
2 Reflections on an initial trust-building model

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Trust is important to organizations because it lubricates the relationships that form the interlocking components of coordination, which, like gears, turn the wheels of commerce. Trust becomes especially important during an organizational crisis (Mishra, 1996) or when supportive structures are inadequate. Thus it is vital to examine how trust forms in various work and commercial settings, because if one can understand the conditions, factors and processes determining this, one can thereby influence the coordinative consequences of trust.

One of many depictions of how trust forms is found in McKnight et al. (1998). Here trust is depicted as it forms in the initial phase of a relationship. The initial phase refers to when parties are unfamiliar with each other (Bigley and Pearce, 1998). By unfamiliar, we mean they have little solid, verifiable information about each other, and what they do know is not from first-hand, personal experience. This condition usually results from the newness of the relationship (that is, when parties first meet), but may also result from a combination of newness and relationship distance, because when parties are socially distant (for example, virtual team members or Internet transactional partners), they may not receive first-hand, verifiable information about the other for some time. This definition of the initial phase means the initial phase stops after parties gain verifiable information by first-hand interactional or transactional experience with each other. Hence experience is not considered a factor of initial trust.

The import of initial trust-building

In part, initial trust formation is important because it is pervasive. Almost every relationship begins with an initial phase. The initial phase can be characterized by uncertainty and doubt, in which parties feel around for the right level of trust to accord the other. Initial trust is also important because many critical tasks or transactions are done in the initial phase. These include brief negotiations, sales of various kinds (including e-commerce transactions), chance business meetings, temporary tasks (Meyerson et al., 1996), and brief team project or committee work. Bigley and Pearce (1998) provide examples of unfamiliar relationships that would fall under the initial phase. During this phase, parties may extend or withdraw cooperation, and may do so willingly or unwillingly, with either confident and secure feelings or with tension, doubt and skepticism. In any case, the level of trust may impact their effectiveness, making it easy or difficult to accomplish the parties' interdependent tasks. Initial trust is therefore key to what the parties to the relationship can accomplish together.

Initial trust has further import because it excavates a cognitive/affective channel that often has lasting implications for the future mental model of the relationship. Relational schemas formed early are influential (Baldwin, 1992). For example, Berscheid and Graziano (1979) argue that the first part of a relationship is key because opinions and beliefs formed early tend to continue into the future, perpetuated by belief-maintaining mechanisms (see also Boon and Holmes, 1991). Social perception is a process strongly

affected by initial impressions (Darley and Fazio, 1980). Since trust is central to any relationship (Mishra, 1996), initial trust is a key harbinger of the future of the relationship.

This chapter briefly summarizes the McKnight et al. (1998) model and what makes it unique. The features of the model include a time dimension boundary, an interrelated set of trust constructs, trust-building factors and processes, and predictions regarding the fragility and robustness of trust. Next, the impact of the article is traced, along with empirical evidence regarding the model, based on the work of those who have cited it. Finally, some research needs are outlined with respect to the model.

Original model – a summary

The initial trust formation model

The McKnight et al. (1998) model offers a set of factors and processes by which trust is built initially, before parties have time to get to know each other via interaction or transactions (Figure 2.1). Two interpersonal trust concepts are predicted: trusting intention (a secure, committed willingness to depend upon, or become vulnerable to, the other party) and trusting beliefs (a secure conviction that the other party has favorable attributes, such as benevolence, integrity, competence and predictability). In this article, the terms ‘trust’ or ‘interpersonal trust’ refer to a combination of trusting intention or trusting beliefs. Disposition to trust (assumptions that general others are trustworthy – Rotter, 1971) and institution-based trust (beliefs that the situation and/or structures make the

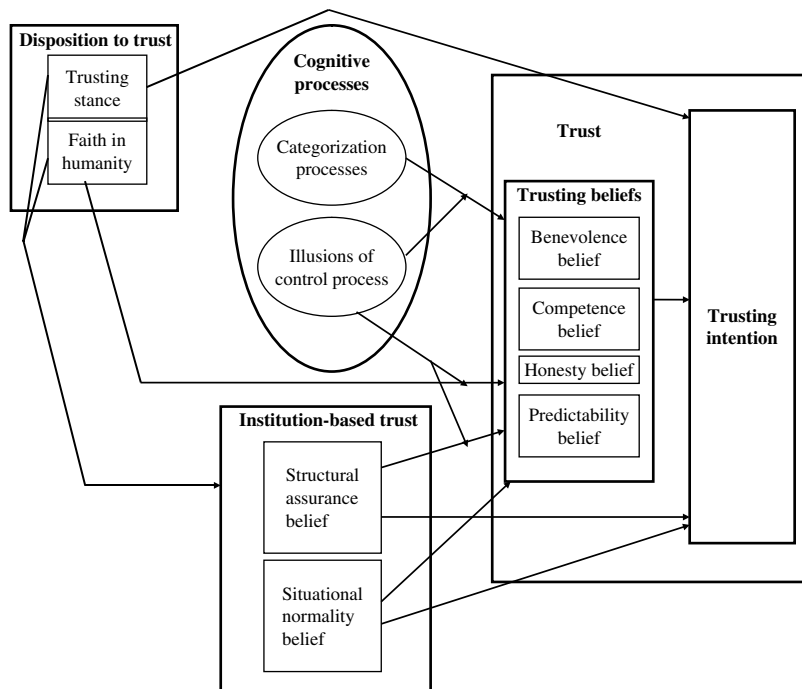


Figure 2.1 *Initial trust-building model (McKnight et al., 1998)*

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context conducive to trusting – Lane and Bachmann, 1996; Shapiro, 1987; Zucker, 1986) are the two factors proposed to influence interpersonal trust.

The article also posits that several cognitive processes impact initial trust: reputation inference, and two social categorization mechanisms – in-group categorization and stereotyping – and illusions of control. Reputation inference means one infers positive traits about the trustee based on second-hand information. In-group categorization refers to placing the trustee in the same grouping as oneself. Stereotyping means placing the trustee in a general grouping from which inferences can be made about trustee attributes. Reputation inference, in-group categorization and stereotyping have direct effects on initial trust. Moderating these effects (and others – Figure 2.1) are illusions of control. By token control efforts (Langer, 1975), one can become overconfident in one's assessment of the other through social categorization or reputation inference.

The article also posits factors affecting whether trusting intention will be robust or fragile over time. Trusting intention will be fragile when: (a) supported by few antecedents; (b) based primarily on assumptions; and (c) perceived situational risk is high. Trusting intention will be robust when: (a) supported by many antecedents; and (b) low risk or continued success encourage low attention to the trustee's behavior.

This model builds on the work of many trust researchers – too many to name. Most influential are the work of Holmes (1991) and associates (Holmes and Rempel, 1989; Rempel et al., 1985) regarding assumptions and attributions behind trust, Luhmann's (1979) integration of interpersonal and 'system' trust (similar to institution-based trust), Zucker's (1986) model of the tradeoffs among personal and structural trust types, and the integrative models or discussions of Barber (1983), Bromiley and Cummings (1995), Dobing (1993), Gabarro (1978), Gambetta (1988), Giffin (1967), Good (1988), Kramer (1994), Lewis and Weigert (1985a,b), an early version of Mishra (1996), Ring and Van de Ven (1994), and Sitkin and Roth (1993).

Unique features of the initial trust model

Temporal anchoring The model has several unique features. We use the term unique loosely, recognizing that none of the model's individual features is genuinely unique. First, it is anchored to the initial relationship time period, but proposes, in a limited way, how trust might progress after the initial relationship period. Its temporal boundary implies that trust-building factors differ by relationship phase. That is, the factors and processes by which trust is built in the initial phase are not the same as those factors and processes by which trust is built in the ongoing relationship phases. Experience with the trustee that enables an interaction history is implied as the major factor of ongoing trust. The article begins by sharing anecdotal evidence that trust may develop quickly to a high level rather than growing incrementally and gradually over time. Then it proposes factors and processes enabling this to occur. The model was first conceived when the first author found evidence, in 1993, of high trust early in a relationship and reread the trust literature in an attempt to understand how this could be possible.

Typology of trust types Second, the model is unique in that it includes several interrelated types of trust, including four trusting beliefs and two types of both disposition to trust and institution-based trust. Thus it offers a typology of nine distinct types of trust.

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This is important because trust types have proliferated, making types of trust overlapping and hard to reconcile (Lewis and Weigert, 1985b; Shapiro, 1987). This means that one research finding is hard to compare with another because a glut of trust types exists without rules to translate one finding to another (McKnight and Chervany, 2001a; Rubin, 1988). The model offers this set of trust types in order to represent in a parsimonious manner a larger set of literature trust types.

Interrelated trust types The model also depicts relationships among these trust types, something that Tiryakian (1968) says a good typology does. The model depicts the more generalized construct (disposition to trust) affecting the contextual construct (institution-based trust), which then affects the specific interpersonal trust constructs. Some unmediated effects of disposition to trust are also proposed. Many others have hypothesized different types of trust (Barber, 1983; Gabarro, 1978; Mayer et al., 1995; Mishra, 1996; Butler, 1991). This model is unique in terms of: (a) the number of types, (b) the broad, cross-disciplinary origin of the types, and (c) the manner in which the types interrelate.

Specific trust-building processes Fourth, the model includes both cognitive processes and factors. This makes it hard to test in one empirical study, where mixing process and variance methods may be awkward. But it does provide several ways to test the model in separate modes. It is acceptable for researchers to create a larger theoretical model than can be tested in a given study (Sutton and Staw, 1995). The process aspects of trust development are interesting because they go beyond the normal variance theory approach that explains 'what leads to what' and posit positive mechanisms explaining how trust develops.

Fragility versus robustness of trust Fifth, by specifying what might cause trust to be fragile or robust, the article juxtaposes two theoretical paths for the progression of trust. The fragile path says that initial trusting intention will take large swings (often downward) as the trustor takes into account new, less assumptional information about the trustee. The robust path says that trusting intention will stay firm, as belief confirmation mechanisms cause one to reinforce early impressions by ignoring or rationalizing contrary evidence about the trustee.

Impact of the article and its model

In order to assess the impact of the model, we looked at which articles had cited this article and what, if anything, those articles had said and done about it. Hence, this section catalogs the work of those citing McKnight et al. (1998).

Applications of the model have been found primarily in three domains: organizations, e-commerce and virtual teams. For example, Wells and Kipnis (2001) and Bell et al. (2002) suggest that the McKnight et al. (1998) model (hereafter termed MCC98) was an example of a trust-building model in the organizational domain. Tan and Thoen (2003) review how MCC98 introduces trust-building factors for initial relationships and how McKnight and Chervany (2001a) apply these in the e-commerce domain. Tan and Thoen and Jarvenpaa and Tractinsky (1999) argue that initial trust formation is especially applicable to e-commerce because in this domain, many of the partners have never dealt with each other before. In the virtual teams arena, Brown et al. (2004) apply dispositional aspects of MCC98 and Kasper-Fuehrer and Ashkanasy (2001) use MCC98 to argue that trust

can exist in virtual teams. We now review more specific impacts of the article organized by the five unique features of the model explained above.

Temporal (initial phase) anchoring of the model

The nature of trust in its initial (versus ongoing) phase has drawn some discussion (Bhattacharjee, 2002; Tschannen-Moran and Hoy, 2000). Zaheer et al. (1999) used MCC98 as an example of the importance of the time dimension in organizational research, arguing that initial trust has different antecedents from later phase trust and that initial trust is fragile. Oliver and Montgomery (2001) use MCC98 to argue that the information needed for trust in the initial relationship is different from the information needed for trust in ongoing, interactive relationships. Gefen (2004) argues that disposition to trust is not needed in their model of ongoing, mature client trust in the software vendor because MCC98 argues that disposition will only be an effective predictor before parties interact. Siau and Shen (2003) argue that trust in mobile commerce vendors requires different antecedents in the ongoing phase from the initial trust phase. Williams (2001) cites MCC98 to argue that initial trust can develop without in-group similarity (that is, through institutional supports), complicating the relationship between trust and group membership over time. Crisp and Jarvenpaa (2000) use MCC98 to argue that trust can exist among virtual team members with no prior experience with each other. Cunningham and McGregor (2000) use MCC98 to argue against the leader-member exchange (LMX) assumptions that personal relationships develop over time. Both Crisp/Jarvenpaa and Cunningham/McGregor say that MCC98 challenges the view that trust can only develop as people interact over time. Kim et al. (2004) note both that MCC98 posits that initial trust may be high before interaction and explains the reasons why. Jackson (1999) cites MCC98 about how trust can be high initially and then may deteriorate over time. They point out that today's frequent organizational changes frequently bring about these novel and ambiguous initial trust situations. Droege et al. (2003) address the difference between initial trust and what they call gradual trust. They suggest that trust formed 'gradually invokes different cognitive processes than swift or initial trust . . . Rather than placing emphasis on the safeguards of reputation, sanctions, formal roles, norms, and assumptions of trustworthiness, gradual trust is based on knowledge and past interaction' (2003: 51).

In terms of the MCC98 proposal that trust can begin at medium to high levels, rather than growing gradually, several papers have provided empirical evidence. In a three-phase virtual team exercise, Kanawattanachai and Yoo (2002) find mixed support for trust becoming high quickly versus the incremental trust development model (for example, Blau, 1964). They report that virtual team trust reached medium levels by T1. Low-performing teams' trust remained at this level at T2 and T3. High-performing teams' trust rose again at T2, but remained constant at T3. Jarvenpaa and Leidner (1998) find that in virtual teams, trust tends to stay at about the same level at T1 and T2. Crisp and Jarvenpaa (2000) hypothesize that trust in virtual teams from different countries will decrease over time because it is initially based on such weak supports as social categorization and stereotyping. They find that initial trust in the team was statistically the same level (3.9 on a 1-5 scale) three weeks before the exercise began and one week before the exercise began (after students were assigned to teams). Team trust dropped significantly to 3.7 on average at T2 (project midpoint), where it remained at T3 (after task completion). Some teams did

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increase trust levels over time, but the general trend was slightly downward, which they say supports the MCC98 initial trust thesis. Although the above represents a few empirical tests supporting the initial trust-building model, results are mixed and more research is needed.

Another way to see whether the initial trust-building model or the incremental interaction trust-building model predicts best is to see the extent to which familiarity with the trustee predicts trust in the trustee. A salient familiarity factor would favor the incremental model. Results here are mixed. Gefen (2000), Gefen et al. (2003b), and Bhattacharjee (2002) find familiarity with Amazon.com to be significantly related to trust in Amazon.com. On the other hand, Pavlou (2002) finds that familiarity did not predict trust in the E-bay environment. It is not clear from the Gefen and Bhattacharjee measures whether familiarity had to do with interaction with Amazon or hearing about Amazon second-hand.

Time boundary issue MCC98 implies that the factors and processes proposed to develop initial trust are not effective after the initial phase. In this regard, we present two key research questions: (1) Do the same factors MCC98 proposes as antecedents to trust in the initial time frame continue to predict trust afterwards? (2) To what extent do quantity and quality of experience replace the MCC98 antecedents once the parties gain significant experience with each other? Gefen et al. (2003b) address item (1) in terms of the efficacy of disposition to trust. Note that both MCC98 and Mayer et al. (1995) propose that disposition to trust only predicts trust variables before parties have experience with each other. Gefen et al. compare the link between disposition to trust and consumer trust in the e-vendor (Amazon.com) among potential customers (those who have not yet purchased from Amazon) and repeat customers. They find the link to be significant among both customer types, though the link coefficient decreases significantly ($p < 0.01$) from 0.45 ($p < 0.01$) to 0.35 ($p < 0.01$). Addressing the quantity aspect of (2), Gefen and associates propose that familiarity will become more important to trust among repeat customers than potential customers. They find that while the coefficients are nominally different (0.18 for repeat customers, 0.13 for potential customers), these differences are not significant.

McKnight and Chervany (2005) address the same questions using technical system troubleshooters reporting about their trust in the supervisor. Troubleshooters had worked with the supervisor for an average of 4.0 years and all had worked closely with the supervisor for more than six months, placing them beyond the initial phase. The trust construct portion of the MCC98 model is run, with variables representing dispositional and institutional trust, trusting beliefs and trusting intention. Addressing question (1), McKnight and Chervany (2005) find that in this ongoing trust phase: (a) disposition to trust predicts both structural assurance and trusting intention, but not trusting beliefs; (b) structural assurance predicts trusting beliefs but not trusting intention; and (c) both trusting beliefs predict trusting intention. Therefore, even after the initial relationship, these variables continue to operate as MCC98 propose except that the links from structural assurance to trusting intention and from disposition to trust to trusting beliefs become fully mediated. McKnight and Chervany (2005) address question (2) by adding one variable each for quality and quantity of experience, predicting that only quality of experience will matter. They find that: (a) quantity of experience does not predict trusting beliefs or trusting

intention; (b) quality of experience predicts both trusting beliefs and trusting intentions; even in the presence of the experience variables; (c) structural assurance continues to predict trusting beliefs; (d) trusting beliefs continues to predict trusting intention; and (e) disposition to trust continues to predict trusting intention. Although these studies need to be replicated, they provide an early indication that the time boundary of the MCC98 model may not be as firm as originally proposed. More tests of the time boundary of the efficacy of the initial trust predictors should be done to see under what conditions the boundaries hold.

Typology of trust types

A number of studies comment on the MCC98 trust typology. Kim et al. (2004) support the idea that trust is multi-faceted. Following MCC98, some researchers have distinguished between trusting intentions and trusting beliefs (Boyd, 2003; Nicholson et al., 2001; Pavlou, 2003), and institution-based trust and interpersonal trust (Jackson, 1999; Jarvenpaa and Tiller, 2001). Some either cite or use MCC98 for various trust definitions (George, 2002; Povey, 1999), including the distinction among four trusting beliefs – competence, benevolence, honesty and predictability (Boyd, 2003; Cunningham and MacGregor, 2000; Gallivan and Depledge, 2003; Grazioli and Jarvenpaa, 2003; Pavlou, 2003; Shankar et al., 2002) and the distinction among disposition to trust types – faith in humanity and trusting stance (Gefen et al., 2003b). Pennington et al. (2003, p. 199) follow and discuss the MCC98 typology: ‘McKnight et al. (1998) develop a useful typology of trust . . . Collectively, these constructs provide a reasonable definition of the construct space for the trust variable. Consistent with this work, Castelfranchi and Falcone (1998) regard these perceptions of trust as a belief system of the truster regarding the trustee.’ Pennington and associates conclude that more work is needed that uses such granular measures of trust. On the other hand, many examples exist of research that uses the term trust to describe what MCC98 would term either trusting beliefs or trusting intention. Thus a condition of homonymy is expected to continue into the future. Homonymy means one label is used to encompass more than one concept (Smith, 1990). However, the severity of trust homonymy is lessening over time.

In what they call a ‘‘grammar’’ of trust, McKnight and Chervany (2001a: 42) expand the conceptual basis for the typology. They argue that trust is like a sentence, with a subject (trustor), verb (trust), and direct object (trustee). It is the direct object that determines many of the types of trust in use. If the direct object of trust is a person, the construct is interpersonal trust; if the object is an institution, the construct is institution-based trust; and if the object is general other people, the construct is disposition to trust. This assumes, of course, that the subject of trust is one person, but this could also be varied to produce different types or levels of trust.

Recent typology extensions The typology of nine trust constructs in MCC98 has been expanded in several ways. First, building on McKnight and Chervany (1996), McKnight and Chervany (2001a) defines trusting intention as two constructs: trusting intention – willingness to depend (willingness to be vulnerable to the other by depending on them); and trusting intention – subjective probability of depending (the extent to which one predicts that one will depend on the other party). The latter is a stronger or more risk-laden construct as it involves an implicit commitment to do something specific rather

Table 2.1 *Trust constructs as combinations of conceptual types and trustee attributes*

Referent characteristic	Dispositional	Structural/ institutional	Conceptual types			
			Belief	Attitude	Intention	Behavior
Competence	*	*	X	X		X
Benevolence	*	*	X	X	X	X
Integrity	*	*	X	X	X	X
Predictability			X	X		X
Other	X	X	X	X	X	X

Notes:

X denotes definitions already in existence in this conceptual region, per McKnight and Chervany (2001a).

*denotes cells filled by constructs measured in McKnight et al. (2002a).

Source: Adapted from McKnight and Chervany (2001a).

than a general willingness to depend. Second, they added a behavioral concept – trust-related behaviors. These behaviors were specified for the Internet environment as purchasing a product, cooperating with the vendor, and sharing personal information with the vendor. A large number of existing definitions of trust as a behavior fit this category (e.g. Baier, 1986; Bonoma, 1976; Dobing, 1993; Giffin, 1967; Riker, 1971; Zand, 1992 – see McKnight and Chervany, 1996 for more).

McKnight and Chervany (2001a) also outline a way to expand the types of trust in an organized way by matching each of the major trustee characteristics (competence, benevolence, integrity, predictability) with conceptual types (behavior, intention, belief, attitude, disposition, structural/institutional). Matching these types would potentially yield 24 (4×6) trust constructs (Table 2.1), or more, if other trustee characteristics were used.

The McKnight and Chervany (2001a) Internet constructs and definitions are adapted to a more general trust research audience in McKnight and Chervany (2001b). Here, the same constructs are defined but for use in organizations rather than in e-commerce. They also outline additional trust-related behaviors for organizational use. In addition to cooperating and sharing information, their chapter (2001a) suggests these behaviors: entering an informal agreement, reducing the controls placed on another, allowing another to influence one, and granting another decision-making power. They argue that each of these behaviors make one vulnerable to the other, matching the most basic definition of trust. The other contribution of McKnight and Chervany (2001b) is that it defines distrust constructs. Each trust concept is given a corresponding distrust concept definition, building on Lewicki et al.'s (1998) position that trust and distrust are separate concepts, not just two ends of the same continuum. McKnight and Chervany suggest that trust and distrust differ due to the intensity of the emotions each inheres. 'In terms of emotion . . . one might picture trust as the satisfied zoo elephant, calmly eating hay, while distrust is more like the raging wild bull elephant charging the tusk hunter who threatens the herd' (2001b: 42).

Concepts are only useful to the extent that they can be measured. McKnight et al. (2002a) measured most of the trust concepts defined above for e-commerce and

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performed tests of their psychometric properties. They were able to distinguish among 16 measured trust constructs: four for disposition to trust, five for institution-based trust, three for trusting beliefs, and four for trusting intentions. The disposition to trust and institution-based trust concepts included delineations that mirrored conceptually the benevolence, honesty and competence aspects of the three trusting beliefs. For example, the faith in humanity–benevolence measures tapped the idea that one assumes other people generally have one's interests at heart. This construct was distinct from the faith in humanity–integrity measures, which reflected the assumption that other people generally are honest. The trusting intentions include willingness to depend and three subjective probability of depending constructs: to follow the e-vendor's advice, to give the vendor personal information, and to purchase from the vendor.

McKnight et al. (2002b) measure these trust concepts: structural assurance of the Web, trusting beliefs, trusting intention–willingness to depend, trusting intention–follow vendor advice, trusting intention–share personal information with the vendor, and trusting intention–purchase from the site. They distinguish these concepts from each other empirically and from perceived vendor reputation, perceived site quality, and perceived Web risk. However, the three trusting beliefs they measure (benevolence, competence, integrity) were treated as one construct rather than being distinguished from each other. Bhattacharjee (2002) measured the same three trusting beliefs in Amazon.com with three items each and found they formed a second-order concept. On the other hand, Mayer and Davis (1999) found that the three trusting beliefs factored separately. This leaves outstanding the question of what circumstances cause trusting beliefs to merge or to be distinct (see Lewicki et al., 1998 for one theory). A number of researchers have measured two or more trust constructs in the same study, though their construct labels often differ from those of MCC98 (for example, Gefen et al., 2003a; Jarvenpaa et al., 2000; Pavlou and Gefen, 2004; Ridings et al., 2002).

Distrust and trust in technology extensions McKnight et al. (2003–2004) empirically contrast similar types of disposition to trust–faith in humanity and disposition to distrust–suspicion of humanity. They measure both faith in humanity–general and suspicion of humanity–general and find these forms of dispositional trust and distrust to be distinct empirically, with a correlation of only -0.38 . Following Lewicki et al.'s (1998) suggested tests, they find that dispositional trust and distrust are distinct in that they coexist and predict different dependent variables in the model. Indicative that the distrust side inheres more of the emotional, risk-laden aspect, suspicion of humanity–general correlates with perceived Web risk at $+0.28$, while faith in humanity–general correlates with perceived Web risk at only -0.09 .

The MCC98 typology has recently been applied to trust in technology (as opposed to trust in people, teams or organizations). Trust in technology (Muir, 1994) is an important domain for trust because of the pervasiveness, power effects and frustrating potential of technology in organizations today (Zuboff, 1988). McKnight and Thatcher (2004) have proposed and measured eight constructs related to trust in technology: faith in general technology, trusting stance–general technology, situational normality–technology, structural assurance–technology, trusting intention–specific technology, and three trusting beliefs–specific technology: reliability, capability and helpfulness. With these constructs, the direct object of trust is a specific or general technology rather than a person. Because

technologies are human artifacts that lack the same range of attributes as people (for example, no volition), these trusting beliefs differ conceptually from those involving people as trustees. However, they are similar to trusting beliefs in people in that they describe a person's perceptions about the characteristics of the trust object. Other expansions of the typology exist. For example, Galvin et al. (2001) conceptualized and measured trust in a team instead of in an individual. Team member trust in the team itself ratchets up a level from the individual-to-individual trust theorized in MCC98.

Proliferation versus consensus regarding institution-based trust types Whereas a solid consensus is forming on the major types of trusting beliefs, less consensus exists on the types of institution-based trust. While several have cited or used the MCC98 delineation into structural assurance and situational normality (Boyd, 2003; Gefen et al., 2003a; Pennington et al., 2003; Tschannen-Moran and Hoy, 2000), others are using more specific aspects of institution-based trust, such as the perceived effectiveness of escrow services, credit card guarantees, or online feedback mechanisms (Pavlou, 2002; Pavlou and Gefen, 2004). What needs resolution is whether the latter are subsets (subtypes) or antecedents of institution-based trust. A suggestion: if, as in MCC98, structural assurance and situational normality are defined as beliefs that the context contains supportive structures and properly ordered situations, then the above online mechanisms should be viewed as antecedents of these institution-based trust concepts.

Many researchers reference the sociological roots of the situational normality and structural normality concepts (such as Schutz, Simmel, Garfinkel, Luhmann and Zucker) rather than adopting the two MCC98 institutional constructs. This makes for an excellent discussion grounded in rich sociological heritage (for example, see Möllering, Chapter 20 in this volume). It also provides some flexibility in the use of structural or situational constructs that may or may not 'fit' the specific MCC98 definitions (Child and Möllering, 2003; Pavlou and Gefen, 2004). On the other hand, the use of these two specific constructs can be helpful because they delineate the structural assurance aspect of institution-based trust, which is based on trust in supportive institutions such as law and licensing (Shapiro, 1987; Zucker, 1986), from the situational normality aspect, which is based more on phenomenology's 'natural attitude' (Schutz, 1967: 98), constitutive expectancies (Garfinkel, 1963), expected role performance (Baier, 1986; Barber, 1983), and contextual familiarity (Schutz, 1964). The common theme among these latter foundational concepts emerges from situational normality's emphasis on perceptions that the context is favorable, normal, or well ordered, in terms of how the world works, what the binding rules are, what common set of role expectations exist, or some level of familiarity with how things will operate. Thus situational normality is defined broadly enough to encompass several types of phenomenological concepts that differ only in terms of the subject of what is normal or well ordered, not so much in terms of the kind of normality or ordering (see Möllering, this volume). Similarly, structural assurance may be thought of as a generalized comforting belief that reflects the effects of many types of mechanisms that support confidence in contextual actors because they provide safety nets or prevent or redress losses due to opportunism. Our constructs are therefore super-types that encompass more detailed institution-based trust subtypes.

Likewise, structural assurance may be thought of as separate, but related to, calculus-based trust. Calculus-based trust means one projects that the other party has no incentive to act opportunistically and therefore will not. Structural assurance means one believes

structures are in place to support the legal or other contextual sanctions that would enable calculus-based trust to form. Therefore structural assurance may be considered an antecedent of calculus-based trust. That is, mental trust calculations are usually based on institutional structures (often incentives) in the context that leads one to believe that the trustee will or will not behave in a certain way.

A number of studies are following the lead of MCC98 to treat trust as a set of granular, related constructs. Overall, the trust constructs have been expanded to accommodate both trust and distrust, for people and technology. The more the MCC98 terms are used, the more trust types will be researched in an synonymous, instead of homonymous, manner, such that meta-analyses can be done across disciplines. Currently, almost no such trust research meta-analyses exist, perhaps because trust definitions have not been comparable across studies and disciplines (McKnight and Chervany, 2001a).

Interrelationships among the trust types

Trusting beliefs to trusting intentions Several researchers have proposed or discussed links from trusting beliefs to trusting intentions (Kim et al., 2004; Pennington et al., 2003; Stewart, 2003). Several tests of this link have been performed. Ridings et al. (2002) find that trusting beliefs–ability leads to the intention to share information (beta = 0.15 [$p < 0.01$]) and that trusting belief–benevolence/integrity predicts intention to share information (beta = 0.29 [$p < 0.01$]). Jarvenpaa et al. (1998) find ability, integrity and benevolence beliefs to be factors of trust (defined like a trusting intention) in virtual teams, though ability becomes non-significant at T2 and benevolence is non-significant at T1. Pavlou (2003) finds that trust in a Web vendor predicts intention to transact with the vendor (beta = 0.35 [$p < 0.01$]). Pavlou and Gefen (2004) find that trusting beliefs in Amazon's online auction community of sellers is a significant factor for trusting intentions to transact. Galvin et al. (2001) find that trusting beliefs in the team predicts trusting intentions regarding the team in four of four times tested. McKnight and Chervany (2005) find that trusting beliefs–competence and –benevolence in the supervisor are predictors of trusting intention in the supervisor. McKnight et al. (2002b) find trusting beliefs in the Web vendor predicts four trusting intentions in the Web vendor: willingness to depend (beta = 0.60 [$p < 0.01$]), willingness to follow vendor advice (beta = 0.27 [$p < 0.01$]), willingness to share personal information (beta = 0.30 [$p < 0.01$]), and willingness to purchase at the site (beta = 0.13 [$p < 0.01$]). McKnight et al. (2002a) find that a second-order combination of three trusting beliefs (benevolence, competence, integrity) predicts a second-order combination of trusting intentions (willingness to depend, follow advice, give information and make purchases).

Institution-based trust links to trusting beliefs or trusting intentions The social context, including institutional safety sources, is critical to understanding the development of interpersonal trust. Several have proposed or acknowledged that institution-based trust (also called system trust, based on Luhmann, 1979) influences or relates to trusting beliefs or intentions (Tan and Thoen, 2003; Tschannen-Moran and Hoy, 2000). Empirical work supports this theme. Child and Möllering (2003) find that Hong Kong manager confidence in the Chinese institutional context supports trust in a group working within that context. They find that the institutional context builds trust in the local staff in terms of:

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confidence in the Chinese legal system, lack of arbitrariness of Chinese officials, and the availability of Chinese human resources. Together, these three contextual variables explain 27 per cent of the variance in trust. Pennington et al. (2003) find system trust to be a strong predictor of perceived trust in the Internet vendor. McKnight et al. (2002b) find small but significant links from structural assurance to trusting beliefs and trusting intention–willingness to depend in a Web vendor. On the other hand, McKnight et al. (2002a) find no significant link between a second-order institution-based construct (combining situational normality and structural assurance of the Web) and second-order trusting beliefs and intentions in a specific Web vendor.

In traditional organizational research, few besides Lane and Bachmann (1996) and Child and Möllering (2003) have linked these concepts as yet, with these exceptions: Nyhan (1999) finds what he calls systems trust to be correlated at 0.69 with supervisory trust. McKnight and Chervany (2005) find structural assurance–fairness to predict trusting beliefs–competence and –benevolence in the supervisor at $\beta = 0.27$ and 0.41 (both $p < 0.01$), respectively. Galvin et al. (2001) find both situational normality and structural assurance to predict (8 of 12 times) a second-order concept called trusting beliefs in the team.

Pavlou and Gefen (2004) find that three institution-based trust structures affect trust in the community of Amazon auction sellers: perceived effectiveness of feedback mechanism, perceived effectiveness of escrow services, and trust in the intermediary. Pavlou (2002) finds that three forms of institution-based trust affect trust in eBay sellers (perceived monitoring, perceived feedback, cooperative norms), while two do not (perceived accreditation, perceived legal bonds). He argues that the significant links help establish and clarify the link from institution-based trust to organizational trust. This link

has been traditionally viewed as a substitution or complementary relation . . . Sitkin and Roth (1993) argue that ‘legalistic remedies have been described as weak, impersonal substitutes for trust’. Tan and Thoen (2001) posit . . . that trust in a given transaction is the sum of party (interpersonal) and control (institution-based) trust. However, McKnight et al. (1998) argue for a sequential relationship where institution-based trust leads to party trust . . . This study empirically corroborates the latter view . . . (Pavlou, 2002: 234)

Antecedents of institution-based trust Little work has been done on the antecedents of institution-based trust. Tschannen-Moran and Hoy (2000: 560) say institution-based trust is built by ‘formal structures . . . such as having a license or certification . . . or mechanisms such as guarantees, insurance, or contracts’. Tan and Thoen (2003) suggest that contracts create structural assurance. Boyd (2003) says offline firms should take advantage of offline strength to build situational normality. Pennington et al. (2003) tested three antecedents of system trust. Vendor guarantees predicted system trust, but customer ratings and third-party assurance seals did not. This study needs to be replicated to understand the ‘why’ behind the finding.

Several studies have confirmed disposition to trust as an antecedent of institution-based trust. Kaplan and Nieschwietz (2003) find that disposition to trust is a significant factor ($p = 0.002$) of assurance beliefs, which is similar to structural assurance. McKnight et al. (2002a) find that a second-order disposition to trust concept predicts a second-order institution-based trust concept at $\beta = 0.52$ [$p < 0.01$]. Galvin et al. (2001) find that disposition to trust predicts situational normality and structural assurance 10 out of 12 times

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tested. McKnight et al. (2004b) find that three types of disposition to trust (faith in humanity-general, faith in humanity-professionals, and trusting stance) predict either situational normality or structural assurance in five out of six tests.

Other model links from disposition to trust Jarvenpaa et al. (1998) find that propensity to trust (a.k.a. disposition to trust) is a significant factor ($p < 0.05$) of trusting intention at both T1 and T2 for virtual teams. Gefen (2000) find that disposition to trust affects subjects' trust in the vendor (Amazon.com) more (beta = 0.53 [$p < 0.01$]) than does familiarity with the vendor (beta = 0.17 [$p < 0.05$]), showing that disposition predicts trust well when little interaction has taken place. Kaplan and Nieschwietz (2003) find that disposition to trust is a significant factor ($p = 0.012$) of trusting beliefs in a Web company, but is not a factor of trusting intentions to purchase. Ridings et al. (2002) find that disposition to trust predicted trust in the members of the virtual communities' ability (beta = 0.15 [$p < 0.01$]) and benevolence/integrity (beta = 0.18 [$p < 0.00$]). McKnight et al. (2002a) find that disposition to trust predicts trusting beliefs but not trusting intentions. McKnight et al. (2004a) find that disposition to trust was a significant predictor of trusting beliefs and trusting intentions in the Web vendor at two early phases. On the other hand, Koufaris and Hampton-Sosa (2004) find that customer disposition to trust does not affect initial trust in an online company.

One gap in this literature is that very little research has tested all or even most of the trust concept linkages that MCC98 proposes (Figure 2.1). Here are some exceptions. McKnight et al. (2002a) test links between dispositional trust, insitution-based trust, trusting beliefs, and trusting intentions at a second-order construct level and provide fit statistics for the model. Pavlou and Gefen (2004) test links from dispositional trust and institutional trust to trusting beliefs, but do not link dispositional and institutional trust. Galvin et al. (2001) test the full set of constructs, as do McKnight and Chervany (2005). Knowing how all the constructs fit together is an important step towards understanding the complexities that enable effective tips for practice.

Specific processes by which trust develops

Reputation inference process MCC98 posit that reputation inference builds trust in the initial relationship. Reputation has been proposed and tested as a trust antecedent by several researchers. Tschannen-Moran and Hoy (2000) use MCC98 to argue that reputation makes a negative event less likely to reduce a high trust level. Klaas (2003) suggests that initial skepticism can block the development of relational trust, but third-party reputation information can help. Pavlou (2003) finds that Web vendor reputation predicts trust in the Web vendor (beta = 0.30 [$p < 0.01$]). Jarvenpaa et al. (2000) find perceived reputation to predict trust in the Web store. McKnight et al. (2002b) find perceived Web vendor reputation to predict trusting beliefs (beta = 0.39 [$p < 0.01$]) and trusting intention-willingness to depend (beta = 0.41 [$p < 0.01$]). The above studies treat reputation as a measured perception variable. McKnight et al. (2004a) create a reputation advertising treatment and find that it too is a significant predictor of trusting beliefs and trusting intentions in the Web vendor at two early phases (betas = 0.13 [$p < 0.05$], 0.14 [$p < 0.05$], 0.17 [$p < 0.01$], 0.12 [$p < 0.05$]). Using game theory, Ba et al. (2003) explain how reputation awarded through trusted third parties is like taking a hostage - ensuring that participants in an online market

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will be honest. Ba (2001) develops these ideas for online communities as well. However, Ba et al. (2003) also point out the limitations of online marketplaces for enforcing honesty, such as the fact that players can move from one online marketplace to another under different names. Reputation is well entrenched as a trust factor.

Social categorization process In this area, Leanna and Van Buren (1999) say that social capital (including trust) is built through shared values, presumably because of unit grouping categorization. Nicholson et al. (2001) suggest that similarity leads to trust. Duffy and Ferrier (2003: 220) cite MCC98 to argue that ‘those who are “grouped together” (for example, race or gender) tend to perceive themselves in a common “positive light”’. Jarvenpaa and Leidner (1998) discuss how in-group categorization can take place swiftly in virtual work teams. After finding that site quality perceptions had a large effect on trusting beliefs, McKnight et al. (2002b) explain this effect as similar to the what-is-beautiful-is-good effect Dion et al. (1972) found among dating partners – that, in the case of the Web site, first impressions on seeing the site cement either bad or good perceptions of the site and therefore trusting beliefs in the site vendor. This means subjects made inferences that led to placement of the site/vendor into general good or bad categories depending on first impressions of site quality. Similar inferences are made, according to Jarvenpaa et al. (2000: 48), based on the size of the vendor, which implies the seller ‘can be trusted . . . [it] signals that the firm should have the necessary expertise and resources for support systems such as customer and technical services . . . [which] encourages trust . . .’ In organization research, Child and Möllering (2003) found that similarity had no direct effect on Hong Kong manager trust in the mainland Chinese staff. However, similarity did increase the influence of trust-building managerial actions on trust in the mainland staff. In e-commerce research, Gefen (2004) found shared cultural characteristics to be a factor of client trust in the vendor ($\beta = 0.15$ [$p < 0.05$]).

Also, some work has been done on the transfer of trust, a form of in-group social categorization. Transfer of trust occurs cognitively as a consumer associates an unknown Web site with a known, trusted Web site (Stewart, 2003). Stewart explains that this occurs due to perceptions that the Web sites are similar and that they interact, which implies that the trusted Web site legitimates the unknown site. Stewart also finds that trusting intention (that is, intention to buy) transfers from traditional to Web-based shopping channels as consumers see evidence that the Web store has an offline retail presence, a helpful way to contextualize trust-building.

Although two articles cite MCC98 regarding the moderating effects of illusions and assumptions (Kim et al., 2004; Tschannen-Moran and Hoy, 2000), no little empirical work on this has been done to our knowledge. Overall, it appears that much more work needs to be done on both social categorization and illusion.

Juxtaposing the fragility and robustness of trust

Kim et al. (2004) and Boyd (2003) cite MCC98 to support the argument that initial trust is fragile because of the assumption-laden nature of its bases. Little work has been done to test the specific MCC98 arguments for trust fragility or robustness. Oliver and Montgomery (2001) cite MCC98 for having explored the process of trust dynamics. They expand on existing work to create a more complete cybernetic model of how trust progresses over time. The model suggests that trust is enhanced when information about the

trustee is congruent with the trustor's cognitive map of trustworthiness; otherwise, trust may erode unless the trustee provides remedial feedback.

Zaheer et al. (1999) cite MCC98 to suggest that initial trust is by nature fragile. Droege et al. (2003: 51) argue that initial trust is fragile because it 'is a function of conditions – reputations, sanctions, roles, norms, and assumptions – extrinsic to the [trustee]'. Citing Robinson (1996), they suggest that initial trust is fragile in that small violations early in the relationship result in a predisposition to see the trustee as not trustworthy in the future. Trust that develops gradually, on the other hand, is resilient because it is based on affect toward the individual that develops over an interaction cycle, such that small trust breaches are ignored. Child and Möllering (2003) suggest that in places like China, where trust-supporting institutions are still in development, trust built through personal communication is fragile because it is entirely dependent upon the trustor making a leap of faith without structural safety nets.

Almost no empirical work has tested whether initial trust is fragile or robust. This kind of testing would be very helpful. For example, Kim et al. (2004) suggest that because trust is often elevated at first, this provides a platform for it to become even higher through experience. This is possible, of course. But what is also possible is that trust levels could decrease from their initial levels, especially if elevated because of assumptions or inferences that create hard-to-fulfill expectations. It seems critical to explore what circumstances make these upward and downward possibilities more likely. In this way, practical interventions can be recommended.

Some empirical work has been done. The earlier reported work of Jarvenpaa and Leidner (1998) and Crisp and Jarvenpaa (2000) addresses the movement of trust over time, which relates to fragility/robustness. Another paper addressing this topic is Wilson et al. (2000). They measure team member trust (cognitive and affective) at three time periods with different combinations of electronic and face-to-face teams. When groups start in face-to-face (F2F) mode, their trust levels stay about the same. When groups start in electronic mode, their trust levels tend to be lower than F2F groups at T1 and then to increase to F2F group trust levels, increasing at either T2 or T3 or both. Rocco (1998) finds via an experiment that in electronically mediated team communication, trust breaks down, but that it can be restored through face-to-face communication that allows collaborative norms to be established. Rocco also finds that an initial face-to-face session helped establish enough initial trust to have a good experience. More work like the above examples should be done in order to understand what causes trust to change over time.

Ongoing research puzzles and possibilities

Time and fragility

The time issue still looms as one of the biggest unexplored aspects of trust empirical work. Although many theorize about trust fragility (for example, Child and Möllering, 2003; Ring, 1996), very little trust work has been done in a longitudinal way, and even less has been done on trust using process theory methods instead of variance theory methods (Mohr, 1982). This could be done at the organization level, using techniques developed by Van de Ven and Poole (1990). It could also be traced at an individual trustor level, using protocol analysis (Xiao and Benbasat, 2003) or process sequence analysis (Sabherwal and Robey, 1993). For example, cognition about trust is proposed to involve

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attentional and attributional processing (Holmes, 1991). Hence, researchers should test the extent to which people notice trust-related events and make attributions about them. Unless such methods are used, little will be determined about how trust unfolds over time. Therefore, the questions of fragility/robustness and trust progression will largely go unanswered. Also, the questions raised earlier about how the factors of initial trust work over time need to be addressed. This call for work on process theory of how trust develops over time is similar to Child and Möllering's (2003) call to pursue active trust.

Social, rumor and technology effects on trust development

One of the more neglected research areas is the impact of social issues on the movement of trust over time. Rumors have been shown to affect trust (Burt and Knez, 1996). But the effects are complicated. For example, rumors had very different effects experimentally on different agent types (forgiving versus reactive) in the Prietula and Carley (2001) study. It is also possible that individual traits enter the equation, in that negative rumors may be believed more by those with low disposition to trust. More work should be done to understand the combined impacts of individual disposition to trust and institution-based trust on the effects of rumors.

Social contact with those one meets initially can build or solidify trust. In Internet or virtual environments, distance may prohibit such interaction. But can videoconferencing or instant messaging 'chats' compensate for lack of face-to-face interaction (Rosenbloom, 2000)? Under what conditions? Which type of proxy contact works best? This needs to be researched.

Trust factors: a complex, interconnected network

The trust typology increases the complexity of the issue of whom we trust. For example, in trusting e-commerce sites, are you trusting the site itself, its information, its designers, or the designers' employers (Rosenbloom, 2000)? And which of these objects of trust matters the most to success in electronic vending? The interrelatedness of the trust types introduces the question of whether we are measuring the right one. For example, America is finding out through recent corporate meltdowns that confidence in the stock market and a particular stock is founded on trust in a behind-the-scenes network of interrelated players that include the company's board and management, its internal and external auditors, the SEC (Securities and Exchange Commission) and other enforcement officials, industry-specific regulators, and the stock brokerage units. Each of these building blocks of investor trust is typically taken for granted until it shows signs of weakness. But as in a house of cards, each structural support may represent a key building block on which others depend. If any block fails in its fiduciary duty in a way that casts aspersions on the overall market institution, the stock market can, like a house of cards, collapse. Similarly in organizations, based on the initial trust model, the overall object of trust may involve a complex, interrelated network of general others, protective procedures, a given situation, individuals, teams, support groups, various levels of supervisors/managers, boundary spanners and respective vendors, all interacting and interactive. Knowing which component affects which other components has not been researched to any great extent.

Interest in trust or in one of the supports behind trust can shift in an ironic manner. Like water, the need for trust is not noticed until it becomes scarce in an environment. For example, trust research burgeoned in the e-commerce domain simply because the absence

of trust-supporting structures was felt. This idea applies to the strength of different antecedents of trust. The greater the need, or lack of, the trust antecedent, the greater its significance in predicting trust. As an example, Child and Möllering's (2003) study of Hong Kong manager trust found that because of the dearth of institutional supports in China, the contextual confidence variables were more powerful predictors of trust in their mainland China staff than were specific managerial actions to build trust, such as establishing personal rapport and recruiting locally. Similarly, in e-commerce, disposition to trust became a key antecedent to consumer trust in the e-vendor because of the perceived lack of institutional supports of, and experience with, the Internet. This exposes a lack of robust theory on how the network of trust factors can shift.

The nomological network within which the MCC98 constructs operate is beginning to be defined. Here are a few more examples. Jarvenpaa et al. (2000) relate trusting intention in the Web store to both perceived risk of the transaction and attitude toward the Web store. More work relating trust and distrust to risk is needed. Gefen et al. (2003a) and Pavlou (2003) relate trusting beliefs and trusting intentions to perceived usefulness and perceived ease of use constructs from the Technology Acceptance Model (TAM). McKnight et al. (2002a, b) relate the trust constructs to personal innovativeness, site quality, Web experience and Web risk. These extensions are important in terms of seeing how trust constructs work among other useful constructs. Obviously, much more could be done.

A few have researched the complex interplay between Zucker's (1986) process-based (personal interaction-based), social characteristics similarity-based, and institution-based trust factors (Gefen, 2004; Lane and Bachmann, 1996). Zucker argued that institution-based trust-building factors substituted for the other two types in America over time. The latter two are found in the MCC98 model in terms of in-group categorization and structural assurance. Lane and Bachmann (1996) found all three factors at work among British and German buyer and supplier firms, as did Gefen (2004) in customers of enterprise software packages. Gefen found process-based to be the strongest of the three factors. This is an area needing much more research to bring forward contextual reasons for the salience of one trust factor over another.

Distrust versus trust

The distrust area needs much more work. Something is known about the impact of disposition to distrust, but not much else is known. This is important to pursue, for example, because McKnight et al. (2003–2004) find dispositional distrust to predict different constructs than does dispositional trust, and because Xiao and Benbasat (2003) find that customers formed both trust and distrust as they interacted experimentally with a recommendation agent. It is not known whether distrusting beliefs influence trusting intentions or whether they just influence distrusting intentions. It is not known what institution-based distrust influences or how its effects differ from the effects of risk constructs. Researchers should also see which has a greater effect on key outcomes over time – trust or distrust variables. Very little is known in this regard.

Methods and measurement

As MCC98 challenged, researchers should examine different combinations of research methods in order to capture more fully the nuances of the trust phenomenon. For example, the effects of dispositional and institution-based trust on the actors in

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a trust-related situation have been examined in a questionnaire methods venue, but not in an experimental one. Rather than trying to manipulate these, why not measure them while manipulating other variables, in order to see whether they have an impact on whatever is of interest in the experiment? This would answer the call of Kee and Knox (1970) to try to understand the mental states of those being studied in the laboratory instead of merely examining the resultant experimental behaviors.

Gambetta (1988) asked a question that focuses on an ongoing trust issue: can we trust trust? Likewise, Tan and Thoen (2003) suggest that you have to determine the trust or confidence you have in a structural assurance in order to determine how much it will affect trust. This second-order issue needs to be addressed both conceptually and through proper measurement. Conceptually, work should be done to better link trust and feelings of confidence or security in that trust. Our definitions of trusting intentions and trusting beliefs above constitute a start. Following Povey (1999), we suggest that the trust level could also be measured in two steps: the raw scale score (for example, on a 1–5 Likert scale), and confidence in that score (a second scale). This would provide a way to assess the strength or hardness of the trust expressed, which is currently lacking. An interim step would be to build into the items words that convey how strong one feels about the trusting belief or intention, as Rempel et al. (1985) did.

Applying the model to distant relationships

Initial trust arises due to the newness of the relationship – but the same principles may apply when the social distance of the relationship is great (Shamir, 1995). That is, initial trust appears most applicable in what might be called ‘distant relationships’. Perhaps one reason initial trust principles work for e-commerce and virtual teams is because of the social distance between players. Similarly, employee trust in senior management, since it is more socially distant due to lack of interaction, may be another fruitful field for applying initial trust. Another socially distant venue might be public trust in politicians, government (Nye et al., 1997), or other public officials or bodies (for example, the IRS – Internal Revenue Service) with whom most people never interact in person. Cultural differences between countries also create a kind of social and ideological distance, providing yet another fruitful domain for exploring the efficacy of initial trust-building principles. Very little cultural differences work has been done regarding initial trust-building.

Conclusion: the progression of initial trust research

Overall, the research trajectory based on MCC98 is moving forward. Empirical evidence continues to mount that trust often begins at a medium or high level, calling into question models of gradual or incremental trust progression. The specific trust types proposed in the original model are being validated through a number of measurements. Orderly extensions to the typology have been made, in terms of new trust constructs, corresponding distrust constructs, and constructs representing trust in technology. More researchers are using common trust terminology, making comparisons among studies more feasible than before. The links among the factors in the model are being tested (and largely confirmed) in both organizational and e-commerce domains, and the position of trust variables in wider nomological networks is being charted.

As explained in more detail above, many empirical and certain theoretical gaps remain, and much additional research is required to understand the developmental nature and

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progression of initial trust. Four particular domains that need much more research are: the fragility and robustness of trust, the key interplay between trust and risk, the tradeoffs among competing trust factors across conditions and time, and how and why trust and distrust progress from one level to another as parties interact over time.

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