UNIVERSIDAD DE GRANADA

FACULTAD DE CIENCIAS ECONÓMICAS Y EMPRESARIALES

Departamento de Organización de Empresas

LA INFLUENCIA DE LA CONFIANZA EN LA GESTIÓN EMPRESARIAL

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Granada, Febrero 2010

Editor: Editorial de la Universidad de Granada
Autor: Blanca Luisa Delgado Márquez
D.L.: GR 2990-2010
ISBN: 978-84-693-2572-8

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LA INFLUENCIA DE LA CONFIANZA EN LA GESTIÓN EMPRESARIAL

THE INFLUENCE OF TRUST ON MANAGEMENT

Presentada por
Blanca Luisa Delgado Márquez
para optar al título de Doctor en Ciencias Económicas

Granada, Febrero de 2010

Trust is the glue that holds everything together, the bond that creates healthy communities and successful businesses

Swab & Malleret (2003)

A mis padres

Agradecimientos

No quisiera dar por terminada esta Memoria sin antes manifestar mi mayor gratitud a todas aquellas personas que me han apoyado en todo momento con su continuo ánimo y estímulo.

En primer lugar, quiero expresar mi más profundo agradecimiento a los directores del presente trabajo, Dr. D. J. Alberto Aragón Correa y Dra. Dña. Nuria Esther Hurtado Torres, por su imprescindible ayuda, plasmada en innumerables sesiones de trabajo, y por su infatigable labor de mejora continua de esta Memoria. Ellos me han guiado en este viaje y de ellos he aprendido muchísimo.

A los Directores de los Departamentos de Organización de Empresas y Economía Internacional y de España de la Universidad de Granada.

A todos mis compañeros del Grupo de Investigación ISDE y especialmente a su director, Dr. D. J. Alberto Aragón Correa.

A mis amigas y amigos, por su incondicional apoyo.

Y por último a mi familia, que nunca me ha fallado.

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CHAPTER 1

Introduction

1. Overview

During the last decades, trust has become a major concept in social sciences, such as psychology (Johnson-George & Swap, 1982; Rotter, 1967; 1980), philosophy (Baier, 1986), sociology (Barber, 1983; Luhmann, 1979; Shapiro, 1987), economics (Arrow, 1974; Williamson, 1975), and organization theory (Zand, 1972; Zucker, 1986).

Economists look at trust as either calculative (Williamson, 1993) or institutional (North, 1990). Personality psychologists traditionally have viewed trust as an individual characteristic (Rotter, 1971; 1980). Social psychologists have defined trust as an expectation about the behavior of others in transactions, focusing on the contextual factors that enhance or inhibit the development and maintenance of trust (Lewicki & Bunker, 1995). Sociologists investigate how socially embedded properties of relationships among people (Granovetter, 1985) or institutions (Zucker, 1986) are created to reduce the anxiety and uncertainty (and, thus, increase trust) associated with transactions among relative strangers.

Independently of the discipline, a trust relationship is made up of two agents: the trusting party (the trustor) and a party to be trusted (the trustee). Nonetheless, not every interaction between two parties involves trust. There are two necessary conditions for trust to emerge. Risk is the first condition, and it is considered as pivotal in psychological, sociological, and economical conceptualizations of the term "trust" (Coleman, 1990; Rotter, 1967; Williamson, 1993). Risk is defined as the perceived probability of loss from the perspective of the decider (Chiles & McMackin, 1996; MacCrimmon & Wehrung, 1986). Trust would be unnecessary if the decisions could be undertaken without risk (Lewis & Weigert, 1985). Uncertainty regarding whether the other intends to and will act appropriately is the source of risk.

And the second necessary condition is the interdependence between both parts involved in a trust relationship. According to this condition, the interests of one party cannot be achieved without relying on the other. The nature of risk and trust changes as interdependence increases (Sheppard & Sherman, 1998). Degrees of interdependence influence the form that trust may take; for instance, the nature of trust a firm puts in temporary workers is quite different from the trust associated to core and veteran employees.

2. Delimitation Of Trust In Management

2.1 Delimitation

Several definitions of trust have been presented across disciplines. However, there is no commonly accepted definition of trust yet. Regardless of the discipline, confident expectations and willingness to be vulnerable are usually pivotal components of the definitions proposed (McKnight, Cummings, & Chervany, 1998; Mishra & Spreitzer, 1998; Jones & George, 1998). Nonetheless, there have been certain definitions, whose influence on the literature about trust and management has been bigger than others. Mayer, Davis & Schoorman (1995) defined trust as "*the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to* *monitor or control that other party"*. This definition introduces vulnerability. Being vulnerable (Boss, 1978; Zand, 1972) implies that there is something of importance to be lost. Making oneself vulnerable is taking risk. Trust is not taking risk *per* se, but rather it is a *willingness* to take risk (Mayer *et al*, 1995).

Later, alternative definitions have been presented. Focused on a mathematical perspective and adopting a definition centred on outcomes, Bhattacharya, Devinney & Pillutla (1998) proposed that trust is an expectancy *of positive (or nonnegative) outcomes that one can receive based on the expected action of another party in an interaction characterized by uncertainty*. However, this definition, while interesting for analyzing trust from a mathematical and statistical perspective, does not include the possibility of trusting an agent on a different basis than expected benefits and costs. While it is true that this approach can help explaining certain trusting behaviors, there are many situations where trust is not solely guided by this calculative definition. Hence, Rousseau, Sitkin, Burt & Camerer (1998) proposed that trust *is a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another*. Their definition includes not only the possibility of trust based on calculus of outcomes, but also the willingness to accept vulnerability, incorporated from Mayer *et al*´s (1995) definition. Therefore, trust, as the willingness to be vulnerable under conditions of risk and interdependence, is a psychological state that researchers in various disciplines interpret in terms of "perceived probabilities" (Bhattacharya *et al*, 1998), "confidence", and "positive expectations" (Jones & George, 1998; Hagen & Choe, 1998; Das & Teng, 1998). We find that Rousseau *et al*´s (1998) definition is very complete and covers a wide set of situations where trust can be involved. Thus, we adopt their definition of trust to develop the three papers that form the second, third, and fourth chapters of this dissertation.

2.2. Trust Is Neither Cooperation Nor Predictability

While trust has received attention in the literature since several decades, it has been often confused -and used as synonyms- with other terms, such as cooperation and predictability.

Gambetta (1988) stated that trusting someone means the *probability that he will perform an action that is beneficial or at least not detrimental to us is high enough for us to consider engaging in some form of cooperation with him*. In his definition, the distinction between trust and cooperation is not clear. Although trust often leads to cooperative behavior, trust is not a necessary condition for cooperation to arise, since cooperation does not necessarily put a party at risk. For instance, an employee can cooperate –and even look like if he would trust- with another employee. If there are external control mechanisms that will punish the trustee for deceitful behavior, if the issue at hand does not involve vulnerability to the trustor over issues that matter, or if it is clear that the trustee's motives will lead him to behave in a way that coincides with the trustor's desires, then there can be cooperation without trust. In each of these cases, vulnerability is minimal or absent (Mayer *et al*, 1995).

Furthermore, trust and predictability are not equivalent. There exists a relationship between them, since both trust and predictability are means of uncertainty reduction (Lewis & Weigert, 1985). However, both terms have often been confused in the literature. For instance, Gabarro (1978) defined trust as *the extent to which one person can expect predictability in the other's behavior in terms of what is `normally´ expected of a person acting in good faith*. Another party's predictability is insufficient to make a person willing to take a risk. To equate the two is to suggest that a party who can be expected to consistently ignore the needs of others and act in a self-interested fashion is therefore trusted, because the party is predictable. What is missing in that approach is the willingness to take a risk in the relationship and to be vulnerable.

2.3. Trust, Risk And Control Systems

The existence of risk and the interdependence are two necessary conditions for the emergence of trust. One of the most problematic areas in the literature about trust and management was the lack of clarity in the relationship between risk and control until the middle of the nineties. Regarding the relationship between these two variables, Mayer *et al* (1995) proposed that trust would lead to risk taking in a trust relationship. In the early beginning of the literature of trust in management, researchers have claimed for the necessity to develop mechanisms minimizing the risk involved in working relationships. Control systems are an alternative mechanism for dealing with risk in relationships. In order to avoid self-serving behaviors as well as potential litigation, many firms utilize control mechanisms and contracts, and they change their decision-making processes, internal processes, reward systems, and structures (Jensen & Meckling, 1976; Meyer, 1983; Sitkin & Bies, 1994; Williamson, 1975). Legalistic remedies have been described as weak, impersonal substitutes for trust (Sitkin & Roth, 1993), which may bring organizational legitimacy, yet often are ineffective (Argyris, 1994; Donaldson & Davis, 1991; Granovetter, 1985; Sitkin & Roth, 1993).

Recently, several scholars have speculated about the relationship between trust and control systems in dealing with risk (McEvily, Perrone & Zaheer, 2003; Sitkin & George, 2005). However, trust and control systems are not mutually excluding mechanisms. When the level of risk is bigger than the level of trust (and thus, the level of willingness to take a risk), a control system can bridge the difference by lowering the level of risk to a threshold which can be managed by trust (Schoorman, Mayer & Davis, 2007).

However, it is important to note that the existence of a too strong control system prevents the development of trust. In this context, few situations will have an inherent perceived risk attached, and the trust placed in the trustee will be attributed to the existence of the control system rather than to attributes of the trustee. The use of control systems is how agency theory proposes dealing with risk management, and this does not foster the development of trust.

2.4. Trust Versus Trustworthiness

Prior studies have investigated why a given party has a greater or lesser amount of trust for another party. One approach is to consider attributes of the trustee. Some authors identify a single trustee characteristic that is responsible for trust (e.g., Strickland, 1958), whereas other authors describe as many as ten characteristics (e.g., Butler, 1991). Among all the characteristics addressed in the literature, three common elements appear in almost all works: ability, benevolence, and integrity.

Ability is that group of skills, competencies, and characteristics that enable a party to have influence within some specific domain. The specificity of the domain is crucial in this definition, since an employee may be very keen with programming but may have a low ability for selling the product. Moreover, benevolence is the extent to which a trustee is believed to want to do good to the trustor. Finally, the relationship between integrity and trust involves the trustor's perception that the trustee adheres to a set of principles that the trustor finds acceptable (Mayer *et al*, 1995). Otherwise, the trustor will not find the trustee to have the integrity to be trusted.

Moreover, these three dimensions can be applied to interpersonal, intergroup, or interorganizational levels of analysis (Schoorman *et al*, 2007). These three conditions lead the trustor to ascribe trustworthiness to the trustee. Trustworthiness is the antecedent of trust.

3. Relationship Between Trust And Management

Since the common thread in all the chapters of the dissertation is trust, this section provides a summary about the evolution of the importance of trust in management.

Trust was introduced as a construct of interest in the behavioral sciences fifty years ago (e.g., Deutsch, 1958). Since then, several researchers have established its pivotal role in relationships within and between organizations (Kramer & Tyler, 1996; Rousseau *et al*, 1998).

The importance of trust has been cited in such areas as communication (Giffin, 1967), leadership (Atwater, 1988), management by objectives (Scott, 1980), negotiation (Bazerman, 1994), game theory (Milgrom & Roberts, 1992), performance appraisal (Cummings, 1983), labor-management relations (Taylor, 1989), complementarities between JIT purchasing practices (González-Benito, Suárez-González & Spring, 2000), and implementation of self-managed work teams (Lawler, 1992). Furthermore, during the last years more research on trust within organizations (Handy, 1995; Kramer & Tyler, 1996), between organizations (Moorman, Zaltman, & Deshpande, 1992), and in international affairs (Michalos, 1990) has been demanded. Therefore, trust proves to be crucial in a number of ways: it promotes cooperative behavior (Gambetta, 1988); encourages adaptive organizational forms, such as network relations (Miles & Snow, 1992); reduces harmful conflict, decreases transaction costs; facilitates rapid formulation of ad hoc work groups (Meyerson, Weick, & Kramer, 1996), and stimulates effective responses to crisis.

In the middle of the nineties, an increasing interest for trust in management for the following years was forecasted by several researchers due to some observable reasons. First, the increasing diversity in the workforce composition of the United States. This trend implies that people with different personal backgrounds interact closely and effectively with each other. However, it was observed that a diverse workforce is less able to rely on interpersonal similarity and common background and experience to contribute to mutual attraction and enhance the willingness to work together (Berscheid & Walster, 1978; Newcomb, 1956). Thus, the development of mutual trust provides a useful mechanism for enabling employees work more effectively. And second, the changes in the organization of work. Lawler (1992) observed progressive changes in the workplace in the direction of more participative management styles and the implementation of work teams. The emergence of self-directed teams and a reliance on empowered workers greatly increase the importance of the concept of trust since control mechanisms are reduced or removed and interaction increases (Golembiewski & McConkie, 1975; Larson & LaFasto, 1989). In the use of self-directed teams, trust must take the place of supervision because direct observation of employees becomes impractical.

Lately, many papers have focused on the construction of trust over the internet as a way for achieving commercial goals (Chen & Barnes, 2007; Kim, Shin & Lee, 2009; Lee & Lee, 2006). Electronic commerce is a new form of exchange where online transactions can occur among entities that have never met before. As in traditional exchanges, trust has been considered to be crucial in the online transaction process (Ba, Zhang & Whinston, 1999; Brynjolfsson & Smith, 2000; Ratnasingam, 2005) perhaps more so given the impersonal nature of the online environment (uncertainty) and the inability to judge product quality prior to purchase (information asymmetry).Lack of trust has been repeatedly identified as one of the highest barriers to people for engaging in electronic commerce, involving transactions in which financial and personal information is submitted to merchants via the Internet. Recent papers analyze how initial trust can be fostered in online environments (Chen & Barnes, 2007).

The construction of trust over the internet and the trust transfer are two of the most leading topics in the recent literature of trust and management. A trust transfer occurs when one party (the trustor) ascribes trustworthiness to an unfamiliar exchange partner based on that partner's association with a trusted third-party (Doney, Cannon & Mullen, 1998). For instance, when a manager decides to hire an unknown worker because this worker provides positive references from his previous company. This concept has been previously observed in some empirical studies in other disciplines, such as sociology (Henslin, 1968; Strub & Priest, 1976), and marketing applied to business situations (Milliman & Fugate, 1988; Doney & Cannon, 1997). More recently, several papers have started paying attention to trust transfer mechanisms, specially focused on online environments (Stewart, 2003; 2006).

Despite the growing body of literature dealing with trust in management situations, nowadays several problematic areas of study remain still controversial, such as: problems with the definition of trust itself; lack of clarity in the relationship between risk and trust; confusion between trust and its antecedents and outcomes; lack of specificity of trust referents leading to confusion in the levels of analysis; a failure to consider both the trusting party and the party to be trusted; and a lack of tools for trust measurement.

Therefore, while trust has received increasing attention in the literature about management during the last decades, it is still a very fruitful area of research. Several aspects of trust relationships remain unexplored or demand a deeper understanding. Future research is pivotal to achieve a better understanding of personal, inter, and intraorganizational relationships. As an example of this permanent investigation in trust and management, we can cite the recent "5th International Workshop on Trust Within and Between Organizations", held in Madrid (Spain) from the 28th to the 29th of January 2010. In this workshop, international leading scholars working on trust discussed several elements, such as: trust and control in organizational relationships, trust on the context of negotiation and conflict resolution, trust across contexts, trust in buyer-seller relationships, trust at the organizational level, trust in small and new enterprises, trust in inter-firm relationships, trust within and between organizations in the third sector and the public sector, among others.

4. Structure Of The Dissertation

This dissertation is structured into five different chapters, following a common thread: trust. After this introduction to the research topic, chapter two presents the first research paper, where we analyze how trust in stakeholders can help fostering the integration of sustainability into management education. Chapter three contains the second research paper, in which we address the influence of the initial level of knowledge between a trustor and a trustee on future trust, and the influence of a trustor´s experiential knowledge on future types of trusting outcomes. The third paper is in chapter four, in which we analyze trust transfers with a dynamic approach and we investigate the influence of trustors´ learning on future transfers of trust. Finally, chapter five summarizes the main conclusions, implications, limitations, and future research agenda.

After this introduction, which has provided a first contact to the research topic, in the second chapter we describe the first research paper, entitled “Environmental progresses when financial implications are not the aim: The importance of trust in stakeholders on deciding the integration of sustainability into management education”. Prior literature has emphasized the positive relationship between meeting stakeholders´ environmental interests and a firm´s financial performance. However, the influence of stakeholders on the environmental progress in organizations where the people in charge of taking environmental decisions do not perceive financial issues as the main aim of the organization remains still unexplored. In this paper, we study how trust in stakeholders´s ability and benevolence may influence the integration of sustainability-related topics in university management education.

The third chapter presents the second research paper: “The influence of the initial and the experiential knowledge on trusting outcomes”. Previous studies have mainly relied on the study of the trusting behavior displayed by agents. Nonetheless, the trusting outcome arising from a trust relationship has received less attention, with the exception of betrayal, which was investigated in several papers. In this third chapter we analyze the influence of the level of initial knowledge between a trustor and a trustee on future trust between them, as well as the influence of the experiential knowledge accumulated by the trustor from past interactions with the trustee on the typology of future trusting outcomes. We distinguish three different trusting outcomes: betrayal, reciprocity, and reward.

Chapter four contains the third research paper entitled “The dynamic nature of the transfer of trust and the influence of learning”. In this paper we address a topic which has received increasing attention in the literature about trust during the last years: trust transfer. A trust transfer takes place when a trustor trusts an unknown trustee, based on the positive trusting history of this trustee with a third-party, who also holds a positive trusting history with the trustor. Prior literature has analyzed trust transfer in online environments focusing on the achievement of commercial goals, and assuming asymmetry between both parties´ (i.e. trustor and trustee) behavior. In chapter four, we present a new perspective for investigating trust transfers with a dynamic approach and we address the influence of the learning on future transfers of trust. Moreover, we build two indexes for the measurement of trust transfer and trust transfer reciprocation, which contribute to provide a comparable measure across disciplines. We argue that the reciprocations obtained by a trustor from past trust transfers influence future transfers of trust. Additionally, the learning collected by the trustor moderates the relationship between the degree of reciprocations obtained and future trust transfers.

Finally, in chapter five we summarize the main conclusions from the previous chapters and several implications for academics, managers, and regulators. Additionally, we also show the limitations observed and we propose several lines for future research.

References

Argyris, C. A. 1994. ***Litigation mentality and organizational learning***. In S. B Sitkin & R. I. Bies (Eds.). The legalistic organisation. Thousand Oaks, CA: Sage.

Arrow, K. J. 1974. ***The limits of organization***. New York: Norton.

Atwater, L. E. 1988. The relative importance of situational and individual variables in predicting leader behavior. ***Group and Organization Studies***, 13: 290-310.

Ba, S., Zhang, H., & Whinston, A. B. 1999. ***Building trust in the electronic market using an economic incentive mechanism***, Proceedings of the 1999 International Conference on Information Systems. Charlotte, NC. December 12–15, Atlanta Omnipress.

Baier, A. 1986. Trust and antitrust. ***Ethics***, 96: 231-260.

Barber, B. 1983. ***The logic and limits of trust***. New Brunswick, NJ: Rutgers University Press.

Bazerman, M. H. 1994. ***Judgment in managerial decision making***. New York: Wiley.

Berscheid, E., & Walster, E. H. 1978. ***Interpersonal attraction*** (2nd Ed.). Reading. MA: Addison- Wesley.

Bhattacharya, R., Devinney, T. M., & Pillutla, M. M. 1998. A formal model of trust based on outcomes. ***Academy of Management Review***, 23(3): 459-472.

Boss, R. W. 1978. Trust and managerial problem solving revisited. ***Group and Organization Studies***, 3: 331-342.

Brynjolfsson, E., & Smith, M. 2000. Frictionless Commerce? A Comparison of Internet and Conventional Retailers. ***Management Science***, 46(4): 563–585.

Butler, I. K. 1991. Toward understanding and measuring conditions of trust: Evolution of a conditions of trust inventory. ***Journal of Management***, 17: 643-663.

Chen, W. H. & Barnes, S. 2007. Initial trust and online buyer behavior. ***Industrial Management & Data Systems***, 107(1): 21-36.

Chiles, T. H., & McMackin, J. F. 1996. Integrating variable risk preferences, trust, and transaction cost economics. ***Academy of Management Review***, 21: 73-99.

Coleman, J. S. 1990. ***Foundations of social theory***. Cambridge, MA: Belknap Press.

Cummings, L. L. 1983. ***Performance-evaluation systems in context of individual trust and commitment***. In F. I. Landy, S. Zedrick, & I. Cleveland (Eds.). Performance measurement and theory: 89-93. Hillsdale, N.J: Earlbaum.

Das, T. K., & Teng, B. S. 1998. Between trust and control: Developing confidence in partner cooperation in alliances. ***Academy of Management Review***, 23(3): 491-512.

Deutsch, M. 1958. Trust and suspicion. ***The Journal of Conflict Resolution***, 2(4): 265-279.

Donaldson, L., & Davis, I. H. 1991. Stewardship theory or agency theory: CEO governance and shareholder returns. ***Australian Journal of Management***, 16(1): 49-64.

Doney, P.M.. & Cannon, J. P. 1997. An examination of the nature of trust in buyer-seller relationships. ***Journal of Marketing***, 61(2): 35-51.

Doney, P. M., Cannon, J. P., & Mullen, M. R. 1998. Understanding the influence of national culture on the development of trust. ***Academy of Management Review***, 23(3): 601-620.

Gabarro, I. 1978. ***The development of trust, influence, and expectations***. In A. G. Athos & J. J. Gabarro (Eds.), Interpersonal behavior: Communication and understanding in relationships: 290-303. Englewood Cliffs, NJ: Prentice Hall.

Gambetta, D. 1988. ***Trust: Making and breaking cooperative relations***. New York: Basil Blackwell.

Giffin, K. 1967. The contribution of studies of source credibility to a theory of interpersonal trust in the communication department. ***Psychological Bulletin***, 68: 104-120.

Golembiewski, R. T., & McConkie, M. 1975. The centrality of interpersonal trust in group processes. In C. L. Cooper (Ed.). ***Theories of group processes***. New York: Wiley.

González-Benito, J., Suárez-González, I., & Spring, M. 2000. Complementarities between JIT purchasing practices: An economic analysis based on transaction costs. ***International Journal of Production Economics***, 67: 279-293.

Granovetter, M. S. 1985. Economic action and social structure. ***American Journal of Sociology***, 91: 481-510.

Hagen, J., & Choe, S. 1998. Trust in Japanese interfirm relations: institutional sanctions matter. ***Academy of Management Review***, 23(3): 589–600.

Handy, C. 1995. Trust and the virtual organization, ***Harvard Business Review***, 3: 40–50.

Henslin, J. M. 1968. ***Trust and the cab driver***. In Sociology and Everyday Life, Truzzi, M (Eds.). Englewood Cliffs, NJ: Prentice Hall: 138-158.

Jensen, M. C., & Meckling, W. H. 1976. Theory of the firm: Managerial behavior, agency costs and ownership structure. ***Journal of Financial Economics***, 3: 305-360.

Johnson-George, C., & Swap, W. C. 1982. Measurement of specific interpersonal trust: Construction and validation of a scale to assess trust in a specific other. ***Journal of Personality and Social Psychology***, 43: 1306-1317.

Jones, G. R., & George, J. M. 1998. The experience and evolution of trust: Implications for cooperation and teamwork. ***Academy of Management Review***, 23(3): 531-546.

Kim, G., Shin, B., & Lee, H. G. 2009. Understanding dynamics between initial trust and usage intentions of mobile banking. ***Information Systems Journal***, 19: 283-311.

Kramer, R. M., & Tyler, T. R. 1996. ***Trust in organizations: Frontiers of theory and research***. Thousand Oaks, CA: Sage.

Larson, C. E., & LaFasto, F. M. J. 1989. ***Teamwork: What must go right/what can go wrong***. Newbury Park, CA: Sage.

Lawler, E. 1992. ***The ultimate advantage: Creating the high involvement organization***. San Francisco: Jossey-Bass.

Lee, S. M., & Lee, S. J. 2006. Consumers´ inicial trust toward second-hand products in the electronic market. ***The Journal of Computer Information Systems***, 46(2): 85-98.

Lewicki. R. J., & Bunker, B. B. 1995. ***Trust in relationships: A model of trust development and decline***. In B. B, Bunker & J. Z. Rubin (Eds.). Conflict, cooperation and justice: 133-173. San Francisco: Jossey-Bass.

Lewis, J. D., & Weigert, A. 1985. Trust as a social reality. ***Social Forces***, 63: 967-985.

Luhmann, N. 1979. ***Trust and power***. Chichester, UK: Wiley.

MacCrimmon. K. R., & Wehrung, D. A. 1986. ***Taking risks: The management of uncertainty***. New York: Free Press.

Mayer. R. C. Davis. J. H., & Schoorman, D. 1995. An integrative model of organizational trust. ***Academy of Management Review***, 20: 709-734.

McEvily, B., Perrone, V., & Zaheer, A. 2003. Trust as an organizing principle. ***Organization Science***, 14: 91–103.

McKnight, D. H., Cummings, L. L., & Chervany, N. L. 1998. Initial trust formation in new organizational relationships. ***Academy of Management Review***, 23(3): 473-490.

Meyer, J. W. 1983. ***Organizational factors affecting legalization in education***. In J. W. Meyer & W. R. Scott (Eds.), Organizational environments: Rituals and rationality: 217-232. San Francisco: Jossey-Bass.

Meyerson, D., Weick. K. E., & Kramer, R. M. 1996. ***Swift trust and temporary groups***. In R. M. Kramer & T. R. Tyler (Eds.). Trust in organizations: Frontiers of theory and research: 166-195. Thousand Oaks, CA: Sage.

Michalos, A. C. 1990. The impact of trust on business, international security and the quality of life. ***Journal of Business Ethics***, 9(8): 619-638.

Miles, R. E., & Snow, C. C. 1992. Causes of failure in network organizations. ***California Management Review***, 35: 93-72.

Milgrom, P., & Roberts, J. 1992. ***Economics, organization and management***. Englewood Cliffs, NJ: Prentice Hall.

Milliman, R. E., & Fugate, D. L. 1988. Using trust-transference as a persuasion technique: An empirical field investigation. ***Journal of Personal Selling and Sales Management***: 1-7.

Mishra, A. K., & Spreitzer, G. M. 1998. Explaining how survivors respond to downsizing: The roles of trust, empowerment, justice, and work redesign. ***Academy of Management Review***, 23(3): 567-588.

Moorman, C., Zaltman, G., & Deshpande, R. 1992. Relationships between providers and users of market research. ***Journal of Marketing Research***, 29: 314-328.

Newcomb, T. M. 1956. The prediction of interpersonal attraction. ***American Psychologist***. 11: 575-586.

North, D. C. 1990. ***Institutions, institutional change, and economic performance***. New York: Cambridge University Press.

Ratnasingam, P. 2005. Trust in inter-organizational exchanges: A case study in business to business electronic commerce. ***Decision Support Systems***, 39: 525-544.

Rotter, J. B. 1967. A new scale for the measurement of interpersonal trust. ***Journal of Personality***, 35: 651-665.

Rotter, J. B. 1971. Generalized expectancies for interpersonal trust. ***American Psychologist***, 26: 443-452.

Rotter, J. B. 1980. Interpersonal trust, trustworthiness, and gullibility. ***American Psychologist***, 35: 1-7.

Rousseau, D. M., Sitkin, S. B., Burt, R. S., & Camerer, C. 1998. Not so different after all: A cross-discipline view of trust. ***Academy of Management Review***, 23(3): 393-404.

Schoorman, F. D., Mayer, R. C., & Davis, J. H. 2007. An integrative model of organizational trust: Past, present, and future. ***Academy of Management Review***, 32(2): 344-354.

Scott, D. 1980. The causal relationship between trust and the assessed value of management by objectives. ***Journal of Management***, 6: 157-175.

Shapiro, S. P. 1987. The social control of impersonal trust. ***American Journal of Sociology***, 93: 623-658.

Sheppard, B. H., & Sherman, D. M. 1998. The grammars of trust: A model and general implications. ***Academy of Management Review***, 23(3): 422-437.

Sitkin, S. B., & Bies, R. J. 1994. ***The legalization of organizations: A multitheoretical perspective***. In S. B Sitkin & R. J. Bies (Eds.), The legalistic organization: 19-49. Thousand Oaks, CA: Sage.

Sitkin, S. B., & George, E. 2005. Managerial trust-building through the use of legitimating formal and informal control mechanisms. ***International Sociology,*** 20: 307–338.

Sitkin, S. B., & Roth, N. L. 1993. Explaining the limited effectiveness of legalistic “remedies” for trust/distrust. ***Organization Science***, 4: 367-392.

Stewart, K. J. 2003. Trust transfer on the World Wide Web. ***Organization Science***, 14(1): 5–17.

Stewart, K. 2006. How hypertext links influence consumer perceptions to build and degrade trust online. ***Journal of Management Information Systems***, 23(1): 183–210.

Strickland, L. H. 1958. Surveillance and trust. ***Journal of Personality,*** 24: 200–215.

Strub, P. J., & Priest, T. B. 1976. Two patterns of establishing trust: The marijuana user. ***Sociological Focus***: 399-411.

Taylor, R. G. 1989. The role of trust in labor-management relations. ***Organization Development Journal***, *7:* 85-89.

Williamson, O. E. 1975. ***Markets and hierarchies***. New York: Free Press.

Williamson, O. E. 1993. Calculativeness, trust, and economic organization. ***Journal of Law and Economics***, 36: 453-486.

Zand, D. E. 1972. Trust and managerial problem solving. ***Administrative Science Quarterly***, 17: 229-239.

Zucker, L. G. 1986. Production of trust: Institutional sources of economic structure, 1840-1920. ***Research in Organizational Behavior***, 8: 53-111.

CHAPTER 2

Environmental Progresses When Financial Implications Are Not The Aim: The Importance Of Trust In Stakeholders On Deciding The Integration Of Sustainability Into Management Education

Abstract

The literature has emphasized the positive relationship between meeting stakeholders´ environmental interests and a firm´s financial performance. A sample of 95 heads of department in 25 universities shows that their trust in the technical ability and benevolence of the stakeholders from the department positively influences the heads of departments' willingness to integrate sustainability into management courses. Although department heads' interest in the financial aims of their department also has a positive influence on their willingness, we found no evidence that interest in financial objectives moderates the influence of ability and benevolence.

Key words: Natural environment, stakeholders, trust, sustainability, management education.

1. Introduction

Stakeholders' literature regarding the natural environment insists on the positive link between financial performance and paying attention to environmental stakeholders' concerns (e.g. Berman, Wicks, Kotha, & Jones, 1999; Darnall, Henriques, & Sadorsky, 2008; Hart, 1995; Hart & Ahuja, 1996; Kassinis & Panayiotou, 2006; Kassinis & Vaffeas, 2006; Klassen & McLaughlin, 1996; Marcus & Geffen, 1998; Ogden & Watson, 1999; Russo & Fouts, 1997; Sharma and Vredenburg, 1998). The literature, however, has paid little attention to whether and how stakeholders influence environmental progress in organizations when the people in charge of taking environmental decisions do not perceive financial issues as the main aim of the organization. Our goal is to establish what perceptions of department heads in business and engineering centres in relation to departmental stakeholders influence the former's willingness to integrate sustainability issues into the syllabus of the courses taught by the department.

Stakeholders are defined as any group or individual who can affect, or is affected by, the achievement of the organization's objectives (Freeman, 1984). On dealing with the identification and salience of stakeholders, Mitchell, Agle & Wood (1997) proposed that the salience of stakeholders to the firm's manager when making decisions regarding a specific issue depends upon three attributes of the stakeholders: *power* to influence the firm; *legitimacy* of a relationship; and/or *urgency* of a claim.

Driscoll and Starik (2004) argue that the natural environment can be identified as a primary stakeholder of the organization in its own right and that it should therefore be a priority to all managers. The literature, however, has focused upon the power of certain stakeholders -such as the government or customers- to influence environmental decisions of the organization due to the impact these stakeholders have on the economic benefits of the organization (e.g. Darnall, Seol, & Sarkis, 2009; Fineman & Clarke, 1996; Henriques & Sadorsky, 1999; Kassinis & Vaffeas, 2002). Although Mitchell *et al* (1997) proposed that stakeholders have additional forms of power different from economic influence, the previous literature on organizations and natural environment has paid little attention to this aspect.

Most previous studies assume that environmental concerns of stakeholders only count if they generate an opportunity to the firm for financial improvement. In this paper we propose that managers' trust in stakeholders may also influence environmental decisions. Our paper uses the concept of trust (Mayer, Davis, & Schoorman, 1995; Rousseau, Sitkin, Burt, & Camerer, 1998; Schoorman, Mayer, & Davis, 2007) to examine whether the perception of the decision maker regarding stakeholder trustworthiness can constitute a stakeholders´ complementary form of power, which can facilitate the implementation of environmental issues in the organization.

The literature on this concept of trust (Chiles & McMakin, 1996; MacCrimmon & Wehrung, 1986; Rousseau *et al*, 1998) proposes that decisions taken by certain people (trustors) involve a risk level that depends on other people to whom the decision is related (trustees). Thus, trustors are prepared to act if they perceive that trustees present a sufficient degree of trustworthiness (i.e. ability, integrity and benevolence) in order for the risk inherent in the decision to be lower than the potential benefits (Gefen, Benbasat, & Pavlou, 2008; Gefen & Heart, 2004; Pavlou & Dimoka, 2006).

In the literature, no attention has yet been paid to the analysis of the role of managers' trust placed in the stakeholders on making environmental decisions. However, this aspect is important with regard to analyzing the integration of contents related to sustainability (Brundtland Commission, 1987) in university courses for, at least, two reasons.

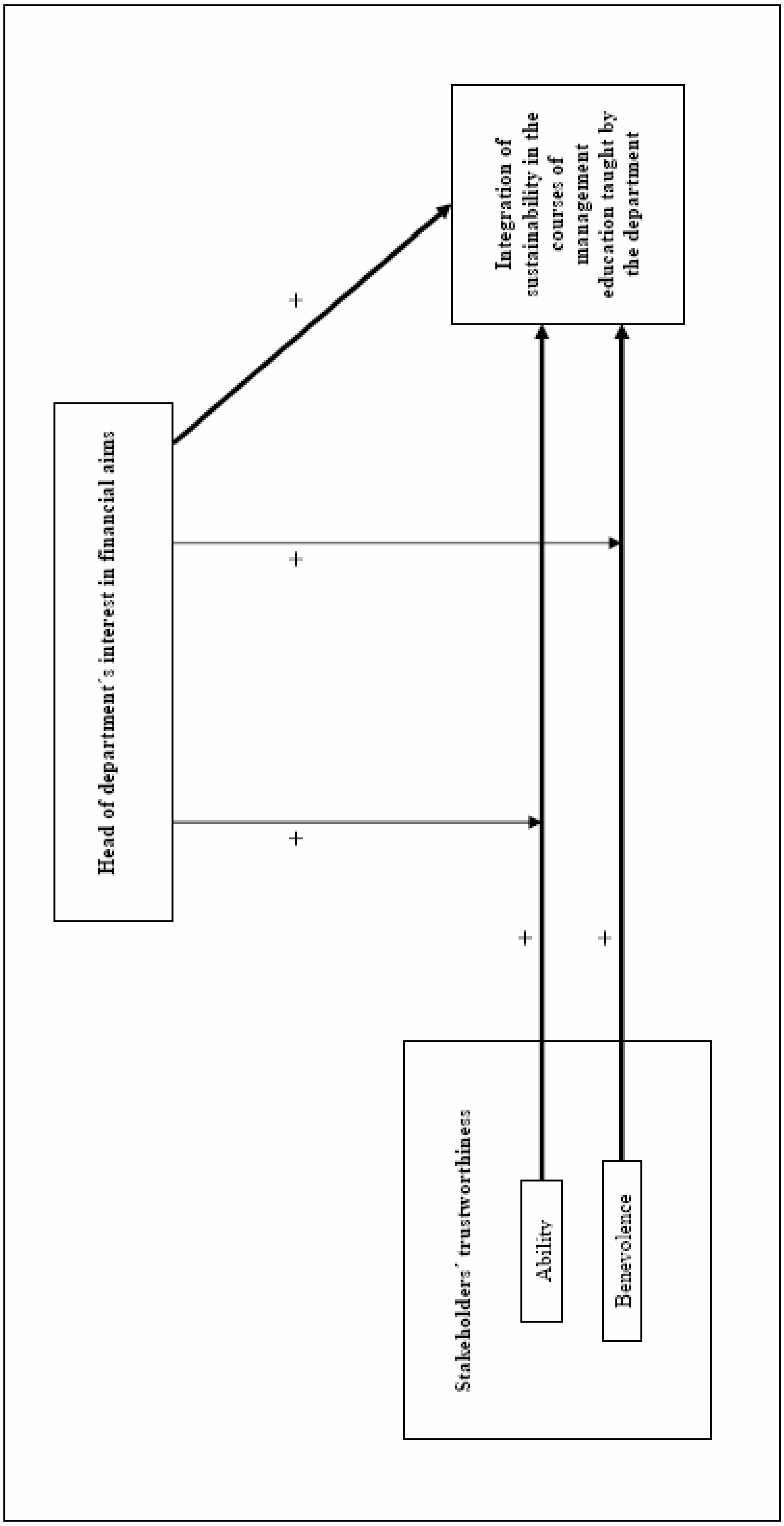
First, those who decide on the contents and final orientation of management education courses are academics who, when acting as managers, often have multiple objectives (scientific publications, reputation, increased size of their schools or departments) that do not prioritize financial aspects. The main objective of many universities may not even involve financial performance or they might be non-profit institutions. In any case, the career development of scholars deciding on the degree of sustainability of their teaching is not usually linked to the financial performance of the organization. This situation is different from what happens outside the university, where managers' salary or promotion is linked to the profitability of their firm. In this context, we attempt to provide a better understanding of what factors influence their decision to integrate environmental issues into management teaching.

Second, given the importance of students acquiring skills related to sustainability, which can be used in their subsequent professional lives as managers, it is of interest to define ways of influencing the integration of sustainability into management education. Environmental stakeholders tend to be less active with regard to service organizations than in relation to industry (Rueda-Manzanares, Aragón-Correa & Sharma, 2008). It is important to understand the different routes of influence that stakeholders can develop in the university environment.

Our work first uses a sample of 74 deans of business and engineering schools in 46 universities in order to provide a brief description of the context of our study. Following our hypotheses, our final results are based on the use of a sample including 95 heads of academic departments responsible for courses in business and engineering in master programmes at 25 Spanish universities. Heads of department are the managers responsible for proposing, managing, and supervising course syllabuses in the Spanish system.

The results show that trust in stakeholders' ability and benevolence with regard to sustainability issues positively influences the willingness to integrate these topics into the syllabus of the courses. Although department heads' interest in the economic objectives of the department also has a positive influence in their decisions, we found no evidence that interest in economic goals moderates the influence of ability and benevolence. Figure 1 establishes the relationships analyzed in this paper.

FIGURE 1
Research Model Proposed



We make three basic contributions to the literature. First, whereas previous articles have focused on studying the influence of stakeholders' economic power, the incorporation of the variable "trust" in the study of the stakeholders' role provides an understanding of the complementary roles of stakeholders and has not been previously analyzed. Second, our study responds to a need to implement the literature on trust beyond the commercial areas involving a relationship between suppliers and customers. The article demonstrates the influence of the concept in more complex areas of interaction. Third, the analysis of the role played by stakeholders in the education sector enables us to better understand the possibilities for collaboration between managers and stakeholders in order to positively influence the integration of sustainable issues in the curricula of university courses.

Following this introduction, the paper is structured into five sections. In the next section, a review of the literature on trust is developed. We present the research hypotheses in the third section. The fourth section covers the methodology used and section five the results obtained. Finally, in the sixth section we discuss the results, along with some limitations, implications for management and future research lines.

2. Theoretical Background: Trust

The literature on trust has focused on determining the factors influencing a person´s willingness to make a decision, knowing that the final benefits depend on the behavior or attitude of other people (Mayer *et al*, 1995; Schoorman *et al*, 2007). For example, an individual (trustor) is willing to buy online when he perceives that the other agents involved in the operation (trustees) deserve his trust, and the interest in the purchase therefore exceeds the risk involved with respect to the behavior of these agents. Although the literature on trust has mainly focused on analyzing the business relationship between a client and a supplier, some studies have also begun to show an interest in aspects reaching beyond the commercial sphere (Gill, 2008; Gill & Mathur, 2007) and in the possibility of the decision being conditioned by multiple trustees (Silverman, 2007).

The willingness (or not) to expose oneself to others' actions has constituted the key line of analysis in much of the literature on trust (Doney, Cannon, & Mullen, 1998; Mayer *et al*, 1995; McKnight, Cummings, & Chervany, 1998; Mishra & Spreitzer, 1998). Rousseau *et al* (1998) define trust as a psychological state comprising the intention to accept vulnerability based on positive expectations regarding the intentions or behavior of others.

Trust would be unnecessary if actions could be undertaken without risk (Lewis & Weigert, 1985). Risk is the perceived probability of loss from the perspective of the agent taking the decision (Chiles & McMakin, 1996; MacCrimmon & Wehrung, 1986). The losses are not only economic ones, but also affect many other factors such as trustor's time, reputation and social relations (Resnick, Zeckhauser, Swanson & Lockwood, 2006). The existence of trust in the organizational environment fosters cooperative behavior (Gambetta, 1988), promotes adaptive organizational forms (Miles & Snow, 1992), lowers transaction costs (Rousseau *et al*, 1998), and facilitates the rapid formation of ad hoc working groups (Meyerson, Weick, & Kramer, 1996).

The three factors that have been repeatedly identified as explaining the decision to trust are the trustor´s perception of the ability, integrity and benevolence of the trustee (Gefen, 2002; Mayer *et al*, 1995; McKnight et al, 2002). Ability refers to the group of skills, competencies, and characteristics that enable a party to have influence within some specific domain. Furthermore, the relationship between integrity and trust involves the trustor's perception that the trustee adheres to a set of principles that the trustor finds acceptable. Finally, benevolence is the extent to which a trustee is believed to want to do good to the trustor, aside from selfish profit-related reasons (Mayer *et al*, 1995).

Trustworthiness is the trustor´s perception regarding these three dimensions of the trustee - ability, integrity, and benevolence (Mayer *et al*, 1995) and is the key antecedent of trust in the literature on the subject (McKnight *et al*, 2002; Schoorman *et al*, 2007; Serva & Fuller, 2004). Thus, when the risk perceived by the trustor exceeds the maximum level of risk he is willing to take, considering the expected benefits, the trustor chooses not to put his trust in the trustee.

The importance of ethics or integrity has been highlighted when significant business risks exist (Gefen, 2002; Kerler & Killough, 2009). As the literature has emphasized the importance of considering relevant dimensions depending on the specific context analyzed (Gefen & Heart, 2006; Serva & Fuller, 2004; Pavlou & Dimoka, 2006), this study focuses on the perception of stakeholders' dimensions of ability and benevolence. The literature on trust has paid far less attention to the dimension of benevolence and there have been calls to specifically integrate this dimension (Schoorman *et al*, 2007). In any case, to our knowledge no papers in the literature combine an analysis of environmental issues and stakeholders with the literature on trust.

3. The Context

3.1 Sustainability And Management Education

Sustainability refers to meeting the needs of the present generation without compromising the ability of future generations to meet theirs (Brundtland Commission, 1987). Over the last few years, various international forums have highlighted the importance of integrating knowledge to facilitate sustainability in university education.

For example, The United Nations Educational, Scientific and Cultural Organization (UNESCO) has identified the years 2005-2014 as “The United Nations Decade of Education for Sustainable Development” (UNESCO, 2004). In our paper, integration of sustainability into management courses refers to the incorporation of different contents that will enable future managers to better understand the repercussions of their future professional activity for future generations. We pay special attention to the incorporation of environmental contents as a complement to the economic and even social contents traditionally addressed in management courses.

Interest in environmental issues in the business sphere has grown exponentially in recent years (Hahn & Scheermesser, 2006; Marcus & Anderson, 2006; Sirmon, Hitt & Ireland, 2007; Starik & Heuer, 2002; Starik & Marcus, 2000; Starik & Rands, 1995). However, this interest (if any) has been reflected in management courses in a very heterogeneous manner. Recent literature has offered a detailed identification of the principles, topics, assignments and assessment mechanisms that can be incorporated into environmental management education (Rands, 2009). However, the literature analyzing the integration of sustainability issues into university education has been limited and has focused on proposing pedagogical teaching tools for educators (Porter & Córdoba, 2009), case studies on the integration of sustainability in some MBA courses (Benn & Dunphy, 2009), or approaches to developing leaders capable of ensuring sustainability (Hind, Wilson, & Lenssen, 2009).

The possibilities for integrating contents related to sustainability are multiple and include the existence of one or more specific topics within a course, specialized courses, or even specialized programmes for sustainable management. However, courses in business schools are still far from providing a transverse philosophy or contents aimed at helping to understand the importance of considering sustainability in technical knowledge in business management (Hart, 2008).

Each faculty member may personally decide to integrate certain reflections on sustainability in his teaching. However, the formal decision to systematically integrate sustainability into management education courses requires efforts in relation to adoption, planning and implementation, whose ultimate success is dependent on the attitudes and behavior of other agents ("stakeholders" of the organization) who are going to implant them (teachers), to evaluate them (students, companies or authorities) or to finance them (private or public investors). At the same time, the decision may involve a significant risk if stakeholders were to decide that environmental advances have diverted attention from the goals that really matter to their organization, or that they are simply unable to effectively collaborate due to technical ignorance or lack of interest (Henriques & Sadorsky, 1999).

In other words, the educational manager taking decisions regarding the integration of sustainability into the management curriculum can analyze whether the stakeholders provide an economic benefit to the organization with environmental developments (e.g. achieving a higher demand by students or reducing its operational costs). But at the same time, he also appreciates the risks that this decision might involve. If he perceives little financial benefit, the implementation will at least require that the decision maker perceives that his stakeholders can collaborate with the development of such a measure, thus reducing the potential risk of the decision.

3.2. Sustainability And Financial Performance In Our Context

Each university may have a different system depending on the person who can decide on a systematic integration of sustainability into courses. All the universities in our sample state that each department is responsible for setting the contents of its courses. The specific syllabus for each course must be approved, prior to implementation, in a formal meeting chaired by the head of the department. The latter proposes the subjects to be studied in these formal meetings and he is responsible for monitoring compliance with what has been approved. Integration of a new philosophy or of contents into the syllabus of the programmes requires an effort by the head of department, who will have to analyze the possibilities of the professors in this sense, in order to prepare some specific guidance in relation to the topic, to obtain the approval of the changes by the department and to monitor the incidents and problems the changes might entail.

The deans in our sample are responsible for managing the centre and coordinate the implementation and the contents of the different courses in a programme. Although the department decides upon the final contents of the courses, the dean plays a symbolic role, suggesting ideas for courses and promoting the general direction of the programme. Before discussing our hypotheses, we attempted to better understand the context in which the sampled heads of departments make decisions. To this end, we sent a written questionnaire to 164 deans of business and engineering schools in 69 Spanish universities in order to learn their perceptions regarding the economic benefits that a proactive environmental strategy could provide to the centre. The final sample comprised 74 deans of 46 different universities.

The environmental proactivity of each centre was measured by an arithmetic mean of 13 items which captured various environmental practices and their degree of implementation in the centre, measured using a Likert scale from 0 to 6 points in which higher scores meant a higher degree of proactivity. The perceived economic benefits were calculated by using a variable comprising 3 items related to improvements in student demand, revenue or cost reduction measures, also by means of a 7-point Likert scale from 0 to 6.

The measures enabled us to classify the schools into three groups according to their degree of environmental development. The three groups were formed according to a confidence interval on the mean at 95%. The centres whose environmental proactivity was below this confidence interval were classified as low-proactivity centres, schools above this range were classified as high-proactivity centres and finally, centres whose average score was within the confidence interval were classified as having an average proactivity.

Table 1 shows a descriptive analysis of the results obtained. An ANOVA analysis (F = 0.98, Sig = 0.38) shows that there are no significant differences in deans' perceptions of the economic advantages from the development of proactive environmental strategies in their centres, as it can be drawn from table 2.

TABLE 1
Means, Standard Deviations, and Confidence Interval for the deans´sample

Variable		n	Mean	s.d.	Confidence Interval for the Mean (95%) Lower threshold	Upper threshold
Perceived economic advantages	Low Environmental Proactivity	28	3.56	1.20	3.09	4.03
	Medium Environmental Proactivity	19	3.26	1.26	2.66	3.87
	High Environmental Proactivity	27	3.75	1.06	3.33	4.17
	Total	74	3.55	1.17	3.28	3.83

TABLE 2
ANOVA for the deans´ data

Variable		Sum of squares	Degrees of freedom	Quadratic mean	F	*p*
Perceived economic advantages	Inter-groups	2.68	2	1.34	.98	.38
	Intra-groups	97.16	71	1.37		
	Total	99.84	73			

4. Hypotheses

4.1. The Influence Of Stakeholders´ Trustworthiness In The Decision To Integrate Sustainability Into Management Education Courses

4.1.1. Perception Of Stakeholders´ Ability

Ability is that group of skills, competencies, and characteristics that enable a party to have influence within some specific domain (Mayer *et al*, 1995). Ability is always studied for specific domains because, for example, a trustee may have a high ability to collaborate in the integration of sustainability into management courses, but may have a reduced ability to program in some specific programming language.

Literature on stakeholders applied to environmental issues has shown that managers´ perceptions regarding stakeholders are directly related to the degree of corporate environmental commitment (Henriques & Sadorsky, 1999; Kassinis & Vaffeas, 2002) and the types of environmental practices implemented (Sharma & Henriques, 2005). Applied to the study of university management, Lounsbury (2001) found that integration of environmental management on campuses can be linked to students´ skills in order to provide effective collaboration in this issue.

Head of departments' perception of the ability of the organization´s stakeholders to collaborate in the integration of environmental sustainability allows the former to reduce the risks of their decision in at least three ways. First, the ability of stakeholders in the area requires less effort by the head of department in explaining the objectives pursued. Second, the ability of stakeholders increases the chances of successful implantation and reduces the need for prior investment. Finally, this ability enables stakeholders to more easily understand the problems that may arise in the process and, therefore, to possibly evaluate less negatively a possible error.

In other words, the final degree of success or failure of sustainability integration into management education is influenced by the department's stakeholders and the ability of these stakeholders can reduce the risk taken by the head of the department on making the decision. A lower level of risk in a decision always favours its development and this is particularly important when the perceived advantages of this decision are low. Therefore:

> *Hypothesis 1.a. Stakeholders´ ability perceived by the head of department positively affects his intention to integrate sustainability issues into courses developed by the department.*

4.1.2. Perception Of Stakeholders´ Benevolence

Benevolence is the extent to which a trustee is believed to want to do good to the trustor, aside from any selfish profit-related reasons (Mayer *et al*, 1995). The willingness of trustees to work selflessly in the interests of the trustor is not so dependent on the context in which both agents are located, but is rather a characteristic of the trustee. This, however, does not exclude the possibility that, in certain situations, trustees´ benevolence is modified by the environment (Mayer *et al*, 1995). Furthermore, unlike what occurs with the dimensions of ability and integrity, perception of the trustee´s benevolence is increased after a continuing relationship between trustor and trustee. Hence, an analysis of the dimension of benevolence is particularly important in situations with already existing relationships (such as the one we are interested in our analysis) rather than initial trust relationships (Mayer *et al*, 1995).

The literature on trust in business relationships (e.g. electronic commerce) has traditionally paid more specific attention to the dimensions of ability and integrity (Clarke, 2007; Martin, 2006; Simons, 1999). However, in recent years, much attention has been given to the study of benevolence as an explanatory dimension of the trustor´s decision to trust in a trustee (Schoorman *et al*, 2007).

An illustrative example of the concept of benevolence in our analysis would involve considering the relationship between a head of department and a dean. Reorientation of the contents of the courses by the head of the department may involve other special measures, such as adjustments in setting the schedule of courses. The dean can be perceived (or not) by the head of the department as a person usually inclined to assist the head of department in his tasks, although it may not be his obligation to do so. If the head of the department perceives the dean as being benevolent, the head of department becomes less vulnerable on deciding to promote integration of sustainability into department courses.

Stakeholders' benevolence facilitates the decision of the trustor to trust them. First, the stakeholder is open to the guidance considered to be suitable by the trustor, which reduces the effort involved in justifying them and obtaining their disinterested collaboration. Second, a benevolent stakeholder is more understanding in relation to potential failures or disruptions in the system, since he is able to empathise with the trustor, even though no gain is involved.

Hence, the head of department will be more willing to expose himself to stakeholders when he perceives that stakeholders are more willing to collaborate on a certain issue. This therefore reduces the risk taken by the head of department. This gives rise to the following hypothesis:

> *Hypothesis 1.b. Stakeholders´ benevolence perceived by the head of department positively affects his intention to integrate sustainability issues into courses developed by the department.*

4.2. The Decision-makers´ Interest In The Economic Objectives Of Their Organization

4.2.1. The Direct Influence

Integration of stakeholders´ environmental interest facilitates the development of more advanced environmental strategies (Hart, 1995). At the same time, paying attention to stakeholders´ interest on environmental issues enables organizations to increase financial profitability (Berman *et al*, 1999; Hart, 1995; Ogden & Watson, 1999) due to, firstly, reduction of waste, energy use and costs (Hart & Ahuja, 1996) and, secondly, to profits arising from product differentiation (Porter & van der Linde, 1995a; 1995b).

Even in organizations that do not aim to obtain higher profitability, financial issues are important. For example, heads of university departments manage a budget that serves to meet the equipment needs of their faculty, to pay guests' expenses or to provide a travel budget to their own professors. The importance given by the head of department to financial issues may depend on multiple factors (e.g. the characteristics of the decision maker, the context, the professors' needs, the lack or abundance of budget). In any event, an interest in financial issues will make the head of department more interested in issues that can influence the financial situation of the department.

Trustor´s expectations with regard to benefiting from the decision to trust will be seen in a greater willingness to risk relying on the trustee. In general, heads of department may be familiar with the potential of environmental issues in firms. Heads of department who are very interested in the financial objectives of their organization may therefore be more willing to incorporate sustainability issues into their management. Therefore:

> *Hypothesis 2. An interest in the financial aims of the organization positively influences the intention of the heads of department to integrate sustainability issues into the training developed by their departments.*

4.2.2. The Moderating Influence

As discussed above, a theoretical and empirical examination of the external influences in managers' perceptions of trustworthiness' dimensions in corporate environmental strategy is very limited in the literature on environment and organizations. While much of the strategic management literature focuses on competition among firms, managers are increasingly realizing that sources of competitive advantage may be found in cooperation with other firms (Hitt *et al*, 2001). Trustworthiness is important in the management field because it has been recognized as a possible source of competitive advantage (Barney & Hansen, 1994).

Additionally, trust lowers transaction costs and allows for greater flexibility in responding to changing market conditions (Barney & Hansen, 1994; Gulati, 1995; Uzzi, 1997) and leads to greater information sharing, which improves coordination and joint effort in minimizing inefficiencies (Aoki, 1988; Clark & Fujimoto, 1991; Nishiguchi, 1994). Moreover, trust can affect governance structures, negotiation costs and perception of risks within strategic alliances and business unit performance (Davis, Schoorman, Mayer, & Tan, 2000; Nooteboom *et al*, 1997; Zaheer *et al*, 1998).

Furthermore, in the literature on organizations and natural environment, one line of research has examined the influence of specific internal organizational factors on the willingness of firms to develop proactive environmental strategies. Examples of such influences include managerial interpretations of environmental issues (Bansal, 2003; Sharma, 2000), managerial attitudes toward the environment (Cordano & Frieze, 2000), leadership (Egri & Herman, 2000; Ramus & Steger, 2000), and organizational champions (Andersson & Bateman, 2000).

Different studies have shown the moderating effects of managers' perceptions on the relationship between stakeholder' concerns and the firm's environmental strategy

(Sharma, 2000; Cordano & Frieze, 2000; Kassinis & Panayiotou, 2006). However, the moderating effect of the importance for managers of financial issues on the relationship between stakeholder trustworthiness and the integration of sustainability has not yet been studied. We drew upon this literature to study how the head of department's interest in financial aims moderates the relationship between two dimensions of trustworthiness (i.e. ability and benevolence) and the integration of sustainability into management education courses.

As previously mentioned, empirical analyses of the moderating effects of managers´ perceptions on the integration of sustainability in organizations has been discussed in the literature on stakeholders and the environment (Henriques & Sadorsky, 1999). More specifically, within the literature on trust, the moderating effect of the context on the relationship between the three dimensions of trustworthiness and the initial formation of trust between a trustor and trustee has been analyzed (Serva & Fuller, 2004). However, this literature has not yet analyzed the moderating effects of managers´ perceptions of the economic benefits deriving from the introduction of sustainability on the relationship between the dimensions of trustworthiness and the integration of sustainability.

This analysis is particularly relevant in the context of university schools, where the perceptions of the decision makers responsible for integrating environmental issues play a key role in the final decision taken. As already mentioned, these managers' perceptions regarding stakeholders' dimensions of ability and benevolence have a significant positive influence in the decision to integrate sustainability into the centre. However, this relationship is also moderated by the perceptions of these managers regarding the economic benefits to be derived from the implementation of environmental practices in their centres.

The literature on organizations and environment shows that improved financial performance usually accompanies proactive environmental strategies that exceed regulatory requirements (Hart & Ahuja, 1995; Judge & Douglas, 1998, Klassen & McLaughlin, 1996, Russo & Fouts, 1997). Managers are usually aware of this issue, and this knowledge can therefore be expected to influence their decisions regarding corporate environmental issues. However, this study helps to complete this purely economic approach, by incorporating into the analysis the importance of managers' trust in the organization's stakeholders. Specifically, it is important to study the moderating effect that the head of department's interest in the financial targets exerts in the relationship between the integration of sustainability into the organization and the perceived trustworthiness of stakeholders. This paper focuses on the analysis of two dimensions of trustworthiness: stakeholder ability and benevolence. This basis is used to raise the two research hypotheses described below.

First, the decision maker's perception of the ability of organization's stakeholders is positively related to the likelihood of integrating environmental issues into the organization. Additionally, the interest of the decision-maker in the organisation's financial objectives moderates this relationship. This may be because the greater the interest of the decision makers in the financial objectives of the organization, the more concerned they are about the economic performance provided by the integration of sustainability into the organization. Thus, if the decision maker is aware that the development of proactive environmental strategies is usually accompanied by an increase in financial performance, the greater interest in financial targets can be expected to reinforce the positive relationship between perceived ability of the stakeholders and the integration of environmental issues into the organization, i.e., increased likelihood of this integration occurring. This is due to the fact that an interest in financial objectives reduces the perceived risk inherent in the integration of environmental issues, since this integration is expected to improve the financial performance of the organization. By way of an example, let us imagine a head of department who is very interested in the financial objectives of the department (reduced operational costs, increased budget revenues, etc.). This head of department perceives that the stakeholders are highly capable of collaborating in the integration of sustainability, and he is considering the decision to integrate sustainability into the management education courses taught by the lecturers of the department. In this case, the perceived risk of trusting in the stakeholders´ ability to work together for the integration of sustainability into the management education courses taught by the department is much lower. There are two reasons for this. The first relates to the high perceived ability of stakeholders, which reduces the risk that the head of department perceives in the integration of sustainability issues into management education. The second reason relates to the high level of interest of the head of department in financial targets, which reduces the perceived risk, since, as it has been demonstrated, the development of proactive environmental strategies is usually accompanied by improvements in financial performance. Consequently, if the head of department feels that the stakeholders´ ability is very high, the high degree of interest of the head of department in financial targets will increase the probability of integrating sustainability into the management courses, since an empirical relationship has been proved to exist between developing a proactive environmental strategy and improving financial performance and, additionally, the head of department feels that stakeholders have the skills to work competently in this integration. This would be the most positive scenario. But let us imagine, instead, that the head of department is not very interested in the financial objectives of the department and perceives that stakeholders lack the ability to cooperate in the implementation of sustainability in management courses. In this case, both the economical (cost of implementation of environmental project in the organization) and the non-economical (department director's reputation damaged image of the department, etc) losses perceived by the head of the department will be much greater, thereby increasing the perceived risk inherent in the decision to implement sustainability in management education courses. A higher level of perceived risk would reduce the probability of deciding to integrate environmental issues into the management education courses taught by the department lecturers. Hence, we propose the following hypothesis.

Hypothesis 3.a. The decision maker's interest in financial targets moderates the positive relationship between his perception of the stakeholders´ ability and the integration of environmental issues into the organization.

Second, as mentioned above, the direct relationship between the manager's perception of the stakeholders´ benevolence and the probability of integrating sustainability into the organization is of a positive nature. However, as with the ability dimension, the interest of the decision maker in the organisation's financial goals exerts a moderating effect on this relationship. To illustrate this, let us consider the case of a department which is considering the possibility of integrating sustainability into the management education courses taught by the lecturers of the departments. More specifically, let us consider the case of a department whose head perceives the stakeholders' benevolence with regard to cooperating in the introduction of environmental issues to be very high, and who also has little interest in the department's financial goals. On one hand, the head of department will be more willing to expose himself to the actions of these stakeholders, i.e. he will be more inclined to trust the stakeholders' benevolence and, consequently, there will be a lower perceived risk of trusting them as partners who will positively influence the integration of sustainability into management education courses. But on the other hand, despite these high expectations regarding stakeholders´ benevolence, the head of department has little interest in the financial objectives of the department. This fact reduces the probability of the head of department preferring the option of implementing sustainability in these courses. This is because the decision to integrate sustainability is less appealing to the head of department, since he perceives a high inherent risk. In other words, the head of department’s low level of interest in financial objectives, which would surely be enhanced by the integration of sustainability, means that he will be less willing to risk this decision. Thus, the head of department will be less willing to implement something in whose results (improved financial performance) he is quite uninterested. This gives rise to the following hypothesis.

Hypothesis 3.b. The decision maker’s interest in financial targets moderates the positive relationship between his perception of the stakeholders´ benevolence and the integration of environmental issues into the organization.

5. Methodology

5.1. Sample

The sample comprises 95 heads of department whose courses are integrated into the master programmes of business schools and engineering schools at 25 Spanish universities. As described above, it is important to note that department managers in Spain are mainly responsible for the specific syllabus and orientation of the courses, whereas deans, for example, play a broader role, coordinating departments and school management, and serve as symbolic representatives.

The sample was obtained by means of a written questionnaire sent on three occasions by both regular mail and by email to the heads of the department with the option to reply online or on paper. The total population that received the questionnaire comprised 224 heads of department from Spanish universities (a response rate of 42.41% of department heads surveyed). This rate of response can be considered as highly satisfactory in comparison with the usual response rates in these studies. Furthermore, no significant differences were found in the size of the universities that responded to the questionnaire. Additionally, no significant differences were found in the replies to the questionnaire in the first round in relation to the third round, or between online or postal replies.

5.2. Measures

Hierarchical moderating regression enables a high level of compliance with the proposed objectives of the study. Here we briefly describe each of the variables employed in the analysis.

Integration of sustainability into management education. This variable measures the extent to which the head of a department is willing to integrate sustainability issues into management courses in the future. We asked respondents to describe their willingness to integrate in the future eight different issues relating to sustainability into the syllabus of the courses taught by their departments (including regulatory approaches, ethics, management systems, waste, energy saving, responsible use of technology, economic implications, and general knowledge). Our final measure was the arithmetic mean of their replies to the 8 items based upon a Likert scale from 1 to 5, where higher values indicate more advanced intentions regarding the integration of environmental topics. The confirmatory analysis showed appropriate values for the measure (composite reliability = .88).

Stakeholders´ perceived ability. This variable reflects heads of department's perceptions of stakeholders' ability to assist in integrating sustainability into management courses. As described in greater detail in the fourth section, the measurement of this variable was built upon the definition of ability provided by Mayer *et al* (1995). Specifically, we used a set of items to gather the heads of departments' perceptions regarding the stakeholders' ability to fruitfully cooperate in the integration of sustainable teaching into management education. We used a Likert scale from 0 to 6, in which higher values reflect a high perceived ability of each stakeholder. The stakeholders included in the analysis are: the lecturers of the department, government commissions for the masters, students of the courses taught by the department, the government team at the University, the political leaders of university issues, and environmental groups and NGOs. These stakeholders were identified following open interviews with 5 heads of department in several universities (these heads were not included in the sample analyzed). The final measure was the arithmetic mean of the 6 items proposed. A confirmatory factorial analysis showed the goodness of fit (composite reliability = .69).

Stakeholders´ perceived benevolence. This is a variable indicating heads of departments' perceptions of stakeholders´ benevolence with regard to honestly collaborating in the integration of sustainability into management education (Mayer *et al*, 1995). The procedure was similar to that used to evaluate ability, but now focused on ascertaining the opinion of the head of department in relation to the selfless and honest cooperation he expected from each stakeholder with respect to the integration of sustainability into management courses. The confirmatory factorial analysis showed the goodness of fit (composite reliability = .82).

Interest in financial aims. This variable measures the head of department's interest in financial issues. A Likert scale from 0 to 6 was used to evaluate five different objectives in a university department (teaching quality, research outputs, financial incomes, operating costs, and promotion of the scholars). An exploratory factorial analysis shows the potential of joint analysis of the two items relating to financial issues (incomes and costs). The final measure is an arithmetic mean of these two items (composite reliability = .65). A descriptive variable showed that interest in financial issues in the department was the proposed target that scored the lowest (a mean of 3.24) for the sampled heads of department (the mean for the quality of teaching reached 4.65, the promotion of scholars scored 4.49 on average, while the improvement of research results was ranked with an average of 4.52).

Control variable. The previous literature shows the potential effect of the context on the proactive environmental approach of the firms. In our sample we use departments involved in business schools and engineering schools. Hence, we controlled for heads of departments' provenance by using a binary variable that distinguishes heads of department embedded in business schools or in engineering schools.

6. Results

Table 3 reports basic descriptive statistics and correlations. The reported variables present no major correlation problems. Table 4 shows comparisons of hierarchically nested regression models. Model 1 provides a baseline model that includes only the control variable for the provenance of the heads of department. Models 2 and 3 are hierarchical models that provide tests of specific hypotheses.

TABLE 3
Means, Standard Deviations, and Correlations[a]

Variable	Mean	s.d	1	2	3	4	5	6
1. Integration of sustainability in management education[b]	2.69	.92						
2. Business School versus Engineering School[c]	.40	.49	-.38***					
3. Perceived stakeholders´ benevolence[c]	2.91	.98	.32**	-.01				
4. Perceived stakeholders´ ability[c]	2.92	.93	.28**	.03	.20*			
5. Head of department´s interest in financial aims[c]	3.45	1	.21*	.12	.22*	.17[+]		
6. Head of department´s interest in financial aims x Perceived stakeholders´ benevolence	.21	.95	-.10	.01	-.07	-.18*	.02	
7. Head of department´s interest in financial aims x Perceived stakeholders´ ability	.16	.93	-.142	.08	-.17*	-.16[+]	.03	.31**

[a] n=95.

[b] Scale ranges from 1 to 5.

[c] Scale ranges from 0 to 6.

[+] $p < 0.1$

* $p < .05$

** $p < .01$

*** $p < .001$

TABLE 4
Results of the Hierarchical Moderated Multiple Linear Regression Analysis[a]

Variable	Model 1	Model 2	Model 3
Constant	2.97 (25.77)***	1.20 (3.05)**	1.24 (3.07)**
Head of department´s provenance	-0.38 (-3.85)***	-.40 (-4.51)***	-0.40 (-4.43)***
Stakeholders´ benevolence		.24 (2.61)*	.23 (2.48)*
Stakeholders´ ability		0.21 (2.32)*	.20 (2.15)*
Head of department´s interest in financial aims		0.17 (1.80)$^+$	.17 (1.82)$^+$
Moderation			
Stakeholders´ benevolence × Head of department´s interest in financial aims			-.03 (-.31)
Stakeholders´ ability × Head of department´s interest in financial aims			-.03 (-.34)
F	14.81***	10.27***	6.76***
R^2	.14	.32	.33
ΔR^2		.18	.00

[a] The integration of sustainability in management education is the dependent variable. The parameters estimates are standardized coefficients. The t-statistic for each estimate is in parentheses.

$^+$ $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

Model 1 shows that the heads of departments' provenance influences their preferences regarding the integration of sustainability into the management education for which their department is responsible. More specifically, this dummy variable takes the value 0 when the heads of department are from a business school and the value 1 when they are from a school of engineering. Hence, the coefficient obtained (-0.38) reveals a lower level of environmental proactivity in heads of department from engineering schools. To some extent, this result is to be expected, because, although the number of colleges and schools that have implemented an environmental management system in Spain remains in the minority, greater implementation of these approaches can be seen in the contexts of business schools. This high degree of integration of sustainability can be interpreted as greater involvement of business schools in environmental issues in comparison to the engineering schools in our sample.

The results of Model 2 support hypotheses 1.a, 1.b and 2. First, hypotheses 1.a and 1.b show the positive and direct influence of the head of department's perceptions in stakeholder ability and benevolence, and the head of department's preferences regarding integration of sustainability into the management courses taught by the lecturers of the department, respectively. Moreover, hypothesis 2 suggested a positive and direct relationship between the head of department's interest in financial aims and integration of sustainability into the department’s management courses.

Model 3, however, although confirming hypotheses 1.a, 1.b and 2, does not support hypotheses 3.a and 3.b. These two hypotheses presented the moderating effects of the head of department's interest in financial aims on the relationship between his perceptions of the stakeholders' ability and benevolence, and the integration of sustainability into the department’s management courses. A detailed justification of these results can be found in the discussion section of this paper.

7. Discussion, Limitations, Future Research And Implications

7.1. Discussion

Our study provides interesting results in relation to three topics. First, heads of departments’ perceptions of stakeholders’ dimensions of ability and benevolence directly and positively affect the heads of departments’ willingness to integrate sustainability issues into management courses taught in the department. In this section, we subsequently discuss the implications of these results both in the literature on trust and in the literature on stakeholders applied to environmental issues.

Second, our analysis shows that even when the economic benefits of environmental management are not perceived as relevant by the deans of schools, and financial targets are not very relevant to heads of department, the latter’s interest in financial issues positively influences their willingness to integrate contents related to sustainability into the management courses provided by the department. This result is relevant in the context of education because, to date, the focus has been on environmental awareness as an explanatory variable for this integration (UNESCO, 2003; Barcelona Declaration, 2004). However, our result completes this approach by showing that the academics’ financial interests can also assist in the process of integrating sustainability into courses in university schools.

Third, hypotheses 3.a and 3.b raised relating to the moderating effect of the head of department’s interest in the relationship between the his perceptions of stakeholders´ ability and benevolence, and the integration of sustainability into the organization are not statistically significant. We believe that these results may be related to the lack of importance given by the heads of department in our sample to the financial objectives of the department, in comparison with other more academic goals (such as improving research results, teaching quality improvement, or promotion of department staff).

Consequently, although the heads of departments’ interest in financial issues influences their willingness to integrate sustainability issues into the courses, the low level of perceived importance in comparison with other objectives prevents financial interest from acting as a mechanism for reducing the risk perceived by the head of department when deciding to implement these issues and to rely on stakeholders´ ability and benevolence. As this perceived risk is not reduced, the relationship between the integration of sustainability into courses and the head of department’s willingness to become vulnerable (i.e. to trust) to stakeholders in this issue is not modified (it neither increases nor decreases). This factor might explain the absence of a moderating effect of the interest in financial aims in our sample.

Our results provide interesting theoretical contributions to the previous literature. The paper shows the potential of introducing the concept of trust (Mayer *et al*, 1995; Schoorman *et al*, 2007) in the literature on stakeholders and natural environment (Aragón-Correa, 1998; Driscoll & Starik, 2004; Hart, 1995; Henriques & Sadorsky, 1999; Starik, 1995; Sharma, 2000). Our results show that heads of departments’ perceptions of stakeholder ability and benevolence have a direct impact on the positive integration of sustainability into management education.

The previous literature on stakeholders and natural environment had placed special emphasis on identifying the stakeholders with greater economic power to influence environmental decisions. Studies conducted in different industries have identified as particularly relevant the government and customers, due to their potential to influence economic performance (e.g. Henriques & Sadorsky, 1999). Our paper shows that stakeholders can be important, although their economic influence may be limited, if they influence the risk taken by managers in their decision. Our results complement the previous literature, which suggests a higher level of development of environmental approaches when these are seen as opportunities rather than threats (Sharma, 2000). Our work suggests that the decision maker always perceives opportunities and threats in relation to the stakeholder's vision of environmental developments. Thus, it is not that opportunities replace threats (or reach a higher level), but that opportunities are merely more than threats (regardless of the relevance of each one). Our sample of deans showed a context in which few financial benefits are perceived in relation to proactive environmental management, whereas the heads of department show a higher degree of willingness to develop more environmental approaches if they perceive trustworthiness in their stakeholders.

In any case, heads of departments' interest in the economic objectives of the department will be positively related to the decision to integrate sustainability into management education. Hence, a more positive perception of the future economic benefits of environmental progress by heads of department could also positively influence the willingness to develop environmental progress by strengthening the argument of the previous literature.

Furthermore, our results support the existing literature dealing with stakeholders' power to influence the decisions of organizations. On one hand, our results confirm the proposals of Mitchell *et al* (1997) relating to the fact that stakeholders may use different forms of power (not only economic) to influence the decisions of organizations. The disqualification or loss of reputation that a head of department may suffer to his stakeholders as a result of his interest in sustainability appears to constitute a form of symbolic power (Etzioni, 1964) that may be particularly important in our analysis. These results can also provide an interesting bridge between the anthropocentric and utilitarian (oriented towards profits) approaches in the literature on stakeholders and the approaches that propose that adding non-human stakeholders (i.e. the natural environment) could make an organization's stakeholder map more complete in relation to identification, analysis, evaluation, and resolution of environmental problems (Starik, 1994; 1995). Although some scholars have asserted that various aspects of the natural environment can be considered as one or more primary stakeholders of the firm (e.g. Buchholz, 1993; Shrivastava, 1995; Srikantia and Bilimoria, 1997; Starik, 1995; Stead & Stead, 1996; 2000), traditional stakeholder theory has failed to recognize the Earth and its surroundings as a legitimate stakeholder with intrinsic worth (Nash, 1987; Starik, 1994).

Moreover, the results of this paper also help to meet the needs for literature on trust, which have previously focused almost completely upon the relationship between a single trustor and a single trustee, in a commercial context (Rosenbaum, Massiah, & Jackson, 2006; van Gigch, 2007). Our study extends this analysis to the relationship between a trustor (head of department) and several trustees (stakeholders), and to a non-commercial context. Analysis of the role played by the concept of trust in the integration of sustainability in management education shows the potential of the literature for non-commercial decisions which are therefore not necessarily linked to the financial profitability of the organization. Furthermore, the nature of the trust relationship that might exist between a single trustor and a single trustee differs from the nature of a relationship of trust between a trustor and several trustees. Our paper suggests that the existence of multiple stakeholders influencing the risk involved in a decision has a significant joint effect on a decision maker’s willingness. The decision maker’s vulnerability in these situations may be greater than when dealing with a single stakeholder, due to the fact that opportunistic behavior by one of the stakeholders could hinder the process.

7.2. Limitations And Future Research

Two limitations of this study should be recognized. First, trust, as considered in this study, presents a unidirectional nature from the trustor to the trustees (stakeholders), and reciprocity of the trust from trustees (stakeholders) to trustor is therefore not addressed. There is a need to extend this analysis in the future in order to test the effects of this reciprocity on the evolution of trust between trustors and trustees (stakeholders) over time.

A second limitation is that the model and research hypotheses put forward focus upon analysis of how trust influences decisions associated with the integration of sustainability in a very specific context: management education. Moreover, the scope of the sample is geographically limited. There is therefore a need for caution in extrapolating results to other contexts.

This analysis can be completed with several lines of future research. Aside from complementing our investigation with additional samples, the possibility of working with data on the temporal evolution of the topic at different universities might also be particularly attractive. Perception of the trust earned by stakeholders in situations in which environmental advances are compulsory constitutes an attractive issue for future research.

Studies in this sense could also attempt to analyze the potential influence of the personal background of heads of departments. Although the literature shows that these features play a more relevant role in the building of initial trust (Serva & Fuller, 2004), it might be interesting to analyze whether certain professional, psychological or formative profiles of heads of department modify the assessment they make regarding collaboration with the stakeholders of a university department. In any case, given that the propensity to trust is deeply embedded within each individual (Rotter, 1971), it is unlikely to differ substantially across contexts (Serva & Fuller, 2004), so the conclusions drawn from the literature in relation to this construct and its influence on trust can therefore be expected to hold strong.

7.3. Implications For Practitioners (Including Managers Of Management Education)

Our results show that managers of organizations that wish to advance their environmental approaches should consider the possibility of developing a partnership with their stakeholders based upon trust. While previous literature had recommended *paying attention* to stakeholders´ environmental interests based on economic benefit, we propose *collaborating* on the basis of trust in the organization's stakeholders. Trust, and specifically its dimensions of ability and benevolence, is revealed as a powerful tool for reducing the risk associated with the decision making involved in the development of a more proactive environmental strategy. Although this recommendation is intended to be useful to any organization, the interest may be especially important for educational organizations, whose managers and organizational strategies have a particular interest in goals (scientific publications, reputation, increasing the number of teaching positions) which frequently have a special bond with the objectives related to the financial profitability of the organization.

Our work shows that managers must understand the possibilities provided by the stakeholders with regard to assuming lower levels of risk in decisions often dependent on the behavior and attitude of these stakeholders. In the field of management education, it is important to establish the existence of relevant stakeholders who should be taken into account in order to facilitate the integration of sustainability, even in the courses of the departments, including the professors of the department, the Governance

Committee of the faculties, students, the Governance Committee of the University, those in charge of university political issues, and environmental groups and NGOs.

Moreover, our study provides stakeholders with opportunities to influence managerial behavior beyond the traditional approaches of financial incentive or penalty. Being seen as a trustworthy stakeholder in the environmental context encourages the organization responsible for taking the decision to assume the risk level that this decision implies. A low level trust of managers in the stakeholders´ ability and benevolence can mean that, even when managers see important potential financial benefits in their environmental management, they would be unwilling to accept the decision, due to the high level of risk involved for them.

The literature on this topic remains scarce, in a context of growing concern for environmental issues and in which the role of managers as being responsible in this sense is becoming increasingly relevant. Undoubtedly, previous work by universities involving training and informing future managers has a huge impact on subsequent work by these managers in their future working environment. There is therefore a pressing need for broader and deeper analysis of the various alternatives available for the integration of sustainability in management education.

References

Andersson, L. M., & Bateman, T. S. 2000. Individual environmental initiative: Championing natural environmental issues in U.S. business organizations. ***Academy of Management Journal***, 43(4): 548-570.

Aragón-Correa, J. A. 1998. Strategic proactivity and firm approach to the natural environment. ***Academy of Management Journal***, 41(5): 556-567.

Aoki, M. 1988. ***Information, incentives, and bargaining in the Japanese economy***. Cambridge: Cambridge University Press.

Bansal, P. 2003. From issues to actions: The importance of individual concerns and organizational values in responding to natural environmental issues. ***Organization Science***, 14: 510-527.

Barney, J. B., & Hansen, M. H. 1994. Trustworthiness as a source of competitive advantage. ***Strategic Management Journal***, 15(8): 175-190.

Benn, S., & Dunphy, D. 2009. Action research as an approach to integrating sustainability into MBA programs: an exploratory study. ***Journal of Management Education***, 33(3): 276.

Berman, S. L., Wicks, A. C., Kotha, S., & Jones, T.M. 1999. Does stakeholder orientation matter? The relationship between stakeholder management models and firm financial performance. ***Academy of Management Journal***, 42(5): 488-506.

Buchholz, W. 1993. A further perspective on neutrality in a public goods economy with conjectural variations. ***Public Finance Quarterly***, 21(1): 115-119.

Chiles. T. H., & McMackin, J. F. 1996. Integrating variable risk preference, trust, and transaction cost economics. ***Academy of Management Review***, 21: 73-99.

Clark, K, & Fujimoto, T. 1991. ***Product development performance: Strategy, organization and management in the world auto industries.*** Harvard Business School Press, Cambridge, MA.

Clarke, J. 2007. Trust, reputation, integrity and professionalism reflections on business relationships. ***Accountancy Ireland***, 39(1): 54-58.

Cordano, M., & Frieze, I. H. 2000. Pollution reduction preferences of U.S. environmental managers: applying Ajzen´s theory of planned behavior. ***Academy of Management Journal***, 43(4): 627-641.

Darnall, N., Henriques, I., & Sadorsky, P. 2008. Do environmental management systems improve business performance in an international setting? ***Journal of International Management***, 14(4): 364-376.

Darnall, N., Seol, I, & Sarkis, J. 2009. Perceived stakeholder influences and organizations´ use of environmental audits. ***Accounting, Organizations and Society***, 34: 170-187.

Davis, J. H., Schoorman, F. D., Mayer, R. C., & Tan, H. H. 2000. The trusted general manager and business unit performance: Empirical evidence of a competitive advantage. ***Strategic Management Journal***, 21: 563-576.

Doney, P. M., Cannon, J. P., & Mullen, M. R. 1998. Understanding the influence of national culture on the development of trust. ***Academy of Management Review***, 23: 601-620.

Driscoll, C., & Starik, M. 2004. The primordial stakeholder: advancing the conceptual consideration of stakeholder status for the natural environment. ***Journal of Business Ethics***, 49: 55-73.

Egri, C. P., & Herman, S. 2000. Leadership in the North American environmental sector: values, leadership styles, and contexts of environmental leaders and their organizations. ***Academy of Management Journal***, 43(4): 571-604.

Etzioni, A. 1964. ***Modern organizations***. Englewood Cliffs, NJ: Prentice-Hall.

Fineman, S., & Clarke, K. 1996. Green stakeholders: industry interpretations and response. ***Journal of Management Studies***, 33(6): 715-730.

Freeman, R. E. 1984. ***Strategic Management: A Stakeholder Approach***. Pitman: Boston, MA.

Gambetta, D. 1988. ***Trust: Making and breaking cooperative relations***. New York: Basil Blackwell.

Gefen, D. 2002. Reflections on the dimensions of trust and trustworthiness among online consumers. ***DATABASE for Advances in Information Systems***, 23: 38–53.

Gefen, D., Benbasat, I., & Pavlou, P. A. 2008. A research agenda for online environments. ***Journal of Management Information Systems***, 24: 275-286.

Gefen, D., & Heart, T. 2006. On the need to include national culture as a central issue in e-commerce trust beliefs. ***Journal of Global Information Systems***, 14: 1–30.

Gill, A., & Mathur, N. 2007. Improving employee dedication and pro-social behavior. ***International Journal of Contemporary Hospitality Management***, 19(4): 328-334.

Gill, A. S. 2008. The role of trust in employee-manager relationship. ***International Journal of Contemporary Hospitality Management***, 20(1): 98-103.

Gulati, R. 1995. Social structure and alliance formation patterns: a longitudinal analysis. ***Administrative Science Quarterly***, 40(4): 619-653.

Hahn, T., & Scheermesser, M. 2006. Approaches to corporate sustainability among German companies. ***Corporate Social Responsibility and Environmental Management***, 13: 150-165.

Hart, S. L. 1995. A natural resource-based view of the firm. ***Academy of Management Review***, 20: 986-1014.

Hart, S. L. 2008. ***Sustainability must be integral to schools´ DNA***. Financial Times. London (UK).

Hart, S. L., & Ahuja, G. 1996. Does it pay be green? An empirical examination of the relationship between emission reduction and firm performance. ***Business Strategy and the Environment***, 5: 30-37.

Henriques, I., & Sadorsky, P. 1999. The relationship between environmental commitment and managerial perceptions of stakeholder importance. ***Academy of Management Journal***, 42: 87-99.

Hind, P., Wilson, A., & Lenssen, G. 2009. Developing leaders for sustainable business. ***Corporate Governance***, 9(1): 7-20.

Hitt, M. A., Bierman, L., Shimizu, K., & Kochhar, R. 2001. Direct and moderating effects of human capital on strategy and performance in professional service firms: a resource-based perspective. ***Academy of Management Journal***, 44(1): 13-29.

Jugde, W. Q., & Douglas, T. J. 1998. Performance implications of incorporating natural environmental issues into the strategic planning process: An empirical assessment. ***Journal of Management Studies***, 35: 241-262.

Kassinis, G. I., & Panayiotou, A. 2006. Perceptions matter. CEO perceptions and firm environmental performance. ***The Journal of Corporate Citizenship***, 23: 67-80.

Kassinis, G., & Vaffeas, N. 2002. Corporate boards and outside stakeholders as determinants of environmental litigation. ***Strategic Management Journal***, 23(5): 399-415.

Kassinis, G., & Vaffeas, N. 2006. Stakeholders pressures and environmental performance. ***Academy of Management Journal***, 49: 145-159.

Kerler, W. A., & Killough, N. L. 2009. The effects of satisfaction with a client´s management during a prior audit engagement, trust, and moral reasoning on auditors´ perceived risk of management fraud. ***Journal of Business Ethics***, 85: 109-136.

Klassen, R. D., & McLaughlin, C. P. 1996. The impact of environmental management on firm performance. ***Management Science***, 42(8): 1199-1214.

Lewis, J. D., & Weigert, A. 1985. Trust as a social reality. ***Social Forces***, 63: 967-985.

Lounsbury, M. 2001. Institutional sources of practice variation: staffing college and university recycling programs. ***Administrative Science Quarterly***, 46(1): 29-56.

MacCrimmon. K. R., & Wehrung, D. A. 1986. ***Taking risks: The management of uncertainty***. New York: Free Press.

Marcus, A. A., & Anderson, M. H. 2006. A general dynamic capability: does it propagate business and social competencies in the retail food industry? ***Journal of Management Studies***, 43(1): 19-46.

Marcus, A. A., & Geffen, D. 1998. The dialectics of competency acquisition: Pollution prevention in electric generation. ***Strategic Management Journal***, 19: 1145-1168.

Martin, J. 2006. Multiple intelligence theory, knowledge identification and trust. ***Knowledge Management Research & Practice***, 4(3): 207.

Mayer, R. C., Davis, J. H., & Schoorman, F. D. 1995. An integrative model of organizational trust. ***Academy of Management Review***, 20: 709-734.

McKnight, D. H., Choudhury, V., & Kacmar, C. 2002. Developing and validating trust measures for e-commerce: An integrative typology. ***Information Systems Research***, 13: 334–359.

McKnight, D. H., Cummings, L. L., & Chervany, N. L. 1998. Initial trust formation in new organizational relationships. ***Academy of Management Review***, 23: 473-490.

Meyerson. D., Weick, K. E., & Kramer, H. M. 1996. Swift trust and temporary groups. In R.M. Kramer & T.R. Tyler (Eds.). ***Trust in organizations: Frontiers of theory and research***: 166-195. Thousand Oaks, CA: Sage.

Miles, R. E., & Snow, C. C. 1992. Causes of failure in network organizations. ***California Management Review***, 35: 93-72.

Mitchell, R. K., Agle, B. R., & Wood, D. J. 1997. Toward a theory of stakeholder of stakeholder identification and salience: Defining the principle of who and what really counts. ***Academy of Management Review***, 22: 853-886.

Nash, R. 1987. ***The rights of Nature***. University of Wisconsin Free Press, Madison.

Nishiguchi, T. 1994. ***Strategic industrial sourcing: The Japanese advantage***. Oxford University Press.

Nooteboom, B., Berger, H., & Noorderhayen, N. G. 1997. Effects of trust and governance on relational risk. ***Academy of Management Journal***, 40(2): 308-339.

Ogden, S., & Watson, R. 1999. Corporate performance and stakeholder management: balancing shareholder and customer interests in the U.K. privatized water industry. ***Academy of Management Journal***, 42(5): 526-538.

Pavlou, P. A., & Dimoka, A. 2006. The nature and role of feedback text comments in online marketplaces: Implications for trust building, price premiums, and seller differentiation. ***Information Systems Research***, 17: 391–412.

Porter, M. E., & van der Linde, C. 1995a. Green and competitive. ***Harvard Business Review***, 73(5): 120-134.

Porter, M. E., & van der Linde, C. 1995b. Toward a new conception of the environment-competitiveness relationship. ***Journal of Economic Perspectives***, 9(4): 97-118.

Porter, T., & Córdoba, J. 2009. Three views of systems theories and their implications for sustainability education. ***Journal of Management Education***, 33(3): 323.

Ramus, C. A., & Steger, U 2000. The roles of supervisory support behaviors and environmental policy in employee "ecoinitiatives" at leading-edge European companies. ***Academy of Management Journal***, 43(4): 605-626.

Rands, G. P. 2009. A principle-attribute matrix for environmentally sustainable management education and its application: the case for change-oriented service-learning projects. ***Journal of Management Education***, 33(3): 296.

Resnick, P., Zezkhauser, R., Swanson, J., & Lockwood, K. 2006. The value of reputation on eBay: a controlled experiment. ***Experimental Economics***, 9: 79-101.

Rosenbaum, M. S., Massiah, C., & Jackson, D. W. 2006. An investigation of trust, satisfaction, and commitment on repurchase intentions in professional services. ***Services Marketing Quarterly***, 27(3): 115.

Rotter, J. B. 1971. Generalized expectancies for interpersonal trust. ***American Psychology***, 26: 443-452.

Rousseau, D. M., Sitkin, S. B., Burt, R. S., & Camerer, C. 1998. Not so different after all: A cross-discipline view of trust. ***Academy of Management Review***, 23: 393-404.

Rueda-Manzanares, A., Aragón-Correa. J. A., & Sharma, S. 2008. The influence of stakeholders on the environmental strategy of service firms: the moderating effects of complexity, uncertainty and munificence. ***British Journal of Management***, 19: 185-203.

Russo, M. V., & Fouts, P. A. 1997. A resource-based perspective on corporate environmental performance and profitability. ***Academy of Management Journal***, 40: 534-559.

Schoorman, F. D., Mayer, R. C., & Davis, J.H. 2007. An integrative model of organizational trust: past, present and future. ***Academy of Management Review***, 32(2): 344-354.

Serva, M. A., & Fuller, M. A. 2004. The effects of trustworthiness perceptions on the formation of initial trust: Implications for MIS student teams. ***Journal of Information Systems Education***, 15(4): 383-395.

Sharma, S. 2000. Managerial interpretations and organizational context as predictors of corporate choice of environmental strategy. ***Academy of Management Journal***, 43(4): 681-697.

Sharma, S., & Henriques, I. 2005. Stakeholders influences on sustainability practices in the Canadian forest products industry. ***Strategic Management Journal***, 26: 159-180.

Sharma, S., & Vredenburg, H. 1998. Proactive corporate environmental strategy and the development of competitively valuable organizational capabilities. ***Strategic Management Journal***, 19: 729-753.

Shrivastava, P. 1995. Environmental technologies and competitive advantage. ***Strategic Management Journal***, 16: 183-200.

Silverman, R. E. 2007. How many trustees do you need? As rules and investments become more complex, families divvy up trust duties among multiple advisers. ***The Wall Street Journal*** (Eastern Ed.).

Simons, T. L. 1999. Behavioral integrity as a critical ingredient for transformational leadership. ***Journal of Organizational Change Management***, 12(2): 89.

Sirmon, D. G., Hitt, M. A., & Ireland, R. D. 2007. Managing firm resources in dynamic environments to create value: looking inside the black box. ***Academy of Management Review***, 32(1): 273-292.

Srikantia, P., & Bilimora, D. 1997. Isomorphism in organization and management theory. ***Organization & Environment***, 10(4): 384-406.

Starik, M. 1994. What is a stakeholder? Essay by Mark Starik. Pp 89-95 of the Toronto Conference: Reflections on stakeholder theory. ***Business & Society***, 33: 82-131.

Starik, M. 1995. Should trees have managerial standing? Towards stakeholder status for non-human nature. ***Journal of Business Ethics***, 14(3): 207-217.

Starik, M, & Heuer, M. 2002. Strategic inter-organizational environmentalism in the U.S. a multi-sectoral perspective of alternating eco-policy roles. ***Business Strategy and the Environment***, 11(4): 221-235.

Starik, M., & Marcus, A. A. 2000. Introduction to the special research forum on the management of organizations in the natural environment: a field emerging from multiple paths, with many challenges ahead. ***Academy of Management Journal***, 43(4): 539-546.

Starik, M., & Rands, G. P. 1995. Weaving an integrated web: multilevel and multisystem perspectives of ecologically sustainable organizations. ***Academy of Managent Review***, 20(4): 908-935.

Stead, W. E., & Stead, J. G. 1996. ***Management for a small planet*** (Second Ed.). Sage, Thousands Oaks: CA.

Stead, J. G., & Stead, W. E. 2000. Ecoenterprise strategy: standing for sustainability. ***Journal of Business Ethics***, 24(4): 313-329.

United Nations Educational, Scientific and Cultural Organization (UNESCO). 2004. ***Declaration of Barcelona***. International Conference on Engineering Education in Sustainable Development, Barcelona (Spain).

United Nations Educational, Scientific and Cultural Organization (UNESCO). 2002. ***Declaration of the United Nations Decade of Education for Sustainable Development: 2005-2014***.

Uzzi, B. 1997. Social structure and competition in interfirm networks: the paradox of embeddedness. ***Administrative Sciences Quarterly***, 42(1): 35-67.

Van Gigch, J. P. 2007. On the possibility of restoring trust from mistrust and friendship from enmity and hatred. ***Systems Research and Behavioral Science***, 24(3): 261.

World Commission on Environment and Development 1987. ***Brundtland Report***.

Zaheer, A., McEvily, B., & Perrone, V. 1998. Does trust matter? Exploring the effects of interorganizational and interpersonal trust on performance. ***Organization Science***, 9(2): 141-160.

CHAPTER 3

The Influence Of The Initial And The Experiential Knowledge On Trusting Outcomes

Abstract

Previous literature has mostly analyzed the linkage between knowledge and trusting behavior. Furthermore, while empirical studies analyzing trusting outcomes are scarce, the investigation of which factors influence the probability of occurrence of each type of trusting outcome remains unexplored. In this study we propose that the initial level of knowledge between a trustor and a trustee have a direct influence on the trust behavior, and that a trustor's experiential knowledge emerging from the trust relationship has a influence on the type of future trusting outcomes. Our results show that the level of initial knowledge between a trustor and a trustee influences the trustor´s trusting behavior towards that trustee. We also find that a trustor´s experiential knowledge influences the type of trusting outcome obtained by the trustor in future interactions (i.e. betrayal, reciprocity, or reward) with the trustee.

Key words: trust, trusting outcome, experiential knowledge, initial level of knowledge, knowledge-based trust.

1. Introduction

Trust is a psychological state comprising the intention to accept vulnerability based on positive expectations of the intentions or behavior of another (Rousseau, Sitkin, Burt & Camerer, 1998). Knowledge-based trust theorists propose that trust develops over time as trustor accumulates knowledge from experiences with the trustee (Gefen, Karahanna & Straub, 2003; Holmes, 1991; Lewicki & Bunker, 1995). Thus, knowledge-based trust highly correlates with the trustor´s ability to predict the behavior of trustee based on prior experience (Gulati, 1995; Husted, 1998).

Although trust literature has often assumed that trust is reciprocal between the parties involved (Serva & Fuller, 2004), differences may happen between trustors' predictions drawn on knowledge previous to the interaction and the trustee behavior. These differences generate different trusting outcomes for the trustor implying satisfaction or not of the trustor's expectative. We propose that while the initial knowledge predicts trustor behavior (trust), the experiential knowledge generated in the trust relationship better predicts the future trusting outcome.

In this work, we delimitate a trusting outcome as the satisfaction reached by the trustor after an interaction with the trustee is finished. Multiple works have analyzed different trusting outcomes in a separate way (e.g. Cropanzano & Mitchell, 2005; Elangovan & Shapiro, 1998; Spreitzer, 1995), but three categories are often included in those works: reciprocity, betrayal, and reward. The knowledge factors determining the occurrence of each type of trusting outcome remain basically unexplored in previous literature.

Trust and knowledge are concepts that coevolve over time. As trust and knowledge coevolve, the partners develop an understanding of each other as the basis for adjustments to the collaborative process of trust. Although an initial knowledge regarding the trustee may be available emerging from multiple sources (including personal experience, references, accreditation, among others), we highlight the different nature of this a priori knowledge and the knowledge emerging from the trust interaction. In our work, experiential knowledge is the process whereby knowledge is created through the transformation of trust experience (Kolb, 1984).

Empirical studies examining what really happens after trustor and trustee act, rather than assuming them to be equivalent, are rare (Serva, Fuller & Mayer, 2005). Consequently, the analysis of the real outcomes' in a trust relationship has been pointed out to be one of the most promising fields of research in the literature about trust (Schoorman, Mayer & Davis, 2007). The role of the different sources of knowledge in a trust relationship has been also highlighted as relevant in the trust literature (Holsapple & Wu, 2008).

We contend that there are three contributions that can be gained from our approach. First, while literature on trusting outcomes have been disperse and mostly relied on calculative approaches where trusting outcomes are often delimitated by a benevolent satisfaction (or not) of economic interests, we contribute to the trust literature using a more general approach highlighting the role of trustor's expectative to understand his/her final satisfaction with the interaction (the trusting outcome). Hence, we are also helping to better understand the distinctions between trusting *behavior* and the trusting *outcomes*. Second, we complement literature on knowledge-based trust using a dynamic approach to propose a different role for the knowledge gained by the trustor before the trust interaction and the experiential knowledge gained in the trust relationship. While the initial knowledge predicts well the trustors' behavior, experiential knowledge gained in the trust interaction can better predict the trusting outcome. And third, although the literature on trust has mainly focused on analyzing the business relationship between a client and a supplier (e.g. Porter & Donthu, 2008; Zaheer, McEvily & Perrone, 1998), some studies have also begun to show an interest in aspects reaching beyond the commercial sphere (e.g. Chughtai & Buckley, 2008; Gill, 2008; Gill & Mathur, 2007; Ho & Weigelt, 2005). In this paper, we build our analysis at an interpersonal level, in a context where decisions are not surrounded by commercial influences.

The remainder of this paper is organized into five additional sections following this introduction. In the second section we provide a brief summary of the literature review about trust and trusting outcomes. Section three contains the literature about experiential knowledge and trusting outcomes as well as the research hypotheses under study. In the fourth section we describe the methodology applied to carry out the empirical study, and the measures. Section five presents the results obtained. Finally, in the sixth section we discuss the conclusions and implications of our analysis, as well as some limitations and directions for future research.

2. Trust And Trusting Outcomes

2.1. Delimitation Of Trust

According to neoclassical economics, people should trust others if and only if it is in their material interest to do so ultimately meaning that people should trust only when it is also in the self-interest of the person being trusted to respond in a mutually rewarding manner (Kramer, 1998; Williamson, 1993). Nonetheless, trust literature has shown many situations where people trust others even when there is no guarantee that the trustee will respond benevolently highlighting that trust implies an awareness of being vulnerable to and dependent on the trustee (Fetchenhauer & Dunning, 2009).

Trust would be unnecessary if actions could be undertaken without risk (Lewis & Weigert, 1985). Risk is the perceived probability of loss from the perspective of the agent who has to decide (Chiles & McMakin, 1996; MacCrimmon & Wehrung, 1986).

The losses may not only be economic ones, but also affect many other factors such as trustor's time, reputation and social relations (Resnick, Zeckhauser, Swanson & Lockwood, 2006). Additionally, trust is interdependent because the interests of one party can not be achieved without relying on the other. Rousseau *et al* (1998) define trust as a *psychological state that includes the intention to accept vulnerability based on positive expectations about the intentions or behavior of another*.

Most of the studies in this area have focused on determining the factors that influence a person´s willingness to make a decision, knowing that the final benefits depend on the behavior or attitude of other people (Mayer, Davis & Schoorman, 1995; Schoorman *et al*, 2007). The three factors that have been repeatedly identified as explaining the decision to trust are the trustor´s perception of the ability, integrity and benevolence of the trustee (Becerra & Gupta, 2003; Gefen, 2002; Mayer *et al*, 1995; McKnight, Choudhury & Kacmar, 2002).

Knowledge-based trust refers to trust that is grounded in information about the other party collected through repeated interactions (Gefen *et al*, 2003). In other words, it refers to direct knowledge about the object of trust, rather than indirect knowledge in the sense of recommendations, reputation, or regulator approval. Lewicki and Bunker (1995) argue that information contributes to predictability of others' behaviors, which, in turn, contributes to development of trust.

2.2. Trusting Outcomes: Betrayal, Reciprocity And Reward

Previous empirical studies dealing with trust have often assumed trust to be reciprocal between the agents involved, implying that if, in a relationship, A trusts B, B also must trust A (Graen & Uhl-Bien, 1995; Liden, Wayne & Stillwell, 1993). However, this is not always true, since trust is not necessarily reciprocal (Brower, Schoorman & Tan, 2000; Schoorman *et al*, 2007). We do not assume the trust placed by the trustor in the trustee to be necessarily reciprocated by the trustee, but we allow this possibility to emerge. Therefore, our approach, far from being inconsistent with previous literature about trust, complements it by integrating all the reciprocity possibilities emerging in a trust relationship regarding reciprocity in the same framework.

Comparing between the trustor´s expectations about the trustee and the trusting behavior replied by the trustee, and using previous works that analyze some of the trusting outcomes emerging in the relationship between trustor and trustee (e.g. Brett, Shapiro & Lytle, 1998; Cropanzano & Mitchell, 2005; Elangovan & Shapiro, 1998; Robinson & Bennett, 1995; Serva *et al*, 2005; Spreitzer, 1995), it is possible to distinguish three broad categories of trusting outcomes: betrayal, reciprocity and reward. We now delimitate each of the three trusting outcomes.

First, Serva *et al* (2005) define reciprocal trust as *the trust that results when a party observes the actions of another and reconsiders one's trust-related attitudes and subsequent behaviors based on those observations.* According to our analysis, reciprocity occurs when the trustor´s expectations about the trustee´s trusting behavior are equalized to the behavior finally displayed by the trustee. The assumption of a reciprocal trust has been especially widespread within the area of leader-subordinate relationships (e.g. Graen & Uhl-Bien, 1995; Liden, Wayne & Stillwell, 1993).

Second, regarding betrayal, there are many situations of violations or betrayals of trust within and between organizations. A trust violation is, in essence, the not fulfilling of the trust expectations of one party about the other; this occurs quite frequently in interorganizational contexts (Bies & Tripp, 1996; Kim, Ferrin, Cooper & Dirks, 2004; Sitkin and Roth, 1993). Recent literature uses the term negative reciprocity to refer to *punishing others for unkind actions* (Dohmen, Falk, Huffman & Sunde, 2008). An action can be classified as unkind from an agent´s perspective if the other party could have chosen another action that would lead to a higher payoff to the agent (Falk & Fischbacher, 2006). Elangovan & Shapiro (1998) define betrayal as a *voluntary violation of mutually known pivotal expectations of the trustor by the trusted party (trustee), which has the potential to threaten the well-being of the trustor*. However, a betrayal does not necessarily take place in order to harm the trustor, since the trustee may not know the trustor´s expectations. Thus, drawing on previous recent literature on betrayal (Bohnet & Zeckhauser, 2004; Caldwell, Davis & Devine, 2009), we prefer a broader concept of betrayal delimitating that a betrayal occurs when the trustor´s expectations about the trustee´s trusting behavior overestimate the behavior finally shown by the trustee during the trust relationship. Despite the growing interest, there is little theory and only few empirical studies about antecedents of violations of trust in organizations and trust damage (Janowicz-Panjaitan & Krishnan, 2009).

Third, regarding rewards, most of the papers analyzing them have focused on the use of rewards as external incentives within the organizational level (e.g. Freedman & Montanari, 1980; Spreitzer, 1995; Thompson & Bunderson, 2003), such as bonuses from the company to managers, as well as other exogenous rewards. We delimitate reward as a potential outcome which may emerge from a trust relationship between two agents, instead of being an external instrument to foster certain type of behaviors. Some authors define positive reciprocity as *rewarding kind actions by others* (Dohmen *et al*, 2008). Unlike this perspective, our definition, consistent with the previous literature analyzing rewarding behavior (Cropanzano & Mitchell, 2005), goes beyond by incorporating the agent´s expectations. In this context, a rewarding outcome occurs when the trustor´s expectations about the trustee´s trusting behavior are overtaken by the final behavior of the trustee during the trust relationship.

3. Hypotheses

We propose an analysis which relies on the knowledge-based trust to explain the linkage between a trustor´s experiential knowledge and the trust and the type of trusting outcome that this trustor will receive in future interactions. Explicit knowledge is the knowledge that can be articulated and that in formal language includes grammatical statements, mathematical expressions, specifications, and manuals (Nonaka & Takeuchi, 1995). Such expressible knowledge is, therefore, usable by the "host" and is also able to be shared among other people who can use it to create their own form of knowledge. Tacit knowledge was originally attributed to Polanyi (1966), who described it in his famous quote "we know more than we can tell". Baumard (1999) describes it as the result of experience that cannot easily be shared, as knowledge that is personal, profound, nonscientific, and "generated in the intimacy of lived experience". Such characteristics leave no doubt that tacit knowledge derives from experience (Nonaka, 1994).

In this paper we pay specific attention to tacit knowledge delimitating it as "knowledge that is grounded in personal experience, and is procedural rather than declarative in structure" (Sternberg & Horvath, 1999). However, we distinguish between a priori knowledge gained from previous experiences of the trustor directly with the trustee or indirectly through recommendations or reputation emerging from other agent (even when this knowledge has not been generated in a similar situation of the generated by the trust relationship) and the experiential knowledge gained directly by the trustor in the specific process of the trust interaction with the trustee. We will make one hypotheses around each one.

The relevance of the initial knowledge relies in its capacity to provide useful information for predicting trustee´s behavior. Predictability relies on comprehensive knowledge about the other, which develops over time through direct or indirect experiences. Knowledge-based trust highly correlates with the ability to predict the behavior of another party based on prior experience (Gulati, 1995; Husted, 1998). Thus, knowledge-based trust involves a process in which information essential to the predictability of another's behavior is obtained and accumulated by the trustor (Gulati, 1995; Husted, 1998). The information does not only make the other's behavior more predictable (Lewicki & Bunker, 1996), but also reduces social uncertainty and fear of opportunism through increased understanding of the other's behavior (Luhmann, 1979).

As people become more acquainted with specific others, their personal knowledge of those others becomes the primary driver of their thoughts and actions (Bigley & Pierce, 1998). As a consequence, the trustor with a previous knowledge of the trustee will be more capable of accurately predicting the trusting behavior of his/her trustee, which therefore may influence his/her trust behavior We claim that the level of initial knowledge existing between a trustor and a trustee determines the trustor´s capacity for elaborating accurate guesses about how the partner will behave during future interactions, and therefore, initial level of knowledge has an impact in the trust paid by the trustor in future interactions between the trustor and the trustee. Hence, we propose the following hypothesis:

> *Hypothesis 1: The level of initial knowledge between a trustor and a trustee influences the type of trusting outcome resulting from future interactions between them.*

Various terms have been used to label the process of learning from own experience. Dewey and Dewey (1915) discussed "learning by doing," while Wolfe and Byrne (1975) used the term "experienced-based learning". The term "trial and error" learning is used to explain inductive learning processes. The Kolb's (1984) experiential learning theory (ELT) draws on the work of prominent scholars - notably John Dewey, Kurt Lewin, Jean Piaget, William James, Carl Jung, Paulo Freire, Carl Rogers and others - who gave experience a central role in their theories of human learning and development (Kolb & Kolb, 2005).

Experiential knowledge can be described as the process of creating knowledge from repeated interactions with the same partner (Kolb, 1984). Knowledge here can be defined as a *fluid mix of framed experiences, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the mind of knowers.* (Davenport & Prusak, 1998).

In our work we have focused our attention to the experiential knowledge generated in the experiential learning emerging of trust interactions in a similar situation. Recent works show that repeated interactions with the same partner will increase the chance of a reciprocal trust behavior (Josang, Keser & Dimitrakos, 2005). This mechanism is known as reciprocity principle. Previous literature reports that this kind of strategy tends to be very successful over many encounters with other players (Axelrod, 1984; Keser, 2000; Selten, Mitzkewitz & Uhlich, 1997). We propose that when the previous interactions are not only with the same partners but also in similar situations, effects of the experiential knowledge increases its ability to adjust the trustors' interest to get a more positive trusting outcome.

We drew in the ELT to study how trustors´ experiential knowledge in the trust relationship may influence the trusting outcome resulting from future interactions. When interacting more than once with the same trustee in a trust relationship, the trustor collects more accuratte information and knowledge about the behavior of the trustee. According to Sabel (1993), the creation of trust is actually a process of learning by economic actors with competing and mutual interests. Along the same line, Powell (1996) argued that trust is learned and reinforced, hence a product of ongoing interaction and discussion.

Knowledge-based trust is trust that is grounded in knowledge about another party and is developed through repeated interactions (Gefen *et al*, 2003; McKnight, Cummings & Chervany, 1998). Furthermore, we argue that a experiential knowledge accumulated by the trustor from past experiences with a trustee provides an extra amount of tacit knowledge to the trustor regarding how the trustee has behaved in the relationship in the past (i.e. the trustee´s pattern of behavior). This tacit knowledge, emerged from previous interactions in the same relationship with the trustee, allows the trustor to develop more accurate evaluations about how the trustee will act during future interactions and therefore more accurate sets of expectations in relation with the trustee´s future trusting behavior. Both adjustments, considered jointly, influence the type of trusting outcome which will emerge in future interactions.

For example, a trustor who has accumulated a bigger amount of tacit knowledge about the trustee´s behavior will be more likely to get a positive (i.e. reward) or neutral (i.e. reciprocity) trusting outcome in future interactions with the trustee, since that trustor is capable of elaborating very accurate guesses about how the trustee will behave in the future, which will also affect his own levels of expectations regarding such behavior. This leads to the following hypotheses:

> *Hypothesis 2: Experiential knowledge accumulated by a trustor from past interactions with a trustee influences the type of trusting outcome obtained by this trustor in future interactions with that trustee.*

4. Methodology And Measures

In this section we present the methodology carried out, and the measures used.

4.1. Experimental Procedures

We chose to use the trust game (Berg, Dickhaut & McCabe, 1995). This game is played by pairs of individuals. Each pair is made up of a trustor and a trustee. In the trust game two actors, the trustor and the trustee, are each given an endowment. The trustor is told he can send some, all, or none of his or her endowment to his or her anonymous partner, the trustee. Any money sent is tripled. The trustee then chooses how much of his or her total wealth (her endowment plus the tripled money) to return to the trustor. We carried out a modified version of the trust game. In our setting, each trustor played the game with three trustees with whom he or she kept different initial trust levels: a friend, a friend of a friend, and a stranger. Each trustor received 4 euros for playing with each one of the three trustees.

All sessions were run in the Faculty of Economics and Business at the University of Granada (Spain) in May 2009. Subjects were non-randomly and anonymously assigned to the role of trustor and trustee. The non-randomly assignment is justified in order to assure that each trustor plays the game with three different trustees who keep different levels of initial trust with the trustor.

Previously to the running day of the experiment, students had to answer a short questionnaire and write down the name of, at maximum, four persons from the class in whom they think they can trust and to whom they consider to be their friends. Additionally, they were asked to write the name of four persons from they class they would not know at all (for this, subjects were given a list of the members of the class so that they could easily identify the name of four strangers).

During the running of the experiment, trustors and trustees were kept separate for the entire experiment using two rooms. All subjects received a sheet with the game instructions. The game started in the trustors´ room. Each trustor was given three different envelopes-each one containing a sheet of paper- labelled with the titles of “Friend”, “Friend of a friend” and “Stranger” plus a separate sheet. We use interactions with each category as an appropriate proxy of different levels of initial knowledge. They were required to write in the separate sheet how much they expected to receive from each type of trustee. Moreover, they wrote the amounts they wanted to send to each type of trustee.

The envelopes were delivered to the trustees´ room. Similarly, trustees were given a sheet were they wrote how much they expected to receive from each type of trustor, and, after opening the envelopes and seeing the amounts received, they were asked to write down inside the same enveloped the amounts they wanted to return to each kind of trustor. Then, the envelopes were sent back to the trustors´ room, and they opened them. We played this procedure twice and participants were paid during the following week. The sessions had 66 participants: thirty three trustors playing with thirty three trustees. Since each trustor (trustee) played the game with three trustees (trustors), we reached 99 pairs of observations per round; as we ran two rounds, we got 198 observations.

4.2. Measures

In this section we describe the different variables included in the moderated multinomial logistic regression.

Future trust. This variable is included into the analysis as dependent variable for testing hypothesis 1 and it reflects the amount of trust placed by a trustor in a specific trustee.

We measure it as the trustor´s trusting behavior in a certain round of the game (i.e. the amount of money sent by the trustor to that trustee in that round of the game).

Initial level of knowledge. This variable represents the amount of knowledge the trustor has about the trustee before the first round of the game. It is included into the analysis as independent categorical variable. It contains three different categories: low initial knowledge level (i.e. when the trustor interacts with a stranger), medium initial knowledge level (i.e. when the trustor interacts with a friend of a friend), and high initial knowledge level (i.e. when the trustor interacts with a friend).

Future types of trusting outcome. This variable enters in our analysis as dependent variable for testing hypothesis 2 and it reflects the type of trusting outcome received by the trustor after the conclusion of the second round of the game. We measure it as the difference between a trustor´s expectations about a trustee´s behavior in the second round (i.e. how much the the trustor expected to be returned by the trustee) and the trusting behavior finally exhibited by the trustee towards this trustor in the second round (i.e. how much the trustee returned to the trustor). It is a categorical variable containing three categories: betrayal, reciprocity, and reward.

Experiential knowledge. This variable reflects the knowledge accumulated by the trustor and that is based on previous experiences with a trustee. It is incorporated into the analysis as independent variable. We measure it as the difference between a trustor´s trusting behavior towards a trustee in the second round (i.e. the amount sent by a trustor towards a trustee in the second round) and the trustor´s trusting behavior towards the trustee in the first round (i.e. the amount sent by this trustor towards the same trustee in the first round).

5. Results

Table 1 summarizes the main descriptive statistics for the trusting behavior exhibited by trustors in the first and second rounds. We can observe that the average amounts sent by trustors increase with the level of initial knowledge between trustors and trustees in the first and second rounds. We appreciate that those trustees with whom trustors hold a high level of initial knowledge receive, on average, more than those trustees with whom trustors have a medium or low level of initial knowledge. Moreover, trustors send, on average, a bigger amount to trustees with whom there is a medium level of initial knowledge than to those trustees with whom trustors have a low initial knowledge level. This conclusions hold for both rounds.

TABLE 1
Descriptive statistics for the trustors´ trusting behavior in the first and second rounds

Level of initial knowledge	Trustors´ trusting behavior in the first round			Trustors´ trusting behavior in the second round		
	N	Mean	s.d.	N	Mean	s.d.
High initial knowledge	33	3.061	1.088	33	2.606	1.638
Medium initial knowledge	33	2.091	1.071	33	1.636	1.454
Low initial knowledge	33	1.455	1.227	33	1.212	1.516
Total	99	2.202	1.301	99	1.818	1.631

Table 2 reports the ANOVA analyses for the trustors´ trusting behaviors in the first and second rounds. In the first part we can observe that the differences observed in table 1 in relation to trustors´ average donations across levels of initial knowledge are statistically significant. Furthermore, the F-ratio for the linear trend is statistically significant (p= .000); therefore we can say that as the level of initial knowledge increased from low to high initial knowledge, the trustors´ trust increased proportionately. When looking at the second part of the table, we can see that the same conclusions can be drawn for the second round. Therefore, our hypothesis 1 is fully supported for both rounds.

TABLE 2
ANOVA for the trustors´ trusting behavior in the first and second rounds

Trustors´ trusting behavior in the first round

			Sum of Squares	df	Mean Square	F	Sig.
Between groups	(Combined)		43.172	2	21.586	16.877	.000
	Linear Term	Contrast	42.561	1	42.561	33.275	.000

Trustors´ trusting behavior in the second round

			Sum of Squares	df	Mean Square	F	Sig.
Between groups	(Combined)		33.697	2	16.848	7.124	.001
	Linear Term	Contrast	32.061	1	32.061	13.557	.000

Despite we have already shown that initial knowledge influences future trust, table 3 gathers the Chi-Square tests to check whether the level of initial knowledge between trustor and trustee influences future types of trusting outcomes in each round. The first part of the table contains the information about the influence of the initial level of knowledge on the type of trusting outcome in the first round. The type of trusting outcome in the first round is a variable indicating the type of trusting outcome received by a trustor in the first round of the game. It is incorporated as independent variable and is measured as the difference between a trustor´s expectations about a trustee´s trusting behavior in the first round (i.e. what the trustor expected to receive from a trustee in the first round) and the trusting behavior shown by the trustee towards the trustor in the first round (i.e. what the trustee finally returns to that trustor in the first round). It is a categorical variable containing three categories: betrayal, reciprocity, and reward. And the second part of table 3 shows the information about the influence of the initial level of knowledge on the type of trusting outcome resulting in the second round. We can see that the likelihood ratio is not statistically significant for any out of the two rounds. Hence, both variables are independent in both rounds. In other words, the initial level of knowledge does not have a significant effect on the type of future trusting outcomes in any of the two rounds.

TABLE 3
Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)
Pearson Chi-Square	8.478[a]	4	.076	.075
Likelihood Ratio	8.726	4	.068	.077

a. 0 cells (.0%) have expected count les than 5. The minimum expected count is 8.00.

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)
Pearson Chi-Square	2.737[a]	4	.603	.634
Likelihood Ratio	2.670	4	.615	.645

a. 0 cells (.0%) have expected count les than 5. The minimum expected count is 6.00.

To test our hypothesis 3 we ran a multiple logistic regression. Table 4 reports the fitting of our model. We can see that there is a significant change in the chi-square test, which proves that our model produces a decrease in the unexplained variance.

TABLE 4
Model Fitting Information

Model	Model Fitting Criteria			Likelihood Ratio Tests		
	AIC	BIC	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept only	52.000	57.190	48.000			
Final	33.553	43.934	25.553	22.447	2	.000

Table 5 shows the results of the likelihood ratio tests. We observe that a trustor´s experiential knowledge has a significant influence on the type of future trusting outcomes ($\chi^2(4) = 22.447$, p=.000).

TABLE 5
Likelihood ratio tests

	Model fitting criteria			Likelihood ratio tests		
Effect	AIC of reduced model	BIC of reduced model	-2 Log likelihood of reduced model	Chi-Square	df	Sig.
Intercept	56.085	61.275	52.085	26.532	2	.000
Experiential knowledge	52.000	57.190	48.000	22.447	2	.000

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an affect from the final model. The null hypothesis is that all parameters of that effect are 0.

Table 6 shows the individual parameters estimates. We compare pairs of outcome categories. We specified “reciprocity” as the reference category. In the first part of the table, when comparing the trusting outcomes of betrayal and reciprocity, we appreciate that the trustor´s experiential knowledge significantly influences whether the type of future trusting outcomes will be a betrayal or a reciprocity. When looking at the second part of the table and comparing the categories of reciprocity and reward, we observe that the trustor´s experiential knowledge significantly predicts whether the type of future trusting outcomes will be either a reward or a reciprocity.

TABLE 6
Parameter estimates

Type of trusting outcome in the second round[a]		B	Std. Error	Sig.
Betrayal vs. Reciprocity	Intercept	-.916	.269	.001
	Experiential knowledge	.899	.312	.004
Reward vs. Reciprocity	Intercept	-1.488	.352	.000
	Experiential knowledge	1.374	.424	.001

a. The reference category is: reciprocity.
R^2 =.203 (Cox &Snell), .244 (Nagelkerke).

6. Discussion, Implications, Limitations, And Future Research

In this final section we discuss the conclusions obtained, as well as some implications for managers and regulators. Furthermore, we point out the limitations encountered and several lines for future research.

6.1. Discussion

Our paper investigates the relationship between the initial level of knowledge and trust, and experiential knowledge and types of trusting outcomes. We contend that several contributions can be gained from our analyses. First, our paper stresses the differences existing between trust (i.e. behavior) and trusting outcome (i.e. result). While most of previous literature had assumed the trusting behavior to be reciprocal between a trustor and a trustee (Serva *et al*, 2005), we point out that this does not necessarily happen in every occasion and that trustor´s expectations play a key role for understanding the final trusting outcomes arising from interactions between a trustor and a trustee.

Second, this paper contributes to the literature about knowledge by shedding light on the different role of the initial level of knowledge (i.e. previous to the first interaction under analysis) and experiential knowledge grounded in experiential knowledge (i.e. developed through the interaction itself). While the first helps explaining the trust, the second provides a better prediction of the trusting outcome.

Third, previous literature on trust had placed special emphasis on identifying the factors affecting agents´ trusting behavior (Mayer *et al*, 1995). Studies conducted in several areas have identified national culture, gender, and group membership due to their potential to influence individuals´ trusting behavior (e.g. Buchan, Croson & Solnick, 2008; Doney, Cannon & Mullen, 1998; Williams, 2001). Thus, our results complement the prior studies by investigating the inclusion of the level of initial knowledge into the analysis. We investigate the influence of the initial level of knowledge between a trustor and a trustee on the trusting behavior exhibited by the trustor in future interactions between them. Previous studies dealing with trust and knowledge have not considered incorporating into their analyses the initial level of knowledge the trustor has about the trustee before the first interaction under analysis. We believe this variable to be crucial when approaching interpersonal relationships with different trustees with whom the trustor keeps different levels of initial knowledge. In this line, knowledge-based trust predicts that the amount of knowledge collected by a trustor from past interactions positively determines the trustor´s capability for making accurate forecasts about how the trustee will act during future interactions (Lewicki & Bunker, 1996). This higher predictability of the trustee´s future behavior is perceived by the trustor as a decrease in the risk inherent to the decision of trusting, and therefore influences the trusting behavior shown by a trustor in upcoming interactions between the trustor and the trustee. Our results show that the level of initial knowledge between a trustor and a trustee positively influence the trustor´s trusting behavior in both rounds. Therefore, our hypothesis 1 is supported. Moreover, we find that there are statistically significant differences among the trusting behaviors displayed by trustors to each type of trustee. Trustors´ average trusting behavior increases with the level of initial knowledge between a trustor and a trustee. In this sense, those trustees who keep a higher level of initial knowledge with trustors will receive a bigger trusting behavior from trustors than those trustees who hold a medium or lower level of initial knowledge. Also, those trustees with a low level of initial knowledge with the trustor will receive, on average, less than trustees with whom the trustor has a medium initial level of knowledge.

Additionally to this conclusion, we find that the initial level of knowledge existing between a trustor and a trustee does not influence the type of trusting outcome emerging in future interactions between them. This may be because, since the type of trusting outcome is measured as the difference between what the trustor expects to receive from the trustee and what the trustee returns, this difference does not vary depending on the level of initial trust that a trustor holds with a trustee. For example, when a trustor interacts with high-level-of-initial-knowledge trustee, the trustor will expect to receive, on average, more than when interacting with a low-initial-level-of-knowledge trustee; moreover, the trustee will also return, on average, a higher amount to a trustor with whom there is a high level of initial knowledge than to a trustor with whom there is a low level of initial knowledge. However, these differences between expectations and amounts return may not significantly vary across types of trustees. As a consequence, the initial level of knowledge between a trustor and a trustee does not have an impact on the type of trusting outcome emerging from future interactions between them.

Fourth, we find that a trustor´s experiential knowledge accumulated from past interactions with a trustee directly affects the type of trusting outcomes resulting from future interactions between them. This result supports our hypothesis 2 and provides interesting theoretical contributions to the previous literature. Our paper shows the potential of introducing the concept of experiential knowledge (Kolb, 1984) in the literature on trust and management (Mayer *et al*, 1995; Schoorman *et al*, 2007) to help explain the typology of future trusting outcomes. Our results prove that a trustor´s knowledge collected from previous experiences with a trustee has a direct significant impact on the type of trusting outcomes emerging from future interactions between the trustor and the trustee.

Additionally, prior works on trust and management have approached trusting outcomes in a separate way and adopting different definitions of the terms (e.g. Brett *et al*, 1998; Cropanzano & Mitchell, 2005; Elangovan & Shapiro, 1998; Robinson & Bennett, 1995; Serva *et al*, 2005; Spreitzer, 1995). Our paper enriches this fragmented literature by providing a simultaneous analysis of all the potential outcomes that may arise from a trust relationship (i.e. betrayal, reciprocity, and reward).

Prior studies have stressed the idea that when approaching a trust repair, it is crucial to know *how* trust was damaged, since different means of damaging trust are likely to require different reparative responses (Schoorman *et al*, 2007). Our paper contributes to this approach, since our results show the crucial role of the initial level of knowledge on trust and of trustors´ experiential knowledge on the type of trusting outcome obtained in future interactions.

Our findings also contribute to meet the need of the literature on trust in two main directions. First, unlike previous studies investigating the relationship between knowledge and trusting behavior (Engle-Warnick & Slonim, 2006), we analyze how the knowledge accumulated by a trustor from past experiences with a trustee influences the type of trusting outcome resulting from future interactions between them. And second, while prior literature has been focused almost exclusively on relationships happening in the commercial sphere (Rosenbaum, Massiah, & Jackson, 2006; van Gigch, 2007), our study extends this analysis to a non commercial environment, where financial implications are not usually the cornerstone of agents´ decisions. Analysis of the influence of experiential knowledge on trusting outcomes shows the potential of the literature for non-commercial decisions, which are traditionally not linked to an organizations´ benefits. Our study suggests that the knowledge derived from repeated interactions helps elaborating accurate forecasts about the trustee´s behavior, which results in a higher probability of obtaining a positive (i.e. reward) or neutral (i.e. reciprocity) trusting outcomes, as opposite to negative ones (i.e. betrayal). Furthermore, the conclusions obtained from our analysis, focused on interactions between pairs of trustors and trustees, can be applied to a big array of organizational situations, such as human resources techniques, working groups, and to every kind of interpersonal relationship.

6.2. Implications

Some implications for managers and regulators can be drawn from this analysis. Our results show that managers who want to foster the achievement of certain types of trusting outcomes (e.g. rewarding or reciprocal ones) when dealing with other members of the organizations should consider relying on their experiential knowledge with those members as predictors of the type of future trusting outcomes. As a consequence, managers should develop and promote frequent interactions among all the members of the organization, since those exchanges constitute a fundamental source of knowledge and learning about the others. Experiential knowledge reveals as a useful tool for predicting the type of trusting outcomes resulting from future interactions.

Although this recommendation intends to be useful for any kind of organizations, it especially serves in the cases of managers of organizations where financial issues are not the main aim (e.g. universities, non-profit organizations, among others).

Moreover, our study provides the opportunity for employees to influence managerial decisions. Hence, those employees about whom the manager has collected a positive experiential knowledge and are perceived by managers as positive-trusting-outcomes producers will be receptors of a bigger amount of trusting interactions from the manager. This situation provides those employees with higher possibilities of career development in the organizations.

Experiential knowledge is a key issue for many firms. For example, firms facing price-elastic demand, if they are to grow in profitability or sales volume, must learn to produce more efficiently. Firms facing direct price competition have a strong incentive to learn how to increase efficiency or differentiation faster than their competitors. Similar competitive pressures affect firms in markets with substitute products and firms in shrinking markets. This paper links the experiential knowledge to the variable trust, more concretely, to trusting outcomes, in an interpersonal setting. Nonaka & Takeuchi (1995) state that collective knowledge creation is the capability for an entire organization to create new knowledge, disseminate it throughout the organization, and embody it in products, services, and systems. In this line, previous studies have adopted a knowledge-based trust approach to analyze the cycles and phases that lead to the creation of new knowledge in firms (Camelo-Ordaz, Fernández-Alles, Martín-Alcázar, Romero-Fernández & Valle-Cabrera, 2004). At an organizational level, managers should be aware of the importance of fostering an adequate collective knowledge creation as an antecedent for developing a proper organizational learning, which can help an organization to build accurate guesses about the outcomes arising from interactions with other agents. For example, forecasts about how competitors will behave in the market and about what will be the results. When doing so, managers can lead their organizations to occupy a leadership position in a certain segment of the market. This achievement will be additionally translated into higher benefits to the company.

Additionally, regulators can benefit from some implications drawn from this analysis. For example, if regulators wish to raise the level of neutral (i.e. reciprocity) and positive (i.e. betrayal) over the negative (i.e. betrayal) trusting outcomes, they need to know the determinants of these outcomes. This paper provides some insight about the strong influence of experiential knowledge on determining the type of future trusting outcomes arising in forthcoming interactions.

Regulators should be also interested in the heterogeneity of the experiential knowledge accumulated by trustors. If there are differences in how the knowledge based on previous experiences develops between demographics groups, group-specific policy interventions are asked for. For instance, people with a dense social network may have developed a wider capacity to accurately predict others´ behaviors than people with a smaller social network. Hence, this capacity, based on accumulated knowledge from a big amount of previous experiences, may lead them to obtain more successful trusting outcomes in the future.

Experiential knowledge can serve as an effective tool for reducing the trustors´ perceived vulnerability towards the actions of trustees, since trustors perceive trusting outcomes to be more easily predictable. Therefore, trustors may be more willing to develop repeated interactions and to initiate new ones with other trustees. As a consequence, individuals´ social networks become denser. This can also be applied to policy-makers and regulators. As a consequence, when economic and political negotiation is embedded in dense network of social interactions, incentives for opportunism are reduced (Putnam, 1995).

On the one hand, this increase in the individuals´ social networks has been pointed out to be a source of creation of social capital (Coleman, 1990), since individuals have access to a bigger amount of resources embedded in the network (Gulati, Nohria & Zaheer, 2000). Thus, social capital comprises the network and the resources that can be mobilized through that network (Nathapiet & Goshal, 1998). Moreover, previous literature has demonstrated that social capital provides important benefits at the societal level, such as promoting good governance practices (Boix & Posner, 1998). Therefore, regulators should be aware of this and implement appropriate mechanisms for developing such interactions to foster trust. An increase in the level of trust reduces partially the need for control mechanisms, which would also result in a lower expenditure from the states.

On the other hand, the willingness to engage in relational rather than purely transactional relationships provides additional social and economical gains. Repeated interactions, as mentioned in our analysis, are a source of knowledge, which helps reducing risks. Nonetheless, regulators should also be aware of the potential disadvantages of repeated interactions between organizations, which may lead in harming agreements against principles of competency, such as common setting of abusive prices for a certain product. Authorities should keep alerted in detecting and punishing such situations.

6.3. Limitations And Future Research Agenda

There are several opportunities for future research, some of which can address this study´s limitations. First, the application field of our sample is restricted: it focuses on students from a Business and Economics Faculty. Therefore, there is a need for caution when extrapolating the results obtained to other areas. Hence, testing our hypotheses in different contexts and geographical areas can contribute to check the robustness of our results. A second limitation is derived from the reduced amounts of iterations in our experiment. The trust game is only played twice, which, on the one hand, allows for a dynamic approach, but on the other hand, restricts the possibilities of extrapolating our conclusions to long-run relationships. Thus, it would be interesting to complete our experimental setting with a bigger number of iterations of the game in order to provide some insight about the evolution of the relationship between experiential knowledge and the type of future trusting outcomes.

Beyond addressing the limitations previously mentioned, this analysis can be completed with several lines of future research. For instance, analyzing the relationship between the initial level of knowledge and experiential knowledge. We wonder whether a trustor gathers more experiential knowledge about a trustee when the initial level of knowledge between them is high. Or whether the trustor accumulated a better quality of experiential knowledge when the level of initial knowledge with the trustee is high, i.e. the trustor is capable of producing more accurate forecast about future types of trusting outcomes arising in forthcoming interactions with that trustee.

Another possible line of future research may be addressing the factors underlying the surveillance of certain trusting outcomes over time. We identified three potential outcomes which can emerge from a trust interaction, i.e. betrayal, reciprocity, and reward. Moreover, since agents are generally assumed to behave rationally and, therefore an individual would not be willing to engage in repeated interactions with another agent if those interactions yield negative outcomes (i.e. betrayals), we expect interactions between a trustor and a trustee to survive over time only when these interactions provides a majority of positive (i.e. reward) or neutral (i.e. reciprocity) trusting outcomes. Therefore, at first glance, we would expect a convergence towards rewarding or reciprocating situations over time. Nonetheless, we observe there are many daily situations where individuals engage in repeated interactions yielding betraying outcomes (e.g. a father and an irresponsible son). Consequently, we consider there may be other factors which can affect the influence of a trustor´s experiential knowledge on the type of future trusting outcomes. Moreover, we believe there are different elements (e.g. cognitive, affective, economical, etc) which can help explaining the surveillance of certain relationships over time. Thus, future works might find attractive to address two concrete issues. First, which are the factors and underlying interactions yielding each type of trusting outcome. And second, the weight each of those factors has in each type of trusting outcome. Both contributions may be very valuable when explaining not only the convergence pattern in types of trusting outcomes overt time, but they may also shed light on why certain relationships survive over time despite yielding negative outcomes.

Future works might also find interesting to approach how the differences in individuals´ capacity for learning affect the relationship between experiential knowledge and the types of future trusting outcomes. A person's aptitude to learn may constitute a differentiating factor (Leithwood & Steinbach, 1995; Wagner & Sternberg, 1987). Furthermore, it can be also attractive to investigate the reasons for these variations and their impact on the occurrence of certain types of trusting outcomes. Despite the explicit recognition of individual variations in the ability to learn from experience (Reuber, Dyke, & Fisher, 1990), little has been done to understand the reasons for these variations, and this has been identified as a particularly important area for future research in the field (Colonia-Willner, 1998).

Finally, future studies may investigate whether a trustor´s experiential knowledge from past interactions with a trustee also influences the type of trusting outcomes arising in future interactions with other trustees. Perhaps the knowledge accumulated from past experiences with a concrete trustee is also incorporated in the experiential knowledge of this trustor and therefore influences the type of trusting outcomes emerging from interactions with those other trustees. We wonder whether there is a *contagion effect* in trustors´ experiential knowledge across trustees. We find this can constitute a fruitful area for future research.

References

Axelrod, R. 1984. ***The Evolution of Cooperation***. Basic Books, New York.

Baumard, P. 1999. ***Tacit knowledge in organizations.*** London: Sage.

Becerra, M., & Gupta, A.K. 2003. Perceived trustworthiness within the organization: The moderating impact of communication frequency on trustor and trustee effects. ***Organization Science***, 14(1): 32-44.

Berg, J., Dickhaut, J., & McCabe, K. 1995. Trust, reciprocity, and social history. ***Games and Economic Behavior***, 10: 122-142.

Bies, R. J., & Tripp, T. M. 1996. Beyond distrust: "getting even" and the need for revenge. In Kramer, R. M. and Tyler, T. R. (Eds), ***Trust in Organizations: Frontiers of Theory and Research***. Thousand Oaks, CA: Sage: 246–60.

Bigley, G. A., & Pearce, J. L. 1998. Straining for shared meaning in organization science: problems of trust and distrust. ***Academy of Management Review***, 23 (3): 405–422.

Boix, C., & Posner, D. N. 1998. Social capital: Explaining its origins and effects on government performance. ***British Journal of Political Science***, 28(4): 686-693.

Bohnet, I., & Zeckhauser, R. 2004. Trust, risk and betrayal. ***Journal of Economic Behavior & Organization***, 55: 467-484.

Brett, J. M., Shapiro, D. L., & Lytle, A. L. 1998. Breaking the bonds of reciprocity in negotiations. ***Academy of Management Journal***, 41(4): 410-424.

Brower, H. H., Schoorman, F. D., & Tan, H. H. 2000. A model of relational leadership: The integration of trust and leader-member exchange. ***Leadership Quarterly***, 11: 227-250.

Buchan, N. R., Croson, R. T. A., & Solnick, S. 2008. Trust and gender: An examination of behavior and beliefs in the Investment Game. ***Journal of Economic Behavior & Organization***, 68(3-4): 466-476.

Caldwell, C., Davis, B., & Devine, J. A. 2009. Trust, Faith, and Betrayal: Insights from Management for the Wise Believer. ***Journal of Business Ethics***, 84:103–114.

Camelo-Ordaz, M. C., Fernández-Alles, M., Martín-Alcázar, F., Romero-Fernández, P. M., & Valle-Cabrera, R. 2004. Internal diversification strategies and the processes of knowledge creation. ***Journal of Knowledge Management***, 8(1): 77-93.

Chiles, T. H., & McMackin, J. F. 1996. Integrating variable risk preferences, trust, and transaction cost economics. ***Academy of Management Review***, 21: 73-99.

Chughtai, A. A., & Buckley, F. 2008. Work engagements and its relationship with state and trait trust: a conceptual analysis. ***Institute of Behavioral and Applied Management***. Working paper.

Coleman, J. S. 1990. ***Foundations of Social Theory***. Cambridge: Belknap Press of Harvard University Press.

Colonia-Willner, R. 1998. Practical intelligence at work: Relationship between aging and cognitive efficiency among managers in a bank environment. ***Psychology and Aging***, 13(1): 45-57.

Cropanzano, R., & Mitchell, M. S. 2005. Social exchange theory: an interdisciplinary review. ***Journal of Management***, 31: 874-900.

Davenport, T., & Prusak, L. 1998. ***Working knowledge: How organizations manage what they know?*** Boston, MA: Harvard Business School Press.

Dewey, J., & Dewey, E. 1915. ***Schools of tomorrow***. E. P. Dutton (Ed.): New York.

Dohmen, T., Falk, A., Huffman, D., & Sunde, U. 2008. Representative trust and reciprocity: Prevalence and determinants. ***Economic Inquiry***, 46(1): 84-90.

Doney, P. M., Cannon, J. P., & Mullen, M. R. 1998. Understanding the influence of national culture on the development of trust. ***Academy of Management Review***, 23(3): 601-620.

Elangovan, A. R., & Shapiro, D. L. 1998. Betrayal of trust in organizations. ***Academy of Management Review***, 23(3): 547-566.

Engle-Warnick, J., & Slonim, R. L. 2006. Learning to trust in indefinitely repeated games. ***Games and Economic Behavior***, 1: 95-114.

Falk, A., & Fischbacher, U. 2006. A theory of reciprocity. ***Games and Economic Behavior***, 54: 293-315.

Fetchenhauer, D., & Dunning, D. 2009. Do people trust too much or too little? ***Journal of Economic Psychology***, 30: 263-276.

Freedman, S. M., & Montanari, J. R. 1980. An integrative model for managerial reward allocation. ***Academy of Management Review***, 5(3): 381-390.

Gefen, D. 2002. Reflections on the dimensions of trust and trustworthiness among online consumers. ***Database for Advances in Information Systems***, 33(3): 38-53.

Gefen, D., Karahanna, E., & Straub, D. W. 2003. Trust and TAM in online shopping: An integrated model. ***MIS Quarterly***, 27, 51-90.

Gill, A. S. 2008. The role of trust in employee-manager relationship. ***International Journal of Contemporary Hospitality Management***, 20(1): 98-103.

Gill, A. S., & Mathur, N. 2007. Improving employee dedication and pro-social behavior. ***International Journal of Contemporary Hospitality Management***, 19(4): 328-334.

Graen, G. B., & Uhl-Bien, M. 1995. Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective. ***Leadership Quarterly***, 6:219-247.

Gulati, R. 1995. Does familiarity breed trust? The implications of repeated ties for contractual choice in alliances. ***Academy of Management Journal***, 38: 85–112.

Gulati, R., Nohria, N., & Zaheer, A. 2000. Strategic networks. ***Strategic Management Journal***, 21(3): 203-215.

Ho, T. H., & Weigelt, K. 2005. Trust building among strangers. ***Management Science***, 51(4): 519-530.

Holmes, J. G. 1991. Trust and the appraisal process in close relationships. In W. H. Jones *&* D. Perlman (Eds.), ***Advances in personal relationships***, 2: 57-104. London: Jessica Kingsley.

Holsapple, C. W., & Wu, J. 2008. Building effective online game websites with knowledge-based trust. ***Information Systems Frontiers***, 10: 47-60.

Husted, B. W. 1998. The ethical limits of trust in business relations. ***Business Ethics Quarterly***, 8: 233–248.

Janowicz-Panjaitan, M, & Krishnan, R. 2009. Measures for dealing with competence and integrity violations of interorganizational trust at the corporate and operating levels of organizational hierarchy. ***Journal of Management Studies***, 46(2): 245-268.

Josang, A., Keser, C., & Dimitrakos, T. 2005. Can we manage trust?. In P. Herrman *et al* (Eds). ***Trust management***: 93-107. Heidelberg-Berlin: Springer-Verlag.

Keser, C. 2000. Strategically planned behavior in public goods experiments. Technical report, ***CIRANO Scientific Series 2000s-35***. Montreal, Canada.

Kim, P. H., Ferrin, D. L., Cooper, C. D., & Dirks, K. T. 2004. Removing the shadow of suspicion: The effects of apology vs. denial for repairing ability- vs. integrity-based trust violations. ***Journal of Applied Psychology***, 89: 104-118.

Kolb, D. A. 1984. ***Experiential learning: Experience as the source of learning and development.*** New Jersey: Prentice-Hall.

Kolb, A. Y., & Kolb, D. A. 2005. Learning styles and learning spaces: Enhancing experiential learning in higher education. ***Academy of Management Learning & Education***, 4(2): 193-212.

Kramer, R. M. 1998. Paranoid cognition in social systems: thinking and acting in the shadow of doubt. ***Personality and Social Psychology Review***, 2:251-275.

Leithwood, K., & Steinbach, R. 1995. ***Expert problem solving: Evidence from school and district leaders.*** Albany: State University of New York Press.

Lewicki. R. J., & Bunker, B. B. 1995. Trust in relationships: A model of trust development and decline. In B. B, Bunker & J. Z. Rubin (Eds.). ***Conflict, cooperation*** **and justice**: 133-173. San Francisco: Jossey-Bass.

Lewicki, R. J. & Bunker, B. B. 1996. Developing and maintaining trust in working relationships. In Kramer, R.M. & Tyler, T.R. (Eds.). ***Trust in Organizations: Frontiers of Theory and Research***: 114–139. Sage Publications, Thousand Oaks: CA.

Lewis, J. D., & Weigert, A. 1985. Trust as a social reality. ***Social Forces***, 63: 967-985.

Liden, R. C., Wayne, S. J., & Stillwell, D. 1993. A longitudinal study on the early development of leader-members exchanges. ***Journal of Applied Psychology***, 78: 662-674.

Luhmann, N. 1979. ***Trust and power***. Chichester, England: Wiley.

MacCrimmon. K. R., & Wehrung, D. A. 1986. ***Taking risks: The management of uncertainty***. New York: Free Press.

Mayer, R. C., Davis, J. H., & Schoorman, F. D. 1995. An integrative model of organizational trust. ***Academy of Management Review***, 20(3): 709-734.

McKnight, D. H., Choudhury, V., & Kacmar, C. 2002. The impact of initial consumer trust on Intentions to transact with a web site: a trust building model. ***Journal of Strategic Information Systems***, 11(3/4): 297–323.

McKnight, D. H., Cummings, L. L., & Chervany, N. L. 1998. Initial trust formation in new organizational relationships. ***Academy of Management Review***, 23(3): 473-490.

Nahapiet, J., & Ghoshal, S. 1998. Social capital, intellectual capital, and the organizational advantage. ***Academy of Management Review***, 23(2): 242-266.

Nonaka, I. 1994. A dynamic theory of organizational knowledge creation. ***Organization Science,*** 5(1): 14–37.

Nonaka, I., & Takeuchi, H. 1995. ***The knowledge creating company***. Oxford, UK: Oxford University Press.

Polanyi, M. 1966. ***The tacit dimension.*** London: Routledge & Kegan Paul Ltd.

Porter, C. E., & Donthu, N. 2008. Cultivating trust and harvesting value in virtual communities. ***Management Science***, 54(1): 113-128.

Powell, W. W. 1996. Trust-based forms of governance. In R. M. Kramer, T. R. Tyler, (Eds.). ***Trust in Organizations: Frontiers of Theory and Research***: 51–63. Sage, Thousand Oaks: CA.

Putnam, R. D. 1995. Bowling alone: America´s declining social capital. ***Journal of Democracy***, 6(1): 65-78.

Resnick, P., Zeckhauser, R., Swanson, J., & Lockwood, K. 2006. The value of reputation on eBay: a controlled experiment. ***Experimental Economics***, 9: 79-101.

Reuber, A. R., Dyke, L. S., & Fisher, E. M. 1990. Using a tacit knowledge methodology to define expertise. ***Proceedings of the 1990 ACM SIGBDP conference on trends and directions in expert systems*** in Orlando, Florida. New York: ACM Press.

Robinson, R., & Bennett, S. 1995. A typology of deviant work-place behaviors: A multi-dimensional scaling study. ***Academy of Management Journal***, 38: 555-572.

Rosenbaum, M. S., Massiah, C., & Jackson, D. W. 2006. An investigation of trust, satisfaction, and commitment on repurchase intentions in professional services. ***Services Marketing Quarterly***, 27(3): 115.

Rousseau, D. M., Sitkin, S. B., Burt, R. S., & Camerer, C. 1998. Not so different after all: A cross-discipline view of trust. ***Academy of Management Review***, 23(3): 393-404.

Sabel, C. F. 1993. Studied trust: Building new forms of cooperation in volatile economy. R. Swedberg (Ed.). ***Explorations on Economic Sociology***: 104–145. Russell Sage Foundation, New York.

Schoorman, F. D., Mayer, R. C., & Davis, J. H. 2007. An integrative model of organizational trust: Past, present, and future. ***Academy of Management Review***, 32(2): 344-354.

Selten, R., Mitzkewitz, M., & Uhlich, G. 1997. Duopoly strategies programmed by experienced player. ***Econometrica***, 65: 517-555.

Serva, M. A., & Fuller, M. A. 2004. The effects of trustworthiness perceptions on the formation of initial trust: Implications for MIS student teams. ***Journal of Information Systems Education***, 15(4): 383-395.

Serva, M. A., Fuller, M. A., & Mayer, R. C. 2005. The reciprocal nature of trust: A longitudinal study of interacting teams. ***Journal of Organizational Behavior***, 26: 625-648.

Sitkin, S. B., & Roth, N. L. 1993. Explaining the limited effectiveness of legalistic “remedies” for trust/distrust. ***Organization Science***, 4: 367–92.

Spreitzer, G. M. 1995. Psychological empowerment in the workplace: dimensions, measurement, and validation. ***Academy of Management Journal***, 38(5): 1442-1465.

Sternberg, R., & Horvath, J. (Eds.). 1999. ***Tacit knowledge in professional practice: Researcher and practitioner perspectives.*** Mahwah, NJ: Lawrence Erlbaum.

Thompson, J. A., & Bunderson, J. S. 2003. Violations of principle: Ideological currency in the psychological contract. ***Academy of Management Review***, 28(4): 571-586.

Van Gigch, J. P. 2007. On the possibility of restoring trust from mistrust and friendship from enmity and hatred. ***Systems Research and Behavioral Science***, 24(3): 261.

Wagner, R. K., & Sternberg, R. J. 1987. Tacit knowledge in managerial success. ***Journal of Business and Psychology,*** 1(4): 301–312.

Williams, M. 2001. In whom we trust: Group membership as an affective context for trust development. ***Academy of Management Review***, 26(3): 377-396.

Williamson, O. E. 1993. Calculativeness, trust, and economic organization. ***Journal of Law and Economics***. 34: 453-502.

Wolfe, D. E. & Byrne, E. T. 1975. Research on Experiential knowledge: Enhancing the Process. In R. H. Buskirk (Ed.). ***Simulation Games and Experiential knowledge in Action***: 325-336

Zaheer, A., McEvily, B., & Perrone, V. 1998. The strategic value of buyer-seller relationships. ***International Journal of Purchasing and Materials Management***, 34(3): 20-26.

CHAPTER 4

The Dynamic Nature Of Trust Transfer And The Influence Of Learning

Abstract

Past studies on trust transfer have mainly relied on static theoretical perspectives. Yet, within organization and at interpersonal level, trust transfer typically develops over time. Moreover, empirical analyses on trust transfer are scarce. In this paper we use a dynamic approach to analyze the influence of a positive personal trusting history on the development of future trust transfers. Additionally, we investigate the influence of trustors´ learning on future transfers of trust. Our results show that the existence of a positive personal trusting history helps explaining the occurrence of future trust transfers. We also find that the degree to which a trust transfer is reciprocated by the trustee has a positive influence on future transfers of trust. Moreover, the results suggest that the learning collected by the trustor moderates the relationship between the degree of reciprocation obtained by the trustor during the previous trust transfer and the occurrence of future transfers of trust.

Key words: trust transfer, dynamic nature, learning, experimental analysis.

1. Introduction

Trust has become a major concept in social sciences, such as psychology (Johnson-George & Swap, 1982; Rotter, 1967; 1980), philosophy (Baier, 1986), sociology (Barber, 1983; Luhmann, 1979; Shapiro, 1987), economics (Arrow, 1974; Williamson, 1975), and organization theory (Zand, 1972; Zucker, 1986). Moreover, trust is increasingly demanded within organizations (Handy, 1995; Kramer & Tyler, 1996), between organizations (Moorman, Zaltman, & Deshpande, 1992), and in international affairs (Michalos, 1990).

Trust is a psychological state comprising the intention to accept vulnerability based on positive expectations of the intentions or behavior of another (Rousseau, Sitkin, Burt & Camerer, 1998). In the literature of trust and organizations, several studies have pointed out the effects of trust on individuals´ work performance, organizational commitment, turnover intentions, and work group performance (Dirks & Ferrin, 2001; 2002; Kramer, 1999).

In this paper we focus on how trust can be transferred among agents. A transfer of trust occurs when an agent (i.e. trustor) trusts an unknown agent (i.e. trustee), who keeps a positive trusting history with a trusted third agent. Trust transfers have received increasing attention in the literature of management (Doney & Cannon, 1997; Stewart, 2003; 2006). However, empirical studies remain scarce and there have been calls in the literature for additional empirical analyses (McEvily, Perrone & Zaheer, 2003). Existing works have mainly relied on online environments (McKnight, Choudhury & Kacmar, 2002; Stewart, 2003), and only few works have addressed the transfer of trust in interpersonal contexts (Strub & Priest, 1976; Uzzi, 1996). In this paper we analyze trust transfers with a dynamic approach and we investigate the influence of the learning on future transfers of trust in an interpersonal context. In order to study the two sides of a trust transfer (i.e. the trustor and the trustee), we build two indexes to measure trust transfer and trust transfer reciprocation, and we incorporate them into the empirical analysis.

Henceforth, this work presents three contributions to the existing literature. First, unlike previous works, we develop a dynamic analysis of trust transfer to study how the transfer of trust evolutions over time. Second, this dynamic approach allows us to examine the influence of the learning on future trust transfers. Third, we contribute to the research lacuna in trust measurement (Glaeser, Laibson, Scheinkman & Soutter, 2000) by proposing two different indexes for the measurement of trust transfer and trust transfer reciprocation.

This paper is organized into four sections following this introduction. In the second section we present the theory about trust transfer and the research hypotheses. Section three describes the methodology applied, and the measures. In this section, we present two indexes for the measurement of trust transfer and trust transfer reciprocation. In the fourth section, we offer and interpret the results. Finally, section five contains the discussion and several implications, as well as the limitations encountered and some future research lines.

2. Key Concepts And Research Hypotheses Development

2.1. Key Concepts

Definitions of trust abound and rely on different aspects. In the literature about management, trust has been defined as an expectancy of positive (or nonnegative) outcomes that one can receive based on the expected action of another party in an interaction characterized by uncertainty (Bhattacharya, Devinney & Pillutla, 1998). This definition adopts a mathematical perspective and relies exclusively on the expected outcomes. Mayer, Davis & Schoorman (1995) proposed that trust is the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party. This concept introduces the *willingness to be vulnerable* and incorporates the expectations about the other party´s behavior. Nonetheless, it does not include the replies from the trustor to such behavior. Later, Rousseau *et al* (1998) delimited trust as a psychological state comprising the intention to accept vulnerability based on positive expectations of the intentions or behavior of another. We adopt this definition of trust, since it includes two relevant concepts for our analysis: beliefs and willingness to behave according to those beliefs.

With the purpose of achieving a higher degree of precision and control in the analyses, previous scholars have often treated trust as static. From the sociological literature, researchers have argued that one person either completely trusts or completely distrusts another (Gabarro, 1990). In this static view, the level of trust reflects a single point, rather than a distribution along an intra- or interpersonal continuum. Nevertheless, literature of trust in organizations has shown that trust starts, grows, declines, and even resurges (Miles & Creed, 1995).

Hence, we can distinguish another stream of literature arguing that trust grows over time (e.g. Blau, 1964; Rempel, Holmes & Zanna, 1985; Zand, 1972). This approach implicitly assumes that trust starts from a low level and gradually increases (McKnight, Cummings & Chervany, 1998). From a theoretical perspective, several papers have addressed the building phase of trust in new organizational settings (McKnight *et al*, 1998), in new organizational relationships (Das & Teng, 1998), or in the context of an already existing relationship between workers and managers (Whitener, Brodt, Korsgaard & Werner, 1998). Lewicki & Bunker (1995; 1996) claim that trust is dynamic and distinct in character at different stages of any relationship (professional or personal). They state that “this is a fundamentally different perspective on trust from the view that the essence of trust cannot be captured by a single, ‘static’ definition of its key elements and attributes. Trust is viewed as a dynamic phenomenon that takes on a different character in the early, developing, and ‘mature’ stages of a relationship”. Thus, trust changes with the passage of time as individuals begin to feel more comfortable with one another and develop improved awareness of others’ integrity, ability and benevolence. Recent works have stressed the importance of carrying out more empirical analyses dealing with the role of time in the evolution of trust (Lewicki, Tomlinson & Gillespie, 2006; Tomlinson & Mayer, 2009).

Most of previous studies have focused on the study of trust in dyads (i.e. a set of a trustor and a trustee), without giving much consideration to the social context that surrounds the dyad (Ferrin, Dirks & Shah, 2006). However, nowadays individuals are usually embedded in more than one dyad simultaneously, in which they play different roles (i.e trustor and trustee), and therefore interact with more than one counterpart simultaneously.

There are three ways in which a trustor and a trustee may be linked to each other via third-parties: network closure, structural equivalence, and trust transfer. Network closure is the extent to which dyads (i.e. pairs of trustor and trustee) within a society are connected by mutual third parties (Coleman, 1990). Structural equivalence captures the extent to which a trustor and a trustee are similar in terms of formal and informal relationships they have with others and are also similar in terms of the relationships they do not have with others (Borgatti & Everett, 1992). For example, two members of the same department who interact with the same head of department and colleagues (i.e. they have similar their formal relationships) and share the same hobby, e.g. playing football (i.e. they have similar informal relationships). Finally, the basic premise for trust transfer is that rather than being based on direct experience with the object of trust (i.e. the trustee), trust is based on a trusted third-agent who keeps a positive trusting history with both members of the dyad (Stewart, 2003). In this paper we focus on trust transfer.

The literature has proposed several definitions of trust transfer. Doney, Cannon & Mullen (1998) proposed that a trust transfer occurs when one party (the trustor) ascribes trustworthiness to an unfamiliar exchange partner based on that partner's association with a trusted third-party. Three dimensions have been related to trustworthiness: integrity, ability and benevolence (Mayer *et al*, 1995). Hence, according to the definition mentioned above, a trust transfer occurs when the trustor believes an unfamiliar exchange partner to have enough levels of ability, integrity and benevolence to be trusted. However, it does not explicitly mention whether this trust between both parties finally takes place. More recently, Stewart (2003) developed a broader concept, according to which a trust transfer takes places when a person (i.e. the trustor) bases his initial trust in an entity (a person, group, or organization, referred to generally as the target) on his trust in some other related entity or on a context other than the one in which the target is encountered (e.g. a different place). This definition includes the concept of initial trust since, in a trust transfer, the trustor does not know the trusted party. Moreover, it incorporates the possibility of a trust transfer across contexts. For instance, the customer´s trust in a commercial store and the same customer´s trust in the webpage of that store; this would reflect a transfer of trust from a real to an online environment. Another form of trust transfer takes place when an individual transfers the trust in the group to which they belong to another member of the group with whom the former has no direct history or experience (Zucker, 1986). An extension of this idea applies when the trustor transfers his trust to an external group (that he is not member of).

In this paper, we adopt a modification of Doney *et al*´s (1998) definition, according to which *a trust transfer happens when one party (the trustor) trusts an unknown agent (the trustee) based on that agent´s association with a trusted third party*. Unlike the definition proposed by Doney *et al* (1998), based on trustworthiness, ours does not rely on perceptions about certain characteristics of the trustee, but on whether the trustor displays a trusting behavior towards the trustee.

2.2. Trust, Trust Transfer, And Personal Trusting History

We begin by recognizing the idea that serves as the basis for much of the existing research in trust: that trustors will diagnose trustworthiness by referring to a trustee´s behavior in the dyad (Whitener *et al*, 1998). In this line, Kramer (1999) described trustors as decision makers who use information from their history of interactions with a partner to draw inferences about the partner's trustworthiness (see also Lewicki & Bunker, 1996).

Some authors have pointed out how trust creates multiplexity in ties. This is another form of transferability where the transfer occurs within the same tie rather than across ties with different actors. Multiplexity means that the tie between a trustor and a trustee becomes thicker. Formally, multiplexity is the number of relations within a given link (Fischer, 1977; Galaskiewicz & Wasserman, 1993). For example, based on the positive experience and the trust developed in their relationships as buyer and supplier, two firms may decide to also form a joint venture to develop a new product, and then eventually enter a consortium for advanced research with a local university (e.g. Bayona-Sáez, García-Marco & Huerta-Arribas, 2002).

Literature has proposed that trust relying on information about involved parties, which is developed through interactions over time, is knowledge-based trust. This concept refers to trust that is grounded in information about the other party collected through repeated interactions (Gefen, Karahanna & Straub, 2003). Thus, the key factor at this level of trust is the information derived out of a relationship over time that allows one partner to predict the behavior of another partner (Gefen *et al*, 2003; Ratnasingam, 2005). The assumption is that the more information based on experience one has about others, the more able one is to predict their actions: "*Regular communication puts a party in constant contact with the other, exchanging information about wants, preferences, and approaches to problems. Without regular communication, one can 'lose touch' with the other - not only emotionally but in the ability to think alike and predict the reactions of the other*'' (Lewicki & Bunker, 1996). This predictability decreases the perceived risk inherent to the decision of trusting the trustee. Hence, we propose that a previous positive trusting history between a trustor and a trustee positively influences trustor´s future trust towards that trustee. Based on what we describe above, we postulate the following hypothesis:

> *Hypothesis 1. The trust placed by a trustor in a trustee increases when both agents have a positive personal trusting history.*

Moreover, we argue that a personal trusting history with a trustee can serve as an effective tool for promoting the transfer of trust from a trustor to an unknown trustee. For this to happen, the trustor and the trustee must hold a positive personal trusting history with the same third agent.

The concept of trust transfer implies a great relevance in many organizational and interpersonal situations. Nonetheless, empirical studies are scarce (Doney & Cannon, 1997; Henslin, 1968; McKnight *et al*, 2002; Milliman & Fugate, 1988; Stewart, 2003;

Strub & Priest, 1976; Uzzi, 1996). From a sociological perspective, Henslin (1968) studied cab drivers´ trust in passengers and noted that passengers who wanted to begin or end their rides in a distrusted area were less trusted than if the locations they associated themselves with were trusted. He concluded that trust was transferred from the neighbourhood, with which the driver was familiar, to the passenger who the driver was encountering for the first time. Another sociological study was carried out by Strub & Priest (1976). They focused on the mechanism for establishing trust among marijuana users. They found that a marijuana user would decide to trust an unknown person if a third person, trusted by the marijuana user, vouched for the unknown party. Hence, Strub & Priest (1976) observed trust transfer from one individual to another, while Henslin (1968) found transfer from a place to an individual. Finally, Uzzi (1996) investigated how ties might bring together previously unconnected business partners. His findings in the apparel industry are similar to Strub & Priest´s (1976) in that individual arranged business based on third-party recommendations.

Research in marketing has documented trust transfer in business settings. Milliman & Fugate (1988) studied the situation where a prospect client may not trust a salesman, and feel uncertain about the claims made by the salesman about the product. In this context, they found that the salesman could help himself with a "proof source" (e.g. the trade report of the product), which offered verifiable evidence of the salesperson´s claims and therefore led to a greater willingness to buy on the part of the client. They pointed out that this method of persuasion is particularly important in transactions where there is no history of interaction between the client and the salesman. Also noting the importance of prior interaction (or the lack thereof), Doney & Cannon (1997) argued that trust transfer occurs from a better known to a less known party. They found that a buyer´s trust in a supplier firm was influenced by trust in the salesperson associated with that firm and vice versa.

Recent research has focused on the trust transfer in an online setting (Koufaris & Hampton-Sosa, 2004; Lee, Wang & McKnight, 2007; Stewart, 2003), and between a real and an online environment (McKnight *et al*, 2002). Stewart (2003) looked at trust transfer on the web between web sites. The author found that when web customers perceive high interaction and high similarity between two web sites, one they already trust and one that is unknown to them, they are more likely to trust the unknown web site. This is due to the transfer of their trust beliefs regarding the known site to the unknown one. By linking trust in a real environment with trust in an online setting, McKnight *et al* (2002) tested empirically the factors that may influence initial trust in a web-based company. The authors tested a trust building model for new customers of a fictitious legal advice web site and found that perceived company reputation and perceived site quality both had a significant positive relationship with initial trust with the company.

Henceforth, we claim that this personal trusting history with a trustee can serve as an effective tool for promoting the transfer of trust from the trustor to an unknown trustee at interpersonal level. For this to happen, we defend that the trustor and the trustee must hold a positive personal trusting history with the same third agent. The trustor, by observing the positive personal trusting history of the unknown trustee with the third party, infers trustworthiness to the trustee. Consequently, since trustworthiness is the antecedent of trust, the personal trusting history of the trustee with the third agent serves to reduce the perceived risk attached to the decision of trusting an unknown trustee and therefore leads to a bigger trust between trustor and trustee. Hence, we propose the following hypothesis:

Hypothesis 2. The trust placed by a trustor in an unknown trustee increases when the trustee has a positive trusting history with a third party who also holds a positive trusting history with the trustor.

2.3. The Dynamic Nature of Trust Transfer: The Influence Of Learning

Learning is crucial in the management field since it has been recognized, in the literature of strategic management, as a tool for enhancing new product development (Adams, Day & Dougherty, 2003; Saban, Lanasa, Lackman & Peace, 2000), joint ventures formation (Lyles, 1994), and business performance improvement (Moorman *et al*, 1992; Pérez-López, Montes-Peón & Vázquez-Ordás, 2005). Furthermore, organizational learning affects organizational behavior (Ndubisi, Gupta & Massoud, 2003), and can constitute a source of competitive advantage (De Geus, 1988).

Learning at the individual level is the way in which people obtain knowledge and skills (Marsick and Watkins, 2001), through the promotion of inquiry and dialogue and the creation of continuous learning opportunities (O'Neil, 2003). Several organizational researchers have defined learning in terms of acquiring, retaining, and transferring knowledge at the individual and group levels (Huber, 1991; Robey, Boudreau & Rose, 2000).

The literature on organizations and learning has traditionally focused on the study of how trust can foster learning (Chakravarthy & Cho, 2004). Several works have pointed out that the creation of trust is a process of learning (Powell, 1990; Sabel, 1993). Moreover, the development of repeated trust interactions provides an opportunity for learning (Andreoni, 1988; Camerer & Ho, 1999; Cheung & Friedman, 1997; Erev & Roth, 1998). At the same time, gathering learning from past experiences results in an accumulation of knowledge about the other party, which facilitates the predictability of the other´s future behavior (Lewicki & Bunker, 1995), and therefore fosters future trust interactions (Holsapple & Wu, 2008). In this paper we study how learning promotes future trust interactions, more concretely, how learning fosters future trust transfers.

Learning can be described in many ways. From the behavioral perspective, learning is based on the stimulus-response model, in which a person is taught to respond to a specific stimulus. One of the main assumptions is that learning is influenced by temporal proximity of a stimulation (Grippin & Peters, 1984; Merriam & Caffarella, 1991). Taking this approach as basis, we propose that the behavior displayed by the receiver of a trust transfer plays a key role in future transfers of trust.

Despite the scarce attention paid in the literature to the dynamic nature of trust transfers, it is of great importance to know why the trust that a trustor is willing to transfer to an unknown trustee varies depending on the behavior previously displayed by the trustee. For instance, if a trustor does not get the expected feedback or reciprocation from an unknown trustee towards whom the trustor exerted a transfer of trust, future interactions with such trustee may be in danger. In other words, low degrees of reciprocations during past trust transfers lead the trustor to perceive a high risk inherent to the decision of transferring trust towards that trustee. Hence, the trustor will be less willing to put himself into a vulnerable position to the actions of the trustee, which therefore will decrease future trust transfers from the trustor towards the trustee. Contrary, positive answers from the trustee (e.g. rewarding the trustor´s transfer of trust with an equal, on even higher, degree of reciprocation) increase the trustor´s expectations about how the trustee may act in the future, which may result in a bigger willingness of the trustor to carry out more interactions with this trustee in the future. Thus, we propose the following hypothesis:

Hypothesis 3. The degree of reciprocation obtained by a trustor after a trust transfer towards a trustee positively determines future transfers of trust between them.

Although the behavioral approach of learning provides interesting insights, it is limited because it fails to consider the cognitive abilities. Hence, other important approach to learning proposed in the literature is the adult learning theory (Knowles, 1984). This theory considers both physical behavior and cognitive behavior, which includes the memories of the previous experiences, thoughts, and emotions. According to adult learning theory, the learning can create knowledge because adults tend to use their experiences to learn new concepts and skills, and thus to create new knowledge.

During a trust transfer, a trustor may learn about a third-party´s level of trust in the trustee and may also learn about some of the third-party´s experiences with the trustee. Previous studies have analyzed the influence of the length of a relationship and its impact on trust (Engle-Warnick & Slonim, 2006) and they conclude that short relationships lead to less trust and long ones lead to more trust.

Trustors interact with multiple unknown trustees (i.e. new workmates, sellers, buyers, etc) throughout their lives in different contexts (i.e. at work, in the supermarket, in the activities developed during their free time, etc). All these interactions provide opportunities for accumulating information and knowledge about the behavior exhibited by those trustees. This knowledge allows the trustors to create more accurate guesses about the behavior that trustees will display during future trust transfers, which reduces the trustor´s perceived risk inherent to the decision of transferring his trust to an unknown trustee. The amount of learning collected by a trustor about the trustees´ way of acting may depend on multiple factors (e.g. the characteristics of the trustor, the context). In any case, a bigger accumulation of learning will make the trustor more interested in issues that can influence future opportunities to learn, since this learning is crucial for forecasting the other party´s trusting behavior, which reduces the inherent risk perceived in the decision to transfer trust to an unknown trustee. According to adult learning theory, trustors are self-directed in their learning; they tend to be driven to learn things, generally to serve a purpose in their lives (Knowles, 1984). This leads to the following hypothesis:

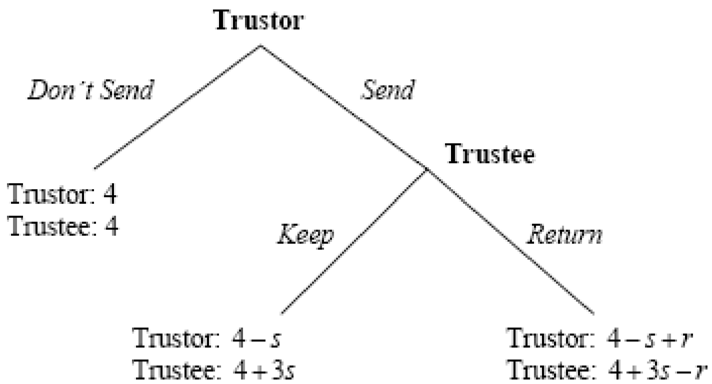
> *Hypothesis 4. The learning accumulated by a trustor moderates the relationship between the degree of reciprocation exhibited by the trustee in previous trust transfers with the trustor and the development of future trust transfers between them.*

3. Methodology

3.1. Experimental Procedures

The experimental design is a crucial element to determining what strategies people will play in certain situations under study. In this paper, since we want to measure the amount of trust placed between subjects, we chose to use the trust game (Berg, Dickhaut & McCabe, 1995). Figure 1 shows the extensive form game we study experimentally.

FIGURE 1
Extensive Form of the Trust Game



This game is played by pairs of individuals. Each pair is made up of a trustor and a trustee. Each trustor was given an initial endowment of 4 euros to play the game with each type of trustee. Trustees received 4 euros for participating; this amount could not be used for playing the game. Moreover, participants were allowed to send and return only entire units. The trustor chooses between the action Send (S) or Don´t Send (D). If the trustor chooses D, then both players receive their endowment at the end of the game. If the trustor chooses S, then the amount the trustor passes to the trustee (s euros) is tripled and given to the trustee (e.g. reflecting a return on an investment). The trustee then chooses between the action Keep (K) and Return (R). If the trustee chooses K, then the trustee receives the amount that the trustor sent tripled ($3\times s$ euros) plus the trustee´s initial endowment (4 euros). On the other side, the trustor receives the initial endowment minus the amount he or she passes to the trustee. If the trustee chooses R, then the trustee receives the amount sent by the trustor tripled minus the amount the trustee decided to return to the trustor (r euros) plus the trustee´s initial endowment (4 euros).

More concretely, since our purpose was to investigate the trust transferred by the trustor and the trust transfer reciprocation returned by the trustee, we designed a modified trust game. In our setting, each trustor plays the trust game with three types of trustee: the trustor´s friend, the trustor´s friend of a friend, and a stranger. According to the trust transfer definition we adopt (see next subsection), the trust transfer occurs when the trustor sends some positive amount of money to the trustee who is the trustor´s friend of a friend. Moreover, this trust transfer reaches its maximal level when the trustee who is the trustor´s friend of a friend receives, at least, the same amount as the trustee who is the trustor´s friend. In this point, the friend of a friend is treated as a friend. Symmetrically, each trustee plays the game with three kinds of trustor: the trustee´s friend, the trustee´s friend of a friend, and a stranger. We consider that the trust transfer reciprocation is maximal when the trustee who is the trustor´s friend of a friend returns, at least, the same proportion of money that the trustor sent him.

The session was run in the Faculty of Economic and Business at the University of Granada (Spain). Participants were all students belonging to the same course of Economics bachelor. We got a total of 99 observations in each round; since the trust game was played twice, we reached 198 observations.

Previously to the running day of the experiment, participants were required to write a maximum of four names of people from the class whom they would consider to be their friends (e.g. they consider trustworthy) and four persons of the class whom they did not know (we distributed a list of the member of the class for them to write down four unknown names). From this information, we were able to classify who were direct friends, who were friends of a friend, and who were strangers.

Participants were divided into trustors and trustees and allocated in two separated classrooms. We explained the instructions and provided several numerical examples to assure that they had properly understood the game.

The game started in the trustors´ room. We gave the trustors three different envelopes containing each one a sheet of paper where they wrote the amounts they wanted to send to each type of trustee. Additionally, they were required to write in a separate sheet of paper the amounts they expected to receive from each trustee. When this was done, these envelopes were delivered to the trustees´ room and we picked up the sheets containing the trustors´ expectations. Before distributing the envelopes, each trustee had to write in a separate sheet of paper the amounts they expected to be sent from each type of trustor. After we had picked up this sheet containing the trustees´ expectations, each trustee was given three envelopes, one from each type of trustor. They opened the envelopes and, after having read the amounts that each trustor had sent them, they were required to write down in the same sheets of paper sent by the trustors, the amounts they wanted to return to each type of trustor. After having concluded this task, the envelopes were sent back to the trustors´ room. Each trustor checked the amounts returned by the trustees. Then, the game was over. We played the game twice, and every trustor (trustee) played the second round with the same three trustees (trustors). Participants received their earnings during the following week.

3.2. Measures

In this subsection we present the different variables and how they were measured in our investigation, paying special attention to the indexes we build to measure trust transfer and trust transfer reciprocation. One of the greatest lacuna of the research agenda about trust is the measurement (Glaeser *et al*, 2000), and this also holds for trust transfer. Previous studies in several areas have based the measurement of a transfer of trust in interpersonal contexts and face-to face interactions between agents (Milliman & Fugate, 1988; Strub & Priest, 1976; Uzzi, 1976), or on ad hoc designs of laboratory experiments (Stewart, 2003). However, no agreement has been achieved about a common measure for trust transfer across disciplines. As a consequence, several measures in different contexts relying on alternative trust approaches provide results that are hardly comparable. This has led us to build two indexes for the measurement of trust transfer and trust transfer reciprocation.

Trust transfer index in the second round. This is the dependent variable in our analysis and reflects how much trust a trustor transfers to a trustee in the second round of the game. We asked trustors to write down how much they would send to each type of trustee (i.e. friend, friend of a friend, and stranger) in the second round. With this information, we calculated the trust transfer index corresponding to each trustor, according to the index that we develop below.

Trust transfer index

Before building the index of a trust transfer, and considering the experimental setting used (i.e. trust game), we define the following:

Definition 1. *A full trust transfer takes place when a trustor trusts (transfers to) a friend of a friend, at least, as much as a friend.*

Definition 2. *A trust transfer takes place when a trustor trusts (transfers to) a friend of a friend to some positive extent.*

For shake of simplicity, we identify trustors with the number 1 (because they initiate the trust transfer) and trustees with the number 2. Since, for calculating a trust transfer, we are interested in establishing a comparison between how much two types of trustees receive (i.e. the trustee who is a friend, and the trustee who is a friend of a friend), we name:

$x_{12}^{jF(j)}$: amount sent by the j-trustor to a trustee who is a j-trustor´s friend.

$y_{12}^{jFF(j)}$: amount sent by the j-trustor to the trustee who is a j-trustor´s friend of a friend.

Moreover, in our experiment these amounts fulfil the following conditions:

$$0 \le x_{12}^{jF(j)} \le 4 \text{ ; } x_{12}^{jF(j)} \in \mathbb{N}$$

$$0 \le y_{12}^{jFF(j)} \le 4 \text{ ; } y_{12}^{jFF(j)} \in \mathbb{N}$$

Hence, we propose the following Personal Trust Transfer Index for the j-trustor ($TTIndex_{12}^{jFF(j)}$):

$$TTIndex_{12}^{jFF(j)} = \frac{y_{12}^{jFF(j)}}{\max\left\{x_{12}^{jF(j)}, y_{12}^{jFF(j)}, 1\right\}}$$

This index is restricted within the interval $[0,1]$:

$$0 \leq TTIndex_{12}^{jFF(j)} \leq 1$$

The closer to 1, the better the trust transfer works. A full trust transfer between a trustor and a trustee is achieved when $TTIndex_{12}^{jFF(j)} = 1$.

Furthermore, this index fulfils some interesting properties for the measurement of trust transfer (see Appendix A).

Trust transfer reciprocation index in the first round. The trustee´s trust transfer reciprocation index measures how much of a trust transfer the trustee returns to the trustor in the first round. We asked trustees to express how much they would return to each type of trustor (i.e. friend, friend of a friend, and stranger) in the first round. Based on these data, we calculated the trust transfer reciprocation index from each trustee, according to the index presented below.

Trust transfer reciprocation index

Now we turn to analyze the other side of a trust transfer: the trustee. According to the design of our experiment, we present the following definition of trust transfer reciprocation.

Definition 3. *A trust transfer is fully reciprocated when the trustee (who is the trustor´s friend of a friend) returns to the trustor, at least, the same proportion of the tripled amount that the trustor transferred him previously.*

Definition 4. *A trust transfer is reciprocated by the trustee (who is the trustor´s friend of a friend) when the trustee returns some positive proportion of the tripled amount he was transferred by the trustor.*

Symmetrically to the methodology used to develop the trust transfer index, before building the trust transfer reciprocation index, it is important to set the mathematical definitions of some concepts:

$x_{21}^{F(j)j}$: amount returned by the k-trustee to the trustor, who is the k-trustee´s friend.

$y_{12}^{jFF(j)}$: amount sent by the j-trustor to the trustee who is a j-trustor´s friend of a friend.

$y_{21}^{FF(j)j}$: amount returned by the k-trustee to the trustor, who is the k-trustee´s friend of a friend.

$$0 \le x_{21}^{F(j)j} \le 4\,;\; x_{21}^{F(j)j} \in \mathbb{N}$$

$$0 \le y_{12}^{jFF(j)} \le 4\,;\; y_{12}^{jFF(j)} \in \mathbb{N}$$

$$0 \le y_{21}^{FF(j)j} \le 3 \times y_{12}^{jFF(j)}\,;\; y_{21}^{FF(j)j} \in \mathbb{N}$$

According to the previous definition of trust transfer reciprocation, we propose the following Personal Trust Transfer Reciprocation Index for the k-trustee ($TTRIndex_{21}^{FF(j)j}$):

$$TTRIndex_{21}^{FF(j)j} = \min\left\{ \frac{4y_{21}^{FF(j)j}}{\max\left\{3\left(y_{12}^{jFF(j)}\right)^2, 1\right\}}, 1 \right\}$$

For a proof of how this index was calculated, see Appendix B.

Moreover, the trust transfer reciprocation index meets several interesting properties (see Appendix C) for the measurement of trust transfer reciprocation.

Trustors´ learning. The learning collected by a trustor reflects the adjustment that this trustor makes in his expectations about the trustee´s behavior across rounds. We asked trustors to write how much they expected to receive from each type of trustee (i.e. friend, friend of a friend, and stranger) in both rounds of the game. From this information, we selected the data referring to the cases of trustees who are friend-of-a-friend type. Hence, a trustor´s learning was calculated as the difference between the trustor´s expectations about the trustee´s behavior in the second round and the trustor´s expectations about the trustee´s behavior in the first round.

Trustor´s average propensity to trust. This variable was used as a control variable and it represents the tendency to trust inherent to each trustor. A trustor´s propensity to trust was measured as the average of the trustor´s sendings to the trustees who are friend, friend of a friend, and stranger. Prior studies have shown that people differ in their propensity to trust. Propensity can be interpreted as the general willingness to trust others (Mayer *et al*, 1995). Propensity to trust may be the key driver of the form and shape of that leap, affecting trust even in the presence of trustworthiness information. Kee & Knox (1970) argued that trust depends not just on past experience but also on dispositional factors such as personality. This personality-based form of trust has been referred to by other scholars as *dispositional trust* (Kramer, 1999), *generalized trust* (Stack, 1978), and *trust propensity* (Mayer *et al*, 1995). McKnight *et al* (1998) argued that trust propensity has taken on a new importance as cross-functional teams, structural reorganizations, and joint ventures create new working relationships more frequently. After all, trust propensity is likely to be the most relevant trust antecedent in contexts involving unfamiliar actors (Bigley & Pearce, 1998).

4. Results

To test our hypotheses 1 and 2, we carry out an ANCOVA test. We controlled by the trustor´s average propensity to trust and by the number of round in which they are, since the game was played twice. Table 1 shows that the average amounts sent by trustors to strangers significantly differ from the average amounts sent to trustees who are friends and also from the average amounts sent to those trustees who are friends of a friend.

Additionally, we observe that one of the covariates, i.e. the trustor´s average propensity to trust has a significant positive influence on the average amounts by trustors. However, the other covariate included into the analysis, i.e. the number of round, does not have a significant influence on the average amounts sent by trustors to trustees.

TABLE 1
Parameter Estimates

Parameter	B	Std. Error	t	Sig.
Intercept	-.676	.150	-4.500	.000
Trustor´s average propensity to trust	1.000	.048	20.768	.000
Round	.000	.108	-.002	.998
Type of trustee= Friend	1.500	.130	11.503	.000
Type of trustee= Friend of a friend	.530	.130	4.067	.000
Type of trustee= Stranger	0[a]	.	.	.

a. This parameter is set to zero because it is redundant.

Table 2 gathers the contrast results. The average amount sent to the trustees who are friends statistically differ from the average amount sent to strangers (p=.000). Moreover, the average amount sent by trustors to strangers trustees is also statistically different from the average amount sent to trustees who are friends of a friend (p=.000). Hence, we can conclude that our hypotheses 1 and 2 are supported.

TABLE 2
Contrast results (K matrix)

Type of trustee Simple contrast[a]			Dependent variable Amount sent
Friend vs Stranger	Contrast Estimate		1.50
	Hypothesized value		0
	Difference (Estimate – Hypothesized)		1.50
	Std. Error		.13
	Sig.		.000
	95% Confidence interval for Difference	Lower Bound	1.24
		Upper Bound	1.76
Friend of a friend vs Stranger	Contrast Estimate		.53
	Hypothesized value		0
	Difference (Estimate – Hypothesized)		.53
	Std. Error		.13
	Sig.		.000
	95% Confidence interval for Difference	Lower Bound	.27
		Upper Bound	.79

a. Reference category = Stranger.

The contrasts and parameter estimates described above show that there are group differences, but to interpret them we need to know the means. Table 3 provides the group means adjusted for the effect of the covariates. The adjusted means show that trustors´ donations were significantly higher to those trustees who are friends and friends of a friend compared to trustees who are strangers. The regression parameters also told us that the donations to trustees who are friends and to trustees who are friends of a friend did significantly differ (p=.000).

TABLE 3
Estimates

Type of trustee	Adjusted Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Friend	2.83[a]	.092	2.651	3.015
Friend of a friend	1.86[a]	.092	1.682	2.045
Stranger	1.33[a]	.092	1.151	1.515

a. Covariates appearing in the model are evaluated at the following values: Trustor´s average propensity to trust= 2.0097, Round= .5000.

Furthermore, to test the hypotheses 3 and 4 we ran a hierarchical moderated multiple linear regression analysis. Table 4 contains the descriptive statistics of the variables. Although some correlations between predictors are high, the tolerance levels, the VIFs and the condition index obtained demonstrate that there is no multicollinearity in the data.

TABLE 4
Means, Standard Deviations, and Correlations

Variable	Mean	s.d	1	2	3
1. TTIndex in Round B	.49	.40			
2. Trustor´s average propensity to trust	2.01	1.01	.72***		
3. TTRIndex in Round A	.43	.42	.64***	.47**	
4. Trustor´s learning	-.52	2.44	.54***	.54**	.59***

$^{+}$ $p < .10$
* $p < .05$
** $p < .01$
*** $p < .001$

Finally, table 5 collects the summary of the hierarchical multiple linear regression analysis. In model 1 we introduce our control variable, i.e. trustor´s average propensity to trust. Our results in model 1 show that this variable has a positive and direct influence on future trust transfers. In model 2, we include the trust transfer reciprocation index in round A and the learning. We appreciate that the reciprocation obtained after a trust transfer in the past positively and directly influences future trust transfers. This result supports our hypothesis 3. Furthermore, we observe that the learning accumulated by a trustor positively and directly determines future transfers of trust. Moreover, a trustor´s learning moderates the relationship between past trust transfer reciprocations and future trust transfers. This result supports our hypothesis 4. Finally, the results exhibit a progressive increase in the R square, leading to a final adjusted R square of .66, which proves the good fit of the model.

TABLE 5
Results of the Hierarchical Moderated Multiple Regression Analysis[a]

Variable	Model 1	Model 2
Constant	-.08 (-.749)	.04 (.34)
Trustor´s average propensity to trust	.72 (5.83)***	.53 (4.05)***
TTRIndex in Round A		.25 (1.83)$^{+}$
Trustor´s learning		.42 (2.26)*
Moderation		
TTRIndex in Round A $\times$ Learning effect		-.29 (-1.76)$^{+}$
F	34.02***	16.13***
R^2	.52	.70
ΔR^2		.03
Adjusted R^2	.51	.66

a. TTIndex in Round B is the dependent variable. The parameters estimates are standardized coefficients. The t-statistic for each estimate is in parentheses.

$^{+}$ $p < .10$

* $p < .05$

** $p < .01$

*** $p < .001$

5. Discussion, Implications, Limitations And Future Research

5.1. Discussion

Trust transfer has received increasing attention in the literature of management. However, empirical studies remain scarce and there have been call in the literature for additional empirical analyses (McEvily *et al*, 2003). First, in this paper we seek to answer calls for filling the research gap on empirical studies analyzing trust transfer. This study aims to contribute to a better understanding of trust transfer. We defend that several contributions can be gained from our analysis.

Second, while previous works have often seen trust as a static phenomenon, there are recent calls for including dynamic analyses (Tomlinson & Mayer, 2009). In this context, we address trust transfer from a dynamic approach. This perspective does not contradict previous studies, but enriches them. We find that positive trusting history between a trustor and a trustee positively determines the trust between them. This supports our hypothesis 1. Furthermore, the trust placed by a trustor in an unknown trustee increases when the trustee has a positive trusting history with a third party who also holds a positive trusting history with the trustor. This results supports our second hypothesis.

Moreover, this study helps to complete this purely economic approach, by incorporating into the analysis the importance of learning which leads to knowledge-based trust. As our results show, the trustee´s reciprocation during the previous trust transfer (i.e. the trustee´s trust transfer reciprocation) is positively related to the probability of occurrence of future trust transfers between this trustee and the trustor.

Based on this dynamicity of trust transfers, we find that a trustor´s learning moderates the relationship between the reciprocation of the trustee in the previous trust transfer and future transfers of trust. Hence, our hypothesis 3 is also supported. This analysis is particularly relevant in the context of trust transfers, where the learning of the agents who have to decide whether to carry out future trust transfer plays a key role in their decision. Our results show that the reciprocation obtained from a trustee in the previous trust transfer to have a positive influence on the decision of a trustor to develop future trust transfers with such trustee. However, this relationship is also moderated by the learning collected by the trustor about that trustee. Thus, our work points out the differences in the roles of the behavioral approach (based on previous interactions) and the adult theory learning (which incorporates additional elements, such as experiences, thought, emotions, etc). While the both helps explaining future trust transfers, the second moderated the relationship between past trust transfer reciprocation and future transfers of trust.

Third, this paper contributes to the research lacuna on trust measurement (Glaeser *et al*, 2000). We build and empirically test two indexes for the measurement of trust transfer and trust transfer reciprocation. These indexes allow us to measure the two sides of a trust transfer: the trustor and the trustee. Both indexes fulfil several interesting properties. Hence, they represent a comparable measure across disciplines for the measurement of trust transfers and their reciprocation. It is important to highlight the wide range of applicability of the measures proposed. The measures proposed can serve for the measurement of trust transfer and trust transfer reciprocation at the interpersonal but also at the intra and inter organizational levels.

And fourth, while many prior analyses of trust have assumed symmetry between the parties involved, some works have proposed that trust is not symmetrical (Castelfranchi, 2008). Although there have been calls in the literature for analyzing how trust of one party influences the trust return from the trustee (Schoorman, Mayer & Davis, 2007), empirical studies addressing the trustor´s and the trustee´s trusting behaviors in a separate way are rare (Serva & Fuller, 2004). In the paper included in chapter four, we empirically show that trust transfer is not necessarily symmetrical between the trustor and the trustee.

5.2. Implications

Several implications for managers and regulators can be drawn from this paper. At an organizational level, an awareness of trust development can help better understand how professional relationships change and evolve over time (Tomlinson & Mayer, 2009). Managers should be aware of the huge amount of organizational situations where trust transfer can be applied, such as human resources management, buyer-supplier relationships, developing of new brands from the same company, etc. Therefore, creating an appropriate environment for trust transfer to develop can be crucial.

The dynamicity of trust transfer provides an opportunity for managers to operate in their organizations on the basis of serial equity, this is, assessing the relationship as a overall instead of focusing the assessment on one specific period. By allowing the two parties (i.e. trustor and trustee) to search for the resolution of inequities across time, serial equity alleviates the need for renegotiation of agreements each time there is a change that affects the relationship and therefore reduces the likelihood that it will generate conflict and eventually lead to a breach in the relationship (Carson, Madhok & Varman, 2003; Zaheer *et al*, 1998).

Moreover, regulators may foster trust transfers as a mechanism for strengthening interorganizational networks or alliances. These networks can help promoting internationalization processes, in which the company must transfer trust to several unknown agents (e.g. the new country, the new consumers´ patterns of consumption, the culture, the local employees, etc). Consequently, regulations should foster the knowledge sharing among the companies which arrive to the new country and the companies already located there. This would reduce the perceived risk of the internationalization processes.

Regulators should also be concerned about the increasing of social capital in the society. Since interpersonal trust is frequently cited as a source of social capital, our study sheds light on how individuals may acquire social capital. Therefore, this information is also useful to promote regulations which favour such acquisition.

5.3. Limitations And Future Research Agenda

Nonetheless, we are aware of several limitations which can be addressed in future research. First, our trust game is played twice. Hence, it would be interesting to develop further empirical studies including a higher number of interactions among agents to test the evolution of trust transfers dynamicity in the long-run. And second, we test out indexes with a sample of students from a Faculty of Economics and Business. Henceforth, testing them in different context and disciplines (e.g. sociology, psychology, among others) would provide comparative results of how trust transfers work across disciplines.

References

Adams, M. E., Day, G. S., & Dougherty, D. 2003. Enhancing new product development performance: An organizational learning perspective. ***Journal of Product Innovation Management***, 15(5): 403-422.

Andreoni, J. 1988. Why free-ride: Strategies and learning in public goods experiments. ***Journal of Public Economics***, 37: 291-304.

Arrow, K. J. 1974. ***The limits of organization***. New York: Norton.

Baier, A. 1986. Trust and antitrust. ***Ethics***, 96: 231-260.

Barber, B. 1983. ***The logic and limits of trust***. New Brunswick, NJ: Rutgers University Press.

Bayona-Sáez, C., García-Marco, T., & Huerta-Arribas, E. 2002. Collaboration in R&D with universities and research centres: An empirical study of Spanish firms. ***R&D Management***, 32(4): 321-341.

Berg, J., Dickhaut, J., & McCabe, K. 1995. Trust, reciprocity, and social history. ***Games and Economic Behavior***, 10: 122–142.

Bhattacharya, R., Devinney, T. M., & Pillutla, M. M. 1998. A formal model of trust based on outcomes. ***Academy of Management Review***, 23(3): 459-472.

Bigley, G. A., & Pearce, J. L. 1998. Straining for shared meaning in organizational science: Problems of trust and distrust. ***Academy of Management Review***, 23: 405–421.

Blau, P. M. 1964. ***Exchange and* power in *social life***. New York: Wiley.

Borgatti, S. P., & Everett, M. G. 1992. Notions of position in social network analysis. ***Sociological Methodology***, 2: 1-35.

Camerer, C. F., & Ho, T. H. 1999. Experience weighted attraction learning in normal-form games. ***Econometrica***, 67, 827-874.

Castelfranchi, C. 2008. Trust and reciprocity: Misunderstandings. ***International Review of Economics***, 55: 45-63.

Carsson, S. J., Madhok, A., Varman, R., & John, G. 2003. Information processing moderators of the effectiveness of trust-based governance in interfirm R&D collaboration. ***Organization Science***, 14(1): 45-56.

Chakravarthy, B., & Cho, H. J. 2004. Managing trust and learning: An exploratory study. ***International Journal of Management and Decision Making***, 5(4): 333-347.

Cheung, Y. W. & Friedman, D. 1997. Individual Learning in Normal Form Games: Some Laboratory Results. ***Games and Economic Behavior***, 19: 46-76.

Coleman. J. S. 1990. ***Foundations of social theory***. Cambridge, MA: Harvard University Press.

Das, T. K., & Teng, B. S. 1998. Between trust and control: Developing confidence in partner cooperation in alliances. ***Academy of Management Review***, 23(3): 491-512.

De Geus, A. P. 1988. Planning as learning. ***Harvard Business Review***, 66(2): 70-75.

Dirks, K. T., & Ferrin, D. L. 2001. The Role of Trust in Organizational Settings. ***Organization Science***, 12(4): 450-467.

Dirks, K. T., & Ferrin, D. L. 2002. Trust in leadership: Metaanalytic findings and implications for research and practice. ***Journal of Applied Psychology,*** 87: 611-628.

Doney, P.M.. & Cannon, J. P. 1997. An examination of the nature of trust in buyer-seller relationships. ***Journal of Marketing***, 61(2): 35-51.

Doney, P. M., Cannon, J. P., & Mullen, M. R. 1998. Understanding the influence of national culture on the development of trust. ***Academy of Management Review***, 23(3): 601-620.

Engle-Warnick, J., & Slonim, R. L. 2006. Learning to trust in indefinitely repeated games. ***Games and Economic Behavior***, 1: 95-114.

Erev, I., & Roth, A. 1998. Prediction how people play games: reinforcement learning in games with unique mixed strategy equilibrium. ***American Economic Review***, 88: 848-881.

Ferrin, D. L., Dirks, K. T., & Shah, P. P. 2006. Direct and indirect effects on third-party relationships on interpersonal trust. ***Journal of Applied Psychology***, 91(4): 870-883.

Fischer, C. S. (Ed.) 1977. ***Networks and places: Social relations in the urban setting***. Free Press: New York.

Gabarro, J. J. 1990. The development of working relationships. In J, Gallagher, R, E. Kraut. & C. Egido (Eds.). ***Intellectual teamwork: Social and technological foundations of cooperative work***: 79-110. Hillsdale, NJ: Lawrence Erlbaum Associates.

Galaskiewicz, J., & Wasserman, S. 1993. Social network analysis: Concepts, methodology, and directions for the 1990s. ***Sociological Methods and Resolution***, 22(1): 3-22.

Gefen, D., Karahanna, E., & Straub, D. W. 2003. Trust and TAM in online shopping: An integrated model. ***MIS Quarterly***, 27: 51–90.

Glaeser, E. L., Laibson, D. I., Scheinkman, J. A., & Soutter, C. L. 2000. Measuring trust. ***The Quarterly Journal of Economics***, 115(3): 811-846.

Grippin, P., & Peters, S. 1984. ***Learning theories and learning outcomes.*** Lanham, MD: University Press of America.

Handy, C. 1995. Trust and the virtual organization, ***Harvard Business Review***, 3: 40–50.

Henslin, J. M. 1968. Trust and the cab driver. In Truzzi, M (Ed.). ***Sociology and Everyday Life***: 138-158. Englewood Cliffs, NJ: Prentice Hall.

Holsapple, C. W., & Wu, J. 2008. Building effective online game websites with knowledge-based trust. ***Information Systems Frontiers***, 10: 47-60.

Huber, G. P. 1991. Organizational learning: The contributing processes and the literatures. ***Organization Science***, 2(1): 88-115.

Johnson-George, C., & Swap, W. C. 1982. Measurement of specific interpersonal trust: Construction and validation of a scale to assess trust in a specific other. ***Journal of Personality and Social Psychology***, 43: 1306-1317.

Kee, H. W., & Knox, R. E. 1970. Conceptual and methodological considerations in the study of trust and suspicion. ***Journal of Conflict Resolution***, 14: 357-366.

Knowles, M. 1984. ***The adult learner: a neglected species*** (3rd ed.). Houston, TX Gulf Publishing Co.

Konovsky, M. A., & Pugh, S. D. 1994. Citizenship behavior and social exchange. ***Academy of Management Journal***, 37: 656–669.

Koufaris, M. & Hampton-Sosa, W. 2004. The development of initial trust in an online company by new customers. ***Information and Management***, (41)3: 377-397.

Kramer, R. M. 1999. Trust and distrust in organizations: Emerging Perspectives, Enduring Questions. ***Annual Review of Psychology***, 50: 569-598.

Kramer, R. M., & Tyler, T. R. 1996. ***Trust in organizations: Frontiers of theory and research***. Thousand Oaks, CA: Sage.

Lee, K. C., Wang, I. W., & McKnight, D. H. 2007. Transfer from offline trust to key online perceptions: An empirical study. ***IEEE Transactions on Engineering Management***, 54(4): 729-741.

Lewicki. R. J., & Bunker, B. B. 1995. Trust in relationships: A model of trust development and decline. In B. B, Bunker & J. Z. Rubin (Eds.). ***Conflict, cooperation and justice***: 133-173. San Francisco: Jossey-Bass.

Lewicki, R. J. & Bunker, B. B. 1996. Developing and maintaining trust in working relationships. In Kramer, R.M. & Tyler, T.R. (Eds). ***Trust in Organizations: Frontiers of Theory and Research***: 114–139. Sage Publications, Thousand Oaks, CA.

Lewicki, R. J., Tomlinson, E. C., & Gillespie, N. 2006. Models of Interpersonal Trust Development: Theoretical Approaches, Empirical Evidence, and Future Directions. ***Journal of Management***, 32(6): 991-1022.

Luhmann, N. 1979. ***Trust and power***. Chichester, UK: Wiley.

Lyles, M. A. 1994. The impact of organizational learning on joint venture formation. ***International Business Review***, 3(4): 459-467.

Marsick, V. J., & Watkins, K. E. 2001. Demonstrating the Value of an Organization's Learning Culture: The Dimensions of the Learning Organization Questionnaire. ***Advances in Developing Human Resources***, 5(2): 132-151.

Mayer. R. C. Davis. J. H., & Schoorman, D. 1995. An integrative model of organizational trust. ***Academy of Management Review***, 20: 709-734.

McEvily, B., Perrone, V., & Zaheer, A. 2003. Trust as an organizing principle. ***Organization Science***, 14(1): 91-103.

McKnight, D. H., Choudhury, V., & Kacmar, C. 2002. The impact of initial consumer trust on Intentions to transact with a web site: a trust building model. ***Journal of Strategic Information Systems***, 11(3/4): 297–323.

McKnight, D. H., Cummings, L. L., & Chervany, N. L. 1998. Initial trust formation in new organizational relationships. ***Academy of Management Review***, 23(3): 473-490.

Merriam, S. & Caffarella, R 1991. ***Learning in adulthood***. San Francisco, CA: Jossey Bass.

Michalos, A. C. 1990. The impact of trust on business, international security and the quality of life. ***Journal of Business Ethics***, 9(8): 619-638.

Miles, R. E., & Creed, W. E. D. 1995. Organizational forms and managerial philosophies: A descriptive and analytical review. In B. M. Staw & L. L. Cummings (Eds.). ***Research in organizational behavior***, 17: 333-372. Greenwich, CT: JAI Press.

Milliman, R. E., & Fugate, D. L. 1988. Using trust-transference as a persuasion technique: An empirical field investigation. ***Journal of Personal Selling and Sales Management***: 1-7.

Moorman, C., Zaltman, G., & Deshpande, R. 1992. Relationships between providers and users of market research. ***Journal of Marketing Research***, 29: 314-328.

Ndubisi, N. O., Gupta, O. K. & Massoud, S. 2003. Organizational learning and vendor support quality by the usage of application software packages: A study of Asian entrepreneurs. ***Journal of Systems Science and Systems Engineering***, 12(3): 314-331.

O'Neil, J. 2003. Participants' guide for interpreting the results of the Dimensions of the Learning Organization Questionnaire. ***Advances in Developing Human Resources***, 5(2): 222-230.

Pérez-López, S., Montes-Peón, J. M., & Vázquez-Ordás, C. J. 2005. Organizational learning as a determining factor in business performance. ***The Learning Organization***, 12(3): 227-245.

Powell, W. W. 1990. Neither market nor hierarchy: Network forms of organization. In L. L.Cummings & B. M. Staw (Eds.). ***Research in organizational behavior***, 12: 295-336. Greenwich, CT: JAI Press.

Ratnasingam, P. 2005. Trust in inter-organizational exchanges: a case study in business to business electronic commerce. ***Decision Support Systems***, 39(3): 525-544

Rempel, J, K., Holmes, I. G., & Zanna, M. P, 1985. Trust in close relationships. ***Journal of Personality and Social Psychology***, 49: 95-112.

Robey, D., Boudreau, M. C., & Rose, G. M. 2000. Information technology and organizational learning: A review and assessment of research. ***Accounting Management Information Technology***, 10: 125–155.

Rotter, J. B. 1967. A new scale for the measurement of interpersonal trust. ***Journal of Personality***, 35: 651-665.

Rotter, J. B. 1980. Interpersonal trust, trustworthiness, and gullibility. ***American Psychologist***, 35: 1-7.

Rousseau, D. M., Sitkin, S. B., Burt, R. S., & Camerer, C. 1998. Not so different after all: A cross-discipline view of trust. ***Academy of Management Review***, 23(3): 393-404.

Saban, K. Lanasa, J., Lackman, C., & Peace, G. 2000. Organizacional learning: A critical component to new product development. ***Journal of Product & Brand Management***, 9(2): 99-119.

Sabel, C. 1993. Learning by monitoring: The institutions of economic development. In N. J. Smelser & R. Swedberg (Eds.). ***The handbook of economic sociology***: 137-165. Princeton, NJ: Princeton University Press.

Schoorman, F. D., Mayer, R. C., & Davis, J. H. 2007. An integrative model of organizational trust: Past, present, and future. ***Academy of Management Review***, 32(2): 344-354.

Serva, M. A., & Fuller, M. A. 2004. The effects of trustworthiness perceptions on the formation of initial trust: Implications for MIS student teams. ***Journal of Information Systems Education***, 15(4): 383-395.

Shapiro, S. P. 1987. The social control of impersonal trust. ***American Journal of Sociology***, 93: 623-658.

Stack, L. C. 1978. Trust. In H. London & J. E. Exner, Jr. (Eds.). ***Dimensionality of personality***: 561–599. New York: Wiley.

Stewart, K. J. 2003. Trust transfer on the World Wide Web. ***Organization Science***, 14(1): 5–17.

Stewart, K. 2006. How hypertext links influence consumer perceptions to build and degrade trust online. ***Journal of Management Information Systems***, 23(1): 183–210.

Strub, P. J., & Priest, T. B. 1976. Two patterns of establishing trust: The marijuana user. ***Sociological Focus***: 399-411.

Tomlinson, E. C., & Mayer, R. C. 2009. The role of causal attributions dimmensions in trust repair. ***Academy of Management Review***, 34(1): 85-104.

Uzzi, B.1996. The sources and consequences of embeddedness for the economic performance of organizations: The network effect. ***American Sociological Review***, 61(4): 674-698.

Whitener, E. M., Brodt, S. E., Korsgaard, M. A., & Werner, J. M. 1998. Managers as initiators of trust: An exchange relationship framework for understanding managerial trustworthy behavior. ***Academy of Management Review***, 23(3): 513-530.

Williamson, O. E. 1975. ***Markets and hierarchies***. New York: Free Press.

Zaheer, A., McEvily, B., & Perrone, V. 1998. Does trust matter? Exploring the effects of interorganizational and interpersonal trust on performance. ***Organization Science***, 9(2): 141-159.

Zand, D. E. 1972. Trust and managerial problem solving. ***Administrative Science Quarterly***, 17: 229-239.

Zucker, L. G. 1986. Production of trust: Institutional sources of economic structure, 1840-1920. ***Research in Organizational Behavior***, 8: 53-111.

APPENDIX A: Properties of the trust transfer index

The trust transfer index presented fulfils some interesting properties for the measurement of trust transfer:

Property 1. *Whenever the trustor trusts a trustee who is a friend and does not trust a trustee who is a friend of a friend, the trustor´s TTIndex will be zero.*

$$x_{12}^{jF(j)} \neq y_{12}^{jFF(j)} = 0 \Rightarrow TTIndex_{12}^{jFF(j)} = 0 \qquad y_{12}^{jFF(j)} \leq \max\left\{x_{12}^{jF(j)}, y_{12}^{jFF(j)}, 1\right\}$$

Property 1 assures that when the trustor does not transfer any amount to a trustee who is a friend of a friend and sends a positive amount to a trustee who is a friend, the trust transfer mechanism does not work. In other words, the trust placed in the agent who is a friend of a friend is null.

Property 2. *Whenever the trustor does not trust a trustee who is a friend nor a trustee who is a friend of a friend, the trustor´s TTIndex will be zero.*

$$x_{12}^{jF(j)} = y_{12}^{jFF(j)} = 0 \Rightarrow TTIndex_{12}^{jFF(j)} = 0 \qquad y_{12}^{jFF(j)} < \max\left\{x_{12}^{jF(j)}, y_{12}^{jFF(j)}, 1\right\}$$

The second property states that when the trustor transfers no amount to the trustee who is a friend nor to the trustee who is a friend of a friend, the trust transfer mechanism does not work.

Property 3. *Whenever the trustor trusts to the same extent a trustee who is a friend and a trustee who is a friend of a friend, the trust transfer will be maximum and, hence, the trustor´s TTIndex will be one.*

$$x_{12}^{jF(j)} = y_{12}^{jFF(j)} \neq 0 \Rightarrow TTIndex_{12}^{jFF(j)} = 1 \qquad y_{12}^{jFF(j)} \geq \max\left\{x_{12}^{jF(j)}, y_{12}^{jFF(j)}, 1\right\}$$

Hence, when an agent sends to the friend of a friend as much as he sends to the friend and this amount is different from 0, the trust transfer mechanism works totally and the index is equal to 1. This is equivalent to say that the trustor trusts a trustee who is his friend as much as a trustee who is a friend of his friend.

Property 4. *Whenever the trustor trusts a trustee who is a friend and a trustee who is a friend of a friend to some different positive extents, the trustor´s TTIndex will be always positive.*

$$\left.\begin{array}{c} x_{12}^{jF(j)} \neq y_{12}^{jFF(j)} \\ x_{12}^{jF(j)} \neq 0 \\ y_{12}^{jFF(j)} \neq 0 \end{array}\right\} \Rightarrow TTIndex_{12}^{jFF(j)} \in \left(0,1\right] \Rightarrow \begin{cases} x_{12}^{jF(j)} > y_{12}^{jFF(j)} \neq 0 \Rightarrow TTIndex_{12}^{jFF(j)} \in \left(0,1\right) \\ y_{12}^{jFF(j)} > x_{12}^{jF(j)} \neq 0 \Rightarrow TTIndex_{12}^{jFF(j)} = 1 \end{cases}$$

In case that the trustor trusts both trustees (this is, the amounts sent to both are different from zero), the trust transfer mechanism works and therefore the index will be always within the interval $(0,1]$. However, depending on the case, it works to a different extent. Hence, if the trustor trusts more the trustee who is a friend than the trustee who is a friend of a friend, the index is restricted within the interval $(0,1)$; this is, the trust transfer works but not at its maximum level. In this case, the bigger the difference between the trust placed by the trustor in both players, the smaller the index will be, since the trust transfer works to a smaller extent. Also, the smaller the difference between the trust placed by the trustor in both trustees, the closer the index will be to 1, since the trust transfer works better in this context. But if the trustor trusts a trustee who is a friend of a friend more than a trustee who is a friend, then the trust transfer fully works and therefore the trust transfer index will be 1.

APPENDIX B: Building process of the trust transfer reciprocation index

In order to build the trust transfer reciprocation index, it is important to set the definition of some concepts:

$y_2^{FF(j)}$: amount received by the k-trustee from the trustor who is a k-trustee´s friend of a friend.

$y_{12}^{jFF(j)}$: amount sent by the j-trustor to the trustee who is a j-trustor´s friend of a friend.

$y_{21}^{FF(j)j}$: amount returned by the k-trustee to the trustor, who is the k-trustee´s friend of a friend.

In our experiment, the amounts transferred by the trustor and returned by the trustee fulfil the following conditions:

$$0 \leq y_{12}^{jFF(j)} \leq 4\,;\; y_{12}^{jFF(j)} \in \mathbb{N}$$

$$0 \leq y_{21}^{FF(j)j} \leq 3y_{12}^{jFF(j)}\,;\; y_{21}^{FF(j)j} \in \mathbb{N}$$

$$0 \leq y_2^{FF(j)} \leq 12\,;\; y_2^{FF(j)} \in \mathbb{N}$$

We have defined trust transfer reciprocation to be maximal when the trustee, who is the trustor´s friend of a friend, returns to the trustor, who is the trustee´s friend of a friend, at least the same proportion of money that the trustor sent him.

Since the initial endowment of the trustor in our trust game is $y_1^j = 4$, the proportion of money sent by the trustor to a the trustee, who is the trustor´s friend of a friend, is: $\dfrac{y_{12}^{jFF(j)}}{4}$.

Moreover, since the amount received by a the trustee, who is the trustor´s friend of a friend, is $y_2^{FF(j)} = 3y_{12}^{jFF(j)}$, the proportion of money the trustee returns to the trustor, who is the trustee´s friend of a friend, is: $\frac{y_{21}^{FF(j)j}}{3y_{12}^{jFF(j)}}$.

According to our definition of trust transfer reciprocation, both amounts must be, at least, equal, for a trust transfer reciprocation to be maximal. Therefore:

$$\frac{y_{12}^{jFF(j)}}{4} = \frac{y_{21}^{FF(j)j}}{3y_{12}^{jFF(j)}} \Leftrightarrow \frac{4y_{21}^{FF(j)j}}{3\left(y_{12}^{jFF(j)}\right)^2}$$

Hence, we obtain the following definition for the $TTRIndex_{21}^{kj}$:

$$TTRIndex_{21}^{FF(j)j} = \begin{cases} \dfrac{4y_{21}^{FF(j)j}}{3\left(y_{12}^{jFF(j)}\right)^2} & y_{12}^{jFF(j)} \neq 0 \\ 0 & y_{12}^{jFF(j)} = 0 \end{cases}$$

Nonetheless, this index is not restricted within the interval $[0,1]$[1]. In order to solve this, we propose the following expression:

$$TTRIndex_{21}^{FF(j)j} = \min\left\{\frac{4y_{21}^{FF(j)j}}{3\left(y_{12}^{jFF(j)}\right)^2}, 1\right\}$$

Furthermore, the above expression presents one problem: the denominator may be null (when $y_{12}^{jFF(j)} = 0$). Hence, we carry out the following adjustment to solve it:

$$TTRIndex_{21}^{FF(j)j} = \min\left\{\frac{4y_{21}^{FF(j)j}}{\max\left\{3\left(y_{12}^{jFF(j)}\right)^2, 1\right\}}, 1\right\}$$

[1] This is not a problem affecting the validity of the index proposed. But for shake of simplicity when interpreting the results, we prefer to restrict the index within the interval $[0,1]$.

APPENDIX C: Properties of the trust transfer reciprocation index

The trust transfer reciprocation index proposed fulfills the following interesting properties for the measurement of trust transfer reciprocation:

Property 1. *Whenever the trustor trusts the trustee (who is the trustor´s friend of a friend) and the trustee does not trust the trustor, the trustor´s TTRIndex will be zero.*

$$\frac{y_{12}^{jFF(j)}}{4} \neq \frac{y_{21}^{FF(j)j}}{3y_{12}^{jFF(j)}} = 0 \Rightarrow TTRIndex_{21}^{FF(j)j} = 0$$

The first proves that when the trustor transfers some positive proportion of his initial endowment to the trustee (who is a friend of a friend), and the trustee returns nothing to the trustor, then the trust transfer reciprocation index reaches its minimal value. This is, the trust transfer reciprocation is null.

Property 2. *Whenever the trustor and the trustee (who is the trustor´s friend of a friend) don´t trust each other, the trustor´s TTRIndex will be zero.*

$$\frac{y_{12}^{jFF(j)}}{4} = \frac{y_{21}^{FF(j)j}}{3y_{12}^{jFF(j)}} = 0 \Rightarrow TTRIndex_{21}^{FF(j)j} = 0$$

Property second shows that in the case that the trustor transfers a null proportion of his initial endowment to the trustee (who is the trustor´s a friend of a friend), then the trust transfer reciprocation does not work. Consequently, the trust transfer reciprocation index is zero. However, it is important to note that, unlike what was previously shown in the first property, in this case the trust transfer reciprocation mechanism does not work because it cannot work, since the trustee received a null amount from the trustor. In property 1, we analyzed the case where the trustee - having the possibility to reciprocate the trust transfer received from the trustor - decides not to do so.

Property 3. *Whenever the trustor and the trustee (who is the trustor´s friend of a friend) trust each other to the same positive extent, the trustor´s TTRIndex will be one.*

$$\frac{y_{12}^{jFF(j)}}{4} = \frac{y_{21}^{FF(j)j}}{3y_{12}^{jFF(j)}} \neq 0 \Rightarrow TTRIndex_{21}^{FF(j)j} = 1$$

The third property states that when the proportion that the trustor transfers to the trustee (who is the trustor´s friend of a friend) is equal to the proportion the trustee returns to the trustor, then the trust transfer reciprocation is maximal.

Property 4. *Whenever the trustor and the trustee (who is the trustor´s friend of a friend) trust each other to some different positive degrees, the trustor´s TTRIndex will be always positive. Moreover, the lower the difference between the trust transferred to the trustee by the trustor and the trust returned to the trustor by the trustee, the trustor´s TTRIndex will be closer to one.*

$$\frac{y_{12}^{jFF(j)}}{4} \neq \frac{y_{21}^{FF(j)j}}{3y_{12}^{jFF(j)}} \neq 0 \Rightarrow TTRIndex_{21}^{FF(j)j} \in (0,1] \Rightarrow$$
$$\Rightarrow \begin{cases} \dfrac{y_{12}^{jFF(j)}}{4} > \dfrac{y_{21}^{FF(j)j}}{3y_{12}^{jFF(j)}} \neq 0 \Rightarrow TTRIndex_{21}^{FF(j)j} \in (0,1) \\ \dfrac{y_{12}^{jFF(j)}}{4} < \dfrac{y_{21}^{FF(j)j}}{3y_{12}^{jFF(j)}} \neq 0 \Rightarrow TTRIndex_{21}^{FF(j)j} = 1 \end{cases}$$

Property 4 gathers all the situations where the trustor transfers some proportion of his initial endowment to the trustee (who is the trustor´s friend of a friend) and this proportion is different from the proportion returned by the trustee to the trustor. Additionally, both proportions are different from zero. In this context, we can distinguish two different possibilities. On the one hand, the possibility that the proportion transferred by the trustor to the trustee is bigger than the proportion returned by the trustee to the trustor. In this case the index is restricted within the open interval $(0,1)$. The narrower the difference between both proportions, the closer the index will be to 1, since the trust transfer reciprocation works to a higher extent. On the other hand, it is also possible that the proportion transferred by the trustor to the trustee is smaller than the proportion returned by the trustee to the trustor. In this case, the index reaches its maximal value: 1.

CHAPTER 5

Conclusions, Implications, Limitations And Future Research

In this final chapter of the dissertation, we summarize the main conclusions from the previous chapters, and we deduce some implications for academics, managers, and regulators. Additionally, we briefly enumerate the limitations encountered and line out some opportunities for future research.

1. Conclusions

In this dissertation we aimed to answer some calls in the literature about trust. While the common thread throughout the dissertation is “trust”, each research paper is focused on a specific area.

By reviewing the literature about trust in management, chapter one provides a first contact to the research topic and its main characteristics, as well as the evolution of trust across different areas of management. We observe that trust has not only received an increasing attention in the literature during the last decades, but this interest also holds nowadays. Moreover, many areas of management have benefited from the application of mechanisms or strategies grounded in trust for strengthening or achieving certain tasks within the organizations during the last years. Nonetheless, there are still several topics which remain unexplored. Hence, research on trust in management is a fruitful field where additional contributions are permanently demanded.

Furthermore, beyond this general conclusion drawn from the first chapter, we can distinguish specific conclusions obtained from each of the papers composing this dissertation.

1.1. Chapter 2: Environmental progresses when financial implications are not the aim: The importance of trust in stakeholders on deciding the integration of sustainability into management education

The first paper addresses how trust in stakeholders influence environmental progress when the people in charge of taking environmental decisions do not perceive financial issues as the main aim of the organization. We conclude that trust in departmental stakeholders´ ability and benevolence positively influences the heads of department´s willingness to integrate sustainability issues in the syllabus of the management courses taught by the department. Additionally, although we found that the interest in financial aims have a positive influence, results show that this interest does not moderate the relationship between the integration of sustainability into management courses and the perceptions about the stakeholders´ ability and benevolence.

1.2. Chapter 3: The influence of the initial and experiential knowledge on trusting outcomes

In this paper we analyze the influence of the initial level of knowledge on the emergence of future trust as well as the relationship between experiential knowledge on the typology of future trusting outcomes. There are two main conclusions derived from the third chapter. First, we find that the level of initial knowledge between a trustor and a trustee (i.e. the knowledge previous to the interaction under analysis) influences the development of trust in forthcoming interactions between them. And second, we also show that, while the previous result helps explaining trusting behavior, trustors´ experiential knowledge (i.e. the knowledge accumulated throughout the interactions of this trustor with a specific trustee) influences the typology of trusting outcomes arising in future interactions between them.

1.3. Chapter 4: The dynamic nature of trust transfer and the influence of learning

In chapter four we investigate the dynamic nature of trust transfers and the influence of trustors´ learning on future transfers of trust. We drew four main conclusions. First, the trust placed by a trustor in a trustee increases when there is a positive personal trusting history between them. Hence, a series of past positive interactions increases the trust in upcoming interactions. Second, the trust placed by a trustor in an unknown trustee during increases when this unknown trustee has a positive personal trusting history with a third agent, who also holds a positive personal trusting history with the trustor. In other words, the existence of positive personal trusting histories with a mutual third party increases the trust placed by trustors in unknown trustees. Third, the degree of trust transfers reciprocations from trustees towards whom the trustor transferred some trust in the past influences the probability of occurrence of future transfers of trust. And fourth, results suggest that the learning collected by the trustor moderates the relationship between the degree of trust transfer reciprocations obtained by the trustor during past trust transfers and the occurrence of future transfers of trust.

2. Implications

This section contains the main implications for academics, managers, and regulators.

2.1. Implications for academics

2.1.1. Chapter 2: Environmental progresses when financial implications are not the aim: The importance of trust in stakeholders on deciding the integration of sustainability into management education

The main conclusions obtained from the first paper contribute to the literature about environment and stakeholders. Previous studies have pointed out the positive relationship between meeting stakeholders´ environmental interests and a firm´s financial performance (Darnall, Henriques & Sadorsky, 2008; Hart & Ahuja, 1996; Kassinis & Panayiotou, 2006; Kassinis & Vaffeas, 2006; Sharma & Vredenburg, 1998). However, this relationship has not been tested for cases of organizations where financial implications are not the main goal. We show that managers´ perceptions about stakeholder´s ability and benevolence positively influence environmental progress. By testing this relationship with Spanish university departments, we find that sustainability can be integrated in the management courses taught when the heads of department perceive the departmental stakeholders as having high ability for carrying out this integration and high benevolence.

2.1.2. Chapter 3: The influence of the initial and experiential knowledge on trusting outcomes

While prior literature has focused on the factors influencing trustors´ trusting *behavior* (Buchan & Croson, 2004; Buchan, Croson & Dawes, 2002; Glaeser, Laibson, Scheinkman & Soutter, 2000), in this paper we go one step beyond by including the expectations, a key element of human decisions to trust (Kim, Shin & Lee, 2009), to analyze the trusting *outcomes*. Our work highlights the differences existing between trust (i.e. trusting behavior) and trusting outcome. While previous studies have often assumed trust (i.e. trusting behavior) to be reciprocal between both parties (Serva & Fuller, 2004), we claim that this is not necessarily trust in every interaction. Following this line, our paper does not contradict the existing literature but enriches it by incorporating the role played by expectations for understanding the trusting outcome. Expectations, when compared with the trusting behaviors, yield the trusting outcomes. Taking previous works as reference, we classify the trusting outcomes into three categories: betrayal, reciprocity, and reward.

Furthermore, the analysis presented in chapter 3 supports the previous works about knowledge, sheds light on the different role of initial knowledge (i.e. previous to the interaction under analysis) and the experiential knowledge (i.e. which fosters the accumulation of knowledge through repeated interactions). While the first explains trust (i.e. trusting behavior), the second allows to predict the type of future trusting outcomes. Finally, the paper presented in the third chapter also contributes to the literature about trust in management in the study of all the potential trusting outcomes that may emerge from a trust relationship. While trust has been widely hailed for its central role in establishing and maintaining close, cooperative, and productive relationships (Davis, Schoorman, Mayer & Tan, 2000; Deutsch, 1958; Dirks & Ferrin, 2002; Gambetta, 1988), damage to trust through defection and betrayal can have devastating consequences on relationships (Lewicki & Bunker, 1996; Robinson, 1996). Previous studies have addressed the betrayal in organizations (Bies & Tripp, 1996; Elangovan & Shapiro, 1998; Giacalone & Greenberg, 1997; Lewicki & Bunker, 1996; Morris & Moberg, 1994; Robinson & Benett, 1995; Sitkin & Roth, 1993), as well as some mechanisms of trust repair after a betrayal (Gillespie & Dietz, 2009; Kim, Dirks &

Cooper, 2009; Tomlinson & Mayer, 2009). While betrayal has received more attention, some papers have also addressed reciprocity and reward (e.g. Brett, Shapiro & Lytle, 1998; Spreitzer, 1995). Nonetheless, these three categories have been investigated in a separate way. Our paper does not contradict these previous studies, but complements them by integrating betrayal, reciprocity and reward into the same framework. Therefore, we consider that approaching them jointly can lead to a better understanding of how trust in interpersonal as well as in inter - and intraorganizational relationships evolutions.

2.1.3. Chapter 4: The dynamic nature of trust transfer and the influence of learning

While prior research described trust as static and the trustee was treated as trustworthy or not (Gabarro, 1990), later works pointed out the importance of considering the evolution of trust across time (Mayer, Davis & Schoorman, 1995; Miles & Creed, 1995; Schoorman, Mayer & Davis, 2007; Tomlinson & Mayer, 2009). The paper presented in chapter four uses a dynamic approach for the analysis of trust transfers. We show that knowledge-based trust can help explaining the temporal evolution of trust transfer (Holmes, 1991; Lewicki & Bunker, 1995).

Moreover, prior research has stated that the great lacuna in the trust research agenda is the measurement (Glaeser *et al*, 2000). In this context, previous empirical studies measuring trust in management have relied exclusively on scales applied to questionnaires (Davis *et al*, 2000; Mayer & Gavin, 2005). Therefore, this has resulted in a lack of a comparable measure of trust across disciplines. Hence, in the paper developed in the fourth chapter, we build and test two indexes for the measurement of trust transfer and trust transfer reciprocation. These indexes are based on the trust game setting (Berg, Dickhaut & McCabe, 1995) and serve as a comparable measure to analyze trust transfer across different disciplines. They also fulfil some interesting properties for the measurement of trust transfer and trust transfer reciprocation.

Finally, while many prior analyses of trust have assumed symmetry between the parties involved, some works have proposed that trust is not symmetrical (Castelfranchi, 2008). Although there have been calls in the literature for analyzing how trust of one party influences the trust return from the trustee (Schoorman *et al*, 2007), empirical studies addressing the trustor´s and the trustee´s trusting behaviors in a separate way are rare (Serva & Fuller, 2004). In the paper included in chapter four, we empirically show that trust transfer is not necessarily symmetrical between the trustor and the trustee.

2.2. Implications for managers

The transmission of the academic findings to the organizational world is pivotal, since this allows a faster development towards the aims targeted by firms. In this section we present some useful insights that could be implemented by managers.

2.2.1. Chapter 2: Environmental progresses when financial implications are not the aim: The importance of trust in stakeholders on deciding the integration of sustainability into management education

Analyzing the role played by stakeholders in the education sector enables us to better understand how managers can collaborate with stakeholders to promote the integration of sustainability into management courses at the universities. In this case, due to the characteristics of university centres, where financial issues are not (or, at least, not completely) the main aim of the organization, managers should rely on stakeholders´ technical ability to effectively collaborate in the implementation of sustainable topics in the management courses as well as on stakeholders´ benevolence to honestly do so.

Thus, heads of department should be able to motivate stakeholders to use their abilities and benevolence for the integration of sustainability. Furthermore, heads of department should also be able to differentiate the technical abilities of each group of stakeholders, and allocate them to the optimal task. This can guarantee a more solid and widespread integration of sustainability into university management courses.

2.2.2. Chapter 3: The influence of the initial and experiential knowledge on trusting outcomes

Experiential knowledge is a key issue for many firms. For example, firms facing price-elastic demand, if they are to grow in profitability or sales volume, must learn to produce more efficiently. Firms facing direct price competition have a strong incentive to learn how to increase efficiency or differentiation faster than their competitors. Similar competitive pressures affect firms in markets with substitute products and firms in shrinking markets. At an organizational level, managers should be aware of the importance of fostering an adequate collective knowledge creation as an antecedent for developing a proper organizational learning, which can help an organization to build accurate guesses about the outcomes arising from interactions with other agents. For example, forecasts about how competitors will behave in the market and about what will be the results. When doing so, managers can lead their organizations to occupy a leadership position in a certain segment of the market. This achievement will be additionally translated into higher benefits to the company.

Additionally, trusting employees involves a risk for managers as well as trusting colleagues at work also involves a risk for employees. However, the knowledge accumulated from past experiences helps reducing such risk. Henceforth, managers should coordinate working groups which are stable across time and, consequently, foster repeated interactions among the same employees. This practice can help promoting the accumulation of experiential knowledge among individuals, leading to a higher predictability about how others will act in future interactions and to more accurate guesses about what the outcomes resulting may be.

Our results show a positive influence of the initial level of knowledge on future trust. Hence, managers should promote interactions between employees who have certain initial level of knowledge, since this yields higher trust levels. Nonetheless, managers should avoid working groups where the initial level of knowledge among the members surpasses certain threshold. While this might sound counterintuitive, too high levels of initial knowledge between coworkers may place personal trust above working trust. Consequently, managers should foster healthy working relationships through repeated interactions, since this increases employees´ productiveness and fosters the accumulation of knowledge about the others. However, they also should be aware of the potential risk of coworkers with high levels of initial knowledge; for example, levels above which the members of the group perceive the trust inside the group to be more important than the trust towards the company itself (i.e. the task assigned to the group, the values of the firm, etc). For instance, assuming two employees between whom the level of initial knowledge is very high: if one of them decides to cheat the company, the other may hide this due to the high initial trust level existing between them. To avoid such risky situations, managers should promote periodical rotations among the employees, when a certain level of trust has been reached. In other words, there is no need to achieve very high levels of initial knowledge among the members of a team to work efficiently and productively in a group.

Although these recommendations pretend to be useful for any kind of organization, they are especially useful for managers of organizations where financial issues are not the main aim (e.g. public universities, non-profit organizations, etc).

2.2.3. Chapter 4: The dynamic nature of trust transfer and the influence of learning

Several implications for managers can be extracted from the fourth chapter. First, one implication is the huge array of organizational situations which can be benefited from fostering stronger levels of trust towards an agents who have a positive personal trusting history with a trusted third party. For instance, when a firm decides to create a new brand, and the customer is able to associate this new brand to the already known brand, the customer will be more likely to trust the new one. Another application would be when the company decides to develop alternative means of buying; for example, buying through the new website of the company.

And second, at an organizational level, an awareness of trust development can help better understand how professional relationships change and evolve over time (Tomlinson & Mayer, 2009). The dynamicity of trust transfer provides an opportunity for managers to operate in their organizations on the basis of serial equity, this is, assessing the relationship as a overall instead of focusing the assessment on one specific period. By allowing the two parties (i.e. trustor and trustee) to search for the resolution of inequities across time, serial equity alleviates the need for renegotiation of agreements each time there is a change that affects the relationship and therefore reduces the likelihood that it will generate conflict and eventually lead to a breach in the relationship (Carson, Madhok & Varman, 2003; Zaheer, McEvily & Perrone, 1998).

2.3. Implications for regulators

Some findings can also help improving the society through the development of regulations.

2.3.1. Chapter 2: Environmental progresses when financial implications are not the aim: The importance of trust in stakeholders on deciding the integration of sustainability into management education

Previous literature has suggested that more restrictive laws give rise to more proactive environmental strategies by firms (Darnall, Jolley & Ytterhus, 2007; Porter & van der Linde, 1995). Henceforth, while there are currently some examples of environmental respectful programmes implemented in some few universities in Spain, bigger efforts in this field are needed. Thus, regulations should promote the implementation of environmental practices in the universities, including the integration of sustainability issues into the syllabus of the courses taught.

Given the importance of management students acquiring sustainable skills, which can be implemented in their future lives as managers, it is crucial to develop policies fostering the integration of sustainability into university management courses. Moreover, at the societal level, this strengthening of a more sustainable growth model, based on more sustainable production methods, may bring a higher quality of life for the inhabitants of a country as well as a lower degree of energetic dependence from countries producing non-sustainable sources of energy. Thus, training future managers with a more environmental caring vision can help countries facing climate change.

2.3.2. Chapter 3: The influence of the initial and experiential knowledge on trusting outcomes

The importance of trust in economic relationships, and to society in general, is well documented (e.g. Dawes, 1980; Glaeser *et al*, 2000; Granovetter, 1985; Williamson, 1981). Arrow (1972) and Fukuyama (1995) believe that the level of trust in a society strongly predicts its economic success. However, since regulations cannot force an individual to trust another agent, regulators should be guided to create laws guaranteeing a safe institutional environment, where individuals´ perceived risk of trusting others is reduced. In this sense, regulators should promote laws including bigger punishments against trust violations or betrayals. This would act as an incentive for rewarding and reciprocating trusting outcomes, which would result in a bigger social gain.

Moreover, if regulators are interested in increasing the number of certain type of trusting outcomes (i.e. betrayal, reciprocity, or reward), they need to know which factors underlie the occurrence of those outcomes. Our third chapter provides some insight about the influence of trustors´ experiential knowledge on the type of trusting outcome emerging in future interactions.

Regulators should also be interested in the potential heterogeneity of the knowledge gathered by trustors. If there are differences in how the knowledge based on previous experiences is gathered between demographics groups, group-specific policy interventions are asked for. For instance, people with a dense social network may have developed a wider capacity to accurately predict others´ behaviors than people with a smaller social network. Hence, this capacity, based on accumulated knowledge from a big amount of previous experiences leads those trustors to be in a less vulnerable position in future interactions and to obtain a bigger ratio of positive (i.e. reward) and neutral (i.e. reciprocity) outcomes than negative ones (i.e. betrayal).

2.3.3. Chapter 4: The dynamic nature of trust transfer and the influence of learning

Trust transfer can be used as a mechanism to foster social interactions among unknown agents. Hence, regulations punishing negative behaviors during a transfer of trust would make people more willing to trust an unknown party. According to institution-based trust theorists, trust reflects the security one feels about a situation because of guarantees, safety nets, and other structures (Shapiro, 1987; Zucker, 1986).

Furthermore, trust transfers can serve as an effective tool for reactivating the economy, since they promote interactions among unknown parties, which can lead to bigger consumption, investment, and social expenditure. For instance, regulators may foster trust transfers as a mechanism for strengthening interorganizational networks or alliances. These networks can help promoting internationalization processes, in which the company must transfer trust to several unknown agents (e.g. the new country, the new consumers´ patterns of consumption, the culture, the local employees, etc). Consequently, regulations should foster the knowledge sharing among the companies which arrive to the new country and the companies already located there. This would reduce the perceived risk of the internationalization processes.

3. Limitations

We are aware that the papers defended in this dissertation also have some limitations, which we describe in this section.

The first limitation we encounter is the transversal nature of the data presented in chapter two. This fact does not allow us to analyze the evolution of our conclusions across time. While this limitation does not hold for the data presented in chapters three and four, we are also aware that the dataset used for these chapters include two iterations and, consequently, two periods. Hence, this limited amount of iterations may be found as a limitation when studying the evolution of our variables in the long run.

A second limitation arises from the process of gathering data with a questionnaire. This methodology, although including a big number of advantages, may produce biased answers due to potential misinterpretations of the questions. We were aware of this potential bias and took care of avoiding it by means of a careful and clear redaction of the questions finally included. Moreover, we tested the questionnaire with the help of a reduced group of people to check that it would be clearly understood. However, we want to point out that, despite our efforts for fighting against this limitation inherent to questionnaires, there is always a risk assumed when dealing with this way of obtaining data and, therefore, this risk may be viewed as a limitation. Finally, we want to point out that this limitation only affects the dataset from chapter two.

A third limitation which can be observed refers to the samples´ composition. In chapter two, the sample is restricted to heads of department in which management courses are taught in Spain. Moreover, in chapters three and four the samples are focused on students of Economics bachelor. Henceforth, there is a need to be cautious when extrapolating the results and conclusions obtained to other different contexts and populations.

Finally, we apply linear statistical methods. Consequently, those relationships which were not supported by the statistical analyses may be also non-linear and, therefore, not necessarily non-existing. What we can conclude is that these relationships among variables do not follow a linear structure.

4. Future Research Agenda

Future research, beyond addressing unexplored areas of the literature of trust and management, can help overtaking the limitations observed.

Regarding the dynamicity, future research may want to replicate the questionnaire and/or the experiment for a bigger number of periods in order to test whether our conclusions also hold in the long run and to address the time evolution of the variables under analysis.

Furthermore, it would be interesting to test the hypotheses in different contexts from those investigated in this dissertation. For instance, future research might wan to analyze how perceptions about stakeholders´ ability and benevolence affect the integration of sustainability in other university systems outside Spain. Additionally, further testings of the experiment across different contexts (e.g. organizational settings) can help to check the robustness of our results.

Moreover, more empirical studies analyzing the trust transfer mechanism are necessary for a better understanding of how this mechanism works and how it can help fostering trust in many interpersonal and interorganizational situations. Since the indexes proposed can be used as a comparable measure for trust transfer and trust transfer reciprocation, it would be interesting to compare how transfers of trust happen in different disciplines (e.g. sociology, psychology, economics, etc.).

References

Arrow, K. J. 1972. ***The Limits of Organization***. Norton, New York.

Berg, J., Dickhaut, J., & McCabe, K. 1995. Trust, reciprocity, and social history. ***Games and Economic Behavior***, 10: 122–142.

Bies, R. J., & Tripp, T. M. 1996. Beyond distrust: "getting even" and the need for revenge. In Kramer, R. M. and Tyler, T. R. (Eds), ***Trust in Organizations: Frontiers of Theory and Research***. Thousand Oaks, CA: Sage: 246–60.

Brett, J. M., Shapiro, D. L., & Lytle, A. L. 1998. Breaking the bonds of reciprocity in negotiations. ***Academy of Management Journal***, 41(4): 410-424.

Buchan, N., & Croson, R. 2004. The boundaries of trust: Own and others´ actions in the US and China. ***Journal of Economic Behavior & Organization***, 55: 485-504.

Buchan, N. R., Croson, R. T. A., & Dawes, R. M. 2002. Swift neighbors and persistent strangers: A cross-cultural investigation of trust and reciprocity in social exchange. ***American Journal of Sociology***, 108(1): 168-206.

Carsson, S. J., Madhok, A., Varman, R., & John, G. 2003. Information processing moderators of the effectiveness of trust-based governance in interfirm R&D collaboration. ***Organization Science***, 14(1): 45-56.

Castelfranchi, C. 2008. Trust and reciprocity: Misunderstandings. ***International Review of Economics***, 55: 45-63.

Darnall, N., Henriques, I., & Sadorsky, P. 2008. Do environmental management systems improve business performance in an international setting? ***Journal of International Management***, 14(4): 364-376.

Darnall, N. G., Jolley, J., & Ytterhus, B. 2007. Understanding the Relationship between a Facility's Environmental and Financial Performance. In Johnstone, N. (Ed.).

Corporate Behaviour and Environmental Policy. Cheltenham UK: Edward Elgar in association with OECD.

Davis, J. H., Schoorman, F. D., Mayer, R. C., & Tan, H. H. 2000. The trusted general manager and unit performance: Empirical evidence of a competitive advantage. ***Strategic Management Journal,*** 21: 563–576.

Dawes, R. 1980. Social dilemmas. ***Annual Review of Psychology***, 31: 169–193.

Deutsch, M. 1958. Trust and suspicion. ***The Journal of Conflict Resolution***, 2(4): 265-279.

Dirks, K. T., & Ferrin, D. L. 2002. Trust in leadership: Metaanalytic findings and implications for research and practice. ***Journal of Applied Psychology,*** 87: 611–628.

Elangovan, A. R., & Shapiro, D. L. 1998. Betrayal of trust in organizations. ***Academy of Management Review***, 23(3): 547-566.

Fukuyama, F. 1995. ***Trust: The Social Virtues and the Creation of Prosperity***. The Free Press, New York.

Gabarro, J. J. 1990. The development of working relationships. In J, Gallagher, R, E. Kraut. & C. Egido (Eds.). ***Intellectual teamwork: Social and technological foundations of cooperative work***: 79-110. Hillsdale, NJ: Lawrence Erlbaum Associates.

Gambetta, D. 1988. ***Trust: Making and breaking cooperative relations***. New York: Basil Blackwell.

Giacalone, R., & Greenberg, J. (Eds.) 1997. ***Antisocial behavior in organizations***. Thousand Oaks, CA: Sage.

Gillespie, N., & Dietz, G. 2009. Trust repair after an organization-level failure. ***Academy of Management Review***, 34(1): 127-145.

Glaeser, E. L., Laibson, D. I., Scheinkman, J. A., & Soutter, C. L. 2000. Measuring trust. ***The Quarterly Journal of Economics***, 115(3): 811-846.

Granovetter, M. 1985. Economic action and social structure: the problem of embeddedness. ***American Journal of Sociology***, 91: 481–510.

Hart, S. L., & Ahuja, G. 1996. Does it pay be green? An empirical examination of the relationship between emission reduction and firm performance. ***Business Strategy and the Environment***, 5: 30-37.

Holmes, J. G. 1991. Trust and the appraisal process in close relationships. In W. H. Jones *&* D. Perlman (Eds.). ***Advances in personal relationships***, 2: 57-104. London: Jessica Kingsley.

Kassinis, G. I., & Panayiotou, A. 2006. Perceptions matter. CEO perceptions and firm environmental performance. ***The Journal of Corporate Citizenship***, 23: 67-80.

Kassinis, G., & Vaffeas, N. 2006. Stakeholders pressures and environmental performance. ***Academy of Management Journal***, 49: 145-159.

Kim, P. H., Dirks, K. T., & Cooper, C. D. 2009. The repair of trust: a dynamic bilateral perspective and multilevel conceptualization. ***Academy of Management Review***, 34(3): 401-422.

Kim, G., Shin, B., & Lee, H. G. 2009. Understanding dynamics between initial trust and usage intentions of mobile banking. ***Information Systems Journal***, 19: 283-311.

Lewicki. R. J., & Bunker, B. B. 1995. Trust in relationships: A model of trust development and decline. In B. B, Bunker & J. Z. Rubin (Eds.). ***Conflict, cooperation* and justice**: 133-173. San Francisco: Jossey-Bass.

Lewicki, R. J. & Bunker, B. B. 1996. Developing and maintaining trust in working relationships. In Kramer, R.M. & Tyler, T.R. (Eds). ***Trust in Organizations:***

Frontiers of Theory and Research: 114–139. Sage Publications, Thousand Oaks, CA.

Mayer, R. C., Davis, J. H., & Schoorman, F. D. 1995. An integrative model of organizational trust. ***Academy of Management Review***, 20(3): 709-734.

Mayer, R. C., & Gavin, M. B. 2005. Trust in management and performance: Who minds the shop while the employees watch the boss? ***Academy of Management Journal***, 48: 874–888.

Miles, R. E., & Creed, W. E. D. 1995. Organizational forms and managerial philosophies: A descriptive and analytical review. In B. M. Staw & L. L. Cummings (Eds.). ***Research in organizational behavior***, 17: 333-372. Greenwich, CT: JAI Press.

Morris, J. H., & Moberg, D. J. 1994. Work organizations as contexts for trust and betrayal. In T. Sarbey, R. Carney, & C. Eoyang (Eds.). ***Citizen espionage: Studies in trust and betrayal***: 163-187. Westport, CT: Praeger.

Porter, M. E., & van der Linde, C. 1995. Toward a new conception of the environment-competitiveness relationship. ***Journal of Economic Perspectives***, 9(4): 97-118.

Robinson, S. L. 1996. Trust and breach of the psychological contract. ***Administrative Science Quarterly,*** 41: 574–599.

Robinson, R., & Bennett, S. 1995. A typology of deviant work-place behaviors: A multi-dimensional scaling study. ***Academy of Management Journal***, 38: 555-572.

Shapiro, S. P. 1987. The social control of impersonal trust. ***American Journal of Sociology***, 93: 623-658.

Sharma, S., & Vredenburg, H. 1998. Proactive corporate environmental strategy and the development of competitively valuable organizational capabilities. ***Strategic Management Journal***, 19: 729-753.

Schoorman, F. D., Mayer, R. C., & Davis, J. H. 2007. An integrative model of organizational trust: Past, present, and future. ***Academy of Management Review***, 32(2): 344-354.

Serva, M. A., & Fuller, M. A. 2004. The effects of trustworthiness perceptions on the formation of initial trust: Implications for MIS student teams. ***Journal of Information Systems Education***, 15(4): 383-395.

Sitkin, S. B., & Roth, N. L. 1993. Explaining the limited effectiveness of legalistic “remedies” for trust/distrust. ***Organization Science***, 4: 367–92.

Spreitzer, G. M. 1995. Psychological empowerment in the workplace: dimensions, measurement, and validation. ***Academy of Management Journal***, 38(5): 1442-1465.

Tomlinson, E. C., & Mayer, R. C. 2009. The role of causal attributions dimensions in trust repair. ***Academy of Management Review***, 34(1): 85-104.

Williamson, O. 1981. The economics of organization: the transaction cost approach. ***American Journal of Sociology***, 87: 548–577.

Zaheer, A., McEvily, B., & Perrone, V. 1998. Does trust matter? Exploring the effects of interorganizational and interpersonal trust on performance. ***Organization Science***, 9(2): 141-159.

Zucker, L. G. 1986. Production of trust: Institutional sources of economic structure, 1840-1920. ***Research in Organizational Behavior***, 8: 53-111.

REFERENCES

Adams, M. E., Day, G. S., & Dougherty, D. 2003. Enhancing new product development performance: An organizational learning perspective. ***Journal of Product Innovation Management***, 15(5): 403-422.

Andersson, L. M., & Bateman, T. S. 2000. Individual environmental initiative: Championing natural environmental issues in U.S. business organizations. ***Academy of Management Journal***, 43(4): 548-570.

Andreoni, J. 1988. Why free-ride: Strategies and learning in public goods experiments. ***Journal of Public Economics***, 37: 291-304.

Aragón-Correa, J. A. 1998. Strategic proactivity and firm approach to the natural environment. ***Academy of Management Journal***, 41(5): 556-567.

Argyris, C. A. 1994. ***Litigation mentality and organizational learning***. In S. B Sitkin & R. I. Bies (Eds.). The legalistic organisation. Thousand Oaks, CA: Sage.

Aoki, M. 1988. ***Information, incentives, and bargaining in the Japanese economy***. Cambridge: Cambridge University Press.

Arrow, K. J. 1974. ***The limits of organization***. New York: Norton.

Atwater, L. E. 1988. The relative importance of situational and individual variables in predicting leader behavior. ***Group and Organization Studies***, 13: 290-310.

Axelrod, R. 1984. ***The Evolution of Cooperation***. Basic Books, New York.

Ba, S., Zhang, H., & Whinston, A. B. 1999. ***Building trust in the electronic market using an economic incentive mechanism***, Proceedings of the 1999 International Conference on Information Systems. Charlotte, NC. December 12–15, Atlanta Omnipress.

Baier, A. 1986. Trust and antitrust. ***Ethics***, 96: 231-260.

Bansal, P. 2003. From issues to actions: The importance of individual concerns and organizational values in responding to natural environmental issues. ***Organization Science***, 14: 510-527.

Barber, B. 1983. ***The logic and limits of trust***. New Brunswick, NJ: Rutgers University Press.

Barney, J. B., & Hansen, M. H. 1994. Trustworthiness as a source of competitive advantage. ***Strategic Management Journal***, 15(8): 175-190.

Baumard, P. 1999. ***Tacit knowledge in organizations.*** London: Sage.

Bayona-Sáez, C., García-Marco, T., & Huerta-Arribas, E. 2002. Collaboration in R&D with universities and research centres: An empirical study of Spanish firms. ***R&D Management***, 32(4): 321-341.

Bazerman, M. H. 1994. ***Judgment in managerial decision making***. New York: Wiley.

Becerra, M., & Gupta, A.K. 2003. Perceived trustworthiness within the organization: The moderating impact of communication frequency on trustor and trustee effects. ***Organization Science***, 14(1): 32-44.

Benn, S., & Dunphy, D. 2009. Action research as an approach to integrating sustainability into MBA programs: an exploratory study. ***Journal of Management Education***, 33(3): 276.

Berg, J., Dickhaut, J., & McCabe, K. 1995. Trust, reciprocity, and social history. ***Games and Economic Behavior***, 10: 122-142.

Berscheid, E., & Walster, E. H. 1978. ***Interpersonal attraction*** (2nd Ed.). Reading. MA: Addison- Wesley.

Berg, J., Dickhaut, J., & McCabe, K. 1995. Trust, reciprocity, and social history. ***Games and Economic Behavior***, 10: 122–142.

Berman, S. L., Wicks, A. C., Kotha, S., & Jones, T.M. 1999. Does stakeholder orientation matter? The relationship between stakeholder management models and firm financial performance. ***Academy of Management Journal***, 42(5): 488-506.

Bhattacharya, R., Devinney, T. M., & Pillutla, M. M. 1998. A formal model of trust based on outcomes. ***Academy of Management Review***, 23(3): 459-472.

Bies, R. J., & Tripp, T. M. 1996. Beyond distrust: “getting even” and the need for revenge. In Kramer, R. M. and Tyler, T. R. (Eds), ***Trust in Organizations: Frontiers of Theory and Research***. Thousand Oaks, CA: Sage: 246–60.

Bigley, G. A., & Pearce, J. L. 1998. Straining for shared meaning in organizational science: Problems of trust and distrust. ***Academy of Management Review***, 23: 405–421.

Blau, P. M. 1964. ***Exchange and*** **power in** ***social life***. New York: Wiley.

Boix, C., & Posner, D. N. 1998. Social capital: Explaining its origins and effects on government performance. ***British Journal of Political Science***, 28(4): 686-693.

Bohnet, I., & Zeckhauser, R. 2004. Trust, risk and betrayal. ***Journal of Economic Behavior & Organization***, 55: 467-484.

Borgatti, S. P., & Everett, M. G. 1992. Notions of position in social network analysis. ***Sociological Methodology***, 2: 1-35.

Boss, R. W. 1978. Trust and managerial problem solving revisited. ***Group and Organization Studies***, 3: 331-342.

Brett, J. M., Shapiro, D. L., & Lytle, A. L. 1998. Breaking the bonds of reciprocity in negotiations. ***Academy of Management Journal***, 41(4): 410-424.

Brynjolfsson, E., & Smith, M. 2000. Frictionless Commerce? A Comparison of Internet and Conventional Retailers. ***Management Science***, 46(4): 563–585.

Brower, H. H., Schoorman, F. D., & Tan, H. H. 2000. A model of relational leadership: The integration of trust and leader-member exchange. ***Leadership Quarterly***, 11: 227-250.

Buchan, N., & Croson, R. 2004. The boundaries of trust: Own and others´ actions in the US and China. ***Journal of Economic Behavior & Organization***, 55: 485-504.

Buchan, N. R., Croson, R. T. A., & Dawes, R. M. 2002. Swift neighbors and persistent strangers: A cross-cultural investigation of trust and reciprocity in social exchange. ***American Journal of Sociology***, 108(1): 168-206.

Buchholz, W. 1993. A further perspective on neutrality in a public goods economy with conjectural variations. ***Public Finance Quarterly***, 21(1): 115-119.

Butler, I. K. 1991. Toward understanding and measuring conditions of trust: Evolution of a conditions of trust inventory. ***Journal of Management***, 17: 643-663.

Caldwell, C., Davis, B., & Devine, J. A. 2009. Trust, Faith, and Betrayal: Insights from Management for the Wise Believer. ***Journal of Business Ethics***, 84:103–114.

Camelo-Ordaz, M. C., Fernández-Alles, M., Martín-Alcázar, F., Romero-Fernández, P. M., & Valle-Cabrera, R. 2004. Internal diversification strategies and the processes of knowledge creation. ***Journal of Knowledge Management***, 8(1): 77-93.

Camerer, C. F., & Ho, T. H. 1999. Experience weighted attraction learning in normal-form games. ***Econometrica***, 67, 827-874.

Carsson, S. J., Madhok, A., Varman, R., & John, G. 2003. Information processing moderators of the effectiveness of trust-based governance in interfirm R&D collaboration. ***Organization Science***, 14(1): 45-56.

Castelfranchi, C. 2008. Trust and reciprocity: Misunderstandings. ***International Review of Economics***, 55: 45-63.

Chakravarthy, B., & Cho, H. J. 2004. Managing trust and learning: An exploratory study. ***International Journal of Management and Decision Making***, 5(4): 333-347.

Chen, W. H. & Barnes, S. 2007. Initial trust and online buyer behavior. Industrial Management & Data Systems, 107(1): 21-36.

Cheung, Y. W. & Friedman, D. 1997. Individual Learning in Normal Form Games: Some Laboratory Results. ***Games and Economic Behavior***, 19: 46-76.

Chiles. T. H., & McMackin, J. F. 1996. Integrating variable risk preference, trust, and transaction cost economics. ***Academy of Management Review***, 21: 73-99.

Chughtai, A. A., & Buckley, F. 2008. Work engagements and its relationship with state and trait trust: a conceptual analysis. ***Institute of Behavioral and Applied Management***. Working paper.

Clark, K, & Fujimoto, T. 1991. ***Product development performance: Strategy, organization and management in the world auto industries.*** Harvard Business School Press, Cambridge, MA.

Clarke, J. 2007. Trust, reputation, integrity and professionalism reflections on business relationships. ***Accountancy Ireland***, 39(1): 54-58.

Coleman. J. S. 1990. ***Foundations of social theory***. Cambridge, MA: Harvard University Press.

Colonia-Willner, R. 1998. Practical intelligence at work: Relationship between aging and cognitive efficiency among managers in a bank environment. ***Psychology and Aging***, 13(1): 45-57.

Cordano, M., & Frieze, I. H. 2000. Pollution reduction preferences of U.S. environmental managers: applying Ajzen´s theory of planned behavior. ***Academy of Management Journal***, 43(4): 627-641.

Cropanzano, R., & Mitchell, M. S. 2005. Social exchange theory: an interdisciplinary review. ***Journal of Management***, 31: 874-900.

Cummings, L. L. 1983. ***Performance-evaluation systems in context of individual trust and commitment***. In F. I. Landy, S. Zedrick, & I. Cleveland (Eds.). Performance measurement and theory: 89-93. Hillsdale, N.J: Earlbaum.

Darnall, N., Henriques, I., & Sadorsky, P. 2008. Do environmental management systems improve business performance in an international setting? ***Journal of International Management***, 14(4): 364-376.

Darnall, N. G., Jolley, J., & Ytterhus, B. 2007. Understanding the Relationship between a Facility's Environmental and Financial Performance. In Johnstone, N. (Ed.). ***Corporate Behaviour and Environmental Policy***. Cheltenham UK: Edward Elgar in association with OECD.

Darnall, N., Seol, I, & Sarkis, J. 2009. Perceived stakeholder influences and organizations´ use of environmental audits. ***Accounting, Organizations and Society***, 34: 170-187.

Das, T. K., & Teng, B. S. 1998. Between trust and control: Developing confidence in partner cooperation in alliances. ***Academy of Management Review***, 23(3): 491-512.

Davenport, T., & Prusak, L. 1998. ***Working knowledge: How organizations manage what they know?*** Boston, MA: Harvard Business School Press.

Davis, J. H., Schoorman, F. D., Mayer, R. C., & Tan, H. H. 2000. The trusted general manager and business unit performance: Empirical evidence of a competitive advantage. ***Strategic Management Journal***, 21: 563-576.

Dawes, R. 1980. Social dilemmas. ***Annual Review of Psychology***, 31: 169-193.

De Geus, A. P. 1988. Planning as learning. ***Harvard Business Review***, 66(2): 70-75.

Deutsch, M. 1958. Trust and suspicion. ***The Journal of Conflict Resolution***, 2(4): 265-279.

Dewey, J., & Dewey, E. 1915. ***Schools of tomorrow***. E. P. Dutton (Ed.): New York.

Dirks, K. T., & Ferrin, D. L. 2001. The Role of Trust in Organizational Settings. ***Organization Science***, 12(4): 450-467.

Dirks, K. T., & Ferrin, D. L. 2002. Trust in leadership: Metaanalytic findings and implications for research and practice. ***Journal of Applied Psychology,*** 87: 611-628.

Dohmen, T., Falk, A., Huffman, D., & Sunde, U. 2008. Representative trust and reciprocity: Prevalence and determinants. ***Economic Inquiry***, 46(1): 84-90.

Donaldson, L., & Davis, I. H. 1991. Stewardship theory or agency theory: CEO governance and shareholder returns. ***Australian Journal of Management***, 16(1): 49-64.

Doney, P.M.. & Cannon, J. P. 1997. An examination of the nature of trust in buyer-seller relationships. ***Journal of Marketing***, 61(2): 35-51.

Doney, P. M., Cannon, J. P., & Mullen, M. R. 1998. Understanding the influence of national culture on the development of trust. ***Academy of Management Review***, 23: 601-620.

Driscoll, C., & Starik, M. 2004. The primordial stakeholder: advancing the conceptual consideration of stakeholder status for the natural environment. ***Journal of Business Ethics***, 49: 55-73.

Egri, C. P., & Herman, S. 2000. Leadership in the North American environmental sector: values, leadership styles, and contexts of environmental leaders and their organizations. ***Academy of Management Journal***, 43(4): 571-604.

Elangovan, A. R., & Shapiro, D. L. 1998. Betrayal of trust in organizations. ***Academy of Management Review***, 23(3): 547-566.

Engle-Warnick, J., & Slonim, R. L. 2006. Learning to trust in indefinitely repeated games. ***Games and Econoc Behavior***, 1: 95-114.

Erev, I., & Roth, A. 1998. Prediction how people play games: reinforcement learning in games with unique mixed strategy equilibrium. ***American Economic Review***, 88: 848-881.

Etzioni, A. 1964. ***Modern organizations***. Englewood Cliffs, NJ: Prentice-Hall.

Falk, A., & Fischbacher, U. 2006. A theory of reciprocity. ***Games and Economic Behavior***, 54: 293-315.

Ferrin, D. L., Dirks, K. T., & Shah, P. P. 2006. Direct and indirect effects on third-party relationships on interpersonal trust. ***Journal of Applied Psychology***, 91(4): 870-883.

Fetchenhauer, D., & Dunning, D. 2009. Do people trust too much or too little? ***Journal of Economic Psychology***, 30: 263-276.

Fischer, C. S. (Ed.) 1977. ***Networks and places: Social relations in the urban setting***. Free Press: New York.

Fineman, S., & Clarke, K. 1996. Green stakeholders: industry interpretations and response. ***Journal of Management Studies***, 33(6): 715-730.

Freeman, R. E. 1984. ***Strategic Management: A Stakeholder Approach***. Pitman: Boston, MA.

Freedman, S. M., & Montanari, J. R. 1980. An integrative model for managerial reward allocation. ***Academy of Management Review***, 5(3): 381-390.

Fukuyama, F. 1995. ***Trust: The Social Virtues and the Creation of Prosperity***. The Free Press, New York.

Gabarro, I. 1978. ***The development of trust, influence, and expectations***. In A. G. Athos & J. J. Gabarro (Eds.), Interpersonal behavior: Communication and understanding in relationships: 290-303. Englewood Cliffs, NJ: Prentice Hall.

Gabarro, J. J. 1990. The development of working relationships. In J, Gallagher, R, E. Kraut. & C. Egido (Eds.). ***Intellectual teamwork: Social and technological foundations of cooperative work***: 79-110. Hillsdale, NJ: Lawrence Erlbaum Associates.

Galaskiewicz, J., & Wasserman, S. 1993. Social network analysis: Concepts, methodology, and directions for the 1990s. ***Sociological Methods and Resolution***, 22(1): 3-22.

Gambetta, D. 1988. ***Trust: Making and breaking cooperative relations***. New York: Basil Blackwell.

Gefen, D. 2002. Reflections on the dimensions of trust and trustworthiness among online consumers. ***DATABASE for Advances in Information Systems***, 23: 38–53.

Gefen, D., Karahanna, E., & Straub, D. W. 2003. Trust and TAM in online shopping: An integrated model. ***MIS Quarterly***, 27: 51–90.

Gefen, D., Benbasat, I., & Pavlou, P. A. 2008. A research agenda for online environments. ***Journal of Management Information Systems***, 24: 275-286.

Gefen, D., & Heart, T. 2006. On the need to include national culture as a central issue in e-commerce trust beliefs. ***Journal of Global Information Systems***, 14: 1–30.

Giacalone, R., & Greenberg, J. (Eds.) 1997. ***Antisocial behavior in organizations***. Thousand Oaks, CA: Sage.

Giffin, K. 1967. The contribution of studies of source credibility to a theory of interpersonal trust in the communication department. ***Psychological Bulletin***, 68: 104-120.

Gill, A., & Mathur, N. 2007. Improving employee dedication and pro-social behavior. ***International Journal of Contemporary Hospitality Management***, 19(4): 328-334.

Gill, A. S. 2008. The role of trust in employee-manager relationship. ***International Journal of Contemporary Hospitality Management***, 20(1): 98-103.

Gillespie, N., & Dietz, G. 2009. Trust repair after an organization-level failure. ***Academy of Management Review***, 34(1): 127-145.

Glaeser, E. L., Laibson, D. I., Scheinkman, J. A., & Soutter, C. L. 2000. Measuring trust. ***The Quarterly Journal of Economics***, 115(3): 811-846.

González-Benito, J., Suárez-González, I., & Spring, M. 2000. Complementarities between JIT purchasing practices: An economic analysis based on transaction costs. ***International Journal of Production Economics***, 67: 279-293.

Graen, G. B., & Uhl-Bien, M. 1995. Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective. ***Leadership Quarterly***, 6:219-247.

Granovetter, M. 1985. Economic action and social structure: the problem of embeddedness. ***American Journal of Sociology***, 91: 481–510Grippin, P., &

Peters, S. 1984. ***Learning theories and learning outcomes.*** Lanham, MD: University Press of America.

Golembiewski, R. T., & McConkie, M. 1975. The centrality of interpersonal trust in group processes. In C. L. Cooper (Ed.). ***Theories of group processes***. New York: Wiley.

Granovetter, M. S. 1985. Economic action and social structure. ***American Journal of Sociology***, 91: 481-510.

Gulati, R. 1995. Social structure and alliance formation patterns: a longitudinal analysis. ***Administrative Science Quarterly***, 40(4): 619-653.

Gulati, R. 1995. Does familiarity breed trust? The implications of repeated ties for contractual choice in alliances. ***Academy of Management Journal***, 38: 85–112.

Gulati, R., Nohria, N., & Zaheer, A. 2000. Strategic networks. ***Strategic Management Journal***, 21(3): 203-215.

Hagen, J., & Choe, S. 1998. Trust in Japanese interfirm relations: institutional sanctions matter. ***Academy of Management Review***, 23(3): 589–600.

Hahn, T., & Scheermesser, M. 2006. Approaches to corporate sustainability among German companies. ***Corporate Social Responsibility and Environmental Management***, 13: 150-165.

Handy, C. 1995. Trust and the virtual organization, ***Harvard Business Review***, 3: 40-50.

Hart, S. L. 1995. A natural resource-based view of the firm. ***Academy of Management Review***, 20: 986-1014.

Hart, S. L. 2008. ***Sustainability must be integral to schools´ DNA***. Financial Times. London (UK).

Hart, S. L., & Ahuja, G. 1996. Does it pay be green? An empirical examination of the relationship between emission reduction and firm performance. ***Business Strategy and the Environment***, 5: 30-37.

Henriques, I., & Sadorsky, P. 1999. The relationship between environmental commitment and managerial perceptions of stakeholder importance. ***Academy of Management Journal***, 42: 87-99.

Henslin, J. M. 1968. Trust and the cab driver. In Truzzi, M (Ed.). ***Sociology and Everyday Life***: 138-158. Englewood Cliffs, NJ: Prentice Hall.

Hind, P., Wilson, A., & Lenssen, G. 2009. Developing leaders for sustainable business. ***Corporate Governance***, 9(1): 7-20.

Hitt, M. A., Bierman, L., Shimizu, K., & Kochhar, R. 2001. Direct and moderating effects of human capital on strategy and performance in professional service firms: a resource-based perspective. ***Academy of Management Journal***, 44(1): 13-29.

Ho, T. H., & Weigelt, K. 2005. Trust building among strangers. ***Management Science***, 51(4): 519-530.

Holmes, J. G. 1991. Trust and the appraisal process in close relationships. In W. H. Jones & D. Perlman (Eds.). ***Advances in personal relationships***, 2: 57-104. London: Jessica Kingsley.

Holsapple, C. W., & Wu, J. 2008. Building effective online game websites with knowledge-based trust. ***Information Systems Frontiers***, 10: 47-60.

Huber, G. P. 1991. Organizational learning: The contributing processes and the literatures. ***Organization Science***, 2(1): 88-115.

Husted, B. W. 1998. The ethical limits of trust in business relations. ***Business Ethics Quarterly***, 8: 233–248.

Janowicz-Panjaitan, M, & Krishnan, R. 2009. Measures for dealing with competence and integrity violations of interorganizational trust at the corporate and operating levels of organizational hierarchy. ***Journal of Management Studies***, 46(2): 245-268.

Jensen, M. C., & Meckling, W. H. 1976. Theory of the firm: Managerial behavior, agency costs and ownership structure. ***Journal of Financial Economics***, 3: 305-360.

Johnson-George, C., & Swap, W. C. 1982. Measurement of specific interpersonal trust: Construction and validation of a scale to assess trust in a specific other. ***Journal of Personality and Social Psychology***, 43: 1306-1317.

Jones, G. R., & George, J. M. 1998. The experience and evolution of trust: Implications for cooperation and teamwork. ***Academy of Management Review***, 23(3): 531-546.

Josang, A., Keser, C., & Dimitrakos, T. 2005. Can we manage trust?. In P. Herrman *et al* (Eds). ***Trust management***: 93-107. Heidelberg-Berlin: Springer-Verlag.

Jugde, W. Q., & Douglas, T. J. 1998. Performance implications of incorporating natural environmental issues into the strategic planning process: An empirical assessment. ***Journal of Management Studies***, 35: 241-262.

Kassinis, G. I., & Panayiotou, A. 2006. Perceptions matter. CEO perceptions and firm environmental performance. ***The Journal of Corporate Citizenship***, 23: 67-80.

Kassinis, G., & Vaffeas, N. 2002. Corporate boards and outside stakeholders as determinants of environmental litigation. ***Strategic Management Journal***, 23(5): 399-415.

Kassinis, G., & Vaffeas, N. 2006. Stakeholders pressures and environmental performance. ***Academy of Management Journal***, 49: 145-159.

Kee, H. W., & Knox, R. E. 1970. Conceptual and methodological considerations in the study of trust and suspicion. ***Journal of Conflict Resolution***, 14: 357-366.

Kerler, W. A., & Killough, N. L. 2009. The effects of satisfaction with a client´s management during a prior audit engagement, trust, and moral reasoning on auditors´ perceived risk of management fraud. ***Journal of Business Ethics***, 85: 109-136.

Keser, C. 2000. Strategically planned behavior in public goods experiments. Technical report, ***CIRANO Scientific Series 2000s-35***. Montreal, Canada.

Kim, P. H., Ferrin, D. L., Cooper, C. D., & Dirks, K. T. 2004. Removing the shadow of suspicion: The effects of apology vs. denial for repairing ability- vs. integrity-based trust violations. ***Journal of Applied Psychology***, 89: 104-118.

Kim, G., Shin, B., & Lee, H. G. 2009. Understanding dynamics between initial trust and usage intentions of mobile banking. ***Information Systems Journal***, 19: 283-311.

Klassen, R. D., & McLaughlin, C. P. 1996. The impact of environmental management on firm performance. ***Management Science***, 42(8): 1199-1214.

Knowles, M. 1984. ***The adult learner: a neglected species*** (3rd ed.). Houston, TX Gulf Publishing Co.

Kolb, D. A. 1984. ***Experiential learning: Experience as the source of learning and development.*** New Jersey: Prentice-Hall.

Kolb, A. Y., & Kolb, D. A. 2005. Learning styles and learning spaces: Enhancing experiential learning in higher education. ***Academy of Management Learning & Education***, 4(2): 193-212.

Konovsky, M. A., & Pugh, S. D. 1994. Citizenship behavior and social exchange. ***Academy of Management Journal***, 37: 656–669.

Koufaris, M. & Hampton-Sosa, W. 2004. The development of initial trust in an online company by new customers. ***Information and Management***, (41)3: 377-397.

Kramer, R. M. 1998. Paranoid cognition in social systems: thinking and acting in the shadow of doubt. ***Personality and Social Psychology Review***, 2:251-275.

Kramer, R. M. 1999. Trust and distrust in organizations: Emerging Perspectives, Enduring Questions. ***Annual Review of Psychology***, 50: 569-598.

Kramer, R. M., & Tyler, T. R. 1996. ***Trust in organizations: Frontiers of theory and research***. Thousand Oaks, CA: Sage.

Larson, C. E., & LaFasto, F. M. J. 1989. ***Teamwork: What must go right/what can go wrong***. Newbury Park, CA: Sage.

Lawler, E. 1992. ***The ultimate advantage: Creating the high involvement organization***. San Francisco: Jossey-Bass.

Lee, K. C., Wang, I. W., & McKnight, D. H. 2007. Transfer from offline trust to key online perceptions: An empirical study. ***IEEE Transactions on Engineering Management***, 54(4): 729-741.

Leithwood, K., & Steinbach, R. 1995. ***Expert problem solving: Evidence from school and district leaders.*** Albany: State University of New York Press.

Lewicki. R. J., & Bunker, B. B. 1995. Trust in relationships: A model of trust development and decline. In B. B, Bunker & J. Z. Rubin (Eds.). ***Conflict, cooperation and justice***: 133-173. San Francisco: Jossey-Bass.

Lewicki, R. J. & Bunker, B. B. 1996. Developing and maintaining trust in working relationships. In Kramer, R.M. & Tyler, T.R. (Eds). ***Trust in Organizations: Frontiers of Theory and Research***: 114–139. Sage Publications, Thousand Oaks, CA.

Lewicki, R. J., Tomlinson, E. C., & Gillespie, N. 2006. Models of Interpersonal Trust Development: Theoretical Approaches, Empirical Evidence, and Future Directions. ***Journal of Management***, 32(6): 991-1022.

Lewis, J. D., & Weigert, A. 1985. Trust as a social reality. ***Social Forces***, 63: 967-985.

Lounsbury, M. 2001. Institutional sources of practice variation: staffing college and university recycling programs. ***Administrative Science Quarterly***, 46(1): 29-56.

Luhmann, N. 1979. ***Trust and power***. Chichester, UK: Wiley.

Lyles, M. A. 1994. The impact of organizational learning on joint venture formation. ***International Business Review***, 3(4): 459-467.

MacCrimmon. K. R., & Wehrung, D. A. 1986. ***Taking risks: The management of uncertainty***. New York: Free Press.

Marcus, A. A., & Anderson, M. H. 2006. A general dynamic capability: does it propagate business and social competencies in the retail food industry? ***Journal of Management Studies***, 43(1): 19-46.

Marcus, A. A., & Geffen, D. 1998. The dialectics of competency acquisition: Pollution prevention in electric generation. ***Strategic Management Journal***, 19: 1145-1168.

Marsick, V. J., & Watkins, K. E. 2001. Demonstrating the Value of an Organization's Learning Culture: The Dimensions of the Learning Organization Questionnaire. ***Advances in Developing Human Resources***, 5(2): 132-151.

Martin, J. 2006. Multiple intelligence theory, knowledge identification and trust. ***Knowledge Management Research & Practice***, 4(3): 207.

Mayer, R. C., Davis, J. H., & Schoorman, F. D. 1995. An integrative model of organizational trust. ***Academy of Management Review***, 20: 709-734.

Mayer, R. C., & Gavin, M. B. 2005. Trust in management and performance: Who minds the shop while the employees watch the boss? ***Academy of Management Journal***, 48: 874–888.

McEvily, B., Perrone, V., & Zaheer, A. 2003. Trust as an organizing principle. ***Organization Science***, 14(1): 91-103.

McKnight, D. H., Cummings, L. L., & Chervany, N. L. 1998. Initial trust formation in new organizational relationships. ***Academy of Management Review***, 23: 473-490.

McKnight, D. H., Choudhury, V., & Kacmar, C. 2002. Developing and validating trust measures for e-commerce: An integrative typology. ***Information Systems Research***, 13: 334–359.

Merriam, S. & Caffarella, R 1991. ***Learning in adulthood***. San Francisco, CA: Jossey Bass.

Meyer, J. W. 1983. ***Organizational factors affecting legalization in education***. In J. W. Meyer & W. R. Scott (Eds.), Organizational environments: Rituals and rationality: 217-232. San Francisco: Jossey-Bass.

Meyerson. D., Weick, K. E., & Kramer, H. M. 1996. Swift trust and temporary groups. In R.M. Kramer & T.R. Tyler (Eds.). ***Trust in organizations: Frontiers of theory and research***: 166-195. Thousand Oaks, CA: Sage.

Michalos, A. C. 1990. The impact of trust on business, international security and the quality of life. ***Journal of Business Ethics***, 9(8): 619-638.

Miles, R. E., & Snow, C. C. 1992. Causes of failure in network organizations. ***California Management Review***, 35: 93-72.

Miles, R. E., & Creed, W. E. D. 1995. Organizational forms and managerial philosophies: A descriptive and analytical review. In B. M. Staw & L. L.

Cummings (Eds.). ***Research in organizational behavior***, 17: 333-372. Greenwich, CT: JAI Press.

Milgrom, P., & Roberts, J. 1992. ***Economics, organization and management***. Englewood Cliffs, NJ: Prentice Hall.

Milliman, R. E., & Fugate, D. L. 1988. Using trust-transference as a persuasion technique: An empirical field investigation. ***Journal of Personal Selling and Sales Management***: 1-7.

Mishra, A. K., & Spreitzer, G. M. 1998. Explaining how survivors respond to downsizing: The roles of trust, empowerment, justice, and work redesign. ***Academy of Management Review***, 23(3): 567-588.

Mitchell, R. K., Agle, B. R., & Wood, D. J. 1997. Toward a theory of stakeholder of stakeholder identification and salience: Defining the principle of who and what really counts. ***Academy of Management Review***, 22: 853-886.

Moorman, C., Zaltman, G., & Deshpande, R. 1992. Relationships between providers and users of market research. ***Journal of Marketing Research***, 29: 314-328.

Morris, J. H., & Moberg, D. J. 1994. Work organizations as contexts for trust and betrayal. In T. Sarbey, R. Carney, & C. Eoyang (Eds.). ***Citizen espionage: Studies in trust and betrayal***: 163-187. Westport, CT: Praeger.

Nahapiet, J., & Ghoshal, S. 1998. Social capital, intellectual capital, and the organizational advantage. ***Academy of Management Review***, 23(2): 242-266.

Nash, R. 1987. ***The rights of Nature***. University of Wisconsin Free Press, Madison.

Ndubisi, N. O., Gupta, O. K. & Massoud, S. 2003. Organizational learning and vendor support quality by the usage of application software packages: A study of Asian entrepreneurs. ***Journal of Systems Science and Systems Engineering***, 12(3): 314-331.

Newcomb, T. M. 1956. The prediction of interpersonal attraction. ***American Psychologist***. 11: 575-586.

Nishiguchi, T. 1994. ***Strategic industrial sourcing: The Japanese advantage***. Oxford University Press.

Nonaka, I. 1994. A dynamic theory of organizational knowledge creation. ***Organization Science,*** 5(1): 14–37.

Nonaka, I., & Takeuchi, H. 1995. ***The knowledge creating company***. Oxford, UK: Oxford University Press.

Nooteboom, B., Berger, H., & Noorderhayen, N. G. 1997. Effects of trust and governance on relational risk. ***Academy of Management Journal***, 40(2): 308-339.

North, D. C. 1990. ***Institutions, institutional change, and economic performance***. New York: Cambridge University Press.

Ogden, S., & Watson, R. 1999. Corporate performance and stakeholder management: balancing shareholder and customer interests in the U.K. privatized water industry. ***Academy of Management Journal***, 42(5): 526-538.

O'Neil, J. 2003. Participants' guide for interpreting the results of the Dimensions of the Learning Organization Questionnaire. ***Advances in Developing Human Resources***, 5(2): 222-230.

Pavlou, P. A., & Dimoka, A. 2006. The nature and role of feedback text comments in online marketplaces: Implications for trust building, price premiums, and seller differentiation. ***Information Systems Research***, 17: 391–412.

Pérez-López, S., Montes-Peón, J. M., & Vázquez-Ordás, C. J. 2005. Organizational learning as a determining factor in business performance. ***The Learning Organization***, 12(3): 227-245.

Polanyi, M. 1966. ***The tacit dimension.*** London: Routledge & Kegan Paul Ltd.

Porter, M. E., & van der Linde, C. 1995a. Green and competitive. ***Harvard Business Review***, 73(5): 120-134.

Porter, M. E., & van der Linde, C. 1995b. Toward a new conception of the environment-competitiveness relationship. ***Journal of Economic Perspectives***, 9(4): 97-118.

Porter, C. E., & Donthu, N. 2008. Cultivating trust and harvesting value in virtual communities. ***Management Science***, 54(1): 113-128.

Porter, T., & Córdoba, J. 2009. Three views of systems theories and their implications for sustainability education. ***Journal of Management Education***, 33(3): 323.

Powell, W. W. 1990. Neither market nor hierarchy: Network forms of organization. In L. L.Cummings & B. M. Staw (Eds.). ***Research in organizational behavior***, 12: 295-336. Greenwich, CT: JAI Press.

Powell, W. W. 1996. Trust-based forms of governance. In R. M. Kramer, T. R. Tyler, (Eds.). ***Trust in Organizations: Frontiers of Theory and Research***: 51–63. Sage, Thousand Oaks: CA.

Putnam, R. D. 1995. Bowling alone: America´s declining social capital. ***Journal of Democracy***, 6(1): 65-78.

Ramus, C. A., & Steger, U 2000. The roles of supervisory support behaviors and environmental policy in employee “ecoinitiatives” at leading-edge European companies. ***Academy of Management Journal***, 43(4): 605-626.

Rands, G. P. 2009. A principle-attribute matrix for environmentally sustainable management education and its application: the case for change-oriented service-learning projects. ***Journal of Management Education***, 33(3): 296.

Ratnasingam, P. 2005. Trust in inter-organizational exchanges: a case study in business to business electronic commerce. ***Decision Support Systems***, 39(3): 525-544.

Rempel, J, K., Holmes, I. G., & Zanna, M. P, 1985. Trust in close relationships. ***Journal of Personality and Social Psychology***, 49: 95-112.

Resnick, P., Zezkhauser, R., Swanson, J., & Lockwood, K. 2006. The value of reputation on eBay: a controlled experiment. ***Experimental Economics***, 9: 79-101.

Reuber, A. R., Dyke, L. S., & Fisher, E. M. 1990. Using a tacit knowledge methodology to define expertise. ***Proceedings of the 1990 ACM SIGBDP conference on trends and directions in expert systems*** in Orlando, Florida. New York: ACM Press.

Robey, D., Boudreau, M. C., & Rose, G. M. 2000. Information technology and organizational learning: A review and assessment of research. ***Accounting Management Information Technology***, 10: 125–155.

Robinson, R., & Bennett, S. 1995. A typology of deviant work-place behaviors: A multi-dimensional scaling study. ***Academy of Management Journal***, 38: 555-572.

Robinson, S. L. 1996. Trust and breach of the psychological contract. ***Administrative Science Quarterly,*** 41: 574–599.

Rosenbaum, M. S., Massiah, C., & Jackson, D. W. 2006. An investigation of trust, satisfaction, and commitment on repurchase intentions in professional services. ***Services Marketing Quarterly***, 27(3): 115.

Rotter, J. B. 1967. A new scale for the measurement of interpersonal trust. ***Journal of Personality***, 35: 651-665.

Rotter, J. B. 1971. Generalized expectancies for interpersonal trust. ***American Psychology***, 26: 443-452.

Rotter, J. B. 1980. Interpersonal trust, trustworthiness, and gullibility. ***American Psychologist***, 35: 1-7.

Rousseau, D. M., Sitkin, S. B., Burt, R. S., & Camerer, C. 1998. Not so different after all: A cross-discipline view of trust. ***Academy of Management Review***, 23: 393-404.

Rueda-Manzanares, A., Aragón-Correa. J. A., & Sharma, S. 2008. The influence of stakeholders on the environmental strategy of service firms: the moderating effects of complexity, uncertainty and munificence. ***British Journal of Management***, 19: 185-203.

Russo, M. V., & Fouts, P. A. 1997. A resource-based perspective on corporate environmental performance and profitability. ***Academy of Management Journal***, 40: 534-559.

Saban, K. Lanasa, J., Lackman, C., & Peace, G. 2000. Organizacional learning: A critical component to new product development. ***Journal of Product & Brand Management***, 9(2): 99-119.

Sabel, C. 1993. Learning by monitoring: The institutions of economic development. In N. J. Smelser & R. Swedberg (Eds.). ***The handbook of economic sociology***: 137-165. Princeton, NJ: Princeton University Press.

Shapiro, S. P. 1987. The social control of impersonal trust. ***American Journal of Sociology***, 93: 623-658.

Schoorman, F. D., Mayer, R. C., & Davis, J.H. 2007. An integrative model of organizational trust: past, present and future. ***Academy of Management Review***, 32(2): 344-354.

Scott, D. 1980. The causal relationship between trust and the assessed value of management by objectives. ***Journal of Management***, 6: 157-175.

Selten, R., Mitzkewitz, M., & Uhlich, G. 1997. Duopoly strategies programmed by experienced player. ***Econometrica***, 65: 517-555.

Serva, M. A., & Fuller, M. A. 2004. The effects of trustworthiness perceptions on the formation of initial trust: Implications for MIS student teams. ***Journal of Information Systems Education***, 15(4): 383-395.

Serva, M. A., Fuller, M. A., & Mayer, R. C. 2005. The reciprocal nature of trust: A longitudinal study of interacting teams. ***Journal of Organizational Behavior***, 26: 625-648.

Shapiro, S. P. 1987. The social control of impersonal trust. ***American Journal of Sociology***, 93: 623-658.

Sharma, S., & Vredenburg, H. 1998. Proactive corporate environmental strategy and the development of competitively valuable organizational capabilities. ***Strategic Management Journal***, 19: 729-753.

Sharma, S. 2000. Managerial interpretations and organizational context as predictors of corporate choice of environmental strategy. ***Academy of Management Journal***, 43(4): 681-697.

Sharma, S., & Henriques, I. 2005. Stakeholders influences on sustainability practices in the Canadian forest products industry. ***Strategic Management Journal***, 26: 159-180.

Sheppard, B. H., & Sherman, D. M. 1998. The grammars of trust: A model and general implications. ***Academy of Management Review***, 23(3): 422-437.

Schoorman, F. D., Mayer, R. C., & Davis, J. H. 2007. An integrative model of organizational trust: Past, present, and future. ***Academy of Management Review***, 32(2): 344-354.

Shrivastava, P. 1995. Environmental technologies and competitive advantage. ***Strategic Management Journal***, 16: 183-200.

Silverman, R. E. 2007. How many trustees do you need? As rules and investments become more complex, families divvy up trust duties among multiple advisers. ***The Wall Street Journal*** (Eastern Ed.).

Simons, T. L. 1999. Behavioral integrity as a critical ingredient for transformational leadership. ***Journal of Organizational Change Management***, 12(2): 89.

Sirmon, D. G., Hitt, M. A., & Ireland, R. D. 2007. Managing firm resources in dynamic environments to create value: looking inside the black box. ***Academy of Management Review***, 32(1): 273-292.

Sitkin, S. B., & Roth, N. L. 1993. Explaining the limited effectiveness of legalistic “remedies” for trust/distrust. ***Organization Science***, 4: 367-392.

Sitkin, S. B., & Bies, R. J. 1994. ***The legalization of organizations: A multitheoretical perspective***. In S. B Sitkin & R. J. Bies (Eds.), The legalistic organization: 19-49. Thousand Oaks, CA: Sage.

Sitkin, S. B., & George, E. 2005. Managerial trust-building through the use of legitimating formal and informal control mechanisms. ***International Sociology,*** 20: 307–338.

Spreitzer, G. M. 1995. Psychological empowerment in the workplace: dimensions, measurement, and validation. ***Academy of Management Journal***, 38(5): 1442-1465.

Srikantia, P., & Bilimora, D. 1997. Isomorphism in organization and management theory. ***Organization & Environment***, 10(4): 384-406.

Stack, L. C. 1978. Trust. In H. London & J. E. Exner, Jr. (Eds.). ***Dimensionality of personality***: 561–599. New York: Wiley.

Starik, M. 1994. What is a stakeholder? Essay by Mark Starik. Pp 89-95 of the Toronto Conference: Reflections on stakeholder theory. ***Business & Society***, 33: 82-131.

Starik, M. 1995. Should trees have managerial standing? Towards stakeholder status for non-human nature. ***Journal of Business Ethics***, 14(3): 207-217.

Starik, M, & Heuer, M. 2002. Strategic inter-organizational environmentalism in the U.S. a multi-sectoral perspective of alternating eco-policy roles. ***Business Strategy and the Environment***, 11(4): 221-235.

Starik, M., & Marcus, A. A. 2000. Introduction to the special research forum on the management of organizations in the natural environment: a field emerging from multiple paths, with many challenges ahead. ***Academy of Management Journal***, 43(4): 539-546.

Starik, M., & Rands, G. P. 1995. Weaving an integrated web: multilevel and multisystem perspectives of ecologically sustainable organizations. ***Academy of Managent Review***, 20(4): 908-935.

Stead, W. E., & Stead, J. G. 1996. ***Management for a small planet*** (Second Ed.). Sage, Thousands Oaks: CA.

Stead, J. G., & Stead, W. E. 2000. Ecoenterprise strategy: standing for sustainability. ***Journal of Business Ethics***, 24(4): 313-329.

Sternberg, R., & Horvath, J. (Eds.). 1999. ***Tacit knowledge in professional practice: Researcher and practitioner perspectives.*** Mahwah, NJ: Lawrence Erlbaum.

Stewart, K. J. 2003. Trust transfer on the World Wide Web. ***Organization Science***, 14(1): 5–17.

Stewart, K. 2006. How hypertext links influence consumer perceptions to build and degrade trust online. ***Journal of Management Information Systems***, 23(1): 183–210.

Strickland, L. H. 1958. Surveillance and trust. ***Journal of Personality,*** 24: 200–215.

Strub, P. J., & Priest, T. B. 1976. Two patterns of establishing trust: The marijuana user. ***Sociological Focus***: 399-411.

Taylor, R. G. 1989. The role of trust in labor-management relations. ***Organization Development Journal***, *7:* 85-89.

Tomlinson, E. C., & Mayer, R. C. 2009. The role of causal attributions dimmensions in trust repair. ***Academy of Management Review***, 34(1): 85-104.

Thompson, J. A., & Bunderson, J. S. 2003. Violations of principle: Ideological currency in the psychological contract. ***Academy of Management Review***, 28(4): 571-586.

United Nations Educational, Scientific and Cultural Organization (UNESCO). 2004. ***Declaration of Barcelona***. International Conference on Engineering Education in Sustainable Development, Barcelona (Spain).

United Nations Educational, Scientific and Cultural Organization (UNESCO). 2002. ***Declaration of the United Nations Decade of Education for Sustainable Development: 2005-2014***.

Uzzi, B.1996. The sources and consequences of embeddedness for the economic performance of organizations: The network effect. ***American Sociological Review***, 61(4): 674-698.

Uzzi, B. 1997. Social structure and competition in interfirm networks: the paradox of embeddedness. ***Administrative Sciences Quarterly***, 42(1): 35-67.

Wagner, R. K., & Sternberg, R. J. 1987. Tacit knowledge in managerial success. ***Journal of Business and Psychology,*** 1(4): 301–312.

Van Gigch, J. P. 2007. On the possibility of restoring trust from mistrust and friendship from enmity and hatred. ***Systems Research and Behavioral Science***, 24(3): 261.

Whitener, E. M., Brodt, S. E., Korsgaard, M. A., & Werner, J. M. 1998. Managers as initiators of trust: An exchange relationship framework for understanding managerial trustworthy behavior. ***Academy of Management Review***, 23(3): 513-530.

Williams, M. 2001. In whom we trust: Group membership as an affective context for trust development. ***Academy of Management Review***, 26(3): 377-396.

Williamson, O. E. 1975. ***Markets and hierarchies***. New York: Free Press.

Williamson, O. E. 1993. Calculativeness, trust, and economic organization. ***Journal of Law and Economics***. 34: 453-502.

Wolfe, D. E. & Byrne, E. T. 1975. Research on Experiential knowledge: Enhancing the Process. In R. H. Buskirk (Ed.). ***Simulation Games and Experiential knowledge in Action***: 325-336.

World Commission on Environment and Development 1987. ***Brundtland Report***.

Zaheer, A., McEvily, B., & Perrone, V. 1998. Does trust matter? Exploring the effects of interorganizational and interpersonal trust on performance. ***Organization Science***, 9(2): 141-160.

Zand, D. E. 1972. Trust and managerial problem solving. ***Administrative Science Quarterly***, 17: 229-239.

Zucker, L. G. 1986. Production of trust: Institutional sources of economic structure, 1840-1920. ***Research in Organizational Behavior***, 8: 53-111.

RESUMEN Y CONCLUSIONES

1. Resumen

Esta Memoria de Tesis Doctoral se estructura en cinco capítulos. Todos ellos siguen un hilo conductor: la confianza. El primer capítulo presenta una introducción al tema objeto de estudio y su relación con la gestión empresarial. A continuación, el capítulo dos recoge el primer artículo de investigación, en el que se analiza cómo los stakeholders pueden ayudar a promover la integración de la sostenibilidad en la educación en gestión. El capítulo tres contiene el segundo artículo de investigación, en el que se aborda la influencia del nivel de conocimiento inicial entre un trustor y un trustee sobre la futura confianza entre ellos, y la relación entre el conocimiento basado en la experiencia de un trustor y la tipología de resultados de confianza futuros. El tercer artículo de investigación está incluido en el capítulo cuatro, y en él se analiza la transferencia de confianza a través de un enfoque dinámico y se investiga la influencia del aprendizaje de los trustors sobre futuras transferencias de confianza. Finalmente, el capítulo cinco resume las principales conclusiones, implicaciones, limitaciones, y presenta la agenda de investigación futura. A continuación se describen de forma más detallada los contenidos de cada uno de los tres artículos de investigación contenidos en esta Memoria de Tesis Doctoral.

El primer artículo de investigación se titula “Progresos medioambientales cuando las implicaciones financieras no son el principales objetivo: La importancia de la confianza en los stakeholders a la hora de decidir sobre la integración de la sostenibilidad en la educación sobre gestión". Trabajos previos han resaltado la relación positiva existente entre la satisfacción de los intereses medioambientales de los stakeholders y el resultado financiero de las empresas. Sin embargo, la influencia de los stakeholders sobre el progreso medioambiental en organizaciones donde la gente encargada de la toma de decisiones medioambientales no percibe los asuntos financieros como el principal objetivo de la organización aún no ha sido abordada en la literatura. En este artículo de investigación estudiamos cómo la confianza en la habilidad y la benevolencia de los stakeholders puede influenciar la integración de temas relacionados con la sostenibilidad en la educación universitaria sobre gestión.

El tercer capítulo presente el segundo artículo de investigación: "La influencia del conocimiento inicial y del conocimiento basado en la experiencia en los resultados de confianza". Estudios previos se han centrado principalmente en el análisis del comportamiento de confianza desarrollado por los agentes. No obstante, el resultado de confianza que emerge de una relación o interacción de confianza ha recibido menos atención, con la excepción de la traición, que ha sido abordada en algunos trabajos anteriores. En este tercer capítulo analizamos la influencia del nivel inicial de conocimiento entre un trustor y un trustee sobre la confianza futura entre ambos, así como la influencia del conocimiento basado en la experiencia que el trustor ha acumulado a lo largo de interacciones pasadas con el trustee sobre la tipología de los futuros resultados de confianza. Distinguimos tres categorías de resultados de confianza: traición, reciprocidad, y recompensa.

El capítulo cuatro contiene el tercer artículo de investigación, titulado "La naturaleza dinámica de la transferencia de confianza y la influencia del aprendizaje". En este artículo abordamos que ha recibido una atención creciente en la literatura sobre confianza durante los últimos años: la transferencia de confianza. Una transferencia de confianza tiene lugar cuando un trustor confía en un trustee desconocido, basándose en el historial positivo de confianza de ese trustee con un tercer agente, quien también tiene un historial positivo de confianza con el trustor. Trabajos previous han analizado la transferencia de confianza en entornos online, centrándose en la consecución de objetivos comerciales, y asumiendo simetría entre el comportamiento de ambas partes (el trustor y el trustee). En el capítulo cuatro, presentamos una nueva perspectiva de investigación de las transferencias de confianza mediante un enfoque dinámico y abordamos la influencia del aprendizaje sobre futuras transferencias de confianza. Además, construimos dos índices para la medición de la transferencia de confianza realizada por un trustor y la respuesta a esa transferencia de confianza por parte del trustee, que contribuyen a proporcionar una medida comparable entre diferentes disciplinas. Argumentamos que las respuestas obtenidas por el trustor durante transferencias de confianza pasadas influyen en futuras transferencias de confianza. Asimismo, el aprendizaje acumulado por el trustor modera la relación entre las respuestas obtenidas en el pasado y futuras transferencias de confianza.

2. Conclusiones

El objetivo de esta Memoria de Tesis Doctoral era contribuir a algunas existentes en la literatura sobre confianza. Así, mientras que el hilo conductor a lo largo de toda la Memoria es la confianza, cada artículo de investigación incluido en la misma se ha centrado en un área específica.

El primer capítulo recoge una revisión de la literatura sobre la relación entre la confianza y la gestión empresarial, que proporciona una primera toma de contacto al tema de investigación y sus principales características, así como a la evolución de la confianza en gestión durante las últimas décadas. Se observa que la confianza no sólo ha recibido una atención creciente en la literatura durante las últimas décadas, sino que este interés continua en la actualidad. Asimismo, numerosas áreas de gestión se han beneficiado de la aplicación de mecanismos o estrategias basadas en la confianza para fortalecer o alcanzar determinadas tareas y objetivos dentro de las organizaciones durante los últimos años. Por tanto, se concluye que la investigación sobre confianza en gestión es un campo de investigación fructífero donde futuras contribuciones son demandadas permanentemente.

Además, más allá de esta conclusión de carácter general extraída del capítulo introductorio, se pueden distinguir conclusiones específicas obtenidas de cada uno de los artículos de investigación que componen esta Memoria de Tesis Doctoral.

2.1. Capítulo 2: Progresos medioambientales cuando las implicaciones financieras no son el principales objetivo: La importancia de la confianza en los stakeholders a la hora de decidir sobre la integración de la sostenibilidad en la educación sobre gestión

El primer artículo de investigación de esta Memoria de Tesis Doctoral aborda cómo la confianza en los stakeholders influye en los progresos medioambientales cuando las personas encargadas de tomar las decisiones medioambientales no perciben los aspectos financieros como el objetivo principal de la organización. Concretamente, este análisis se aplica a la integración de la sostenibilidad en cursos de educación universitaria en gestión. De este capítulo se concluye que la confianza que la confianza en la habilidad y la benevolencia de los stakeholders del departamento influye positivamente en la predisposición de los directores de departamento a integrar aspectos de sostenibilidad en los programas de los cursos de gestión impartidos por el departamento. Adicionalmente, aunque hemos encontrado que el interés en los objetivos financieros tiene una influencia positiva, los resultados muestran que este interés no modera la relación entre la integración de la sostenibilidad en los cursos de gestión y las percepciones sobre la habilidad y la benevolencia de los stakeholders.

2.2. Capítulo 3: La influencia del conocimiento inicial y del conocimiento basado en la experiencia en los resultados de confianza

En este artículo de investigación analizamos la influencia del nivel de conocimiento inicial sobre la futura confianza así como la relación entre el conocimiento basado en la experiencia y la tipología de los futuros resultados de confianza. De este capítulo se puede extraer dos conclusiones principales. Primera, encontramos que el nivel de conocimiento inicial entre un trustor y un trustee (es decir, el conocimiento previo a la primera interacción objeto de estudio) influencia el desarrollo de confianza en interacciones posteriores entre ellos. Y segunda, mostramos cómo, mientras el resultado anterior contribuye a explicar el comportamiento de confianza, el conocimiento basado en la experiencia de un trustor (es decir, el conocimiento acumulado por ese trustor a lo largo de todas las interacciones con un trustee determinado, partiendo de la primera interacción objeto de estudio) influye en el tipo de resultados de confianza que emerjan en futuras interacciones entre ellos.

2.3. Capítulo 4: La naturaleza dinámica de la transferencia de confianza y la influencia del aprendizaje

En el capítulo cuatro investigamos la naturaleza dinámica de las transferencias de confianza y la influencia del aprendizaje de los trustors en futuras transferencias de confianza. De este artículo de investigación se extraen cuatro conclusiones principales.

Primera, la confianza de un trustor en un trustee aumenta cuando existe un historial de confianza positivo entre ambos. Por tanto, una serie de interacciones positivas en el pasado incrementa la confianza en interacciones venideras. Segunda, la confianza de un trustor en un trustee aumenta cuando este trustee desconocido tiene un historial positivo de confianza con un tercer agente, quien también mantiene un historial positivo de confianza con el trustor. En otras palabras, la existencia de historiales de confianza positivos con un tercer agente común incrementa la confianza del los trustors hacia trustees desconocidos. Tercera, el grado de respuesta a transferencias de confianza pasadas de un trustee hacia quien un trustor transfirió confianza influye en la probabilidad de ocurrencia de futuras transferencias de confianza entre ellos. Y cuarta, los resultados sugieren que el aprendizaje acumulado por un trustor modera la relación entre el grado de respuesta a transferencias de confianza obtenido por este trustor durante transferencias de confianza con un trustee y el desarrollo de futuras transferencias de confianza entre ellos.

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