

Towards Trust and Reputation for E-Commerce in Collectivist Rural Africa

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Abstract

Individualistic cultures that prevail in predominantly developed economies thrive on e-commerce environments where consumer trust is facilitated through trust mechanisms such as institutional guarantees, laws and policies, information security mechanisms, and social controls. These trust mechanisms are based on individualist cultural norms of behaviour and values, and are not always relevant to collectivist cultures found in predominantly developing economies such as Africa or South America. The influence of individualist and collectivist culture on consumer trust is discussed in the context of e-commerce. The research aims at providing trust properties that can facilitate consumer trust, required for the success of e-commerce, to rural African environments.

Keywords

Trust, culture, Africa, e-commerce, security

1. Introduction

In emerging economies of rural Africa, very small enterprises (VSEs) such as spaza shops find it challenging to conduct business through e-commerce (Economic Report on Africa, 2011). Spaza shops are informal survivalist businesses in rural townships that are used by residents who cannot travel to formal shopping centres as it is too difficult or expensive (Manana, 2009). Recent research projects have consequently focused on investigating how to support shop owners by means of e-commerce applications backed by mobile and cloud-based technologies (Dörflinger et al., 2009). For such applications to be successful, trust need to be established between spaza shop owners in a single cooperative, as well as between cooperatives and large retail suppliers. Currently, no trust and reputation system exists to solve this problem.

As there are real differences between the environment and cultures of rural Africans and the residents of developed economies in the Western world, the trust mechanisms used by e-commerce environments such as eBay may not be entirely relevant to e-commerce consumers of rural emerging economies (Doney et al., 1998; Zaheer & Zaheer, 2006; Chong, 2003; Botha, 2006). The current research compares

the influence of culture on trust from an individualist and collectivist cultural perspective. Hence, three trust properties that can be used by the reputation system of e-commerce applications to support collectivist rural African cultural norms and values are proposed. Section 2 below provides background on trust and the influence culture has on it. Sections 3 and 4 contrast the trusting behaviour of the individualist with that of the collectivist culture. Section 5 identifies three trust properties that are relevant to collectivist cultures in rural Africa. Finally, future research is discussed in Section 6, which also concludes the paper.

2. Trust and Culture

The current research is based on Hofstede's five dimensions of culture that were developed following a survey of 72 countries. Hofstede (1980:5) defines culture as "the collective programming of the mind that distinguishes the members of one group or category of people from another". He identifies the dimensions of power-distance, collectivism vs. individualism, femininity vs. masculinity, uncertainty avoidance and long-term vs. short-term orientation. Next, the influence that culture has on trust is discussed.

2.1. Culture

Westernised American culture adopts a world view that states *I am because I, the individual hero, dream and do* (Mbigi, 2003), whereas the world view in the African culture is *I am because we exist*. These two world views capture the essence of the individualism vs. collectivism dimension defined by Hofstede (1980), and has become the main and most significant difference between cultures (Triandis, 2001). This dimension classifies a culture according to how strong the ties are between individuals in society (Hofstede, 1980).

Individualistic cultures are found mainly in North America and much of Western Europe. Here individuals are responsible for their own welfare and that of their direct family only (Cramer, 2010), and a high value is placed on individual freedom. Westerners tend to be logical and action-oriented. These characteristics determine their behaviour and hence they do not hesitate to criticise an e-commerce website for a failed transaction.

Collectivist cultures are found mainly in much of the Middle East, Asia, Africa and South America. Collectivist cultures integrate individuals as from their birth into tightly knit, cohesive groups (Cramer, 2010). This means that people in these cultures emphasise interpersonal relationships where loyalty is obtained by protecting the group members for life. Individuals see themselves as subordinate to a social collective such as a state, a nation, a race, or a social class. They prefer group harmony and consensus to individual achievement.

Other dimensions of culture also have an impact on trusting behaviour in e-commerce environments. *Power distance* refers to the degree of inequality that exists in society, and the manner in which it is accepted by people with and without power

(Hofstede, 1980). In countries with a high power distance index such as Asian and African countries, subordinates expect to be told what to do, centralisation is seen as popular, and less powerful people are seen as dependent on the more powerful. For most individualistic cultures, a high *masculinity* index means that performance is valued, there is more sympathy for the strong and equality is important. In contrast, in more collectivist cultures a high *femininity* index indicates that people are more generous towards each other; there is sympathy for the weak and intuition is used to strive for consensus (Hofstede, 1980). Finally, *uncertainty avoidance* relates to the degree of anxiety people experience when in uncertain or unknown situations (Hofstede, 1980). People from cultures with a high uncertainty avoidance index have a need for rules and predictability and they consider anything that is different as dangerous. There is an inherent fear of uncertain situations and unfamiliar risks, and a high premium is placed on belief in experts and specialisation.

Since these cultural differences influence the trust building mechanism of members of a cultural group, trust and its components are next described in terms of culture.

2.2. Trust

Mayer et al. (1995:5) define trust as “the willingness of a party to be vulnerable to the actions of another party, based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party”. McKnight and Chervany (1996) identify six trust constructs that illustrate how trust is formed. Figure 1 shows four trust concepts namely ‘trusting beliefs’, ‘system trust’, ‘dispositional trust’ and ‘situational decision to trust’ that together support the construct ‘trusting intentions’, and eventually result in establishing ‘trusting behaviour’. As the differences in cultural dimensions directly influence these constructs (as shown below), they are now described in more detail.

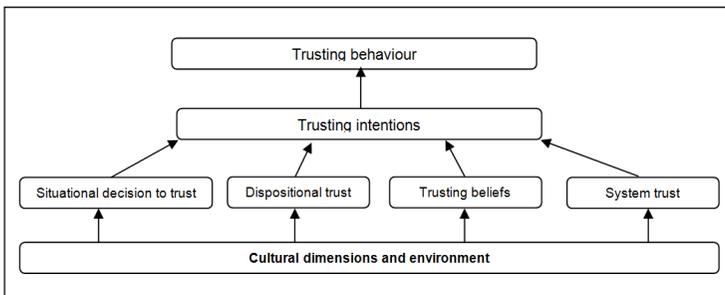


Figure 1: Trust formation

- i. *Situational decision to trust* denotes the readiness to trust other parties in general in a given situation.
- ii. *Dispositional trust* is a general inclination to trust others. In task-oriented cultures such as individualistic Western cultures there is a higher initial trust in strangers. In contrast, relationship-oriented cultures such as collectivist

African cultures have lower initial trust in strangers and a personal relationship is required to develop first (Hofstede, 1980).

- iii. *Trusting beliefs* define the perception of an e-commerce consumer that the e-commerce website will provide goods and services as it has promised. These beliefs are mainly categorised as ability, integrity and benevolence.
- iv. *System trust* refers to one's sense of security from guarantees, assurances or other impersonal structures inherent in a specific context. If a consumer understands how SSL encryption works and experiences a sense of normality when a transaction happens securely, his/her system trust increases.

Given the set of trust constructs for e-commerce, their influence on the individualist and collectivist cultures are explored in more detail next.

3. Consumer trust in individualistic cultures

eBay is considered here as an example of an e-commerce website that has been developed in the environment of an individualist culture in the USA. When transacting on eBay, buyers and sellers sign up for an account and are provided with a comprehensive set of rules and policies that must be followed. They are advised to take note of a seller's feedback rating (eBay website, 2012). If the rating is high, the seller is presumed to be honest. Buyers are further advised to only deal with sellers via the eBay site. There is a feedback system to provide buyers and sellers with the opportunity and a method of evaluating each other. For each transaction, only the buyer and seller can rate each other by leaving feedback. Each feedback left consists of a positive (+1), negative (-1), or neutral (0) rating, and a short comment. It is vital that community members provide honest ratings and comments about a particular eBay member, as eBay stars represent the trustworthiness, reputation and community standing of buyers and sellers. The trust mechanisms used by eBay are defined at numerous layers, which will be described next.

3.1. eBay trust mechanisms

Trust starts with an individualist buyer accessing the eBay website. As the *dispositional trust* of such a buyer is generally higher than that of a collectivist buyer, a basic level of trust exists that enables the buyer to investigate the possibilities that eBay presents. As this buyer is more of a risk taker, acting as an individualist, this may happen without recommendations from friends about the trustworthiness of eBay (Chong, 2003; Huff & Kelley, 2003). The success of eBay supports the notion that people from individualistic cultures tend to trust strangers with more ease. The buyer follows the process to create an account and reads all rules and policies. These safeguards increase the trust of the buyer, as he/she prefers a rules-based environment (Chong, 2003).

System trust in eBay is formed when the buyer observes the institutional guarantees, laws and policies, as well as information security mechanisms that are provided. For

example, the buyer understands the meaning of sophisticated mechanisms such as certificates and third party assurances, which increases his/her trust in eBay.

The buyer proceeds to transact successfully with sellers, thereby forming his/her own *trusting beliefs*. If goods are received as promised, the ability belief characteristic increases. In the same way, integrity and benevolence increase and lead to a higher trust in eBay. To enable buyers to avoid untrustworthy sellers, a feedback system is implemented that provides a calculated numeric score indicating the reputation of each seller. This is ideal for individualist buyers who prefer to make trust decisions based on analytical means. Individualist buyers are more willing to share information with the public compared to collectivist consumers (Hofstede, 1980). Their communication style is more expressive and explicit and they are likely to voice their dissatisfaction if necessary. Due to the masculine nature of individualist cultures, individualist buyers behave judgementally and are less concerned about the feelings of others (Hofstede, 1980). This reflects on their consumer satisfaction scores. eBay's feedback system provides buyers and sellers with the opportunity to freely and honestly express their opinion of others. This makes eBay reliable and appropriate to the individualist buyer or seller, leading to its success in Western cultures.

An e-commerce system such as eBay clearly caters for the individualist consumer (Chong, 2003). The collectivist consumer requires a different approach to e-commerce, which should be based on his/her characteristics relating to collectivist norms of behaviour and values, as will be discussed next.

4. Consumer trust in collectivist cultures

A major research focus in rural Africa is to develop e-commerce systems to support economic development. An e-commerce system needs to be created to allow spaza shops to place orders directly with suppliers. They should be supported to cooperate with one another by forming cooperatives (Chebelyon-Dalizu et al., 2010) so as to enable discounts on bulk buying and goods delivery costs. For any system supporting this scenario, cooperative members must trust one another, cooperatives must be trusted by suppliers, and suppliers must trust cooperatives (Tadelis, 2001). The collectivist consumer's approach to conducting business is described next in an attempt to demonstrate the collectivist consumer's behaviour to trust.

4.1. Trust mechanisms of the spaza shop e-commerce system

Trust starts with the collectivist buyer encountering the e-commerce mobile website on his/her cell phone. This system allows the buyer to form a cooperative with other spaza shops and place orders with suppliers that are supported by cloud technology. As the *dispositional trust* of the collectivist buyer is generally lower than that of the individualist buyer (Hofstede, 1980), he/she may choose simply not to investigate the possibilities posed by the e-commerce system any further. Collectivist buyers are risk-averse as they have a high *uncertainty avoidance*. Any unfamiliar situation may be seen as dangerous (Hofstede, 1980) and initial trust will need to be formed using

other means. Collectivist buyers are more willing to commit to their existing group relationship, rather than consider forming a relationship with others outside the group. This minimises the perceived risk and collectivist buyers therefore form new relationships only if strong institutional safeguards are present. As a high premium is placed on belief in experts, a recommendation from a well-respected person may be required to ensure a basic level of trust in the system.

System trust in the spaza shop e-commerce system can be formed when the spaza shop owner observes the institutional guarantees, rules and policies, as well as information security mechanisms that are provided. As the spaza shop owner may be unaware of the meaning of features such as certificates and third party assurances, it would not affect his/her trust in the system considerably. Even if the owner proceeds to transact successfully with the supplier, his/her *trusting beliefs* are increased marginally when goods are received as promised, as he/she does not place a high value on the ability belief characteristic. On the other hand, if asked by a leader in the community to use the system, his/her benevolence towards the system may increase, leading to a higher level of *trusting beliefs*. For the collectivist spaza shop owner the stages of trust formation may consequently not be the same as for the individualist consumer.

If a similar feedback system as eBay's is implemented to increase trust, the results may not be able to reflect the true trustworthiness of cooperative members, cooperatives and suppliers. Collectivist consumers are more likely to share their information within the group and be less expressive and explicit when providing an opinion about another (Chong, 2003). Suppliers would be able to rely on the loyalty of cooperatives and need not be too concerned about specific spaza shops badmouthing the supplier publically. This is very different to the individualist consumer, who would easily give negative ratings and comments for poor performance. A collectivist consumer would be more lenient towards a bad experience (Chong, 2003) and would rather discuss this experience within the group than make a public statement. This ensures that any relationship between the group (or a group member) and the entity responsible for the bad experience is not jeopardised. Collectivist consumers are more likely to subordinate their individual goals to the goals of the group (Hofstede, 1980). This approach leads to strong trust communities, where the members of the community are more concerned about the reputation of the community as a whole than about their individual reputations. Such behaviour is not facilitated by current reputation systems where public expressions and ratings are actually encouraged.

Research indicates that trust, in general, is influenced by similarity (Ziegler & Golbeck, 2007). This is especially the case in collectivist cultures where groups form based on shared goals, demographics and personal interests. Shared similarities in a group provide an initial understanding that can influence the trust and provide initial trust among group members.

When cooperatives are formed, new members are generally included only if they are personal friends of existing members (Moliea, 2007). Since the existing member is

held responsible to a certain degree for the new member's behaviour, it is vitally important that any new member should be highly trustworthy. The social position of new members relative to the group can indicate an initial trust level assigned to the new member when joining the group. In African cultures, social hierarchies have an influence on trust (Botha, 2006). The collectivist consumer in rural Africa will trust another more if he/she has a higher social standing. Collectivist cultures therefore encourage individuals to trust more in groups and rely less on others outside the group (Yamagishi, 1988; Triandis 2001). This instils strong loyalty towards the group (Huff & Kelley, 2003).

With this being said, collectivist consumers take a longer time to trust outsiders, but once this trust is developed it can be stronger and more enduring (Huff & Kelley, 2003). When spaza shops partake in group buying, a relationship is required between the spaza shops and the suppliers. A new supplier introduced into such an ecosystem would find it challenging to establish initial trust with the spaza shops. However, if the supplier manages to establish a trusting relationship with the group of spaza shops, the supplier would benefit.

In the next section, collectivist trust properties for rural Africa are identified according to the collectivist consumer characteristics discussed so far.

5. Collectivist trust properties for trust and reputation in rural Africa

Since trust properties are derived from the definition of trust and social aspects of trust, they are the basis on which trust can be modelled. Culture has an impact on trust and therefore has an effect on trust properties. Although most of these properties are relevant in both African and Western cultures, the degree to which they are relevant may differ. A number of general trust properties have been defined in trust literature and are used by trust models and mechanisms (Hardin, 2001; Yamagishi, 1988). The properties of trust are as follows (Abdul-Rahman & Hailes, 2000; Josang & Pope, 2005)

- a) *Trust is context dependent.* This means that trust associated with someone is relative to that context and the trust may not be the same in another context. For collectivist cultures, this may be more relevant to consider as context is seen as very important when a decision to trust is made.
- b) *Trust is transitive.* Transitive involves the notion that trust can be passed on between people to some degree (Matsuo & Yamamoto, 2009). For collectivist cultures, this trust property is influenced by the importance that is placed on relationships and social standing. If the recommendation comes from a person with high social standing, a high transfer of trust will be made.
- c) *Trust is subjective.* Trust is a personal opinion and cannot be assumed to be mutual (McKnight & Chervany, 1996). In collectivist cultures, this property is influenced by the effect of the group opinion.

- d) *Trust is dynamic and non-monotonic.* This means that trust does not always remain the same and, based on experiences at a later stage, the degree of trust in another may increase or decrease.
- e) *Trust is based on prior experiences.* Experience and knowledge of another's previous behaviour provide a basis for trust in future situations that are familiar in terms of context (Luhmann, 1979).

For an e-commerce environment to be successful in a collectivist culture in rural Africa, additional trust properties need to be defined to address the cultural importance that is placed on groups and related behaviour. Next, three trust properties are proposed that need to be considered by the trust and reputation systems to facilitate consumer trust for the collectivist culture that characterises rural Africa.

5.1. Trust is influenced by social position in the community

In individualist cultures, social position is not a defining factor in facilitating consumer trust. Individualist consumers are risk takers who establish initial trust relatively easily with strangers. In contrast, collectivist consumers are risk adverse and they avoid situations where there is a high uncertainty. They rely on group members with higher social standing to make informed decisions. A group leader is highly trusted by its group members and the social position of group leaders can increase or decrease their trust. Those leaders who are well connected and in good standing with others are generally viewed as more trustworthy by members of the group. The group has access to a wider range of resources (such as other potential collaboration groups and suppliers) due to the social connectivity of the group leader. An e-commerce system that attempts to implement this property would need to make better use of information relating to social position in a community.

5.2. Trust is influenced by similarity between members of the group

Collectivist consumers establish groups based on shared similarities. The similarities of group members infer some initial trust within the group. Individualist consumers, in contrast, are not as concerned with similarities since they do not need to form groups in order to facilitate consumer trust. Similarities between members of the collectivist groups provide a common purpose or shared identity that influences trust in a positive manner. Therefore similarity in the formation of buying groups needs to be considered. This can reduce the risk associated with online buying by increasing the consumer trust in groups that consist of members with shared similarities.

5.3. Group reputation facilitates trust between members of the group

Collectivist consumers have the group's best interests in mind and decisions that could influence the group's reputation need to be considered in a collective manner. In an e-commerce environment, a trust mechanism is required to facilitate group reputation. This increases the trust among group members in their group. Others are able to determine the level of trust associated with this group and with each of its

members. Members of a group with a good reputation will each ensure they behave in a manner that will maintain this high reputation.

The three properties mentioned above – all influenced by collectivist culture – need to be implemented by a trust model to facilitate e-commerce trust in collectivist rural Africa.

6. Conclusion

Individualist consumers find the use of eBay's trust mechanisms natural to use. Collectivist consumers, on the other hand, may require a different approach to e-commerce since eBay's trust mechanisms are not entirely relevant to them. This paper proposes three additional trust properties to support a trust model for collectivist rural Africa. Future research aims to investigate how these properties can be implemented by a trust model. Recent work of the researchers in which an emphasis is placed on defining and identifying strong trust communities by means of social network centrality measures is to be considered too.

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