Technology Trust and the Impact on Business to Business Relationships: A Literature Review

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Abstract

The Internet is a business tool that is both widely acclaimed and highly criticised. In reality, the Internet assists managers to communicate and distribute with customers and other stakeholders. Trust is widely examined in B2B relationships, and more recently, the concept of technology trust has become important. This paper integrates literature from B2B marketing with literature about Internet marketing. It then examines the literature surrounding the use of the Internet in Business-to-Business (B2B) relationships to gain a greater understanding of how the Internet can enhance B2B relationships.

Keywords: B2B, Trust, Relationships, Internet, Technology, Business To Business

Introduction

The Internet is increasingly being used in business-to-business relationships in order to improve relationships with supply chains and streamline processes, ultimately saving costs for businesses. Many businesses, in introducing technology, have not addressed what impact this may have on trust within the relationship. In seeking to better understand business networks and how technology is used, this paper briefly examines some recent literature about business-to-business relationships and the nature of these relationships. It will then discuss the use of the Internet by businesses. Finally, this paper will examine the literature surrounding the use of the Internet in business-to-business relationships. The goal of this paper is to develop a greater understanding of the use of the Internet in a business-to-business context.

Business to Business relationships – an understanding

Business-to-Business (B2B) relationships are widely researched in a marketing context. They are defined as markets where a business markets and sells goods and services to another business for use by the customer, or for resale to other customers (Wright, 2004). According to Wilkinson and Young (2002), there are five groups of factors that need consideration in relation to business networks. These are:

a) *Characteristics of the relationships and interactions in which a firm is involved*
b) *Characteristics of a firm's relationship partners*
c) *Characteristics of connected relations and their interactions*
d) *Characteristics of a firm's network positions*
e) *Characteristics of the network as a whole*

These factors influence the potential success and longevity of a relationship. In general, business-to-business relationships tend to be relatively long term and stable – overall, it is the interaction of the stakeholders that impact on the exchange within the relationship. Unlike business to consumer (B2C) relationships, price is not as important in business-to-business transactions (Stahl, 2002). Despite this stability, the relationships are still dynamic, where the stakeholders are reacting to product development, innovation and customer changes (Stahl, 2002).

Trust is a very important factor in business-to-business relationships due to the fact that these relationships are often very important and fragile (Harris, Dibben, 1999). Ultimately, as building relationships has become the key in marketing, trust is becoming imperative (Dwyer, Schurr and Oh, 1987). Many authors have attempted to define trust, however there is no real consensus on the meaning of the word trust. For instance, trust can be defined as "the belief in the integrity, honesty and the reliability of another person" (Dwyer and Tanner, 2002), however, this definition does not consider the situational impact. There are definitions and explanations for trust from a number of different disciplines and situations such as sociology, economics, politics, law, philosophy (Grossman, 2004) and psychology (Brenkert, 1998). It has been suggested that definitions of trust differ depending on the discipline taken from – for instance, economic literature examines trust purely from a cost / benefit approach (Doney and Canon, 1997). Furthermore, different trust approaches also indicate how trust will be used. The prediction process, for instance, looks at the ability to forecast behaviour (Doney and Canon, 1997). This method of forecasting is more successful the more closely linked the two organisations are. The longer two organisations have a relationship, the clearer it is for them to decide under what circumstances they will trust another party (Blois, 1999). Trust leads to relationship commitment (Dwyer and Tanner, 2002), which is what marketers are striving to achieve. In general, trust is a key element for relationship success and tends to be related to a number of elements such as competitive advantage and satisfaction (Ratnasingam & Pavlou, 2003). Some authors indicate that trust only occurs when there is an element of risk (Bhattacharya, Devinney and Pillutla, 1998) as when there is no element of risk, trust is not necessary. A number of issues lead to trust, such as commitment to the relationship - for instance, the costs to leave the relationship, benefits of the relationship and shared values (Morgan and Hunt, 1994). Furthermore, the nature of the relationship, such as communication, cooperation and conflict can indeed impact on the level of trust in the relationship (Morgan and Hunt, 1994). While researchers have developed many different versions of trust, there are two key types of trust that will be discussed in this paper – trading partner trust and technology trust (Ratnasingam & Pavlou, 2003). Technology trust in particular, will be of interest, because the development of technology has impacted on relationships quite drastically, allowing more competition, more control over processes and employees (Brenkert, 1998).

As the name suggests, trading partner trust is about trust between the business network participants. When purchasing from other businesses, either for use within the business, or for resale, issues such as whether the products are of appropriate quality, whether the appropriate quantity will be delivered, whether delivery will be on time, and whether the price is appropriate are issues for buyers are issues for buyers. For sellers, it is usually a payment issue that can impact on trust (Violino, 2002). It is also important to note that trust is not always two way – just because Partner A trusts Partner B at one point in time does not mean it is reciprocal (Harris and Dibben, 1999). As in all relationships, the nature of trust can change over time and also from situation to situation (Blois, 1999).

On the other hand, technology trust has been defined as "the subjective probability by which an organization believes that the underlying technology infrastructure and control mechanisms are capable of facilitating inter-organizational transactions according to its confident expectations" (Ratnasingam & Pavlou, 2003). As technology use has increased in business-to-business networks, technology trust has become an important issue that must be addressed. Some of the requirements to ensure technology trust include confidentiality, integrity, authentication, non-repudiation, access controls, availability and best business practices (Ratnasingam & Pavlou, 2003). Exchanging information through the supply chain is increasingly important (Grossman, 2004), and the use of the internet has allowed this further. To understand the concept of technology trust, the way in which businesses are using technology in B2B contexts will be examined.

The Internet and Business to Business Relationships

When the Internet was being commercialised, it was hailed as 'the next big thing' in business. Businesses were told that if they did not implement e-business and e-marketing practices in their organisations, they would fail. As a result, many organisations jumped head first into using technology, with little regard to the strategy, or what worked for their target market. This is done to provide improved levels of customer service to the target market, and to lower costs for communication and distribution.

The internet offers enormous benefits for businesses and can be used for both B2B and B2C markets for transacting, communication, marketing, entertainment (less of a focus in the B2B market), and of course, selling & buying (Wright, 2004). It can enhance relationships, however, it is also possible that technology could have a negative effect on relationships if the strategy applied is not appropriate. B2B Internet usage is growing in popularity for many reasons, from cost savings to benefits in the value chain. Technology provides obvious benefits for organisations such as the ability to carry out transactions around the clock, in addition to increasing confidence of business partners due to their online transaction ability (Ratnasingam & Pavlou, 2003). As a result, Forrester Research estimates that overall, 90 percent of e-commerce will be generated from the B2B sector, rather than the Business to Consumer (B2C) Sector (Reedy, Schullo and Zimmerman, 2000). Overall, Forrester Research believed in 2000 that transactions would reach $2.7trillion by the end of 2004 (Blackmon, 2000; cited in Ratnasingam & Pavlou, 2003). The Boston Consulting Group predicted in 1999 that by 2003 a quarter of all US B2B transactions would be carried out completely online (Ratnasingam & Pavlou, 2003). More recently, it has been estimated the value of B2B E Commerce in 2005 will be approximately $5.4trillion, indicating that a third of all B2B purchases will be carried out online (Duvall, 2001). There is in fact a growing trend for some companies to refuse to operate with those not using web facilities in their operations (Reedy, Schullo and Zimmerman, 2000), indicating the importance of having internet facilities in a business-to-business relationship.

The development of Internet usage has involved transformations particularly in the area of organisation expectations of creating value within a supply chain (Baroncelli and Adami, 2003). For instance, implementing Information Technology in a business tends to change the value chain from one that is linear to one that is a value network (Carignani and Mandelli, 1999; cited in Baroncelli and Adami, 2003). This allows businesses to extend their relationships with customers, suppliers, retailers, brokers, co-producers, employees and shareholders, and have a more personalised relationship with them (Kandampully, 2003).

These personalised relationships are a key goal of marketing, and tend to lead to a more sustainable relationship.

There are five key strategies that can lead to a sustainable competitive advantage in relation to e-commerce. Most of these elements focus on benefits filtrating to the supply chain and are therefore relevant when addressing business-to-business relations.

- *Actively collaborating with supply chain partners*
- *Extending the company's reach up and down the supply chain*
- *Changing the supply chain flow path*
- *Growing revenue*
- *Transforming capabilities into new business*

(Keevil, Nickel and Christodouleas, 2001)

The way in which a business addresses each of these strategies can impact on the B2B relationships and it is therefore important that this is addressed by an organisation. Failure of an E-Business strategy can be caused by a number of factors, however, ultimately they link to problems with marketing strategy formulation. Strategic planning for E-Business and E-Marketing link in with planning for traditional business. As Hardaker and Graham (2001) express, the "principles of strategic marketing planning in the ... [traditional market] .... are the same for the virtual market, but the conditions and focus are different". In other words, strategy must be developed prior to introducing the Internet within business activities.

The use of technology allows more competition and more control over business processes (Brenkert, 1998). Trust is an issue online, and has been widely researched because transacting online can be perceived as a risky activity in B2C, C2C and B2B transactions. As a result, it is important to address trust when transacting with other businesses online. Despite this, it has generally been researched from a Business to Customer (B2C) approach (Jevons and Gabbott, 2000) rather than from a B2B perspective. In addition, the way in which technology can be utilised in a business-to-business context is opening the doors to research (Berthon, et al, 1998) however research has tended to focus on communication and distribution, rather than enhancing trust.

Some of the advantages of using the Internet in B2B activities include improving company performance and increasing value across the distribution chain, while reducing costs and increasing profits. This is ultimately done to maintain a competitive advantage and provide greater customer satisfaction (Wright, 2004). Of course, with these advantages comes some potential issues. For instance, an organisation might fail in their use of the Internet in their B2B operations because objectives are lacking, or the technology is not properly understood. In addition, organisations have failed to carry out a cost/benefit analysis to determine whether the strategy offers a benefit for the organisation. In addition, if the organisation has not property co-ordinated the benefits nor communicated them to staff, suppliers and customers. Finally, in some instances, customer needs are ignored and the technology is considered first and foremost (Wright, 2004).

Criticisms of using the Internet in business-to-business relationships tend to centre around the separation of buyers and sellers (Ratnasingam & Pavlou, 2003) impacting on the success of the relationship. It is this separation that removes the level of trust from the relationship. Trust is often developed over the long term, through observing shared values, and through communicating, and therefore, it is important to foster relationships, regardless of whether the internet is used in business or not.

Future Research

There is an understanding that technology trust is an important issue in business-to-business relationships, however, at present, very little research has looked at how technology impacts on trust in these relationships. Therefore, further research will be carried out to determine how technology impacts on trust in the business-to-business relationship and what businesses can do to decrease this impact, if it is indeed negative or enhance relationships if it is positive. By examining all the factors that lead to trust, and seeing whether technology affects these factors, it will be possible to develop implications for marketers.

From this brief literature review, however, it is possible to see that businesses must consider their target market when introducing technology. In particular, business to business relationships can sometimes be very fragile, and the impact of the technology on the relationship must be considered prior to introducing technology.

The research question, therefore, for further investigation is:

> *How does the use of the Internet impact on trust in a business-to-business relationship?*

Limitations & Summary

This paper has briefly evaluated few of the many studies on business-to-business relationships. As a result, further studies must be carried out to gain a better understanding of the nature of various business-to-business relationships. In addition, this paper has evaluated how the Internet can be used in business-to-business relationships. Further research must be carried out to determine what impact the Internet has on these relationships and to integrate this literature. This paper is only a brief literature review, and as a result, some limitations are evident, however, the purpose of this paper is to increase understanding. As a result, further research must be carried out to determine what impact, if any, technology has on trust in business to business relationships.

In attempting to understand the nature of business-to-business relationships and how technology is used, this paper has evaluated some of the literature on traditional business-to-business relationships, in addition to the use of technology in these relationships. Technology trust is an important issue that must be addressed by organisations carrying out B2B activities online. Trust is imperative in sustaining B2B relationships and is also an issue when using the internet in general. In a traditional market, trust is present through shared values, communication and opportunistic behaviour. The internet is simply a tool to enhance communication and distribution, and as a result, it is imperative that organisations focus on these three issues when operating in a B2B market.

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