Relationship Between Trust and Monitoring - An Experimental Study of Principal-Agent Relationship

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Abstract

Principal-agent relationship, which is characterised by the absence of legitimate power, necessitates monitoring and control by the principal to align the activities of the agent to the collective goals. However, complete monitoring of the agent is impossible and expensive. Certain amount of trust is inevitable. This research postulated *negative relationship* between *goodwill trust and control-based monitoring* on the one hand and *between competence trust and need-based monitoring* on the other. The research work used laboratory experiment capturing data from a sample set comprising executives as well as postgraduate management students, both through questionnaires and through a simulation. The study found support to the postulated negative relationships between trust and intended monitoring. However, actual monitoring manifested through allocation of time found rare support for the postulates.

The uniqueness of this research lies in its formally examining certain a priori beliefs about trust and control as well as questioning them. Importantly, it lends support to the argument that reported intended behaviour and actual behaviour are not the same in trust-control contexts.

Key words: Principal-Agent Relationship, Trust, Goodwill Trust, Competence Trust, Monitoring, Control-based Monitoring, Need-based Monitoring, Laboratory Study, Experimental Research.

1. Introduction

Research works about business organisations and inter-relationships amongst organisational elements vary in focus according to the discipline in which the study is made. Management research, being eclectic, has captured both static and dynamic aspects of relationships. A major area where certain degree of cross pollination amongst different disciplines has occurred is the relationship between the principal and the agent, attracting the attention of socio-psychologists, economists and management scholars over a quarter century (Das & Teng, 2001; Eisenhardt, 1989; Ouchi, 1979; Sappington, 1991; Williamson, 1975), the aspect of principal's efforts to control agent's behaviour and the outcome of his behaviour continue to arouse interest.

Relationships can be governed by contracts, cultural legacies or mutual co-operation. There is a limit to bring to contract every action of the partner. Monitoring beyond contractible aspects has its limitations too. It is expensive and is always short of total. Therefore, one has to look for phenomena beyond contracts and control/monitoring to carry a relationship forward productively. One such phenomenon is trust. Trust is necessary to engage in any meaningful economic co-operation (Ouchi, 1979, p. 846). Further, trust is said to beget trust, which can be interpreted as *trust shown yields trusting behaviour*. In addition to such

Pygmalion effect, trust is cited as mitigating the need for control or as a form of control itself (Bradach & Eccles, 1989). In the field of relationship marketing, trust is found to play a mediating role leading to co-operation (Morgan & Hunt, 1994). This article captures the relationship between principal's trust in the agent and his monitoring - an important element of control - of the agent.

2. Principal-Agent Relationship

Principal-agent relationship has been covered in the field of economics in *agency theory* as well as in *transaction cost analysis* (TCA). The two frameworks concede that the principal is boundedly rational, which, coupled with information asymmetry regarding the agent's behaviour, causes inefficient controlling of the relationship by the principal. Both theories emanate from the basic belief that the agent is poised to act *opportunistically - opportunism defined as self-seeking with guile* (Williamson, 1975, p. 26). Agency problem arises out of (a) conflicting goals of the principal and the agent and (b) principal's difficulties in verifying the agent's behaviour.

Agency theory is concerned with how the principal can best motivate the agent to perform as the principal would prefer, taking into account the difficulties in monitoring the agent's activities (Sappington, 1991, p. 45). It is prescriptive of the incentives and contracts between the principal and the agent (Eisenhardt, 1989). Agency theory deals with those contexts where (a) the principal has a need to control the agent, (b) information asymmetry is inherent in the relationship - stacked against the principal - and (c) the principal has a need to minimise his own risks. Ideally, the agent's information and action both should be monitored. However, Agency theory recognises that information, and hence monitoring, are costly. The challenge of agency relationship arises whenever - which is almost always - the principal cannot, perfectly and costlessly, verify agent's information and monitor his action (Pratt & Zeckhauser, 1985, p. 2-3). Hence, it studies the trade-off between the cost of measuring agency behaviour on the one hand and the cost of measuring outcomes and transferring risks to agent on the other.

TCA, on the other hand, looks at the principal-agent relationship in the context of organisation structure. TCA challenges neoclassical economics' contention that market mechanism - through the operation of the invisible hand - is the best form of administration, stating that when the market mechanism fails to take care of aberrations in the market for the factors of production, the firm emerges as a control mechanism (Coase, 1937; Williamson, 1975).

Thus, these two frameworks of principal-agent relationship focus on control of the agent through different dimensions, implicit in which is the fact that control has been the core of much of research on inter-organisational relationships, both in economics and in management.

3. Trust and Monitoring in Principal-Agent Relationship

Every relationship characterised by interdependence requires co-operation. Increased co-operation between the members increases the agent's satisfaction and thus endures the relationship (Duarte & Davies 2004).

3.1 *Trust*

Scholars have questioned the assumption of 'self-seeking' (Rocha & Ghoshal, 2006). Trust is an important antecedent to co-operation (Anderson & Narus, 1990). In any relationship characterised by interdependence, neither member is capable of perfect knowledge of the other; hence, there are uncertainties and risks embedded in such relationship. Trust works as a means for coping with such uncertainty (Bachman, 2001). '*Uncertainty* is critical to trust because trust is unnecessary if the trustor can control an exchange partner's actions or has complete knowledge about the actions' (Moorman, Zaltman & Deshpandé, 1992, p. 315; emphasis in original). Such uncertainty should involve a potential loss to the principal through the agent's reneging or opportunism. Only under conditions of uncertainty and risk trust is relevant and becomes a meaningful phenomenon. Trust has no meaning when there is no risk of any loss to the principal. The risk of opportunism must be present for trust to operate (Bradach & Eccles, 1989, p. 104) that may cause potential damage to the trusting party. Thus, trust implies 'the mutual confidence that no party to an exchange will exploit another's vulnerabilities' (Barney & Hansen, 1994, p. 176). That is, trust is a risky engagement (Bachman, 2001, p. 342).

Trust can be either about the agent's ability to carry out certain actions or about the agent's good intentions - or the absence of it. Scholars distinguish between these two types of trust by the terms *goodwill trust* and *competence trust,* respectively (Das & Teng, 2001). 'Trust may concern a partner's ability to perform according to agreements (competence trust) or his intentions to do so (goodwill trust)' (Nooteboom, 1996, p. 990; parentheses and emphasis in original).

Trust is stated to be at cognitive and affective levels (Lewis & Weigert, 1985; McAllister, 1995). Trust can be at awareness level, based on hardcore data and rational deduction, a matter-of-factly acknowledgement of having learnt of the agent's acting in the desired manner. This is termed as *cognitive trust* (T_{COG}). Trust can be at affective level, where the principal not only acknowledges the facts of the agent's trustworthiness but also *believes* that the agent will continue to do so in future. Obviously, past cannot be the best predictor for all future phenomena. However, when the principal transcends such rational thought process and chooses to be affectively convinced about the agent's likely act in future, that trust is termed as *affective trust* (T_{AFF}). In addition, trust is considered at intended behavioural level and then stated behavioural level (Cummings & Bromiley, 1996). The principal's express willingness to act on the basis of the affective trust is termed as *intended trusting behaviour* (T_{INT}). The final stage is the actual behaviour as expressed through the action. This is termed as actual *trusting behaviour* (T_{ACT}). The current research has considered the two constructs of overall trust, *that is,* goodwill trust ($GWT_{OVR}L$) and competence trust (CT_{OVRL}) and in

parts such as cognitive (GWT_{COG}, CT_{COG}), affective (GWT_{AFF}, CT_{AFF}), intended behavioural (GWT_{INT}, CT_{INT}) and actual [manifest] behavioural (GWT_{ACT}, CT_{ACT}) trusts.

3.2 *Monitoring*

'When one person, interdependent with another, cannot count on that person to be dependable, he or she can take steps to manage uncertainty inherent in the situation' (McAllister, 1995, p. 30). This is partly achieved through monitoring. Monitoring refers to observing, measuring and/or recording with a view to controlling the performance of a person, equipment or a system against certain standards. Stricter monitoring enables disciplining of agents both through preventing them from doing harmful deeds and through helping them gain expertise in the required task performance. Complete understanding of and total certainty about agent's behaviour are impossible both due to the cost of such monitoring and due to the bounded rationality of the principal. Hence, the principal ought to engage in monitoring sparingly to optimise costs, time and efforts.

A principal may gather such information either with a view to helping the agent - such as deciding on training needs, guiding in planning - or with a view to preventing the agent from committing certain undesirable acts or to ensuring that the agent carries out desired actions. That is, the principal's monitoring of the agent can be (a) for preventing the agent from certain acts of commissions, (b) for ensuring that the agent carries out certain acts and does not shirk, (c) for helping the agent to perform better - through training of the agent or his personnel and/or (d) for safeguarding the agent from hostile actions of competitors. Monitoring for achieving the first two purposes can be termed as *control-based monitoring* (M_C), a term used by McAllister (1995). Gathering information 'to keep track of associates' needs' mentioned in (c) and (d) above is termed as need-based monitoring (MN) (McAllister, 1995, p. 31).

3.3 *Trust and monitoring*

Trust and monitoring have been mentioned in combination in research literature. 'Trust is a particular level of the subjective probability with which an agent assesses that another agent or group of agents will perform a particular action, both *before* he can monitor such action and in a context in which it affects *his own* action' (Gambetta, 1988, p. 217: emphasis in original). One either must be able to monitor the other or must trust the other for engaging in any viable and meaningful economic relationship (Ouchi, 1979, p. 846). Embedded in this oft-cited statement is the core of the current research: the negative relationship between trust and monitoring. When the principal trusts the agent, the former does not have to engage extensively in activities such as monitoring the latter or building safeguards in the relationship both of which are costly processes (Andaleeb, 1996) and superfluous. The action of the principal vis-à-vis the agent is likely to be such that he will bother less to collect data about the agent's behaviour in the presence of trust. In other words, where there is trust, a priori, there will be less monitoring or control. This has been frequently mentioned in research literature (Andaleeb, 1996; Gambetta, 1988; Ouchi, 1979; Reed, 2001; Sydow, 1998; Sydow & Windeler, 2003), although efforts to test such a negative relationship

are scanty, barring Andaleeb (1995), who, inter alia, tested the negative relationship between trust and control in a buyer-supplier context. McAllister (1995) studied the relationship between trust and monitoring in such dimensions that are very different from those considered in the current research. He studied the relationship between (a) cognition-based trust and control-based monitoring and (b) affect-based trust and need-based monitoring, and found support only for the latter.

The current research is an attempt to study the relationship between trust and monitoring by dissecting both the constructs into their sub-constructs. Specifically, when the principal trusts the agent for his integrity - high goodwill trust - one expects to witness low control-based monitoring. Therefore, it is proposed that goodwill trust and control-based monitoring are negatively related. Specifically,

H1: Goodwill trust and control-based monitoring are negatively related

H11: Cognitive goodwill trust and control-based monitoring are negatively related

H12: Affective goodwill trust and control-based monitoring are negatively related

H13: Intended goodwill trusting behaviour and control-based monitoring are negatively related

H14: Stated goodwill trusting behaviour and control-based monitoring are negatively related

Similarly, when the principal trusts the agent for his ability to perform tasks as expected - high competence trust - one expects to witness low need-based monitoring. Therefore, it is proposed that competence trust and need-based monitoring are negatively related. Specifically,

H_2: Competence trust and need-based monitoring are negatively related

H_{21}: Cognitive competence trust and need-based monitoring are negatively related

H_{22}: Affective competence trust and need-based monitoring are negatively related

H_{23}: Intended competence trusting behaviour and need-based monitoring are negatively related

H_{24}: Stated competence trusting behaviour and need-based monitoring are negatively related

Similarly, trust as a whole is expected to be negatively related to monitoring as a whole. Thus, the following hypothesis is arrived at.

H_3: Trust and monitoring are negatively related

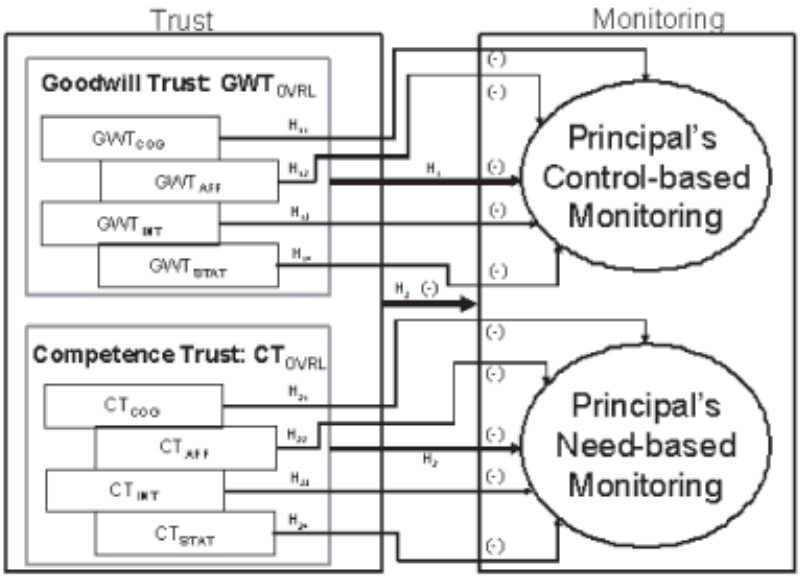

Figure 1: Research model - The complete model of the current research

4. Methodology

Because the research was to study both intended and actual monitoring, it required capturing behaviour for different levels of trust with no other disturbances. It was reckoned that removal of noise in a real-life situation was close to impossible. This meant that the study should capture trust and monitoring in similar contexts and scenarios across the research sample, each respondent having the liberty of viewing the scenario, as she/he felt fit. Keeping these in mind, an experimental approach was chosen to test the proposed hypotheses. It was perceived that conscious and careful effort to create high and low scenarios of trust would enable the researcher to analyse data along a wider canvass than if the researcher were to depend on a real-life scenario where such contexts would be beyond the researcher's control.

5. Simulation in Management Research

Research has proven that students' behaviour in a business simulation game is akin to that of managers in real business context and therefore the game can be used as a laboratory to study decision-making process (Remus, 1978, p. 829). However, scholars have been cautious that using simulation for research raises the questions of generalisability, control and precision of evaluating behaviours and the degree of realism in the game (McGrath quoted in Keys & Wolfe, 1990, p. 323). Moreover, simulations being a highly simplified context compared to real-life situations, decision-making in simulations are completely void of the social context of decision-making, especially when students are used for research purposes through gaming (Hogarth & Makridakis, 1981). Nevertheless, some scholars are convinced that because MBA students aspire to be managers, they reflect managerial behaviour in simulations. This enhances opportunities to use MBAs as subjects in game laboratories for research (Cohen & Rhenman, 1961; Lant & Montgomery, 1992).

Notwithstanding the differences in the background between the managers and the students, in game context students learn appropriate strategies for the game, after which students and executives perform similarly (Khera & Bensen, 1970). Andaleeb (1995, 1996), studying channel relationships, found strong similarities in findings from the student sample and managerial sample, which validates the usage of students as surrogate for managers.

Keys and Wolfe (1990) emphasise the utility of simulations as an immensely useful tool for research purposes. Simulations offer immense advantage in research. Decision-making can be interrupted, dissected and reconstructed, enabling researching of the decision-making process thoroughly (Babb, Leslie & Slyke, 1966). Other advantages include the following: (a) more precise measurements of behaviour possible than in field research (b) researcher's comfort with the research environment, enabling control over the causal factors (c) greater excitation of behaviour than in real life due to collapsing of time, leading to better measurement of outcomes (d) possibility of repetition facilitating laboratory type of research works and (e) integrated simulations that enable study of ill-structured judgmental type of problems arising in uncertain environments (Keys & Wolfe, 1990).

Laboratory research has been extensively carried out earlier in the field of marketing channels and inter-organisational relationship (Andaleeb, 1995, 1996; Dwyer, 1980; Dwyer & Walker, 1981; Gundlach & Achrol, 1993; Gundlach, Achrol & Mentzer 1995; Gundlach & Cadotte, 1994; McAlister, Bazerman & Fader, 1986; Schurr & Ozanne, 1985; Srivastava, Chakravarti & Rapoport, 2000; Stern, Sternthal & Craig, 1973;). The choice of experimental study as the method is stated to be mainly due to the degree of control it affords over the exogenous variables from influencing the studied relationship.

Scholars have used laboratory methodology in studying marketing channel relationships extensively. Some of the important phenomena studied have been inter-organisational conflict (Stern et al., 1973), studied channel-member satisfaction (Dwyer, 1980), bargaining process and outcomes under different levels of power symmetry (Dwyer & Walker, 1981), buyer behaviour in relation to the perceived seller's trustworthiness and bargaining toughness (Schurr & Ozanne, 1985), power and goal setting (McAlister ., 1986), relationship amongst governance, contractual procedures and relational procedures in manufacturer-distributor setting (Gundlach & Achrol, 1993), manufacturer-distributor relationship (Gundlach & Cadotte, 1994), moderating role of trust in dependence relations and satisfaction and commitment in marketing channels (Andaleeb, 1995, 1996) exchange interdependence (Gundlach & Cadotte), structure of commitment between exchange partners (Gundlach et al., 1995) and negotiations on price fixation in marketing channels (Srivastava et al., 2000). Such frequent reliance on simulations and laboratory research highlights the validity of simulations and experiment as a rigorous methodology in channel management context.

6. Sample Selection

The study attempted to capture data from a mixed set of executives and potential executives. Hence, the sample chosen included a set of 68 students in their final year MBA who had opted to study the course Distribution management in a premier business school in India. This sample set was suitable for the study because they were learning the principal-agent

relationship in the context of distribution channel management and therefore they could relate the context in which the research was carried out with ease and respond to situations and questionnaires with much greater degree of comfort than other students. In addition, a sample of 34 executives in middle management and senior management levels from four types of organisations in India - food sector, consumer durable sector, commercial automobile sector and petrochemicals sector - were considered for participating in this study. All the organisations had pan-national presence and some were also engaged in exports. The organisations were chosen based on the understanding that the executives who took part in the study had exposure to principal-agent relationship in their work experience. The number of executives who took part in the study was limited by the organisations' willingness to spare them for the time they would be engaged in responding to the researcher's requirements. Thus, the total number of respondents was 102. Of the executives, one dropped out midway through the survey and hence certain data analyses were confined to 33 executives and hence 101 total samples.

7. Data Collection

Data pertaining to trust was captured through questionnaires. Data pertaining to actual monitoring behaviour was captured through the respondents' allocation of the field personnel's time across different monitoring activities in a simulation game titled *Fantasia Simulation* that engaged them in a complex decision-making process in a distribution context. This simulation was a part of the curriculum and hence their seriousness was ensured by the corresponding weight age assigned in the course for the game. Each student performed the role of a country manager in a fictional country handling a fictional product. The game provided them the goals of (a) maximising their bottom-line profits and (b) maximising their distributors' satisfaction. This required them to take as many as over 130 decisions in each period, such as production planning, target setting, pricing, below-the-line sales promotions, deployment of sales personnel, allocation of sales personnel's time across various monitoring activities across four distributors and so forth. This was found to represent a scenario that was close to reality. The game was played over a period of 4 months during the semester. Once the students gathered sufficient comfort with the game, four different scenarios were created - one each for the four distributors - that typified high or low trustworthiness, either goodwill trust or competence trust. The scenarios were created through caselets to which the company's corporate headquarters located abroad sought attention of the country manager and his/her response to a questionnaire. This questionnaire captured their trust level in the concerned distributor. The allocation of the field personnel's time captured their actual monitoring behaviour in the respective scenario. The students were taking part in the game as a part of their credit requirement in the course and thus their behaviour was driven by their given goals, thus precluding any possibility of suspicion about the research being carried out. Hence, the data collected could be regarded as closely representative of real-world behaviour. The executives did not play the game; instead, they were given the four scenarios clearly explaining the distribution context. They were given adequate time to respond to the questionnaires and also to allocate the field personnel's time, which captured their actual, monitoring behaviour.

8. Measures of Trust

Two sets of questionnaires were developed, one pertaining to goodwill trust and another pertaining to competence trust.

8.1 *Goodwill trust*

The questionnaire to capture goodwill trust was based on the Organisational Trust Inventory of Cummings & Bromiley (1996). Their work pertained to inter-organisational trust in terms of (a) keeping negotiated commitments, (b) negotiating honestly and (c) avoiding taking excessive advantage by the other over oneself. These three aspects covered comprehensively the dimension of *goodwill trust* in the current research. Cummings and Bromiley had established the internal consistency of the 81-item 7-point Likert scale-based questionnaire that broke down the construct into its elements of *cognition, affect* and *intended behaviour.* In addition, certain items covered the respondent's statement of (actual) behaviour. With careful examination, the scale was reduced to a 67-item scale, after dropping 14 items that were relevant only in the context of negotiation and not in the context of distribution management. The reduced questionnaire used in this current research had high reliability based on Cronbach's alpha (Table 1).

Each of the four elements of goodwill trust that were captured though the 67-item questionnaires are explained below. The internal consistency of the scales capturing them was measured through Cronbach's alpha. An alpha magnitude of 0.6 was considered acceptable based on citing of scholars such as Davis and Nunnally in Peterson (1994, p. 381).

Cognitive Goodwill Trust (GWT_{COG}) - This was captured through a measure with 27-item Likert scale, containing statements such as 'I think the distributor does not mislead my company', 'I think commitments made to my company by this distributor will be honoured', 'I think this distributor will not take advantage of my company'. Thirteen of the items were reverse coded because they were expressions of distrust. This measure had a high scale-validity (Cronbach's ? = 0.944; standard error [SE] = 0.006).

Affective Goodwill Trust (GWT_{AFF}) - This was captured through a measure with 12-item Likert scale, containing statements such as '*I feel that this distributor takes advantage of my company*', '*I feel that this distributor deals with my company honestly*'. Seven of the items were reverse coded because they were expressions of distrust. This measure had a high scale-validity (Cronbach's α = 0.885; SE = 0.012).

Intended Goodwill Trusting Behaviour (GWT_{INT}) - This was captured through a measure with 14-item Likert scale, containing statements such as '*I intend to share information with this distributor*', '*I intend to monitor this distributor closely*'. Nine of the items were reverse coded because they were expressions of distrust. This measure had a high scale-validity (Cronbach's α = 0.889; SE = 0.012).

Stated Goodwill Trusting Behaviour (GWT_{STAT}) - This was captured through a measure with 13-item Likert scale, containing statements such as '*I watch for misleading information from this distributor*'; '*I deal cautiously with this distributor*…' The measure had high scale-validity (Cronbach's α = 0.906; SE = 0.010).

Thus, the scale used for measuring goodwill trust - both in its sub-constructs and overall - was of high reliability. Besides, the average overall goodwill trust was checked for its correlation with a global item - this distributor is honest - to check whether the scales indeed measured goodwill trust.

Table 1: Scale-validity of GWT measures

N = 101

	GWT_{COG}	GWT_{AFF}	T_{INT}	GWT_{STAT}	GWT_{OVRL}
No. of Items	27	13	14	13	67
Cronbach's α	0.944	0.885	0.889	0.906	0.958
SE of α	0.006	0.012	0.012	0.010	0.004

8.2 *Competence trust*

Developing a composite scale for competence trust was more laborious than in the case of goodwill trust. Unlike in the case of goodwill trust, no composite scale was readily available for competence trust, necessitating creation of a composite measure through assembling the scales available in the literature. From the past studies involving competence trust, two items were taken from Smith and Barclay (1997); six from Hoy and Moran (2000); two from Nooteboom, Berger and Noorderhaven (1997); one from Nielson (1998); two from Selnes (1998); three from Doney and Cannon (1997); four from Cummings and Bromiley (1996); three from Moorman et al. (1992); one each from Suh and Kwon (2005) and Neveu (2005). Together, these formed a 25-item composite scale.

Classifying the items under cognition, affect, intended behaviour and stated actual behaviour was achieved through seeking expert opinion amongst 14 faculty members of the business school where the researcher worked and seven top-ranking students. Together, these 21 respondents' opinions enabled classification of the items under the four sub-constructs. The final step was carried out after administering the research questionnaire to the students and executives, the main respondents in the current research. At this stage, the responses were run through the software *Statistical Package for Social Sciences* (SPSS) Ver.13 for the reliability of each sub-construct heuristically. Those items that were inconsistent with the measure of the sub-construct were removed. The reduced composite scale, thus, had 20 items (Table 4.2).

A global scale - this distributor is reliable - was considered amongst the lot to check correlation between the overall competence trust (CTOVRL) and the global competence trust to see whether the scales did actually measure competence trust. The scales used for measuring competence trust - its sub-constructs and overall - were of high reliability and hence its use in the current research was justified (Table 2).

Table 2: Scale-validity of CT measures

N = 101

	CT_{COG}	CT_{AFF}	CT_{INT}	CT_{STAT}	CT_{OVRL}
No. of Items	5	9	3	3	20
Cronbach's α	0.880	0.925	0.664	0.839	0.961
SE of α	0.014	0.009	0.046	0.022	0.005

The data collection method of each of the four elements of competence trust that were captured through the 20-item questionnaire is explained below.

Cognitive Competence Trust (CT_{COG}) - This was captured through a measure with 5-item Likert scale, containing statements such as '*I think the distributor really knows the market*', '*I think this distributor is not an expert*', '*I think this distributor is knowledgeable*'. One of the items was reverse coded because it was an expression of distrust. This measure had a high scale-validity (Cronbach's α = 0.880; SE = 0.014).

Affective Competence Trust (CT_{AFF}) - This was captured through a measure, which started with a 12-item Likert scale, containing statements such as '*I can rely on this distributor*', '*I feel that this distributor is one of the most important distributors for my company*'. Three items were dropped from the list due to inconsistency with the set of measure and thus this measure eventually had nine items. Two of the items were reverse coded because they were expressions of distrust. This measure had a high scale-validity (Cronbach's α = 0.925; SE = 0.009).

Intended Competence Trusting Behaviour (CT_{INT}) - This was captured through a measure that started with a 4-item Likert scale, containing statements such as '*If I started my own business, I would not appoint this distributor as my distributor*'; '*I intend to check on the effectiveness of the distribution efforts of this distributor*'. One of the items was dropped due to inconsistency with the measure. The ultimate 3-item measure had a scale-validity that is higher than the acceptable value of 0.6 (Cronbach's α = 0.664; SE = 0.046).

Stated Competence Trusting Behaviour (CT_{STAT}) - This was captured through a measure with 3-item Likert scale. The measure had high scale-validity (Cronbach's α = 0.839; SE = 0.022).

In addition, the Pearson's coefficient of correlation for overall competence trust vis-à-vis the global competence trust item was 0.893 ($p < 0.01$). The global item was 'The distributor is reliable'. This confirmed that the scales together indeed measure competence trust.

Finally, the overall scale-validity of the composite trust measure - both goodwill trust and competence trust together - returned a Cronbach's alpha of 0.907, indicating a very high internal validity of the trust measure as a whole.

9. Measures of Monitoring

Measures of monitoring were developed based on the context in which the measurement was to be made. The common context for the executives and the students was the simulated environment of *Fantasia*. One of the important decisions to be made by the respondents in this environment was allocation of field force time across 17 different monitoring activities. These activities were incorporated in the simulation based on the opinions of the experts in the industry who had spent over 10 years in sales and distribution management. Although consistency of these activities with the simulated environment was a pre-requisite, the validity of the scale was an important consideration. To ensure this, *the concepts of need-based monitoring and control-based monitoring* were explained in simple term to the sophomores of the 2-year postgraduate programme in management. Following this, the 17 items were given to them, each item clearly explained in the handout. Subsequently, they were asked to classify the 17 items under the two heads of monitoring. In addition to the sophomores, eight experts in the academic area of management were requested to express their classification of the items under the two heads. Based on the frequencies the items were categorised either as need-based monitoring or as control-based monitoring. The decisions taken by the respondents in the simulated environment of Fantasia were of different ranges - in terms of weeks, minimum and maximum - within which monitoring was to be decided, and thus the items were incomparable. Hence, all the items were normalised in the range of 0 to 1 to permit additivity.

In addition, the data captured through the questionnaire on trust contained items expressing intended trusting behaviour. Of these, those items that related to monitoring were considered *intended monitoring* of the respective type, namely need-based and control-based.

9.1 *Need-based Monitoring*

Six items were classified as need-based monitoring. Need-based monitoring, as explained earlier, involves the principal's tracking of the agent's needs, his developing a tacit awareness of the agent's needs - even when the agent does not express them - and the knowledge and willingness to respond appropriately (McAllister, 1995, p. 31). That is, the principal collects data about the agent with a view to helping him (a) to perform better, (b) improve his competencies and (c) safeguard his interests against damages that can be caused by the behaviour of others - be it the principal's other agents or the competitors' agents.

The items included in the *Fantasia Distribution* simulation, which were categorised by the experts and the sophomores as need-based monitoring, are shown below:

- Training interim salesman on appointment
- Retraining interim salesman
- Distributor salesman training
- Market development
- Field sSurvey to check transgression by other distributors
- Planning distributor's work

This measure was used by the respondents in this research as a part of the simulated environment of *Fantasia*. The respondents were given the lower and upper limits of time (in weeks) to decide their allocation of time for each of these activities. These data were used in their original form as decided by the respondents for evaluating the scale-validity of this measure. The average normalised time allocated across the activities was taken as the score for need-based monitoring and this was correlated with each element of competence trust as also with the overall competence trust. The Cronbach's alpha for the normalised data was found to be 0.577 (close to the desired 0.6, and SE = 0.034), confirming the validity of the scale to measure need-based monitoring.

9.2 *Control-based monitoring*

As explained earlier, control-based monitoring concerns the principal's taking steps to manage uncertainty in his dealing with the agent (McAllister, 1995, p. 30). Such a monitoring is done by the principal to ensure that the agent (a) acts in a manner committed and (b) does not act in a manner that can cause damage to the principal and/or the joint venture. In the language of agency theory, one can say that control-based monitoring is aimed at the agent's opportunism and shirking.

The experts and the sophomores as control-based monitoring classified 11 items that were used in the Fantasia Distribution simulation. They were as follows:

- Checking van route claims
- Checking distributor's retail database
- Checking distributor's records for stock holding
- Checking invoices for area transgression by distributors
- Field survey for regular coverage
- Field survey for trade scheme
- Checking records for despatch of stocks to market
- Checking records for trade scheme implementation
- Field survey for correct pricing
- Field survey for field hygiene
- Checking records of damaged/expired stocks

Based on the decisions taken by the students and the executives in the simulated environment of *Fantasia*, Cronbach's alpha for the measure of control-based monitoring was 0.723 (SE = 0.021), well above the desired level of 0.6, confirming the scale-validity for the measure. The average normalised time across the six activities was taken as the score for control-based monitoring and this was correlated with each element of goodwill trust as also with the overall goodwill trust.

10. Experimental Manipulation

The respondents were presented with four different scenarios, each describing an event of reasonable importance pertaining to a specific distributor. One was a news item that reported a sting operation, which unearthed fraudulent practices by the distributor, keeping the company's salesman in complete dark (evoking *ex ante* low goodwill trust). The second was a news report about a distributor being honoured with the professional efficiency award (evoking *ex ante* high competence trust). The third was a news item, reporting on the values, virtues and integrity of a distributor supported by an interview item of the distributor (evoking *ex ante* high goodwill trust). The last one was a written complaint by the retailers' association against a distributor for incompetent handling of distribution, reinforced by a news paper report about the complaint (evoking *ex ante* low competence trust). The students were presented with these scenarios in a phased manner, allowing them time to focus on decision-making. The executives were given scenarios one after another, each followed by the questionnaire and a table seeking their time allocation for monitoring activities.

11. Analytical Tool

In as much as this research focused only on the existence of relationship between the degrees of the two trusts and the degrees of two monitoring, the appropriate measure is the one that can provide the existence of linear association between the variable sets. Any other measure that could provide a non-linear relationship between them implicitly meant that there was another factor that moderated the relationship between the variables and hence would not help in isolating the relationship between the two variables exclusively. Therefore, the analytical tool used in this research for evaluating all the relationships posited was Karl Pearson's correlation coefficient. For the purpose of this research, 'high' and 'low' were substituted with 'strong' and 'weak' supports to the hypothesis. The classifications of correlations' strength are summarised below:

r-value	Strength
–0.001 to –0.199	Weak support
–0.200 to –0.299	Moderate support
–0.300 to –1.000	Strong support

These redefinitions - subject to statistical significance - are justified because the hypothesised

relationships between trust and monitoring are negative. Therefore, the entire range of negative correlation rejects the null hypothesis. Correlations negative but close to zero - provided they were statistically significant - were termed as 'weak' support. Those negative correlations that are statistically insignificant ($r < 0$ and $p > 0.05$) are not regarded as offering any support to the hypothesised relationship. These correlations could have been accidental. Statistically significant correlations between –0.200 and –0.299 appear somewhat strong and still were termed as 'moderate' support. Significant correlations of –0.300 and below were termed 'strong' support because they indicated magnitudes that could not have been accidental.

An important methodological issue is that although the sampling method was non-probabilistic, significance level for each of the *r*-values in the relationship between trust and monitoring was considered with a view to ensuring that the correlation was not accidental and was actually significant for making any meaningful conclusion. Incidentally, as explained above, negative correlations around zero actually returned very high *p*-values, confirming that such correlations were indeed weak and were not worthy of regarding as supporting the hypotheses.

12. Data Analysis and Findings

12.1 *Goodwill trust*

High-trust and low-trust scenarios created were correspondingly perceived by the respondents. The average goodwill trust scores for high-trust agents was 5.066 and 4.471 for the executives and students, respectively, whereas for the low-trust agents they were 3.636 and 3.498, respectively. Therefore, there is some discernible consistency amongst respondents in their responses.

Between the executives group and students group, too, certain distinctive patterns were seen. Specifically, the executives rated high-trust scenarios higher than the students group. Sixty-four of the 80 items confirm this pattern where executives tend to trust high-trust agents more than the students do. However, when it pertained to low-trust scenarios, the executives were much less distrusting compared with the students. The situation reversed in pattern and 52 items showed that students rated the low-trust agents lower than what the executives had done.

12.2 *Competence trust*

The data pertaining to competence trust, too, shows a clearly discernible dichotomy between high-trust scenario - perceived so - and low-trust scenario - perceived as low-trust situation. The average trust scores for high-trust scenario were 5.510 and 4.595 amongst the executives and the students, respectively. The average trust scores for the low-trust scenarios were 2.957 and 3.949 amongst the executives and the students, respectively. It was observed that the executives made a clear-cut distinction between the two scenarios much more sharply than the students. The executives trust score of 2.957

for the low-trust scenario is an indication of distrust about the competence of the agent, whereas the students' score for the same 3.949 is an expression of somewhat high, though lower than the score for the high-trust scenario. This aspect itself is worth pursuing in a stand-alone research.

The two types of scenarios - namely, high-trust and low-trust - were first checked for the veracity of the terms used. The 7-point Likert scale used implied that a score of 1 represented complete distrust and a score of 7 denoted complete trust. The middle value of 4 was considered neutral, implying neither trust nor distrust. The mean trust scores in high and low scenarios were tested for their significant difference from the neutral score of 4. The composite mean trust score for the high-trust scenarios showed a value of 4.719 ($p<0.01$), which is a high-trust score. The composite mean trust score for the low-trust scenarios returned a value of 3.706 ($p<0.01$), a low-trust score. Therefore, it is concluded that at the aggregate level, the two scenarios created to generate high/low trust in the respondents worked in accordance with the expectations. Thus, Table 3 lends support to the intended effect of creation of two scenarios of high trust and low trust. It is noticed that the mean trust scores for high-trust scenario are consistently higher than all low-trust scores, respectively, implying that the respondents did perceive the high and low trust as was intended in the study. This enables better comparison of responses across a larger range of trust, providing the chance to make clearer distinction in behaviour.

Table 3: Mean trust scores across scenarios tested for mean value of 4.0

(High > 4 | Low < 4)

Type of Trust	CT		GWT		Overall Trust	
	High	Low	High	Low	High	Low
Cognition	5.198 $p<0.01$	3.579 $p<0.01$	4.895 $p<0.01$	4.028 $p=0.759$	4.999 $p<0.01$	3.892 $p=0.106$
Affect	5.090 $p<0.01$	3.604 $p<0.01$	4.660 $p<0.01$	3.976 $p=0.796$	4.864 $p<0.01$	3.789 $p<0.01$
Intended Behaviour	3.990 $p=0.906$	3.255 $p<0.01$	3.797 $p<0.01$	3.599 $p<0.01$	3.808 $p<0.01$	3.322 $p<0.01$
Stated Behaviour	5.288 $p<0.01$	3.739 $p<0.05$	3.947 $p<0.01$	3.658 $p<0.01$	4.577 $p<0.01$	3.544 $p<0.01$
Overall	5.037 $p<0.01$	3.564 $p<0.01$	4.451 $p<0.01$	3.856 $p=0.097$	4.719 $p<0.01$	3.706 $p<0.01$

The specific aberrations are found in intended behaviour in competence trust (high) and I goodwill trust (low). Across types of trust, low goodwill trust seems to have witnessed lack of clear dichotomisation. However, in all, the effort to achieve high-low trust levels seems to have been predominantly successful (80% of the cases).

Table 4 shows that all sub-constructs of trust - both goodwill and competence trust together - were positively and significantly correlated amongst themselves. Noteworthy amongst these correlations is the low *r*-value witnessed by intended trusting behaviour. When this phenomenon in Table 4 is read in conjunction with Table 3, it is possible to surmise that the respondents were somewhat unclear about how to act in response to the perceived trustworthiness of the agent, a feature consistently seen in the case of intended trusting behaviour in both the tables. Alternatively, whether this could have been due to any problem posed by the scale used for this construct is worth a separate study.

Table 4: Correlations amongst sub-constructs of trust

All Respondents, Combined Scenario; N = 406

	Affective Trust	Intended Trusting Behaviour	Overall Trust
Cognitive Trust	0.915 $p<0.01$	0.415 $p<0.01$	0.906 $p<0.01$
Affective Trust		0.457 $p<0.01$	0.921 $p<0.01$
Intended Trusting Behaviour			0.674 $p<0.01$

12.3 *Monitoring*

The overall monitoring scores are 0.734 and 0.274 in the case of high-trust scenario, which increase to 0.816 and 0.335, respectively, when the scenario turns to low trust. This is in line with the basic contention of the current research that trust and monitoring are negatively related.

Table 5: Summary of monitoring scores

Scale: 0 - Low; 1 - High

Target Agent	MN			MC			Overall Monitoring		
	Students	Executives	Both	Students	Executives	Both	Students	Executives	Both
High Trust									
Intended Monitoring	0.768	0.654	0.733	0.778	0.645	0.735	0.773	0.650	0.734
Actual Monitoring	0.333	0.271	0.302	0.260	0.218	0.246	0.297	0.245	0.274
Low Trust									

Target Agent	MN			MC			Overall Monitoring		
	Students	Executives	Both	Students	Executives	Both	Students	Executives	Both
Intended Monitoring	0.588	0.944	0.706	0.932	0.909	0.925	0.760	0.927	0.816
Actual Monitoring	0.343	0.391	0.367	0.222	0.385	0.304	0.283	0.388	0.335
All Agents									
Intended Monitoring	0.676	0.799	0.718	0.855	0.776	0.830	0.767	0.788	0.775
Actual Monitoring	0.338	0.331	0.336	0.241	0.301	0.260	0.290	0.316	0.305

An interesting aspect observable in Table 5 is the reduction in monitoring score as one moves from the intended to actual monitoring. This is in line with the intuitive understanding that out of the intended behaviour, only a part is carried out in action and there is always a 'leakage' between intended behaviour and actually observed behaviour. In the specific context of monitoring in the current research, this could have been compounded by the fact that the aggregate monitoring - allocation of sales personnel's time - is limited by 52 weeks in a year and hence an all-maximum monitoring could not be achieved though the respondents might have indicated high monitoring in their intention. However, in the case of need-based monitoring, the intended monitoring scores amongst the student-respondents show a counter-intuitive phenomenon: the monitoring score is high for high-trust scenario and low for low-trust scenario. In all other cases, the trend is as per the a *priori* understanding, namely the combination of high monitoring score in low-trust scenario and low monitoring score in high-trust scenario. A probable explanation for this phenomenon is that the student respondents were relatively unmindful of low competence trust in responding with intended monitoring, whereas in other cases they were more cautious. In contrast, the executives' response was in accordance with the expected behaviour. Students seem to have been less inclined to act on limited information in the case of low competence trust - indicating need-based monitoring score of 0.588 for the low-trust agent as against 0.768 for the high-trust agent - whereas executives seem to have responded in a manner that is consistent with the intuitive understanding, showing higher monitoring score in low-trust scenario and lower monitoring score in high-trust scenario. Such counter-intuitive response by the students may, perhaps, be due to their lack of live work experience in handing channel partners. Because the sample size of the students was double that of the executives, the effect of this phenomenon was seen in the combined sample as well. This, however, does not reject the data nor does it nullify the methodology. It merely indicates a counter-intuitive observation in the data, which probably deserves further research.

13. Goodwill Trust Versus Control-based Monitoring

The relationship between trust and monitoring was calculated through Karl Pearson's coefficient of correlation. Because the current research focused on the existence and direction of the relationship and not the causality, use of Pearson's coefficient of correlation (*r*-value) was considered appropriate. Correlations between each type of trust and its components on the one hand and the postulated type of monitoring were calculated to test the proposed hypotheses. Because the research postulated negative relationship between trust and monitoring, only negative coefficients of correlation were regarded as relevant. The summary of correlations between *goodwill trust* and control-based monitoring are shown in Table 6. It can be seen that there was predominant support to the postulated negative relationship between goodwill trust and control-based monitoring at the intended level. This supports H1, H11, H12, H13 and H14 in terms of intended control-based monitoring, where all the cases witnessed $r < 0$, with $p<0.01$ (column c).

Table 6: Correlations# between GWT and MC

Executives and Students (N = 101$)

Type of Trust	Intended Control-based Monitoring			Type of Trust	Actual Control-based Monitoring		
	High Trust (a)	Low Trust (b)	All Trust (c)		High Trust (d)	Low Trust (e)	All Trust (f)
GWT_{COG}	–0.039 $p = 0.349$	–0.309 $p<0.01$	–0.210 $p<0.01$	GWT_{COG}	0.121	0.001	0.002
GWT_{AFF}	–0.0001 $p = 0.500$	–0.298 $p<0.01$	–0.192 $p<0.01$	GWT^{AFF}	0.118	–0.011 $p = 0.458$	0.010
GWT^{STAT}	–0.786 $p<0.01$	–0.914 $p<0.01$	–0.873 $p<0.01$	GWT_{INT}	0.109	0.412	0.291
GWT_{OVRL}	–0.519 $p<0.01$	–0.734 $p<0.01$	–0.636 $p<0.01$	GWT_{STAT}	0.095	0.374	0.253
$M_{C\text{-}ACTL}$	0.183	0.429	0.336	GWT_{OVRL}	0.152	0.221	0.144

Pearson's coefficient of correlation.

$ One executive dropped out mid-way, after completing half the set of questionnaires.

(1) Significant negative correlations between trust and monitoring are darkened.

(2) $M_{C\text{-}ACTL}$ denotes actual control-based monitoring. The entries against it denote the correlation between the actual monitoring and the intended monitoring. Negative score against $M_{C\text{-}ACTL}$ implies that the respondents' intention to monitor did not reflect in the same pattern in their actual monitoring and, in fact, the two types of monitoring varied in the opposite directions.

Such strong support for these hypotheses confirms our postulate that goodwill trust and control-based monitoring are negatively related, at the intended monitoring level. However, Table 6 also shows that the hypotheses H_1, H_{11}, H_{12}, H_{13} and H_{14} did not find any support whatsoever in terms of actual control-based monitoring behaviour (columns d, e and f). In this context, all correlations were surprisingly found to be positive - barring one cell which is negative but insignificant with $p > 0.05$. That is, at the level of actual monitoring behaviour, there was no negative relationship between goodwill trust and control-based monitoring across all respondents. This means, although the respondent expressed a willingness to act in the postulated manner in response to perceived trust levels, their actual monitoring efforts varied in the opposite direction across the levels of trust.

In the case of different trust scenarios, low goodwill trust (column b) seems to have evoked more significant response than high goodwill trust (column a) in terms of intended control-based monitoring behaviour. Table 6 shows that in the case of high trust (column a), only GWT_{STAT} ($r = -0.786$, $p<0.01$) and GWT_{OVRL} ($r = -0.519$, $p<0.01$) are significantly and negatively related to MC. However, in the case of low trust (column b), all the four GWT are found to have significant and negative correlations vis-à-vis MC. A curious and inexplicable phenomenon is that whereas GWT_{AFF} has the lowest magnitude of significant negative correlation vis-à-vis intended M_C (column b, $r = -0.298$) amongst all in that column, GWT_{AFF} is the only aspect that had a negative - though extremely insignificant - correlation vis-à-vis actual M_C (column e, $r = -0.011$). An important finding is that the magnitudes of correlation in the case of low trust (column b) are consistently greater than those in the case of high trust (column a). That is, column (a) displays a phenomenon of insignificant relationship between high trust and monitoring. This possibly explains that respondents are willing to act readily in exercising caution but not in putting down their guard.

Table 7: Correlations between GWT and M_C

Executives (N = 33)

Type of Trust	Intended Control-based Monitoring			Type of Trust	Actual Control-based Monitoring		
	High Trust (a)	Low Trust (b)	All Trust (c)		High Trust (d)	Low Trust (e)	All Trust (f)
GWT_{COG}	–0.292 $p<0.05$	–0.581 $p<0.01$	–0.705 $p<0.01$	GWTCOG	–0.069 $p = 0.352$	–0.233 $p = 0.096$	–0.359 $p< 0.01$
GWT_{AFF}	–0.259 $p=0.073$	–0.557 $p<0.01$	–0.681 $p<0.01$	GWT^{AFF}	–0.213 $p=0.117$	–0.100 $p=0.289$	–0.267 $p< 0.05$
GWT_{STAT}	–0.751 $p< 0.01$	–0.834 $p<0.01$	–0.884 $p<0.01$	GWT_{INT}	–0.366 $p<0.05$	–0.242 $p=0.087$	–0.368 $p< 0.01$
GWT_{OVRL}	–0.655 $p< 0.01$	–0.686 $p<0.01$	–0.823 $p<0.01$	GWT_{STAT}	–0.317 $p<0.05$	0.020	–0.245 $p<0.05$
MC-ACTL	0.386 $p<0.05$	0.105 $p=0.281$	0.309 $p<0.01$	GWT_{OVRL}	–0.272 $p=0.063$	–0.184 $p=0.152$	–0.347 $p<0.01$

Table 7 relates to the responses of the executives sample. The data show that there was predominant support to the postulated negative relationship between goodwill trust and intended control-based monitoring from this sample. Overall, across all trust scenarios, the executives supported the postulated negative relationship between goodwill trust and actual control-based monitoring in their allocation of time across monitoring activities in the simulated context. The goodwill trust predominantly had significantly negative correlation vis-à-vis intended M_C (columns a, b and c). Specifically, barring GWT_{AFF}, the rest all had significantly negative correlation vis-à-vis intended MC consistently. Although GWT_{AFF} had a negative correlation vis-à-vis intended M_C in all contexts, the correlation in high trust was not significant enough ($r = -0.259$, $p=0.073$) to be accepted for supporting our hypothesised relationship between the variables. The magnitudes of correlation across the types of trusts vis-à-vis intended M_C were higher in low-trust context (column b) than in high-trust context (column a), implying that the executives are *willing* to act readily in exercising caution but not in putting down their guard.

In the case of actual M_C, executives' decisions showed some support to the postulated negative relationship between trust and monitoring. This was consistently and significantly negative in *all trust* scenarios (column f) where the correlations were negative and significant at 0.05 level. High-trust scenario witnessed moderate support to the hypothesised relationship, with GWT_{INT} ($r = -0.366$, $p<0.05$) and GWT_{STAT} ($r = -0.317$, $p<0.05$) showing significantly negative relationships, GWT_{COG}, GWT_{AFF} and GWT_{OVRL} did not show such support, although the correlations were negative, but the p-values were more than 0.05 (column d). The low-trust context in the actual MC did not show any support for the postulated relationship because the correlations were either insignificantly negative, with p-values more than 0.05 or positive (column e).

The relationship between goodwill trust and control-based monitoring was tested for the student sample (Table 8). The student sample showed strong support to the postulated negative relationship between GWT and M_C in all cases of intended monitoring (columns a, b and c). Barring GWT_{STAT}, the magnitudes of r-values in low-trust context are higher than those in high-trust context (columns a and b), implying that the students are willing to act readily in exercising caution but not in putting down their guard, although their statements (GWT_{STAT}) seem to be somewhat contrary to this.

The actual M_C by the students had no support at all to any of the postulated negative relationships vis-à-vis trust. Even those elements that showed negative r-value had very low significance, with p-values being above 0.15, rendering the correlations irrelevant (columns d, e and f). The complete volte-face from intended to actual monitoring behaviour by the student sample is somewhat puzzling.

Table 8: Correlations between GWT and M_C

Students (N = 68)

Type of Trust	Intended Control-based Monitoring			Type of Trust	Actual Control-based Monitoring		
	High Trust (a)	Low Trust (b)	All Trust (c)		High Trust (d)	Low Trust (e)	All Trust (f)
GWT_{COG}	–0.293 $p<0.01$	–0.581 $p<0.01$	–0.593 $p<0.01$	GWT_{COG}	0.014	–0.097 $p=0.216$	0.055
GWT_{AFF}	–0.329 $p<0.01$	–0.615 $p<0.01$	–0.599 $p<0.01$	GWT_{AFF}	–0.019 $p=0.439$	–0.120 $p=0.165$	0.021
GWT_{STAT}	–0.837 $p<0.01$	–0.644 $p<0.01$	–0.804 $p<0.01$	GWT_{INT}	0.059	–0.028 $p=0.412$	0.106
GWT_{OVRL}	–0.629 $p<0.01$	–0.704 $p<0.01$	–0.748 $p<0.01$	GWT_{STAT}	0.183	0.008	0.162
$M_{C\text{-}ACTL}$	–0.049	0.088 $p=0.238$	0.087	GWT_{OVRL}	0.056	–0.087 $p=0.240$	0.078

14. Competence Trust Versus Need-based Monitoring

Data analysis for the relationship between competence trust and need-based monitoring for the combined sample shows a clearer picture in support of the hypotheses (Table 9). The combined scenario witnessed significant support for the postulated negative relationship between the variables both in the case of intended behaviour and in the case of actual behaviour for all elements of trust (columns c and f). This implies that hypotheses H_2, H_{21}, H_{22}, H_{23} and H_{24} received significant support from the intended as well as actual M_N amongst the combined sample. The intended need-based monitoring was not in the order as expected in the case of high-trust scenario (column a), symbolising a possible unwillingness on the part of the respondents to drop guard. The intended need-based monitoring was significantly in support of the postulated negative relationship with competence trust when the trust level was low except in the case of CT_{STAT} ($r = –0.069$, $p=0.245$). Thus, the postulated relationship received supports in correlations trust had vis-à-vis intended MN in low-trust context such as CT_{COG} ($r = –0.277$, $p<0.01$), CT_{AFF} ($r = –0.223$, $p<0.05$), and CT_{OVRL} ($r = 0.252$, $p<0.01$). The two trust scenarios did not receive significant support from the actual monitoring behaviour (columns d and e), although the combined scenario received significant support (column f). Although CTINT had a negative correlation vis-à-vis actual MN in the all trust combined scenarios (column f), the same was not significant enough ($r = –0.015$, $p=0.414$).

Table 9: Correlations between CT and M_N

Executives and Students (N = 102)

Type of Trust	Intended Need-based Monitoring			Type of Trust	Actual Need-based Monitoring		
	High Trust (a)	Low Trust (b)	All Trust (c)		High Trust (d)	Low Trust (e)	All Trust (f)
CT_{COG}	0.104	–0.277 $p<0.05$	–0.455 $p<0.01$	CTCOG	–0.115 $p=0.127$	–0.019 $p=0.425$	–0.125 $p<0.05$
CT_{AFF}	0.104	–0.223 $p<0.05$	–0.420 $p<0.01$	CTAFF	–0.105 $p=0.147$	–0.038 $p=0.354$	–0.132 $p<0.05$
CT_{STAT}	0.138	–0.069 $p=0.245$	–0.334 $p<0.01$	CTINT	0.035	0.043	–0.015 $p=0.414$
CT_{OVRL}	0.007	–0.252 $p<0.01$	–0.460 $p<0.01$	CTSTAT	–0.143 $p=0.076$	–0.053 $p=0.299$	–0.149 $p<0.05$
$M_{N\text{-}ACTL}$	–0.044	–0.055	–0.011	CTOVRL	–0.135 $p=0.088$	–0.028 $p=0.390$	–0.141 $p<0.05$

The sample of executives returned similar results regarding the relationship between competence trust and need-based monitoring (Table 10). The intended M_N was significantly correlated in all-trust scenario and low-trust scenario (columns b and c). The intended monitoring for the high-competence trust scenario was found insignificantly related to the level of trust in a negative way. This may be due to the executives exercising caution even though they felt that the agent was high in competence trust, a phenomenon perhaps characteristic of work experience which teaches one to err on the safer side. However, the postulated relationship between intended monitoring and competence trust was supported significantly in the low-trust scenario and in the combined scenario.

Nevertheless, in the case of actual monitoring, there was no support to the postulated negative relationship between the two variables, although in a few specific cases the relationship was insignificantly negative.

Table 10: Correlations between CT and M_N

Executives (N = 34)

Type of Trust	Intended Need-based Monitoring			Type of Trust	Actual Need-based Monitoring		
	High Trust (a)	Low Trust (b)	All Trust (c)		High Trust (d)	Low Trust (e)	All Trust (f)
CT_{COG}	–0.041 p=0.410	–0.547** p<0.01	–0.342** p<0.01	CT_{COG}	0.101	0.057	–0.163 p=0.093
CT_{AFF}	–0.043 p=0.404	–0.555** p<0.01	–0.337** p<0.01	CT_{AFF}	0.002	0.036	–0.195 p=0.056
CT_{STAT}	–0.013 p=0.471	–0.494** p<0.01	–0.317** p<0.01	CT_{INT}	0.174	0.118	–0.064 p=0.303
CT_{OVRL}	–0.217 p=0.108	–0.589** p<0.01	–0.381* p<0.01	CT_{STAT}	–0.064 p=0.360	0.054	–0.188 p=0.063
$M_{N\text{-}ACTL}$	–0.127	–0.096	–0.051	CT_{OVRL}	0.002	0.060	–0.193 p=0.058

The sample of students returned similar results regarding the relationship between competence trust and need-based monitoring (Table 11). The combined trust scenario produced results significantly supporting the hypothesised relationship between CT and M_N. Need-based monitoring was significantly [negatively] correlated vis-à-vis CT_{COG} ($r = –0.523$, $p<0.01$), CT_{AFF} ($r = –0.554$, $p<0.01$), CTSTAT ($r = –0.482$, $p<0.01$), and CT_{OVRL} ($r = –0.625$, $p<0.01$).

Table 11: Correlations between CT and M_N

Students (N = 68)

Type of Trust	Intended Need-based Monitoring			Type of Trust	Actual Need-based Monitoring		
	High Trust (a)	Low Trust (b)	All Trust (c)		High Trust (d)	Low Trust (e)	All Trust (f)
CT_{COG}	0.029	–0.370 p<0.01	–0.523 p<0.01	CT_{COG}	–0.095 p=0.220	–0.048 p=0.350	–0.077 p=0.187
CT_{AFF}	–0.012 p=0.461	–0.494 p<0.01	–0.554 p<0.01	CT_{AFF}	0.016	–0.016 p=0.450	–0.021 p=0.402
CT_{STAT}	0.042	–0.399 p<0.01	–0.482 p<0.01	CT_{INT}	–0.006 p=0.479	0.061	0.046
CT_{OVRL}	–0.129 p=0.147	–0.576 p<0.01	–0.625 p<0.01	CT_{STAT}	–0.011 p=0.464	–0.091 p=0.230	–0.066 p=0.223
$M_{N\text{-}ACTL}$	0.030	0.052	0.014 p=0.436	CT_{OVRL}	–0.030 p=0.404	–0.019 p=0.437	–0.041 p=0.320

The intended monitoring for the high-competence trust scenario did not yield support to the hypothesised relationship. However, the postulated relationship between intended monitoring and competence trust was supported significantly in the low-trust scenario, with M_N being significantly correlated vis-à-vis CT_{COG} ($r = –0.370$, $p<0.01$), CT_{AFF} ($r = –0.494$, $p<0.01$), CT_{STAT} ($r = –0.399$, $p<0.01$), and CT_{OVRL} ($r = –0.576$, $p<0.01$). Nevertheless, in the case of actual monitoring, there was no support to the postulated negative relationship between the two variables, although in a few specific cases the relationship was insignificantly negative.

The similarity in the responses of both the executives and the students in not significantly responding to *high competence trust* are somewhat intriguing. One would expect that when competence trust was high, at least at the intended level the managers would like to monitor the agent less. However, both the sample sets clearly negated such a postulate and showed a proclivity to monitor irrespective of the high trust level expressed by them. It is quite different from the case of control-based monitoring vis-à-vis high goodwill trust.

15. Overall Trust Versus Overall Monitoring

The overall correlations for all trusts and all monitoring for the entire sample returned similar picture (Table 12). The intended overall monitoring was negatively related - strongly too - to overall trust. H3 states that overall trust is negatively related to overall monitoring.

Table 12: Correlations between overall trust and overall monitoring

(N=101)

Type of Trust	Intended Monitoring			Type of Trust	Actual Monitoring		
	High Trust (a)	Low Trust (b)	All Trust (c)		High Trust (d)	Low Trust (e)	All Trust (f)
T_{COG}	–0.033 p=0.322	–0.311 p<0.01	–0.329 p<0.01	T_{COG}	0.037	–0.057 p=0.210	–0.080 p=0.054
T_{AFF}	–0.043 p=0.273	–0.286 p<0.01	–0.305 p<0.01	T_{AFF}	0.067	–0.065 p=0.179	–0.067 p=0.090
T_{STAT}	–0.445 p<0.01	–0.578 p<0.01	–0.568 p<0.01	T_{INT}	0.082	0.188	0.121
T_{OVRL}	–0.322 p<0.01	–0.532 p<0.01	–0.518 p<0.01	T_{STAT}	0.108	0.158	0.085
M_{ACTL}	0.195	0.221	0.172	T_{OVRL}	0.073	0.044	–0.016 p=0.375

This hypothesis was strongly supported in the context of intended monitoring where T_{OVRL} is significantly and negatively correlated vis-à-vis monitoring in all three scenarios (r values –0.322 in high-trust scenario, –0.532 in low-trust scenario and –0.518 in combined scenario,

$p<0.01$ in all cases). The elements of trust, too, were significantly and negatively correlated vis-à-vis T_{OVRL}. The exception to this was T_{COG} and T_{AFF} in the case of high-trust agent, where the association was weak and insignificant, negative notwithstanding. However, the actual monitoring showed weak support to the hypotheses. This pattern was an outcome of the aggregation of various scenarios of GWT and CT discussed earlier and therefore was in tune with the earlier findings.

The summary of findings about the hypothesised relationships that trust has vis-à-vis intended monitoring is shown in the figure below:

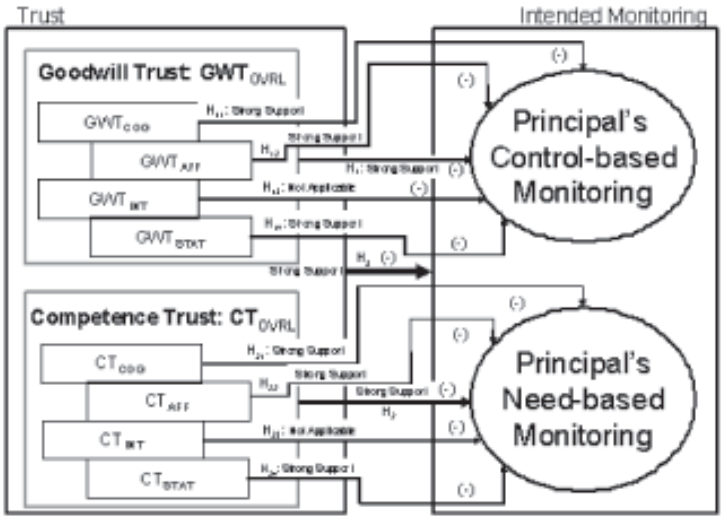

Figure 2: Research outcome: Intended monitoring

The summary of findings about the hypothesised relationships that trust has vis-à-vis actual monitoring is shown in the figure below:

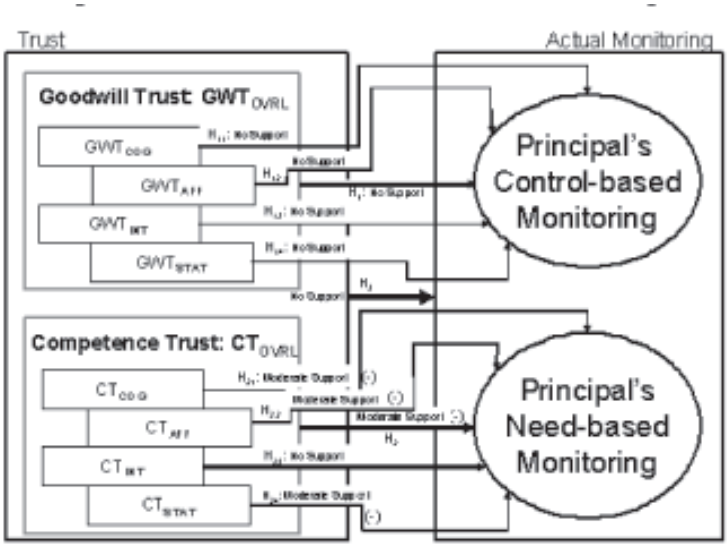

Figure 3: Research outcome: Actual monitoring

16. Conclusions and Discussion

The current research examined the relationship between trust and monitoring in a principal-agent relationship. Trust was dissected into cognition, affect and conation, and monitoring was dichotomised into intended monitoring and actual monitoring. The current research used simulated conditions of principal-agent relationship for creating the context in which the postulated relationship between the variables was to be captured. The efforts to create high-trust and low-trust scenarios bore fruit and it was found that the pattern was clear in cell mean scores across both the samples of students and executives. This validated both the simulation and the choice of students as main respondents in this study, accounting for two-thirds of the sample.

In line with mentions in the extant literature, it was expected that trust and monitoring - both intended and actual - would be negatively correlated because trust mitigates the need for control and hence the need for monitoring. The study found strong support for the postulated relationship in the case of intended monitoring, which was, with high level of significance, correlated with trust negatively. However, actual monitoring, which was measured through the respondents' allocation of time amongst various activities, did not find support to the hypotheses. One plausible reason for this divergence in findings may be that whereas the respondents express their intentions by isolating the influence of any other extraneous factors whilst responding to the questionnaires, they are confounded by the influence of such factors whilst taking decisions.

Actual monitoring across all samples and all scenarios found no support to the postulated relationship between the variables. Only in the case of the executives, the actual MC was negatively related to GWT, that too mainly in the overall scenario. However, students failed to display the expected behaviour in actual MC in relation to GWT. This may be due to the fact that students could not see the implications of their actions in the form of monitoring in different trust scenarios. This gains ground when we see that their intended MC had significant correlation with all types of GWT. What this means is that whereas they comprehend what is the appropriate response to a trust context, they are unable to convert it to action given a situation. This is possibly explained by their lack of experience in real world.

The findings of this research are in conformity with the studies already published (Andaleeb, 1996; Das & Teng, 2001; McAllister, 1995). The earlier studies touched upon this aspect of channel/inter-organisational relationship much less deeply. McAllister's work used a different dimension of trust-monitoring relationship: cognition-based trust negatively associated with control-based monitoring and affect-based trust positively associated with need-based monitoring. However, the current study has used the term 'affective trust' as an expression of conviction about the trustworthiness about the agent and thus there is no direct contradiction between the two studies. The difference between the two studies is in the use of the construct need-based monitoring. The study by Andaleeb (1996) looked at the negative relationships between trust and control in their respective entirety. McAllister (1995) and Andaleeb (1996) relied mainly on responses to questionnaire or write-ups by the

respondents, and to this extent, their studies stopped short of assessing actual behaviour. The current study aimed at filling this gap and hence had gone a step further by stretching the logic to the actual behaviour of the principals and compare/contrast it with the intended behaviour expressed by the respondents. This was achieved through developing a method or an environment to 'observe' the actual behaviour, which is an important contribution of this research.

The responses by the students and executives matched in most of the cases. A curious case of deviation was in the pattern of need-based monitoring score. One would have normally expected that the MN value (intended) would be low in high-competence trust context and high in low-competence trust context. This was found to be in order in the executives' data. However, the students' data overturned this pattern, raising curiosity as to its explanation. This unusual pattern was so strong that it even affected the overall intended MN by the students, which too showed a similar pattern. Low competence trust seems to have had less impact on students' intended behaviour. Possibly, students were still not attuned to the significance of low competence trust in their agent due to their lack of sufficient work experience. This argument gains ground when we see that their intended MC values followed the expected pattern of high in low-GWT and low in high-GWT contexts, similar to those witnessed in the executives' data. Perhaps, integrity-related trust seems to cause sharp reaction amongst the students whereas competence trust does not seem to evoke such responses. Although there was no significant difference observable between the responses of the student samples and the executive samples in so far as the relationship between trust and intended monitoring was concerned, the picture was considerably different in the actual monitoring. Whereas students displayed a noticeable negative relationship between trust and monitoring in the case of competence trust, executives reacted much less negatively in the same context. However, the picture turns reverse when one looks at the goodwill trust scenario, where the executives showed a much more noticeable negative relationship between trust and actual monitoring whereas students responded so only in the context of low trust. The reason for such a difference in responses may be the different orientations of the two sets sampled: students, not yet well exposed to handling real-life agents, may be unwilling to drop guard in the case of high-goodwill trust agent, whereas executives who have probably seen ample cases of agents with low goodwill trust responded sedately when encountered with such an agent in the experiment; however, when the executives faced a low-competence trust agent, their natural instinct to handle low competence with controls must have made them respond swiftly to undo the effects of low competence trust. - This was observed in their allocation of scarce resources by reducing need-based monitoring in the case of high competence trust.-

This article found paradoxical but important behavioural patterns amongst the respondents. Specifically, the finding that high competence trust did not evoke much response in both the sample sets is revealing of the phenomenon *that as far as task performance is concerned, managers have a tendency to monitor irrespective of the capabilities of their agents.* What this implies is that executives and students are aware and believe that when the agent is trust worthier they should monitor the agent less; nevertheless, when it came to deciding on the spot about monitoring the agent's task performance, they displayed a different behaviour.

This can be due to two possible reasons: either there are factors that influence decisions relating to need-based monitoring more than trust or *irrespective of what the trust level is respondents choose to monitor the agent for his task performance*. This phenomenon is curious because the respondents were fairly discerning in their responses to goodwill trust, where the executives' data showed clear negative correlations overall in the actual monitoring behaviour as well as in their intended monitoring.

Another important implication of this research work to the field of management in practice is that executives were not willing to let their guard down even though they perceived the goodwill trust to be high, whereas in low-trust context they were willing to monitor more. This intended behavior may be due to the tendency to err on the safer side of not being a victim of agent's opportunism, and their conditioning in organisation dynamics may be the cause of this. On the contrary, students responded sharply to high goodwill trust, possibly due to their not being conditioned to think as noted in the case of the executives. The difference in this behaviour may be explained in plain terms as wisdom through experience. Interestingly, such a difference was not found in the context of competence trust, where both students and executives were unwilling to drop their guard even though trust level was high.

Although this research has not attempted to quantify the normative degree of monitoring at different levels of trust, such quantification is an important issue to be considered in the interest of managerial practice.

17. Limitations and Future Directions for Research

The study was based on laboratory experiment amongst students and executives. The external validity of such experiment in the context of monitoring deserves greater assessment.

The study used only MBA students and executives as respondents. In reality, the inter-personal relations pertain to the boundary personnel of the principal and the agent. There is a need to study the phenomenon considered in this research using such boundary personnel as respondents to get a real-life picture.

The simulation used in this study needs to be used amongst wider range of samples of different types to test if it evokes consistent responses to establish its scale-validity for the actual monitoring behaviour.

This research showed the presence of negative relationship between trust and monitoring. The findings of the study point at scope for further research as follows:

- On the basis of the present research, a better understanding of the relationship between trust and monitoring in different relationship contexts, types of organisations and industries can be obtained.

- Specifically, superior-subordinate dyadic relationship context with different personality types of the two members can shed interesting light on the role of trust in decisions relating to monitoring.

- Research is possible on the influence of managerial decision styles - bureaucratic, consultative, delegative and so on, on the relationship between trust and monitoring.

- In the context of a marketer and distributor in consumer products - durables as well as non-durables - the moderating influence of brand power on the relationship between trust and monitoring can be examined.

- There is a need for a comprehensive competence-trust inventory in Indian context, where dynamics of relationship within the organisation are influenced by loyalty as well as competence.

- Quantification of the normative degree of monitoring is an aspect that needs to be established under different degrees of trust. This can be carried out through sample of experts using iterations and Delphi technique.

- Conceptual model development and simulation development involving trust and monitoring in a dynamic environment can be developed. Evidently, in a dynamic context, the degree of trust varies by the non-opportunistic behaviour of the agent over time. This, in turn, affects the degree of monitoring to be exercised on that agent. Such a study is especially possible in the field of Systems Dynamics. It will be a useful learning tool for managers in an experiential setting.

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