A literature review of the antecedents and dimensions of trust in online B2B

Author: Ricardo van Tilborg
University of Twente
P.O. Box 217, 7500AE Enschede
The Netherlands

ABSTRACT
Trust is seen as a factor that enables long-term relationships and makes it easier for transactions to take place in an online environment. While carrying the knowledge of the importance of trust in an online environment, trust, the dimensions of trust and the antecedents of trust remain a controversial topic for organizations. The goal of this research is to provide an overview of the current literature on the importance of trust, the dimensions in which trust can be split and the antecedents of trust, which trigger trust. The information used in this paper was found in well-established theories, articles and papers on the topic of trust in B2B and online B2B. The dimensions in which trust was split were cognitive trust and affective trust. The importance of the dimensions of trust for both the initial phase of contact between businesses and the mature phase of contact was included in a framework. A list of antecedents of trust were listed and a suggestive framework including the antecedents of trust in online B2B categorized in the dimensions of trust was built. In these frameworks it can be seen that in the initial phase affective trust plays a more significant role, while in the mature phase cognitive trust plays a more significant role. The last framework also shows that there are more ways to influence cognitive trust than affective trust in an online B2B environment. This last framework however is to be considered suggestive and needs to be properly tested empirically.

Supervisors: Drs. P. Biek; ir J.W.L van Benthem

Keywords
trust, online business-to-business (B2B), antecedents, dimensions of trust, cognitive trust, affective trust
1. INTRODUCTION

1.1 Introduction

The concept of trust has become an important concept over the past years in most research fields, like psychology, behavior and organization. Many have attempted to conceptualize this difficult phenomenon. Ozawa and Sripad (2013) mentioned that trust always has been an ambiguous and vague concept, making it tough to examine. This might be due to the fact that there exist many different studies, which lead to many different definitions of trust. According to McKnight and Chervany (2000) several researchers have mentioned that definitions of trust are numerous and confusing, confirming that the large number of definitions leads to an unclear and confusing view of trust. McKnight and Chervany (2000) mention various explanations to this vagueness of trust, like that each discipline sees trust from its own perspective. Another reason they state is that trust can have a different meaning in different contexts, indicating that it can be misinterpreted in the wrong context for example. This indicates that a clear overview of trust is needed to create a better understanding of the concept of trust. One of the emerging fields of research, regarding the concept of trust, is business to business (B2B).

In the B2B market many transactions take place as the name implies between businesses. Anderson & Narus found that in B2B companies have to deal with a smaller number of customers and a higher proportion of the revenues coming from a small number of customers (as cited in Tsiros, Ross, & Mittal, 2009, p. 263), indicating that the longevity of the relationships between the firms and the customers in the B2B sector is important for the profitability of the selling firm, which was confirmed by Kumar, according to Tsiros et al. (2009). Some researchers made a distinction between various kinds of relationships between businesses. Bunduchi (2005) for example divided inter organizational relationships in to two different kinds: transactional and collaborative relationships. This distinction between different kinds of relationships is interesting to consider, but will not be part of this article. This article will however include the importance of trust for relationships between businesses in general.

Doney and Cannon (1997) argued that due to rapidly changing competitive environments, business marketing firms need to become more flexible and creative to keep up with the competition. According to Blomqvist (2002) trust is one of the most critical success factors when it comes to inter organizational relationships (as cited in Seppänen, Blomqvist, & Sundqvist, 2007, p. 249), making trust an even more essential concept for organizations in B2B. This implies once more that a clear overview of trust in B2B is needed to be able to understand the concept and to be able to create or sustain these B2B relationships.

The context of this research will however be more specific than trust in B2B, the context will be online B2B. According to Beige and Abdí (2015), many researchers adopted trust as the most important influence of success of B2B Electronic Commerce (EC). They also claim that trust in B2B EC is currently a very controversial discussion, meaning that many researchers have attempted to conceptualize this phenomenon. “Generally, absence of trust is regarded as impediment for successful execution of B2B EC” (as cited in Beige & Abdí, 2015, p. 78).

This confirms the importance of trust in online B2B, which also makes it an interesting topic to discuss in this article. This brings us to the final context of this article wherein an overview of trust is needed to better understand the concept. The article will be divided into different sections which will contain an overview of the conceptualization of trust, the importance of the different dimensions and elements of which trust consists and finally a section with the antecedents of trust, which precede trust, in online B2B. Frameworks will be included, which will contain an overview of the importance of the elements of the different dimensions of trust and an overview of the antecedents categorized according to the different dimensions regarding trust in online B2B.

1.2 Research question

To provide an overview of the antecedents and dimensions of trust and their importance in online B2B, the following research question will be answered in this paper: ‘What are the antecedents of the dimensions of trust in online B2B according to the current literature?’ To provide a good and clear answer on the research question, this article will be divided in four different sub sections, which cover the concept and dimensions of trust and its importance in the online B2B. The inevitability of trust and the advantages and even disadvantages that exist because of a lack of trust between organizations will be covered in these sub sections, while these sub sections will also provide a list of antecedents of trust in the online B2B. To create these sub sections, articles and journals will be used to provide a critical literature review. After covering these sub sections a conclusion and discussion will include the findings and the status of research on trust in online B2B. In the end the limitations of this research will be considered and a possibility for further research will be provided.

1.3 Academic & practical relevance

Trust still is a controversial concept and many researchers have attempted to clear the air on this concept. The context in which this article will review trust is online B2B. This is an emerging context for the concept of trust and this summary will provide an overview of the current status of literature on trust in online B2B. Due to the fact that this article will be a theoretical paper based on scientific research, its practical relevance will be untested, however it could prove to be a useful overview to organizations in online B2B. The frameworks in this article could prove useful to give an insight, a better understanding of the concept of trust and a possible suggestion for further research on this topic.

2. METHODOLOGY

To be able to answer the research question, literature will be used to review the current status of the research on trust in online B2B. The main sources of data used to conduct this research come from scientific articles and journals, like the Journal of Marketing, the Journal of Interactive Marketing and the Journal of Business Research. To find articles suited for this paper, databases like Scopus, Google Scholar and Science Direct were used. The key words that were used to find the suited articles in these databases were mainly: ‘trust’, ‘B2B’, ‘online’, ‘cognitive trust’, ‘affective trust’ and ‘antecedents’. Techniques like snowballing, where you use references used in articles to find other useful articles, were also applied. Whether the articles found using the snowballing technique are related to this topic, will mainly be derived from the title and abstract of the articles. The snowballing will stop if the articles provide enough detailed data and information for this topic. To reach the goal of this review it is crucial that trust is clearly explained in this paper and that the importance of trust in this context of online B2B transactions is proven, but the most important part to reach this goal is to review the dimensions and antecedents of trust. The antecedents of trust will give a view on where trust comes from and what made trust develop, while the dimensions will provide clarification on what type of trust it covers. A framework will be
build, where the different antecedents will be categorized according to the different dimensions of trust, which will be discussed in the next section. This paper will provide a clear view on the nature of the antecedents of trust, the different dimensions of trust and the importance of trust in an online B2B context.

3. TRUST AND ITS DIMENSIONS
This section will divide trust into two dimensions and further explain these dimensions describing the different elements, which characterize these dimensions.

As mentioned before, trust is a vague and ambiguous variable (Ozawa & Sripad, 2013) that lacks conceptualization. Over the past decades many researchers have attempted to conceptualize and define trust. This is also the case in online trust as mentioned in the introduction. Trust can be divided into different dimensions which all have an importance in the overall trust in online B2B.

It is important to mention a distinction between interpersonal trust and inter organizational trust. Interpersonal trust can be referred to as “the trust placed by the individual boundary spanner in her individual opposite member” whereas inter organizational trust covers whole organizations instead of just individuals (Zaheer, McEvily, & Perrone, 1998, p. 142). Zaheer et al. (1998) confirm that interpersonal and inter organizational trust are related, however in transactions and exchanges they each play a different role in business to business. This paper however will not further include this distinction of trust, but will rather focus on two other dimensions of trust mentioned by Dowell, Morrison, and Heffernan (2015). These dimensions include cognitive trust and affective trust. According to Ganesan (1994) these two dimensions are acknowledged in B2B literature. (as cited in Houjeir & Brennan, 2014, p. 3) This means that trust can be split into interpersonal and inter organizational, but trust can also be split into cognitive and affective trust. In this article trust will be split into cognitive and affective, as many authors like Zaheer et al. (1998) and Barnes, Leonidou, Siu, and Leonidou (2015) covered interpersonal and inter organizational trust in an adequate way. Other researchers mention similar dimensions when it comes to trust (e.g.Chang & Wong, 2010; Doney & Cannon, 1997) but this paper will stick to the two dimensions mentioned by Dowell et al. (2015), because they are already acknowledged, and they go into more detail in their paper. Dowell et al. (2015, p. 120) defined trust as “an evolving, affective state including both cognitive and affective elements and emerges from the perceptions of competence and a positive, caring motivation in the relationship partner to be trusted”. They already mention the two dimensions in which they split trust in their definition. These two dimensions need some further explanation.

“Cognitive trust is based around notions of reliability and dependability” (as cited in Houjeir & Brennan, 2014, p. 3). It is also claimed that “it is based on the rational decision that a party will behave in a required way because of the financial outcome that will result from working together in the relationship” (as cited in Houjeir & Brennan, 2014, p. 3). Both cognitive trust and affective trust can be characterized by different elements. Dowell et al. (2015) claim that there are three elements that can be identified based on cognitive trust in B2B. The first element they mention is integrity trust, which Sako (1998) mentions to be based on a shared moral norm of honesty and promise keeping. The second element mentioned by Dowell et al. (2015) is competency trust. Roy, Sivakumar, and Wilkinson (2004) explain that this element is based on expectations about the ability of the other party to carry out activities, which should be relevant to the role of the other party. The last element comes from Roy et al. (2004) and contains goodwill or benevolence trust. “Goodwill trust refers to the degree to which one partner trusts the other to look after its interest without explicitly asking for such help” (as cited in Roy et al., 2004, p. 69).

Affective trust can be defined as “the confidence placed in a partner on the basis of feelings generated by the level of care and concern the partner demonstrates” (as cited in Houjeir & Brennan, 2014, p. 3). Dowell et al. (2015) mention two elements when it comes to affective trust. The first element is relational trust, which relates to a ‘leap of faith’ and reciprocity (Dowell et al., 2015). This element of trust comes down to the belief that a party has in another party and the belief that others will treat you as you treat them. The other element of affective trust is intuitive trust, which according to Hansen, Morrow & Batista concerns the perceived trustworthiness of the other party based on moods, feelings or emotions (as cited in Dowell et al., 2015, p. 120).

Figure 1 gives an overview of the difference between dimensions, elements and antecedences of trust. This figure helps the reader to clarify these differences.

![Figure 1. Antecedents, Dimensions & Elements of trust](image)

4. THE IMPORTANCE OF TRUST
In this section the importance of trust in general in online B2B will be explained, including the absence of trust or even distrust. Later an overview of the importance of both cognitive and affective trust and even the importance of the elements of both dimensions will be displayed according to the article of Dowell et al. (2015). There has basically been no empirical research performed on the importance of the different elements of trust in B2B with the exception of Dowell et al. (2015), who have very recently performed an empirical research on the importance of the different elements of the dimensions of trust in B2B. This paper will contain an overview will, which will consist of two figures where the effect of the elements of trust on the performance of both parties in B2B is displayed during both the initial phase of trust and the mature phase of trust. A limitation to these figures is the lack of differentiation between an online and offline context. It could however be seen as a suggestion for further empirical research on the importance of the elements of trust in online B2B.

4.1 The importance of trust in online B2B
Over the last decade many researchers have found reasons to believe that trust is an essential concept in online B2B. Behkamal, Akbari, and Kahani (2006) claim that trust is more important in online B2B than in traditional B2B, because of the paucity of rules in regulating the online B2B and because online services and products are not immediately verifiable. Parry, Rowley, Jones, and Kupiec-Teahan (2012) state the importance of trust as especially pertinent in B2B contexts compared to B2C. They argue that this is the case due to the high value of the products and services and because of the fact that contact with the customer remains after the transaction.
Due to the fact that trust can make transactions happen, it can be derived that if there exists a lack of trust or even distrust, transactions may not even take place in online B2B. Chang and Wong (2010) support this statement, mentioning that B2B e-marketplace providers will fail if participants do not trust them. Banerjee and Ma (2014) talk about various risks that are related to a lack of trust. They also confirm that a lack of trust is a possible reason for transactions not to take place at all. In their article they mention for example the fear that important information leaks to competitors (Reimenschneider & McKinney, 1999), a fear of acting illegally with the ability to assign responsibility and enforce contracts settled online (Schoder & Yin, 2000) or the fear that goods or money could be lost with the use of the web (Banerjee & Ma, 2014).

Instead of transactions taking place between different organizations ambiguity and uncertainty of the outcomes arise and create the need for information seeking (Rogers, 2003) and organizational learning (Attewell, 1992) to increase trust in the other party. They believe that trust is a means to overcome these impediments for transactions to take place (Banerjee & Ma, 2014).

Chang and Wong (2010) also confirm that trust could lead to more business transactions between two parties in an impersonal economic environment even when these parties lack prior experience on mutual confidence. According to Jianyuan and Chunjuan (2009) the improvement of business exchanges, due to higher trust for online B2B markets, will eventually bring more benefits. These benefits contain for example decreasing exchange costs, more product alternatives and supply integrated services. This confirms the important role that trust can play in online B2B transactions.

As mentioned in the introduction, according to Blomqvist (2002) trust is one of the most critical success factors when it comes to inter organizational relationships (as cited in Seppänen et al., 2007, p. 249). Besides Blomqvist, other studies have confirmed that trust has a positive impact on B2B relationships (Barry, Dion, & Johnson, 2008; Ivens, 2005). These relationships have been recognized to create value for both parties and can enhance the firm performance (as cited in Parry et al., 2012, p. 889).

4.2 The importance of the different elements of trust

In their research about the effect of the different elements of cognitive and affective trust on commitment and relationship performance, Dowell et al. (2015) tested if any of these elements have a positive association with commitment and relationship performance for cognitive trust and liking and relationship performance for affective trust. As stated, earlier researchers have found that these relationships can indeed have an impact on the overall firm performance of both parties (as cited in Parry et al., 2012, p. 889). Dowell et al. (2015) also found that commitment has a significant association with relationship performance. This could mean that if an element of trust has a significant association with commitment it could also indirectly have an influence on relationship performance. When it comes to affective trust liking does seem to have some influence on relationship performance, though it is not as significant as commitment. This indicates that when the mediating variables were used, the cognitive elements of trust would have a higher indirect influence on relationship performance then affective elements of trust. In their research Dowell et al. (2015) differentiated between an initial phase of a B2B relationship and a mature phase. This will also be included in this sections of the paper.

Integrity trust: As found by Dowell et al. (2015) integrity trust has a very significant impact on relationship performance. This positive association is both direct and indirect using commitment as a mediator, although the direct impact is higher than the indirect impact. An interesting development on the positive association of integrity trust on relationship performance is that in the initial phase of the relationship between two businesses, the positive association is a lot higher than in the mature phase. Especially the direct impact of integrity trust seems to drop a lot, whereas the indirect impact also drops, but not as much as the direct impact.

Competency trust: Dowell et al. (2015) stated that the element of competency trust does not actually have a significant association directly with relationship performance or commitment. However they state that this is only the case in the earlier stages of a relationship between two businesses. In a later stage of a B2B relationship, competency trust has a significant association with both commitment and relationship performance. Behkamal et al. (2006) explain that competency of the other party is also a very important element of trust in online B2B. If there is any doubt or lack of confidence in the other party’s competence to carry out a transaction successfully in the e-commerce, it could also lead to a transaction not to take place at all. This would mean that there is no competency trust between the parties. When it comes to competency trust in online B2B, Behkamal et al. (2006) mention that it is mostly on a technical nature, as this is particularly important in online B2B relationships.

Goodwill trust: Goodwill trust was found to be less significant in general than for example integrity trust, but still significant enough, according to Dowell et al. (2015). It has a slightly bigger direct effect on relationship performance than through the intermediate commitment in earlier stages of relationship performance. In the later stages of relationship performance goodwill turns out to have a very big direct impact on relationship performance, but not on commitment. Using the intermediate commitment it is still significant enough, but the positive association through commitment is much lower than the positive association directly on relationship performance.

Relational trust: Relational trust has the highest direct positive association with relationship performance in the initial phase of all the different elements of trust, according to Dowell et al. (2015). Though indirectly through liking the impact is much lower, as implied earlier it seems that liking does indeed have a lower impact in the initial phase on relationship performance than commitment and in this case it is even lower than relational trust, so it makes sense that the direct impact is higher than the indirect impact. This is consistent in the mature phase, as the positive association between liking and relationship performance is very low. The direct and indirect impact of relational trust are also much lower than in the initial phase.

Intuitive trust: Dowell et al. (2015) found that the impact of intuitive trust on relationship performance in the initial phase was also barely significant. This was specially the case regarding the indirect impact, because for the direct impact there was a decent positive association between intuitive trust and relationship performance and the indirect positive association through liking as a mediator was very low. After some time has passed and a mature phase has been established, the impact diminishes for both the direct and indirect impact. This means that the indirect positive association through liking between intuitive trust and relationship performance is doubtful.

4.3 Figures summarizing the importance of the elements of trust

To provide a clear overview of the impact of the different elements of cognitive and affective trust on the performance of both firms involved in an initial phase of contact or a mature phase of contact, two figures with all the outcomes from the study performed by Dowell et al. (2015) will be displayed in this
They differentiated between direct impact and indirect impact through the mediators commitment for cognitive trust and liking for affective trust, as mentioned earlier. Dowell et al. (2015) ranged the significance of the impact from 0.0 to 1, with 0 being the lowest significance and 1 being the highest significance.

These figures show the impact that the elements have on the relationship performance in B2B. It can be seen that earlier stages of contact the direct impact of the elements is generally higher than the indirect impact. It can also be seen that the affective dimension of trust has a higher direct impact on the performance of both parties than the cognitive dimension, with an exception of the element integrity trust. In later stages it is shown that cognitive trust generally has a bigger impact than affective trust, while the direct impact is still higher than the indirect impact. It must be mentioned again that the limitation arises that there is no differentiation between online and offline context.
5. THE ANTECEDENTS OF TRUST
With the importance of trust and its dimensions covered in the last section, this section will cover the antecedents of trust. There are various researchers that have covered the antecedents of trust (Johnson & Grayson, 2005; Li, Pietkowska, Van Moorsel, & Smith, 2012; Pavlou, 2002; Theron, Terblanche, & Boshoff, 2013). They all made a list with slightly different antecedents in different contexts. Due to the lack of antecedents of trust in online B2B, the antecedents mentioned in only a few articles will be covered. The articles were chosen based on the context in which they were written. In this research the antecedents of Li et al. (2012), the antecedents of Pavlou (2002) and the antecedents of Johnson and Grayson (2005) will be listed, explained and will later be categorized into the cognitive and affective dimensions of trust mentioned earlier. The article of Li et al. (2012) listed various antecedents of online trust, however they do not make a clear distinction between B2C and B2B. This makes the application of some of the antecedents on trust in a B2B setting unclear and doubtful. This means that not all antecedents that were mentioned in the article of Li et al. (2012) will be used in this paper, only the antecedents that were proven to be applicable in B2B. The main reason to select this article is that it is one of the few articles that has a broad list of antecedents when it comes to trust in online B2B, however they do not show any empirical research, meaning that the antecedents mentioned by Li et al. (2012) that will appear in the framework are to be considered a suggestion for empirical research. The article of Pavlou (2002) sums up some of the antecedents of trust in an online B2B setting. This seems to be most in line with the context of this paper, however he uses different dimensions, does not mention the cognitive or affective dimensions and also lists only five antecedents. That is why in this article the antecedents mentioned in the article of Johnson and Grayson (2005), which cover the antecedents according to cognitive and affective elements of trust, will also be listed, however these antecedents are not yet proven to be applicable in an online B2B context. The reason why all three articles were chosen is to complement each other, as there still is a lack of empirical research on trust in online B2B context. The antecedents will be categorized in a framework to provide a suggestion for empirical research on antecedents of cognitive and affective trust in online B2B.

5.1 Antecedents mentioned in Johnson and Grayson (2005)
Johnson and Grayson (2005) examined six antecedents of cognitive and affective trust in their paper. These will all briefly be explained and it will be mentioned whether they are of influence on cognitive trust, affective trust or both. As mentioned earlier these antecedents have been proven in B2B, but a differentiation between online and offline B2B has yet to be made.

Expertise: Palmatier, Dant, Grewal, and Evans (2006) defined expertise as to reflect “knowledge, experience, and overall competence”. Expertise plays an important role in the creation of trust by showing that the know-how and the ability to keep a promise are present (Doney & Cannon, 1997). Crosby, Evans, and Cowles (1990) mentioned that a perception of the expertise of the other party is representative of the relevant competencies with a transaction. According to Johnson and Grayson (2005), expertise is assessed in terms of the other party’s knowledge and experience regarding the transaction. Earlier research has proven that the perceived level of expertise could enhance credibility and thereby trustworthiness (as cited in Johnson & Grayson, 2005, p. 501). Petty and Cacioppo (1986) found that it is more likely that expertise is related to cognitive trust than affective trust. Johnson and Grayson (2005) confirmed in their research that there is indeed a significant association between expertise and cognitive trust. Doney and Cannon (1997) confirm the influence of expertise on trust in B2B.

Product/service quality: The original antecedent according to Johnson and Grayson (2005) is the product performance. Abdul, Gaur, and Peñaloza (2012) however make a slightly different and for the context of this research more appropriate antecedent, which they also confirmed to be influential on trust in B2B. They make a distinction between product and service quality. Fornell, Johnson, Anderson, Cha, and Bryant (1996) defined perceived product quality as an evaluation of the most recent experience with the product. They talked about the degree to which it meets specific needs (customization) and the degree to which it is free from defects (reliability). Kennedy, Ferrell, and LeClair (2001) found that the product quality is positively associated with trust. Perceived service quality refers to an evaluation of the delivery system of the delivering party and satisfaction as a post consumption experience, to compare perceived and expected quality (as cited in Abdul et al., 2012, pp. 306-307). Some other researchers found that there is a direct positive association between service quality and trust (as cited in Abdul et al., 2012, p. 307). Kim, Ferrin, and Rao (2008) suggest that perceived quality of the product or service increases the trust between both parties in e-commerce. Johnson and Grayson (2005) anticipated that there is no direct link between product performance and affective trust. Johnson and Grayson (2005) found that there is a positive association between product performance and cognitive trust.

Firm reputation: Doney and Cannon (1997, p. 37) defined perceived firm reputation as “the extent to which firms and people in the industry believe a supplier is honest and concerned about its customers”. They also state that the reputation of a firm has a positive impact on the assessment of the trustworthiness in transactions. It is suggested by other researchers that firms can gain a good reputation by acting fair and balanced and also do things that are the right thing to do (as cited in Johnson & Grayson, 2005, p. 502). E. Anderson and Weitz (1992) do not only confirm that firm reputation can also lead to trust in B2B, but also suggest that reputation between businesses can be developed by making sacrifices showing their concern for other businesses within the industry. Ganesan (1994) mentions that a perceived firm reputation indeed has an effect on trust, but not per se on goodwill trust. This is only the case when the other party shows signs of caring and makes sacrifices for the other party. Johnson and Grayson (2005) stated that reputation is both a symbol of value reciprocation and an expression of empathy for the customer. They tested whether perceptions of firm reputations are sufficiently inclusive as to impact both cognitive and affective trust. In their findings they confirm their hypothesis on the positive association of firm reputation and both cognitive and affective trust.

Satisfaction with previous interactions: “Satisfaction refers to an emotional state arising from both a cognitive process of comparing expectations with perceptions of the product or service performance and an evaluation of emotions experienced during the consumption experience” (as cited in Johnson & Grayson, 2005, p. 502). Ata & Toker (2012) claim that satisfaction is one of the major concerns of an organization (as cited in Theron et al., 2013, p. 34). They claim that relationships can be managed more effectively through all the stages of the relationship if the other party is satisfied. Rossmome (2003) points out that there is a difference between customer satisfaction in a B2B setting is and customer satisfaction in a business-to-customer (B2C) context. Theron et al. (2013, p. 35) define customer satisfaction in a B2B setting as “a positive state resulting from the appraisal of all aspects of a firms working
 relationship with another firm”. Johnson and Grayson (2005) mention that satisfaction involves both tangible attributes as well as feelings associated with the product/service experience. Ganesan (1994) claims that if the past experience was satisfying, the confidence that the other party will continue to meet their obligations in the future will be enhanced. Chu, Lee, and Chao (2012) confirm that customer satisfaction has a positive association with trust in a relationship. According to Johnson and Grayson (2005) satisfaction would be expected to have a positive association with both cognitive and affective trust, given the multidimensional nature of satisfaction evaluations. Later in their article however, they found that satisfaction has indeed a positive association with cognitive trust, but not with affective trust.

Similarity: Johnson and Grayson (2005) refer to similarity between two parties as a means of common values and interests. They also claim that researchers of psychology found that in a relationship, companies and individuals displayed higher levels of attraction toward the other party if the other party had similar attitudes to their own. Byrne (1969) confirms this, also suggesting that this leads to the interpretation of the environment (as cited in Johnson & Grayson, 2005, p. 503). This environment could be a soil for the development of trust. Doney and Cannon (1997) suggest that trust is built through the ability to predict the future behavior of the other party, due to the similarities between both parties. Johnson and Grayson (2005) tested the positive association between similarity and affective trust, finding that there is indeed a positive association. Doney and Cannon (1997) also found a positive impact of similarity on trust in B2B.

Cognitive trust as an antecedent of affective trust: Lewis & Weigert (1985) suggested that cognitive trust should exist before the development of affective trust (as cited in Johnson & Grayson, 2005, p. 503). Johnson and Grayson (2005) mention that it could also be possible that this causal relationship between cognitive and affective trust is bidirectional, though they only studied the influence of cognitive trust on affective trust. In their study they found that cognitive trust can indeed be regarded as an antecedent of affective trust.

Lastly it should be mentioned that Johnson and Grayson (2005) examined whether sales effectiveness and anticipation of future interactions are positively associated with cognitive and affective trust. Though they did not examine these two concepts as antecedents, but rather as possible outcomes of cognitive and affective trust. That is why these will not be part of the antecedents in this article.

5.2 Antecedents mentioned in Pavlou (2002)

Pavlou (2002) describes five different antecedents of trust in online B2B, which will be briefly explained in this section. Pavlou (2002) tested the influence of some antecedents on credibility and benevolence, which they define as the dimensions of trust. Pavlou (2002, p. 231) mentions that credibility is “based on the extent to which a buyer organization believes that seller firms have the intention to perform the transaction effectively and reliably because of fears of imposing costs and opportunism” and benevolence is “based on the extent to which buyer organizations believe that seller firms have intentions and motives beneficial to them, even when new conditions without prior commitment arise”. The definition of credibility is in line with the definition of cognitive trust used in this paper. Cognitive trust was described as being based around notions of reliability and dependability. It can be argued that these descriptions are similar and that therefor in the categorization credibility is considered the same as cognitive trust in this paper. Benevolence is also an element of cognitive trust according to Dowell et al. (2015) that means that all the antecedents mentioned by Pavlou (2002) will be of influence on cognitive trust. Lastly it should be mentioned that not all antecedents were proven to influence credibility or benevolence, they will all be mentioned in this section, but the antecedents which were not proven significant will not be included in the framework.

Perceived monitoring: Pavlou (2002, p. 221) defines monitoring as “a set of activities undertaken to assure that all transactions are performed as specified by a predetermined set of widely accepted agreements and rules”. He also mentions that the aim of monitoring is to ascertain that the transactions between businesses are conducted with the established norms and agreements. Perceived monitoring is defined a bit differently, it is “the extent to which buyer organizations believe that the third-party monitoring mechanism assures that all transactions in the marketplace are performed as expected” (as cited in Pavlou, 2002, p. 221). Pavlou (2002) also claims that in an online context perceived monitoring builds trust by reducing uncertainty and even empirically confirmed that it influences the credibility of the seller. This directs sellers to act rational and avoid sanctions, like possible removal from the marketplace. Perceived monitoring does not build goodwill trust, but rather builds trust in the integrity element, because it is mostly a calculation of benefits and costs of acting rational and according to the rules (Pavlou, 2002). Mayer, Davis, and Schoorman (1995) confirms this by stating that with benevolence sellers are trusted to perform according to the buyer’s expectations, even if there is no possibility for monitoring.

Perceived feedback: Pavlou (2002, p. 223) described feedback as “an opportunity to react quickly to signals that have been put out by others”. He also states that feedback mechanisms accumulate and disseminate information about past trading behavior of organizations. These mechanisms have also been stated to build trust in online marketplaces (Ba & Pavlou, 2002). Pavlou (2002) suggest that feedback mechanisms are only likely to be effective if the feedback is perceived as credible. Perceived feedback is defined by Pavlou (2002, p. 223) as “the extent to which firms believe that a feedback mechanism is able to provide reliable information about the sellers’ past trading activity”. He also states that feedback does not only influence the perception of the credibility of the seller, but it could also show signs of similarity and benevolent intentions of the seller. Doney and Cannon (1997) confirm the influence of feedback mechanisms on trust; they state that it could replicate the phenomenon of word-to-mouth communication. Pavlou (2002) tested in their article the positive association between perceived feedback and both credibility and benevolence of the seller and found that there is indeed a positive association.

Perceived cooperative norms: Pavlou (2002, p. 223) defines cooperative norms as “the values, standards, and principles to which a population of organizations adheres”. He also states that cooperative norms emerge to encourage to behave responsible through a sense of collectivity. Pavlou (2002, p. 223) later defines perceived cooperative norms as “the buyer’s expectations of the values, standards, and principles to which sellers adhere”. Macneil (1980) suggests that cooperative norms have the form of flexibility, solidarity and information sharing (as cited in Pavlou, 2002, pp. 223-224). Schaefer (1993) implied that trust is induced, when buyers perceive sellers as trustworthy by maintaining similar cooperative norms (as cited in Pavlou, 2002, p. 224). Dyer (1997) argues that the amount of information shared influences trust (as cited in Pavlou, 2002, p. 224), while J. C. Anderson and Narus (1990) add that the meaningfulness and timing of the information sharing could also positively influence trust. Pavlou (2002) confirmed that perceived cooperative norms was positively associated with both credibility and goodwill.
The antecedents perceived accreditation and perceived legal bonds mentioned by Pavlou (2002), were found not significant enough in their paper. This means that their influence on trust is doubtful. That is why these two antecedents were not included in this paper.

5.3 Antecedents mentioned in Li et al. (2012)

The article of Li et al. (2012) is one of the few articles that list many antecedents of online trust that have been mentioned in other literature. They do not however, make a clear distinction between B2B and B2C. This is the main reason why not all antecedents were mentioned in this paper. They also did not perform any empirical research, which makes it more difficult to categorize them. One of the antecedents overlaps a lot with an earlier mentioned antecedent. It was later merged in the framework with this earlier mentioned antecedent.

Third party certificates: Li et al. (2012, p. 97) described third party certificates as “attestation of attributes of seller from third party”. Canavari et al. (2010) make a distinction between product reputation and seller reputation. They claim that a company’s product reputation can be enhanced through their website. Concerning the seller’s reputation they mention that the internet is a crucial means to communicate the sellers’ reputation. This can be done by themselves or by other websites, where other people give their opinion upon the sellers. A good reputation can be regarded as a consequence of positive feedback (Ba & Pavlou, 2002). Both Ba and Pavlou (2002) and Utz, Matzat, and Snijders (2009) found in their empirical test, that reputation through feedback does indeed influence trust and that a good reputation can indeed lead to higher trust. This antecedent is very similar to the one about perceived feedback mentioned by Pavlou (2002) as it concerns mainly the aggregated feedback. It indicates that this antecedent of trust is important for both online and offline B2B. It will however be merged into one antecedent in the framework: perceived feedback.

Dispute services: Li et al. (2012, p. 97) described dispute service as “services provided by commercial organizations to facilitate disputes between partners”. These disputes could arise between buyers and sellers if a mistake is made during a transaction. Canavari et al. (2010) mention that in an online context everything is recorded. Cotteleer, Cotteleer, and Prochnow (2007) claim that retrieving the data is easier due to the recording of communications and transactions, this could lead to the facilitation of a reconciliation in a dispute between a buyer and a seller. Trust is claimed to be an outcome of the facilitation of reconciliations in a dispute between buyers and sellers. (Li et al., 2012)

Communication with buyers: Li et al. (2012, p. 97) described communication in online context as “communication through mail, telephone and online forms”. Canavari et al. (2010) claim that in the online context face-to-face contact is decoupled of the transaction. However, they also state that there are other means for online communication, like video-conferencing, which could be coupled to the transaction. They also state that just as in an offline context, in an online context communication is a vital means to create a relationship between buyer and seller. Another fact to mention, which Canavari et al. (2010) state in their paper is the fact that communication is often recorded, meaning that there is some sort of transparency between the buyer and seller, as they can always fall back on the recorded communication.

Payment services: Li et al. (2012, p. 97) describe payment services as “payment administration and escrow services”. Instead of being able to perceive the quality of the product or service before payment, like in offline transactions, in online transactions this can only be done after the transaction. This however can be partly alleviated through guarantees and insurances (Cotteleer et al., 2007). Cotteleer et al. (2007) mention some of these services which for example increase visibility of cash requirements, reduce fraud, improve control and integrate data and information about the payment. According to Li et al. (2012) trust can be built with these payment services and Pavlou and Gefen (2004) confirmed that statement empirically.

Table 1 is an overview of all the antecedents that will be categorized.

<table>
<thead>
<tr>
<th>Antecedent</th>
<th>Author(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expertise</td>
<td>Johnson &amp; Grayson (2005)</td>
</tr>
<tr>
<td>Product/service quality</td>
<td>Johnson &amp; Grayson (2005)</td>
</tr>
<tr>
<td>Firm reputation</td>
<td>Johnson &amp; Grayson (2005)</td>
</tr>
<tr>
<td>Satisfaction with previous interactions</td>
<td>Johnson &amp; Grayson (2005)</td>
</tr>
<tr>
<td>Similarity</td>
<td>Johnson &amp; Grayson (2005)</td>
</tr>
<tr>
<td>Cognitive trust</td>
<td>Johnson &amp; Grayson (2005)</td>
</tr>
<tr>
<td>Perceived monitoring</td>
<td>Pavlou (2002)</td>
</tr>
<tr>
<td>Perceived feedback</td>
<td>Pavlou (2002)</td>
</tr>
<tr>
<td>Perceived cooperative norms</td>
<td>Pavlou (2002)</td>
</tr>
<tr>
<td>Third party certificates</td>
<td>Li et al. (2012)</td>
</tr>
<tr>
<td>Dispute services</td>
<td>Li et al. (2012)</td>
</tr>
<tr>
<td>Communication with buyers</td>
<td>Li et al. (2012)</td>
</tr>
<tr>
<td>Payment services</td>
<td>Li et al. (2012)</td>
</tr>
</tbody>
</table>
6. CATEGORIZATION OF ANTECEDENTS OF TRUST

Many researchers recognized that trust has a cognitive and affective dimension (as cited in Dowell et al., 2015, p. 119). This confirms that there is a difference between the two as mentioned in section 3, making a categorization of the antecedents needed. For example there are antecedents that lead to cognitive trust but not to affective trust and antecedents that lead to affective trust and not to cognitive trust. There are also be antecedents that could lead to both dimensions of trust. This categorization is visualized in table 2 and is briefly explained below. The antecedents mentioned by Johnson and Grayson (2005) were empirically tested by them to be influential on the dimensions used in this paper, which will make the categorization based on their empirical findings. The antecedents of Pavlou (2002) were also empirically tested on similar dimensions. As mentioned earlier the antecedents influence on credibility and benevolence will be influential on cognitive trust. To categorize the antecedents mentioned by Li et al. (2012), the description of the antecedents and the description of the dimensions will be compared, to be able to place the right antecedent in the right category. This will be supported by earlier findings by other researchers. Due to the lack of earlier categorization and empirical research on this categorization, this framework will be merely a suggestion for empirical research on the possible antecedents of cognitive trust and affective trust in online B2B. For the framework to become reliable an empirical research on the positive association between the antecedents and cognitive and affective trust must be performed.

The antecedents expertise, product/service quality, satisfaction, perceived monitoring, third party certificates, dispute services and payment services are found to create cognitive trust. Johnson and Grayson (2005) found in their empirical test that expertise, product/service quality and satisfaction all influence cognitive trust. This seems logical for expertise and product/service quality, as expertise is said to reflect knowledge, experience, and overall competence (Palmatier et al., 2006) and product and service quality are said to consist of an evaluation of past experiences (Abdul et al., 2012; Fornell et al., 1996). Johnson and Grayson (2005) did test in their paper if satisfaction has a positive association with affective trust, but ended up finding that there is no significant relationship between satisfaction and affective trust, placing it in the left column as well. This can be explained by the fact that satisfaction covers previous interactions, which were said in the article of Dowell et al. (2015) to not be covered by the dimension of affective trust, which rather deals with for example feelings and reciprocity. In the article of Pavlou (2002) it was also found that there is a direct link between perceived monitoring and credibility, indicating a causal relationship between perceived monitoring and cognitive trust. Pavlou (2002) mentioned that feedback mechanisms are able to provide reliable information on past activities, which would make it related to cognitive trust. Pavlou (2002) found that perceived feedback is positively associated with both credibility and benevolence. That is why it is categorized in the column of cognitive trust. Pavlou (2002) found the same for perceived cooperative norms. This was also positively associated with both credibility and benevolence, meaning that this antecedent is also placed in the left column. Third party certificates were placed in the left column as well, because they could deliver some information on the capabilities of the other party (Canavari et al., 2010). This is similar to competency trust, which is an element of cognitive trust, indicating that third party certificates is an antecedent of cognitive trust. Cotteleer et al. (2007) mentioned that due to recording, problems with payments and disputes can easily be solved, making it almost impossible to act illegally or immorally. As dispute services and payment services do not concern the emotional aspect of trust and focus on the rational aspect of trust, they can be regarded as having an influence on cognitive trust.

When it comes to affective trust the antecedents in this paper that have a positive association with affective trust are similarity and cognitive trust. When similarity occurs a higher attraction to the other party is said to be displayed (Johnson & Grayson, 2005). Johnson and Grayson (2005) also confirmed the positive association between similarity and affective trust. Johnson and Grayson (2005) have also proven that there is a causal relation between cognitive trust and affective trust. This could mean that all the antecedents mentioned in the category cognitive trust can indirectly influence affective trust through cognitive trust as well. However, this framework will stick to the direct antecedents of cognitive and affective trust.

Some of the antecedents mentioned in this paper can have an influence on both cognitive and affective trust. Firm reputation for example is defined by Doney and Cannon (1997, p. 37) as “the extent to which firms and people in the industry believe a supplier is honest and concerned about its customers”. This could cover both integrity trust as well as goodwill trust, meaning that it is related to cognitive trust. Johnson and Grayson (2005) found empirically that there is a causal relationship between firm reputation and both cognitive and affective trust. Communication can be related to both cognitive and affective trust. Canavari et al. (2010) state that communication can lead to a better perception of the quality and competency of the other party and it can also strengthen the relationship between the parties. This indicates that there is a relation between communication and both cognitive and affective trust, which is why it is placed in the middle column.

Table 2. Antecedents categorized

<table>
<thead>
<tr>
<th>Antecedents of Cognitive trust</th>
<th>Antecedents of both Cognitive and Affective trust</th>
<th>Antecedents of Affective Trust</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expertise</td>
<td>Firm reputation</td>
<td>Similarity</td>
</tr>
<tr>
<td>Product/Service quality</td>
<td>Communication with buyer</td>
<td>Cognitive trust</td>
</tr>
<tr>
<td>Satisfaction with previous interactions</td>
<td>Perceived monitoring</td>
<td></td>
</tr>
<tr>
<td>Perceived feedback</td>
<td>Perceived cooperative norms</td>
<td></td>
</tr>
<tr>
<td>Third party certificates</td>
<td>Dispute services</td>
<td></td>
</tr>
<tr>
<td>Payment services</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

7. DISCUSSION & CONCLUSION

The main objective of this paper is to provide an overview of the current literature on antecedents of the different dimensions of trust in online B2B. The main reason to do this was mainly that there still exist a lot of controversy in the concept of trust in general and trust in online B2B is an upcoming topic. In the beginning of this paper trust in online B2B was split into two different dimensions: cognitive trust and affective trust. These were even further split into different elements, which characterize these dimensions. Later the importance of trust was shown and the influence trust has on the existence of transactions
and the performance of trusting companies. It was shown that in an initial phase of contact between businesses, the affective elements of trust were more important for the performance of the companies than the cognitive elements of trust, with the exception of the element integrity trust. This shifted however when a more mature phase has been established between the businesses. This all shows that the dimensions do indeed differ from each other and even the elements have different importance. Later a number of antecedents from current literature were listed in this paper. However, unfortunately not many research has been done yet on antecedents of trust in online B2B. This is why only a limited number of antecedents were listed in this paper. These antecedents however, were all proven to influence trust and thus a categorization of the antecedents was made, based on the different dimensions of trust and they were listed in a framework. This also answers the research question mentioned in the beginning of this paper: ‘What are the antecedents of the dimensions of trust in online B2B according to the current literature?’ What is notable from the framework is that in online B2B there are a lot more antecedents that lead to cognitive trust compared to the number of antecedents that lead to affective trust. This does however not mean that the importance of affective trust is neglect able, because as proven earlier, affective trust is more important for the performance of the businesses in the initial phase of contact.

8. LIMITATIONS & FURTHER RESEARCH
There are some limitations to this research that should be considered. First of all the antecedents mentioned in this article are not the only antecedents of trust, there are other papers that mention other antecedents that have not been mentioned in this article. However a choice of antecedents for this paper has been made in the selection of the papers used in this article, which was based on the context of the articles about antecedents of trust. In the end this selection was not complicated due to the fact that in the context of online B2B, only a few articles that cover antecedents of trust in online B2B could be found. There is also the issue with reliability that should be considered in this paper. As no empirical research has been performed to create this paper a lack of reliability could be seen as a result, especially regarding the frameworks in this paper. This means that the framework should be considered as a suggestion for further research and that a future empirical research on the categorization of the antecedents will need to be performed to reduce or even eliminate this reliability issue. Also due to the lack of research on trust in online B2B a complete distinction between trust in online B2B and trust in offline B2B cannot be made yet, which only indicates that there is a need for more research on trust in online B2B, as in this paper the importance of that concept has been made clear. The frameworks can if tested empirically and properly in future research, become useful for businesses in B2B to better understand and handle the concept of trust, the importance of trust and the antecedents of trust in online B2B.

9. REFERENCES


