



Working Paper 06-40
Business Economics Series 12
July 2006

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TRUST CONCEPTUALIZED AS A

CORPORATE KNOWLEDGE ASSET

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Abstract

To most individuals, “trust” can be viewed as a knowledge corporate asset that may add, or rest, value to the company. The role of knowledge in achieving a competitive advantage is becoming and increasingly important management issue in all business and non-business sectors. As such, our *Throughput Modeling* approach indicates how six different trust behaviors can be guided, how trust decision making can be improved and made defensible, and how special problems facing individuals can be dealt with via decision-making pathways leading to an action.

Keywords: throughput model, trust, knowledge assets.

* We thank the participants at the Eighth Annual International Conference Promoting Business Ethics, and three anonymous reviewers for their helpful comments. Finally, we thank the financing from Spain SESEC 2001-0657 and BEC 2001-3356

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Trust affects individuals' relationships with other personnel in an organization (Edvinsson & Malone 1997), and can lead to superior information sharing and lower transaction cost (Dyer, 1997; Uzzi, 1997). For example, individuals trust releasing personnel information to their employees than to outsiders (Eddy, Stone, & Stone-Romero, 1999). When trust is present, communication and problem solving are relatively easy. When distrust occurs, productivity and the value of the firm can suffer significantly (Sparrowe, Liden, Wayne & Kraimer 2001). Researchers (Noordewier, John, & Nevin 1990) have advocated that trust lowers transaction costs in more uncertain environment, thus providing companies with a source of competitive advantage (Barney & Hansen 1994). Parkhe and Miller (2000) argued that distrust emerges when the suspicion arises that the disruption of expectations in one exchange is likely to generalize all through other exchanges. Further, without an attribution of "intentionality," trust can be disrupted, that is no trust, without producing distrust. Trust improves long-term relationships between firms (Ganesan 1994), and is an important element in successful strategic alliances (Gulati 1995)¹. In addition, Doney, Cannon, and Mullen (1998) advocated that trust contributes to enhanced manager-subordinate relationships. Recently, a number of researchers have acknowledged that trust may not always be functional and distrust is not always dysfunctional. For example, some researchers have advocated that low levels of trust can also be associated with better decision making and less likelihood of being exploited (Wicks, Berman & Jones, 1999).

We provide additional insights into "trust" as a corporate knowledge asset by depicting it as part of a decision making model. The idea is that different conceptions of trust as a corporate knowledge asset can lead to alternative pathways supporting decisions.

¹ Some researchers (Zaheer, McEvily & Perrone, 1998) suggest that interpersonal trust has an individual referent and origin. Others (Fukuyama, 1995) argue that the level of trust inherent in the society conditions the economic success and competitiveness of a nation. Given these perspectives, our notion of trust is multilevel that can emerge into a knowledge asset.

Knowing which pathways support decisions may assist corporate strategies providing to competitive advantages.

In this way, we contribute to the existing field of knowledge by demonstrating how different trust positions can strongly influence the pathways individuals take in order to make a decision. This *Throughput Model* provides a broad conceptual framework for examining interrelated processes that have an impact on decisions effecting organizations. It incorporates the constructs of (1) perception (framing), (2) presented information to the user, (3) judgment (analysis of information/ experiences), and (4) decision choice as it applies to individuals. Our purpose in this article is to analyze six different trust positions that are the bases for corporate knowledge assets in terms of individuals. We use a decision making model to identify and analyze these levels that encourage or constrain trustworthy behavior in organizations. In doing so, we provide insight into how organizations can create an environment that supports trustworthy behavior as a knowledge asset.

The *Throughput model* may assist researchers by linking trust positions to the real world upfront, so that the results of the research process may later be of greater use to practice. Kramer (1999) indicated that when conceptualized as a psychological state, trust has been defined in terms of several interrelated cognitive processes and orientations. Further, our model may arrest some of the researchers' concerns (e.g., Mayer, Davis & Schoorman, 1995) regarding (1) the difficulty of defining trust, (2) confusing trust with its framing and outcomes, (3) depicting the relationship between trust and risk for different trust positions, (4) better understanding different decision pathways supporting trust, and (5) helping to consider the particular trust position the trusting party and the party to be trusted are implementing.

This paper is organized as follows: first, a definition, levels and six positions of trust as a knowledge asset are discussed. Second, these six trust perspectives are integrated in a

Throughput Model. The model pathways highlight the importance of how the six different trust positions influence individuals in arriving at a decision. Finally, a summary pertaining to the effectiveness of viewing trust in a decision-making context is discussed.

TRUST AS A CORPORATE KNOWLEDGE ASSET

Trust Defined

Trust is a term that has acquired many meanings and every discipline view trust from its own unique perspective (Singleton, Straits, Straits & McAllister, 1988). Trust means reliance on the ability, integrity, predictability etc. of an individual in other individuals. Trust also involves feelings, values, beliefs, and risk². Boon and Holmes (1991) define trust as “a state involving confident positive expectations about another’s motives with respect to oneself in situations entailing risk” (p. 194).³ Similarly, Robinson (1996) stated trust as an individual’s “expectations, assumptions, or beliefs about the likelihood that another’s future actions will be beneficial, favorable, or at least not detrimental to one’s interests” (p. 576). The relationship of trust with reciprocity, opportunism, and forbearance (Parkhe 1993) may affect the structure of trust. This structure of trust is based upon one willfully submitting to another resulting in vulnerability, mutual interdependence, uncertainty, and partial loss of control. In summary, Doney, Cannon, and Mullen review of the extant literature in economics, organization behavior, psychology and sociology revealed two consistent themes: (1) trust as a set of beliefs or expectations, and (2) trust as a willingness to act on those beliefs (1998, p. 603).

² Mcknight and Chervany (2002) study reported that competence, predictability, benevolence, and integrity represented the most dominant definitions of trust in the literature. These results were based on about 80 articles and books from the fields of psychology/social psychology, sociology/economics/political science, and management/communications.

³Following Deutsch (1962), trusting behavior is defined as consisting of actions that: (1) increase one’s vulnerability, (2) another’s behavior is not under one’s control, (3) the penalty (disutility) one suffers if the other abuses that vulnerability is greater than the benefit (utility) one gains if the other does not abuse that vulnerability.

In this paper, we adopt a definition of trust that is considered to be widely held by contemporary and cross-disciplinary scholars as reported by Rousseau, Sitkin, Burt, and Camerer (1998). This view states that, “trust is a psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behavior of another” (1998, p. 395). This contemporary view reflects the underlying disciplines of economics, marketing, organization behavior, psychology, sociology, and strategy.

Trust Assets

In the literature, the term “reputation,” viewed as a knowledge asset, sometimes includes competence and integrity. Doney and Cannon (1997) defined an organization’s reputation as the extent to which customers believe that the firm is honest and concerned about them. The role of trust in achieving a competitive advantage is becoming an increasingly important management issue in all business and non-business sectors. Thus, trust attributes include the concept of reputation as a knowledge asset. Companies are increasingly relying on building trust as a knowledge asset in order to survive in their respective competitive marketplace (Matusik & Hill 1998). Knowledge assets have become the most strategic factor in companies motivating managers to focus on its acquisition, production, movement, retention and application (Spender 1996). That is, the knowledge-driven economy is not just about new high-tech industries built on a science base like software and biotechnology. It is centered on “trust” that provide the ability to innovate and create new products and exploit new markets (Sveiby 1997). Nahapiet and Ghoshal (1998) reported that the literature on knowledge assets suggests the view that the combination and exchange of knowledge are complex social processes, and that much valuable knowledge is fundamentally socially embedded.

Flamholz (1999) argued that the economies of many nations are increasingly dominated by knowledge or information-based sectors driven by highly trained and specialized personnel. The growing significance of human capital as a determinant of economic success at both the macroeconomic and microeconomic level implies “trust value” substantiates that firms need to adjust to this new economic reality. The concept of trust value in corporate knowledge assets has essentially two different meanings. First, it’s an essential element supporting the usefulness of a particular resource or utility. Second, it has the power of purchasing goods or purchasing power. The former is termed “use value” and the latter is termed “exchange value” (Flamholtz 1985). The role of knowledge in achieving a competitive advantage is becoming an increasingly important management issue in all business and non-business sectors. If trust behavior can be viewed as a prerequisite for a company to function in an orderly way, then it follows that “trust” is the glue that binds a company together. In this light, trust is viewed as a corporate asset.

Individuals’ Level of Trust as a Knowledge Asset

Individual knowledge assets include attitudes, perceptions, and abilities of employees; and their motivation, commitment, and adaptability to the company. The individual level contains consideration of the psychological basis of trust and distrust among individuals. Organizations have generally experienced declines in their perceived trustworthiness by employees and members of other organizations. Studies have shown that declining trust reflects a general social phenomenon (Lipset & Schneider 1983) and questionable management practices (Sheppard, Lewicki & Minton 1992). Trust affects individuals’ positions within social networks by influencing advantages such as, their organizational assimilation and promotions, while distrust can lead to disadvantages such as organizational exit (Sparrowe, Liden, Wayne & Kraimer, 2001).

Trust is viewed as a psychological construct arising through cognition requiring social structure for its formation (Luhmann, 1979). The object of trust may be an individual (Larzelere & Huston, 1980) or an institution (Shapiro, 1987). Research studies (Kramer 1999) have demonstrated that the level of trust in a relationship affects the degree of defensiveness. That is, individuals can have difficulty in concentrating on messages, perceived motives, values and emotions of others less accurately, and an increased distortion of messages. Therefore interpersonal or organizational trust is required for effective problem solving in a group or in organized capital markets worldwide.

Trust Positions

We discuss six prominent trust positions as a corporate knowledge asset in the context of a decision making model. These six trust positions are considered by some researchers to be useful in depicting individual's behavior (Arrow 1974; Kreps 1990; Miller 1992; Kramer 1999). They are (1) trust as a rational choice, (2) rule-based trust, (3) category-based trust, (4) third parties as conduits of trust, (5) role-based trust, (6) history-based trust/ dispositional-based trust. The six trust positions presented in this paper include economic, legal, psychological, and sociological perspectives affecting individuals as corporate knowledge assets.⁴

That is, interpersonal matters influence rule-based trust, third parties as conduits of trust, and history-based trust/ dispositional-based trust more. Trust as a rational choice, rule-based trust, and category-based trust areas lean more to dispositional trust.

Trust as a rational choice is a subset of individuals motivated to act in their perceived self-interest. *Trust as a rational choice* is motivated by a "conscious calculation of advantages, a calculation that in turn is based on an explicit and internally consistent value

⁴ Some researchers refer to these positions as interpersonal (i.e., relational) and dispositional trust issues. Although, some of the trust positions have more of a dispositional nature than others, this paper discussion centers on interpersonal trust issues.

system” (Schelling 1960, p. 4). That is, people are motivated to make rational, efficient choices (i.e., maximize expected gains or minimize expected losses from their transactions) (Williamson, 1993).

The *rule-based trust* emphasizes rules individuals rely upon, and on their judgments associated with a particular decision process rather than on its choices (deontology).

Lewicki, McAllister, & Bies (1998) assert that *rule-based trust* (deterrence-based) arises from the notion that you trust someone due to a very strict normative rule or legal system is in force. *Rule-based trust*, both formal and informal, depicts much of the knowledge members have about explicit and tacit understandings (March 1994). It is based on shared understandings regarding the system of rules regarding appropriate behavior. For example, partners draw up an extensive contract that specifies the rights and obligations of the contract partners, and decide on the penalties when one of the parties fails to meet its obligations.

The *category-based trust* is concerned with group membership. It also reflects that the greatest trust for an individual is based upon the trust of the organization (utilitarianism). *Category-based trust* refers to information regarding an individual’s membership in an organizational category (Brewer 1996). For example, membership in a fraternity or sorority can provide a basis for presumptive trust.

The *third parties as conduits of trust* assume that decision-makers use second-hand information from people around them as their basis for defining ethical standards (relativist). *Third parties as conduits of trust* are based upon “second-hand” knowledge about others (Burt & Knez 1995; Shah 1998). This source of knowledge however, on trust judgments is complex and not always in the service of rational assessment of others’ trust. For example, employees rely on others to help them evaluate and comprehend their performance, compensation, career trajectories, and work duties.

The *role-based trust* is a function of the popularity or importance of title or position, whereby the cultivation of virtuous traits of character is viewed as morality's primary function (virtue of ethics). According to personality-based trust researchers, trust develops over time influenced by role players such as parents, teachers etc. (Bowlby, 1982) resulting in a general tendency to trust others. *Role-based trust* is predicated on knowledge that an individual occupies a particular role in the organization rather than specific knowledge about the individual's capabilities, dispositions, motives, and intentions. That is, roles can serve as proxies for personalized knowledge about other organizational members (Fisher, Gunz & McCutcheon 2001). For example, certified public accountants' opinion statement on a company's well being is viewed as a signal that the information can be relied upon for investing and crediting purposes.

The *history-based/ dispositional trust* focuses on a set of historical character traits that are deeply valued in close personal relationships in detail or in general, such as sympathy, compassion, fidelity, love, friendship, and the like (ethics of care). *History-based trust* indicates people's perceptions of others' trust are dependent on previous encounters (Boon & Holmes 1991). That is, interactional histories provide a person with information that is useful in assessing others' dispositions, intentions, and motives. Further, this information provides a basis for drawing inferences about their trust and for making predictions about their future behavior.

Dispositional trust is predicated on decision makers' early trust-related experiences shaping their general beliefs about other people (Rotter 1980). Dispositional trust tends to be more general when applied to people in general, whereas history-based trust relates to more specific incidences. For example, some customers have purchased from a particular company over the past five years. These customers believe that they should receive additional discounts on their purchases based upon their past loyalty and prompt payments to the

company. Their decision to continue to purchase goods from the company is centered on the purchase discount negotiations with the company. *History-based trust* and *dispositional trust* are viewed as a continuum in that we combine past and present.

Table 1 provides examples of the relationship among individuals with (1) rational choice, (2) rule-based trust, (3) category-based trust, (4) third parties as conduits of trust, (5) role-based trust, (6) history-based trust/ dispositional-based trust.

Insert Table 1 about here

TRUST INTEGRATED IN A THROUGHPUT MODEL

The Throughput Model

We present a theoretical model that attempts to clarify the multiple ways in which trust serves as a knowledge asset that can increase or decrease value. This *Throughput Model* (Rodgers 1997) captures several different pathways and stages that can influence a decision at the individual level. Further, depending upon individuals or organizations' viewpoint, certain pathways may be weighted heavier than or dominate other pathways. Decision-makers can benefit from this model by observing what other pathways may need to be improved in order to modify their decisions. Finally, this novel approach enables us to complement several "trust" approaches with unique decision-making paths leading to a decision.

Throughput Modeling depicts the most influential pathways employed in arriving at a decision. That is, what we hold as valuable enters into our *perception* of the information. Our *judgments* about what the information is, what is acceptable as information, what evidence we will believe, and what theory is appropriate to answer questions about a particular part of reality are all influenced by what we hold as valuable (Rodgers & Gago 2001). Decision making in the *Throughput Model* is defined here as a multi-stage,

information-processing function in which cognitive, economic, and social processes are used to generate a set of outcomes.

Perception involves the process of individuals framing their problem solving set or view of the world (Sitkin & Weingart, 1995). Depending upon the task at hand, this framing involves individuals' expertise in using pre-formatted knowledge to direct and guide their search of confirming or disconfirming of incoming information necessary for problem solving or decision making. Rodgers (1997) argued that perception represents a person's expertise, classifying and categorization of information. For example, a supplier delivers products on a timely basis based upon the purchaser promise to pay cash. *Information* includes the set of financial and non-financial information available to a decision-maker for problem solving purposes. The *judgment* stage contains the process individuals' implement to analyze incoming information (financial and non-financial), as well as the influences from the perception stage. From these sources, rules are implemented to weigh, sort, and classify knowledge and information for problem solving or decision-making purposes. Finally, in the *decision choice* stage an action is taken or not taken.

There are differences of opinion about how many stages and subroutines within stages exist and the order in which the stages occur. These concepts in the model proposed here appear with some consistency in the literature (Hogarth 1987). This model represents a parsimonious way to capture major concepts about organizations. Further, it provides a more interpretative cognitive schema. That is, basic information processing modeling normally involves serial processing. We take this approach one step further by assuming parallel processing. That is we assume that there are many (often times simultaneous) pathways leading to a decision. Further, this decision-making model has been shown to be useful in conceptualizing a number of different issues important to organizations (Rodgers 1997). It is

particularly relevant for clarifying critical pathways influenced by ethical positions (Rodgers & Gago 2001).

The conceptual model is presented in Figure 1. Arrows from one construct to another indicate the hypothesized causal relationships. In Figure 1, perception does not change the actual information, but influences an individual on what type, kind and magnitude of information will be selected for further processing. Also, information can influence, change, or alter an individual's perception based on the importance of the information (Rodgers 1997). Therefore Figure 1 presents perception and information as interdependent.

 Insert Figure 1 about here

A point of clarification regarding the interdependence between perception and judgment is that the pathway shown as $\mathbf{P} \rightarrow \mathbf{I}$ is a continuous forward and backward path (see Figure 1). Also, this pathway suggests that perception dominate information. Thus, when the path direction is $\mathbf{P} \rightarrow \mathbf{I}$, we suggest that \mathbf{P} *dominates* \mathbf{I} in an individual's actions toward reaching a decision. When the direction of the arrow is reversed: $\mathbf{P} \leftarrow \mathbf{I}$ implies that \mathbf{I} *dominates* \mathbf{P} and an individual's primary method of decision making is via information (Rodgers 1997).

Based on Figure 1, we can establish six general pathways:

- $\mathbf{P} \rightarrow \mathbf{D}$ (1)
- $\mathbf{P} \rightarrow \mathbf{J} \rightarrow \mathbf{D}$ (2)
- $\mathbf{I} \rightarrow \mathbf{J} \rightarrow \mathbf{D}$ (3)
- $\mathbf{I} \rightarrow \mathbf{P} \rightarrow \mathbf{D}$ (4)
- $\mathbf{P} \rightarrow \mathbf{I} \rightarrow \mathbf{J} \rightarrow \mathbf{D}$ (5)
- $\mathbf{I} \rightarrow \mathbf{P} \rightarrow \mathbf{J} \rightarrow \mathbf{D}$ (6)

To provide an empirical foundation for the six decision making pathways, Rodgers (1992; 1997) performed a covariance structural analysis with unobservable variables, based on a survey of loan officers' and novices' *perception, information, judgment, and decision*. The results of his calculation from his survey, the coefficients, represent the relations between the analyzed variables. A coefficient, r , is a number such that: $-1 \leq r \leq +1$. Overall coefficients, greater than 0.5, had more influence on a concrete pathway, whereas coefficients less than 0.5 had a weak effect on the variables associated with each pathway (Rodgers 1992, 1997).

Trust Viewed in the Throughput Model

Throughput modeling begins with individuals stating their views of what should be done. The advantage of this approach is that it helps decision-makers understand why individuals have selected some information, which supports their position, and have ignored other information, which does not support their position. This approach helps uncover the observations and values that individuals rely upon when taking positions on issues. Also, the model is useful in depicting latter stages of processes, such as judgment, that are implemented in supporting individuals' positions.

The model begins with how an individual thinks and places importance on *perceived* trust issues. Therefore, perception is interdependent with information in Figure 1. According to Edvinsson and Malone (1997, p. 32) in the context of business, a trust issue has consequences for others inside the organization and/or external to the organization in terms of valuing corporate knowledge assets. The intensity of an ethical issue relates to the perceived importance of the issue to the decision-maker (Jones 1991). Hence, perception can influence the type of information selected for later processing in the model, or information can influence or change the way individuals' perceive the problem (Rodgers 1997).

In the perception stage, perceived trust is a critical cognitive predictor of trust (Mayer, Davis & Schoorman 1995). In addition, researchers from diverse areas agree that trust develops through repeated social interactions about others' trust (McAlister 1995; Sheppard & Sherman, 1998; Williams 2001). Finally, Mayer, Davis and Schoorman (1995) asserted that trustworthiness could be depicted into three basic categories of ability, benevolence and integrity. They further indicated that people's perceptions of others' ability, benevolence, and integrity explain a major portion of the variance in perceived trust. Ability refers to a set of skills or competencies that allow a person to perform in some area. Benevolence suggests a desire to care for the protection of another, and the perception of integrity embraces the belief that another attaches to a set of principles that one finds acceptable (Williams 2001).

The *judgment* stage contains the process individuals' implement to analyze incoming information as well as the influences from the perception stage. From these sources, rules are implemented to weight, sort, and classify knowledge and information for problem solving or decision-making purposes. This particular stage involves the ability to structure contracts or rewards and punishments (Bhattacharya, Devinney & Pillutla 1998). Since this stage attempts to provide structure on trust, it can be referred to as economic or "rationalist" mode of trust (Zucker 1986).

In the *Throughput Model*, information (circle I in Figure 1) also affects judgment. For example, information stored in memory affects decision makers' evaluations of perceived trust issues. Typically, before an individual can make a decision, that individual encodes the information and develops a representation for the problem (Johnson-Laird 1981). Finally in Figure 1, perception and judgment can affect decision choice. Some researchers, notably Kahneman and Tversky (1982), have suggested that both automatic, perception-like heuristics and more deliberate information processing strategies (judgment) are involved in most decision choices. Errors, biases, and context-dependent heuristics may result from

cognitive mechanisms of which decision makers are largely unaware, and these may have a direct impact on decision choice (Rodgers 1992). The strategies of judgment that influence decision choice are under individual's deliberate control.

The decision-making processes of individuals can be represented in an organized manner. In order to study the methods of these decision processes it is important to break up all the paths marked with arrows in Figure 1 into sets of individual pathways. These fragments can then be independently analyzed for their contributing properties to individuals' decision processes (Rodgers, 1997). Further, it is common for decision-makers to differ in their trust values. Even if two individuals agree on the trust principles that determine trustworthy behavior, it is unlikely that they will agree on the relative importance of each principle. These differences are highlighted in Figure 1, depicting several pathways toward making a decision.

The *Throughput Model* captures an understanding of simultaneous trust, distrust, and no trust within relationships (Bigley & Pearce 1998; Lewicki, McAllister, & Bies 1998). We concur with Lewicki, McAllister and Bies (1998) that trust represents confident positive expectations regarding another's conduct, and distrust represents confident negative expectations regarding another's conduct. Also, we consider a "no trust" confident expectations concept, following Parkhe and Miller (2000) discussion that trust can be disrupted by noise problems that can hinder agreements, and that are not intentional. Finally, similar to Jeffries and Reed (2000) and Lewicki, McAllister and Bies (1998) we assume in our model high and low trust values that it allows for a differentiation of containing and managing social uncertainty and complexity (Luhmann 1979).

We associate trust (high, low), no trust and distrust (low, high) in the pathways with values that vary from +1 (the highest trust) to -1 (the highest distrust). We use positive, negative and zero signs to represent *trust*, *distrust*, and *no trust*. That is, each path can have a

positive (+), negative (-), or zero (0) flow going through it that can be represented numerically for trust, distrust, and no trust, respectively. The sign of the flow is dependent upon the relative importance of the use of that pathway involving trust. In order to give direction to a necessary pattern in *trust, distrust, and no trust*, we assume that any coefficient that is larger than or equal to 0.5, in absolute value, is considered supportive of a high trust effect. Any coefficient that is smaller than 0.5, in absolute value, imply a weak trust effect of the variables associated with that path (Figure 2).

Six Decision-Making Trust Pathways

The model proposed here takes a unique approach to conceptualizing six trust positions to the above six decision-making pathways in understanding behavior (Rodgers & Gago 2001). The six trust positions introduced in the previous section are: trust as a (1) rational choice, (2) rule-based trust, (3) category-based trust, (4) third parties as conduits of trust, (5) role-based trust, (6) history-based trust/dispositional-based trust (Figure 2). These six pathways are viewed as the most dominant and influential for decision making dominated by particular trust positions. Although, it is important to note that other pathways in the Throughput Model also contributes to the above trust positions.

Insert Figure 2 about

The paths drawn are the pathways with large absolute value coefficients, thus they are the ones influencing individuals' decision choices the most. Since this analysis is not just a theoretical exercise, we need only find the combinations that *make sense* for our specific application, i.e., our decision makers must make a decision. Therefore, all zero pathway combinations can be disregarded when they lead to no decision. Hence, all the pathways drawn represent logically possible pathways that yield decisions. Even with this reduction in number of combinations, it is clear: decision makers' processes can involve a series of

complicated steps. These six pathways are viewed as the most significant in our decision making model when considering particular trust perspectives.

In statement (1) $\mathbf{P} \rightarrow \mathbf{D}$ implies that all information from \mathbf{I} is disregarded and decision is made without any judgment. Lipshitz and Strauss (1997) advocated that there are three basic issues surrounding downplaying data sources, namely those reflecting incomplete information, inadequate understanding, and undifferentiated alternatives. These basic issues may downplay an individual's use of information during the first stage of processing.

$\mathbf{P} \rightarrow \mathbf{D}$ represents the shortest pathway, that is to say, the quickest way for achieving a goal: individuals perceive and decide on. Since perception and information are interdependent, individuals' framing of the problem is constantly updated. *Trust as a rational choice* implies that individuals are always motivated to act in their perceived self-interest. Decisions about trust are similar to other forms of risky choice in that individuals are presumed to be motivated to make rational and efficient choices. That is, individuals act to maximize expected gains or minimize expected losses from their transactions. Hence, if the risk is low or monetary amount involved in the transaction (e.g., internet), then this perspective may serve well for low levels of trusting behavior between parties (Castelfranchi and Tan, 2002). This perspective includes two central elements (Hardin, 1991). First, the knowledge that enables an individual to trust another is considered. Second, relates to the incentives of the individual who is trusted to honor that trust. This type of trust is based on a complete understanding with the other party's desires and intentions. Therefore, this type of trust allows one to act as an "agent" for the other and substitute for the other in interpersonal transactions (Whitener, Berman and Jones 1998). Hardin (1991) stated "You can more confidently trust me if you know that my interest will induce me to live up to your expectations. Your trust then encapsulates my interests" (p. 189).

P → **J** → **D** depicts the *rule-based trust* and emphasizes the rules used by individuals. That is, rules depend on the structure of the decision as well as the interpersonal behavior of the implementers of the decision. The structural and interpersonal components of rules are likely to influence perceived trust (Brockner & Siegel, 1996). An individual forms a perception without the use of any information, weighs the possible outcomes before making any judgment and then concludes with a decision. This viewpoint examines the judgmental effects on decision choices. A basic premise to this viewpoint is that equal respect must be given to all individuals. Therefore, the judgment stage implements decision rules that help guide individuals to a decision.

Trust in the authority that will enforce the contract could increase the level of trust in contracting situations (Castelfranchi and Tan, 2002). Hummels and Roosendaal (2001) asserted that one way to deal with complexity is to draw up an extensive contract that specifies the rights and obligations of the contract partners and to decide on the penalties when one of the parties fail to meet its obligations. For example, the value of corporate knowledge assets have increased due to creation of the new Court of Appeals for the Federal Circuit in 1982 (Sullivan & Sullivan 2000), and rules govern intellectual property by the World Trade Organization (Contractor 2001).

Rule-based-trust is also based on consistency of behavior in that individuals will do what they say they will do. The interpersonal component of rules can consist of at least two major factors: (a) whether the reasons for the decision were clearly and adequately explained and (b) whether the implementers treated the individuals affected by the decision with dignity and respect (Bies 1987). Behavioral consistency is adhered to by the threat of punishment (e.g., loss of business relationship) that will occur if consistency is not maintained. Other studies have indicated that justice perceptions predict several attitudes and behaviors (Colquitt, Conlon, Wesson, Porter, & Ng. 2001), and perceptions of fairness are formed and

exist in a social context in which employees might be influenced by conversations with their coworkers (Jones & Skarlicki, 2003).

Statement (2) $\mathbf{P} \rightarrow \mathbf{J} \rightarrow \mathbf{D}$ implies that information from \mathbf{I} is disregarded, as above, and a decision is reached via judgment. There are at least several reasons for this occurrence. First, information may be disregarded due to its unreliability. For example, a pre-medical student depiction of a patient illness would not carry the same weight as an experienced medical doctor. Another reason for ignoring information may result from noise interfering with the main signal or message. In this particular scenario, the decision maker may be confused regarding the intended message of the information. Finally, conflicting informational signals may obfuscate a decision-maker from determining the proper weights to place on the information sources.

For example, during the final campaign election days the friends of a Spanish politician broke the law by being involved in illicit situations. The Press denounced it and resulting pressure caused the renouncing of his candidacy, even though he was attacked without valid reasons. Evidently the press accused the politicians (\mathbf{D}) based on their perceptions regarding friendship involvement with certain people (\mathbf{P}), judging (\mathbf{J}) that he was at fault.

$\mathbf{I} \rightarrow \mathbf{J} \rightarrow \mathbf{D}$ pathway reflects that *category-based trust* is predicated on norms of obligation and cooperation rooted in social similarity. That is, it is the expectation that an individual can or cannot be trusted (i.e., high, low or no-trust) because of age, ethnicity, family background, financial position, religion, social reasons or status, and so forth. Category-based trust may extend broadly within a society (e.g., Japan) and may be reinforced by ritual and symbolic behaviors (Dore 1987) that emphasize common group membership and familiarity (Good 1988). Williams (2001) argued that competitive or cooperative

interdependence that exists between two groups influences individuals' beliefs about group members' trust and the affect associated with them.

Common characteristics within a category may provide an impetus to trust and may provide a positive, self-reinforcing process of interaction. Because of the cognitive consequences of categorization and in-group bias, individuals tend to attribute positive characteristics such as honesty, cooperativeness, and trust to other in-group member (Brewer 1996). However, common characteristics not found could provide an untrusting atmosphere when confronted with a dilemma. Institutional form may acquire legitimacy based on perceptions about the trust of its representing authorities. Powell and Dimaggio (1991) added that an institution is considered legitimate to the extent that its structure and procedures follow the dictates of prevailing rules and beliefs.

I→P→D highlights the *third parties as conduits of trust* and assumes that decision-makers use themselves or the people around them as their basis for defining ethical standards. Third-party information serves to reinforce existing relations, making one's perception more certain of his trust (or distrust) in another. Therefore, trust depends on the direct connection between two individuals versus their indirect connections through third parties and the conditions in which the strong indirect connections that enhance trust reverse their effect to create distrust. Further, Blau (1964, pp. 112, 113) advocates that trust develops because social exchange involves unspecified obligations for which no binding contract can be written. Hence, trust is committed to an exchange before one knows how the other person will reciprocate. Labianca, Brass and Gray's (1998) study showed that third parties can be drawn into negative interpersonal interactions. Finally, Shah (1998) advocated that employees rely on others to help them evaluate and comprehend their performance, compensation, career patterns, and work duties.

$P \rightarrow I \rightarrow J \rightarrow D$ under scores that *role-based trust* is tied to formal societal structures, depending on individual or firm-specific attributes. An individual's perceptions or framing of the problem will influence the selection and type of information to be employed in judgment. That is, an individual is motivated to act appropriately (perception), which influences the information set (**I**) used to be analyzed (judgment) before a decision is made. This perspective suggests that a morally bound individual with good motivations is more likely to understand what task should be performed more so than a morally lacking individual (i.e., increasing the trust level). Beauchamp and Bowie (1997, p. 39) advocated, "A person who simply follows rules of obligation and who otherwise exhibits no special moral character may not be trustworthy."

Examples of role-based trust are certification as an accountant or engineers. After the Enron's scandal, the image of the accountant was affected thereby decreasing trust because the skill-based system that produces and maintains role-appropriate behavior of role players changed. That is, more government laws were enacted thereby affecting the accounting profession integrity. Dawes (1994) argued in this regard "We trust engineers because we trust engineering and believe that engineers are trained to apply valid principles of engineering, moreover, we have evidence every day that these principles are valid when we observe airplanes flying" (p. 24).

Simon (1947) advanced that the willingness to accept an authority's decisions can occur through courtesy to the authorities' organizational role and can be made "independently of judgments of the correctness or acceptability of the premise [of their decisions]" (Simon 1947, p. 125). Further, Tyler and DeGoey (1996) claimed that individuals' evaluations of organizational authority trust shaped their willingness to accept the decisions of authorities as well as influencing feelings of obligation to follow organizational rules and laws. In addition, Fisher, Gunz and McCutcheon (2001) advocated that individuals are bound together by

professional roles within society. The importance of what that profession does places it in a special trust relationship with society, and has the potential both to help and harm the users of the services.

In the **I** → **P** → **J** → **D** pathway, information dominates the perception in an “open-minded” individual. This perspective represents the last possible fragmented way for individuals’ cognitive processes. In this sequence, an individual studies the given information, frames the problem, and then proceeds to analyze the problem before rendering a decision. Information helps guides an individual’s perceptual perspective.

I → **P** → **J** → **D** represents the *history-based trust* and/or *dispositional trust* that arises either through the personal experience of recurring exchanges, such as purchasing inventory from a supplier, or in expectations based on reputation (i.e., low, high or no-trust). This is similar to the notions that trust is a generalized response based on the reinforcement history inherent in previous social interactions (Rotter 1971). This concept is further emphasized by early experience of such reinforcement is linked to the presence of an individual’s “personal philosophy” regarding individuals’ trust (Bowlby 1973). This “knowledge-based” trust is a judgment of the probability of the other’s likely choice of behaviors. It occurs when an individual has enough information about others to understand them and accurately predict their likely behavior. In a long-term relationship, reciprocity is at the heart of this process. Through this process, business transactions become part of the social context where personal factors intertwine with economic considerations (Bradach & Eccles 1989). In sum, the security and stability of such recurring reciprocal exchanges enable learning and engender trust (Powell, 1990).

CONCLUSIONS

The links among knowledge production and its exchanges are becoming an increasingly important management issue in all sectors. People in companies contribute not only to produce tangible goods, but also intellectual goods. This creation of knowledge requires an adequate diffusion inside the company for achieving a positive organizational impact. The effectiveness of such processes is conditioned by trust.

Trust behavior is a prerequisite for knowledge production and its exchanges. Individuals are not machines, they think and have feelings. When they pursue activities or communicate ideas, they are trusting in others. Trust integrated into a Throughput model offer several advantages to companies from a strategic point of view. First, the model assists in the awareness of a particular pathway dominant in its decision-making and bases of trust as a knowledge asset. Managerial behavior and group membership relationships also have a trust bases. That is, the effectiveness of the interchanges of knowledge created in the organizations is based upon trust. Trust positions in the Throughput model can be addressed as sources of competitive advantages. They may be used as valuable assets in the creation of organizational value. Second, the Throughput Model provides for analysis of information in relation to problem framing (perception) used in individuals' decision-making processes. Third, the model helps to determine what pathways should be examined based upon levels of trust, no trust and distrust. Acting on the decisional routes, organizations can design and implement strategies in their aim of achieving different trust positions. Hence, trust is a knowledge corporate asset that may add, or rest, value to an organization.

We concur with Parkhe and Miller (2000) statement that we are barely scratching the surface of issues in trust. However, we believe that this paper takes an important step in advancing our knowledge regarding the relationship of trust tied to a decision making model as bases for corporate knowledge assets.

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Figure 1. Individuals' Decision Processes Diagram

Where P= perception, I= information, J= judgment, and D= decision choice.

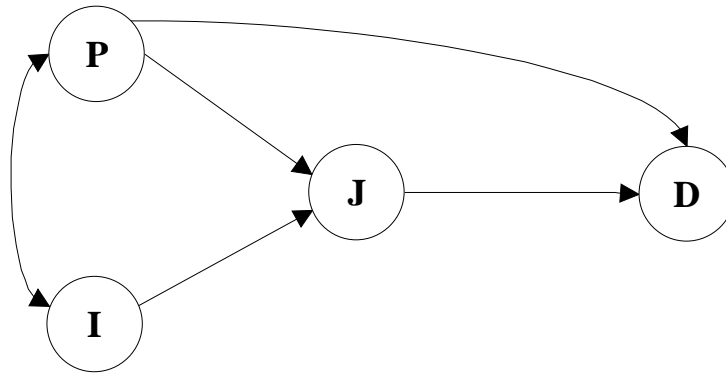


Figure 2. Trust's influence in decision-making

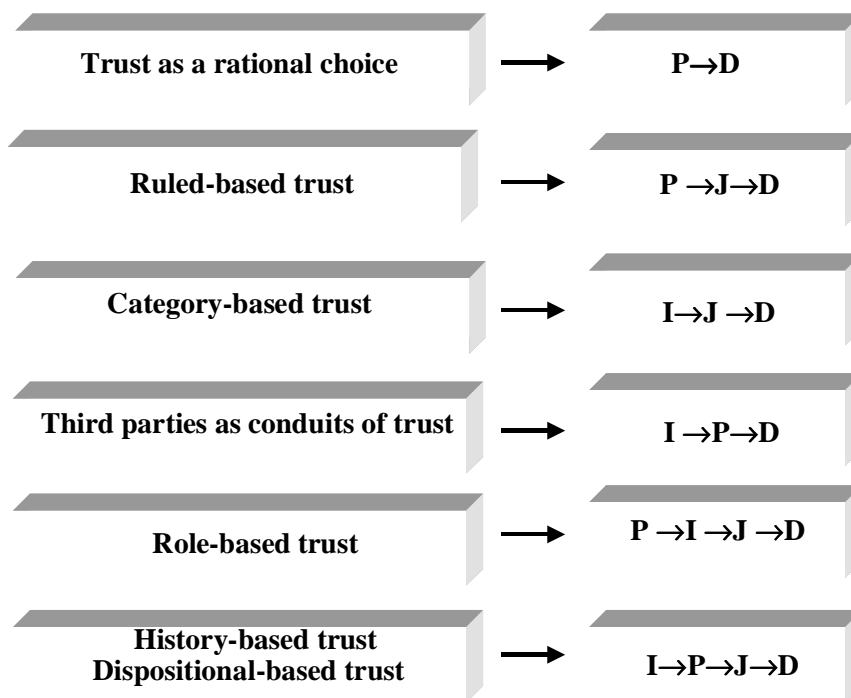


Table 1. Examples of Individuals' Trust Levels

TRUST PERSPECTIVES	INDIVIDUAL
TRUST AS A RATIONAL CHOICE	Employees' effort in completing their assignments is motivated by their wage.
RULE-BASED TRUST	An Army soldier is instructed to obey certain military rules. These rules regulate his behavior. For example, in the case of becoming a war prisoner, soldiers trust the validity of those rules for guiding their decision-making.
CATEGORY-BASED TRUST	Presumptive trust is given to an individual within a particular category. For example, a devote catholic a company's money.
THIRD PART AS CONDUITS OF TRUST	A President gives the order to attack a nation based on information from an undisclosed party.
ROLE-BASED TRUST	Information is channeled through the company's certified public accountant for approval and appropriateness for decision-making purposes.
HISTORY BASED TRUST/ DISPOSITIONAL TRUST	A manager must decide on an investment with a certain environmental risk. The manager understands from previous experience that by becoming environmentally proactive may prevent possible losses resulting in a bad image for the company.