment to professional and family social roles at older ages, some natural decrease in assessments of one's health at older ages. But, in general, for all studied indicators of women in innovative companies are closer to the male indicators than to the female indicators of colleagues from ordinary companies. They, unlike the staff of ordinary companies, do not conform in their characteristics to either gender or age stereotypes. The women of innovative companies have a marked predominance of social roles as professionals and workers, which distinguishes them from the female personnel of ordinary companies, who attribute themselves private social roles. The age characteristics of the employees of ordinary companies are manifested in the processes of adaptation to the requirements of management, which they resist. Senior employees are more adaptable, younger employees are actively adapting and quickly begin to share the priority of clan values.

At the same time, it should be noted that the identified characteristics certainly do not apply to the entire staff of both ordinary and innovative companies. Personnel are heterogeneous in their characteristics of socio- psychological age, and only the main significant trends have been identified and analyzed. Ordinary companies have staff who are psychologically young, ready to support innovative conversions, and there is a psychologically older conservative staff. Psychologically young

can age and grow old quite quickly. Psychologically old staff is a bearer of hidden value conflict with management, it can hold back innovative processes, negatively influence psychologically young staff, and this significantly aggravates managerial problems. The heterogeneity of personnel according to the characteristics of socio-psychological age makes the demand for identifying the resources of management of socio-psychological aging personnel relevant.

5.1.2. Development of the concept of socio-psychological age.

The analysis of manifestations of age of employees of ordinary and innovative companies with typical for them organizational cultures characteristics determines thestatement of a problem to allocate its various levels. So far the analysis has been limited to the correlation of socio-psychological age manifestations as younger or older on the basis of the proximity of these manifestations to the characteristics of age stereotypes.As a result, it was shown that on the basis of the data obtained within a particular organizational culture, the characteristics of the socio-psychological age of the personnel are closer than in anotherorganizational culture, regardless of the age group, gender and occupational class, which can be defined as the phenomenon of organizational-cultural age unity. Unfortunately, so far this phenomenon has been revealed only in the market-hierarchical with a pronounced innovation component and in the clan-hierarchical organizational culture types. However, these are the most typical types, reflecting the dynamics of the transition to a new technological way of life.

Obviously, it is necessary to investigate the characteristics of socio-psychological age and socio-psychological aging of the staff in companies with a stable dominance of the innovation component. It can be reasonably assumed that these are, first of all, the companies engaged in development in the sphere of IT-technologies. But, as a rule, these are newly created companies, and research of social and psychological age of personnel in them is the prospect of the nearest research. Dominant age stereotypes in these companies relate, to a greater extent, to age stereotypes of youth. The conducted researches refer to the more actual problem area of transition of ordinary Russian companies, where older age stereotypes prevail, into an innovative format of development.

It seems that a more differentiated approach to distinguishing different types of socio-

psychological ages can be implemented than just "young" and "senior." Such attempts have already been made, but have not been obviously successful (Rose, 1972). This is due, in particular, to the fact that the definition of age was based on the relative importance of different areas of employment for a person. Nevertheless, an important result was the understanding that a particular person's age is a complex phenomenon, whose specific manifestations depend on the relative importance of various social roles for a person: he or she can be younger inprivate life and older in work life, etc. In the conducted study, the heterogeneity of the socio-psychological age by social roles was most clearly manifested in the group of senior women, employees of ordinary companies. They are psychologically young, but in private life, managers are not interested in the relative importance of the socialroles of this group of personnel, as well as any other, and they assess this part ofthe personnel as corresponding to their chronological age and even as employees of anolder chronological age.

Within the framework of the conducted research, it seems possible and expedient to limit ourselves to labor activity, because for the purposes of the research it has priority importance, without losing sight of the fact that a person psychologically is an integral personality, and his/her aging in one sphere can be reflected in another sphere, including labor activity.

For example, if a person does not lead a healthy lifestyle in his everyday life, his undermined state of health will steadily affect his labor activity. But there are, of course, also opposite influences. If a person is passionate about his working life, then for the sake of its extension and in order to maintain a healthy lifestyle at the level desired by him and his employer, he is likely to find the motivation to lead a healthier life than he could, relying on the natural course of things, justifying his declining health by age, bad ecology, hard work, etc.

Activity is traditionally and not without reason the basic characteristic as applied to age. In Elkonin's scientific school (1989), a symptom complex of characteristics in the form of the leading activity, driving forces, sources of mental development, and psychological new formations characterizing a particular age have been singled out (Elkonin, 2019). These characteristics may well be used in determining a person's age at work.

Comparison of sources of cognitive and personal development and those types of activities,

during which the personnel of innovative and ordinary companies carry out those or other acquisitions in the form of development or (and) maintenance of cognitive and personal competences, shows the following. The source of mental development in innovative companies is those contradictions between available and required competences which are determined by constant organizational and technological development of companies. When applied to labor activity in modern conditions, readiness for lifelong learning, interaction styles, new competences are undoubtedly important. In order not to fall behind, to meet new requirements and conditions of organizational development, personnel constantly improve their qualification, and not for the sake of the corresponding certificate, but for the sake of obtaining new necessary competences. Personal involvement plays a decisive role in these processes. Learning and working activities are, infact, the leading activities, determining the overall younger age profile of most of the staff. At ordinary enterprises, it would seem, too, the staff is obliged to improve their qualifications. But most of the personnel are not personally involved in labor activity.

In organizational and managerial changes, innovations are often half- hearted, inconsistent, and after a while everything returns to the starting point. So, for example, when market conditions of business conduct are implemented, changes in organizational culture practically do not affect more than half of its basic characteristics (according to K. Cameron): leadership style, personnel management, success criteria. There remain those characteristics, which can easily be written down in corporate documents, but not realized in practical work: the general characteristics of the company, the cohesive essence, strategic objectives. Labor activities are carried out by employees, but on different value bases than in innovative companies. The content of labor does not particularly care about the staff, working only for the sake of usually rather meager monetary remuneration, except for companies dealing with natural resources. As was shown in the study, for the staff of ordinary companies the leading values with respect to organizational developmentare clan values, opposite to innovative development, but well aligned with the general life motivation. The personnel of innovative companies carry out labor activity, wishing to support the competitiveness and resilience of the company, developing innovative approaches, adequate to modern challenges.

This does not mean that the staff of ordinary companies does not develop personally and

cognitively. They do, but in other activities that correspond to other,more significant, social roles. Employees can master new techniques of makeup, fish catching, technologies of growing exotic garden plants, creating blogs insocial networks, etc. A person develops, but not in the work activity. All this is great for the person himself, his life partner, his friends. He or she may seem younger than his or her chronological age, but not in work activities, if the person becomes less and less involved, if the work position and organizational life begins to be dominated not by work, but by communal motivation. For the employer everything is interesting in the case if positively reflects on the work activity, and not vice versa. A separate problem for research is the disclosure of possible influences of other social roles and their corresponding activities on labor activity and socio-psychological age in labor activity. Thus, the study of foreign languages and information technology in private life can have a positive effect on labor activity and readiness for innovative changes in the company, but this problematic, for all its importance, is not touched upon in the research conducted.

Thus, for the most part of employees of companies with market-hierarchical organizational culture with a pronounced innovative component the labor and learning in the system of corporate training activity are leading. These employees keep labor innovative motivation, while the majority of employees of ordinary companies with prevailing clan-hierarchical model of organizational culture give priority to interpersonal communication and external in relation to labor types of activity. Leading for them is recreational activity, activity within family, other types of activity irrespective of chronological age. Thus, combination of the leading activitywith the studied characteristics of the personnel allows to allocate four socio-psychological ages of the personnel. Complexes of these characteristics are presented in the table 40.

Table 40

Socio-psychological age in progressive organizational change

Characteristics	**Socio-psychological age**			
	"Old"	**"Medium"**	**"Mature"**	**"Young"**
Main activities	Communication, recreational	Labor	Labor	Labor and education

The values of organizational development	Clan	Hierarchical	Market	Innovative
Fatigue	High	Moderate	Moderate	Low level
Health self-assessment	Bad	Average	Good	Good
Self-assessment of age	Older	Corresponds chronologically or some what older	Corresponds chronologically or somewhat younger	Younger
Personal involvement in the work process	Low: priority of family and privatelife roles	Balancing professional roles and private life	High, results-oriented. The priority of professional and job roles	High, priority of professional roles,but only when innovating
Age estimation by managers	Older than chronological	Corresponds to the chronological or slightly older	Corresponds chronologically at or slightly younger	Younger than chronologcal

It is most difficult to distinguish between "middle" and "mature" socio- psychological age. Both groups of employees devote a lot of effort to work, they are involved, but still in different ways. Values as predictors of behavior play a decisive role. Employees of middle socio-psychological age are adherents of hierarchical values. They work enthusiastically to compose all sorts of instructions, methodological guidelines, orders, and decrees, reinforcing the bureaucratic component of the organizational culture. If they are not part of the administrative staff, they tend to follow instructions in their entirety, which is very good in a work activity that is usually strictly regulated. The weakness of these employees is that they are not psychologically ready for change, and the oldinstruction or technology is always better than the new one for them. As a result, such employees are the most conservative part of the staff. While employees of the old socio-psychological age are almost indifferent to what happens, but still the oldis better than the new, because they do not need to learn, employees of the middle socio-psychological age are fundamentally resistant, and they themselves are highly stressed, completely deprived of subjective well-being. Their value conflict under conditions of change is the most acute.

In accordance with the obtained data on preferred organizational culture values employees of

mature age are focused on competitive results, efficiency, and in modern conditions on innovativeness. Their high labor competence is supported by constant qualification improvement, but on a more moderate scale than the employees of young socio-psychological age would like it. They want to give morethan to receive, but certainly maintaining their professionalism at an adequatelevel. Undoubtedly, this is the first attempt to characterize different manifestations of socio-psychological ages, and the work on specifying the indicators of socio-psychological ages needs to be continued, taking into account the categories of employees and different spheres ofeconomies.

5.2. Suggestions.

5.2.1. Innovative vector of change in organizational culture - a condition for curbing the socio-psychological aging of staff.

When considering socio-psychological aging as a social action within the framework of a systemic four-level determination with the emphasis on the special role of organizational culture it is necessary to answer the following questions:

How can the action of ethno-cultural values be mitigated?

What ensures favorable psychophysiological determination in the form of subjective well-being?

How can work motivation be maintained or even formed at the personallevel in the form of personal involvement in the work process under conditions of organizational change?

It is organizational culture as a systematic method of management that can ensure the transformation of personnel attitudes (Leonova, 2021). Certainly, it is possible and necessary to include in the procedure of selection criteria and methods of definition of adherence of applicants to innovative values. But if methods of personnel management remain inconsistently directive, as it takes place in organizational culture of hierarchical-clannish type, then disappointment of the personnel with innovative values, assuming to work in the company, where competences and opinions of employees are valued, will not be long in coming. Management paradigm, to which organizational culture corresponds, is an integral system, in which individual elements are interconnected (Zakharova &

Korobeynikova, 2015).

The more educated part of the personnel feels this, does not trust managers, even if theytry to implement innovations, the value of which is reflected in corporate documents. It has been known for many years that hierarchy and innovativeness, creativity are not compatible (Weber, 2019; Diamond, 1996), but with inexhaustible persistence quite a few managers try to implement innovations by administrative methods.

If management is to move the company to an innovative format of development, it will have to develop a corporate culture built on innovative values,which, as predictors of behavior, will ensure innovative behavior of personnel. Moreover, innovative values contained in the corporate and organizational culture of companies can have a beneficial effect on the culture of society as a whole, orienting it toward a positive innovative future.

The answer to the second question relates to the work of management to reduce or even eliminate the psychological costs of adopting innovations. Administrative pressure deprived many needs naturally inherent inthe personnel, generating fear of failing to cope with new tasks, losing the manager's favor, and losing one's job. The stress generated by managerial pressure and these fears is the powerful negative factor that associates organizational change with strong negativeemotions. Employees of companies find themselves in a difficult psychological situation of internal value conflict: they understand the need for innovation, but do not feel the strength to follow this path. They cannot discuss the difficulties with managers, not trusting them, not feeling understanding and support. They have to seek support from each other, there is a growing need for clan organizational conditions that allow them to agree with each other and, if they try, with management.

Not infrequently, however, relations within the workforce deteriorate aswell. Part of the staff becomes subordinary to management and begins to enter into competitive relations with their colleagues. The loss of unity in the team further worsens the emotional state of the staff, stress, loss of stability, disbelief in their own strength, fear of managers, uncertainty in the support of colleagues, to whom not so long ago he trusted his thoughts, feelings, doubts, fatigue, feeling unwell - this is an incomplete list of experiences of employees who must deal with innovation in the organizational culture of the

hierarchical-clan type.

They, regardless of chronological age, are on the path of socio-psychological aging. The solution to the problem is management's work to reduce psychological costs. It is work on prevention of organizational stress, use of psychological methods of management with achievement of necessary balance between them and administrative methods, personnel training.

HR departments face an interesting challenge: find new managers or retrain the ones they have. There are no one-size-fits-all recommendations. But there are opportunities for consistent work in the corporate training system on the value reorientation of managers.

Change of organizational culture, its development in the direction set by management, is quite a complex process, which in itself is stressogenic. Recommendations on change of organizational (corporate) culture are widely enough presented in practice of the consulting companies (Alvesson & Sveningsson, 2015). Most of the development of a new (updated) concept of corporate culture appears as a very creative, but strictly step-by-step process, often detached from theoretical models and results of scientific research, based on the analysis of the existing situation, external challenges, goal setting, search for indicators of specific stages, managerial mechanisms, development of road maps ofthe conducted changes, the transformation of staff[1] behavior patterns. All developments leadingto the desired result, undoubtedly have the right to exist and further development.

It seems that the choice of one or another time-tested model is a strong factorcontributing to the success of the conceived organizational changes. The results of the conducted research showed that the factor restraining socio-psychological aging of the personnel is an innovative component of organizational culture. Therefore, it is justified to use value typology of K. Cameron and R. Quinn in development of corporate culture, especially as it has all necessary criteria which allow to plan necessary transformations and to carry out control of reached efficiency.

5.2.2. Opportunities for managing socio-psychological aging of senior chronological female staff in a digitalized environment.

The importance of using different models of managerial interaction can be seen in solving the problem of value reorientation of the most vulnerable personnel - senior women, who are subject to both

gender and age stereotypes when managersassess their work prospects. In addition, this group of personnel often experiences the psychological costs of implementing innovations more than others and is morelikely than others to take on extra-professional roles (grandmother, assistant to an elderly spouse, etc.).

Working women of senior age groups become undesirable employees who cannot be fired under the law if they are still of the so-called pre-retirement age; the quality of life of female staff in such conditions naturally declines (Program "Digital Economy of the Russian Federation", 2017). At the same time, if management values the personnel and intends to promote its “rejuvenation”, it is necessary to work purposefully to solve the problem. First, mastering new competencies is usually related to the sphere of digital technologies. The Digital EconomyProgram in the Russian Federation (Program "Digital Economy of the Russian Federation", 2017) prepared in a completely bureaucratic style, quite naturally has the least complete and meaningful section on motivating potential and real staff to master digital competencies. We are talking aboutobliging personnel to train and build up basic digital economy competences, making competence profiles of employees transparent to employers and selecting qualified retraining operators. The task of developing competence profiles of the above-mentioned operators, managers, especially line and middle managers, seemsquite reasonable.

Successful solution of this program is conditioned by implementation of a rather simple rule, which, nevertheless, is difficult to implement in bureaucratic types of cultures; its essence is that the staff should not experience distress-like stress in the conditions of ongoing organizational changes (Leonova et al., 2020). Stress has a destructiveeffect on activity and the stronger the newer and more complex the activity being performed or mastered; anxiety or even fear of failure causes longing for the past, opposition to the new, desire to avoid performance, leave, if possible, for simpler work that does not require mastering new competencies. Table 41 presents comparative characteristics of different types of managerial interactions and female personnel's reactions to them.

Table 41

Characteristics of managerial interaction (examples)

Autocratic and paternalistic type	**Supporting type**
Priority of formal approach, actions at the level of orders and directives	Disclose to subordinates (learners) the real benefits for them and the enterprise of digital learning competencies
Increasing psychological costs (intimidation, inconvenient schedule of professional development, decreased self-esteem and, therefore, motivation)	Removing the psychological costs of mastering basic digital competencies (changing dynamic stereotypes, fear of downsizing when failing, fear of changing the attitude of the manager, loss of positive self-esteem)
Ability to report indicators without real efficiency	Supporting openness in communications
Highly qualified teachers (operators) working without adaptation to the level of individual readiness of students (knowledge, speed of assimilation, susceptibility to stress, weak motivation)	Comprehensive personalized assistance
Reaction of the female staff	
Hidden value conflict, passive but stubborn resistance, weak motivation, maintaining self-esteem in the form of withdrawal into extra-professional roles, oppositional solidarity with the attraction to their side of staff more motivated and capable of mastering digital competencies, attempts to find an opportunity to get "good" card in informal ways.	Increased motivation, group communications that reduce the resistance of doubters, mutual assistance and psychological support, active participation in identifying the necessary digital competencies for various jobs, in the development of digital competency maps and personalized trajectories for their development

Management wishing to achieve success in implementing innovations can significantly reduce the psychological costs of implementing an approach based onboth social learning theory and the results of empirical research on human resource management in organizational cultures of various types. Women staff of pre-retirement and retirement age should not feel their special position at the expense of the assignment of to the named groups, since this is a manifestation, if not legal, then a psychological kind of segregation. Women are especially sensitive to the emphasis of the age factor, so the most promising part of the female staff, which is set up for active participation in the labor process, will experience organizational stress in advance because of the inevitable impending inclusion in segregated

groups (Leonova et al., 2019).

Nevertheless, the formation of study groups should take into account the age characteristics of the staff. Despite the revealed phenomenon of organizational and cultural age unity, groups can and should be multi-age, but still within certain limits, otherwise the group will have subgroups close in age and with different motivation to study: from positive in younger ones, who want to demonstrate their best abilities and increase their self-esteem at the expense of older participants, which is generally not an optimal motivation, to negative in older participants of the training process. Different-age groups can, of course, be formed. But in this case a careful entry control is needed, preventing more successful young women from entering the group.

Important factors in the success of corporate training for female staff are the gender and age distribution of teachers, trainers, supervisors in training groups: the formal bureaucratic approach pushes for quick, but ill-conceived solutions, and you can expect, and this actually happens, that the teachers may become younger men with excellent competencies in the subject area, especially in information technology; such teachers practically have no chance of becoming value and behavioral models for members of study groups (Leonova et al., 2019). On the contrary, they can cause increased stress, the determinants of which can be disbelief in the possibilities of mastering what is traditionally associated with a younger age and often with male gender identity, poor understanding of the content due to excessive or untimely use of narrowly professional vocabulary, rapid pace of speech, etc. At the same time, even if a particular enterprise does not have senior female employees capable of becoming a positive model for older women who are upgrading their qualifications, the problem can be solved by inviting teachers with the necessary characteristics from other enterprises in the same area, from universities or colleges. A teacher, trainer, female supervisor at least a little bit older than the youngest members of the senior group, successfully working with new technologies and with some psychological and pedagogical training, can solve the key problems of motivation of female senior staff (Leonova et al., 2018; Leonova et al., 2019).

The results achieved in corporate training should not go unnoticed by managers - it is necessary to ensure a direct link between the need for training to perform certain The new competencies are not

only a part of the job function, but also the content of the training and the active application of the new competencies in the actual work process.

As an additional tool for effective corporate training, companies can use the creation and implementation of self-efficacy programs for male and female staff of all ages; due to the fact that such programs are relevant to many employees, being of different ages, they can contribute to team building based on the acquisition of important competencies for the labor process: release from addictions, the formation of communication skills, self-organization of the individual.

In innovative companies managers usually build managerial interaction of supportive type, in ordinary companies management is implemented by autocratic and paternalistic type with a shift to one or the other side depending on the circumstances. Supportive interaction is extremely important for female staff, especially for insecure older women as they learn new competencies, including digital competencies.

The supporting type of organizational interaction is a relatively independent competence, mastering which is fundamentally important for subjects of professional development and managers. It is one more task for perfection of corporate training in ordinarily companies at transition to an innovative format of development. Certainly, this difficult task can be solved if management solves it not as an independent task, but together with modernization of corporate and organizational culture.

5.2.3. Rejection of the bureaucratic management paradigm - the basis of organizational restraint of socio-psychological aging of the personnel.

One of the functions of organizational culture is internal integration. It becomes clear how it is realized or not realized in the Russian socio- economic conditions. In the conditions of transition to a new technological way of life, organizational culture should mitigate the action of value ethno-cultural attitudes. For example, a typical value ethno-cultural attitude of Russians consists in resistance to change, in the belief that everything good was before and a better future can mostly be associated with the revival of former traditions and orders (McCarthy et al., 2017). People continue to wish their detractors to live in an era of change. Politicians, searching for a positive perception of the electorate,

exploit the notion of stability (Arditi, 2003). Many generations of Russians have been accustomed to living under administrative, hierarchical management (Butler & Purchase, 2008). Although traditionally people are not happy with the dominance of bureaucracy, it is much more comfortable to live and work under such conditions than in market- innovative models.

It is not necessary to make independent decisions, to be responsible for them. It is enough to carry out orders, no matter how absurd they may seem. Studies show that by now the hopes of company personnel for democratization of organizational life and positive changes due to the change of economic and managerial paradigms to market ones have significantly decreased, and personnel have become value oriented towards hierarchical organizational conditions as preferable. Unpleasant, but less personal responsibility and, therefore, less stress. So, management errors lead to frustration and a reorientation of staff toward more conservative values. And this might not be so bad if it were not for the second function of organizational culture: external adaptation. The company cannot remain competitive and resilient if it does not meet the challenges of the external context in its development.

Analyzing changes in the organizational culture of Western companies underconditions of digitalization, Groshev (2019) shows how and why hierarchical relations collapse in successful companies. A large number of people become participants in decision-making, both from different levels of management and employees of the executive level of the company itself, as well as customers, including potential customers. At the center of this interaction, which alone can provide the right decisions, are digital social and corporate tools that, on the one hand, expand the area of awareness of the interaction participants and, on the other hand, determine dynamic interaction, determining openness, sincerity, human communication. Oneor more critical opinions that appeared in social networks can nullify the efforts of management, and make the considerable cost of advertising and promotion of goods or services useless.

Digitalization brings with it a whole set of specific features to the workforce:risks, short-term planning, as digital technologies come, go and go quite quickly, and collaboration as a necessary form of interaction (Hirsch-Kreinsen, 2016). Organizational culture must engage employees not by an order, but by naturally engaging in organizational interaction, teaching them to enjoy and participate in

progressive change.

A typical way of controlling the organizational situation for Russian management is to strengthen the hierarchical (bureaucratic) component of managerial interaction. This is no accident. Psychologically the dominant position is understandable and pleasing to the manager. There is no need to worry about mastering the complex modern managerial competences adequate to the new times and the expectations of educated staff. Orders and reciprocal obedience are the alpha and omega of management, trying to solve new problems in the old ways.

5.2.4. Conceptualization of ideas and results of empirical research on the socio-psychological aging of personnel in the transition of companies to an innovative format of development: applied aspects and management.

Summarizing the results of the theoretical and empirical study of aging, it seems possible to identify the main applied aspects and conceptualize them, identifying the possibilities of managing the aging of the staff of companies thatare making the transition to an innovative format of development and are facingthe fact that the employees in their large part do not meet the requirements of the Industry 4.0.

The goal of management of socio-psychological aging is obvious: it is necessary to increase the resilience of the company in the conditions of changes in the technological mode by providing active support to technological, managerial and organizational changes, ensuring the company's transition to an innovative format of development, by different-aged personnel.

As it was shown, aging is an interactive bio-psycho-social process, which at the psycho-social level can be regulated to a certain extent by the person himself, interested,for one reason or another, in curbing aging, maintaining his social and psychological youth, and can be regulated from the outside, including the efforts ofmanagement through setting goals for innovative development of the company, theinfluence of organizational culture, implemented models of management interaction, increasing subjective well-being. Motivation, goals, lifestyle, modern medical and cosmetic technologies, and self-control can help older people feel and look younger than their years. The mechanisms are quite simple.

It can be self-regulation in all its basic components from goal setting, planning, modeling to performance evaluationand flexible correction. This can be social learning. A person can identify a behavioral model, guided by their own observations of younger and more successful people. For example, people with children can take their children, their friends and girlfriends, etc. as an example. If one wants to be older, the behavioralpatterns become those of successful older people. However, in the workplace, employees find it much more difficult to cope with aging, including socio-psychological aging. After all, people are settling into work, not keeping track of their age-related manifestations. Moreover, there is evidence that female staff in ordinary companies want to look younger and be perceived as younger than their chronological age. This may help them meet their challenges in their personal lives, but in no way in their work lives. Managers evaluate them on other work-related criteria in the context of the challenge of moving the company into innovativedevelopment format. They need commitment to organizational developmentvalues, personal involvement in the work process, responsibility, willingness to improve skills and learnindependently, and good health evaluation of young employees by managers older than theirchronological age confirms the management criteria in personnel evaluation, including age-related manifestations. In the workplace, the balance of the psychological and social is displaced in favor of the latter, and in relation specifically to labor activity. But in the workplace there are managerial possibilities of restraining socio-psychological aging of the personnel. And the first of them is a clear managerial message to employees. This message is primarily contained, or not contained, in the corporate culture of the company, so **the first principle** of managing the social and psychological aging of the staff consists in the **management's** retreat **from age and gender stereotypes**. If management remains committed to these stereotypes, changing the direction of development in direction of innovativeness is unlikely to succeed. Such examples can be found in new companies immediately focused on recruiting chronologically young and functionally competent personnel. If, however, the company has any significant history of development in the traditional hierarchical-clan model of multi-agepersonnel management, then, as the research has shown, the personnel of such companies have characteristics that coincide with low psychological vitality and correspond to the age stereotypes of old age. Consequently, company managers have every reason to share age stereotypes, because they see their manifestations

every day, although just as stereotypically they overestimate the qualities of chronologically young personnel.

The second principle consists **in necessity of development of corporate culture on the basis of a priority of innovative values.** The provisions of the updated or newly created corporate culture should contain the management credo with a clear message to the personnel about a new vector of development of the company and management expectations from the personnel in the conditions of organizational transformations. This principle is based on M. Smith's attitudetheory (1956). Attitude is a favorable or unfavorable attitude to something, in this case, to the psychological image and related labor and organizational behavior of the employee of the company, is three-component in its structure. Firstly, the attitude contains a cognitive component, in this case knowledge about the reasonable requirements and expectations of management regarding psychological qualities and behavior patterns of an employee of an innovative company. Second, the emotional component. Management will have to master such approaches to personnel management that will ensure a positive emotional state of employees, following the expectations contained in the corporate philosophy. And the third component is behavioral. Behavioral models must emerge, i.e., employees who clearly conform in their work activities and organizational behavior to corporate requirements and expectations. But even this is not enough. Training employees to behave in theright way will be necessary, and for managers, training to reinforce the right behavioral patterns in their executives.

It is impossible to give universal and at the same time specific recommendations on the implementation of this and subsequent principles in life. Companies differ in the type of business, size, and financial resources that management is willing to devote to solving the problem of the social and psychological rejuvenation of personnel. Nevertheless, the general vector of such work can be easily traced. In micro- and small business corporate expectations with their detailed and understandable to personnel substantiation of choice of innovative development direction, strategic goals and positive vision of developingcompany in time perspective, values and behavior models necessary to achieve these goals can be developed and formulated by an educated manager who really wants to develop the company.

In a large company a department/department of corporate can be set up for this task, capable of solving the problems of forming the right message to the staff in the form of the company's philosophy, strategic goals and vision. If a company has a department or even a corporate university, then with the right approach it will cope with the development of programs and staff training, attracting sociologists and psychologists-organizational consultants to solve these problems. In a small company it is easier to use the leadership potential of managers, who themselves can and should be behavioral models for the staff.

The third principle is the need to ensure the **forward-looking nature of the socio-psychological training of staff for the ongoing changes** in the system of internal communication, selection, preparation of managerial succession pool, corporate training, and on-the-job management. The logic behind theintroduction of this principle is that you cannot demand from an employee what he has not yet been trained, and he does not yet see the real implementation of what may already be widely announced in the new corporate requirements. It is better for the staff to know that the corporate culture of the company is being updated, created (there are still companies where their culture is not institutionalized in any way or exists in a few slogans that have nothing to do with real organizational life). Many questions arise about how employees, not yet used to, and perhaps not believing management, can participate in the creation of a renewed corporate culture of the company, whether there are channels of organizational communication for this. Whether they will see changes in the rules and approaches of forming a management reserve. Do employeesnotice the persistence of age and gender stereotypes in this crucial job? Is workplace management renewed by gradually replacing the usual inconsistentautocratic-paternalistic models with a supportive model of managerial interaction? Since the company has socially and psychologically old employees, whom it does not make sense to involve in corporate training (they will only show themselves as a demotivating factor) it is natural that the task of staff renewal arises. In this caseit is reasonable to enrich selection procedures with criteria of value innovation orientation, otherwise the new personnel will be no better than the old one. The probability of this is high, because, as it was shown, the culture of society is based to a greater extent on conservative values. The task of selection in companies that have embarked on innovative

transformations is to attract personnel who are value ready to participate in innovative processes. Employees need to see the reality of the changes in which management expects them to participate.

The changes must manifest themselves in all interrelated subsystems of the company, management levels and its communication channels.

The fourth principle: **ensuring organizational consistency of changes that** reasonably affect the technical core, technical and administrative support services, management of all levels: linear, medium, top.

The systematic nature of the organizational approach solves a lot of problems. For example, if changes occur in the technical core of the company: replacing equipment and/or technology, it may turn out that the technical and administrative support services do not prepare staff for these changes. Management continues to operate in an autocratic model. Stress of an organizational nature is provided, the staff, especially the older ones, feel acute subjective disadvantage, and a value conflict with management is actualized.

The fifth principle is **the need for a sociologically grounded systemic approach to change.** If technical, managerial or organizational changes are prepared in advance (advance principle) in all subsystems of the company and transmitted to the staff through formal and informal channels of communication, the effect will be positive among employees of young and mature socio-psychological age, employees of average social and psychological age will have a chance to change their attitude of caution to innovation to positive, but only if the social component of systematicity is respected. Such systemicity will ensure the prevention of stress and subjective well-being of the staff by removing the costs of adopting innovation, supportive behavior of managers, primarily the linear level, the closest to the staff. This will have a positive impact on the state of organizational culture by strengthening the values ofinnovativeness, which in turn will greatly facilitate the adoption of innovation by the staff, ensuring involvement in innovation activities at the level of the individual.

Personnel training, again in an advanced mode and with system coverage of all aspects of labor and organizational life through the system of corporate training,it is expedient to carry out, being guided by the sixth principle **of construction of corporate training on the basis of dynamic competence, age**

and gender differentiation of the personnel. Realization of this principle requires the development of procedures of personnel assessment, including by the criterion of age, and implies, firstly, the development of training programs of different orientation with the possibility of transition of participants from one group to another. It is a question of taking into account different motivation and competence of employees to work in innovative format. So, if an employee is functionally well prepared, but innovative values and new vector of company development are alien to him, he needs to take part in a motivational module of corporate training. Wasting time on something that he already knows very well will only causerejection. At the same time, if this employee has the qualities necessary for an instructor, he can play the role of an instructor, supervisor, mentor, which will raisehis status in the team and distinguish him as a behavioral model, which is equally important. If the employee, often a new person in the company, is committed to innovation, but does not own or does not know enough of the technologies being implemented, then it is advisable for him to participate in the module of technological training and not to waste time on motivation to what he is already motivated to do. Second, training subjectively complex technology will be more effective if teachers, instructors (trainers) are the same age and gender as the trainees. Employees, first of all, of senior chronological age, especially women, should see that people of their gender and age are successful with these technologies. It is clear that it is up to the employee to choose the group; otherwise,segregation by gender and age will show the company management's commitment to age and gender stereotypes. Of course, this is not the only requirement for teachers in the field of innovative technologies. It is advisable for them, too, to receive special training or, at the very least, instruction on working in a supportive style of interaction from approaches to motivation to speech tempo, followed by verification of their effectiveness with program participants. Employees of young and mature socio-psychological age are better served by corporate training together. This approach emphasizes the absence of age and gender stereotypes in company management in general and in corporate training management in particular. In addition, this approach shows those who are engaged in gender- and age-allocated groups the care and belief of management in their success.

And the last **seventh principle** concerns the key point in the management of socio-psychological

aging of personnel: **ensuring the change of organizational culture on the basis of the priority of innovative values and the convergence of its characteristics with corporate requirements.** If due to the ongoing transformations with observance of the first six principles a shift of personnel value orientations towards innovative values will be achieved, then organizational culture itself will work as a system method of personnel management, providing subjectively comfortable feeling of employees in theirwork collectives and temporary project groups, regardless of their chronological age and gender identity, if they feel and act in the way that is accepted in organizational culture with a pronounced innovative component, at the highest level of values.

Thus, if the principle of sociologically grounded systematics is considered asthe key one, it is possible to propose approaches to socio-psychological management of personnel aging in the conditions of innovative changes according to its basic determinants. Such a determinant as subjective well-being of the personnel comes to the fore because it has the function of emotional regulation of restraining socio-psychological aging of the personnel at all levels of its determination. Approaches to socio-psychological aging management at organizational culture and personality levels are presented in tables 42 – 44.

Table 42

Managing the subjective well-being of personnel under

conditions of organizational change

<table>
<tr><th>Typical characteristics of the present</th><th>Principles</th><th>Management decisions and approaches to implementation</th><th>Results</th></tr>
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stereotypes of old age	4	Systematic changes in all subsystems of the company, the presence of horizontal and bilateral vertical channels of organizational communication	activities
	6	Age-, gender- and competence-oriented training of staff dependingon the position and employment in the subsystem of the company to implement technologies and organizational interaction. Reduction/elimination of psychological costs innovations	
	7	Surface level development (by E. Schein) of the renewable organizational culture: Optimization of workplaces according to the needs of employees to perform production tasks in the best possible way, creation of a positive emotional atmosphere, development of symbols and organizational rituals of the renewed organizational culture, positively perceived with a mixed-age male andfemale staff	

Table 43

Organizational culture change management under conditions of innovative changes (Leonova, 2021)

Typical characteristics ofthe present	**Principles**	**Management decisions and approaches to implementation**	**Results**
Clan-hierarchical model of organizational culture:	1	The philosophy of the company based on the priority of innovative and	A pronounced innovative

rigid hierarchy combined with the possibility of interpersonal agreements; leadership focused on maintaining relationships with little dependence on productivity and quality of work; management style focused on demonstrating unanimity, consistency and stability in relationships; the cohesive nature of the organization in formal rules, official policy and encouragement of trust; Social orientation, constancy and stability in the strategic objectives; success criteria defined by the care for people, cost- effectiveness by reducing costs	2	business values with unconditional accuracy of the personnel's compliance with the work regulations and mediating the relationship between management and executives by the productivity and quality of work of employees, participation in meaningful projects, regardless of gender and chronological age of employees. Development for the subsurface level (by E. Schein) a code of conduct and norms of relationships, ethical rules, mission and mottos adequate in content and emotional appeal to male and female personnel of different chronological but young and mature socio-psychological ages	component in a balanced organizational culture: encouragement of employee proposals to improve the competitiveness and vitality of the company, leadership of innovators focused on results and help in achieving them, creating conditions for staff and encouraging aspirations for approbation new technologies and the achievement of the highest results in conditions of external and internal competition
	3	Value reorientation of personnel behavioral patterns, selection for vacancies and for the managerial reserve of applicants of different ages with expressed innovative values	
	4	The systemic nature of change in all of the company's subsystems	
	6	Training of diverse-age staff in responsible behavior, participation in quality circles, project work, internal competition while maintaining good personal and work relationships, interaction with management in within the framework of the supporting model etc.	
	7	The nomination and support by corporate leaders of behavioral models of male and female employees of all age groups, corresponding in their values, patterns of production and organizational behavior to the provisions of corporate culture (a key characteristic of the surface level of organizational culture, according to E. Schein).	

Table 44

Management of personnel involvement in the context of organizational change

Typical characteristics of the present	Principles	Technological solutions	Results
Employees, regardless of gender of age with features age stereotypes of old age: the priority of clan values, combined with a deficit of business values and values of innovation, as a consequence of resistance to innovative transformation, non-involvement in the work process and organizational life, unwillingness to learn and develop, stress and disease	1	Involvement of a diverse age group male and female personnel (of the number of behavioral patterns, managers and participants of the already successfully implemented projects, heads of quality groups, ...) to participate in the development of corporate culture, activities to promote it, to participate in significant projects for the company. Public encouragement of participants of different ages according to the results of work and efficiency participation in projects significantto the company	Balance values Organizational development, expressed innovative value orientations, personal involvement in laboractivity, acceptance of innovations, participation in innovative activities and significant organizational projects, desire to continue labor activity in older ages
	2		
	3	Proactively informing about upcoming transformations, primarily the staff of older age groups; developing forward-looking plans for corporate training and workplace management	
	4	Participation of personnel in the ongoing changes in all subsystems ofthe company in order to ensure competence readiness to work in newtechnological and managerial realities	
	6	Corporate training of personnel in finding and using information in professional activities to improve skills and self-learning, development of the trajectory of digital competencies, necessary functional competencies, maintaining a good psychological climate in the structural units and project teams in conditions of innovation implementation and internal competition. Training of managers to implement a supportive model of managerial interaction with different-aged personnel, to reduce the psychological costs of innovation, to manage the power distance, changes in organizational culture	
	7	Development and implementation in	

		deep level of organizational culture, positive attitudes towards self- realization in professional activities, the uncertainty of the modern socio- economic context, human beings, agediversity, gender specificity as the basis of socio-economic the psychological vitality of personneland the company	

The principal point of management of personnel socio-psychological aging is coordination of actions at different levels of management in different subsystems of the company and monitoring of socio-psychological dynamics of age manifestations. That is why the creation of a group with the working title "Management and monitoring of innovation readiness of personnel" at the level of the office of deputy general director for development seems to be an urgent task. In micro- and small businesses, where employees with their characteristics, including age-related manifestations, are directly observable by a manager, it will be sufficient to observe general principles of socio-psychological aging by management, and, if necessary, seek help from an organizational consultant, sociological or psychological profile. Finally, as mention Sánchez and Diaz (2022) to promote active ageing in companies does not consist only of prolonging working life. It also involves developing realistic mechanisms that, taking into account the many obstacles, may facilitate job adaptation and adjustment by the worker during his or her final stage at the company.

5.3. Conclusions.

1. The present study shows that a person's socio-psychological age is not the same in different spheres of activity. It seems possible and appropriate to consider it in relatively self-employment. It has been shownthat, in general, the personnel of innovative companies feel younger than theirpeers in ordinary companies. Using the provisions on age presented in the theory of mental development by D.B. Elkonin and his followers, it is possible to differentiate approach to identification of various socio-psychological ages in labor activity. The most important criterion is the activity in which an employee of a company finds sources of further cognitive and personal development and in which new values, personal, functional, cognitive and meta-competences necessary for implementation of labor activity in the conditions of organizational changes are formed, which can be attributed to psychological neoplasms. It is shown that for the majority of employees of innovative

companies such activity is labor activity, and for employees of ordinary companies activity related to private life. In combination with values of organizational development it was possible to distinguish four socio-psychological ages: "young", "mature", "middle", "old", and each of them corresponds to a set of characteristics related to self-assessment of health and age, the level of involvement in labor activity and managers' assessment of age.

2. Determining function of organizational culture that determines socio-psychological aging is discovered.It means that if management is interested in restraining socio-psychological aging of personnel, it is necessary to form corporate culture which transforms existing organizational direction in innovative direction. Recommendations on development of corporate culture with a pronounced innovative component are offered. They are based on conceptual self- determination of management concerning necessity of innovative development andreadiness to change existing corporate culture, revealing of personnel with innovative values of young and mature social psychological age, which will be the main driving force of current transformations, modernization of systems of corporate training and professional selection, involvement of employees to participation in innovative processes, starting with those processes which concern quality of their work life.

3. Modernization of corporate culture should be carried out, providing the action of emotional regulators contained both in the value characteristics of corporate culture, the form of leadership, success criteria, the absence of anydiscrimination by chronological age and gender identity, and in the models of managerial interaction between managers and the executive part of staff. It is shown that in innovative and ordinary companies managers implement different models of organizational behavior, which is manifested in the treatment of different-age personnel and the size of the psychological distance. Themost promising are supportive and collegial models, which reduce the psychological costs of implementing innovation and maximize the developmentand satisfaction of those needs of staff that are associated with work activities and organizational change. Since personal experience, exposure to age and genderstereotypes, as well as formed habitual forms of interaction of managers with personnel may not coincide with new corporate requirements, it is necessary to provide, if necessary, value reorientation of managers and development of their necessary managerial competencies in the system of corporate training.

4. Corporate training for staff it is advisable to organize in accordance with the peculiarities of age manifestations and gender, the presence of age and gender stereotypes in specific groups of staff, reducing their manifestations.

5. In organizational conditions of innovative companies managers rather adequately estimate socio-psychological age of the personnel. In ordinary companies, especially those that are not engaged in consistent organizational changes in accordance with the requirements of the new technological mode, managerial assessment of the socio-psychological age of personnel has an emotional character and is influenced by the value commitment of managers themselves, the division of age and gender stereotypes. The subjective component of assessment can create and creates managerial problems that inhibit the development of competitiveness and resilience of the company. Therefore, it seems that an essential step in the development of the concept of socio-psychological age and socio-psychological aging is the introduction of the concept of social age, which dynamically captures the key competencies that correspond to the challenges of the socio-economic context. Such an approach will make it possible to assess the social age of personnel, reducing the role of subjectivity in managerial assessments and guiding personnel to training and self- development, contributing to the improvement of the quality of human capital of the company as a whole.

6. The statement that the aging of personnel in the work activity can be considered as a social action with system determination at the levels of culture of society, organizational culture, personality and organism, the containment of the aging of personnel can be achieved by changes in the management of a system complex of organizational conditions, corresponding to the levels of determination of social action has found its confirmation.

The idea of researching aging and socio-psychological age emerged from the desire to investigate the fairness of age stereotypes in relation to people in the organizationalconditions of working life. In his private life a person is more free to make decisions, including whether it is better for him to be as he is, to accept life and agechanges calmly as a natural process or to keep the characteristics of youth as long as possible as he understands them, and maybe, due to some or other circumstancesand his own fantasy, even to appear older than he really is.

In employment, on the one hand, everything is certain: the requirements are known, and if they

are not known to a particular person, he can learn about them, seeking career advancement or just wanting to keep his job. At the same time, significant decisions are made by managers, and they may be influenced by age and gender stereotypes, and they may have their own ideas about prospective employees. It is known that even in companies that successfully enter the new technological paradigm, it is very rare for management reserve groups to include people over 40-45 years old, not to mention the later ages, and the gender balance is almost always shifted in favor of men. Thus, one's own attitudes toward staying young may prove useless in the face of a wall of stereotypes.

The conducted research has shown that the positive result of preserving young socio-psychological ageis provided by a favorable combination of the individual's own efforts andsupport and even initiation of these efforts by the management by organizational and cultural influences in the form of maintaining the values of innovation and performance, regardless of the gender and age characteristics of the employee, and the appropriate style of managerial interaction. In such organizational conditions, age stereotypes of old age would look like, if manifested in the attitudes and actions of a particular manager, as stereotypes of age bias. In traditional organizational conditions of hierarchical-clan type, age and gender stereotypes are alive, their manifestations are not liked by managers, but they themselves support them, solving new problems of innovative developmentby old administrative ways. As a result, the characteristics of age stereotypes of old age extend to chronologically young personnel.

The still very limited results obtained open interesting research prospects.The most obvious one is expansion of research to other types of organizational culture and topersonnel of other categories with allocation of a greater number of age groups. So far it was not possible to conduct research in companies where the innovation component occupies a dominant position in organizational culture, the specifics of organizational culture in the age group attributed to the pre-retirement age were not traced.

Nevertheless, several research directions of fundamental nature can already be outlined. Such directions include the disclosure of psychological and social mechanisms of regulation of such biosocial phenomenon as age; study of possible heterogeneity of age characteristics in the complex of the main social roles of a person; determination of the presence and nature of connection between socio-psychological, psychological and biological ages.

The latter seems particularly relevant. The data obtained in the conducted study about significant differences of self-assessments of age well-being, fatigue, and health status in different types of organizational cultures necessitates the study of health status by appropriate objective methods. If there is confirmation of the different impact of specific types of organizational culture on employee health, it will open up opportunities for organizational-psychological health management at workplace, the importance of this cannot be overemphasized. It can be assumed that the stress of organizational changes that are implemented without a corresponding change in the management paradigm negates the results of health maintenance activities, even if they are carried out in the company.

The direction related to the social age of the personnel has been outlined.The development of this direction involves the development of this scientificconstruct, the study of its indicators and determinants, as well as a set of competencies determining a mature social age, primarily in relation to labor activity in modern conditions, the disclosure of opportunities on the basis of social age management to improve the social and psychological vitality of personnel and through this to increase the resilience of enterprises. Socially significant is theresearch of social age beyond the limits of labor activity. The creation of a methodology for calculating a person's social age in accordance with his/her chronological age in relation to a set of basic social roles and the development of applied issues of social age management have good prospects.

Some of the new areas of research are more of an applied nature. Forexample, the study was conducted in relation to highly educated personnel: the engineering corps and doctors. These professions are in demand, and the specialiststhemselves have significant potential for personal adaptation to the digitalization ofprocesses in the workplace. It seems that an acute urgent scientific task is to reveal the features of social and psychological age and the possibilities of its social management in mass professions, whose reduction and practical disappearance is predetermined by the onset of the digital economy: drivers and security guards, most of whom are men, sales clerks and cleaners, mostly women. We can only hope that they will find the personal resources to master the competencies of the digital economy.

It becomes clear that there is a need to develop programs to manage socio-psychological age of potential and actual employees of those companies that plan or already implement technological and

managerial changes of innovative nature, training programs for organizers and specialists of employment services and corporate training of personnel of different chronological, socio-psychological, social age and different job positions in order to improve the quality of human capital of enterprises.

One can notice that most of the new directions of research are of a pronounced interdisciplinary nature, involving the coordination of efforts of specialists in different scientific fields: philosophy, biology, psychology, sociology. These are not easy tasks, however, revealing the possibilities and limitations of social management of all types of age will contribute to the growth of active working life, health and, in general, the improvement of the quality of life of people of any age.

Conclusiones generales

Conclusiones finales y recomendaciones prácticas

Resumiendo, los resultados del estudio teórico y empírico del envejecimiento, parece posible identificar los principales aspectos aplicados y conceptualizarlos, identificando las posibilidades de gestión del envejecimiento del personal de las empresas que están haciendo la transición a un formato innovador de desarrollo y se enfrentan al hecho de que los empleados en su gran parte no cumplen con los requisitos de la Industria 4.0.

Como se demostró en el análisis teórico y empírico llevado a cabo el presente estudio, el envejecimiento es un proceso biosocial interactivo, que puede ser regulado hasta cierto punto por la propia persona, la cual puede frenar el envejecimiento, manteniendo su juventud social y psicológica. Pero también puede ser regulado desde el exterior, incluyendo los esfuerzos de la dirección a través del establecimiento de objetivos para el desarrollo innovador de la empresa o la influencia de la cultura organizativa.

Una persona puede identificar un modelo de comportamiento en el ámbito privado, guiada por sus propias observaciones de personas más jóvenes y con más éxito. Por ejemplo, las personas con hijos pueden tomar como ejemplo a sus hijos, a sus amigos y amigas, etc. Si uno quiere ser mayor, los modelos de comportamiento se convierten en los de las personas mayores con éxito. Sin embargo, en el lugar de trabajo, a los empleados les resulta mucho más difícil afrontar el envejecimiento, incluido el socio-psicológico. Al fin y al cabo, las personas se instalan en el trabajo, sin tener en cuenta sus manifestaciones relacionadas con la edad. Además, identificamos en nuestro análisis de los resultados de la investigación que el personal femenino de las empresas ordinarias quiere parecer más joven y ser percibido como más joven que su edad cronológica. Esto puede ayudarlas a superar sus retos en su vida personal, pero en ningún caso en su vida laboral.

La evaluación de los empleados jóvenes por parte de gerentes como mayores que su edad cronológica confirma los criterios de gestión en la evaluación del personal, incluidas las manifestaciones relacionadas con la edad. En el lugar de trabajo, el equilibrio de lo psicológico y lo social se desplaza a favor de lo segundo, y en relación específicamente con la actividad laboral. Pero en el lugar de trabajo

existen posibilidades de gestión para frenar el envejecimiento socio-psicológico del personal. Y la primera de ellas es un claro mensaje directivo a los empleados. Este mensaje está principalmente contenido, o no, en la cultura corporativa de la empresa, por lo que **el primer principio** de gestión del envejecimiento socio-psicológico del personal consiste en **que** la dirección se **aleje de los estereotipos de edad y de género**. Si la dirección sigue comprometida con estos estereotipos, es poco probable que el cambio de dirección del desarrollo en dirección a la innovación tenga éxito. Se pueden encontrar ejemplos de este tipo en empresas nuevas centradas inmediatamente en la contratación de personal cronológicamente joven y funcionalmente competente. Sin embargo, si la empresa tiene un historial significativo de desarrollo en el modelo tradicional jerárquico-clan de gestión de personal de varias edades, entonces, como ha demostrado la investigación, el personal de tales empresas tiene características que coinciden con la baja vitalidad psicológica y corresponden a los estereotipos de edad de la vejez. En consecuencia, los gerentes de las empresas tienen motivos para compartir los estereotipos de edad, porque ven sus manifestaciones todos los días, aunque igual de estereotipados son los que sobrevaloran las cualidades del personal cronológicamente joven.

El segundo principio consiste **en la necesidad de desarrollar la cultura corporativa sobre la base de una prioridad de valores innovadores.** Las disposiciones de la cultura corporativa actualizada o de nueva creación deben contener el credo de la dirección con un mensaje claro para el personal sobre un nuevo vector de desarrollo de la empresa y las expectativas de la dirección con respecto al personal en las condiciones de las transformaciones organizativas. Este principio se basa en la teoría de la actitud de Bellak y Smith (1956) la cual tiene tres componentes en su estructura. En primer lugar, la actitud contiene un componente cognitivo, en este caso el conocimiento de los requisitos y expectativas razonables de la dirección respecto a las cualidades psicológicas y pautas de comportamiento de un empleado de una empresa innovadora. En segundo lugar, un componente emocional. La dirección tendrá que dominar los enfoques de gestión de personal que garanticen un estado emocional positivo de los empleados, siguiendo las expectativas contenidas en la filosofía corporativa. Y el tercer componente es el conductual. Deben surgir modelos de comportamiento, es decir, empleados que se ajusten claramente en sus actividades laborales y en su comportamiento organizativo a las exigencias y expectativas corporativas. Pero incluso esto no es suficiente. Será necesario formar a los empleados para que se

comporten de forma correcta y, en el caso de los gerentes, formarles para que refuercen los modelos de comportamiento correctos en sus ejecutivos.

Es imposible dar recomendaciones universales y al mismo tiempo específicas sobre la aplicación de éste y otros principios. Las empresas difieren en el tipo de negocio, el tamaño y los recursos financieros que la dirección está dispuesta a dedicar a resolver el problema del rejuvenecimiento social y psicológico del personal. No obstante, es fácil trazar el vector general de esta labor. En las micro y pequeñas empresas, los objetivos estratégicos y la visión positiva del desarrollo de la empresa pueden ser desarrollados y formulados por un gerente educado que realmente quiera desarrollar la empresa.

El tercer principio es la necesidad de garantizar el **carácter prospectivo de la formación socio-psicológica del personal para los cambios en curso** en el sistema de comunicación interna, la selección, la preparación del grupo de sucesión de gerentes, la formación corporativa y la gestión en el puesto de trabajo. La lógica que subyace a la introducción de este principio es que no se puede exigir a un empleado lo que aún no ha sido formado, y aún no ve la aplicación real de lo que ya puede estar ampliamente anunciado en los nuevos requisitos corporativos. Es mejor que el personal sepa que la cultura corporativa de la empresa se está actualizando. Los resultados obtenidos en las empresas innovadoras (implicación de los empleados, preferencia de los valores de desarrollo, el bienestar psicológico) muestran que la transición a un formato innovador de desarrollo está asociada a una reducción de la distancia de poder, clave para la implicación de los empleados en la vida laboral y organizativa. Surgen muchas preguntas sobre cómo los empleados, que aún no están acostumbrados y quizás no creen en la dirección, pueden participar en la creación de una cultura corporativa renovada de la empresa, si existen canales de comunicación organizativa para ello. Dado que la empresa cuenta con empleados social y psicológicamente mayores, a los que no tiene sentido involucrar en la formación corporativa (sólo se mostrarán como un factor de desmotivación) es natural que surja la tarea de renovación del personal. En este caso es razonable enriquecer los procedimientos de selección con criterios de orientación a la innovación de valores, pues de lo contrario el nuevo personal no será mejor que el anterior. La probabilidad de que esto ocurra es alta, porque, como se ha demostrado, la cultura de la sociedad se basa en mayor medida en valores conservadores. La tarea de selección en las empresas que se han embarcado en transformaciones innovadoras consiste en atraer a personal con valores

dispuestos a participar en procesos innovadores. Los empleados necesitan ver la realidad de los cambios en los que la dirección espera que participen.

Los cambios deben manifestarse en todos los subsistemas interrelacionados de la empresa, los niveles de gestión y sus canales de comunicación.

El cuarto principio: **garantizar la coherencia organizativa de los cambios que** afectan razonablemente al núcleo técnico, a los servicios de apoyo técnico y administrativo, a la gestión de todos los niveles: lineal, medio, superior.

El carácter sistemático del enfoque organizativo resuelve muchos problemas. Por ejemplo, si se producen cambios en el núcleo técnico de la empresa: sustitución de equipos y/o tecnología, puede resultar que los servicios de apoyo técnico y administrativo no preparen al personal para estos cambios. La dirección sigue funcionando con un modelo autocrático. Se produce estrés de tipo organizativo, el personal, especialmente el de mayor edad, siente una aguda desventaja subjetiva y se actualiza un conflicto de valores con la dirección.

El quinto principio es **la necesidad de un enfoque sistémico del cambio con base psicosociológica.** Si los cambios técnicos, de gestión u organizativos se preparan con antelación (principio de anticipación) en todos los subsistemas de la empresa y se transmiten al personal a través de canales de comunicación formales e informales, el efecto será positivo entre los empleados de edad socio-psicológica joven y madura, los empleados de edad social y psicológica media tendrán la oportunidad de cambiar su actitud de cautela ante la innovación por una positiva, pero sólo si se respeta el componente social de la sistematicidad. Dicha sistematicidad garantizará la prevención del estrés y el bienestar subjetivo del personal mediante la eliminación de los costes de adopción de la innovación, el comportamiento de apoyo de los gerentes, principalmente el nivel lineal, el más cercano al personal. Esto tendrá un impacto positivo en el estado de la cultura de la organización mediante el fortalecimiento de los valores de la innovación, que a su vez facilitará en gran medida la adopción de la innovación por el personal, asegurando la participación en las actividades de innovación a nivel del individuo.

La formación del personal es conveniente llevarla a cabo guiándose por el sexto principio **de construcción de la formación corporativa sobre la base de la competencia dinámica, la edad y la diferenciación de género del personal.** La realización de este principio requiere el desarrollo de

procedimientos de evaluación del personal por el criterio de la edad, e implica, en primer lugar, el desarrollo de programas de formación de diferente orientación. Se trata de tener en cuenta la diferente motivación y competencia de los empleados para trabajar en formato innovador. Así, si un empleado está bien preparado funcionalmente, pero los valores innovadores y el nuevo vector de desarrollo de la empresa le son ajenos, necesita participar en un módulo de motivación de la formación corporativa. Al mismo tiempo, si este empleado tiene las cualidades necesarias para ser instructor, puede desempeñar el papel de supervisor, mentor, lo que elevará su estatus en el equipo y le distinguirá como modelo de comportamiento, lo que es igualmente importante. Si el empleado, está comprometido con la innovación, pero no posee o no conoce lo suficiente las tecnologías que se están implementando, entonces es aconsejable que participe en el módulo de formación tecnológica. En segundo lugar, la formación tecnológica compleja será más eficaz si los formadores tienen la misma edad y el mismo sexo que los alumnos. Los empleados de mayor edad cronológica, especialmente las mujeres, deberían ver que personas de su género y edad tienen éxito con estas tecnologías. Está claro que es el empleado quien debe elegir el grupo; de lo contrario, la segregación por género y edad mostrará el compromiso de la dirección de la empresa con los estereotipos de edad y género. Este enfoque hace hincapié en la ausencia de estereotipos de edad y de género en la gestión de la empresa en general y en la gestión de la formación corporativa en particular. Además, este enfoque muestra a quienes participan en grupos asignados por género y edad el cuidado y la creencia de la dirección en su éxito.

Y el último **séptimo principio** se refiere al punto clave en la gestión del envejecimiento socio-psicológico del personal: **garantizar el cambio de la cultura organizativa sobre la base de la prioridad de los valores innovadores y la convergencia de sus características con los requisitos corporativos.** Si debido a las transformaciones en curso con la observancia de los seis primeros principios se consigue un cambio de las orientaciones de valores del personal hacia los valores innovadores, entonces la propia cultura organizativa funcionará como un método de sistema de gestión del personal, proporcionando una sensación subjetivamente cómoda de los empleados en sus colectivos de trabajo, independientemente de su edad cronológica y de su identidad de género.

En las tablas 24 - 26 se presentan los enfoques de la gestión del envejecimiento socio-psicológico en los niveles de cultura organizacional y de personalidad.

Tabla ES 24

Gestión del bienestar subjetivo del personal en condiciones de cambio organizativo (Leonova, 2021)

Características del presente	**Principios**	**Decisiones de gestión y enfoques de aplicación**	**Resultados**
Ausencia de bienestar subjetivo: estrés de naturaleza organizativa y, como consecuencia, fatiga, mala salud, autopercepción de la edad por encima de la edad cronológica y conformidad con los estereotipos de la vejez	1	Garantía de empleo mientras se realizan actividades laborales con determinados criterios de rendimiento y calidad, participación en proyectos importantes de la empresa	Preservación del bienestar subjetivo en condiciones de cambios innovadores; disposición a aceptar innovaciones y a participar en actividades innovadoras
	2		
	3	Trabajo de comunicación efectiva	
	4	Los cambios sistemáticos en todos los subsistemas de la empresa, la presencia de canales verticales de comunicación organizativa	
	6	Formación orientada a la edad, el género y la competencia del personal en función de la posición y el empleo en el subsistema de la empresa para aplicar las tecnologías y la interacción organizativa. Reducción/eliminación de los costes psicológicos de la introducción de las innovaciones	
	7	Desarrollo a nivel de superficie (según E. Schein) de la cultura organizativa que se esta formando: Optimización de los puestos de trabajo en función de las necesidades de los empleados para realizar las tareas de producción de la mejor manera posible, creación de un ambiente emocional positivo, desarrollo de símbolos y rituales organizativos de la renovada cultura organizativa, percibidos positivamente con una plantilla mixta de hombres y mujeres	

Tabla ES 25

Gestión del cambio de la cultura organizativa en condiciones de cambios innovadores (Leonova, 2021)

Características del presente	**Principios**	**Decisiones de gestión y enfoques de aplicación**	**Resultados**
Modelo de la cultura organizativa jerárquica y de clanes: jerarquía rígida combinada con la posibilidad de acuerdos interpersonales acuerdos; liderazgo centrado en mantener relaciones con poca dependencia de productividad y calidad del trabajo; el estilo de gerencia centrado en demostracion de unanimidad, coherencia y la estabilidad en relaciones; la cohesión de la organización en la formalidad de las reglas, política oficial y fomento de la confianza; orientación social, co nstancia y estabilidad en la estrategia objetivos; éxito atención hacia las personas	1	La filosofía de la empresa basada sobre la prioridad de la innovación y valores empresariales con la exactitud del cumplimiento del personal con las normas de trabajo y mediando la relación entre los gerentes y ejecutivos por parte de la productividad y calidad del trabajo de empleados, la participación en proyectos significativos, independientemente del género y la edad cronológica de los empleados. Desarrollo para el nivel subterráneo (por E. Shein) un código de conducta y normas de las relaciones, las normas éticas, la misión y lemas adecuados en contenido y apelación emocional a los hombres y a las mujeres de diferentes grupos etarios pero de edades socio-psicológicas jóvenes y maduras	Un pronunciado componente innovador en la cultura organizativa equilibrada: acceptacion de las propuestas de los empleados para la mejora de la competitividad y la resiliencia de la empresa, el liderazgo de los innovadores centrado en resultados y ayuda en su implementacion, creando condiciones para fomentar nuevas tecnologías y el logro de los resultados más altos en competicion externa y interna
	2		
	3	Reorientación de los valores del personal de la empresa a través de la formación corporativa, apoyo a los empleados con los modelos de comportamiento organizativo adeguado, la selección para puestos vacantes y para la reserva de talento las personas de diferentes edades con valores innovadores expresados (para los gerentes y la reserva de talentos -con una predisposición de valores de gestión de apoyo (Y-setting segun D. McGregor)	
	4	El carácter sistémico del cambio en todos los subsistemas de la empresa	
	6	Formación del personal de diversas edades en el tema de comportamiento responsable, trabajo por proyectos, interno competicion interna mientras se mantiene buenas relaciones personales y laborales, interacción con los gerentes en en el marco del modelo gerencial de apoyo	
	7	El apoyo de líderes corporativos (hombres y mujeres) con los modelos de comportamiento de todos los grupos etarios, grupos etarios, correspondientes	

		en sus valores a la disposiciones de la cultura corporativa (un característica del nivel de superficie de cultura organizativa, según E. Schein).	

Tabla ES 26

Gestión de la implicación del personal en el contexto del cambio organizativo

Características típicas del presente	**Principios**	**Soluciones tecnológicas**	**Resultados**
Los empleados, independientemente del sexo o la edad con características que se aproximan a los estereotipos de la edad: la prioridad de los valores del clan, combinada con un déficit de valores empresariales y de innovación, como consecuencia de la resistencia a la transformación innovadora, la no implicación en el proceso de trabajo y en la vida organizativa, la falta de voluntad de aprender y desarrollarse, el estrés y la enfermedad	1 2	Participación del personal masculino y femenino de grupo etarios diferentes (con los modelos de comportamiento organizativo adeguado, los gerentes y los participantes de los proyectos ejecutados con éxito, jefes de grupos de calidad etc.) a participar en el desarrollo de la cultura corporativa, en actividades de promoción de la misma, a participar en proyectos significativos para la empresa. Fomento público de los participantes de diferentes edades en función de los resultados del trabajo y la eficiencia de la participación en proyectos significativos para la empresa Fomento público de los participantes de diferentes edades en función de los resultados del trabajo y la eficiencia de la participación en proyectos significativos para la empresa	Un equilibrio entre los objetivos de desarrollo de la organización, la expresión de orientaciones de valor innovadoras, implicación personal en la actividad laboral, aceptación de innovaciones, participación en actividades innovadoras y proyectos organizativos significativos, deseo de continuar la actividad laboral en edades avanzadas
	3	Informar de forma proactiva sobre las próximas transformaciones, principalmente al personal de mayor edad; desarrollar planes de futuro para la formación corporativa y la gestión de recursos humanos	
	4	Participación del personal en los cambios que se están produciendo en todos los subsistemas de la empresa con el fin de garantizar la preparación de las competencias para trabajar en las nuevas realidades tecnológicas y de gestión	

	6	Formación corporativa del personal en la búsqueda y el uso de la información en las actividades profesionales para mejorar las habilidades y el autoaprendizaje, el desarrollo de la trayectoria de las competencias digitales, las competencias funcionales necesarias, el mantenimiento de un buen clima psicológico en las unidades estructurales y los equipos de proyectos en condiciones de implementación de la innovación y la competencia interna. Formación de los gerentes para aplicar un modelo de apoyo a la interacción de gerencia con el personal de diferentes edades, para reducir los costes psicológicos de la innovación, para gestionar la distancia de poder, cambios en la cultura organizativa	
	7	Desarrollo y aplicación en profundidad de la cultura organizativa de las actitudes positivas hacia la autorrealización en las actividades profesionales, la incertidumbre del contexto socio-económico moderno, los seres humanos, la diversidad de edades, la especificidad de género como base de la resiliencia psicológica del personal y de la empresa	

Conclusiones.

1. El presente estudio demuestra que la edad socio-psicológica de una persona no es la misma en los distintos ámbitos de actividad. Se ha demostrado que, en general, el personal de las empresas innovadoras se siente más joven que sus compañeros de las empresas ordinarias. Utilizando las disposiciones sobre la edad presentadas en la teoría del desarrollo mental de D. B. Elkonin (2019), es posible diferenciar el enfoque para la identificación de varias edades socio-psicológicas en la actividad laboral. El criterio más importante es la actividad en la que un empleado encuentra fuentes de mayor desarrollo cognitivo y personal y en la que se forman nuevos valores, competencias personales, funcionales, cognitivas y metacompetencias necesarias para la realización de la actividad laboral en las condiciones de los cambios organizativos. Se demuestra que para la mayoría de los empleados de las empresas innovadoras es la actividad laboral, y para los empleados de las empresas ordinarias la actividad relacionada con la vida privada. En combinación con los valores del desarrollo organizativo fue posible distinguir cuatro edades socio-psicológicos: "joven", "maduro", "medio", "viejo", y cada una

de ellas corresponde a un conjunto de características relacionadas con la autoevaluación de la salud y la edad, el nivel de implicación en la actividad laboral y la evaluación de la edad por parte de los gerentes.

2. Se descubre la función determinante de la cultura organizativa que determina el envejecimiento socio-psicológico. Esto significa que si la dirección está interesada en frenar el envejecimiento socio-psicológico del personal, es necesario formar una cultura corporativa que transforme la dirección organizativa existente en una dirección innovadora. Se ofrecen recomendaciones sobre el desarrollo de la cultura corporativa con un pronunciado componente innovador. Se basan en la autodeterminación de la dirección y la disposición a cambiar la cultura corporativa existente, la modernización de los sistemas de formación y selección, así como la implicación de los empleados en los procesos innovadores, empezando por los procesos que afectan a la calidad de su vida laboral.

La modernización de la cultura corporativa debe llevarse a cabo, asegurando el desarrollo de la regulación emocional de los empleados, a través de la interiorización de las características de los valores de la cultura corporativa, la forma de liderazgo, y que excluyan cualquier discriminación por edad cronológica. Se demuestra que en las empresas innovadoras y en las ordinarias los gerentes ponen en práctica diferentes modelos de comportamiento organizativo, que, en particular, se manifiestan en el tratamiento del personal de diferente edad y en el tamaño de la distancia psicológica. Los más prometedores son los modelos de apoyo, que reducen los costes psicológicos de la aplicación de la innovación y maximizan el desarrollo y la satisfacción de aquellas necesidades del personal que están asociadas a las actividades laborales y al cambio organizativo. Dado que la experiencia personal, la exposición a los estereotipos de edad y de género, así como las formas habituales de interacción de los gerentes con el personal pueden no coincidir con los nuevos requisitos corporativos, es necesario proporcionar, si es necesario, una reorientación de valores de los gerentes y el desarrollo de sus competencias directivas necesarias en el sistema de formación corporativa.

3. Es aconsejable organizar la formación corporativa para el personal de acuerdo con las peculiaridades de las manifestaciones de edad y de género, así como combatir la presencia de estereotipos de edad y de género en grupos específicos de personal.

4. En las condiciones organizativas de las empresas innovadoras, los gerentes estiman de forma bastante adecuada la edad socio-psicológica del personal. En las empresas ordinarias,

especialmente las que no están comprometidas con cambios organizativos, la evaluación gerencial de la edad socio-psicológica del personal tiene un carácter emocional y está influenciada por el compromiso de valores de los propios gerentes, la división de la edad y los estereotipos de género. Por lo tanto, parece que un paso esencial en el desarrollo del concepto de edad socio-psicológica y de envejecimiento socio-psicológico es la introducción del concepto de edad social, que capta de forma dinámica las competencias clave que corresponden a los retos del contexto socio-económico. Este enfoque permitirá evaluar la edad social del personal, reduciendo el papel de la subjetividad en las evaluaciones de los gerentes y.

5. Se ha demostrado que el envejecimiento del personal en la actividad laboral puede considerarse como una acción dinámica influida por la cultura de la sociedad, y la cultura organizativa, y que la contención del envejecimiento del personal puede lograrse mediante cambios en la gestión de un complejo de sistemas de condiciones organizativas.

La idea de investigar el envejecimiento y la edad socio-psicológica surgió del deseo de investigar la equidad de los estereotipos de edad en relación con las personas en las condiciones organizativas de la vida laboral.

La investigación llevada a cabo ha demostrado que el resultado positivo de la preservación de la edad socio-psicológica joven es proporcionada por una combinación favorable de los propios esfuerzos del individuo y el apoyo de la dirección en la forma de mantener los valores de la innovación y el rendimiento, independientemente de las características de género y edad del empleado, y el estilo apropiado de la interacción de gestión. En tales condiciones organizativas, los estereotipos de edad se verían, si se manifiestan en las actitudes y acciones de un determinado directivo, como estereotipos de sesgo de edad. En las condiciones organizativas tradicionales de tipo jerárquico-clan, los estereotipos de edad y de género están vivos, sus manifestaciones no gustan a los gerentes, pero ellos mismos las apoyan, resolviendo los nuevos problemas de desarrollo innovador por las viejas vías administrativas. En consecuencia, las características de los estereotipos de edad se extienden al personal cronológicamente joven.

Los resultados obtenidos, todavía muy limitados, abren interesantes perspectivas de investigación. La más evidente es la ampliación de la investigación a otros tipos de cultura organizativa

y al personal de otras categorías con la asignación de un mayor número de grupos de edad. Hasta ahora no ha sido posible realizar investigaciones en empresas donde el componente de innovación ocupa una posición definitivamente dominante en la cultura organizativa, no se han rastreado las particularidades de la cultura organizativa en el grupo de edad atribuido a la prejubilación.

No obstante, se pueden esbozar varias direcciones de investigación de carácter fundamental. Dichas direcciones incluyen la revelación de los mecanismos psicológicos y sociales de regulación de un fenómeno biosocial como la edad; el estudio de la posible heterogeneidad de las características de la edad en el complejo de los principales roles sociales de una persona; la determinación de la presencia y la naturaleza de la conexión entre las edades socio- psicológica, psicológica y biológica.

Esto último parece especialmente relevante. Los datos obtenidos en el estudio realizado sobre las diferencias significativas de las autoevaluaciones del bienestar de la edad, la fatiga y el estado de salud en diferentes tipos de culturas organizativas hacen necesario el estudio del estado de salud mediante métodos adecuados. Si se confirma el diferente impacto de los tipos específicos de cultura organizativa en la salud de los empleados, se abrirán oportunidades para la gestión de la salud organizativa en el lugar de trabajo.

Se ha esbozado la dirección relacionada con la edad social del personal. El desarrollo de esta dirección implica el desarrollo de este modelo, el estudio de sus indicadores y determinantes, así como un conjunto de competencias que determinan una edad social madura, principalmente en relación con la actividad laboral en las condiciones modernas, la revelación de oportunidades sobre la base de la gestión de la edad social para mejorar la resiliencia social y psicológica del personal y, a través de esto, aumentar la capacidad de recuperación de las empresas. Socialmente significativa es la investigación de la edad social más allá de los límites de la actividad laboral. La creación de una metodología para calcular la edad social de una persona de acuerdo con su edad cronológica en relación con un conjunto de roles sociales básicos y el desarrollo de cuestiones aplicadas de la gestión de la edad social tienen buenas perspectivas.

Otra línea de investigación sería estudiar los rasgos de la edad social y psicológica en otras profesiones cuya reducción y práctica desaparición está predeterminada por el inicio de la economía digital: conductores y guardias de seguridad, en su mayoría hombres, dependientes y limpiadores, en su

mayoría mujeres.

La necesidad de dotar a las personas que están perdiendo su empleo no sólo de nuevas competencias funcionales, sino también de desarrollar valores y motivación para seguir trabajando con éxito. Los propios especialistas que se dedican a la reconversión profesional, por regla general, no se dan cuenta de la necesidad de dotar a las personas que están perdiendo sus puestos de trabajo no sólo de nuevas competencias funcionales, sino también de desarrollar valores y motivación para seguir trabajando con éxito en el nuevo orden tecnológico. Finalmente, creemos que deben promoverse acciones de envejecimiento activo entre los trabajadores más allá de prolongar la vida laboral y que conlleven otras actividades de adaptación y ajuste laboral del trabajador durante su última etapa en la empresa (Sánchez & Diaz, 2022).

Se hace evidente la necesidad de desarrollar programas de gestión de la edad socio-psicológica de los empleados potenciales y reales de las empresas que planean o ya implementan cambios tecnológicos y de gestión de carácter innovador, programas de formación para los especialistas de los servicios de empleo y la formación corporativa del personal de diferente edad y diferentes puestos de trabajo con el fin de mejorar la calidad del capital humano de las empresas.

Se puede observar que la mayoría de las nuevas orientaciones de la investigación tienen un marcado carácter interdisciplinario, lo que implica la coordinación de los esfuerzos de los especialistas en diferentes campos científicos: filosofía, biología, psicología, sociología. No son tareas fáciles, sin embargo, revelar las posibilidades y limitaciones de la gestión social de todo tipo de edades contribuirá al crecimiento de la vida laboral activa, la salud y, en general, la mejora de la calidad de vida de las personas de cualquier edad.

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APPENDIXES

Appendix 1. Questionnaires for the first stage of the study "Diagnosis of the level of innovativeness of enterprises".

1.1. Questionnaire "Scale of technological and managerial innovations".

Dear colleagues! Our study aims to identify the level of innovativeness of the companies. The study is anonymous. Please indicate your gender and age only. We ask each of you, if possible, to answer frankly the questions in our questionnaire. If you would like to know theresults of our study, we will share them with you after a certain period of time to process and analyze the data.

Male __ Female __

Age__

Position held __

1.How do you assess the level of technological innovations of the Factory 1 (2,3….)/ Medical \Clinic 1 (2,3...)?

1_____2_____3_____4_____5_____6_____7_____8_____9_____10
Extremely low Extremely high

2. How do you assess the level of technological innovations of the Factory 1 (2,3….)/ Medical \Clinic 1 (2,3...)?

1_____2_____3_____4_____5_____6_____7_____8_____9_____10
Extremely low Extremely high

1.2. K. Cameron and R. Quinn's method for diagnosing the organizational culture of a company (OCAI instrument) (Cameron & Quinn, 2011).

Dear colleagues, please remember what the organization where you work is like. Please carefully read the text describing the state of your organization separately according to the six suggested sections. In each section, try to evaluate the state of your organization as accurately as possible, based on the four suggested characteristics and assigning 100 points between them. Firstassess the current state of the organization, and then assess by the same technique the preferred state, in terms of the organization achieving greater efficiency in the current environment.

Male __ Female __

Age __

Parameters		Now	Prefe-rably
1. The most important characteristics			
A	The organization is unique in its characteristics. It is like a big family. Peopleseem to have a lot in common.		

B	The organization is very dynamic and imbued with entrepreneurship.People are willing to sacrifice and take risks.		
C	The organization is results-oriented. The main concern is to achieve and accomplish a task. People are competitive and goal-oriented.		
D	The organization is rigidly structured and strictly controlled. People's actionstend to be defined by formal procedures.		
		100	100
2. General leadership style in the organization			
A	The general style of leadership in the organization is an example ofmonitoring, seeking to help or teach.		
B	The overall leadership style of the organization exemplifies entrepreneurship,innovation, and risk-taking.		
C	The overall leadership style of the organization exemplifies businesslikebehavior, aggressiveness, results orientation.		
D	A common leadership style in an organization is an example of coordination,clear organization or smooth running of business in the direction of profitability.		
		100	100
3. Management of employees			
A	The style of organizational management is characterized by an encouragement teamwork,unanimity, and participation in decision-making.		
B	Organizational management style is characterized by encouragementof individual risk-taking, innovation, freedom, and identity.		
C	Organizational management style is characterized by a high level of demandingness, rigid striving for competitiveness and encouraging achievement.		
D	Management style in the organization is characterized by job security, the demand for subordination, predictability and stability in relationships.		
		100	100
4. The cohesive essence of the organization			
A	Dedication and mutual trust bind the organization together. The commitmentof the organization is at a high level.		
B	The organization is bound by a single commitment to innovation and improvement. The need to be at the forefront is emphasized.		
C	Organizationally, there is a single focus on achieving a goaltask performance. Common themes are aggression and victory.		
D	Formal rules and formal policies bind the organization together. It is importantto keep the organization running smoothly.		
		100	100

5. Strategic goals			
A	The organization focuses on humane development. High trust, openness and complicity are persistently maintained.		
B	The organization focuses on acquiring new resources and solving new problems. Testing new things and exploring possibilities are valued.		
C	The organization emphasizes competitive actions and achievements. Target-oriented effort and the desire to win the market dominate.		
D	The organization emphasizes invariability and stability. What matters most is profitability, control and smoothness of all operations.		
		100	100
6. Criteria for success			
A	The organization defines success on the basis of human resource development, teamwork, employees' passion for the cause and concern for people.		
B	The organization defines success on the basis of having a unique or cutting-edge product. It is a production leader and innovator.		
C	An organization defines success on the basis of winning the market and staying ahead of the competition. The key to success is competitive market leadership.		
D	The organization defines success on the basis of profitability. Success is determined by: reliable delivery, smooth schedules, and low production costs		
		100	100

Appendix 2. Questionnaires for the second stage of the study "Study of manifestations of the socio-psychological age of staff in ordinary and innovative enterprises with different chronological ages".

2.1. "Diagnosis of staff organizational and cultural preferences" - K. Cameron and R. Quinn's method for diagnosing the organizational culture of a company (OCAI instrument) (Cameron & Quinn, 2011).

2.1.1. Questionnaire for respondents from industrial companies.

Dear colleagues, remember what the organization where you work is like. Read the text describing the state of your organization separately according to the six sections suggested. In each section, try to evaluate the state of your organization as accurately as possible, based on the four suggested characteristics and allocating 100 points between them. First evaluate the current state of your organization and then use the same technique to evaluate your preferred state, in terms of your organization achieving greater efficiency in the current environment.

Male __ Female ___

Age ___

Parameters		Now	Prefe-rably
1. The most important characteristics			
A	The organization is unique in its characteristics. It is like a big family.People seem to have a lot in common.		
B	The organization is very dynamic and entrepreneurial. People arewilling to sacrifice and go to risk.		
C	The organization is results-oriented. The main concern is gettingthe job done. People are focused on rivalry and achieving the goal set.		
D	The organization is rigidly structured and strictly controlled. Theactions of people tend to be defined by formal procedures.		
		100	100
2. General leadership style in the organization			
A	The general style of leadership in the organization is an example of monitoring, seeking to help or teach.		
B	The overall leadership style of the organization exemplifies Entrepreneurship, innovation, and risk-taking.		
C	The overall leadership style of the organization exemplifies businesslike, aggressive, results-oriented.		
D	The general style of leadership in an organization is an example of coordination, clear organization, or the smooth running of affairs inin the direction of profitability.		
		100	100
3. Management of employees			
A	Management style in the organization is characterized by the		

	encouragement of teamwork, unanimity and participation in decision-making.		
B	The style of management in an organization is characterized by encouraging of individual risk-taking, innovation, freedom, and identity.		
C	The management style of the organization is characterized by high demanding, rigid striving for competitiveness and encouraging achievement.		
D	The style of management in an organization is characterized by job security, the demand for subordination, predictability, andstability in relationships.		
		100	100
4. The cohesive essence of the organization			
A	Dedication and mutual trust bind the organization together. The commitment of the organization is at a high level.		
B	The organization is bound together by a commitment to innovation and improvement. The need to be at the forefront is emphasized		
C	The organization is bound together by an emphasis on achieving the goal and accomplishing the task. Common themes are aggressiveness and victory.		
D	Formal rules and official policies bind the organization together. It is important to keep things running smoothly the activities of the organization.		
		100	100
5. Strategic goals			
A	The organization emphasizes humane development. It insists on maintaining high trust, openness, and complicity.		
B	The organization focuses on acquiring new resources and solving new problems. Approbation of new and finding opportunities.		
C	The organization emphasizes competitive action and achievement. The dominant focus is on the goal-oriented effort and the desire to win in the marketplace.		
D	The organization emphasizes the permanence and stability. What matters most is profitability, control and smoothness of all operations.		
		100	100
6. Criteria for success			
A	The organization defines success on the basis of human development resources, brigade work, and the passion of employees for their work and concern for people.		
B	The organization defines success on the basis of having a uniqueor the latest products. It is a production leader and innovator.		
C	An organization defines success on the basis of winning the market and staying ahead of the competition. The key to success is competitive market leadership.		
D	The organization defines success on the basis of profitability. Success is determined by: reliable delivery, smooth schedules, andlow production costs		
		100	100

2.1.2. Questionnaire for respondents from medical clinics.

Dear colleagues, remember what the organization where you work is like. Read the text describing the state of your organization separately according to the six sections suggested. In each section, try to evaluate the state of your organization as accurately as possible, based on the four suggested characteristics and allocating 100 points between them. First evaluate the current state of your organization and then use the same technique to evaluate your preferred state, in termsof your organization achieving greater efficiency in the current environment.

Male__ Female __

Age __

Parameters		Now	Prefe-rably
1. The most important characteristics			
A	A medical clinic is like a big family. People lookwith many things in common.		
B	A medical clinic is a creative and very dynamic placejobs. People are passionate about innovation.		
C	The medical institution is results-oriented. The main concern is to get thejob done. People are focused on competing and achieving the goal (providing patient a quality medical service).		
D	The medical facility is rigidly structured and strictly controlled. People's actions are usually determined by formal procedures (health care action plan, daily work schedule, rules internal labor regulations, etc.).		
		100	100
2. General leadership (management) style in the organization			
A	The overall leadership style in a health care facility is an example of monitoring, striving to help or teach.		
B	The hospital's overall leadership style serves as an example of innovation inimproving the quality of patient care and improving the therapeutic process.		
C	The overall leadership style of the institution exemplifies Entrepreneurship, entrepreneurialism, results-orientation.		
D	The overall leadership style in a health care facility is an example of coordination, clear organization, or the smooth running of affairs in accordance with an approved plan of action and the relevant instructions.		
		100	100
3. Management of medical personnel (workforce)			
A	The management style in a health care facility is characterized by encouraging collective, collaborative, and unanimous.		
B	Management style in a health care facility is characterized by encouragement of individuality, innovation, and freedom of staff in service patient and the organization of the treatment process.		

2.1.2. Questionnaire for respondents from medical clinics.

Dear colleagues, remember what the organization where you work is like. Read the text describing the state of your organization separately according to the six sections suggested. In each section, try to evaluate the state of your organization as accurately as possible, based on the four suggested characteristics and allocating 100 points between them. First evaluate the current state of your organization and then use the same technique to evaluate your preferred state, in termsof your organization achieving greater efficiency in the current environment.

Male__ Female __

Age __

Parameters		Now	Prefe-rably
1. The most important characteristics			
A	A medical clinic is like a big family. People lookwith many things in common.		
B	A medical clinic is a creative and very dynamic placejobs. People are passionate about innovation.		
C	The medical institution is results-oriented. The main concern is to get thejob done. People are focused on competing and achieving the goal (providing patient a quality medical service).		
D	The medical facility is rigidly structured and strictly controlled. People's actions are usually determined by formal procedures (health care action plan, daily work schedule, rules internal labor regulations, etc.).		
		100	100
2. General leadership (management) style in the organization			
A	The overall leadership style in a health care facility is an example of monitoring, striving to help or teach.		
B	The hospital's overall leadership style serves as an example of innovation inimproving the quality of patient care and improving the therapeutic process.		
C	The overall leadership style of the institution exemplifies Entrepreneurship, entrepreneurialism, results-orientation.		
D	The overall leadership style in a health care facility is an example of coordination, clear organization, or the smooth running of affairs in accordance with an approved plan of action and the relevant instructions.		
		100	100
3. Management of medical personnel (workforce)			
A	The management style in a health care facility is characterized by encouraging collective, collaborative, and unanimous.		
B	Management style in a health care facility is characterized by encouragement of individuality, innovation, and freedom of staff in service patient and the organization of the treatment process.		

C	The management style in the medical institution is characterized by high demandingness, strict striving for competitiveness and encouragement ofpersonal achievements (high performance in work: patient care and the organization of the treatment process).		
D	The management style in the institution is characterized byjob security, insistence on subordination, predictability, andstability in relationships.		
		100	100
4. The cohesive essence of the organization			
A	The staff of a medical institution are united by dedication and mutual trust. The commitment of the organization to its employeesand patients is at a high level.		
B	Employees at the medical facility are united by a commitment to innovation and improvement. Emphasis is placed on the need to be at theforefront of health care delivery (more advanced medical institution than others).		
C	Employees are united by the desire to win, i.e. to be ahead the rest of the medical institutions. The organization's reputation andsuccess is the main concern.		
D	Employees are bound together by adherence to formal rules and theadoption of formal policies. The important point about the organization of the activity is its (the activity's) regularity.		
		100	100
5. Strategic goals			
A	The medical institution focuses on the humane development of the individual. High trust, cohesion, openness and participation in the process are persistently maintained in the life of the organization.		
B	The medical institution focuses on providing new and unique medical services. Approbation of advanced medical technologies and exploration of additional opportunities to improve the quality of patient care and to improve the therapeutic process.		
C	The medical institution emphasizes competitive actions and achievements. Targeted tension of forces and the desire to win in the market of medical services dominates (to be the first among other medical institutions with the same specificity).		
D	The health care institution emphasizes permanence and stability. The most important thing is control, consistency the sequence of the whole process of life.		
		100	100
6. Criteria for success			
A	A medical institution defines success on the basis of the development of human resources, teamwork, the staff's enthusiasm for the cause and concern for patients.		
B	A medical institution defines success on the basis of possessing unique or cutting-edge medical technology. It is a recognized innovator among other organizations with the same specifics.		
C	A medical institution defines success on the basis of winning the marketfor medical services and being ahead of other medical institutions.		

D	The success of a health care facility is determined by the necessary funding and the organization of the treatment process in accordance withthe legal framework.		
		100	100

Data processing

Type of culture	Now							Preferably						
	1	2	3	4	5	6	Σ/6	1	2	3	4	5	6	Σ/6
A (clan)														
B (adhocracy)														
C (market)														
D (hierarchical)														

2.2. "*Survey of staff involvement in work activity" - M. Kuhn and T. McPartland's method of personal current and perspective self-attitudes ("The Kuhn-McPartland Twenty Statements Test" (TST) (Kuhn & McPartland, 1954).*

Dear colleagues! It is known that a person can characterize himself in different ways. Here is an invitation to do the following work: ask yourself the question: "Who am I?
Write down the answers (about 10) below.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Instruction 2: Now imagine yourself five years from now and answer the same question again "Who am I?"

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

2.3. "Study of subjective well-being of staff in enterprises".

2.3.1. R. Kessler Self-Assessment Method ("Kessler Psychological Distress Scale" (K10) (Kessler et al., 2002).

Dear colleagues, these questions are about how you have been feeling this past month. In the table for each question, please mark the option that corresponds most closely to your feelings.

1. During the last 30 days, about how often did you feel tired out for no good reasons?				
None of the time	A little of the time	Some of the time	Most of the time	All of the time
2. During the last 30 days, about how often did you feel nervous?				
None of the time	A little of the time	Some of the time	Most of the time	All of the time
3. During the last 30 days, about how did you feel so nervous that nothing could calm you down?				
None of the time	A little of the time	Some of the time	Most of the time	All of the time
4. During the last 30 days, about how often did you feel hopeless?				
None of the time	A little of the time	Some of the time	Most of the time	All of the time
5. During the past 30 days, about how often did you feel restless or fidgety?				
None of the time	A little of the time	Some of the time	Most of the time	All of the time
6. During the last 30 days, about how did you feel so restless you could not sit still?				
None of the time	A little of the time	Some of the time	Most of the time	All of the time
7. During the last 30 days, about how often did you feel depressed?				
None of the time	A little of the time	Some of the time	Most of the time	All of the time
8. During the last 30 days, about how often did you feel that everything was an effort?				
None of the time	A little of the time	Some of the time	Most of the time	All of the time
9. During the last 30 days, about how often did you feel so sad that nothin could cheer you up?				
None of the time	A little of the time	Some of the time	Most of the time	All of the time
10. During the last 30 days, about how often did you feel worthless?				
None of the time	A little of the time	Some of the time	Most of the time	All of the time

2.3.2. Self-designed questionnaire "Social and psychological well-being in the workplace".

Dear colleagues! It is known that labor activity requires from people a considerable expenditure of physical, intellectual and spiritual forces. Often it causes fatigue, tiredness, poor physical and psychological well-being. It happens that people even feel older than their age. Considerable importance in maintaining a high level of performance have relationships in the workplace. This applies both to relations between people of equal official status and to communication with management.

Our study aims to identify the balance or imbalance between fatigue in work activities and psychological well-being, which either helps to cope with fatigue or enhances it. It happens both, which opens a wide range of opportunities to optimize the work activities of employees of enterprises and organizations.

The study is anonymous. Please indicate your gender and age only. We ask each of you, if possible, to answer frankly the questions in our questionnaire. If you would like to know theresults of our study, we will share them with you after a certain period of time to process and analyze the data.

Male __ Female__

Age__

Position held ___

1. How healthy do you feel?
   -5____-4_____-3_____-2____-1_____0_____+1_____+2_____+3_____+4_____+5
   I literally feel like an invalid I feel completely healthy
2. Is everything okay with your cardiovascular system?
   -5____-4_____-3_____-2____-1_____0_____+1_____+2_____+3_____+4_____+5
   I literally feel like an invalid I feel completely healthy
3. Is there nothing wrong with your nervous system?
   -5____-4_____-3_____-2____-1_____0_____+1_____+2_____+3_____+4_____+5
   This job has made me neurotic I feel great
4. How much does your daily work activity contribute to fatigue? Circle the desired value.0__1
   _____2_____3_____4____5_____6_____7_____8_____9_____10
5. Work and organizational interaction can affect feelings of fatigue in different ways. In addition, everyone has some kind of housework, activities unrelated to work activities. Mark on the scales how tired you usually are for different activities:

   5.1 Labor process:
   0____1_____2_____3____4_____5_____6_____7_____8_____9_____10
   Doesn't affect the feeling of tiredness at all Very much affects the feeling oftiredness
   5.2. Organizational interaction:
   0____1_____2_____3____4_____5_____6_____7_____8_____9_____10
   Doesn't affect the feeling of tiredness at all Very much affects the feeling oftiredness
   5.3. Homework:
   0____1_____2_____3____4_____5_____6_____7_____8_____9_____10
   Doesn't affect the feeling of tiredness at all Very much affects the feeling of tiredness

6. How old do you feel you are at work: older or younger than your chronological age? Write anumber on the scale, assuming that X is your chronological age

Examples

_____X_____

Younger Elder

_____*35*_____*50*_____

Younger
Elder

Or

_____*40*_____*56*_____

Younger
Elder

7. How do you assess your psychological well-being in your structural unit?

-5____-4_____-3_____-2____-1_____0_____+1_____+2_____+3_____+4_____+5

Terrible Beautiful

8. How do you call each other in your group? Check the box next to

The form of address	Example	In a work situation			In informal communication		
		Up to 35 years	From 36 to 55	Older 55	Up to 35 years	From 36 to 55	Older 55
By name and patronymic	Ivan Mikhailovich, Maria Vasilyevna						
By patronymic	Mikhalych, Vasilyevna						
By full name	Ivan, Maria						
By the name of	Vanya, Masha						
Reduced-Pronunciation	Vanechka, Mashunya						

9. Does the existing form of address to employees increase or decrease subjective comfort in the team, and by how much?

-5____-4_____-3_____-2____-1_____0_____+1_____+2_____+3_____+4_____+5

Decreases Rises

10. How does your immediate supervisor address your subordinates? Check the following boxesin the table

The form of address	In a work situation			In informal communication			If you are satisfied	If you are not satisfied
	Up to 35 years	From 36 to 55	Older 55	Up to 35 years	From 36 to 55	Older 55		
By name and patronymic								
By patronymic								
By full name								
By the name								
Reduced-Pronunciation								

11. To what extent does the way your supervisor addresses his or her subordinates lower or raise your psychological well-being?

-5____-4_____-3_____-2____-1_____0_____+1_____+2_____+3_____+4_____+5

Very much decreases Very much increases

2.3.3. Self-designed questionnaire "Expert assessment of the age of staff by managers".

Colleagues, it is well known that people often seem older or younger than their chronological age. This can be influenced by a person's education, cultural level, passion for a cause, sphere of interests, communication style, and many other things.

The study is anonymous. Please indicate your gender and age only. We ask each of you, ifpossible, to answer frankly the questions in our questionnaire. If you would like to know the results of our study, we will share them with you after some time has passed for data processing and analysis.

Male __ Female __

Age __

1. As a rule, do **male** employees **over the age of 60** seem younger or older than their chronological age to you?

Write your answer as a percentage:

% of the employees seem to me to be older than their chronological age;

% of employees seem younger than their chronological age to me.

2. As a rule, do female employees **over the age of 55** seem younger or older than their chronological age to you?

Write your answer as a percentage:

% of the female employees seem to me to be older than their chronological age;

% of the female employees seem younger than their chronological age to me.

3. As a rule, do female employees **between the ages of 35 and 55** seem older or youngerthan their chronological age to you?

Write your answer as a percentage:

% of the female employees seem to me to be older than their chronological age;

% of the female employees seem younger than their chronological age to me.

4. Generally, do **male** employees **between the ages of 35 and 60** seem older or youngerthan their chronological age to you?

Write your answer as a percentage:

% of the employees seem to me to be older than their chronological age;

% of employees seem younger than their chronological age to me.

5. As a rule, do female employees **under the age of 35** seem older or younger than their chronological age to you?

Write your answer as a percentage:

% of the female employees seem to me to be older than their chronological age;

% of the female employees seem younger than their chronological age to me.

6. **Do male** employees **under 35 generally** seem older or younger than their chronological age to you?

Write your answer as a percentage:

% of the employees seem to me to be older than their chronological age;

% of employees seem younger than their chronological age to me.

Appendix 3. Questionnaires for the third stage of the study – "Study of the social age of staff with different chronological ages in ordinary and innovative enterprises".

3.1. Self-designed questionnaire "Working with information in professional activities"

Dear colleagues! We are conducting a survey of employees of enterprises in the Nizhny Novgorod region with sources of information. Thank you for agreeing to take part in our study.

It is known that in the conditions of the new economic structure, solving the tasks of innovative development of the company, the requirements and expectations regarding the professional competence of employees increase. On the one hand, the constant growth of professional knowledge in the general trend with the development of the global economy and theeconomy of our country and our region implies a constant familiarity of our employees with the latest technical solutions, technologies and development prospects. On the other hand, the value of employees who are ready to act as a source of knowledge themselves, who are able and eager to share their experience with their colleagues is certainly increasing in modern companies.

We ask you to answer the questionnaire so that the problems you encounter when working with information become clear. As a result of the survey, solutions will be found to the problems identified.

The study is anonymous. Please indicate your gender and age only. We ask each of you, ifpossible, to answer frankly the questions in our questionnaire.

Male __ Female __

Age __

Profession __

Sheet A

1. How often do you turn to specialized journals to improve your level of professionalcompetence?
   - 1.1. Every day
   - 1.2. Every week
   - 1.3. Every month
   - 1.4. Several times a year
   - 1.5. Never
2. When familiarizing yourself with publications in domestic journals related to thedevelopment of knowledge in your profession, you tend to
   - 2.1. Review article summaries
   - 2.2. Quickly review the text of articles
   - 2.3. Read articles carefully, making notes for yourself
   - 2.4. Something else
3. When you read publications in foreign journals related to the development of

knowledge in your profession, you tend to
3.1. Review the abstracts of articles
3.2. Quickly review the text of articles
3.3. Read articles carefully, making notes for yourself
3.4. Something else

4. How often do you refer to publications on professional Russian sites
4.1. Every day
4.2. Every week
4.3. Every month
4.4. Several times a year
4.5. Never
5. How often do you refer to publications on professional foreign sites
5.1. Every day
5.2. Every week
5.3. Every month
5.4. Several times a year
5.5. Never
6. Do you prefer self-education, advanced training in the Company's corporate training system, advanced training in leading Russian companies, in Internet education systems, foreign internships? Rate your preferences in scores from 0 to10.
6.1. Self-education
6.2. Advanced training in the Company's corporate training system
6.3. Advanced training in leading Russian companies
6.4. Internet Education
6.5. Foreign Internships
6.6. Something else
7. How is your professional competence growing in reality? Over the past twoyears you have been engaged in
7.1. Self-education
7.2. Advanced training in the Company's corporate training system
7.3. Professional development in leading Russian companies
7.4. Internet education
7.5. Traineeships abroad
7.6. Something else.
8. How well do you know English (add another foreign language language to read professional literature
8.1. Quite enough.
8.2. I don't know it very well, but I use a translator on the Internet
8.3. I obviously don't know enough.
9. You are engaged in improving your knowledge of English (write another foreign language)_____) language
1.Yes
2.No
10. Have you ever held a workshop, lecture, technical training, etc. at your workplace for your colleagues?
10.1. Yes, I regularly share knowledge and experience with my colleagues (at the request of my supervisor or on my own initiative)
10.2. Occasionally a supervisor asks me to conduct a training session for my colleagues, but I never offer it myself.
10.3. No, but I'd like to try.

10.4. No, because I'm not interested at all.
10.5. Something else.

11. Do you have experience in developing any documents at work (regulations, standards, instructions, methods, etc.)?
11.1. Yes, I do this work regularly on my own initiative
11.2. Yes, it is part of my duties, and my supervisor regularly assigns me this work
11.3. No, but I have some ideas in this area and, if the opportunity arises, I will try to develop a document based on them
11.4. No, I don't like this paperwork, there's already a lot of paperwork, so why makemore of it?
11.5. Something else.

Thank you!

3.2. "*Survey of staff involvement in work activity" - M. Kuhn and T. McPartland's method of personal current and perspective self-attitudes ("The Kuhn-McPartland Twenty Statements Test" (TST) (Kuhn & McPartland, 1954).*

Dear colleagues! It is known that a person can characterize himself in different ways. Here is aninvitation to do the following work: ask yourself the question: "Who am I? Write down the answers (about 10) below.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

Instruction 2: Now imagine yourself five years from now and answer the same question again"Who am I?"

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

3.3. Self-designed questionnaire "Socio-psychological well-being in the team and age assessment"

1. How old do you feel you are at work: older or younger than your chronological age?Write a number on the scale, assuming that X is your chronological age

X

Younger Elder

Examples:

35 *50*

Younger Elder

Or

40 *56*

Younger Elder

2. How do you assess your psychological well-being in your structural unit?

-5 -4 -3 -2 -1 0 +1 +2 +3 +4 +5

Terrible Beautiful