

Lu, H., Potter, A., Sanchez-Rodrigues, V. and Walker, H. (2015) "Informal relationships and their impacts on supply chain management", Proceedings of the 20th International Symposium on Logistics, Bologna, 5th-8th July, pp195-202.

## **INFORMAL RELATIONSHIPS AND THEIR IMPACTS ON SUPPLY CHAIN MANAGEMENT**

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### **INTRODUCTION**

Interpersonal contacts have been identified as performing an important role in supply chain management, especially where the cultural concept of informal relationships has a major influence on both social and business norms. Perhaps the most studied type of informal relationship is *guanxi*, which derives from Chinese social-cultural norms and influences human behaviour in society. Examples in the context of supply chains include Cheng et al. (2012), who examined the impact of *guanxi* on supply risk management, and Li and Lin (2006), who endeavoured to leverage global logistics competence by applying *guanxi* in Chinese manufacturer networks. However, researchers have argued that the presence of informal relationships is by no means culturally unique to China or Confucianism culture (Walder, 1986), and other similar terminologies have begun to draw researchers' attentions in the context of supply chains. This includes *wasta* in Middle Eastern societies (Barnett et al., 2013) and *blat* in Russia (Abosag and Lee, 2013).

Given both the growth of studies on *guanxi*, and the diversification into other forms of informal relationships, there is a need to develop a consolidated view of informal relationships within supply chains, and particularly their impacts. Through a systematic literature review, this paper aims to examine the impacts from the use of informal relationships in supply chains, leading to the development of a theoretical framework for future research.

The paper proceeds by firstly giving an overview of the literature on informal relationships, before setting out the systematic literature review approach adopted. From this, the impacts are synthesised, leading to a theoretical framework anchored in social network theory.

### **LITERATURE REVIEW ON INFORMAL RELATIONSHIPS**

Various studies have given definitions of informal relationships based on different scopes, such as 'personal relationships' (Herndon, 2008), 'personalistic networks' (Chung, 2005) and 'social connections' (Chen et al., 2011). In this study, it is defined as a social-cultural resource which is framed in the particular social network, acting as an 'invisible hand' and influencing social and business activities. Within this, emotional closeness (*ganqing*), trust (*xinren*), and favour (*renqing*) are defined core values of informal relationships (Lu et al., 2015). Studies in the marketing discipline substantiate the view that informal relationships, personal links and cultural diversity are major elements when differentiating business-to-business relationships (Fock and Woo, 1998). In the last two decades, with the development of supply chain management in the context of globalisation, informal relationships have been dramatically emphasised by both of academia and practitioners.

The nature of informal relationships can be considered through comparison with formal relationships. These focus on contractual mechanisms, often underpinned by transaction cost theories, to develop adequate controls to curb partners' opportunistic behaviours and reduce perceived risks (Geringer & Hebert, 1989; Williamson, 1985). Transaction ambiguity is reduced and transparency is increased by the clear contractual specification of each detailed term. Informal relationships are also claimed to help managers mitigate opportunistic behaviour in economic transactions, however, through mutual trust and obligations generated from network members (Park and Luo, 2001; Yang, 1994; Wong & Leung, 2001). Besides, the scope of the perspectives involved in these two mechanisms are different – contractual relationships tend to focus on the 'smallest possible unit of

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economic exchange' and it is a single transaction (Ai, 2006); on the other hand, people within informal relationship networks form strategic alliances (Ai, 2006) with a long-term orientation, under an expectation of repeated interactions and exchanges of reciprocal equity and favours (Leung et al., 2005; Luo, 1997). Furthermore, the motivations from informal relationships are far more than reducing risks and opportunism. It also helps to smooth transaction arrangements in procurement, production and long-term collaboration, gain access to new business opportunities and enhance personal and corporate reputation (Lu, et al., 2015).

Based on previous work examining the core values and motivations of informal relationships (Lu, et al., 2015), this paper answers the research questions of 'how' informal relationships impact upon supply chain management.

## **METHOD**

The systematic literature review comprises identifying published academic research on informal relationships and supply chains, covering the period from 1994 to 2013 inclusive. The literature search covered the databases of five publishers of management related texts: Science Direct, Emerald, Taylor & Francis, Sage and Wiley. To identify relevant articles, two combinations of search terms were used. The first set of terms included the names given to different forms of informal relationship (*guanxi*, *wasta*, *jeitinho*, 'pulling strings', *svyazi*, *blat*, *wa* and *inhwa*). Meanwhile, the second set of terms covered various dimensions in supply chains, including supply, logistics, procurement and production. The use of specific names enabled a focus upon specific cultural practices while the second set recognised the broad range of activities within a supply chain. Each term from both sets, except *wa* (informal relationship in Japanese), was combined with each other, and this resulted in the identification of 308 relevant papers. The key term *wa* was not included in the main search stream because it can be short for other terms, such as West Australia. Therefore, an individual searching and filtering process was conducted to find relevant papers, and these were then included in the initial sample of 315 relevant papers. Filtering criteria was then to select papers containing both of the key terms in the main texts, and this resulted in 112 papers remaining. Further filtering to identify those papers where the substantive research was on informal relationships resulted in a final sample of 95 papers.

Initial coding of the articles focused upon various bibliometric details, research regions, industry, firm sizes and research methods. To identify various impacts of informal relationships in SCM, categories were inductively developed based on coding of the papers. To ensure the validity of this work, and particularly the accuracy and consistency of the categories and coding process, after coding the first 20 papers, the coding file and the papers were circulated in the research team, to check the reliability of this process. Also, the table containing all the attributes of impacts of informal relationships have been presented to the research team for further debating and checking of the logic and consistency of each cluster. This increases the validity of the coding process. Finally, the identified results also have been verified through 5 interviews with academia and practitioners, in order to improve the reliability for content analysis.

## **OVERVIEW OF THE SAMPLE**

Since 2004, there is a dramatic increase of academic interest in this area and 90% of papers were published in the last decade (Figure 1). Many of these papers are in marketing and management related journals rather than located directly in the supply chain discipline. Additionally, many of these studies are general in nature, with 40% of papers undefined in industries and 57% not stating firm sizes. The research has been investigated in various regions, including Middle East, Australia, USA and Europe. However, China was still the primary research area with 74.7% of papers (including Hong Kong and Taiwan) conducted in this area. Thus, it is an emerging research topic in an exploratory stage where various research gaps can be fitted in.

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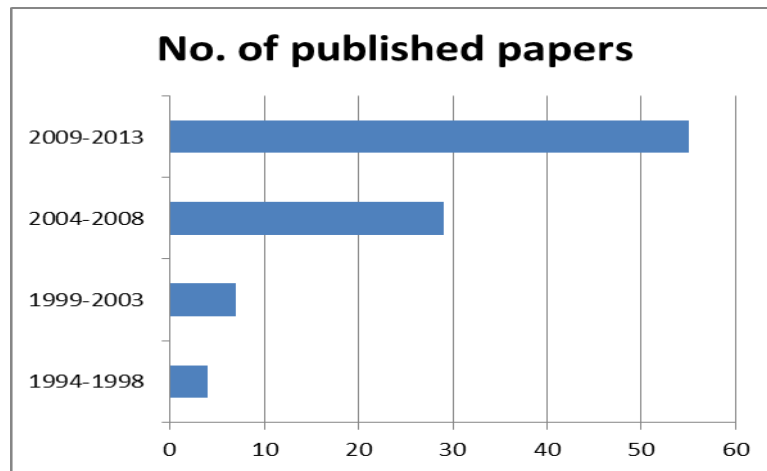


Figure 1: Profile of journal paper sample over time

Figure 2 shows the nature of authorships within the sample of papers. There is a clear dominance of Chinese based researchers, both for single and multiple region authorships, featuring on over 50% of the papers in the sample and therefore reflecting the large emphasis on guanxi within informal relationship research. Perhaps more surprising is the lack of collaboration between Chinese and other Asian based researchers, given that informal relationships are important in many Asian countries. Even where the research is carried out by researchers based externally to the country/region under examination (for example, North American based researchers looking at guanxi), there is still a cultural link to the focal region for at least one of the authors. This suggests that cultural understanding is an important requirement when carrying out research on informal relationships.

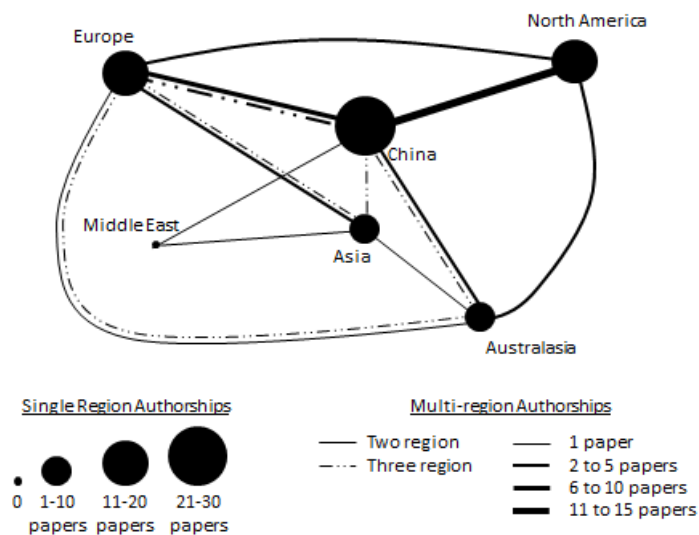


Figure 2: Authorships of papers within the sample

### WHAT ARE THE IMPACTS OF INFORMAL RELATIONSHIPS?

Through the literature review, 134 variables were coded from the literature and synthesised into 12 clusters representing different impacts from applying informal relationships in SCM, including relationships with various stakeholders, procurement, production, reduce uncertainty, supplier management, IT, strategic goals, logistics, customer management, quality, employee management and knowledge and learning. The results can be seen in Table 1.

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<b>Cluster</b>	<b>Impact of informal relationship</b>	<b>Coded variables</b>	<b>No. of papers</b>
Relationships	In social networks, firms tend to rely more on arm's length relationships, to engage in building good relationships and committing to formal and informal collaborations	Integrated supply chain networks, trust between buyer-seller, collaboration	48
Procurement	They improve efficiency, save time and ease the procurement of necessary production resources	Influence purchase decisions, negotiate payments/ordering quantity	31
Production	Informal relationships are important in internal integration, external adaptation and collaboration in production	Secure production capacity, diversity in production, efficiency in production	27
Reduce uncertainty	Informal relationships are increasingly serving as mechanisms to reduce uncertainty and increase predictability because the players are likely to hedge their risk by using private or particularistic channels	Increased tolerance, predictability, reduced conflict, reduced production/supply risk.	18
Supplier management	The personal relationship between individual buyer and supplier can dramatically influence supplier selection, development, and share strategically organizational values.	Managing supplier partnership values, supplier communication/integration/financial performance/selection	16
IT	Information integration is necessary to help internal functions within the company identifying critical issues	Information sharing/integration/technology	15
Strategic goals	Through close personal relationships, the supply chain strategically forms a variety of flexible and synchronising prototypes	Alliances in SC design, efficiently respond to market demand	15
Logistics	Global logistics competence and logistics infrastructure can be enhanced by leveraging informal relationships	Logistics competence, logistics infrastructure, timely deliveries,	11
Customer management	An organization can capture the operational benefits from including downstream parts of the SC	Access to new customers, match customer needs	7
Quality	Informal relationships with main suppliers could help acquire quality products and superior services	Acquire quality services, quality production	5
Employee Manage	Good informal relationships with employees are expected to provide engagement, collaboration and control the turnover rate	Relationship with employee, purchasing/production workers	4
Knowledge and Learning	Good relationships foster understanding of knowledge and market signals	Enrich knowledge pool about customers, internal learning process	3

Table 1: Impacts of informal relationships

### **Relationships**

Most of the papers have focused on the topic of relationships in SCM, including buyer and seller relationships (Dickson and Zhang, 2004; Giannakis et al., 2012) logistics outsourcing relationships (Chen et al., 2010) and collaboration with competitors (Wong and Tjosvold, 2010). By taking advantages of the core values, companies can develop the social network for its own benefit (e.g. building harmonious business environment) or for other purposes (e.g. an economic tool, Lee & Dawes, 2005). In relationship management, players tend to improve the levels of integration (Nonini, 2014) and collaboration (Ramasamy et al., 2006) in supply chain management, for exchange of

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mutual trust and benefits in the long-term. However, while the literature shows a strong emphasis on examining the impact on relationships, the empirical interviews suggest that reducing uncertainty is the primary impact. These impacts are discussed shortly.

### **Procurement**

The literature suggests that informal relationships improve the efficiency and ease the process of procurement for necessary resources (Ramasamy et al., 2006, Chen and Wu, 2011). Firstly, decision-making for procurement selection and acceptance is very complex and informal relationships with suppliers can increase the trust level for product acceptance (Sternguist and Chen, 2006). Secondly, informal relationships serve as a social capital to access to tangible resources (e.g. materials, labour and physical resources) and intangible resources (e.g. knowledge and information about domestic markets) in procurement (Chen, 2009; Chan, 2008). Thirdly, it also helps to manage supply risk through increasing communication and reducing supplier's opportunism (Lee and Hamphrey, 2007). Finally, informal relationships create a greater margin for purchasing negotiations in terms of price (Giannakis et al., 2012), order quantity (Kam and Chen, 2011), and payment deadlines (Chen and Wu, 2011)

### **Production**

Firms are endeavouring to maximise their output with the minimum cost (Day & Wensley, 1988; Li and Sheng, 2011). Close ties with buyers, suppliers and even competitors provide such efficiency in SCM because firms can coordinate strategic planning and integrate production capabilities (Peng and Luo, 2000) with necessary resources, information and technology (Zhao et al., 2011). Information visibility is a particular contribution in utilising informal relationships (Chen et al., 2003; Cui et al., 2013) to access to market information and react to the trends. Production operations can be enhanced as well when management can understand the 'human mindset', show empathy for staff members and emphasise the importance of informal relationships with both internal staff members and external business partners (Choi et al., 2012).

### **Reduce uncertainty**

Actors rely on their social networks to manage uncertainty and increase behaviour predictability in economic sociology (Pfeffer and Salancik, 1978). In informal relationships, trust plays as the central value (Lu et al., 2015), serving as a governance mechanism that mitigates conflicts and reduces uncertainty in production (Ling and Li, 2011), supply and demand (Cheng et al., 2012), and information and technology turbulence (Chang, 2011). The usage and particular forms of informal relationships are also shaped by uncertainty rising from specific institutional factors which provide incentives to emerge a certain form/structure of informal relationship while resolving the uncertainty in the likelihood of interdependency within the social network (Chang, 2011) to increase the tolerance level in the supply chain (Cui et al., 2013).

## **DISCUSSION**

The above synthesis of the literature shows a diverse range of impacts that can result from informal relationships. However, it is not clear the extent to which the core values of informal relationships influence each of the different areas, and then further impact on business performance measures. Various theories have been employed to investigate the influence of informal relationships in more depth, and one theoretical lens for undertaking such research on informal relationships is social network theory (SNT). A social network can be defined as "a set of nodes...linked by a social relationship...of a specified type" (Laumann et al., 1978, p.458). In building a guanxi network, individuals are assumed to create certain levels of social cohesion with relevant actors, with strong and weak ties depending upon the purpose and the social structure of this relationship. Based on this perspective, the theoretical framework is presented in Figure 3. The starting point is the development of a informal relationship network.

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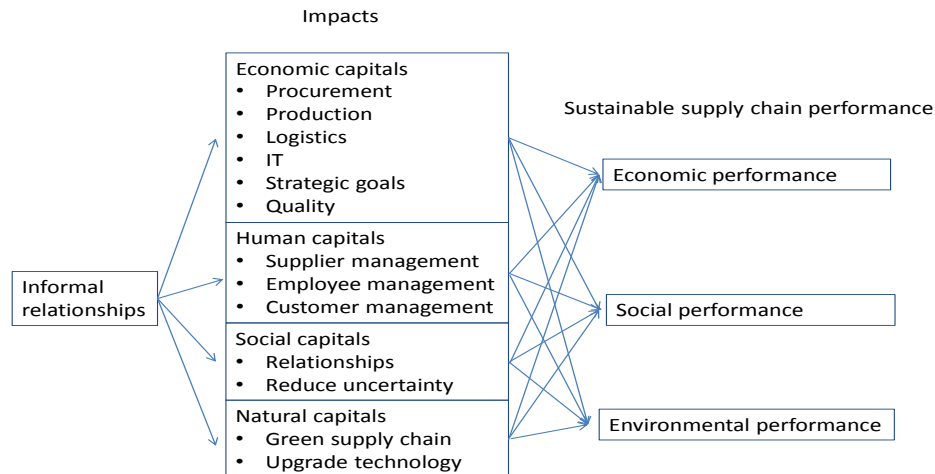


Figure 3: Theoretical framework for evaluating the impact of informal relationships on supply chains

The purpose of the social network is to build capitals, which Burt (1992) emphasises on financial, human and social capital. Financial capital refers to money related aspects, human capital includes natural abilities and skills while social capital refers to relationships with other players. However, with the recent growth of interest in sustainability issues, natural capital has also been proposed as a fourth type of capital (Ekins et al., 2003). The various categories found through the systematic literature review can be related to the development of one of these types of capital (Figure 3).

However, while considering these different types of capital is important in SNT, there is also a need to evaluate the impact on business performance. Therefore, a further set of connections to a range of performance metrics is proposed. These encompass sustainable supply chain management, given the increasing importance placed upon this by business and academia (Seruing and Muller, 2008). Aspects of measures that could be evaluated include (Global Reporting Initiative, 2015):

- Economic performance, market presence, indirect economic impacts (Economic)
- Labour practices, human rights, society (Social)
- Emissions, materials, waste (Environmental)

## CONCLUSION

This review provides a synthesis of knowledge in understanding the impact of informal relationships in supply chain management. Trust is a determinant factor that is particularly highlighted in informal relationships, and affects formulations of various relationships. There are also connections between different impacts of informal relationships. For example, creating trust and reducing uncertainty can help players to build good relationships within interaction, which then would ease the process of procurement and production. Good relationships with players also motivate companies to engage in strategic planning and collaboration, to fulfill their business and strategic goals. However, building good relationships is a hierarchical process where strong informal relationships are cultivated through repeated interactions and long-term satisfaction from both parties.

So far, the literature review shows that although knowledge of interpersonal networks has expanded significantly over the last decade, the study and analysis of informal relationships as a distinct influence in supply chains remains relatively embryonic where various research gaps can be identified for future research. For example, research could be extended outside China since other emerging cultures hold a similar perspective of

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emphasising informal relationships. Various impacts and supply chain paradigms could be compared and contrasted, and further distinguished with specific social-cultural norms. Research also could be developed in more depth, for example, to clarify firm size. Informal relationships within different sized firms, such as multinational companies and SMEs, are expected to be different. Further research could also examine in detail a specific supply chain dimension (e.g. procurement). The influence of power and how informal relationships interact with formal relationships are other potential research areas. Finally, much of the emphasis in the research is on the positive impacts of informal relationships. However, negative issues may also need further research. For example, questions concerning transparency, fairness and business ethics are also arising (Chen et al., 2011) since gift-giving is one of the approaches to receive *renqing*.

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