Trust is Complicated

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Trust is Complicated:
looking through a Service Dominant Logic, Complexity Theory Lens

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Summary

Trust has generally been presented in the literature as a phenomenon derived through cognitive and affective processes, and developing within specific, defined stages of a collaborative relationship. This process perspective has been enhanced through viewing relationships as interactions and exhibiting downwards competence trust spirals and trust-building loops. Service Dominant Logic positions value creation as central to ongoing interactivity between customers (individual buyers or client organisations) and providers. Framing trust within this interactivity, we offer a complexity explanation of trust as a self-organising, adaptive phenomenon, self-organising as a consequence of each interaction, and adapting in response to trust experiences and knowledge external to the relationship.
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Introduction
In both goods and service industries, companies have recognised the importance of developing and maintaining long term relationships with customers in both B2B and B2C contexts. Research has established that ongoing relationships between customers (individual customers or client organisations) and providers underpin value exchange and are a source of competitive advantage (Woodruff, 1997). Consistent with this principle, provider organisations are increasingly engaging with individual customers or client organisations as they consume value which is delivered as various combinations of goods and services.

Support for moving from Goods Dominant logic (GDL) to SDL has grown rapidly over the last 10 years. Service Dominant Logic (SDL) represents an evolution in marketing thought, moving the focus from managing markets to value co-creation through collaboration between customers and providers. Under SDL, the organising tenet of the firm’s engagement with its market is the process of value creation rather than the market or physical good or service (Michael, Vargo and Lusch 2008). SDL provides a theoretical framework for value exchange, consumption and co-creation and is founded on the premise that service, i.e. “the process of using one’s resources for the benefit of another entity”, is the fundamental basis of exchange (Vargo and Lusch, 2008, p.2). More specifically, a service-dominant logic emphasises relationships in which value is co-created through the integration of resources, particularly operant resources (skills, knowledge, competencies and capabilities), which are located in both the customer (client organisation or individual customer) and the provider, thus revealing the potential for the customer’s active role as a value co-creator (Vargo and Lusch, 2008). Researchers have argued that a provider organisation will embrace the importance of the role of a customer in value co-creation after gaining an in-depth knowledge of the skills and capabilities of individual customers or client organisations (Payne, Storbacka & Frow, 2008, p.86). Further, it has been argued that once this knowledge has been acquired, the integration of operand (economic, physical and/or natural resources) and operant resources in co-creating value will occur (Edvardsson, Tronvoll & Gruber, 2011; Vargo & Lusch, 2004).

Following Edvardsson, Tronvoll and Gruber’s (2011 p. 327) view that “value co-creation is shaped by social forces, is reproduced in social structures, actors learn and change their roles within dynamic service systems”, we posit that interactions between the consumer and provider (relationship actors) will define and redefine trust within the social structures of an evolving relationship, which will subsequently influence the extent and nature of value co-creation. As trust is the central, organising tenet of relationships (McEvily, Perrone and Zaheer, 2003), it is therefore timely to offer a theoretical representation of trust that is consistent with this interactive context.

Complexity theories have increasing been applied as metaphors for understanding the emergence of phenomena in social and business contexts (Morel and Ramanujam, 1999; Boisot and Child 1999; Stanley, 2009; Jarratt, Bosomaier and Thompson, 2007). We support...
Medlin’s (2004) notion of relationships as interactions, and trust within those relationships as dynamic and emergent. Drawing on these properties, our objective is to extend current process and cyclical explanations of the phenomenon of trust through employing a complexity theoretical lens. Here we are using the term ‘theory’ to mean “an attempt to bind together in a systematic fashion the knowledge….of some particular aspect of the world of experience” (Honderich, 1995). Through reviewing the extant literature, we first explore the process view of trust and then offer an explanation of its dynamic and cyclical properties, which are interpreted within the customer/provider interactive context of the social system of value co-creation. We then present key concepts from complexity theories that collectively advance current theoretical explanations of trust. Conceptualising trust within SD logic is inherently compatible with theories of complexity, as SD logic and complexity both focus on the dynamism of interactive systems and emergence (Vargo and Lusch, 2004; Edvardsson, Tronvoll and Gruber, 2011; Kramer, 1999).

Current Conceptualisations of Trust

In individuals, the decision to trust is based on complex neurological processes. Dimoka (2010) revealed that trust is associated with different areas of the brain, noting that expectation of a reward activates the caudate nucleus and putamen areas of the brain, uncertainty activates the orbitofrontal cortex while co-operative intentions activate the anterior paracingulate cortex. Benevolence, (i.e. concern for another’s welfare) was associated with the emotional areas (limbic system) and found to influence the cognitive evaluation of economic and social rewards.

A Process View of Trust

Rousseau et al. (1998, p.395) defined trust as: “a psychological state comprising the intentions to accept vulnerability based upon positive expectations of the intention or behaviour of another”. Trust is inextricably linked to situations characterised by uncertainty and the risk of dependence (Kramer, 1999). Risk arises as a consequence of the lack of knowledge about value performance, the intangible nature of value, and another’s motives, skills and potential actions (Coulter and Coulter, 2003; Huynh, Jennings and Shadbolt, 2006; Kramer, 1999; McKnight, Cummings and Chervany, 1998). Uncertainty occurs as a consequence of the belief by a customer that a provider may behave in a way that will impact negatively on them (Fichman, 2003). Trust is important therefore in a purchase and consumption context as customers accept vulnerability, taking a ‘leap of faith’ as they depend on providers to act benevolently.

The development of trust has been referred to in the literature as process-based (Grayson, Johnson and Chen, 2008; Khodyakov, 2007). This process acknowledges an individual’s dispositional trust (or a firm’s trust strategy) as a precondition to calculating trustworthiness i.e an individual’s or organisation’s assessment of the risk inherent in trusting another (Figure 1). As value and the social process of the relationship interaction around value co-creation are experienced, cognitive trust and affect based trust value are established through assessing performance against expectations.
Figure 1: Trust as a process

Disposition to trust

The initial decision to trust another reflects either individual’s disposition to trust (McKnight, Cummings and Chervany, 1998) or a client or provider organisation’s decision to trust a provider or client organisation, respectively, (reflected through a ‘trust’ strategy) to achieve their objectives. Disposition to trust defines the extent and nature of an individual consumer’s (relationship participant’s) willingness to trust others in general, even with limited information about the other relationship actor (Rotter, 1980; Mayer, Davis and Schoorman, 1995). However, dispositional trust continues to emerge throughout an individual’s life-time, being influenced by early environment, interaction experiences, psychological tendencies, and risk orientation (Hatzakis, 2009; Grayson, Johnson and Chen, 2008; Tan and Sutherland, 2004) (Figure 1). Individuals with high levels of dispositional trust are more willing to place their trust in others, without any guarantee that their generosity will be reciprocated.

In an organisational context, dispositional trust (i.e. willingness to accept the risk and uncertainty of relying on other organisations or individual customers) will be a) defined by an organisation’s relationship strategy guiding the extent and nature of acceptable risk exposure through relationship formation, thus defining acceptable levels of trust (referred to in Figure 1 as ‘trust strategy’) and b) operationalized through an organisation’s relationship management capability where the infrastructure and social processes underpinning that capability are critical for leveraging the knowledge, skills and other assets that comprise stakeholder-based resources that support value co-creation (Kelly and Amburgey, 1991; Law, Wong and Mobley, 1998; Gold, Malhotra and Segars, 2001; Jarratt, 2009; Sunikka, Peura-Kapanen and Raijas, 2009).

Calculating trustworthiness

Having established ‘faith in humanity’ (individual) or a relationship strategy (client or provider organisation), an individual or organisation then determines ‘willingness to trust’ or
‘trustworthiness’ through evaluating the potential risks and rewards associated with developing an exchange relationship (calculative trust) (McKnight, Cummings and Chervany, 1998; McKnight, Kacmar and Choudhury, 2004). The term calculative trust is derived from economics, and implies that trust is based on rationally calculated rewards that are expected to result from the relationship (McKnight, Cummings and Chervany, 1998; Lewicki and Bunker, 1995). Although the terms calculative trust and cognitive trust have been used interchangeably (for example, Luo, 2002), we have termed trust in the early relational stage “calculative” following Bachmann and Inkpen (2011 p. 294) explanation that “a (potential) trustor takes a relatively calculative approach in the early stages of relationship”. Trust based on calculations regarding risks and rewards reflects a conscious decision to trust. If it is anticipated that costs will outweigh the benefits, one party may choose to act opportunistically and violate the calculated trust. This is more likely to happen early in relationships where knowledge trust is low and mutual goals are yet to be established (Jap and Anderson, 2007; Noteboom, Klos and Jorna, 2001).

In a business-to-business context, expectations may be formalised in a written contract, reflecting a form of institutional trust. That is, actors will trust in formal and legal documentation, in institutions’ reputations, valued referrals and in the legal system designed to prevent and punish untrustworthy behaviour (Grayson, Johnson and Chen, 2008; Huynh, Jennings and Shadbolt, 2006). Institutional trust can be viewed as a mechanism for mitigating risk (Luhmann, 1979) especially when customers “need to trust strangers” (Khodyakov, 2007, p.118). Apart from these mechanisms, the decision to trust can be based on networking with existing customers, information in the media or direct experience of interacting with other, similar institutions (Khodyakov, 2007; Huynh, Jennings and Shadbolt, 2006; Hartnett and Travaglione, 2004). Individual customers or client organisations and providers may also rely on group membership in establishing trustworthiness (Dervitsiotis, 2006; McKnight, Cummings and Chervany, 1998). For example, a customer will attribute positive characteristics to company’s representative who is a member of the same group (e.g. golf club, university) (Kramer, 1999) and anticipate altruistic and fair behaviour toward in-group members (Foddy, Platow and Yamagishi, 2009), while a client organisation may rely on certification membership of a provider. In other words, buyers and providers categorise each other based on established commonalities. Categorisation refers to the process of classifying trustworthiness of individuals and organisations according to principles, such as likelihood of achievement of goals and positive affect (Brosch, Pourtois and Sander, 2010, p.379).

From a SDL perspective, in a purchase and consumption context, customers develop expectations about the value to be provided and the relationship’s economic and social outcomes based on the risk mitigation strategies outlined above (Dimoka, 2010). Expectations will change in response to the actual experience that either validates or discredits those expectations (Kramer, 1999) and consequently affect the willingness of the customer to engage in value co-creation.

**Cognitive trust**

Cognitive trust (relating to assessment of a customer or provider’s skills and competencies in a specific area) is developed as a consequence of assessment of a customer or provider’s anticipated versus actual behaviour and performance, while affect-based trust is based on more emotional motives (McAllistier, 1995). Cognitive trust relates to the calculative and instrumental assessment of actual costs and benefits of trusting (Chua, Ingram and Morris, 2008; McAllister, 1995; Lewicki and Bunker, 1995). Each partner will allocate importance
and weight to specific components of the cognitive process, based on beliefs and perceptions as well as socially developed expectations (Kramer, 1999).

However, cognitive trust, as a component of human psychological processes, may not reflect a ‘true’ assessment of competence, but be biased as a consequence of “information processing programs that are activated by perceptions of our environment” (Pierce and White, 1999, p.843). The important aspect of this definition is that trust involves a subjective and potentially biased perception of another’s intentions, motives and competencies (Hatzakis, 2009; McEvily, Perrone and Zaheer, 2003; Kramer, 1999; Mayer, Davis and Schoorman, 1995). Consequently, both individuals and organisations will make unique assumptions and predictions about another’s trustworthiness which will be incomplete and perceptually biased (McKnight, Cummings and Chervany, 1998).

In the initial stages of a relationship, trustworthiness is based on these incomplete assumptions and perceptions, which makes trust initially extremely fragile (Kim, Dirks and Cooper, 2009). However, in later stages of a relationship, assessment of trustworthiness is based more on empirical evidence (McAllister, 1995). Individual customers and client organisations adapt their perceptions of a provider’s trustworthiness as they experience value and undertake value co-creation within an emerging relationship. That is, the actual outcomes of a trusting relationship feed back into, and influence, the perceived trustworthiness of the partner at the next transaction. As relationship partners collaborate over a period of time with positive performance outcomes, they develop knowledge based trust, reflecting each actor’s predictability, reliability and dependability (Lewicki and Bunker, 1995). Cognitive trust can further evolve into identification based trust revealing partners’ perceptions of shared values, commitments, personal qualities and skills (Lewicki, Tomlinson and Gillespie, 2006), with actors exhibiting common values and ethical standards, and creating norms of behaviour that facilitate the achievement of shared goals (Mahmud, 2009).

However, for cognitive trust to continue to strengthen, partners must demonstrate behavioural reliability, that is, act in ways that reinforce trust. Mayer, Davis and Schoorman, (1995) confirmed that positive outcomes enhance the customer’s (or client organisation’s) perception of a provider’s ability, benevolence and integrity and that negative consequences of trust experiences may lead to a decline in perceived trustworthiness, and the end of the relationship. Further, it has been established that events that negatively impact on trust are more visible, noticeable and carry more weight in judgment than trust-building events of comparable magnitude (Kramer, 1999).

**Affect-based trust**

Affect-based trust differs from cognitive based trust as it is grounded in socio-emotional processes i.e emotional concern for partner’s wellbeing, “empathy, rapport and self-disclosure” (Chua, Ingram and Morris, 2008, p.436). Emotional processes strongly influence perception, and consequently behaviour (Brosch, Pourtois and Sander, 2010). Each person adapts their emotional response to a given situation in terms of behaviour, action and change in subjective feeling (Brosch, Pourtois and Sander, 2010). In addition, Fichman (2003) explained that emotions facilitate decision making and act prior to cognition as a commitment device. Emotions generate the relationship atmosphere in both B2B and B2C environments which influences assessment of trustworthiness as well as processes and outcomes of the relationship (Medlin, 2004).
The interactivity between affect-based and cognitive trust has been evidenced widely in the literature. For example, likeability been demonstrated to have a positive impact on the assessment of trustworthiness (Wood, Boles, and Babin, 2008). Further, benevolence (i.e. a determination to avoid opportunism), a characteristic of cognitive assessment of trustworthiness, has also been found to also influence the affective component of trust (Dimoka, 2010). Benevolence is strengthened though the emotional bonds between customers and providers that lead to development of closer relationships (Law, 2008). Over time a provider’s motivation to support the customer’s best interest (benevolence) will be assessed within the myriad of social and business processes that emerge to operationalise the relationship (Dimoka, 2010; McAllister, Lewicki and Chaturvedi, 2006). These findings illustrate the interaction between cognitive and affective process as trust is experienced, with trust being constrained by cognitive abilities and empowered by the affective nature of the relationship (Medlin, 2004).

SDL argues that socio-psychological dynamics are reflected in the numerous interactions between customer and provider as a consequence of value experienced and co-created as participants share and synchronise their perceptions and expectations about the relationship and its outcomes. Trust influences customer and provider actions through accommodating misunderstandings, conflicts and expectations to preserve trust in the relationship, and leads to sharing information, and investing in shared resources (Sánchez, Vijande and Gutiérrez, 2010), which are important for continuing the process of value co-creation. Having outlined the trust process and established the interactivity of cognitive and effective processes, we now examine the dynamic and cyclical nature of trust.

Trust as a dynamic, cyclical phenomenon

The trust literature has been developed around conceptualisations of trust as a psychological phenomenon (i.e. a state of mind) and as an institution-based phenomenon existing within an advanced socio-economic system (Lewicki, Tomlinson and Gillespie, 2006). The authors explain how, under this later perspective, trust alters as formal procedures and responsibilities protecting cognitive trust are eventually replaced by relational trust, which materialises as actors experience the relationship.

Several authors have challenged the idea of relationships following distinct phases. Haslberger (2005) explained how a relationship can regress to a previous stage of development or terminate in any stage, thus blurring the boundaries between relationship stages (Jap and Anderson, 2007; Ring and Van de Ven, 1994; Dwyer, Schurr and Oh, 1987). Further, Medlin (2004, p.189) warned that a predetermined life cycle metaphor for relationships in a business context should be viewed critically “for there is no unique, internal intrinsic code driving all or even most relationships”.

Increasing one’s vulnerability to opportunistic behaviour is, according to Jeffries and Reed (2000, p. 873), “beyond rationality”. However, Prisoner’s Dilemma games provide some insights on the dynamics of trust. These games are typically used as a model to observe social and economic interactions between individuals, as strategies to cooperate and strategies to defect are employed (Lindgren, 1995). As Lewicki, Tomlinson and Gillespie (2006, p. 995) observe: “In game situations, trust is indicated by cooperative moves by the participant (paired with a counterpart in an interdependent task involving risk)”. A particular finding of these games is that the rational strategy to defect (i.e. act non-benevolently) leads to the least
profitable outcome for both players. However, if both players decide to cooperate they achieve the optimal outcome. This finding led to Kahn and Murnighan’s (1993, p.107) observation that “models assuming complete rationality are inadequate”, since players collaborate when “no cooperative equilibria exist.”, while Fichman (2003) concluded that willingness to trust strangers is an outcome of biological and cultural evolutionary processes.

Theory of repeated games also offers explanations of the dynamics of trust, and how relationships become stable or unstable (Kreps, 1990). In repeated games, players have the opportunity to establish social history, to make predictions about each other’s behaviour and to decide whether they are going to trust and collaborate or choose to follow self-interest and defect from a relationship. This can in turn modify future behaviour since outcomes from these decisions influence each player’s cognitive processes. Therefore, cognitive processing of outcomes following trusting behaviour can lead to changes in future trust and trusting behaviours of both relationship actors, and impact positively or negatively on the performance of their relationship (Vangen and Huxham (2003 p.11).

From their study of collaborative relationships, Vangen and Huxham (2003) offered a practice-oriented theory of a trust-building loop, in which trust builds incrementally, through exchange experience, into a virtuous circle. Further, Newell and Swan (2000 p. 1318-1319) in their interrogation of a university research network exhibiting low commitment, spoke of a downwards competence (cognitive) trust spiral “developing its own momentum” as a consequence of cognitive processing of outcomes following trusting behaviour. Interestingly, where a personal relationship existed, cognitive trust was offset by an increase in companion (affect-based) trust.

Trust underpins knowledge and resource sharing, and trust reinforcement through positive trust experiences is fundamental to value co-creation (Sunikka, Peura-Kapanen and Raijas, 2009). Provider organisations following SDL place great emphasis on developing and strengthening relationships with customers/client organisations as value is consumed and co-created. However, attaining consistency of quality in interactions with customers is a complex matter since trust within relationships is tenuous and subjective. In addition, changes in the market in terms of development of new products, and cost reductions present a constant temptation for customers to defect and profit from engaging with competitors.

Medlin’s (2004) view of relationships as interactions, the Theory of Repeated Games, downwards competence trust spirals and the concept of trust-building loops all support the notion of trust in business relationships as perpetually dynamic as opposed a clear, linear transition from one stage to another (Jap and Anderson, 2007). Consequently, even after the initial interactions, trust development continues to be a fragile and vulnerable process that can be influenced by relationship experience and external forces encouraging opportunism (N’Goala, 2010; Coulter and Coulter, 2002; Gounaris and Venetis, 2002; Kramer, 1999). Figure 2 presents the B2C perspective of trust as a dynamic phenomenon. Replacing the construct defining ‘change in customer dispositional trust and perceived ability, integrity, likeability and benevolence of the provider’ with ‘change in client organisation trust strategy and relationship management capability’ offers the dynamics of trust in a B2B context. Although the model presented in Figure 2 captures trust dynamism within a specific relationship, it is silent about the impact on trust of experiences external to that relationship and fails to explain the ‘edge of chaos’ experiences of relationship interactions as trust moves far-from-equilibrium, lying “between order and disorder” where complex phenomena tend to
gravitate (Kuhn and Woog, 2007 p.189). We now look to complexity theory to provide theoretical insights on trust as it emerges in this broader space.

**Figure 2**: Trust as a dynamic, cyclical phenomenon facilitating value co-creation

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**Complexity Theories (CTs) as a Metaphor for Trust**

Engaging with complexity theory in an organisational context can be approached through:

a) a scientific, systems theory perspective and utilising simulation methodologies;

b) a constructivist approach based around language, discourse analysis and process approaches; or

c) an abstracted complex adaptive systems, communicative interactive perspective with lived experiences creating ever moving reference points (Johannesson and Kuhn (2012, p. xiii).

Under this third approach, complexity thinking captures the interacting, self-organising and emergent properties of phenomena, challenges the “mechanistic ideas that have dominated sense making in the social sciences” and recognises that “individuals and organisations (are) …not reducible to components parts (which are).. forever influencing and being influenced” (Johannessen and Kuhn, 2012 p. xxv-xxvi).

Theories of complexity are therefore useful vehicles through which to theorise the emergent properties of trust, and also the actors and their interactions that define the trust space. That is, complexity theories offer explanations of trust and the relationships within which trust is operationalised as a complex phenomenon that evolves through partners’ experiences within and outside a relationship (Mahmud, 2009). According to Kramer (1999, p.575) partners gain information about each other’s trustworthiness based on their “interactional histories”. Building on this information, partners develop expectations about each others’ future behaviour. With every new experience, partners update their expectations “to a degree proportional to the difference between this experience and the initial expectations” (Kramer, 1999, p.576). Thus, Complexity Theories (CTs) and Theories of Trust exhibit two common, important features: there are large numbers of interacting elements that change through the
interaction, and new forms emerge over time, which are not predictable from the elements themselves.

Complexity in a relationship between a customer and a provider emerges from non-linear feedback systems (Stacey, 1995). Clearly, actions of each of these actors have consequences for the other actor who then responds, influenced by and influencing the first actor (Stacey, 1995). Non-linearity of their interactions emerges as a result of their perceptual biases that lead to various, often unpredictable reactions. Feedback systems are influenced by the interactional history as actors adopt norms of behaviour and agree on relationship goals (Stacey, 1995). However, unpredictability arises as a result of changes in each actor’s cognitive processing (schemas), behaviour and reaction to changes in the environment.

Complexity theories recognise that interactions between actors create the social processes through which outcomes such as value co-creation occur (Medlin, 2004). During these interactions, various events take place. Certain events, not all, will impact on one actor’s perceptions, expectations and perspectives about the nature of possible future interactions with the other actor (Medlin, 2004). Consequently, the changes that take place will impact on the emergence of trust within the relationship, thus influencing the extent and nature of value-co-creation.

The term ‘Complexity Theory’ embraces a number of theories, each independently explaining different aspects of complexity. Complexity can be understood by looking for patterns that reflect emergent behaviour of a system as it undergoes transition between equilibrium points through adaptation and self-organisation (Dooley, 1997). Complex adaptive systems are: "...composed of interacting agents following rules, exchanging influence with their local and global environments and altering the very environment they are responding to by virtue of their simple actions" (Sherman and Schultz, 1998, p.17). We also know that as a consequence of any change or conflict, the relationship between actors will self-organise towards security and equilibrium rather than support change (Houchin and MacLean, 2005). In applying these ideas to the phenomenon of trust, we capture the myriad of interactions underpinning how trust is reflected in the relationships of actors. Complexity theory also recognises that the adaptation of trust by one relationship actor changes the nature of the relationship itself, i.e. the environment in which trusting behaviours occur. We introduce complexity by explaining two widely applied theories: adaptation and self-organization.

**Adaptation**

Adaptation captures the emergent nature of the ongoing engagement between actors and their environment. Trust adaptation will occur through experiences or events external to a specific relationship such as lived experiences of one relationship actor with consumers or providers external to the relationship, or information flowing through media, consultants or consumer groups, or changes in legislation. As a response to changes in knowledge about relationships either experienced or learnt through the experiences of others, or other changes in the environment, a customer or provider may change dispositional trust or trust strategy, trust behaviour or the relationship structure, thus influencing perceptions of trust by the other relationship participant, and provoking a response (Haslberger, 2005; White, Marin, Brazeal and Friedman, 1997). Consequently, adaptation to influences external to the relationship will inherently affect the extent and nature of trust in a relationship between a customer and provider.
Individuals and organisations (referred to as actors) adapt to their environments as a means of achieving desired goals and increasing future benefits (Anderson, 1999). Realisation of benefits for each actor in a relationship is therefore tied to other market participants and the choices these other market participants make and the behaviour they exhibit. Adaptation in a business relationship can enhance or diminish trust and commitment between the partners (Hallen, Johanson and Seyed-Mohamed, 1991). This is especially the case when an actor subsequently responds to perceived changes in the other actor’s needs, goals and preferences. Thus, responding to accommodate each other’s perceived needs will lead to adaptation of trusting behaviour between partners, and will be reflected through strategies employed to address dissonance between partners (Medlin, 2004). Again, Figure 3 presents a B2C perspective. Replacing the construct ‘change in customer dispositional trust and perceived ability, integrity, likeability and benevolence of the provider’ with ‘change in client organisation trust strategy and relationship management capability’ offers a B2B perspective.

**Figure 3:** Trust as a Complex Adaptive Phenomenon

Adaptation to external conditions can cause complex and unpredictable outcomes in terms of changes in trusting behaviour and relationship outcomes as well as changes to the external condition (Hallen, Johanson and Seyed-Mohamed, 1991). Relationships or events external to a relationship between a customer and provider may influence the customer’s or provider’s willingness to trust or trust strategy, thus changing the nature of C/P interaction experiences (including value co-creation). Adaptation in the dimensions and/or intensity of trust in either C or P (Figure 3) as a consequence of engagement with the external environment will consequently influence the commitment and willingness of one actor to engage in value co-creation, stimulating an adaptation in trust behaviour of the other actor. Trust may be broken and a new provider sought, or performance may be rationalised as a consequence of an unanticipated action by the provider, and trust maintained. This adaptation of trust within C/P to changes in an external relationship or an event will therefore subsequently change the external environment. However, trust will deepen when positive experiences external to the C/P relationship consistently reinforce ‘a priori’ states.
Although adaptation of trust is grounded in each partner’s experiences and expectations about future events outside the relationship (Medlin, 2004), changes in the environment may be unexpected, and beyond an agent’s scope to respond in an organised, rational and planned manner (Stacey, 1995). In addition, responding to various environmental constraints and challenges requires willingness and knowledge as well as appropriate resources. Thus, the process of adaptation can be hampered by inertia, ignorance, fear of change, and/or inadequate resources (White et al., 1997; Stacey, 1995). In these circumstances, agents are unable to envision future outcomes of their actions and interactions.

Furthermore, the adaptation process depends on the nature of a presented challenge. Small challenges usually lead to adaptation that does not have a major impact on trust, but demanding challenges may have a catastrophic impact (Haslberger, 2005). As a consequence of external forces, the development of trust between a customer and a provider may be significantly changed, depending on how the forces facilitate or hinder trust development. This implies that adaptation is not a fully conscious, strategic process, but a rather unpredictable process that leads to emergent outcomes. Emergence and unpredictability of the adaptation process is further influenced by self-organisation, another theory of complex systems.

**Self-organisation**

Self-organisation is a dynamic process through which a system spontaneously becomes increasingly more organised over time (Ashby, 1947). The process of self-organisation occurs through non-linear interactions, with no control or direction by either actor. For example, each interaction in a specific customer-provider relationship will create some change and redefine trust between actors. Although it cannot be controlled, Dooley (1997) argues that this process will be influenced by the extent and nature of actors’ shared values and purpose.

Self-organisation of trust occurs through the nature of the exchange of information, collaboration and rich interactions between partners (Ugarte, Agirre and Juaristi, 2009). More specifically, self-organisation of trust can be seen as a consequence of each partner’s interpretation of the reality of interactions. It is this that moves trust away from its initial equilibrium, leading to enhanced or diminished co-creation of value. Interpretation of reality is a function of an individual’s goals and needs as well as their ‘schema’ or mental framework that represents some aspect of reality. Each actor’s schema is rationally bounded and based on incomplete information, values, assumptions and general attitudes (Dooley, 1997). Change in any of these attributes can lead to a change of the schema, as each actor learns from, and experiences, the relationship.

Each actor has a number of different schema which determine their interpretive system and shape decisions about appropriate behaviour and action (Anderson, 1999; Dooley, 1997). For example, as an actor observes and interprets relationship interactions, that actor can take action to fit the observation with the existing schema or can change the existing schema to fit the observation (Dooley, 1997). Dooley (1996, p.3) argues that “within an agent, schema exist in multitudes and compete for survival via a selection-enactment-retention process”. An agent’s schema will guide trusting behaviour, and provide rules for trusting, thus shaping the perception of another’s trustworthiness. As the schema changes, so does the partner’s trusting
beliefs and behaviour, consequently impacting on the strength of the relationship, the nature of collaboration and future value co-creation.

Trust constantly realigns and adjusts as the perceived trustworthiness of a partner is reassessed at each interaction (McEvily, Perrone and Zaheer, 2003). Based on each partner’s interpretative schema, trustworthiness is constantly re-established in a process of attributing the causes of one actor’s behaviour to the other’s schema of trust-related characteristics (Sunikka, Peura-Kapanen and Raijas, 2009; McKnight and Chervany, 2001). This process may be more or less effective, depending on the perceptual accuracy of a customer’s assessment of a provider’s trustworthiness (Hatzakis, 2009). Change in perceived trustworthiness of the partner is captured through the dynamics of processing and interpreting new information. This process affects behaviours, cognitions and emotions (Haslberger, 2005). Thus, self-organisation of trust will depend on an actor’s willingness to change views about another actor’s trustworthiness given new information (Fichman, 2003). That is, each actor will adapt their views and expectation as a consequence of actual events and behaviour. The optimal balance is achieved when each actor’s behaviour continues to be assessed as trustworthy by the other. However, a mismatch between trust perceptions and a partner’s displayed trustworthiness may lead to negative consequences and decline in value co-creation outcomes (McEvily, Perrone and Zaheer, 2003). In addition, incomplete information may lead to imbalance and tension, affecting trust behaviour (Lewicki, McAllister and Bies, 1998). It is in recognition of these constant adjustments that trust can be defined as a self-organising and learning phenomenon (Dooley, 1997).

**Figure 4:** Trust as an Adaptive, Self-Organising Phenomenon (B2C environment)

As a result of trust self-organisation (see Figure 4 for B2C context and Figure 5 for B2B context), a new order in the relationship will emerge, and trusting behaviour will be adjusted to fit within that new order. More specifically, trust will either be strengthened or diminished, leading to enhanced relationship outcomes, or stagnation, regression and dissolution. The nature of that emergent order will be determined by positive and negative feedback processes (Anderson, 1999). Stacey (1995) argues that creativity and innovativeness emerge as a result
of self-organising interactions between agents driven by positive feedback loops and deepening trusting behaviour.

The trust between an individual customer or client organisation and a provider will self-organise in response to a significant interaction experience (Mahmud, 2009). Each partner’s perception and interpretation of the interaction will be based on their own schema. Based on the interpretation of an interaction or event, each actor will adapt their response in terms of trusting behaviour and collaborative action (Brosch, Pourtois and Sander, 2010). The salience of the information and an actor’s interpretation of that information will have a strengthening or negative impact on trust (Lewicki, McAllister and Bies, 1998). That is, interpretation of an interaction by one actor can strengthen trust and strengthen relationship bonds, or, it can build uncertainty, leading to the imposition of relationship rules, consequently decreasing trust, and result in unsatisfactory encounters and performance of the relationship (N’Goala, 2010; Tyler and Stanley, 2007).

**Figure 5:** Trust as an Adaptive, Self-Organising Phenomenon – B2B context

**Conclusion**

We have outlined the process view of trust, and presented key literature supporting the dynamic, cyclical nature of trust. We then presented Complexity Theories of adaptation and self-organisation as metaphors for the emergence of trust as individual customers or client organisations and providers engage in value co-creation. The traditional, process view of trust explains how trust deepens as a relationship matures, while repeated games and virtuous cycles offer insights of the dynamics of trust. Adding to these perspectives, theories of complexity provide an adaptive, self-organising model of trust which exists at different points of equilibrium, moving between stable and unstable states, as the phenomenon self-organises.

From a complexity perspective, we define trust as an emergent state of confidence in another actor’s conduct, constantly being challenged by reflections on interactions within the relationship, the actor’s changing trust knowledge and skills, value co-creation outcomes, other trust experiences within the relationship and ‘trusting’ experiences with others external to the relationship, which in turn influence the way each actor subsequently engages with
those external to the relationship. A complexity perspective therefore provides insight into how trust within a relationship is both influenced by and influences the external environment. Theoretically presenting trust as an adaptive, self-organising phenomenon, emphasises the importance of each relationship interaction and the ongoing fragility of trust.

A service dominant logic (SDL) paradigm places emphasis on developing and strengthening relationships between individual customers or client organisations and providers. Through interactions during the consumption process, a provider will gain vital information on individual customers’ or client organisations’ goals and needs, and how these customers perceive their offered value. This information provides direction for value improvement and new value development through actors’ resource integration. SDL emphasises integration of relationship actors’ skills, knowledge and other resources in creating value. Relationships viewed through a SDL lens, and the interactions which underpin them, are a source of creativity, adaptability and value co-creation.

However, in order to support information flow and customer responsiveness, relationships must be robust, rich and mutual. By engaging in an ongoing relationship exhibiting trusting behaviours and an iterative learning process, customers and providers can co-create and multiply value (Vargo and Lusch, 2008; 2004). Throughout this process, they learn about each other (supporting the process of value creation) through positive ‘trusting’ experiences.

Our representation of trust as an adaptive, self-organising phenomenon enhances current perspectives of trust through:

a) Introducing the notion of trust schema which are redefined in response to internal and external relationship trust experiences;

b) Acknowledging that trust within a relationship i) adapts as a consequence of trust experiences external to a relationship and ii) influences trust experiences external to the relationship;

c) Emphasising how trust moves through different positions around an equilibrium point as the phenomenon self-organises in response to each relationship interaction, thus highlighting the ongoing fragility of trust;

d) Locating trust as a central tenet of SDL theory underpinning value co-creation; and

e) Presenting a theory of trust informing both B2B and B2C environments. Replacing the construct defining ‘change in customer dispositional trust and perceived ability, integrity, likeability and benevolence of the provider’ with ‘change in client organisation trust strategy and relationship management capability’ offers a representation of trust in a B2B context (Figure 5). However, as relationships between organisations are manifestations of interpersonal trust, trusting behaviour of boundary personnel in both client and provider organisations will be shaped by boundary personnel’s evolving schema and contained by their respective organisation’s trust strategy and relationship management strategy.

Our complexity theory representation of trust offers organisations additional insights on how trust shapes and reshapes relationship interactions and how ‘edge of chaos’ experiences may stimulate phase transition in a relationship, i.e. “a transition space between order and chaos, where innovation and rearrangement takes place” Kuhn and Woog (2007, p. 189). Of critical
importance to managers is instigating a stream of information about customer interactions, collaboration consequences and impact on value co-creation performance so that their organisation’s trust strategy and relationship management capability can evolve to support interactions that enhance value co-creation.

To understand the complexity of the emergence of trust and its adaptive and self-organising properties, we encourage researchers to move beyond employing scales, and concur with Lewicki, Tomlinson and Gillespi’s (2006, p.1015) recommendation that there are “qualitative methods that are particularly suitable for tracking relationships over time and assessing the dynamics and development of trust include(ing) diary accounts and narratives, critical incident techniques, in-depth interviews, and case studies and communication analysis.” By way of example, Kuhn and Woog (2007, p. 184) offer a complexity-based, narrative interrogation approach through coherent conversations (values, hopes and lived experiences are made visible), fractal analysis (identifying aspects “of the social system that is present at all scales of the system” p. 186), attractor analysis (the identification of organising forces or motifs), fuzzy-logic based analysis (“for the systemic treatment of vagueness and uncertainty” p.188) and vortical analysis (to examine “radical differences in direction of movement” p. 188). Alternatively, historical, reflective ethnography (data mapping transforming reported actions and consequences into temporal processes linked by events - Abbott, 2004), is particularly relevant to investigation of social processes in business because it seeks explanation more directly (in terms of sequences of events involving actors acting), rather than indirectly through the behaviour of variables that only reflect the actions and responses of actors (Van de Ven and Engleman, 2004). The complementary use of such techniques with traditional quantitative techniques and/or agent based modelling is advocated in advancing trust theory.
List of References


