



<input checked="" type="checkbox"/>	Master's thesis
<input type="checkbox"/>	Licentiate's thesis
<input type="checkbox"/>	Doctor's thesis

Subject	International Business	Date	15.10.2009
Author(s)	Lee Anthony Beckensale	Student number	
		Number of pages	67
Title	Integrating Trust into the Supply Chain		
Supervisor(s)	D. Sc. Esa Stenberg M. Sc. Elina Pelto		

Abstract

There has been much debate on the function of trust within and between organisations. Researchers have yet to agree on the conceptualisations and on the dimensions of trust. Trust is either implicitly understood or not recognised as a factor within and between institutional frameworks and firms.

Trust has an important role to play in supply chains and this paper seeks to explicate the many complex conceptualisations and issues surrounding trusts dimensions, formation, and maintenance.

In order to do this, a basic universal skeletal frame that is common to all supply chains was constructed. This framework was further developed with a view to integrating trust into the supply chain.

The introduction of trust into supply chains should open up new perspectives on the quality of partner relationship, information sharing, and commitment. It should also improve supply chain efficiency and reduce transaction costs. In essence, it is claimed that the level of trust will affect all of these factors. This has many implications for supply chain management: supply chain managers need to develop and maintain trust across many boundaries, beliefs and values, and between developed and developing nations, all the while strengthening the supply chain network.

Chapter 1 introduces a general overview, the reason, and objectives of the work and the layout of the thesis. Chapter 2 includes the methods employed to answer the problem of integrating trust into the supply chain. Chapter 3 lays down a rudimentary framework for the supply chain. Chapter 4 addresses the dimensions of trust, and provides an analysis of trusts qualities. Chapter 5 takes a look at trusts role, within and between organisations in transactional contexts. Chapter 6 integrates trust into the supply chain. Chapter 7 concludes the study and suggests possible future avenues of study. The bibliography holds the sources cited.

Key words	Trust, supply chain, integration
Further information	



**TURUN KAUPPAKORKEAKOULU**  
**Turku School of Economics**

# **INTEGRATING TRUST INTO THE SUPPLY CHAIN**

Master's Thesis in International  
Business

Author: Lee Beckensale  
15468

Supervisors:  
D. Sc. (econ.) Esa Stenberg  
M. Sc. (econ.) Elina Pelto

15.10.2009  
Turku

## TABLE OF CONTENTS

1	INTRODUCTION .....	5
1.1	Global business environment and trust .....	5
1.2	Research problem and objectives .....	6
1.3	General outline of the work .....	8
2	METHODOLOGY AND RESEARCH DESIGN .....	10
2.1	Constructing theory .....	10
2.2	Ontological and epistemological perspectives .....	13
2.3	Research approach and analysis .....	14
2.4	Trustworthiness of the study .....	16
2.5	Summary .....	17
3	THE SUPPLY CHAIN .....	18
3.1	Supply chain and supply chain management .....	18
3.2	Key areas/drivers .....	20
3.3	Issues and properties of these drivers .....	22
3.4	Players and actors in the supply chain .....	23
3.5	Issues and properties of the main actors .....	24
3.6	Summary .....	25
4	TRUST, A UNIVERSAL CONCEPT .....	27
4.1	Trust and international business .....	27
4.2	The many faces of trust .....	28
4.3	Forming categories for trust .....	29
4.4	An analysis of each category of trust .....	31
4.5	Interrelatedness of the dimensions of trust .....	35
4.6	Summary .....	36
5	INTER-ORGANISATIONAL TRUST .....	38
5.1	Collaboration between firms .....	38
5.2	Alliance development .....	40
5.3	International strategic alliances .....	41
5.4	Relationships across boundaries .....	44
5.5	Legal and contractual law within inter-organisational trust .....	45
5.6	Inter firm institutions, innovation and employee-employer relations .....	46
5.7	Summary .....	48

6	INTEGRATING TRUST INTO THE SUPPLY CHAIN.....	49
6.1	Integrating trust into the supply chain .....	49
6.2	The drivers and trust development .....	50
6.3	The actors and trust development.....	53
6.4	Supply chain alliance development and trust.....	56
6.5	Supply chain international strategic alliances and relationships across boundaries .....	57
6.6	Legal and contractual law in the supply chain .....	58
6.7	Inter-firm institutions supporting the supply chain .....	59
6.8	Summary .....	61
7	CLOSING REMARKS .....	63
	REFERENCES .....	64

## TABLE OF FIGURES

Figure 1	Design of research question 1 .....	6
Figure 2	Design of research question 2 .....	7
Figure 3	The cycle of deductive-inductive research .....	11
Figure 4	Research design .....	12
Figure 5	Analytical hierarchy in substantive theory building. ....	12
Figure 6	Ontological spectrum, adapted from Morgan and Smircich (1980) ...	13
Figure 7	The basic supply chain unit of supplier, company, and customer (adapted from Hugos 2003).....	19
Figure 8	Extended supply chain or the basic supply chain model. (Adapted from Hugos 2003).....	20
Figure 9	An adaptation and merging of Chopra's and Hugos' supply chain drivers .....	21
Figure 10	A comparison between Chopra's and Hugos' classification.....	23
Figure 11	An adaptation and merging of Chopra's and Hugos' supply chain stages and actors .....	24
Figure 12	The many faces of trust .....	29
Figure 13	Eight dimensions/typologies making up trust.....	35
Figure 14	Interrelatedness of the dimensions of trust.....	36
Figure 15	Hierarchy of trust .....	40
Figure 16	Phases of alliance development and the evolution of trust (adapted from Child 1998).....	43
Figure 17	Integration of trust into the supply chain.....	50
Figure 18	Key drivers and respective key trust development. ....	52
Figure 19	Key actors and respective key trust development.....	54

Figure 20 Duality of structure: Supply chain dynamics.....55

# 1 INTRODUCTION

## 1.1 Global business environment and trust

Supply chains are facing demands in a global environment that are becoming ever more complex. Intense competition demands that supply chains deliver non-standardised, innovative, quality goods at low prices (Lane 1998, 1). Basic supply chain frameworks and models by themselves cannot answer these challenges. A socio-economic approach which can invoke knowledge from a multidisciplinary array of sources such as economics, psychology, history, and sociology for example can begin to bring new perspectives on the development of supply chains in highly competitive markets that operate across many boundaries. Using these disciplines to investigate and map out a theoretically highly complex, multilayered concept of trust is an important step in improving supply chain frameworks.

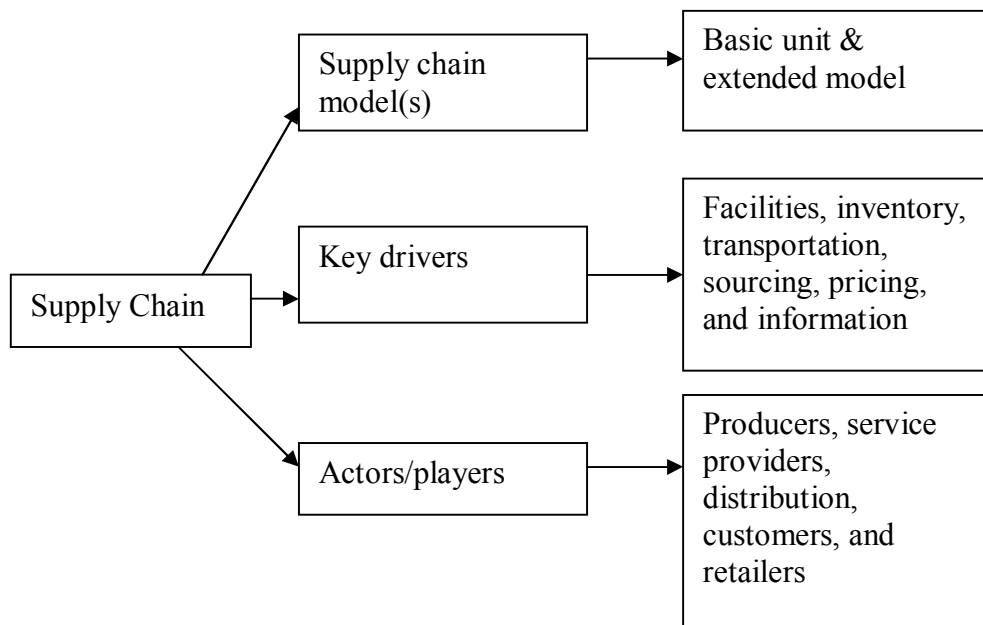
*“We are living in a diverse cultural world which in turn generates diverse habits – but human nature stays the same. The one universal that we all understand and appreciate is, trust.”* (Anonymous)

Trust serving as the background for international business is seen as a competitive advantage (Lane 1998, 1; Brenkert 1998, 273; Humphrey 1998, 214; Kern 1998, 203; Sako 1998, 88; Sydow 1998, 31); it can reduce uncertainty, and control risk; and cooperation based upon trust can minimize the effect of external threats. It can do this by providing foundations for longer lasting and tighter relationships (Fukuyama 1995). This also has the positive effect of reducing transaction costs (Sako 1998, 90-92; Deakin & Wilkinson 1998, 147; Humphrey 1998, 224-225; Chiles & McMackin 1996, 73-99), while at the same time enhancing the responsiveness and efficiency of supply chains; trust is a powerful co-ordination mechanism.

## 1.2 Research problem and objectives

- *Research question 1: “What are supply chains, what are their main actors and drivers, and what are the key functional issues surrounding these actors and drivers?”*

The first phase of integrating trust into the supply chain begins by defining the concept of a basic supply chain, its constructs and those properties. As this first phase delineating the supply chain does not detail any cause and effect relationships or take empirical evidence to support its construction, the model below cannot be considered as an operationalisation of its concept. At most it can be considered an operationalisation of the concept of the supply chain. It provides an understanding of the supply chain through, as can be seen below, its conceptual constructs.

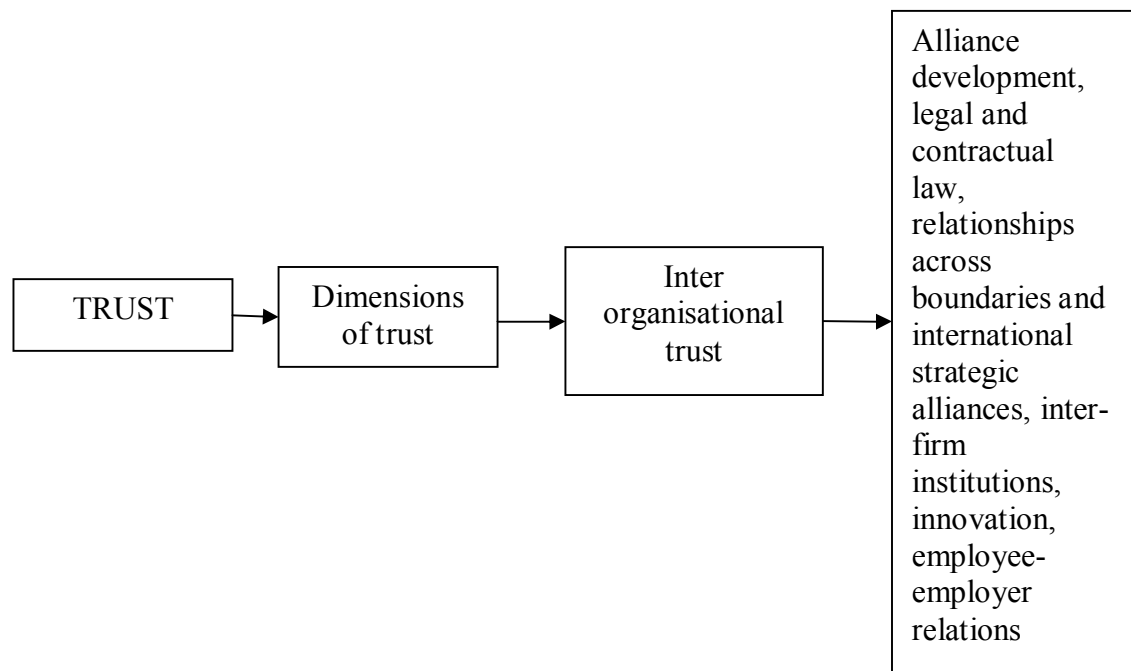


**Figure 1** Design of research question 1



- *Research question 2: “What is trust what are its dimensions; how can it be created and maintained, and what is its role within international business?”*

Research objective 2 attempts to define and delineate a multilayered and complex phenomenon: trust. A construct consisting of a framework from within which inter-organisational trust could be examined included the typologies of trust and its role within and between organisations. These typologies provided the foundations for the further modelling of trust through the strategic operations of firms, their relations, and institutional supports.



**Figure 2** Design of research question 2

- *Research question 3: “How can trust be integrated into supply chains, and what are some of the key issues and challenges in integrating trust into supply chains.”*

Research objective 3 seeks to combine the findings of both research questions 1 and 2 and complete the objective of integrating trust into the supply chain. It was proposed that a key trust development issue be attached to each of the five categories within the construct of actors. This same approach was applied to the categories of construct of the drivers.

Developing the conceptual framework of trust within supply chains further, the distinction between the framework or structural property of the drivers and the interaction and interplay between the actors clarified the importance of building and maintaining trust through the communicative modes of the supply chain to enhance dynamic capabilities between driver structure and actor interaction. Lastly, some of the challenges of building and maintaining trust in supply chains were tackled through:

- Supply chain alliance development
- Supply chain international strategic alliances
- Relationships across boundaries and the supply chain
- Legal and contractual law in the supply chain
- Inter-firm institutions supporting the supply chain

### **1.3 General outline of the work**

Having introduced the background, research problems, and objectives, there follows a general outline of the work.

Chapter 2 lays out the rationale and philosophy that underpin the study. It outlines ontological and epistemological foundations, and then proceeds to assess substantive theory through exploratory, descriptive, and explanatory approaches. Also addressed in the methodology are the data collection methods and the trustworthiness of this research.

Chapter 3 opens and expands on the problem and objectives of Research Question 1. It begins with a brief introduction of the evolution and history of supply chains. A basic skeletal supply chain model is illustrated; also presented are the main drivers and actors that operate within supply chains. Chapter 3 explores and describes the properties and issues that surround these actors and drivers.

Chapter 4 introduces the importance of the many concepts of trust. Chapter 4 forms 8 categories of trust as well as an explanation and analysis of each. Trust's hierarchical nature, and the interrelatedness of categories formed are illustrated.

In Chapter 5, trust's role and function within and between organisations were addressed through alliance development, international strategic alliances, relationships across boundaries, legal and contractual law, and finally, through inter firm institutions, innovation, and employer employee relations.

Chapter 6 integrates the separate findings of chapters 3, 4, and 5 and thereby illustrates the integration of trust into the supply chain. Trust is integrated into the framework of the supply chain as a whole through the functions and activities of both the actors and drivers of the supply chain. A dynamic perspective of the supply chain is presented through Sydow's (1998) duality of structure. Furthermore, the five areas of international business between organisations are integrated into the supply chain. This offers a better understanding of some of the functions of supply chains and the importance of trust's role in business activities.

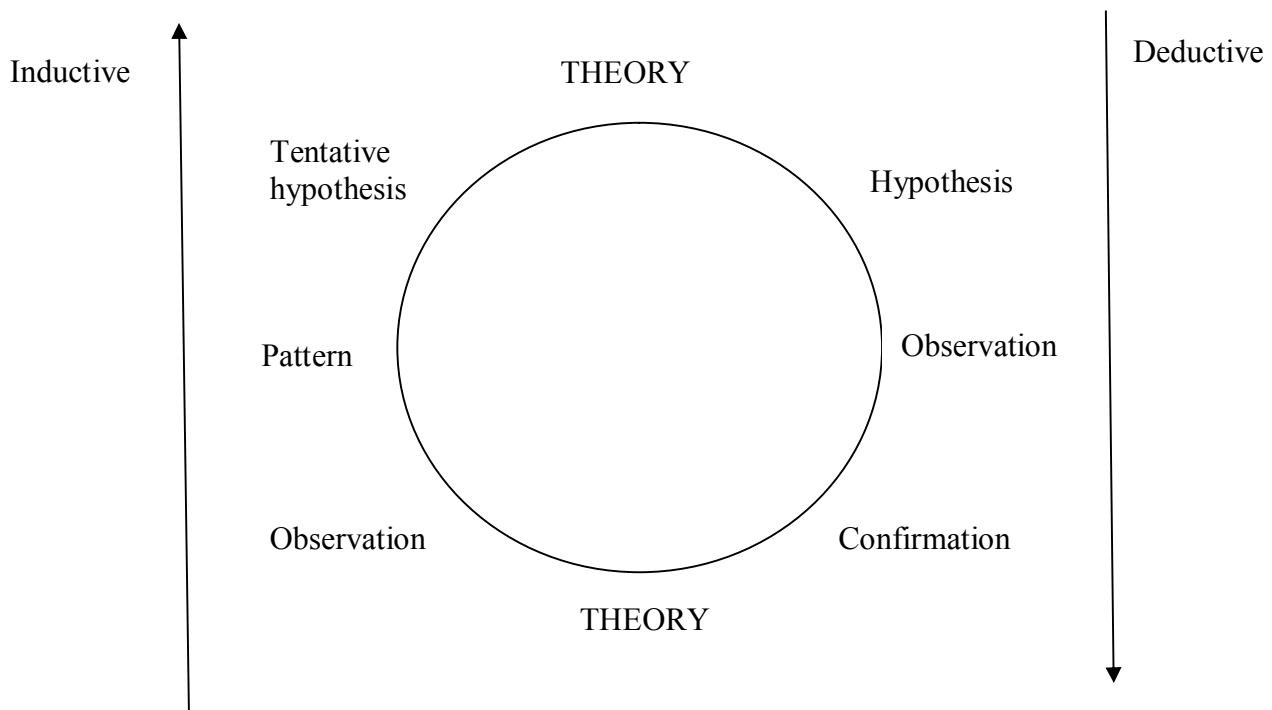
The work concludes by analysing the progression of the research towards the integration of trust into the supply chain. It also suggests possible future research in both academic and managerial environments. The bibliography contains all works cited in this study.

## **2 METHODOLOGY AND RESEARCH DESIGN**

This chapter provides a framework for the concepts, ideas, and theories of the study. It does this by illustrating the ontological and epistemological views of the researcher and the building of substantive theory through exploratory, descriptive, and explanatory research methods. It concludes by addressing the trustworthiness, data collection methods and analysis.

### **2.1 Constructing theory**

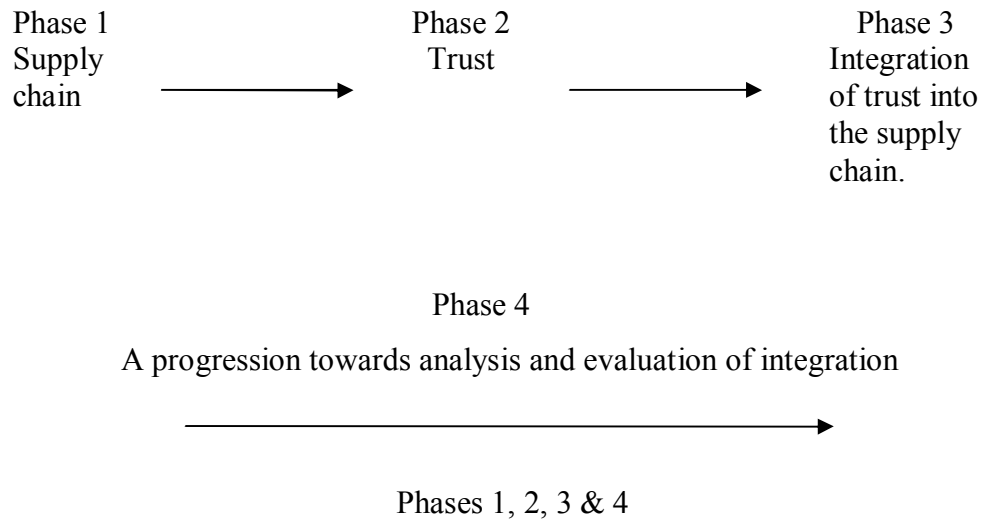
The basic research method was applied to a purely conceptual problem. The approach was qualitative owing to the nature of the research. The purpose of the study was to analyse the problem of integrating trust into supply chains through descriptive, exploratory, and explanatory research methods. There are two major approaches to obtaining reasoning: inductive and deductive. These two approaches are not mutually exclusive. In developing the framework for the study of trust within supply chains, it is assumed that trust plays a role therein. As such, this study devises constructs and variables built on correlations and analyses of data from previous research. See fig. 3 below.



**Figure 3 The cycle of deductive-inductive research**

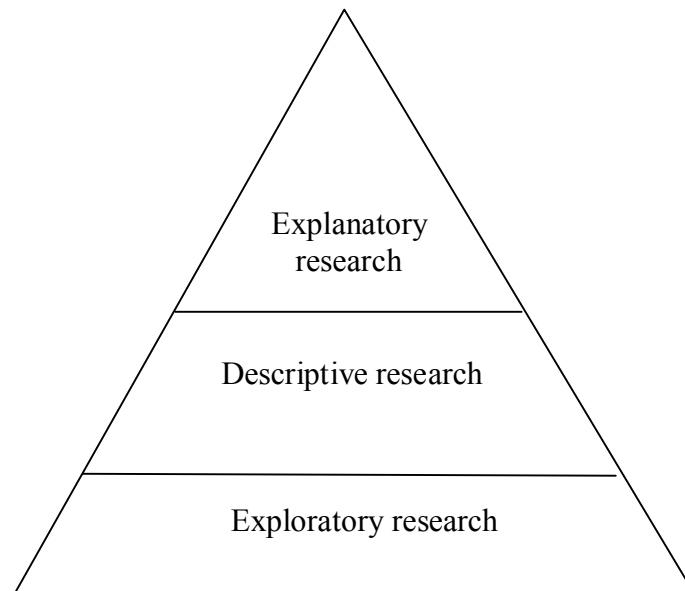
The research design of this work holds both elements of deductive-inductive reasoning but is predominantly inductive in nature. An independent (trust) variable and a dependant (supply chain) variable were the units or constructs of analysis. The theoretical framework was built around the inductive process of observation, finding patterns, and tentative hypothesis.

In order to develop a substantive theory, three research methods of exploratory, descriptive, and explanatory research were used (Collins & Hussey 2003, 10-11). The research had no real “design” to begin with and as the research process progressed the data illustrated the role of trust within supply chains. Initial research was exploratory. Subsequent descriptive research provided the key for describing the important characteristics of supply chains and the main characteristics of trust especially trust within and between organisations. Finally, the integration of both findings established a causal relationship between each phase and so facilitated explanatory research, fig. 4.



**Figure 4 Research design**

In building substantive theories, many interrelated constructs and propositions are employed to present a systematic perspective on trust within supply chains. It can also be seen that a hierarchy exists in the development of trust within supply chains:



**Figure 5 Analytical hierarchy in substantive theory building.**



This ontological view has implications for the validity of this study: its purpose is to set the contextual background through exploratory, descriptive and explanatory research. It will not prove cause and effect between the two variables of trust and supply chains. In order to provide such a complete explanatory model, some kind of empirical qualitative and/or statistical analysis must be made. Until this is done, the internal validity will be weak (Lincoln & Gupta 1985, 290-291) and any qualities assigned between the two variables will remain random events (ibid. Lincoln & Gupta), at least until some field work corroborates research claims.

Ascertaining the role of the researcher's role in the research process entails inquiring into the epistemological values or assumptions of the researcher himself as these effect the approach and the outcome of any research design. It is claimed that there two types of knowledge, that of "knowing that" and that of "knowing how", that is to say, the researcher maintaining distance from the study and the researcher being involved and interacting with the research, respectively. Without going into a philosophical debate on what "true" knowledge is, Polanyi (1962) shows the importance and relevance of both kinds of knowledge. "Knowing that" supply chains and trust have certain properties and "knowing how" trust and supply chains work would provide a deeper, fuller and clearer depiction of these phenomena.

### **2.3 Research approach and analysis**

Qualitative materials of tertiary and secondary data provided the foundation for the conceptual framework in which this study was set. Tertiary data from library, internet databases and directories gave access to the literature of secondary data of journals, articles, and books.

The study of trust within supply chains contained elements of three methodologies. The paradigm of action research assumes that the social world is constantly changing and that the researcher is involved in this change. Improvement and involvement (Robson 1993, 339) being the goals of action research, this work seeks to emphasize the importance of dynamic environments. However, as the term "action" suggests, a client and/or empirical involvement are needed in order to apply this research method; it follows that this is beyond a purely conceptual study.

This study also has an ethnographical element in that it tries to study human behavior through the concept of trust within and between organisations and specifically in supply chains. However, as secondary data is the only source of information, no field study was undertaken, a necessity in any ethnological study (Patton 1990).



The research theory closely adhered to the grounded theory approach developed by Glaser and Strauss (1967). It allows for, and has developed, a systematic approach to collect data inductively about any phenomena. Theory is generated through the collection and constant referencing to the data through an alternating inductive/deductive process (Charmaz 2006).

As a theoretical framework has not been defined, any theory that is developed is seen as a process that begins with no prior assumptions or prejudices, and starts with a researcher inductively gaining information from the data collected. After this initial gathering of information, the researcher can start to deductively and rationally construct propositions and hypotheses. This going back and forth between inductive/deductive reasoning “grounds” the theory and is seen as an ongoing process of data collection, coding, and analysis.

A variation of the grounded theory approach was devised because of its non-prescriptive qualities. The aim of the research was to find any repetition or patterns in the data used to arrive at any conclusions on trust within supply chains. This conceptual study has a limited time frame in which to collect, analyse, and present data so the time horizon is not that of a longitudinal study where phenomena are tested repeatedly over time but more that of a cross sectional or snapshot of possible phenomena through the collection of secondary data sources across a broad time horizon to capture salient elements of the phenomena under research.

All that remains is an illustration and an explanation of the analytical procedure of the mostly overlapping steps of a grounded theory approach. The following bullets show this study’s particular method.

- Data collection
- Note taking
- Coding
- Analysing
- Writing

There is much that is implicit in the raw data collected. An example of this would lie in the construct of a supply chain. A supply chain was found to have certain categories, and sub-categories which also had certain properties. On further reflection and analysis, a relationship between the drivers and actors in any supply chain was found.

Another important process lies in the great amount of data on any subject area to be analysed. Trust had many definitions and some of these definitions had the same properties but were recorded under another label. To de-clutter a vast array of definitions, a system of coding had to be in place in order to arrive at conclusive, albeit subjective, typologies or labels of trust.

Note taking provided the foundation of coding in order that each category of trust was properly referenced and recorded correctly. Having found and created the supply chain framework and typologies of trust, an analysis of trust's role and relationship within supply chains could be made. Recording each finding established a clear and unambiguous terminology to refer to in order to develop any further propositions or hypotheses.

## **2.4 Trustworthiness of the study**

It is difficult to measure the internal and external validity of a purely conceptual qualitative study set in an exclusively academic environment (Guba & Lincoln, 1985, 289-290). The construct of the supply chain could only be measured through secondary data methods; no primary data was sought after. Internal validity could only be measured through meticulous methodology and the triangulation of different methods and sources. However, the comparison and contrast of supply chain models and frameworks through supply chain manuals written at different time periods by different authors gives the constructs limited validity. This also held true in the collection of trust related literature. Also, the time period of the study of almost one year provided an engagement long enough for reflection and analysis of the constructs of supply chain frameworks that are implicitly assumed in the literature (Guba & Lincoln, 1985, 301). A negative factor in any construct validity is an absence of any member checks. It is highly unlikely that, in a world of many, any individual can construct his own "reality" without any discourse with peers and other stakeholder groups, and this study has had no recourse to any such affirmation or disqualification (Guba & Lincoln, 1985, 314).

Another problem was the assigning of dependant and independent qualities to supply chains and trust respectively. The problem is of a cause and effect relation (Guba & Lincoln, 1985, 290). A bias existed at the very outset that trust does play a role within supply chains. At best, this study could only illuminate the issue and put forward tentative suggestions as to the challenges and rewards of recognising and understanding the role of trust in supply chains. In order for any definitive causational relational theory to emerge, some level of empirical investigation needs to be undertaken through a quantitative or qualitative method.

The aim was to apply trust across supply chains universally so the generalisability needed to be high. Immediately apparent in the crossover from an internal validity to one of generalisation is the problem of control. If strict control of the actors and drivers of the supply chain does not allow for or take into account other extraneous factors then a generalisation cannot be possible. The same holds for trust.

Establishing typologies and illuminating the various challenges within each trust category cannot be applied across the board (Guba & Lincoln, 1985, 291). However, Sydow's (1998) theory of the duality of structure offered a framework to measure the role of trust in supply chains.

The reliability of the study can be seen from the two previous analyses of its internal/external validity and through the explanation of the research design and methodology. Thus, reliability can only be seen in data collection methods and analysis described in this chapter. If the assumptions made are consistent and reliable in relation to data collection methods and analysis, then it is reliable; if not, then it is inconsistent and therefore unreliable (Guba & Lincoln, 1985, 292).

The objectivity (Guba & Lincoln, 1985, 292-293) of the study was established through the process of secondary data collection from works which have been published and peer-reviewed. Having taken and used data relating to the constructs of trust and supply chains, the foundations for further analysis of a subjective nature were set. Once again, only the inferences made between trust and supply chains remain untested both empirically and inter-subjectively.

## **2.5 Summary**

This chapter concludes that the study is predominantly inductive and qualitative in nature. It was shown that the work progressed using exploratory, descriptive, and explanatory research methods to build a substantive theory of supply chains and trust. Reality is seen as a contextual field of information and that both kinds of knowledge: "knowing that" and "knowing how" are needed to provide a better understanding of any phenomena. A grounded theory approach (Glaser & Strauss 1967) was closely adhered to when applying data collection and analysis. With regard to the trustworthiness of the study, the implications and limitations of a purely conceptual study were discussed.

### 3 THE SUPPLY CHAIN

A brief introduction to the history and evolution of the concept of supply chain from traditional logistics brings us to the finding and illustration of the common ties and relationships that exist in all supply chains. These basic common patterns allow for the construction of a basic skeletal supply chain model. Comparing and contrasting the works of Chopra (2007) and Hugos (2003), six common key drivers and five common key actors are identified and discussed.

#### 3.1 Supply chain and supply chain management

The evolution and history of the supply chain may have its foundations in the operations of war. Napoleon commented that “an army marches on its stomach”, and this statement underlines the importance of the reliable provision of food, shelter, fuel, and other necessities required by an army to function and survive.

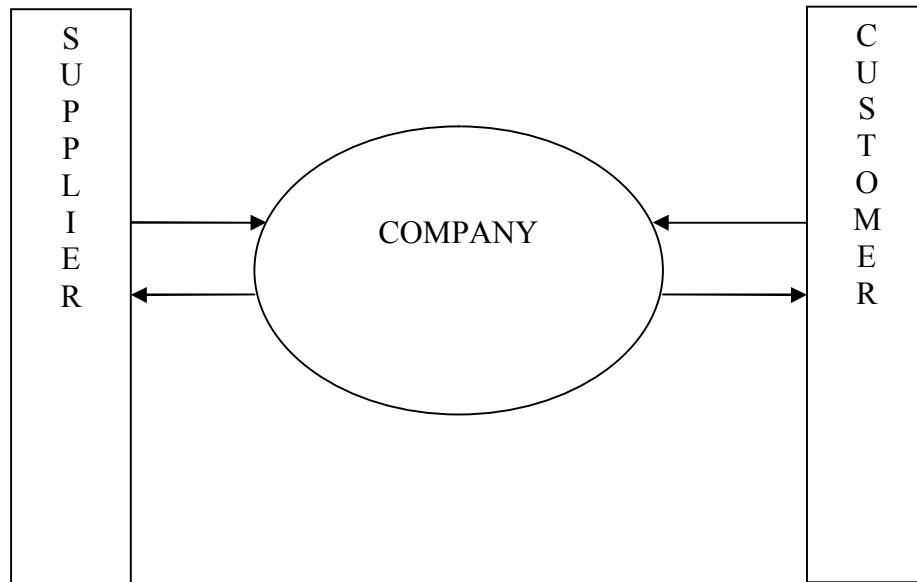
It wasn't until the 1950s that the term “logistics” encapsulated a set of distribution methods that saw a push of materials towards a given end, considered as the activity of a single firm. Its origins lay in World War II, in the course of which the movement of troops and supplies was greater and more complex than that ever hitherto witnessed. (Lummus, Krumwiede, & Vokurka 2001, 426-432).

Supply chains evolved into a systems approach involving a framework of a multiple of organisations and activities; by the late 1980s, the term ‘supply chain’ had become prominent (Hugos 2003, 3-4). Supply chain management began to include the additional functions of marketing, accounting, and customer service. These additional functions extended traditional logistics to a channel that tries to improve the long term performance of the chain and of its products and services (ibid. Hugos). LaLonde and Masters (1994) suggest that supply chains and their strategies may include the following arrangements:

*“...two or more firms in a supply chain entering into a long-term agreement;...the development of trust and commitment to the relationship;...the integration of logistics activities involving the sharing of demand and sales data;...[and] the potential shift in the locus of control of the logistics process.” (LaLonde & Masters 1994, 38)*

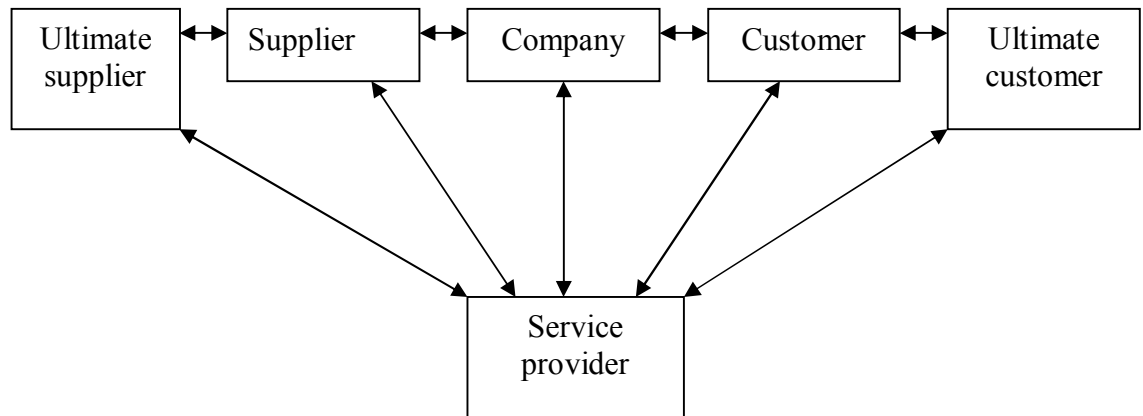
Supply chains can and do differ with regard to their challenges within any market area and in the type and quantity of products and services it provides. Firms must make decisions both individually and collectively in addressing these issues.

There is, however, a basic pattern that is common to all supply chains (Hugos 2003, 4). The basic unit in the supply chain is the relationships and ties that exist between three entities: the supplier, the firm and the customer, fig. 7



**Figure 7 The basic supply chain unit of supplier, company, and customer (adapted from Hugos 2003).**

The model below extends this basic unit, and is classified by Hugos (2003) as the extended supply chain model. The term “basic supply chain model” has also been adopted as this gave the most fundamental representation of the supply chain. It is, however, already apparent that even this basic representation suggests the myriad of different companies, networks and co-operation needed to have a healthy system within any given area the supply chain commands.



**Figure 8** Extended supply chain or the basic supply chain model. (Adapted from Hugos 2003)

Figure 8 opens up the basic units of the supply chain in figure 7 pg 18 to include the ultimate supplier, ultimate customer, and service providers. This completes the basic representation and picture of the ties and relationships within the system.

### 3.2 Key areas/drivers

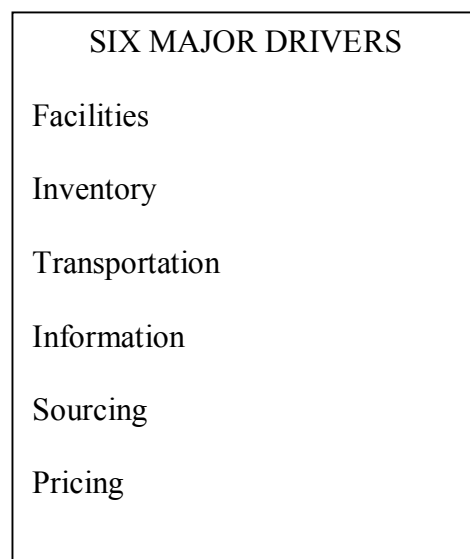
Each supply chain has its own market and operational problems and solutions, however, (Hugos 2003, 10-16) identifies five key areas that are common to any supply chain:

- Production
- Inventory
- Location
- Transportation
- Information

Chopra and Meidl (2007, 48-62) have identified and listed six drivers common to any supply chain:

- Facilities
- Inventory
- Transportation
- Information
- Sourcing
- Pricing

Chopra and Meidl (2007) have incorporated the two drivers or key areas of production and location of Hugos (2003), under the one listed heading of facilities which will be used here. Chopra and Meidl (2007) have identified and provided a fuller picture of the main drivers by adding further the two key areas of sourcing and pricing.



**Figure 9 An adaptation and merging of Chopra's and Hugos' supply chain drivers**

Figure 9 completes the merging of the two classifications of drivers within supply chains to form a singular classification that contains all of the elements described by both Chopra (2007) and Hugos (2003).

### 3.3 Issues and properties of these drivers

**Facilities** – Within the sphere of facilities, questions concerning the production, location and the storage of materials are considered. Production facilities need to plan how much and when products should be manufactured. Products and materials are either stored within warehouses or pushed or pulled through a manufacturing plant. Location decisions determine the flow and possible paths for a product to pass through to get to the customer.

Facilities can either be centralised for efficiency or close to customers for responsiveness. Chopra writes that a trade off exists between these two measures of efficiency and responsiveness. By being efficient, the firm can create economies of scale but lose responsiveness by centralising warehousing and production facilities. As against that, by being close to customers the facilities become more responsive but less efficient and operate at a greater cost for which the customer must pay (Chopra & Meidl 2007, 44). Both Chopra (2007) and Hugos (2003, 35) identify the capacity of the plant as an issue: too much capacity can be costly but can handle fluctuations in market demands; little excess capacity is more efficient per unit but can not handle fluctuations. Chopra (2007, 44-45) adds that warehousing and distribution centers need to decide whether to become cross docking facilities or be storage facilities. Cross docking facilities basically are places where inbound trucks arrive at the facility, unload, and those products are broken down into smaller units and maybe different products added together and loaded onto outbound trucks to stores. Storage facilities are self explanatory; firms decide where and how products are stored.

**Inventory** – The inventory role is to have surplus products ready and available so that in times of uncertainty products stored can be accessed readily, and to have these products ready when customers need them. Decisions on inventory include what optimal inventory levels produce the most cost efficient means to store goods, as holding inventory incurs costs (Hugos 2003, 35; Chopra 2007, 45).

**Transportation** – The transportation of goods and materials needs careful attention. The mode of transportation, distance, and routes have different transportation times and costs. The decisions made on these modes can have a great impact on the supply chain (ibid. Hugos 2003, 35; Chopra 2007, 45).

**Information** – Information must flow efficiently and effectively throughout the supply chain. This means what kind of information should be gathered and at what times. Without information, firms cannot make decisions on the type and quantity of product to produce, the transportation and storage of goods, and the coordination of activities (ibid. Hugos 2003; Chopra 2007).



In addition to these four, Chopra (2007) adds:

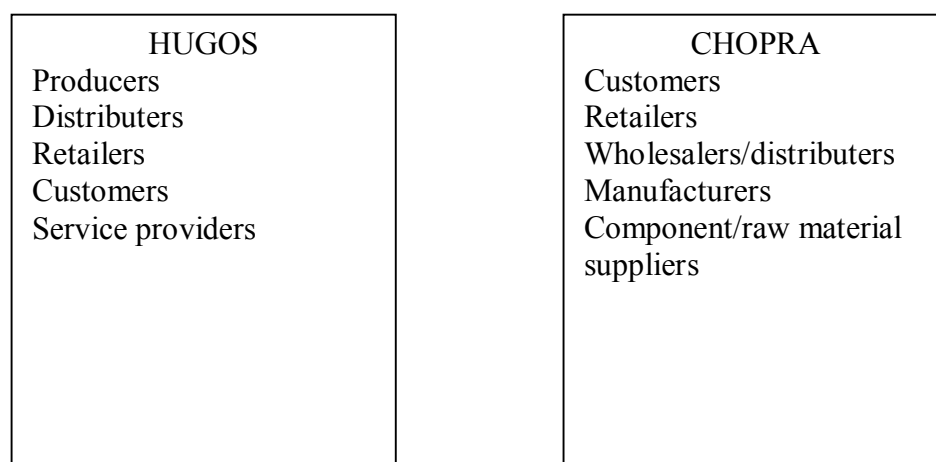
**Sourcing** - Sourcing is the process of purchasing goods and services. Firms decide on whether to source from within the company, outsource, and whether or not a portfolio of suppliers or a single supplier will handle the company's sourcing needs (Chopra & Meidl, 2007, 45).

**Pricing** - Pricing is all about how much to charge customers for a product or service. Pricing affects the type and range of customer base(s). Pricing is significant in that it directly affects the type and level of demand the supply chain will face (ibid. Chopra & Meidl).

### 3.4 Players and actors in the supply chain

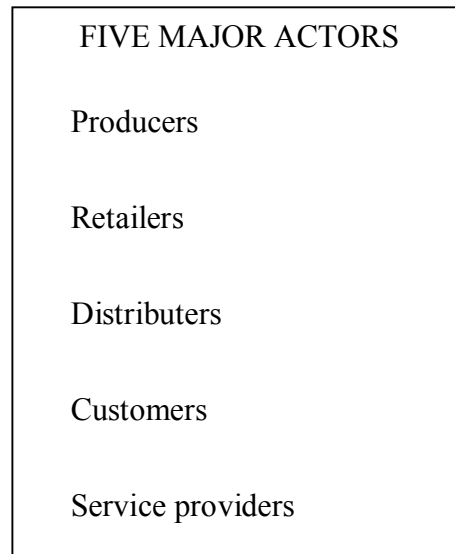
After having highlighted the basic unit, the basic supply chain model, and the drivers, it follows that the next topic would concern the actual players or actors within the supply chain. There are a whole host of companies, and a combination of these companies, operating within a supply chain, each performing different functions. In addition, service companies keep operative companies in the supply chain running by providing many specialised support services vital to supply chain participants.

Hugos (2003) and Chopra (2007) both identified five different companies each performing a set of functions. Hugos' (2003) approach differed from that of Chopra (2007). Hugos (2003, 23-27) classified the five different actors by functions alone, whereas Chopra (2007, 5) added and illustrated the stages and flow of products (in both directions), as well as the information and funds through these actors defined in Hugos' (2003) work.



**Figure 10** A comparison between Chopra's and Hugos' classification.

Having taken Chopra's (2007) classification of manufacturers and component/raw material suppliers, and having brought it under Hugos' (2003) heading of production, and furthermore, having done likewise with Chopra's (2007) wholesalers/ distributors, under Hugos' (2003) distributors heading, we are furnished with an adaptation of the two systems, fig. 8:



**Figure 11 An adaptation and merging of Chopra's and Hugos' supply chain stages and actors**

Figure 11 finalises the amalgamation of the two classifications of Chopra's (2007) and Hugos' (2003) major actors within supply chains. The incorporation of nine different labels under classification of just five major actors eases the complexity of each of the actor's roles and functions.

### **3.5 Issues and properties of the main actors**

After having identified and modeled the five actors, a description of each of the five organisational areas follows:

**Producers** – producers or manufactures are organisations that handle the production of both raw materials and finished goods (Hugos 2003, 23). Firms producing raw materials are involved in the extraction of primary materials such as cotton, timber, steel and oil. It can also include activities like farming and fishing. Firms involved in finished goods have to supply intangible and tangible products upstream towards the customer.

Companies can use either the raw materials to produce a product or the sub-assemblies produced by other producers (ibid. Hugos).

Producers can also produce intangible products and services such as music and entertainment or teaching or consulting.

**Distributors** – Distributors, also named wholesalers, take inventory which is in bulk and sell larger batches to businesses than a normal individual consumer would buy. Distributors buffer the producers from fluctuations in product demand by stocking inventory and doing much of the sales work to find and service customers (Hugos 2003, 24). A distributor is typically an organisation that takes ownership of significant inventories of products that they buy from producers and sell to consumers. In addition to product promotion and sales, other functions the distributor performs are inventory management, warehouse operations, and product transportation as well as customer support and post-sales service (ibid. Hugos).

**Retailers** – Retailers stock items and sell these items in smaller quantities to the general public. Retailers keep in close contact with its customer base and advertises based on its service, convenience, product selection and /or price (ibid. Hugos).

**Customers** - Customers or consumers are any organisation that purchases and uses a product. A customer organisation may purchase a product in order to incorporate it into another product that they in turn sell to other customers. Or a customer may be the final end user of a product who buys the product in order to consume it (Hugos 2003, 25).

**Service providers** - These are organisations that provide services to producers, distributors, retailers, and customers. Service providers have developed special expertise and skills that focus on a particular activity needed by a supply chain. Because of this, they are able to perform these services more effectively and at a better price than producers, distributors, retailers, or consumers could do on their own (Hugos 2003, 26). Some common service providers in any supply chain are logistics providers, and financial service providers that deliver services such as making loans, doing credit analysis, and collecting on past due invoices (ibid. Hugos). Some service providers deliver market research and advertising, while others provide product design, engineering services, legal services, and management advice. Still other service providers offer information technology and data collection services (ibid. Hugos).

### 3.6 Summary

Traditional logistics, as seen from an activity of a single firm, gave way to the concept of supply chains involving the coordination and activities of multiple firms which include the addition of at least marketing and customer service operations (Hugos, 2003).

The basic units in a supply chain are the supplier, the firm, and its customer. This can be extended to include an ultimate supplier and customer; it also includes those activities of service providers aiding in supply chain operational efficiency. This representation of the supply chain simplified the many different companies, networks and co-operation within supply chains.

Supply chains in different markets have different operational challenges. One example of this is in the difference in the strategies for exclusive services and products vs. standardised mass production of basic products and services. However, each market needs six basic drivers: facilities, inventory, transportation, information, sourcing, and pricing. In addition, we find five actors: producers, retailers, distributors, customers, and service providers. Identifying these commonalities further built upon the supply chain model.

## 4 TRUST, A UNIVERSAL CONCEPT

*“He who mistrusts should be trusted least” (Theognis 6 BC)*

Trust is a universal concept; it is immediately recognised around the world regardless of local differences. But what is trust? And what are its forms? This question leads us to the task of finding and identifying the various conceptions of trust. Eight typologies of trust are identified and analysed to provide the foundations of its enduring qualities. Each form of trust is not independent of the other; rather, trust is a dynamic force of interrelated concepts that needs careful interpretation and understanding.

### 4.1 Trust and international business

Part of the importance of trust is that it is valued by individuals and cultures around the world even though people are divided on many other principles and values. Trust may constitute a common value to which people and organisations across different cultures may appeal (Brenkert 1998, 280). The concept of trust within economic behaviour has been, and will continue to be, an important area of study; it is viewed as a precondition for superior performance and competitive success (Lane 1998, 1; Sako 1998, 88). Fukuyama (1995, 7) has gone further to suggest that a nation's ability to compete is conditioned by a single, pervasive cultural characteristic: the level of trust inherent in a society. As alluded to in the introduction, it has become more difficult to develop and preserve solid relationships as a result of increased competition and globalisation. Trust may provide a way to cope with risk and/or uncertainty in exchange relationships.

Nooteboom's (2002) simple definition of trust provided the most concise answer to the question to what trust is: "an expectation that things or people will not fail us" (Nooteboom 2002, 18). So trust has the quality of having risk and uncertainty for both the trustor and trustee. In addition, a degree of interdependence between trust and trustee exists between the two. Expectations about another's trustworthiness only become relevant when the completion of one's own consequential activities depend on the prior action or co-operation of another person (Luhmann 1979; Dasgupta 1988).

When there is trust, each party in the relationship will allow the other a wider range of decisions and actions than when distrust characterises their relationships (Brenkert 1998, 292):

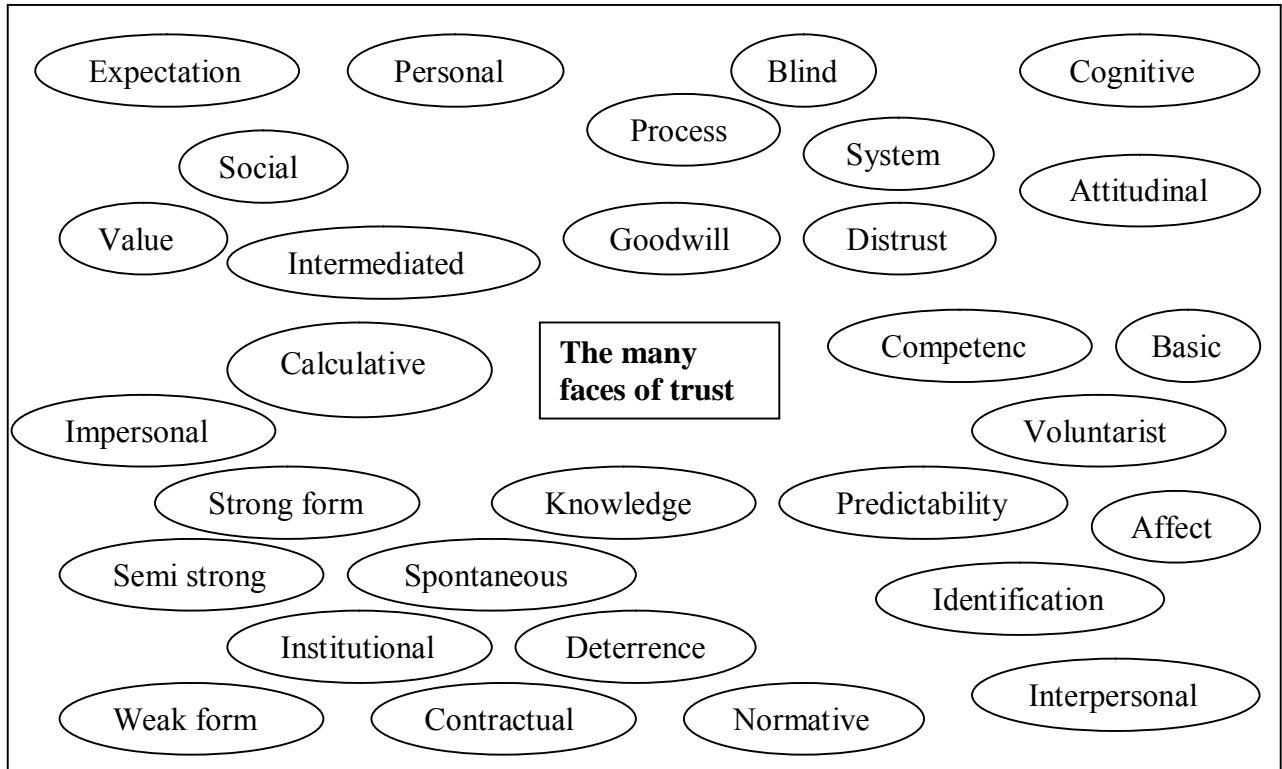
- Communication of self- understanding to others
- The voluntary exposure of one's vulnerabilities to others
- Voluntary restriction of self-interested behaviour
- A reciprocity which fosters autonomy

Depending on whether the nature of man is either that of a rational egoist, or that of a being informed by the social interactions of cultural scripts and moral considerations, trust is approached differently. For example, economists would take the view that trust is based upon calculation, whereas sociologists and organisation theorists see trust as based upon the common values and moral considerations within a community. Another view sees trust as being based on common cognitions. Luhmann (1979) approaches trust in a different manner and sees trust merely as a mechanism for reducing complexity.

Solomon (1992) explicates trust as a business virtue due to its dispositional nature which involves acting in admirable ways. Held (1984) asserts that trust may not be so admirable a virtue as it can be misplaced, misguided, or foolish (Held 1984, 65). Brenkert rebuts this, arguing that misguided courage or loyalty, even when misplaced, is still virtuous (Brenkert 1997, 278). Even so, while the actual trust might be virtuous, the effects may well be negative and destructive of social harmony (ibid. Brenkert).

## **4.2 The many faces of trust**

Most researchers in this area will agree that the study of trust is still in its infancy (Lane 1998; Nooteboom 2002; Seppänen 2008). On examination of various studies on the subject, it is readily apparent that there are many interpretations of the term: all in all, some thirty different concepts of trust can be identified. Much of the confusion lies in the aims, foundations, forms, and functions of trust. A fixed definition of trust proves elusive. The many conceptualisations of this phenomenon illustrate this problem, fig. 9 below.



**Figure 12 The many faces of trust**

In order to simplify our task, terms were grouped according to similar typologies, thereby transforming complex phenomena into something a little more manageable and understandable.

### 4.3 Forming categories for trust

System based trust or Institutional based trust, for both Zucker (1986) and Luhmann (1979) respectively, provide the structural properties which in turn provide supports for trust production in more complex societies where common histories can be assumed. In short, system based trust is a set of informal and formal arrangements that govern trust's conduct.

Societal trust, (Luhmann 1979), sees society as cultural community, a set of institutional arrangements, and is also linked to the concept of system based trust where trust is based on certain abstract societal principles or systems. Zucker's (1986), process based trust follows Luhmann's (1979) societal trust dimension. It does this by having calculative, cognitive and goodwill forms of trust as sub-stages of trust production. Value based trust, (Parsons 1951; Lane 1998), is equated with normative trust. Normative trust depends on people sharing common values, including a common concept of moral obligations.

Identification based trust, (Lewicki & Bunker 1996), can find a parallel with normative trust at a more interpersonal level (Humphrey 1998, 20). The dimensions of value/norm, normative, and identification based trust fall under the rubric of Luhmann's (1979) societal trust.

Calculative trust involves expectations about another or a calculation which weighs the costs and benefits of certain courses of action to either the trustor or trustee (Lane 1998, 5). Weak form trust, (Barney & Hansen 1994, 175-190), falls under the category of calculative trust as it leaves little room for opportunistic behaviour, (Sako 1992); this suggests that it is built on rational choice. Determined based trust (Sheppard & Tuchinsky 1996) rests on the premise that all possible events have been calculated by both actors (Sheppard & Tuchinsky 1996, 140-165; Lane 1998, 5; Humphrey 1998, 221).

Goodwill trust is akin to high trust dynamics and arises through long term commitment and is an open ended commitment (Sako 1992). Under this category, I have placed voluntarist trust, (Thomas 1989). Voluntarist trust is to voluntarily make oneself vulnerable with respect to some good, having been led to believe by the other's action toward[s] one that no loss or harm will come to one as a result (Thomas 1989, 181). Strong form trust, Barney & Hansen (1994), also falls under Sako's goodwill trust category as it is independent of whether or not specific governance structures and mechanisms exist (Sako 1992, 91), and is built up through long term commitment. Affect based trust also belongs to this group as it is formed on the emotional bonds between people (McAllister 1995, 26).

Cognition based/expectation trust has common cognitions as a basis for trust. It is a sociological point of view that uses social rules and understanding, common interpretive frames as backgrounds for the production of trust (Luhmann 1979; Zucker 1986; Garfinkel 1967, 173). Knowledge based trust sees trust as actors developing common ways of thinking through repeat transactions (Humphrey 1998, 221), and so will be included under cognition based trust. Contractual based trust, (Sako 1992) provides the foundations for stable, long term relationships that are regulated by shared meanings and the constraint of reputation (Humphrey 1997, 218). Both knowledge based trust and contractual based trust fell under the category of cognition based trust.

Distrust has been noted by many authors, e.g. Luhmann (1979), Zucker (1986), and Kern (1998). It has its place within the study of trust as without distrust there would be no trust. This issue will be addressed later.

Blind, (Bachmann 1998, 302), spontaneous, (Lane 1998), and intuition based trust (Luhmann 1979) belong under the general category of intuition based trust.



Competence based trust requires a shared understanding of professional conduct and technical and managerial standards (Sako 1998, 89). Basic trust (Brenkert 1998, 283) will fall under Sako's competence based trust as it is also an impersonal, systematic relational way of behaving in certain standard ways whereby is not exploited (Brenkert 1979, 283).

#### **4.4 An analysis of each category of trust**

*Calculative trust* is based on the view that man is a rational actor. Rationality here is understood in utilitarian terms, according to which the individual is likely to choose the course of action that brings about the greatest gain (Lane 1998, 5). This calculative approach gives a good account of how assessment of the conditions as strategies in the repeated games and dense social networks are conducive to generating trust. Williamson (1993) argues that a person acts after having weighed up the pros and cons of cooperation. An individual copes with risk of opportunistic behaviour by employing control mechanisms and making opportunistic behaviour costly (Williamson 1993, 453-486; Humphrey 1998, 218). The agent trusts the partner not to cheat because the consequences of cheating have been made unattractive (Humphrey 1998, 218). Fox (1973) sees calculative based trust as a low trust dynamic. It puts customer-supplier relations in a position which generates less open communication, leading to misunderstandings, and tighter control to eliminate any scope for discretion, which in turn reinforces the low trust attitude (Sako 1998, 99). Calculative based trust has a sense of predictability about it. Gabarro (1978) states that one can expect predictability in the other's behaviour in terms of what is normally expected of a person (Gaborro 1978, 278); as in calculative trust, it tries to eliminate uncertainty and risk from trusting. There are, however, arguments against this approach. Critics observe that this perspective fails to take into account how the social nature of action undermines any effort to predict their outcomes (Lane 1998, 5), and that its view of a man being a purely rational, egotistical actor is far too narrow (Weber 1978, 69-70). According to Fukuyama, trust begins where rational prediction ends. Indeed, trust means making a leap beyond that which reason alone would warrant (ibid. Fukuyama). Lane (1998) goes on to state that neither gains or losses can ever be calculated with the certainty inferred by rational choice theorists for the following reasons: trust is built up incrementally and the relationship may change in an unpredictable fashion as trust develops (Lane 1998). The future is rarely preordained (ibid. Lane). Williamson (1996) further corroborates this in his finding that calculative trust is limited because men are not hyper rational beings.

It suggests unrealistic assumptions about the cognitive ability of human actors to receive, store, retrieve, and process information. (Williamson 1996, 8)

**Societal based trust** has its foundations in the understanding that actors have common backgrounds as interpretive frames for its production. It rests on social similarity and assumes cultural congruence, because the trustor and trustee belong to the same social group or community. The sharing of religion and family ethnic statuses are examples of this. Barney and Hansen (1994) write that cognition based trust reflects values, principles, and standards that partners bring to an exchange. An individual is given over to the collective societal understanding of trust (Parsons 1951), and so shares values and a community of trust (Fukuyama 1995). A community, due to these shared meanings, lessens the complexity of a trustee's actions (Luhmann 1979). Identification based trust is to be found at the more interpersonal level of the social setting (Child 1998, 245). How, though, do people from diverse backgrounds, and who share no common values, build and maintain trust? This question highlights the problem of how trust can be built within international contexts and of how societal based trust alone cannot explain trust production. Zucker's (1986) process based trust has many dimensions of trust but has been included here because of its importance in building and maintaining trust in societies. It includes calculative, cognitive and goodwill typologies of trust which have been discussed in this chapter. Zucker's (1986) process based trust goes a long way in trying to solve the problem of how different cultural, organisational, and societal phenomena and the people within them can come together and form relationships (Zucker 1986).

**Cognition based trust**, defined as rules that constitute the nature of reality and frames through which meaning is made (Scott 1995, 40), is based on the background expectancies of trust. It is tied to past or expected exchange and entails the incremental process of building trust through the gradual accumulation of either direct or indirect knowledge about the other (Zucker 1986; Lane 1998, 11). It is orientated to specific meaning systems and manifests itself within social contexts. These common cognitions serve as the background for actors to be able to take for granted a vast array of features of the social order (Garfinkel 1967, 173). Luhmann (1986) recognises the importance of cognitive structures of shared meanings in reducing complexity within social interaction. In a similar vein contractual trust lies upon a shared moral norm of honesty and promise keeping (Sako 1992, 89). Contractual trust exists within the specific area of business and its organisation as does semi-strong trust, (Barney and Hansen 1994), which depends on governance structures such as a market for reputation and contracts to safeguard against the threat of opportunism (Sako 1992, 91). Knowledge based trust arises through repeat transactions and is based on the assumption that through these repeated transactions the relationship is shaped and formed into a common background.

Trust here is founded more upon the security and comfort that the partner is well understood and is known to share important assumptions (Lewicki & Bunker 1996; Child 1998, 245; Lane 1998).

**Goodwill trust** is based on the premise of high trust dynamics; it can only exist when there is consensus on the principle of fairness (Sako 1998, 89). Goodwill trust is a sure feeling that trading partners possess a moral commitment to maintaining a trading relationship (Sako 1992, 19). Strong-form trust, Barney and Hanson (1994), has the same principle of trust that emerges in response to a set of internalised norms that guide behaviour of exchange partners, and is independent of whether or not specific governance structure mechanisms exist (Sako, 1992, 91). Where goodwill trust has been undermined, no amount of legalistic rules of governance can restore that trust; in fact, it would only exacerbate the problem. Affect based trust (McAllister 1995) is founded on the emotional bonds between people. These bonds express a genuine concern for the welfare of partners, a feeling that the relationships have intrinsic virtue, and a belief that these sentiments are reciprocated (Child 1998, 246). The voluntarist sense of trust also falls under goodwill trust: to trust another is to voluntarily take a risk with respect to some good, having been led to believe by the other's actions towards one that no loss or harm will come to one as a result (Thomas 1989, 181). The voluntarist sense of trust repeats what was there above in 4.4.

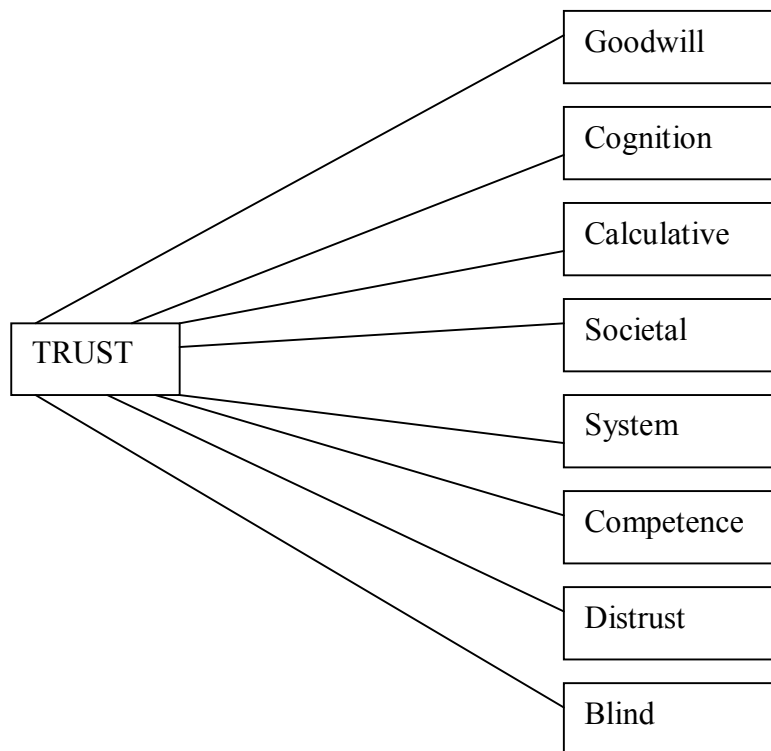
**Competence based trust** requires a shared understanding of professional conduct and technical and managerial standards (Sako 1992, 89). Task reliability is a key factor here. It requires a partner to show the ability to fulfill the commitments explicitly stated. Basic trust, (Brenkert 1998), has a strong connection to competence based trust as it is an impersonal, systematic relational way of behaving in certain standard ways (Brenkert 1998, 283). It differs slightly in that it also includes rules, customs and standards as bases for trust.

**Intuition based trust**; spontaneous trust and blind trust are given with little or no prior knowledge of the other. Most authors reject intuition based trust as unsustainable owing to its having no true foundations on which trust can be built. However, if, as Brenkert (1998) argues, trust is a virtue, then it has its place within the impersonal informal formation of trust. Intuitive trust asks questions that cut to the very quick of human nature, and interrogates the innate dispositions to trust or not.

**Distrust** plays a dual role. It can be a healthy attribute to kick-start innovative behaviour or, contrariwise, it can completely destroy any relationships that have been built over many years. Conflict is part of building trust. Kern (1998) uses Coleman's (1988) idea of social and human capital to illustrate this point. Coleman (1988, 95-120) uses the "human capital of parents" as a resource for the production of new human capital.

The surrounding environment within schools and other social capitals such as religion are an extension of the parents' role, conducive to the production of human capital. This statement, while not incorrect, fails to take into account the circular nature of this reproduction (Kern 1998, 204). Kern then goes on to say that human capital has to show the ability to create something new and that "critical" impulses are needed to do this. Too much trust in the familiar can result in unproductive views of the world. On the other hand, a dash of mistrust may reveal itself as being extraordinarily productive (Kern 1998, 204). However, strategies of distrust often absorb the strength of the person who distrusts such that he is left with little energy to explore and adapt to an environment in an objective and unprejudiced manner; hence, he is allowed fewer opportunities for learning (Luhmann 1979, 72). Sako (1992) also bases her good will form of trust upon high trust dynamics and has it that the betrayal of this kind of trust will lead to a complete breakdown of relations and is irreversible.

*System based trust* for both Zucker (1986) and Luhmann (1979) involves structural properties and institutions that provide the basis or provide supports for trust production in more complex societies where common histories can be assumed. It is a source of formal, impersonal, and abstract types of trust and has confidence or trust placed within it. For Zucker (1986), it is not dependent on interpersonal relationships, common history or familiarity, but on formal, socially produced, and legitimated structures that guarantee trust. Trust between organisations is trusting between actors who differ from the sum of individuals constituting the corporate unit. The organisation, however, still has, as a whole, a corporate identity which is important with regard to trust. These inter-organisational relationships transcend those agents that form or break relations (Lane 1998, 14). Some examples of system based trust are professions, certifications, licenses, brand names, traditions or memberships in certain associations (Sydow 1998, 43). Fig. 10 below shows the eight dimensions of trust.



**Figure 13 Eight dimensions/typologies making up trust**

Trust's eight dimensions have been grouped and analysed to better fully understand its production and maintenance. Figure 13 takes the many faces of trust and forms an understandable and concise model of trust.

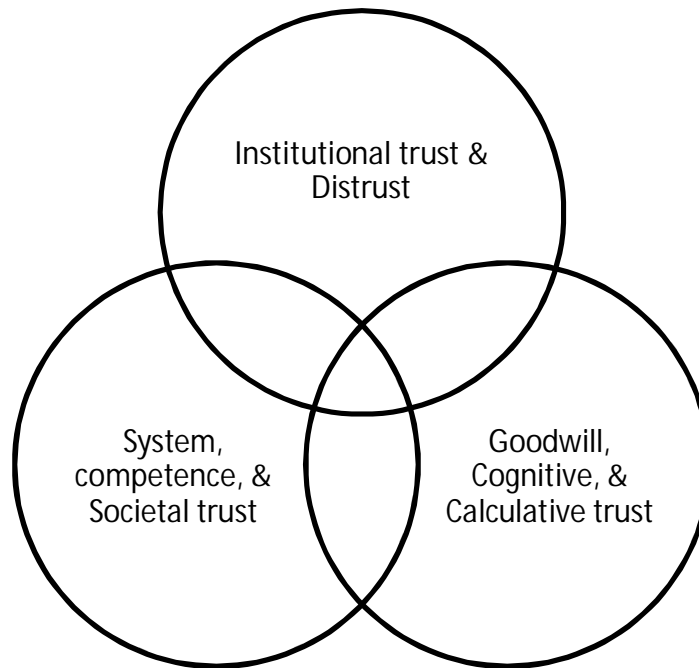
#### **4.5 Interrelatedness of the dimensions of trust**

A single definitive predicate of trust is probably impossible to find. Trust has both an extrinsic and intrinsic value which has complications in its foundations in a person's sense of motivation and sense of self respect. There can also be several objects of trust: trust in objects, people, organisations, and trust in institutions. What sets the limits or conditions of trust? How can trust be calculative and non-calculative at the same time? The same questions can be asked with regard to a person's boundaries or dispositions toward altruism and self interest.

These questions serve to support the argument that the value created in exchange is not extrinsic to the transaction.

Trust needs to be reciprocated and, therefore, has implications for the communicative abilities of firms, especially with regard to the sharing of information.

Trust also needs time to develop, thus suggesting learning over time. This needs to be closely linked to the behavior of firms and individuals. In short, trust is a highly complex, multilayered, and interrelated phenomenon. Fig. 14



**Figure 14** Interrelatedness of the dimensions of trust

As can be seen from the figure above, the eight typologies of trust mirror the complexities involved in trying to find trust's aims, foundations, and maintenance. Trust is constantly changing; trust is being broken down, built up, and its focus from source to object is not always clear.

#### 4.6 Summary

The many faces of trust were reduced to eight categories: goodwill, cognition, calculative, societal, system, competence, blind, and distrust bases. A simple definition and a brief analysis of each were given. This provided the parameters within which trust was illustrated and analysed.

Finally, the act of trusting, and that of being trusted, can only be explained by reference to more than one dimension. Trust is a complex set of interrelated phenomena to be experienced.

## 5 INTER-ORGANISATIONAL TRUST

It is proposed that economic behavior is influenced by the presence or lack of trust in the transactions between firms. More succinctly, a lack of trust within and between organisations and companies leads to a downward spiral of trust relations that chokes healthy economic co-operation. Conversely, the building up of and maintenance of trust promotes long-term relationships and solid frameworks for the development of future business ventures.

International alliances and strategies need two things: (1) Strong regulatory and monitoring frameworks, and (2) the ties and bonds that exist within the personal relationships formed while doing business in order to promote and enhance trust.

### 5.1 Collaboration between firms

The close collaboration between firms requires trust between organisations. Inter-organisational trust is likely to enhance allocative efficiency when it encourages the disclosure of confidential information and to reduce the costs of inter-organisational transactions (Sako 1992). Trust is implicitly assumed to exist between firms. The relationships between organisations rely heavily on different trust structures. The differentiation between personal and system trust has been examined by Sydow (1998). He investigates the processes through which agents interact, in a way which enhances trust, and the structural properties which provide the context of action for these agents (Sydow 1998, 47). He shows the duality of structure both as an outcome and as a source or medium of action. The idea of recursiveness is central to Sydow's theory of inter-organisational trust. This theory of recursiveness gives the actor a more powerful position within the framework of any system (Sydow 1998, 40). This occurs as a result of the reciprocity between the structure and of its interpretation, reproduction and legitimisation. This gives power to the recognition of the dynamic structure of any system, and also provides more opportunities for action (ibid. Sydow).

The network of personal relationships has been seen by Luhmann (1979), Zucker (1986) and Sydow (1998) as of paramount importance in the constitution of trust. It has been noted that these relationships open up opportunities for enhancing mutual understanding of shared norms, values and actions, and so can lead to goodwill trust between trustworthy individuals in different organisations. This holds even if the firms themselves are not trustworthy (Barney & Hansen 1994, 182).

Another point of interest is where actors within organisations meet face to face in what Sydow calls "access points" (Sydow 1998, 47).



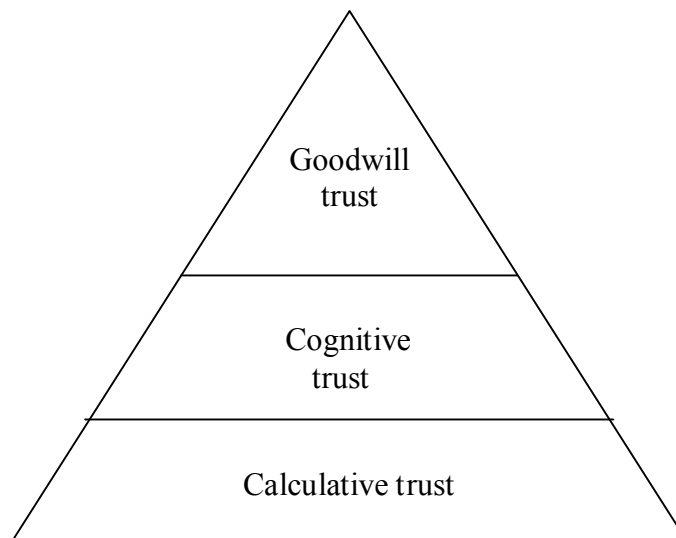
These are the points where agents refer to the structures of the organisation and also simultaneously where these same structures are reproduced in organisational practices via re-embedding (ibid. Sydow). For Sydow (1998) spatial proximity is important as it provides brokers with many opportunities for face-to-face communication; it also enhances a common understanding of the business among them.

Sako (1998) goes a little further than Sydow's duality of structure within organisations; Sako states that governance by trust is the defining factor. Whatever the governance structures may be, governance by trust is posited as the defining factor; the higher the level of trust, then the higher level of performance (Sako 1998, 91). Sako maintains that formal governance structures may prevent opportunistic behaviour but this is not enough to ensure the innovative, learning and performance that trust brings about (Sako 1998, 90). Sako (1998) also includes the possibility of the hierarchical nature of trust, this being a process that may or may not improve over time. Calculative based trust activities serve to confirm the validity of that trust and in doing so encourages repeated transactions and interaction. Consequently, actors will begin to form and develop a knowledge base about each other leading to a cognitive dimension of trust. This is the stage at which an actor feels comfortable with a partner who has proved to be consistent and reliable (Child 1998, 247). Finally, goodwill based trust is formed when relationships are sustained regardless of the legal and institutional frameworks that have supported such trust in the past. The highest form of trust is based upon bonds of friendship (fig. 15).

At the base, calculative trust has not yet formed open communication between supplier and customer. This may lead to greater misunderstandings and tighter control, and partners can even be viewed with suspicion (Sako 1998, 99; Fox 1993). Formal written contracts may fulfill the calculative basis of trust by complying with the letter of the contract. However, the spirit of the contract may be betrayed, for example by withholding information. While no rules have been broken, the basis of trust remains shallow. Fulfilling the spirit of the contract is going beyond this and so approaches the ideal of goodwill trust dynamics (Sako 1998, 90).

With regard to the competitive arena, a firm that has established relations based upon goodwill trust will have an advantage. High set up costs are incurred at the beginning of investment and the undertaking is fraught with uncertainty. It takes time and effort to build a strong foundation of trust: those firms that have this in place will be in a better position than those without it (Sako 1998, 92). Examples of this may be in the low coordination and monitoring of such activities as quality inspections, JIT systems and transaction costs. Furthermore, customers and suppliers are more likely to invest in each other because of long term relations and the expectancy that this will continue on into the future (ibid. Sako). It can be inferred from this that greater cooperation and intense, close relationships lead to an orientation towards solving problems together.

This in turn increases the possibility to improving quality and reducing costs. In addition, innovative behaviour as well as management methods are enhanced (Sako 1998, 93). Goodwill trust circumvents the use of safeguards or legalistic remedies; it provides that extra motivational effort to perform beyond that which is expected, increasing the dynamic force of the relationship (Sako 1998, 93).



**Figure 15 Hierarchy of trust**

Figure 15 illustrates the foundations of trust. Trust needs a strong calculative base but cannot remain at that level as it leaves no room for the next level of cognitive trust to form. At the very pinnacle of trust is goodwill trust which takes time to develop and is considered as a prerequisite of long term healthy economic co-operation.

## **5.2 Alliance development**

When products and services were standardised, arms length contracting kept costs down. Now, however, in highly fragmented markets, companies compete on a whole variety of factors such as price, speed of delivery, product features, reliability and innovation (Humphrey 1998, 223). On top of this, as Humphrey points out, information asymmetries exist in different markets.

This is not so apparent within on the spot markets where the price is set and bargained between buyer and seller without any hidden costs; the trading environment is “what you see is what you get”. But in markets where goods cannot be appraised immediately, difficulties arise when the overall quality of goods and services that arrive to consumers is not known beforehand. The cultivation and sourcing of raw materials into a final product moves downstream toward the customer and at each stage the quality of a product may rise or fall (Humphrey 1998, 222). The term “prisoner’s dilemma” is apt here, as opportunism and deceit can be rife. Long term relationships guard against this (ibid. Humphrey). The relations between supplier-customer are important. Issues of trust are as complex as the forms of relationships between suppliers and customers in both horizontal and vertical business networks. As external constraints and challenges change so do behaviours in order to meet these challenges (ibid. Humphrey). Expectations of certain behavior on the part of the firm may no longer apply. A close communicative relationship lessens the problems involved in balancing the elements of cooperation and competition (Child 1998, 242).

### **5.3 International strategic alliances**

Child (1998) has broken down strategic alliances into three broad categories: formation, implementation, and evolution.

Formation is the phase during which future partners show an interest in the possibilities of forming alliances, select potential partners and try to negotiate on agreements. Implementation is the phase when alliances are established as productive ventures and people are appointed by partners, systems installed, and operations started. Evolution refers to the ways in which alliances develop further following their establishment (Child 1998, 249).

In the formation of strategic alliances an initial development of trust is needed (Child 1998). This is a mixture of intuitive and calculative trust that is putative in nature. Only through repeated transactions can the alliance move on to the flow of information between partners. After formation, judgement relies solely on reputation and trustworthiness of the partner as no information exists on the internal functions and practices of the firm, (Child 1998). Negotiation will hammer out a calculative framework for the strategic fit and the mix of safeguards and commitments in any alliance contract. If the process of information gathering is sustained, this will provide the frame for the environment for transactions which in turn establishes a level of comfort for future cooperation (Child 1998, 250). (See fig 15).

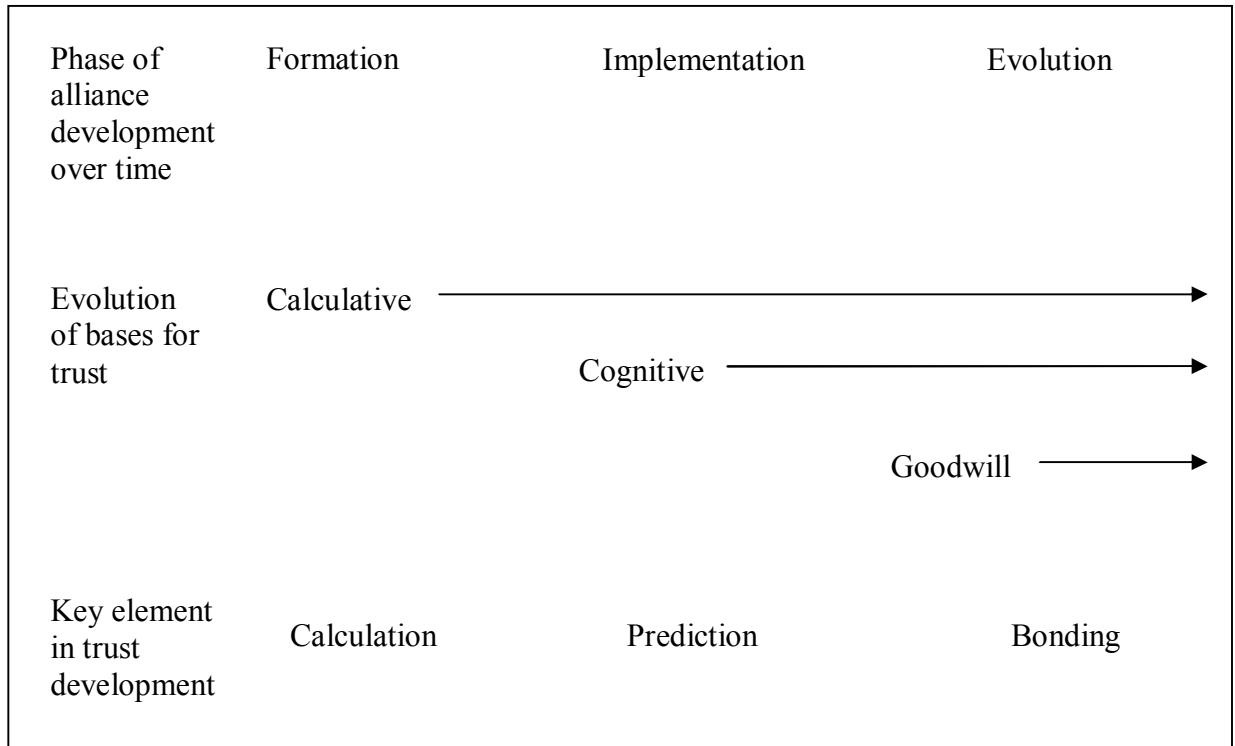
Child (1998) illustrates the difficulties, and the importance of recognising, cultural differences within international alliances.

If the developments of both calculative and cognitive bases are weak then cultural differences could inhibit the development of mutual understanding and the process of moving towards a formal agreement may be in danger (Child, 1998, 250). Cultural and strategic fit cannot be treated separately: the strength of trust developed will determine both the flow of information and relations between partners of cultural distance.

The implementation of the strategic alliance has issues within both the competencies of partners and the systems that are installed. Both technical and cultural competence is of importance for people that need to work together. If people do not possess either the necessary technical or cultural competencies, the underlying calculus for the alliance can no longer be sustained (Child 1998, 251). If personnel that are to work together in any alliance are insensitive to each other's cultures, the likelihood of developing a close integrated relationship diminishes. The best that can be achieved in this situation is sub-optimal integration between spheres of activity and influences (ibid. Child).

The systems installed, especially those for control and information, are also significant as these determine the quality of knowledge that is flowing between partners. A partner could enjoy the potential for a cognitive trust to develop while denying this to the other partner. An example of this is when a partner's systems for accounting, operational, and technical information reporting installed within a joint venture is adding to the quality of knowledge to one partner but not necessarily to the other (ibid. Child).

As relationships develop over time within a successful alliance, there is a tendency for those collaborating to identify increasingly with each other's interests. In addition, emotional ties of partners may expand and grow (Child 1998, 252). This bonding of partners is at the very pinnacle of trust's development and is seen to be a key ingredient for alliance success (fig. 16 below).



**Figure 16 Phases of alliance development and the evolution of trust (adapted from Child 1998).**

Child (1998) finds that, in practice, only certain individuals, communicating across boundaries that exist within and between organisations, have an important role in forming and developing trust between partners (Child 1998, 253). The trust that exists between organisations then can be directly attributed to the individuals and the quality of trust that exists between them.

Child (1998) calls these individuals “trust guardians” as the organisations and the relations between them are dependent upon them. This shows that trust is actually an interpersonal phenomenon, upon which the quality of inter-organisational relations is founded (Child 1998, 253). It follows that if there is a fast turnover of personnel allocated by firms, the opportunities for developing trust-based co-operation between them will be diminished (Child 1998, 253).

Child (1998) is not alone in having this stage by stage perspective on trust, wherein parties move along from one stage to another over time. Researchers working within the area of trust within and between organisations propose that an initial calculative form of trust is the basis of trust development (fig. 2, chap. 2) (Zucker 1986; Sako 1992; Bunker 1996; Child 1998; Lane 1998). It has also been noted that this multi-stage model of trust evolution indicates points of danger in any business relationship.

At any stage of development, if the previous bases of trust are damaged or withdrawn in some way, the relationship can flounder. This is especially so in business relationships because of the expectations of stakeholders in both performance and finance. Bonds cannot be sustained if either or both of the foundations of trust, namely the calculative and cognitive dimensions of trust have disappeared (Child 1998, 253). However if a problem arises at a higher level of trust development, such as a personal dislike between two inter-organisational trust personnel, it may be still possible for leaders to salvage the relationship between the organisation through recognition that it continues to have a basis in mutual economic benefit (ibid. Child). They can do this by returning to the prior stage of the relationship in order to rebuild it.

## **5.4 Relationships across boundaries**

Difficulties arise when relationships form across organisational and national boundaries. It is no more so apparent than between developed and developing countries. Such a challenge can only be met by the process itself of developing trust, and this takes time (Child 1998, 248). Co-operative behaviour and the forming of relationships and alliances are likely to be easier between people who share the same cultural norms. This happens for a number of reasons. People are more likely to trust those who share the same common backgrounds in values, and cognitive frames. This promotes a sense of common social identity which holds a strong emotional element (Child 1998, 248). The presence of social and cultural norms which attach a value to trust define the circumstances under which it should be honoured, justify sanctions for violation and indicate the extent to which trust is a socially constituted phenomenon (ibid. Child).

Differences between cultures in language, symbolism, and meaning can make it very difficult to find a common cognitive basis from which trust can first develop. In respect of institutional supports, it will be easier for trust based relations to develop as these supports reduce the uncertainty of taking risk. They do this by implementing effective laws to enforce contracts and by creating a moral background in which to do business.

A complex pattern of interaction among individuals, industries, governmental structures, firms, international organisations and mechanisms are needed to overcome some of the obstacles within international business. These problems can be dealt with gradually and incrementally (Brenkert 1998, 288).

Below are four such issues (Brenkert 1998, 287-288):

- Values and motives may differ dramatically. For example, attitudes towards and evaluations of individualism, uncertainty, and aggressive competition may impede trusting relationships.
- Ethnocentric and egocentric tendencies will also impede trusting relationships internationally. For example, the tendency of an egocentric fairness bias, “which is a tendency for people to see arrangements that favour themselves over others as fairer than arrangements that favour others” will exacerbate other ethnocentric biases.
- Due to past colonialism and imperialism, local histories may stand in the way of trusting relationships. Different economic histories of capitalism, socialism and communism will also play a role. In addition, some cultures may have different tolerances for inconsistency, standards for competence, and different time frames within which performance of various activities may be expected.
- Finally, individuals in some cultural contexts might find it difficult to be open in the same manner as those from other cultures.

## **5.5 Legal and contractual law within inter-organisational trust**

Strict legal enforcement is seen as a deterrent for trusting another, and a view that legal institutions or governance structures are omniscient is detrimental to a healthy trusting relationship. However, in times of uncertainty, legal normative rules may actually enable actors to open up strategic possibilities for cooperation. The integrity of the law is constantly questioned and shaped through distrust and trusting mechanisms. For example, an actor may trust another to do something, understanding that if he breaks that trust other actors will be prepared to condemn him, and as a consequence, reluctant to accept him within the framework, or to trust his word (Brenkert 1998, 285). This also counters the arguments that sanctions are excluded in trusting someone to do something; there are consequences to actions (ibid. Brenkert).

Williamson (1996; 8) felt that comprehensive contracting is not feasible as men are not hyper-rational beings and are restricted by bounded rationality. The best we can do is learn about and add to contracts as the relationship develops over time.

Deakin and Wilkison (1998) go as far as to say that the legal system exists as an external system, constrains an agent's behaviour, and has no part in forming personal trust. Beginning with calculative trust, contracts and regulatory systems are seen as inimical to trusting further than the contracting rules themselves.

They can, however, simultaneously serve, albeit a limited way, a sense of improved reliability and thus can promote trust (Deakin & Wilkinson 1998, 153). Hence, the “rules of the game” serve to provide a foundation for an initial trusting relationship to begin.

In such wise, the formal legal system can serve as a background structure which can provide the possibility for sanctions and thus serves as a deterrent for cheating or opportunistic behaviour (Deakin & Wilkinson 1998, 154). Taken from this perspective, the forms of legal arrangements and regulatory frameworks can enhance cognitive based trust and the expectation of reliability in performance (Sako 1998).

The principle function of the legal system then is not to be activated. It rather provides actors with a base for expectations about future behaviour. It also lessens the cognitive dissonance involved in trusting. Goodwill trust, however, is undermined through extensive legal and regulatory systems. Goodwill trust needs room for actors to discern what action(s) to take (Sako 1998). In the same vein, if an agent or organisation has violated goodwill trust it is very difficult to rebuild. High trust dynamics are fragile.

This process of moving from calculative, cognitive and goodwill forms of trust through personal relationships and inter-organisational links cannot be seen in isolation from the institutional framework within which contracts are made and performed. In fact, the more effective the institutional framework provides the basis for managing conflict, uncertainty and monitoring, the greater the information flow and trust within it (Deakin & Wilkinson 1998, 155).

## **5.6 Inter firm institutions, innovation and employee-employer relations**

Inter-firm institutions offer firms the opportunity to shape the content of work regulation. By having these in place, they help in consolidating workplace rules. When parties get together and form common goals, trust is being fostered which furthers cooperation and economic health (Marsden 1998, 186). Fukuyama (1995) finds that the density of associated networks at intermediate levels between both the state and individual firms accounts for the prevalence of institutionalised trust. Inter-firm institutions differ from legal and regulatory frameworks in that they offer the opportunity for non-contractual cooperative behaviour, and provide an element of predictability in cooperation and transactions.

The reduction of uncertainty is a key factor in trust. Inter-firm institutions supply a platform for this as they provide both the boundaries and definitions of management authority (Marsden 1998, 182).



Highly industrialised countries enjoy a competitive advantage based on inter-firm relations. This is achieved through the dense cooperation between firms and the state. The embeddedness of firms, being systemic in nature, ensures that firms can enjoy the institutional trust that regulates behaviour. Firms from advanced countries need to extend these principles upstream towards suppliers.

Developing countries do not have this institutionalised trust. This poses a problem when emerging economies open up and the firms operating within them start to compete. When forming relations they are threatened by opportunism. Trust under these circumstances has to be established slowly. Humphrey (1997) and others (Sako 1998; Lane 1998; Luhmann 1979; Zucker 1986) tackle the problem of building up trust where there was previously none. Humphrey simply states that it involves learning about the other through repeat transactions (Humphrey 1998, 218), but this may be problematic. An actor can simply build up information about a partner and have no intention of developing a trusting relationship. Herein lies a great risk. One way to tackle this is to test each other's trustworthiness by allowing opportunities to betray trust (Humphrey 1998, 220). Luhmann supports this by arguing that a deepening of trust involves successfully completing learning processes in which opportunities to abuse or betray trust may be encountered. Refusal to avail to these opportunities marks the completion of these learning processes (Luhmann 1979, 45). Repeated interactions allow partners to understand each other's motives and priorities. Part of the process of building up trust involves finding out in practice about the strategies adopted by one's partners (Humphrey 1998, 220-221).

Integration competence is needed for innovation to flourish. Innovation springs from collaboration between several knowledge bearers which can be located in separate facilities or companies. This bringing together of disparate sources is a risky business as it requires open, transparent communication (Kern 1998, 205). Rules and contracts cannot be defined in all details beforehand and trust can act as a catalyst to ensure that the inherent uncertainties that exist do not turn into risk aversion (ibid Kern).

Background trust, which is provided by institutions, and a community's social environment which encourages shared values, is advantageous in innovative endeavours. A community provides support and security which makes it easier to confront problems (Fukuyama 1995; Kern 1998, 205-211).

People who share the same skills in a certain trade area form communities as they have internalised rules of collaboration and thus can trust each other. The combined experience of these communities makes it possible to advance knowledge in innovative ways (Kern 1998, 210).

However, these communities are closed systems to other knowledge bearing areas. Thus, a problem arises of how to build and maintain trust between several knowledge bearers where there was none before, and this brings into view the delicacy of trust.

The management of categories of employees is also difficult. Low-skill/low-wage anybodyes are not lured by trust at all; keeping these workers is just a matter of providing them with enough social provision that gives them an income beyond the minimum. On the other extreme, high flyers only trust in themselves. In the middle are the skilled workers (Kern 1998, 207).

Once employment has been chosen as the basis of transaction, one has entered into a relational contract. This has significance as it differs from buyer-supplier relationships and transactions (Marsden 1998, 196). If workers feel that management distrust[s] them, work performance will be jeopardised. If they feel that goals diverge on important issues, and if management tightens up control and supervision, workers reciprocate by becoming less cooperative (Marsden 1998, 177). It is important to understand the role of trust in allocating work positions within employment relations. Even if workers have defined roles within an organisation, planners and interested parties need to agree on things. If workers sense that they are not trusted, many things can go wrong. Information and cooperation is not shared and brings relations into a spiral of low trust relations. (Marsden 1998, 177) Jobs that are tacit in nature need addressing by means other than formal rules and contracts. Rigidity can be seen as an obstacle to cooperation (ibid. Marsden). Inter-firm institutions offer a forum for the fostering of trust relations. Open communication and trust lead to the formation of work roles and positions and reduce the tendencies to opportunism and obstructive behaviour (Marsden 1998).

## 5.7 Summary

In today's global fragmented markets the ties between supplier and customer have become more important. However, there are many obstacles that stand between them. The lack of common cognitive bases in language, culture, and in symbolism makes it difficult to develop trusting relationships. In addition, local histories and a lack of institutional support in developing countries, conspire to add to this problem.

The development of the hierarchal nature of trust by Sako (1998) and Child's (1998) stages of alliance development gives us tools with which we can meet the challenges of conducting business across boundaries. Reaching across from developed countries that have a strong institutional framework to developing nations that do not, requires that trust be built from scratch. This means the general movement from calculative trust, cognitive trust, to goodwill trust. Running parallel to this would be the formation, implementation, and evolution of alliance development.

## 6 INTEGRATING TRUST INTO THE SUPPLY CHAIN

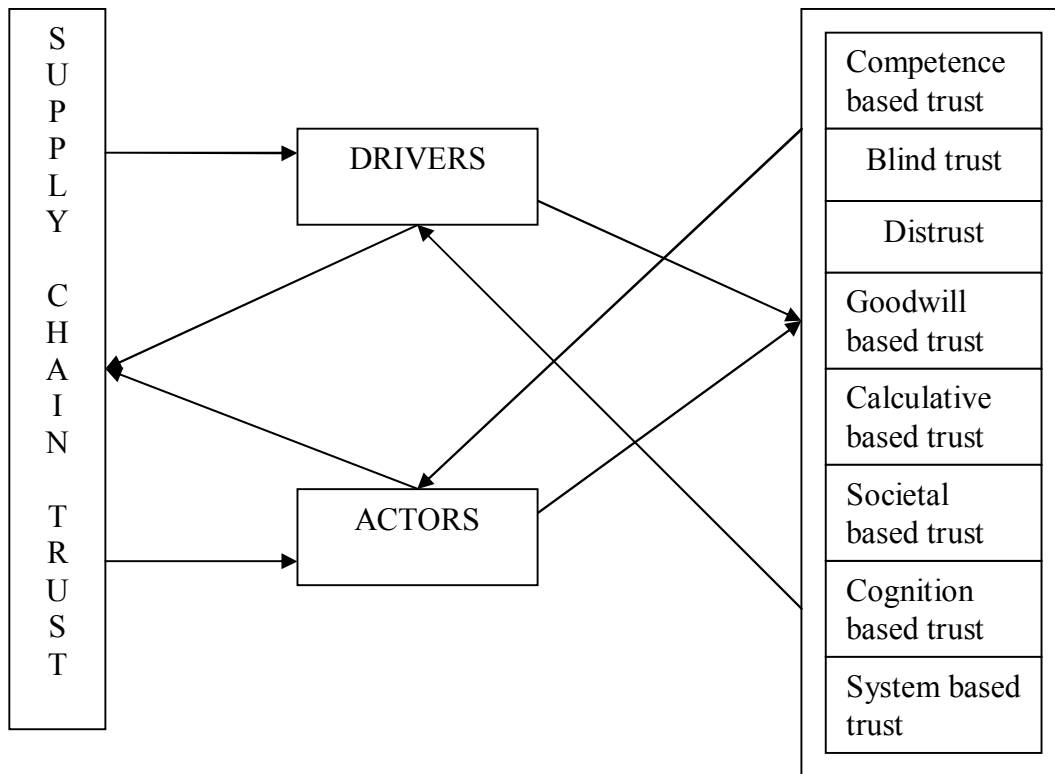
This chapter brings together the research questions and objectives of (1), (2), and (3), integrating trust into the supply chain. Chapter 2 frames the work within which the integration of the supply chain was set. The first of these objectives of constructing a supply chain framework was presented in Chapter 3. This provided the skeletal framework of the supply chain as well as its main actors and drivers. Chapters 3 and 4 addressed the problem and objectives of research question (2): what is trust, what are its dimensions, and how can it be created and maintained within the context of international business. What follows is the linkage of the research findings of questions (1) and (2) to satisfy the research question and objective (3), thus providing solutions to the issues and challenges of trust within supply chains.

### 6.1 Integrating trust into the supply chain

In Chapter 3, eight typologies of trust were identified and a brief account of each was given (Lane 1998; Sydow 1998; Hardy, Nelson, Philips, & Lawrence 1998; Sako 1998; Liebeskind & Oliver 1998; Deakin & Wilkinson 1998; Marsden 1998; Kern 1998; Humphrey 1998; Child 1998; Brenkert 1998; Bachmann 1998). In Chapter 2, we found that five major companies and six major drivers exist (Hugos 2003; Chopra & Meidl 2007). From the ultimate supplier right through to the ultimate customers, these drivers and actors interact to form all the possible linkages in providing goods and services to customers.

The supply chain is a complex dynamic system that crosses over organisational and national boundaries, and it is in this arena between firms that risk and uncertainty lie (Child 1998; Humphreys 1998; Brenkert 1998). Trust is seen to implicitly exist, and explicitly tackling the issue of trust that needs to exist between firms in a globally competitive environment has hitherto not been a major focus of research. Only recently have researchers attempted to address the importance of trust within and between organisations.

The figure below illustrates a model for the integration of trust into the supply chain by using the eight typologies found within the trust framework (chap. 3) and the common drivers and actors that make up the supply chain framework (chap. 2).



**Figure 17 Integration of trust into the supply chain**

The arrows show that the supply chain, actors, drivers and the components of trust are both sources and objects of trust formation and maintenance. This integration brings alive the dynamism of trust within supply chains.

## 6.2 The drivers and trust development

Facilities must decide on the production, location and storage of materials. The further upstream these issues travel, the more pronounced the problem supply chain networks may face in infrastructure and institutional frameworks that support operational efficiency (Child 1998; Hugos 2003; Chopra & Meidl 2007). Trust becomes ever more important yet ever so more elusive. How is trust formed when there is no previous trust or institutional support for it? The only answer to this is to view trust as a process over time. Sako (1998) suggests that trust is hierarchal in nature, (cf. fig 12): the movement from calculative to goodwill trust strengthens relations and thus the framework through time. This driver facilities can be enhanced by recognising the importance of building frameworks and institutions in those supplier countries lacking infrastructures and institutional frameworks, and/or developing weaker infrastructural links and frameworks in developing supplier nations.

This performs two important functions: it increases the reach and efficiency of the supply chain; it promotes trust to those firms in nations where there is a greater likelihood of opportunism and deceit.

Sourcing is the function of purchasing goods and services. Personnel and managers must meet and form close collaborative agreements. It follows, therefore, that much face-to-face contact is necessary for this to happen (Child 1998; Hugos 2003; Chopra & Meidl 2007). Child (1998) calls individuals that perform these face-to-face contacts "trust guardians", an apt term. Sydow (1994, 47) follows this with his "access points" where agents are able to promote a better understanding of the business between them. This driver sourcing needs to have a flexible framework that allows for the free flow of information between contracting individuals. A rigid framework stifles the flow and impairs improvement of sourcing functions. At worst, it may cause distrust between agents as there is no room for individual discretion.

Information is an essential aspect of any supply chain. Without the proper information at the right time firms cannot make decisions. This has a ripple effect on the whole supply chain (Hugos 2003; Chopra & Meidl 2007). It is important that there be a convergence of information from the complex of interactions between and among international organisations, firms, governmental structures, industries and individuals (Brenkert 1998, 288).

Transportation and its differing modes, such as road, rail, ship etc. have different delivery time, routes and costs, and as such, have a great influence on the supply chain (Hugos 2003; Chopra & Meidl 2007). Goods travel across both organisational and national boundaries, by necessity, trust needs to be developed and maintained. As has been discussed above (chap. 5), this is a difficult process. Goods move across cultural boundaries which make the formation of trust a complicated matter (Child 1998, 248). Trust is easily maintained between individuals that share the same cultural and social norms. However, a strong supply chain framework can, through its institutions, create this very same social cohesion across organisational and national boundaries. To remain competitive a supply chain's ability to transcend national and organisational boundaries needs (a) framework(s) that can do this.

Inventory holds surplus products so that they can be accessed and delivered to customers when they need them (Hugos 2003; Chopra & Meidl 2007). The systems used to handle and calculate inventory levels must be explicitly shared between partners. This means that both technical and cultural competencies run simultaneously in order that trusting relationships be upheld or created (Child 1998, 251). The ability of the supply chain to address the need of sharing explicitly both technical systems, coupled with cultural sensitivity, will determine the level of trust between partners and the quality and speed of information.

Only through strong trust relations will the flow of information and relations needed for the collaboration between different inventories systems result in a competitive inventory driver.

Pricing determines the type of customer and the level of demand on the supply chain (Hugos 2003; Chopra & Meidl 2007). Pricing also has an effect on the type of relationship: a closer and longer relation based on trust reduces the risk of opportunism and deceit (Humphrey 1998, 222). This means that from the ultimate supplier right on through to the ultimate customer that quick fix, short term profit schemes between customer-supplier relationships within the chain can have serious repercussions in relations resulting in lower quality of goods and services (ibid. Humphrey).

The recognition, development and maintenance of trust have the potential to improve supply chain driver functions. The following figure highlights possible challenges in each driver:

FACILITIES	Framework building, no gaps between developed and developing nations
INFORMATION	Incorporating many diverse agencies into the framework
SOURCING	Flexible framework allowing for the free flow of information
TRANSPORTATION	Framework supports cooperation between different modes of transportation
INVENTORY	Framework supporting all inventory systems
PRICING	Product/service specific frameworks

**Figure 18 Key drivers and respective key trust development.**

Figure 18 has taken the six supply chain driver functions and encompassed six respective pivotal concerns of trust for each of these functions. This allows for the development and strengthening of driver networks.

### 6.3 The actors and trust development

Producers perform activities like the extraction and production of raw materials such as cotton, steel, iron and timber etc (Hugos 2003; Chopra & Meidl 2007). The sources of these materials extend across geographical, political, and cultural boundaries. An understanding of the histories and obstacles countries have faced, or are likely to face in the future, may help when conducting business between firms. Confronting fears and apprehensions due to different value systems, political ideals, regimes, and historical struggles may help build relationships “around” these issues both incrementally and, as a continuing process, could provide a possibility for a moral background for trust to develop (Brenkert 1998, 287-288).

Distributors receive, in bulk, inventories of goods which are stored and moved to customers. Distributors have many roles and functions such as warehousing, promotion and sales, and product transportation (Hugos 2003; Chopra & Meidl 2007). These activities demand both technical and cultural competencies (cf. Child 1998). The quality and effectiveness of these competencies can be enhanced through actors conferring through inter-firm institutions, governmental agencies and other frameworks that exist or can be formed within the supply chain framework.

Retailers stock and sell products and services to the general public, and, as such, are highly visible. They deal in the ultimate product of all the activities upstream of the supply chain. It is also true that the level of trust that has been built and maintained or, conversely, damaged, will show in retailers' products and services. Retailers receive information and specifications from customers which translates throughout the entire chain. It follows that retailers need to have close relations and ties with customers. Retailers that have accumulated goodwill trust with their customers will enjoy an advantage over competitors that have not. This, however, is determined by the level of trust that has been built up through each stage of the supply chain. The introduction of the hierarchical nature of trust by Sako (1998) gives retailers and the supply chain a cornerstone on which to build. Understanding where trust relations are, whether they are on a calculative, cognitive, or goodwill basis, gives professionals the ability to assess and initiate change in a better direction towards the development of goodwill trust.

Customers, whether they are purchasing an end product or purchasing a product to be incorporated into a final product, are agents that provide the means for organisations to interact. Customers “source” materials, products and services very often by face-to-face contact (Child 1998, 258). The choosing of individuals who are trustworthy and trusting, without being foolhardy or gullible, may enhance relations and thus improve the function of sourcing (Brenkert 1998, 278-279).

Service providers have developed special expertise and skills that focus on a particular activity needed by any key driver(s) within a supply chain (Hugos 2003).

Service providers deal with sensitive documentation and information. It follows that trust is a key issue between service providers and supply chain firms and activities. Service providers are only partially integrated into any supply chain. Therefore, the framework for trust between service providers and a supply chain is weak.

However, service providers that offer services, especially in the financial and legal service sectors, have a strong sense of both competence based and system based trust. Supply chains can rely on both the impersonal abstract, form of trust and professional conduct based on certificates, traditions and memberships that have certain rules and standards of practice that provide the basis for this trust (Sydow 1998, 43). Trust encourages the disclosure of confidential information; this in turn will enhance a supply chain's efficiency, as the flow of information and knowledge heightens allocative efficiency (Sako 1992).

PRODUCERS	Building, maintaining and improving trust relations
DISTRIBUTERS	Simultaneous technical and cultural competencies
RETAILERS	High trust relations (Goodwill)
CUSTOMERS	Distinguishing between high and low trust personalities
SERVICE PROVIDERS	Openness, tolerance, honesty and the management of conflict

**Figure 19 Key actors and respective key trust development.**

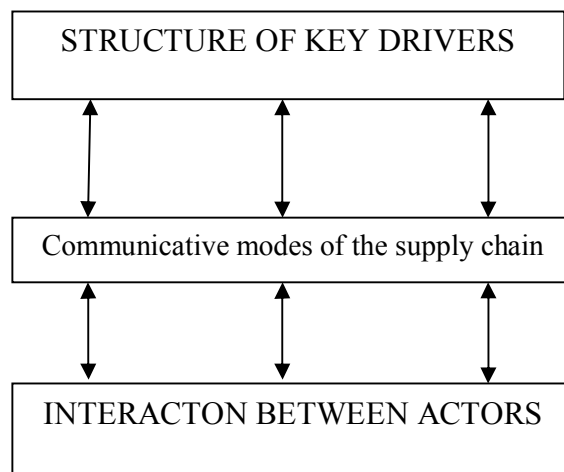
It was not until the 1950s that the concept of the supply chain was devised. Prior to this, in the early 1900s, the transport of materials within the military was treated solely as a logistical problem. In the early 1950s however, production and manufacturing sectors began to link marketing, accounting and production areas in order to gain operational efficiency.

The key drivers of facilitates, sourcing, information, transportation, pricing, and inventory, identified by both Chopra (2007) and Hugos (2003), have been shaped across both time and space to provide the frame for supply chains from the 1950s to today. The key actors and players of producers, retailers, customers, service providers and distributors work within these frameworks.



This distinction is important in the formation of trust. The framework gives regulatory and monitoring boundaries of action within and between each driver of the supply chain. At the same time, actors, through repeated interaction within this framework and through interpersonal networks, test the validity and integrity of the rules and regulations, and, in doing so, also shape these rules and regulations. The ability of supply chains to adapt, learn and grow from interaction between drivers structure and actor networks is a determinant of a supply chain's competitiveness.

This interplay between structure and actor is central to Sydow's (1998, 36-41) theory of the duality of structure discussed above (chap. 4, 27). Adapting Sydow's (1998, 36) model of the duality of structure and applying it to interactions between the key drivers and actors/players within the supply chain gives the following model:



**Figure 20 Duality of structure: Supply chain dynamics.**

The model shows that the drivers and actors do not develop in isolation or in a linear sequential manner parallel to each other. Rather, through the various communicative modes, both actors' and drivers' functions are interpreted and/or reinforced in a complex interaction between the two. In fact, customers, who are under the classification of actors (Hugos 2003; Chopra & Meidl 2007), and sourcing a driver of the supply chain (Hugos 2003; Chopra & Meidl 2007), share the same need to provide a means where selected agents can communicate face-to-face under a flexible framework. This is also found to be the case with actors within distribution and the framework surrounding inventories: both need the ability to share and access cultural and technical information simultaneously. This shows that there is a very close relationship between structure and actor interaction. That which was a source of trust can then become the object of trust and *vice versa*.

## 6.4 Supply chain alliance development and trust

Trust must run through the entire supply chain. Without trust, the links that form the chain will begin to break down. Managers and professionals need to go beyond standard arms length contracting to a focus on longer relationships based upon an alliance development. This serves as a competitive advantage as competition between firms is based on many factors such as speed of delivery, product features, innovation and price (Humphrey 1998, 223). Standardisation and arms length contracting and its relations cannot compete with supply chains that have closer relations that take out the unwanted elements of opportunism, deceit and suspicion (Humphreys 1998, 222 ; Child 1998, 248).

One of the main challenges for advanced developed nations is to reduce the gap that exists between developed and developing countries. The supply chain is only as strong as its supplier base. Many local factors exist that can undermine the quality of relations, product quality and efficiency from suppliers. Institutional frameworks may be non-existent, and cut throat competition may be the business environment in which trust has been destroyed or hasn't had the chance to flourish. The aim then is to develop relations and strengthen institutional frameworks so trust can begin to grow. To build trust where none pre-exists is not easy and it leaves companies, especially suppliers, open to opportunism (Sako 1998; Lane 1998; Lu hmann 1979; Zucker 1986). By bringing suppliers into the framework of the supply chain and establishing longer, closer, and fewer supply bases, trust gradually grows through calculative, cognitive and finally to a high trust relation that is based on goodwill. It is a long and arduous process but can begin by using the strength of supply chain frameworks and the strength of relations that already exist within developed nations. This can provide a platform for a common cognitive understanding and closer relations between supplier and customer. From this personal ties can be formed that exist independently from the framework. The gap between developed and developing countries is narrowed by building both impersonal and personal forms of trust. By bringing in suppliers under the umbrella of the supply chain, whether this is through vertical or horizontal integration, external threats, challenges and changes due to the competitive environment can be managed through closer relationships, thereby reducing the impact of such forces (Brenkert 1998; Child 1998).

## 6.5 Supply chain international strategic alliances and relationships across boundaries

The basic supply chain (fig. 6) has an ultimate supplier, suppliers, companies, customers, an ultimate customer and finally service providers that make up a supply chain. Strategic relations and alliances that form between the six identified drivers and five actors are not static. On the contrary, they are highly dynamic and complex. Any of the six drivers or five actors could be within what Child (1998) presents as the 1<sup>st</sup>, 2<sup>nd</sup>, or 3<sup>rd</sup> stages of strategic alliances of formation, implementation and evolution. The supply chain must support this highly dynamic environment.

Each stage of technical, cultural and relational competencies of any of the drivers or actors will have a level of trust associated with it which in turn will affect the whole of the supply chain. The developments of technical, cultural and relational alliances are tied to the stage and development of trust. It follows that the dissemination of technical and cultural competencies cannot be translated independently. Rather, they must be tackled simultaneously (Child 1998, 249-250). If a producer and a distributor decide to agree on a shared technical system to be installed into the other firm then not only should the technical competencies be shared but also the culture which surrounds it.

The underlying calculus for the alliance could be in jeopardy if the parties are insensitive to each other's culture. If there is a fast turnover of staff, it follows that both the cognitive environment and the building of trust that is needed to maintain the calculative framework for the alliance will be suboptimal. Child (1998) states that trust that exists between organisations can be attributed directly to individuals. Interpersonal trust relations take time to develop. Therefore, long term key engagements and commitments should, in actuality, enhance the quality of trust relations. Another issue to be considered is that one partner may enjoy cognitive trust through an installed technical system while the other may not have this benefit. For example, the knowledge gained by a distributor of a supplier's inventory levels may result in expanded activity for the distributor.

However, this may not benefit the supplier if the distributor is not sharing this information. A common calculative and cognitive basis must be developed for the alliance or partnership to develop into one of bonding where goodwill trust can develop.

Supply chains by their very nature cross organisational and national boundaries and from the familiar to the unfamiliar. It is a challenge to develop trusting relationships across boundaries: the cultural norms and values a particular society provide a backdrop for trust which are not in place within international business relations (Brenkert 1998; Sydow 1998; Sako 1998).

Moving beyond frameworks of reference due to the crossing of national and organisational boundaries, results in a want of trust (Humphrey 1998; Child 1998, Bachmann 1998). There is no social identity and no sense of belonging. It is a desert or no mans land lacking common rules or structures to support trusting relationships.

A supply chain is itself an organisation founded and united for a specific purpose. It has a definite framework in which and from which the actors and drivers interact and operate (Chopra 2007; Hugos 2003). This framework can provide and act as an environment in which social interaction can take place. In essence, individuals place trust in the institutional framework of the supply chain (Sydow 1998). A strong supply chain will be able to do this by having a strong cultural, moral and social network that has its own identity and values. This in itself reduces the uncertainty of taking risks. However, supply chains are not born, they are made. It is a long process that involves the interactions of individuals, industries, governmental structures, firms, international mechanisms and structures (Brenkert 1998). The complex interaction, formation and evolution of all of these will form the backbone of the supply chain.

To take business across boundaries, and to create trust where there was previously none, is a bold venture which can progress but gradually and incrementally (Luhmann 1979; Zucker 1986). A strong competitive supply chain will move through this process; it will have solid calculative and cognitive trust foundations that support the further maintenance of interpersonal goodwill trust. A supply chain that has not managed to form the cognitive background and social networks to support the complex functions and relationships is at a disadvantage to one that has already done so. Simply put, it falls behind; it has not succeeded in creating an oasis in the desert.

## **6.6 Legal and contractual law in the supply chain**

A supply chain must have mechanisms to provide for monitoring, uncertainty and conflict (Brenkert 1998). The better a supply chain is able to manage conflict and uncertainty, the better the flow of information and trust within it.

However, strict legal enforcement within the drivers of the supply chain leaves little room or flexibility for the actors to complete the various transactions needed (Sydow 1998; Child 1998). At worst, strict legal enforcement will be seen as coercive and as a deterrent of trusting one another. Extensive contracting could also be detrimental to a trusting relationship. Firstly, it sends out a message that in any eventuality the bases are covered and that trust is not even an issue (Deakin & Wilkinson 1998, 146-147). Extensive contracting undermines any formation of high trust relations or goodwill trust as there is no room for it.

Secondly, extensive contracting cannot possibly cover every eventuality: men have a bounded rationality and do not have the ability to see into the future (Williamson 1996, 8; Humphrey 1998, 221).

The role of legal and contractual law within the supply chain needs to be set and used as a background to furthering healthy relationships while maintaining the ability of sanctioning opportunistic behavior and upholding ethical business standards (Deakin & Wilkinson 1998, 154). Legal and contractual frameworks can serve the bases of calculative based trust (Brenkert 1998, 283). This is an essential element to building relationships, but, again, only answers a small part of the problem. Calculative trust can build trust where there was previously none. It can also provide a mechanism to reduce uncertainty through the knowledge that sanctions on behaviours that are deemed detrimental to the supply chain and contracting can be used if absolutely necessary. The main function of legalistic frameworks within the supply chain is to provide the foundations for a cognitive form of trust to develop, thereby strengthening both the drivers and the actor's ability to perform transactions (Deakin & Wilkinson 1998; Brenkert 1998). A flexible framework can retain its integrity when actors within it interact, shaping the framework and thereby stress-testing that very integrity. It can, in effect, facilitate change. When solid foundations of calculative and cognitive trust have been met, then interpersonal goodwill trust gives actors the freedom to discern what courses of action to take in any given circumstance. Goodwill trust is fragile: any violation by an individual or organisation of this will be very difficult to rectify and will see the offending party or parties having recourse to calculative frameworks in order to survive (Sako 1998, 100). It is evident that the supply chain is a complex and multilayered system of interpersonal and institutional trust relationships.

## **6.7 Inter-firm institutions supporting the supply chain**

Inter-firm institutions support the five key players of producers, distributors, retailers, customers, and service providers. Inter-firm institutions give validation to specific work areas and tasks. Within each key area of the supply chain, managers and workers representing similar firms can meet and share both tacit and explicit knowledge. (Chopra 2007; Hugos 2003; Marsden 1998) This can be done by means of an external agency that is outside of the normal legal and regulatory frameworks of a particular firm and is decentralised from a single firm's regulatory system. At the same time, inter-firm institutions help shape and provide the boundaries of management authority through say retailer or distributor conventions. This brings about a common understanding between firms (ibid. Marsden). The meeting of multiple firms through inter-firm institutions increases the potential for exchange of knowledge.

Without inter-firm institutions, each key area within the supply chain may become stifled by opportunism and lack of trust due to the relationship between managers and workers being solely that of fulfilling obligations. In a sense, firms are isolated from each other and have no common agreements on standards and contractual rules (Marsden 1998, 176-177). This makes the transfer of knowledge and co-operative behaviour difficult. The lack of trust can stem from the fact that employees are not rewarded for work that goes beyond their allocated work task or position. Workers may feel that regulations are too rigid and thus, serve to undermine any confidence in working outside of designated work assignments. If there are no agreements between staff, then this feeling is justified: even when there are designated roles many things can go wrong as goals begin to diverge. This plunges the firm into a downward spiral of low trust relations which reduces co-operative behaviour between employees and employers. Skills, tasks, and jobs that are tacit in nature cannot be captured and communicated to others within such a framework. Performance becomes rigid, the antithesis of innovative co-operative behaviour.

Crossing over from internalised rules and regulatory frameworks within the firm to that of a collective transparent inter-firm support community is not without risk. In the short term, it opens up the company to the threat of opportunism. However, should that trust be rewarded, firms will emerge all the stronger and more productive (Marsden 1998; Humphrey 1998, 220). Fukuyama (1995) has written extensively on this topic and has used Japan as an example of how the density of co-operation between governments and firms is related to both to the level of trust that exists between firms and industry performance.

Workers can use inter-firm institutions to uphold agreements, create an environment for the sharing of information for certain skill sets, and improve the employee-employer interfaces: an inter-firm institution fosters open communication for the exchange of especially tacit knowledge, as well as other knowledge bases; it also provides a means for defining work roles and positions upon which all can be in agreement. (Marsden 1998, 182)

Due to the systemic nature of inter-firm institutions, uncertainty can be reduced by giving certain predictability for actions and incentives initiated and undertaken. Firms then have another system based trust platform to work from and within the supply chain.

Inter-firm institutions maintain, build, and develop innovative behaviour. The integration of inter-firm institutions into the supply chain gives it the ability to bring together many sources of knowledge through collaboration of different firms within and between industry areas. Inter-firm institutions provide the background trust for the support and security of communities to tackle problems within certain skill set areas.

A whole community sharing culture and internalised norms and values have the ability to think outside of the box and thus promote innovative behaviour (Marsden 1998).

However, each of the key actors and drivers has its own skill set areas. It is a challenge to build and maintain trust between these several knowledge bearers. Once a firm has decided to co-operate with other firms it leaves itself open to opportunism (ibid. Marsden), a distinct possibility given the need to communicate openly and transparently. This very real risk shows the importance of trust within the supply chain: without trust the inherent uncertainties that exist in forming new alliances will remain just that, uncertain. The supply chain can itself become the inter-firm institution providing the security and support needed for firms to go beyond risk aversion and take the leap into collaborative co-operative relations within and between all key actors and drivers within the supply chain.

## 6.8 Summary

This chapter began by infusing the eight typologies of trust into the supply chain model (fig. 17). Furthering the development of the supply chain, each of the six drivers was found to have a key trust development issue (fig. 18). In addition, key trust development issues were recognised and recorded for each of the five main players that operate supply chains (fig. 19).

Illustrated was the distinction of the interplay between actors and drivers: actors and drivers do not operate in isolation and in parallel to each other. Instead, they interact together shaping the systemic environment within which they operate (fig. 20).

In developing alliances, supply chains need to stretch the framework that exists in developed markets and political states across to those nations that lack institutional frameworks. The bridging of the framework across to developing nations provides a platform for trust to build and so enhance alliance formation. Without this framework, an environment of distrust and opportunism exists which is detrimental to long term commitment and collaboration.

Both technical and cultural competencies need to be simultaneously addressed in order for international strategic alliances to succeed. Each level of technical and cultural competency has a level of trust attached to it. Co-operation between firms needs the translation of both technical competencies and mutual cultural sensitivity. Failure to develop a common cultural background will result in groups that retain certain spheres of prejudicial influence. This results in the breakdown of communication between collaborating firms and organisations.

Supply chains need mechanisms to reduce uncertainty, as well as to monitor and resolve conflicts. However, these regulatory frameworks must remain flexible; a framework that is too rigid will stifle the flow of information and the level of trust. Strict legal enforcement will lessen the degree of cooperation and negate the need for building trusting relationships. Rather, the legal and regulatory framework should be a mechanism that provides the background to maintain ethical standards and provide sanctions for opportunistic behaviour.

Inter-firm institutions support entrepreneurial and innovative behaviour. They can do this because they operate outside of the norms of regulatory frameworks and assigned work tasks and positions. The relaxation of these norms gives workers and managers an open platform which enhances the exchange and creation of knowledge. A multiplicity of firms can meet and create an environment for the sharing of certain skill sets, and so demonstrate the upholding of agreements as well as the fostering of open communication. The introduction of inter-firm institutions provides the supply chain with another framework to reduce uncertainty and to give predictability to actions.



## 7 CLOSING REMARKS

The purpose of the study was to integrate trust into the supply chain. The underlying concept was that trust would enhance the quality of co-operation, reduce transaction costs and improve innovative behaviour of the supply chain network.

In Chapter 2, the identification and description of the two key areas of actors and drivers provided an opportunity to reassess the framework of the supply chain and to investigate the social quality of economic behaviour. It was shown that the drivers of the supply chain are not just exogenous factors by which actors operate.

The conceptualisation of trust into the eight dimensions of goodwill, cognitive, calculative, societal, system, competence, blind, and distrust facilitated the identification of the varying trust relations within international business and ultimately within supply chains.

This conceptualisation was used as a methodological tool to highlight just some of the difficulties of building and maintaining trust within supply chains that cross boundaries, operate within developed and developing countries. It also revealed how differences in motive and values can effect trust relations and hence the efficiency of the supply chain's ability to operate.

Future research can further help to build bridges between developed and developing nations by addressing the challenges associated with the formation and maintenance of trust across these boundaries. Both personal and impersonal forms of trust are needed. However, without a systemic based trust, personal trust is the only trust available to developing countries that lack strong institutional frameworks. This leaves firms open to opportunistic behaviour.

Developed nations have strong institutional frameworks and thus have a strong form of system based trust that allows for goodwill trust to develop. How to remain flexible while building frameworks institutions across boundaries that lack these frameworks? How to create trust where there was previously none or where a prevailing environment of distrust exists? Addressing these questions will prove fruitful for future research and beneficial to practical business.

Having discovered that:

*“The idea of a disembodied notion of trust floating around somewhere in the social ether...” (Kay 1996, 256)*

has been rejected, and trust's qualities mapped, supply chain management can begin to consider trust's role within supply chains around the world.

## REFERENCES

- Arrow, K. (1974) *The Limits of Organization*, Norton: New York.
- Bachmann, R. (1998) Trust – Conceptual Aspects of a Complex Phenomenon. In: *Trust Within and Between Organizations*, ed. by C. Lane - R. Bachmann Oxford: Oxford University Press.
- Baier, A. (1986) Trust and Antitrust, *Ethics*, Vol. 96, No: 2, 231-60.
- Barney, J. B. - Hansen, M. H. (1994), Trustworthiness as a Source of Competitive Advantage, *Strategic Management Journal*, Vol. 15, No: 8, 175-90.
- Brenkert, G. G. (1998) Trust, Morality and International Business. In: *Trust Within and Between Organizations*, ed. by C. Lane - R. Bachmann Oxford: Oxford University Press.
- Charmaz, K. (2006) *Constructing Grounded Theory: A practical Guide Through Qualitative Analysis*. Sage publications Ltd: London.
- Child, J. (1998) Trust and International Strategic Alliances: The Case of Sino-Foreign Joint Ventures. In: *Trust Within and Between Organizations*, ed. by C. Lane - R. Bachmann Oxford: Oxford University Press.
- Chiles, T. H. – McMackin, J. F. (1996) Integrating variable risk preferences, trust, and transaction cost economics, *Academy of management review*, Vol. 21, No. 1, 73-99.
- Chopra, S. – Meindl, P. (2007) *Supply Chain Management: Strategy, Planning & Operation*. Pearson Prentice Hall: New Jersey.
- Collins, J. – Hussey, R. (2003) *Business Research: A Practical Guides for Undergraduate and Postgraduate Students*, Palgrave Macmillan: New York.
- Colman, J. S. (1988) Social Capital in the Creation of Human Capital, *American Journal of Sociology*, Vol. 94, No: (supplement) 95-120.
- Dasgupta, P. (1988), Trust as a Commodity, in Gambetta. In: *Trust: Making and Breaking Cooperative Relations*, ed. by Gambetta, D. Basil Blackwell: Cambridge, MA.
- Deakin, S. - Wilkinson, F. (1998) Contract Law and the Economics of Interorganizational Trust. In: *Trust Within and Between Organizations*, ed. by C. Lane - R. Bachmann Oxford: Oxford University Press.
- Hugos, M. (2003) *Essentials of Supply Chain management*. John Wiley & Sons, Inc. New Jersey.
- Faulkner, D. O. (1995) *International Strategic Alliances: Co-operating to Compete*. London: McGraw-Hill.

- Fukuyama, F. (1995) *Trust: The Social Virtues and the Creation of Prosperity*. Hamish Hamilton: London.
- Fox, A. (1973) *Beyond Contract: Work, Power and Trust Relations*. Faber and Faber: London.
- Gabarro, J. J. (1978) The Development of Trust, Influence and Expectations. In: *Interpersonal Behavior*, ed. by A. G. Athos Englewood Cliffs, NJ: Prentices Hall.
- Glaser, B. – Strauss, A. (1967) *The Discovery of Grounded Theory*, Aldine: Chicago.
- Hardy, C. Philips, N. - Lawrence, T. (1998) Distinguishing Trust and Power in Interorganizational Relations: Forms and Facades of Trust. In: *Trust Within and Between Organizations*, ed. by C. Lane - R. Bachmann Oxford: Oxford University Press.
- Hart, K. M. (1988) A Requisite for Employee Trust: *Journal of Human Behaviour*, Vol. 25, No: 2, 1-7.
- Held, V. (1984) *Rights and Goods*. Free Press: New York.
- Hofstede, G. (1979) Value Systems in Forty Countries: Interpretation, Validation and Consequences of Theory. In: *Cross-cultural Contributions to Psychology*, ed. by L. H. Eckensberger - W. J. Lonner - Y. H. Poortinga Lisse: Swets & Zeitlinger.
- Humphrey, J. (1998) Trust and the Transformation of Supplier Relations in Indian Industry. In: *Trust Within and Between Organizations*, ed. by C. Lane - R. Bachmann Oxford: Oxford University Press.
- Kay, N. (1996) The Economics of Trust, *International Journal of the Economics of Business*, Vol. 3, No: 2, 249-260.
- Kern, H. (1998) Lack of Trust, Surfeit of Trust: Some Causes of the Innovation Crisis in German Industry. In: *Trust Within and Between Organizations*, ed. by C. Lane - R. Bachmann Oxford: Oxford University Press.
- King, J. B. (1988) Prisoner's Paradoxes, *Journal of Business Ethics*, Vol. 7, No: 7 475-87.
- LaLonde, B. J. – Masters, J. M. (1994) Emerging logistics strategies: Blueprints for the next century, *International Journal of Physical Distribution and Logistics Management*, Vol. 24, No 7, 35-47.
- Lewicki, R. J. - Bunker, B. B. (1996) Developing and Maintaining Trust in Work Relationships. In: *Trust in Organizations: Frontiers of theory and research*, ed. by Kramer and Tyler Sage: London
- Lewis J. D. - Weigert, A. (1985) Trust as a Social Reality, *Social Forces*, Vol.63, No: 4, 967-84.
- Lincoln, S. Y. – Guba G. E. (1985) *Naturalistic Inquiry*, Sage: California, 289-331.

- Liebeskind, J. P. - Oliver, A. L. (1998) From Handshake to Contract: Intellectual Property, Trust, and the Social Structure of Academic research. In: *Trust Within and Between Organizations*, ed. by C. Lane - R. Bachmann Oxford: Oxford University Press.
- Luhmann, N. (1979) *Trust and Power*. John Wiley: Chichester.
- Lummus, R. R. – Krumwiede, D. W. – Vo kurka, R. J. ( 2001) The Relationship of Logistics to Supply Chain Management: Developing a common industry definition, *Industrial Management & Data Systems*, Vol. 101, No. 8, 426-432.
- Lorange, P. - Roos, J. (1992) *Strategic Alliances: Formation, Implementation, and Evolution*. Blackwell: Oxford.
- Marsden, D. (1998) Understanding the Role of Interfirm Institutions in Sustaining Trust within the Employment Relationship. In: *Trust Within and Between Organizations*, ed. by C. Lane - R. Bachmann Oxford: Oxford University Press.
- McAllister, D. J. (1995) Affect- and Cognition- based Trust as Foundations for Interpersonal Cooperation in Organizations, *Academy of Management Journal*, Vol. 38, No: 1, 24-59.
- Möllering, G. (1997) *The Influence of Cultural Differences on the Establishment of Trust between Partners in International Cooperation*. Judge Institute of Management Studies, University of Cambridge: Cambridge.
- Nishiguchi, T. (1989) *Strategic Dualism: An Alternative in Industrial Societies*. Ph.D. thesis. Oxford University: Oxford.
- Nooteboom, B. ( 2002) *Trust: Forms, Foundations, Functions, Failures and Figures*. Edward Elgar Publishing Limited: Cheltenham.
- Parsons, T. (1951) *The Social System*. Routledge & Kegan Paul: London.
- Paaton, M. (1990) *Qualitative Evaluation and Research Methods*, Sage: Newbury Park.
- Polanyi, M. (1962) *Personal knowledge: Towards a post-critical philosophy*. University of Chicago press: Chicago.
- Robson, C. ( 1993) *Real World Research: A Resource for Social Scientists and Practitioner Researchers*, Blackwell, Oxford.
- Sako, M. ( 1998) Does Trust Improve Business Performance? In: *Trust Within and Between Organizations*, ed. by C. Lane - R. Bachmann Oxford: Oxford University Press.
- Sako, M. ( 1992) *Prices, Quality and Trust: Inter-firm Relations in Britain and Japan*. Cambridge University Press: Cambridge.
- Seppänen, R. ( 2008) *Trust in Inter-Organizational Relationships*. Ph .D. thesis. Lappeenranta University of Technology: Lappeenranta.

- Sheppard, B. – Tuchinsky, M. (1996) Micro-OB and the Network Organisation. In: *Trust in Organisation: Frontiers of theory and research*, ed. by Kramer – Tyler California: Sage publications.
- Sitkin, S. B. (1993) Explaining the Limited Effectiveness of Legalistic Remedies for Trust/Distrust, *Organization Science*. Vol. 4, No: 3, 367-92.
- Soloman, R. C. (1992) *Ethics and Excellence: Cooperation and Integrity in Business*. Oxford University Press: New York.
- Sydow, J. (1992) On the Management of Strategic Networks. In: *Regional Development and Contemporary Industrial Response*, ed. by H. Ernst - V. Meir London: Belhaven press.
- Sydow, J. (1998) Understanding the constitution of Interorganisational trust. In: *Trust Within and Between Organizations*, ed. by C. Lane – R. Bachman Oxford: Oxford University Press.
- Thomas, D. O. (1978) The Duty to Trust, *Proceedings of the Aristotelian Society*. Vol. 79, No: 1, 89-101.
- Thomas, L. (1989) *Living Morally*. Temple University Press: Philadelphia: Temple.
- Weber, M. (1978) *Economy and Society*. Temple University Press: Berkeley.
- Williamson, O. E. (1996) Calculativeness, Trust and Economic Organisation, *Journal of Law and Economics*, Vol. 36, No: 1, 456-863.
- Lane, C. – Bachman, R. (1998) *Trust within and between organizations: Conceptual issues and empirical applications*. Oxford University press: Oxford.
- Lambert, D. M. – Stock, J. R. - Ellram, L. M. (1998) *Fundamentals of Logistics Management*, Irwin/McGraw-Hill: Boston, MA.
- Zucker, L. G. (1986) Production of Trust: Institutional Sources of Economic Structure, 1840-1920, *Research in Organizational Behavior*, Vol. 8, No: 1, 53-111.