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Relative Effects of Trustworthiness Dimensions on Retailer Loyalty in a Subsistence Market

A Quantitative Study from Nairobi's Slum Areas

by

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Master Thesis in Marketing and Brand Management

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Abstract

The study aims to develop insight about the specific importance of trustworthiness dimensions (ability, integrity, benevolence) for retailer customer loyalty in a subsistence context characterized with high rates of corruption and crime, namely that of Nairobi's informal settlements (slums). To our knowledge, this is the first study of the relative impact of trustworthiness dimensions on retailer loyalty in a subsistence market setting. Differences between service- and product-oriented firms are also investigated.

Despite low literacy rates, data was gathered from 566 face-to-face interviews in Nairobi's informal settlements based on a quantitative questionnaire. Multiple regression and structural equations modeling are used to test effects.

The findings show that trustworthiness, especially integrity and benevolence, of retailer business people are important factors in order to gain subsistence customers' loyalty, also when perceived quality is controlled for. The effect of integrity is significantly larger than that of ability. Perceived quality partially mediates the effect of integrity on loyalty, and fully mediates the effect of ability, meaning ability only affects loyalty by increasing quality perceptions, while integrity affects loyalty *both* directly and through quality perceptions. Integrity is even more important in service-firms compared to in product-oriented firms.

Limitations include that the measures should be developed further in order to measure the constructs clearer in this kind of context. More constructs from the marketing mix could be included, e.g. price/value. Replication with a different sample would be beneficial in order to generalize the effects.

The findings indicate that integrity and benevolence are important factors that should be considered in future research modeling subsistence customers' retailer loyalty. In practice, integrity and benevolence should be key focus areas in the training of entrepreneurs in subsistence markets. On the micro-level this can help retailers build loyal customers; on a higher level this can help communities reduce inequality and poverty.

Preface

This thesis marks the end of my five year education at the Norwegian School of Economics (NHH) and my Master of Science degree with a major in Marketing and Brand Management. The thesis is based on data collected as result of a lasting and on-going collaboration between Professor Magne Supphellen at NHH and Øystein Garcia de Presno at NorActa.

I would like to thank my supervisor Professor Magne Supphellen for highly valued guidance, for giving access to the data, and for introducing me to an interesting field of research. Thanks also to Alexander Jakubanecs at SNF/NHH for introducing me to structural equations modeling and confirmatory factor analysis in AMOS.

It has been very interesting reading about and looking into the markets characterized by subsistence, the case of Nairobi, and the importance of trust and trustworthiness in this context. I hope to be able to shed some light on, or at least point towards some aspects that are important to keep in mind when dealing with businesses in these kinds of contexts.

The writing process has been a busy time. In addition to writing, I have been at home with my one year old son much of the time, leading to less time writing. I am grateful that I have had the possibility to combine this. I am also very grateful for the patience (and impatience) shown by my wife, Anne. Finally many thanks go to my mother and mother in law for babysitting, and to other family members and friends for valuable help and support.

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June 2013, Bergen.

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1. Introduction

1.1 Background

Subsistence markets, such as Nairobi's slum areas, are markets where people are on the edge of survival, on the subsistence level, in the bottom of the pyramid (not to be confused with subsistence economies, i.e. tribal economies not impacted by Western thought). In the fight to survive, character, moral, integrity and benevolence are threatened. Stealing and other crimes are rather common. Inequality is severe and has a tendency to be self-reinforcing. Those who have power over the resources use their power to benefit themselves and those they want to benefit. And those without power are exploited of what they have (Dafe, 2009).

Economies in transition – e.g. going from being ruled by the British empire (as for Kenya) or from a Soviet centrally planned economy, to being an independent state and moving towards being a modern democratic society - seems to face additional special challenges (Humphrey and Schmitz, 1998). Establishing sound and functional institutions for government is not easy in these cultures, and several places (as in Nairobi), the situation is one of concentrated power and skewed distribution of resources - among other problems (Dafe, 2009). Although transition economies are not the main focus of this study, this is an important backdrop to keep in mind.

Although living under these circumstances, people are forced to do business 'as usual' - buying and selling with each other. The subsistence context affects consumer behavior; e.g. how consumers gather information, and how choices are made – for example subsistence consumers rely more on social sources of information (Viswanathan et al., 2010).

The focus of this thesis is how retailer loyalty is affected by the trustworthiness of the employees (retailer trustworthiness) in this context. While retailer loyalty is built up of many factors, and trustworthiness not always considered at the core of them (at least not with a direct effect), I argue that, in this context, trustworthiness is key in order to gain loyalty.

1.2 Research questions

In order for businesses to grow and be profitable, they need to sell something the customer finds attractive. The marketing mix is a well-known framework used by marketers in order

to balance the efforts of the business in a way that maximizes the wanted outcomes. The traditional marketing mix consists of four P's; product, price, place and promotion. The main focus in this thesis, however, is found in the extended version, with the inclusion of P for People. In most businesses the people in the business are important, and in some types of businesses more so than in others. One example of a category of firms where people are very important is retailing, where the customer meets a salesperson face to face. The character and behavior of the salesperson may in many cases be determining for whether the customer will want to buy from that particular retailer, and further, whether the customer will want to shop there again or be loyal to the business. A second example of a type of businesses where people are extra important is with service-oriented firms, as a service is not only sold by people, but people also are part of the deliverance itself. With a service, the people delivering it are more or less inseparable from the service delivered.

Context affects consumer behavior, and which factors are more important when consumers choose retailers. The informal settlements of Nairobi are characterized with high levels of corruption (TI-Kenya, 2012b, Dafe, 2009) and crime (UN-HABITAT, 2002), in addition to poverty, low levels of education and literacy and other related issues. Because of high levels of corruption and crime, the consumers need to be wary regarding who they interact with. This may result in increased importance of (retailer) trustworthiness, as this is a way consumers may discern whether the retailer is worthy their trust and loyalty. On the contrary, consumers may consider trustworthiness less important, thinking that no-one is worthy of trust anyway. If trustworthiness has an effect on loyalty, it will be important knowing which dimensions of trustworthiness are more important; is ability the key, or integrity and benevolence (cf Mayer et al, 1995). Probably this relative importance is also affected by context and thus is different in subsistence markets compared to in mature developed markets.

Based on this, the research questions for this thesis will be:

RQ 1: How important is retailer trustworthiness and its dimensions, compared to other factors such as product quality, for subsistence consumers' retailer loyalty?

RQ 2: Which dimensions of trustworthiness have strongest effects on retailer loyalty in this type of market?

RQ 3: Does the effects of the trustworthiness dimensions vary with type of business (services vs products), and if they do; how?

If it is the case that the character and trustworthiness of retailers are important in order to build a loyal base of customers; then it will be important to know how retailers can build their trustworthiness, what constitutes trustworthiness, and what dimensions of trustworthiness are most important in their specific context. Knowledge about the effects of trustworthiness on subsistence consumers' retailer loyalty will not only be of interest for future research on subsistence markets, but also for NGOs and educational institutions interested in helping subsistence entrepreneurs succeeding and growing their way out of poverty. Better knowledge about which factors subsistence consumers value, may be used to improve training programs for subsistence entrepreneurs. It may also be of interest for larger companies who want to do business with subsistence consumers.

1.3 Thesis structure

Chapter one introduced the study with research question and background, upon which chapter two continues with a review of literature. The literature review will cover the different concepts in the model; trustworthiness and its dimensions, outcomes of trust, retailer customer loyalty and perceived product and service quality. Further, literature about the context of subsistence markets in general and the case of Nairobi in particular will be looked into. Chapter three outlines the conceptual model and develops the hypotheses for the study. Chapter four describes the research process; what methodology has been used in this study and how data has been collected, measured and tested. In chapter five the data is prepared for testing, factors and assumptions of OLS analysed. Testing of the hypotheses is done in chapter six, along with an ad hoc mediation analysis, and the results and their implications are discussed in chapter seven. Chapter eight discusses the validity and limitations of the study and gives suggestions for further research.

2. Literature review

In this chapter I will review relevant literature for the study and its constructs. Many more articles could have been included. I have focused on those I find highly relevant to this particular study.

2.1 Trust

Trust is central in all transactions and exchanges; still trust is by nature rather elusive and hard to define. This is made clear by all the various definitions and delimitations in available research. Trust is researched in various fields such as psychology, sociology, marketing, management, organizational behavior and economics, and with varying focus. A large body of research is for example done on the trusting relationship between leaders and subordinates, but this is not necessarily directly translatable to buyer-seller relationships. Differences in the type of relation in focus necessitate caution when interpreting previous research. As Mayer et al (1995) points out, the terms trust and trustworthiness are used in many ways, often interchangeably, and it varies a lot what researchers include in these concepts. Some see trustworthiness as distinct from trust (e.g. Mayer et al, 1995), while others see it as the same concept. Trustworthiness is also built up in many different ways, even though several authors (such as Mayer et al) have proposed integrative models to lessen the confusion.

Whether or not it is possible to trust an organization or a brand is not agreed upon among scholars. On this point this study follows Morgan and Hunt (1994), Doney and Cannon (1997) and Sichtmann (2007). The main focus in this study is on interpersonal trustworthiness, but I argue that the trustworthiness of persons have effect on the willingness of customers to trust the retailer in the form of loyalty. Sichtmann (2007) writes:

> "Some scholars dispute whether people can develop trust in organisations or brands. However, due to the importance of (corporate) branding in marketing, this study follows Morgan and Hunt (1994) and Doney and Cannon (1997) in focusing on trust in a corporate brand (synonymously understood as the supplying firm) which is developed by consumers. Consequently, we focus on an exchange of goods where the customer expects the supplier to deliver a good quality." (Sichtmann, 2007).

Mayer et al (1995, p. 712) defines 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.*" This implies that the trusted party (trustee) has an opportunity to take actions that will benefit him and harm the trusting party (trustor). There is a risk for the trusting party, but he is willing to take the risk, and expects the other party not to exploit the situation. In order to get a more nuanced view of trust, it is interesting to look at what trust is built up of.

2.2 Trustworthiness – antecedents of trust

Trustworthiness can be seen as characteristics of the trustee that makes the trustor willing to trust the trustee. Trustworthiness can be considered divided into several dimensions, or built up by several aspects, and also this has been and is done in many ways. One of the earliest investigations of trustee characteristics was done by Hovland et al. (1953). They looked at expertise as separate from the trustworthiness aspect, and that expertise and trustworthiness affected credibility. Some divide trustworthiness into competence and credibility (see e.g. Sichtmann, 2007). Others divide into credibility and benevolence (e.g. Ganesan and Hess, 1997), where benevolence is similar to what is used in this study, while credibility is made up of a combination of ability and integrity. McAllister (1995) suggests a division of trust into cognition- and affect-based trust - or that from the head and from the heart. Goldsmith and colleagues (Newell and Goldsmith, 2001, Lafferty and Goldsmith, 1999, Goldsmith et al., 2000) studies corporate credibility, which also can be seen as a related concept (although related to the firm, not the person). They divide corporate credibility into expertise and trustworthiness. Gabarro (1978) separated ability from character, when investigating bases of trust. Character is divided into integrity and benevolence by Mayer et al (1995), who propose a three-dimensional trustworthiness concept, comprising ability, integrity and benevolence. In short, there are many different delimitations and operationalizations of trust and trustworthiness. In this study, I will use the three dimensions of trustworthiness suggested by Mayer et al. (1995); ability, integrity and benevolence. Mayer and colleagues' (1995) definitions of these concepts along with synonyms used by other researchers mentioned in their study follows.

"Ability is that group of skills, competencies, and characteristics that enable a party to have influence within some specific domain." (p. 717). Synonyms: competence and perceived expertise.

"Benevolence is the extent to which a trustee is believed to want to do good to the trustor, aside from an egocentric profit motive." (p. 718). Synonyms: loyalty, openness, caring, receptivity, availability.

Integrity is seen as "the trustor's perception that the trustee adheres to a set of principles that the trustor finds acceptable." (p. 719). Synonyms: fairness, consistency, promise fulfillment, reliability, value congruence, discreetness.

2.3 Having looked at trust and its antecedents, I will look at theOutcomes of trust

There are many outcomes of trust. In this study, the outcome in focus is loyalty towards a retailer, which will be discussed in the next paragraph. Although the retailing literature traditionally does not consider trust key for building loyalty (see next paragraph), there are many articles from other fields which have investigated possible outcomes of trust relevant to the dependent variable in this study (loyalty). Examples of related outcomes that are investigated are commitment (e.g. Ganesan and Hess, 1997); (Morgan and Hunt, 1994) ; (Moorman et al., 1992), loyalty (e.g. Sirdeshmukh et al., 2002), intentions (e.g. Sichtmann, 2007, Doney and Cannon, 1997), and choice (e.g. Doney and Cannon, 1997). See e.g. Swan et al. (1999) for a literature review listing some of these (and others). With this in mind, I will look at the more general theory of retailer loyalty

2.4 Retailer loyalty

The dependent variable in this study is loyalty towards the retailer. In this part I will look briefly at research about what constitutes loyalty in general and more specifically customer loyalty towards retailers.

When describing brand loyalty as basis for brand equity, (Aaker, 1991) claims that brand loyalty is created by many factors, where use experience is one of key factors. He adds that

brand loyalty also is affected by the other brand equity dimensions such as awareness, associations, and perceived quality, but that the relations between these concepts vary.

Wallace et al. (2004) "conceptualize customer retailer loyalty as the customer's attitudinal and behavioural preference for the retailer when compared with available competitive alternatives" (p. 251), or simpler put: "a preference for a particular retailer relative to competitors" (ibid). They underline the importance of attitude in addition to behavior, as behavior in itself does not prove loyalty.

In their editorial for the 2004 Journal of Retailing special edition on Retailer Branding and Customer Loyalty, Grewal et al. (2004) present a framework for retailer customer loyalty. The framework shows that "store image impacts perceived value, and in turn influences customer loyalty" (ibid, p. ix). It also shows important sub-dimensions of the three main constructs.
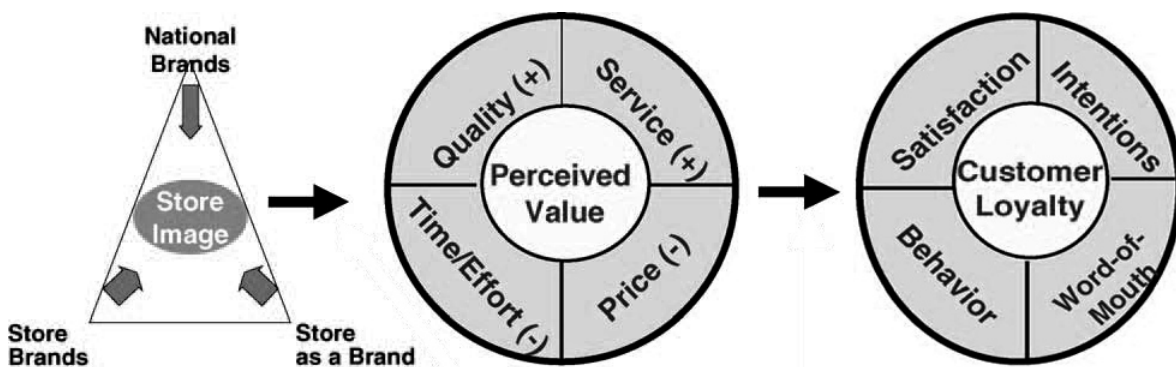
Figure 1: Retailer loyalty model, adapted from Grewal et al, 2004

Product and service quality add to the perceived value (from dealing with the retailer), while increased levels of price and the time and effort needed to make transactions subtract from the perceived value (Grewal et al., 2004). Providing good value is considered one of the more reliable ways to build customer satisfaction and loyalty (Jones and Sasser, 1995). Satisfaction and loyalty are interrelated with other outcomes, such as intentions (to buy, to stay), behavior (e.g. buying), and (positive) word-of-mouth. The first step in the model considers the image of the store and relates this to the brands they sell (Grewal et al., 2004). In this thesis, I do not have detailed information about which brands are sold at the retailers; however, the focal point of this thesis, trustworthiness, is clearly a part of the store image. The dimensions of trustworthiness probably have different effects on loyalty. Based on this

thought it is of interest to see what available literature have found about the relative effects of the trustworthiness dimensions.

2.5 Relative importance of trustworthiness dimensions

The different trustworthiness dimensions are not of equal importance, however it is argued that all of them should be present at some level in order for trust to be formed (e.g. Mayer et al., 1995). In the re-visitation of their 1995 article, Mayer, Davis and Schoorman (2007) acknowledge "the relative importance of ability, benevolence, and integrity across cultures" as an area of great interest and opportunities in future trust research (p. 352). This is something I hope to be able to contribute to through this thesis. Several articles have studied the effects of trustworthiness dimensions, making it clear that it varies. Not so many have investigated the relative importance of the dimensions specifically. Which dimension is most important will probably vary with several factors, some of which I will look at shortly. First I will briefly look at what a few other studies have found, to have a base for comparison. To gain a good overview, I have looked at meta-analyses and literature reviews in addition to single studies. Note that not all of the mentioned studies specifically investigate the relative importance of the dimensions. In these cases I consider the reported effect sizes, but will not be able to state anything about the significances in effect differences. Note that several of the referred studies have trust as dependent variable, while this study has loyalty. The difference and similarity between these constructs will be discussed later.

The meta-analysis conducted by Swan et al. (1999), p. 100) finds that salesperson benevolence and competence have medium effects on trust, with Pearson r mean values of .56 and .46, respectively. From this it seems that benevolence is more important than competence in the development of trust. Colquitt et al. (2007) find that ability and benevolence have moderate effects on trust, while integrity have a weaker effect (coefficients .39, .26 and .15, respectively) in their meta-analytic structural equation model, indicating that ability is the most important dimension.

Hawes et al (1989), studied how sales representatives and purchasing executives perceived different ways of earning trust. When asking the respondents to rank the importance of the five trust earning components from Swan et al (1988), both sellers and buyers agreed (as groups) on the following ranking of importance: 1) Dependable, 2) Competent, 3) Customer oriented, 4) Honest and 5) Likable. Using the terms of Mayer et al (1995), this indicates that

integrity (dependability and honesty) is the most important dimension of trustworthiness, followed by ability (competent), and benevolence (customer oriented).

Sichtmann (2007) finds that competence is much more important compared to credibility for the development of trust, with standardized coefficients of .69 versus .28. She suggests that the context of her study may be an important reason for the dominance of competence. Her study is conducted in the German mobile phone market, which is highly developed and competitive.

Román and Ruiz (2005) model "the customers attitude toward the industry" as a moderating variable on the effect of perceived ethical sales behavior (aka integrity and benevolence) on customer satisfaction with the salesperson (which in turn leads to trust in and commitment to the salesperson). Based on expectation theory (Oliver, 1980) (and Grönroos, 1990) they hypothesize and confirm that negative attitudes towards an industry and following low expectations towards salespeople in that industry, will yield stronger effects of perceived ethicality on customer satisfaction. This might be transferrable to this study in the way that consumers have low expectations regarding the salespeople's ethicality (integrity and benevolence) and therefore the effect of this will be stronger than in a context where expectations are high. In my study, this would not be because there is a specific industry with bad reputation, but because of the climate of crime and corruption in the society as a whole. The study made by Roman and Ruiz was conducted with retail financial services, including rather complex transactions.

Lee et al. (2008) specifically investigate the relative importance of the three trustworthiness dimensions suggested by Mayer et al (1995) on relationship commitment. They underline the importance of integrity (reliability, honesty, moral), as it can enable the other party to predict future behavior, especially under high uncertainty, and reduce uncertainty (Doney and Cannon, 1997). They argue that integrity will be more important than competence (ability) and benevolence (in that order) for relationship commitment. "Ethical behavior is a necessary condition for any successful business relationship.", they argue (Lee et al., 2008). Competence is not sufficient if integrity is lacking, as it easily introduces opportunistic behaviors; and benevolence they consider as "voluntary in nature and plays a supplementary role for a long-term relationship." (ibid, p. 459). Their analysis confirms the order of importance on relationship commitment: integrity, competence and benevolence. The study is based on customers who subscribe to a media service (newspaper), and the questions used

are asking about characteristics of the paper, not persons. The specific items used will greatly affect importance of dimensions.

In general, literature shows that trustworthiness dimensions have different effects, and that the relative effects vary. There are several factors that impact the relative importance of the dimensions. One important factor seems to be the context (see e.g. Sichtmann, 2007, Sirdeshmukh, 2002).

2.5.1 Context

The context of a study seems to be important for the importance of trustworthiness, and the relative importance among the trustworthiness dimensions. Whether the research on trust is conducted in for example a developed or developing country or in a rich or poor area may have a lot to say for the effects found.

Sichtmann (2007) argue that in the context of her study, customers are probably convinced that the providers want to offer the best possible quality in order to gain customers in the highly competitive market, but are not always convinced of the providers' abilities to do so. A rough division of the trustworthiness dimensions is that they could be divided into "can do" (ability) and "will do" (benevolence and integrity). Level of complexity and competition in the marketplace – how complex the offerings are, how difficult it is to discern the quality of the offerings, and whether there are many similar competitors, may affect the importance of trustworthiness and its dimensions (see Sichtmann, 2007).

Sirdeshmukh et al. (2002) discuss the differences between experience service contexts versus credence contexts. In the former, consumers are able to observe and evaluate behaviors of the providers, while in the latter consumers are not able to do this.

Grayson et al (2008) compares two rival models of how customer's trust in the business context influences customers' trust in firms. One perspective, based on functionalist theory, suggests a negative relationship between trust in context and trust in firms (e.g. Luhmann, 1979), while the other, based on institutional theory suggests a positive relationship (e.g. Bachmann 2004). The study finds support for the institutional theory, that "trust in the business context fosters consumer trust in firms and does not serve as a substitute for it" (p. 242). Note that when Grayson et al (2008) discusses trust, they mean "benevolent and honest". Ability is not included in their trust definition.

Humphrey and Schmitz (1998) discusses the importance of sanctions and trust in order for effective markets to be made and inter-firm co-operation to work, in the context of developing and transitioning economies. Although sanctions may be seen as a contrast to trust, Humphrey and Schmitz argue that a level of sanctions is important for trust to be able to develop. Sanctions may be in the form of law and an effective legal system. Institutions may also help avoid and resolve conflicts, for example in the form of mediation services. Sanctions may also be in the form of social sanctions or reputation mechanisms. Low levels of sanctions, may increase the importance of trustworthiness in general (relative to e.g. quality).

The next two parts will look at the specific context for this study – subsistence markets, and the case of Nairobi, Kenya.

2.6 Subsistence marketplaces

The context this study is conducted in – the informal settlements of Nairobi – is what could be called a "subsistence marketplace", "subsistence markets" or "bottom of the pyramid". Besides having very poor citizens, these markets have several other characteristics that are worth taking note of - which may affect the importance of trustworthiness dimensions.

One such characteristic is that many subsistence consumers are at the same time entrepreneurs (Viswanathan et al 2008a, in Viswanathan et al 2010). This is also the case for the sample used in this thesis.

People in these areas, in these conditions (on the subsistence minimum level), do not only face challenges related to their finances, but also "lack of information, education, and basic infrastructure, such as transportation and sanitation" (Maranz 2001 in Viswanathan 2010). This in turn result in reduced ability to work and reduced market access (Viswanathan et al., 2010). People in subsistence markets typically also have a low level of literacy, which adds to the list of factors making market-interaction and success difficult. Lack of literacy has several effects affecting the way these people act as consumers. Low-literate consumers tend to over-simplify decision making processes, e.g. focussing only on price, (Viswanathan 2005, 2008, in Viswanathan et al 2010). Despite these challenges, subsistence individuals are driven to engage in the market on a regular basis. Viswanathan et al. (2010) write:

> *"Research conducted in a range of subsistence settings around the world has shown that such marketplaces are intensely personal, social, and relational environments, where people and relationships take on increased significance (Latin America— De Soto,1989; Espinoza,1999; Africa — Gyekye, 1997; U.S. — Hill and Stamey, 1990; multi-country (Zambia, Ecuador, Philippines, Hungary) — Moser, 1998; India — Viswanathan, 2007). Individuals seek advice from neighbors and people on the street, learn to gather information, and evaluate and buy products through what are typically face-to-face interactions."* (Viswanathan et al., 2010).

Viswanathan et al. (2010) find that subsistence consumers rely heavily on information from sources such as groups (e.g. self-help- or saving/credit-groups) and friends and family, rather than from experts or shopkeepers. They highlight the importance of trust "arising organically through 1-to-1 social networks, rather than through mass-market reputation…". For feature research, they indicate identification of factors that drive individuals to recommend and promote a particular business among their friends and relatives as an important research area. They also found that "individuals were concerned with fair treatment above all" (ibid, p).

Sichtmann (2007), although not investigating subsistence markets, finds that trust has a considerable impact on word-of-mouth behaviour (WOM). Based on this, it seems reasonable to believe that trust is an important factor businesses in subsistence markets should look into in order to gain positive WOM, which in turn may lead to more and more loyal customers.

2.7 Nairobi and its informal settlements

To have a fundament to understand the specific context this study is conducted in, I will provide some basic background information about Nairobi and its informal settlements.

Kenya was a British colony from 1895 to 1963. "The British colonial administration restricted the migration of Africans to Nairobi and systematically racially zoned the city" (K'Akumu and Olima, 2007, in Dafe 2009). After the independence in 1963, segregation of housing and land based on race was reduced, as people could move where they wanted. This however made a new pattern, where the city is divided into high-income and low-income areas (K'Akumu and Olima, 2007, in Dafe 2009). High income areas are characterized by low density of houses and people, while low-income areas have high density of people and houses/shacks.

The first informal settlements were formed in the colonial period, when African's migration into Nairobi was restricted. Since independence in 1963, the population of Nairobi has increased from 350,000 to approximately 2.5 million today (Dafe, 2009). Supply of proper housing has not matched the growth in demand. There are several reasons for the lack of proper provision of housing (as well as of land and services). One of them are lack of financial resources and poor management (Syagga et al 2001, in Dafe 2009), another is corruption.

The 2012 East African Bribery Index (TI-Kenya, 2012b) puts land services on an aggregate second place in Kenya. 57% of people having interacted with the land services, report that they were asked or expected to bribe, and 37% report to have bribed interacting with the land services. The police get the first place in Kenya on the 2012 East African Bribery Index.

When Kenya became independent all land, previously appropriated by the British rule, was renamed government land. According to the Government Lands Act this land is to be advertised and sold at public auction to the highest bidder (Syagga et al 2002, in Dafe, 2009). Despite this, these rules are regularly violated in order to benefit a few individuals in the Kenyan elite, at the expense of the public (Syagga 2002, TI-Kenya 2003, Ndungu 2006, in Dafe 2009).

This illegal allocation of land, for personal or political gains, or "land grabbing" has led to very high land prices, and a state where most of the city's inhabitants are living in informal settlements. According to Syagga et al (2001, in Dafe 2009), 60% of the population in Nairobi occupies only 5% of the residential area. As land is illegally allocated to specific individuals, one consequence is that most of the inhabitants in the slum areas are tenants, paying rent to a probably rather wealthy land-lord. The rents can also be quite high, not only in relation to the bad quality, but also compared to housing outside the slums (Dafe, 2009).

Less than one out of five slum households are provided with piped water (inhouse or in yard), one out of five are connected to electricity, and one out of a hundred slum households are served by a garbage collecting system. (Dafe, 2009)

The UN-HABITAT Victimisation Survey of Nairobi (UN-HABITAT, 2002) investigated crime rates in Nairobi by surveying over 10,500 residents of the city. Related to personal crimes, "The survey found that 37% of all Nairobi's residents had been a victim of a robbery and 22% a victim of a theft at least once during the previous year. A further 18% had also

been personally physically assaulted during the year preceding the scan." (UN-HABITAT, 2002, p. 4). Regarding property, 29% of homes had experienced burglary the previous year, and similarly in business with 30% of commercial enterprises. Compared to other similar surveys (e.g. from Tanzania), it seems to be more common with robbery (violent crime) in Nairobi (more like that of South Africa) (UN-HABITAT, 2002).

According to Matrix Development Consultants (1993), most of the inhabitants are self-employed, and most of these small firms have simple business models, such as farming, selling agricultural crops, crafts etc.

2.8 Control variable: Perceived product/service Quality

Some background about the concept of perceived quality can be useful to understand why this can be an important concept in the development of loyalty. Perceived quality is included in this study to explain more of the variance in loyalty, and to avoid that the estimated effects of trustworthiness dimensions are biased/inflated because of omitted variables.

According to Aaker (2009) "Perceived quality can be defined as the customer's perception of the overall quality or superiority of a product or service with respect to its intended purpose, relative to alternatives.[2]". Being a perception, it differs from actual, objective quality, from product-based quality, and from manufacturing quality. Further, "Perceived quality is an intangible, overall feeling about a brand. … the perceived quality itself is a summary, global construct." (ibid).

So, perceived quality is not the same as objective quality. It is a subjective perception by the customer, and this perception depends on the intention (purpose/position) of the provider, and of available alternatives. Perceived quality may be even more important than actual, objective quality, because it is what it looks like inside the minds of the consumers. In many cases consumers do not have the opportunity or ability to discern the actual objective quality of the products or services offered, and rely on perception. Also, if the perception of the customer differs from the actual quality, it is the perception of the customer that decides the customer's action, based on correct information or not.

According to Aaker (2009), perceived quality has several possible outcomes (or ways of providing value), including purchase decisions, positioning and differentiation, price premiums, larger customer base, and loyalty.

Perceived quality can be quite a complex concept, with many dimensions. What dimensions are relevant depends on the context, whether it is for products or services. Garvin (in Aaker, 2009) suggests the following seven dimensions for product quality: performance, features, conformance with specifications, durability, serviceability, and fit and finish. Parasuraman, Zeithaml and Berry (in Aaker, 2009) are known for the development of the SERVQUAL measurement instrument for service quality. They suggest the following dimensions for service quality: tangibles, reliability, competence, responsiveness, empathy, credibility, trustworthiness and courtesy. Note how several of these dimensions are very similar to dimensions of trustworthiness, e.g. reliability (similar to integrity), competence (ability), responsiveness and empathy (similar to benevolence), and that trustworthiness and credibility are included specifically.

As can be seen, perceived quality is a comprehensive concept, (and I expect that this construct will account for considerable variance in loyalty). Aaker (2009) also lists perceived quality as one of five main categories of assets that form the base for brand equity, along with brand loyalty, name awareness, brand associations and other assets.

Based on this review of available theory, the next chapter shows the suggested conceptual model for this study and develops the hypotheses to be investigated.

3. Conceptual model and hypotheses

3.1 Conceptual model

The figure below shows the structure of the suggested model. The specific hypotheses are developed below. The conceptual model shows that the three trustworthiness dimensions ability, integrity and benevolence, (in different ways) positively affect the customer's loyalty toward the retailer. Perceived quality of the products/services offered, is an alternative explanatory factor (not main focus of this study). Type of business (service/product) impacts the effects of trustworthiness on loyalty.
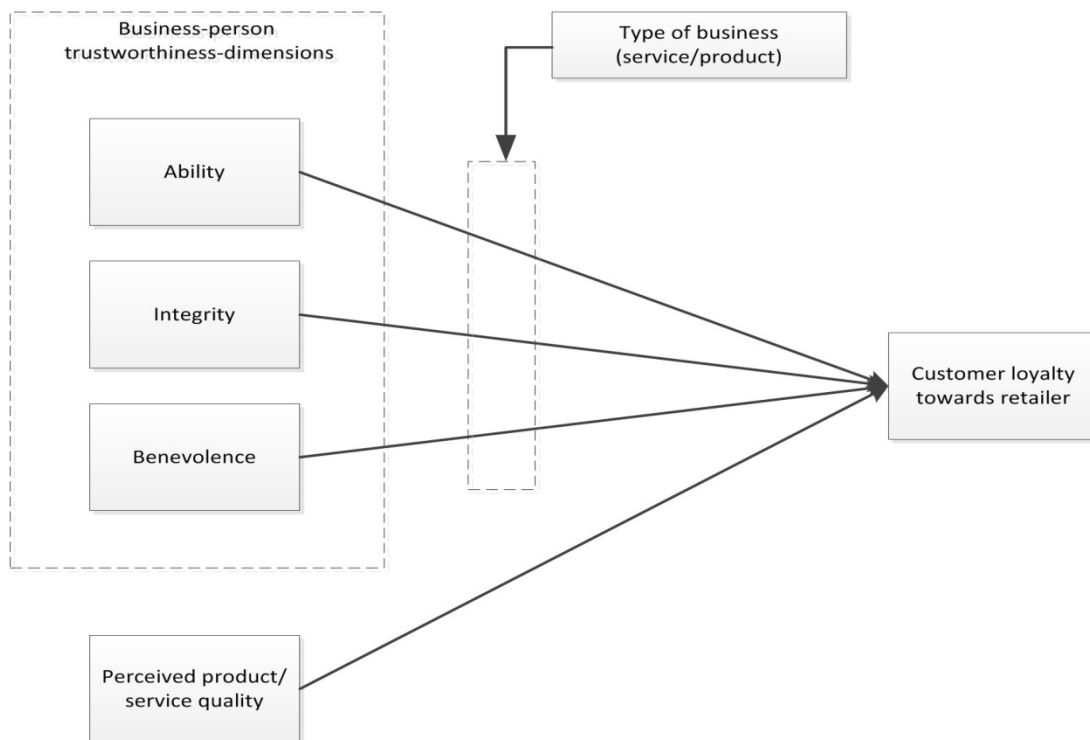
Figure 2: Conceptual model

3.2 Hypotheses

In this part hypotheses will be suggested in order to inform the research questions

RQ 1: How important is retailer trustworthiness and its dimensions, compared to other factors such as product quality, for subsistence consumers' retailer loyalty?

RQ 2: Which dimensions of trustworthiness have strongest effects on retailer loyalty in this type of market?

RQ 3: Does the effects of the trustworthiness dimensions vary with type of business (services vs products), and if they do; how?

The effects of the trustworthiness-dimensions will vary with several factors. First of all, the relative importance will depend on what the *dependent variable* in the equation is. It is likely that the (relative) effects of trustworthiness will be somewhat different on e.g. relationship commitment compared to supplier selection. Because of variation in dependent variables, effects can not necessarily be compared directly between studies although the independent variables might be the same.

Second, and related to the first, the *relationship in focus* is important. This could be for example a buyer-seller relationship or a leader-subordinate relationship. In general, it could be distinguished between inter-personal, inter-organizational, intra-organizational and person-organization-relationships. Intra-organizational relationships (relationships within an organization, e.g. leader-subordinate) are in focus in organizational sciences, and is an area where trust is researched a lot. The focus of this study will be on trust on the inter-personal level, and its effect on the person-organization relationship.

Third, as mentioned in the literature review, the *context* of the study is important for the importance of the trustworthiness dimensions. In the Nairobi slum areas, there is little effective legal system. Although there is a law, it is not enforced with any consistency inside the informal settlements. This is related to the fact that the slum areas are informal settlements, and as such they are held outside many of the public services (Dafe, 2009). Also, not only are the police not enforcing the law properly in these areas, the police is also quite corrupt/takes a lot of bribes (TI-Kenya, 2012b).

In an unregulated market such as the slums of Nairobi, with few enforced laws and rules, the risks inherent in transactions are larger than what would be the case in typical developed markets. If something "goes wrong", be it that the quality is not as expected or foreseen, that the product breaks down in short time, or that the buyer realizes he has paid far too much, there is very little help to get. The buyer could of course try to complain to the seller (and if

the seller is serious he might respond positively), but if the seller does not want to co-operate, the buyer has little institutional support to rely on. In developed markets there are laws enforced by legal authorities, consumer councils and rights, and more. To the degree that these institutions are present in Nairobi as well (which they probably are), subsistence consumers may easily be left out – e.g. from lack of knowledge from the subsistence customers' side.

A second aspect making (the perceived) risks higher for transactions in subsistence economies compared in developed ones, is that the buyers spendable budget is quite more constrained. Buying decent durables for the home for example will likely take a considerably larger toll of the buyer's income in the Kwangware-slum in Nairobi compared to what we are used to in developed countries. Having saved money for a longer period of time to do that one purchase, and having no mentionable consumer rights, it is important that everything goes as it should.

In this context, I believe it is important for consumers to be able to trust their retailers. Because of this, I believe that trustworthiness of a retailer is able to influence consumers' loyalty to the retailer. Dividing trustworthiness into the three dimensions suggested by Mayer, Davis and Schoorman (1995), I get the following hypothesis:

> H1: The three trustworthiness-dimensions a) ability, b) integrity and c) benevolence have independent, positive effects on loyalty towards the retailer.

As suggested by Transparency International Kenya (TI-Kenya, 2012a), integrity is one of the most important factors in a functional society – and one the Kenyan society needs more of. The same goes for benevolence. Building integrity and benevolence are ways to build the society and can help the community grow out of poverty. Integrity and benevolence are necessary in order to avoid corruption and misplacement/exploitation of resources, and it is also good for business. I believe that for customers in the informal settlements of Nairobi, integrity and benevolence can be a key driver for choice, and can be a basis for loyalty. If this is the case, integrity and benevolence is not only is wanted for the common good, but also should be in the self-interest of the individual retailer.

Kenyans are used to corruption and crime, and that people do what they can in order to get themselves forward – even at the expense of others. To stay true to moral obligations (integrity) and want to do good for others even though it does not yield profit (benevolence) are therefore virtues that seem to be sought after. Because of this special context, I believe that these trustworthiness dimensions, integrity and benevolence, may be even more important than ability. More formally:

In this specific context, I hypothesize that:

> H2: a) Integrity and b) benevolence have more positive effects on loyalty than ability.

In Nairobi's informal settlements, there are various types of retailers. Some sell products, other services. Most of the firms are quite small businesses, and most of them sell physical products. The products sold are mostly something the customer is able to consider the quality of. Because of this, the trustworthiness of the seller is not necessarily as important, as long as the product visibly is of good quality (I still believe it is important, but not as important as in services). This is somewhat different with services, as the service often is hard to tell the quality of before it has been delivered. Because of this, the trustworthiness of the persons delivering the service is more likely to be important in service-firms. I believe the people-aspect and the trustworthiness is important for all kinds of businesses. However, the people- and trustworthiness-aspect is likely to be more important in the service-oriented businesses than in the product-oriented businesses. Hence the following hypotheses:

> H3: The trustworthiness dimensions a) ability, b) integrity and c) benevolence will have stronger effects on retailer loyalty with service-firms compared to with product-oriented firms.

In the next chapter, the research methodology will be discussed.

4. Methodology

In this part I will go through the steps that were made when the research was conducted; I will go through the questionnaire items used, look at sampling procedure and methods for testing.

4.1 Research procedure

This study is based on a (cross-sectional) questionnaire designed by Professor Magne Supphellen at NHH. The collection of the data was done in cooperation with university students in Nairobi, Kenya. The questionnaire and instructions, written in English, was sent to the university, where people fluent in both English as well as Swahili translated the questions to Swahili. Students interviewed the respondents face to face in the slum areas. Before asking any of the questions, the interviewers introduced the purpose of the questionnaire, and explained the scales used. The scale descriptors (completely disagree/somewhat agree etc) was written on a note the respondent could look at while answering. The respondent responded orally to the questions (e.g. "I completely agree") and the interviewers wrote down the answers as numbers 1-5. Many of the respondents have a low level of education and literacy, and many of them are not used to responding with scales. The measures mentioned above were done in order to enable them to answer to the scale-based questionnaire. See appendix for full copy of the questionnaire (or at least the parts used).

4.2 Sampling

The sample of respondents for this study consists of 566 (micro-)entrepreneurs in Nairobi. The sample is drawn randomly from the micro-credit customer base of Jamii Bora Bank. This means that all the respondents were receiving or had previously received micro-credit financial support from this financial institution. After drawing names from the customer base, the respondents were contacted via mobile phone – they were asked whether they would be willing to participate in the study, and a meeting was scheduled. The original draw from the customer base was 1000 people. Not all of these were asked the questions used in this study. About 20 persons who had agreed to participate did not meet as planned. They

were asked about a business in shopping distance from where they lived (in the informal settlement) (Supphellen, 2013).

A benefit of the fact that the sampled consumers also are entrepreneurs is that the sample not only reflects the population of subsistence consumers (the respondents), but also the population of subsistence entrepreneurs (what is asked about). The respondents are probably very similar to the business people which they are asked to describe. To gain some basic insight as to what kinds of people are represented in the sample, it could be useful to look at some statistics:

TABLE 1
Demographic Profile of the Respondents
(and their business)

Age (in Years)		Sex		Employees (incl self)	
19 or less	5.3	Male	49.8	1	49.8
20-29	39.0	Female	50.2	2	24.8
30-39	32.5			3-5	18.2
40-49	15.7			6-10	5.6
50 or more	7.4			11+	1.6

Total sales last week (Kenyan shilling)		Education Level	
Less than 5,000 KSh	43.4	Not finished primary	10.1
5,000-9,999 KSh	17.4	Finished primary	19.1
10,000-14,999 KSh	13.5	Some secondary	34.6
15,000-49,999 KSh	18.3	Some post-secondary	26.5
50,000 KSh or more	7.4	>3 year post-secondary	9.7

All numbers in per cent

The sample includes an equal amount of male and female respondents. The vast majority of respondents in the sample (49.8%) are self-employed, without any other employees in their firm. Only 7.2% of the firms have a staff of more than five people. The sample covers a good variety of ages, most being in their twenties or thirties, the youngest being 10 and the eldest 69. There is also a large variation in the education level. Some have not attended school at all, while some have higher education. 29.2% do not have any education beyond primary school – 63.8% not beyond secondary school. The respondents were asked about how much their business had in total sales the last week. The respondents also stated total costs for the same period, and what they pay in house rent each week. Although the sales and costs probably vary a lot on a weekly basis, this could be used to gain some basic insight

about the income level in the sample. The table shows that 43.4% sold for less than 5,000 KSh that week. More specifically, 25% sold for less than 2,200 KSh and 50% sold for less than 5,800 KSh that specific week. After subtracting costs, my calculations show that 50% had less than 1500 KSh in profits, or loosed money that week. For comparison, 50% state that they pay 730 KSh or more in house rent each week. (I use percentiles rather than means, because the means are highly affected by extreme values). 1000 KES equals approximately 12 USD.

4.3 Questionnaire and Measures

As mentioned, this study uses data based on a questionnaire designed by Professor Magne Supphellen. The questionnaire was originally intended for a different study than this thesis. In the following I will explain what items from the questionnaire I have used to measure the different constructs in my model, and link these items to previous research which have used similar measures for similar constructs.

The constructs in my model is measured on five-point Likert scales with two items per construct. The scale-items had anchors "completely disagree" and "completely agree". Originally there were more items, but these were not validated by the factor analysis, as will be discussed in the analysis chapter. The points on the scale were given as: 1=completely disagree, 2=somewhat disagree, 3=neither agree or disagree, 4=somewhat agree, 5=completely agree. In the following paragraphs, I will present the questionnaire items used to measure the constructs, and relate them to previous research.

Retailer loyalty was measured by the two items "When I need the product/service they sell I usually go to this store" and "For this kind of product I prefer this store". This is similar to e.g. the loyalty measure incorporated by Sirdeshmukh (2002), and also to the purchase intention measure used by Sichtmann (2007). The first item says something about the (habitual) behaviour of the customer, which can be seen as a basic evidence of loyalty to the retailer. However, this alone is not evidence that the customer will stay loyal if a different retailer for some reason becomes more attractive, it only shows a basic level of loyalty (c.f. e.g. Aaker's (1991) loyalty pyramid). The second item states what I consider to be a higher level of loyalty; not only does the customer buy from the retailer (e.g. out of habit or simplicity), the customer also prefers this particular retailer over others. This indicates that the customer for some reason likes the retailer, and has some affective attachment to it. The

reasons for the liking and preference (so far unknown), the habitual behaviour, and the affective attachment together may lead the customer to be committed to the retailer – the highest form of loyalty according to Aaker (1991).

Perceived product/service quality mas measured by "The services/products they offer are high quality" and "I can trust the quality of their products/services". As mentioned in the literature review, perceived quality is a rather comprehensive concept. These items measure perceived quality on an aggregate level, without going in detail about dimensions of perceived quality. Since perceived quality can be seen as a "perception of the overall quality" (Aaker 1991), and dimensions of quality is not the focus of this thesis, I believe these items will be suitable to give an aggregate measure of perceived quality.

The trustworthiness-dimension ability was measured by "They have big success with this business" and "They earn good money"; integrity was measured by "The people behind this business are dependable" and "the people behind this business are honest"; and finally benevolence was measured by the items "The people behind this business help people with their problems" and "The people behind this business care for people in this area". The items for measuring trustworthiness are similar to those used by e.g. Mayer and Davis (1999), Sirdeshmukh et al (2002), Ganesan and Hess (1997), and Morgan and Hunt (1994).

4.3.1 Control variables

In order to increase the explanatory power of the model, a few control variables were included. These were age, sex, higher education, business training and over-claiming. Higher education and business training are coded as dummy variables (zero or one) indicating whether the respondent has attended post-secondary school (higher education) or received formal business training. Including these demographic variables may increase the strength of the regression by taking out variance not related to the main predictor variables.

The over-claiming variable is based on a question asking about the respondent's knowledge about six brands; three real ones, and three fake. The question asked was "How well do you know the brands below?". Answers were given on a five point scale (one=don't know at all, five=know very well). The variable is generated as an average of the three fake brand answers, where values above one indicate over-claiming. This may help correct for a general tendency to state overly positive answers, which may be the case if respondents try to portray themselves in a more positive way (Paulhus et al., 2003).

4.4 Methods for testing

To test the hypotheses, I have used multiple regression, also called ordinary least squares (OLS) regression, and structural equation modeling (SEM). These are well known methods for testing hypothesized relationships between multiple variables. Before testing the hypothesws the data material was analyzed and prepared. Exploratory and confirmatory factor analysis was done in order to test the factoring of the items to be used to measure the constructs. The next two chapters lay out the analyses and results.

5. Data Analysis

5.1 Data-preparation

Before I did any tests with the dataset, I screened the data for erroneous values and other oddities. For example it could be typing errors from when the data was coded from paper into the computer. One thing I checked was that all the observations in the variables I was going to use were within the limits of the scale that variable/item was measured on. Most of the items were measured on a five point scale and coded one to five. If some observations had values outside this range, something was clearly wrong. In a few observations this was the case, typically with values such as 11, 44 and 55 (seven cases). I assume that these are only typing errors, and replaced them with the corresponding single-digit numbers (e.g. 1, 4 and 5). A couple of observations had values 34 and 35, where I recoded to 3.5 and 4 (means).

I also looked at missing values, and whether there were any patterns with these. Of the total 566 observations, there were 49 that lacked answers about the particular part of the questionnaire I was interested in (question 2a-2v). Probably these were not asked about this part. Besides these, there were eight other observations with missing values on single items. I could not find any pattern in the eight missing values. In order to be able run the estimations (maximum likelihood and bootstrap in AMOS, OLS in STATA), observations with missing values had to be deleted. This resulted in the deletion of 57 observations, leaving a sample of 509 observations.

5.2 Factor Analysis

Both exploratory and confirmatory factor analysis was conducted in order to test the factoring and validity of the questionnaire. As the items mostly are based on existing scales with theoretical foundation, as mentioned in the previous chapter, I focus on the confirmatory analysis in the text. Details about the exploratory analysis can be found in the appendix.

I used AMOS to do a confirmatory factor analysis (CFA). In contrast to exploratory factor analysis (EFA), CFA needs the user to specify the factors in advance, building on a

theoretical model (Hair et al., 2010). The analysis then gives measures of how well this measure-model fits the data. In addition to the theoretical background for the factors, the information from the exploratory analysis gives a good hint to what factor model is likely to have a good fit with the data.

The model with two items on each construct (as mentioned in the methodology chapter) gives a quite good model fit, with Chi-square 45.2 with 14 degrees of freedom (p<0.001), Chi-sq/DF=3.2, CFI=.974 and IFI Delta2=.974, and RMSEA=.063. Although there is no one answer to how well the fit should be in order to be considered acceptable or good, and this depends on sample size and model complexity among other things, there are some rules of thumb: Significant p-values for Chi-square are expected with large samples, as in this study (Jöreskog, 1969). Chi-sq/DF is considered very good below 2, and ok up to 5 (Marsh and Hocevar, 1985). CFI and IFI Delta2 may be considered good above .95, and RMSEA may be considered good below .07, along with CFI above .97 (Hair et al., 2010). In this model, each construct only has two items. More items would be preferred, both from a theoretical perspective in order to measure the intended constructs (e.g. for ability), and methodically in order to get a stable, well-identified model (for SEM-estimation). There are some more items in the questionnaire that could be included from a theoretical perspective, but showed not to load as hypothesized in the exploratory analysis, and to give worse model-fit when included in the CFA. The quality and benevolence-measures do not have more items that seem to fit well. Integrity has some more items that could be considered included, and for ability the 2k-item "clever" would be preferred included in order to obtain good content validity of the construct. Including one more item on ability and integrity could be a solution; however, this model has worse fit than the previous. The fit measures are on the borders of what is acceptable; with Chi-square 172.3 with 29 degrees of freedom (p<0.001), Chi-sq/DF=5.9, CFI=.921 and IFI Delta2=.921, and RMSEA=.099. Several other factor solutions were tested as well, but turned out to have worse fit than the above mentioned.

Although it would be preferable to have more than two items per construct, it seems that the two-item solution gives better fit. Including more items seems to dilute the clarity of the constructs more than it adds strength to them. Construct validity is discussed in chapter 7, limitations and validity.

5.2.1 Descriptives of generated variables

To give a basic picture of what the variables look like, the table below shows some descriptive statistics for the generated variables:

Table 2 - Variable descriptives

Variable	Mean	Std. Dev.	Min	Max	Skewness	Kurtosis
Loyalty	4.51	1.04	1	5	-2.26	7.11
Ability	4.13	0.95	1	5	-1.17	4.19
Integrity	4.65	0.70	1	5	-2.41	9.26
Benevolence	4.18	1.02	1	5	-1.12	3.63
Perceived quality	4.67	0.71	1	5	-2.77	11.40

A widely used measure for the reliability of the generated scales or variables is Chronbach's alpha. A recommended threshold value is .7 (Hair et al., 2010). Note that the alpha is higher for a scale with more items, all else equal. The alphas for the various generated variables are as following (questionnaire items in parentheses): loyalty .889 (a,b); Perceived quality .772 (g,h); Ability .693 (i,j); Integrity .646 (l,n); Benevolence .782 (s-t). Although somewhat higher alphas would be preferred, most of the constructs seem to have decent reliability. The items were used to form new variables to represent the constructs. This was done by averaging the items (summing the items and dividing by two).

In order to use the variables in an ordinary least squares (OLS) regression, there are several assumptions which should be tested - this will be discussed in the next part. In general, multivariate data analysis techniques (such as multiple regression) build on an assumption of normally distributed data. All of the five variables from the factor solution deviate significantly (z ranging from 10-30 for kurtosis and skewness) from normality, with negative values on skewness and positive values on kurtosis, meaning the variables are skewed to the right (towards 5) and peaked. With large samples deviations from normality in the data is less of a problem (cf central limit theorem). The sample used has over 500 observations.

In order to reduce deviation from normality (and other related problems), Hair et al (2010, p78) suggests a variety of transformations that could be used on the variables. For negatively skewed variables, as is the case here, they suggest transformations using squared or cubed terms. Using automated Box-Cox transformation ($x(\lambda) = \frac{(x^{\lambda}-1)}{\lambda}$) in the statistical software

Minitab, it seems that a Lambda (power-transformation) of five could be suitable. I have tested several variants of these transformations, and although it clearly reduces the variables' values on skewness and kurtosis, I have a hard time seeing any meaningful/qualitative differences in the following regression analysis. Because of this lack of practical impact, and for simplifying interpretation, I choose to continue with untransformed variables.

5.3 Assumption investigation

The methods used for testing has several assumptions, which should be investigated in order to assess the validity of the inferences based on these analyses. Chronologically, these tests follow after the testing of the hypotheses, as they are based on the regressions used for testing, but they are presented here for practical reasons. Hair et al (2010) mention four assumptions: linearity, constant variance, independence, and normality, which will be discussed below.

To see whether assumptions are violated, residual plots are considered. The most central plots can be found in the appendix. The plot of residuals versus predicted values show no clear nonlinearity, which would be seen as curvilinear patterns. The plot indicate that constant variance (homoscedasticity) may be violated. I conducted formal tests to test this.

To test whether the assumption of constant variance across x's (homoscedasticity) is met, I conducted a Breusch-Pagan test. This was done by regressing the squared residuals (errors) from the regression (model 1) against the independent variables in the regression. If some of the estimated coefficients are significant, this indicates heteroscedasticity (Wooldridge, 2009). The regression against the residuals estimated a significant coefficient for benevolence, indicating heteroscedasticity. A second test for heteroscedasticity, White's test, was also conducted. This regresses predicted values and squared predicted values against the residuals (Wooldridge, 2009). An F-test showed that one or more of the coefficients were significantly different from zero, indicating heteroscedasticity. To correct for this, I have used heteroscedastic-consistent/robust standard errors in the regressions used in the study.

Independence of the error terms from other variables is tested by looking at plots of the residuals versus the other variables. These plots seem to be ok, without any very clear pattern.

Normality of the error term distribution is tested with a normal probability plot. This indicates deviations from normality. Because of the relatively large sample size this should not be large problem (cf central theorem) (see appendix for plot).

Multicollinearity was investigated by regressing explanatory variables against residuals of the main regression. If the explanatory variables explain a large amount of the residual variance, then there is a problem with multicollinearity. Multicollinearity does not violate OLS assumptions, but will inflate the standard errors, and hence give less significant coefficients. The variance-inflation-factor (VIF) is calculated as $VIF=1/(1-R^2)$ (Hair et al., 2010). 5 or 10 are suggested threshold values, where larger values indicate multicollinearity. VIF for all the explanatory variables were below 1.4, indicating collinearity is not a problem.

6. Testing of hypotheses

To test the hypotheses, ordinary least squares (OLS) regression is used. In table 2, four regression analyses are shown, all with retailer loyalty as dependent variable. Model 1 is the basic regression used to test H1 and H2, where no difference is made between service and product firms. Model 2 and 3 shows the same regression run separately for product and service firms respectively. These regressions are included to make it easy to see the differences between the business types. To test the differences between the business types formally, the regression model no 4 is used. In this regression interactions between a dummy variable for firm type (coded 1 for service, 0 for products) and the trustworthiness dimensions are included. The estimated coefficients on these interaction variables will then show the *incremental effect* ability, integrity and benevolence have on retailer preference *in service firms*, *compared to in product firms*. The total effect of a trustworthiness dimension in service firms can then be seen by adding the coefficients of the main predictor with the interaction variable. In product firms, the total effect is shown by the main predictor coefficient only. Significant differences between the firm types can be seen by the significance of the estimated interaction coefficient. Note that these regressions are run with the robust option in STATA, to correct for heteroscedasticity (or make the statistical inference valid despite heteroscedasticity being present). This does not change the estimated coefficients, but it may change the significance of the coefficients. The robust option uses heteroscedastic-consistent/robust standard errors (also called Eicker-Huber-White standard errors), which may lead to more, or less, significant coefficients compared to with normal standard errors (Stock and Watson, 2012). The estimation with normal standard errors can be seen in the appendix (very similar results).

TABLE 3
Results of OLS Regression Analyses on Retailer Preference

Variables	All firms pooled				Firm types separated			
	Model 1		Model 4		Model 2 (Product)		Model 3 (Service)	
Main predictors								
Ability	0.04	(0.63)	0.04	(0.68)	0.04	(0.58)	-0.05	(-0.33)
Integrity	0.35***	(4.01)	0.31***	(3.41)	0.31**	(3.20)	0.64***	(3.53)
Benevolence	0.20**	(3.22)	0.24***	(3.44)	0.23***	(3.40)	0.03	(0.27)
Perceived quality	0.36***	(4.07)	0.35***	(4.01)	0.36***	(3.85)	0.33	(1.33)
Interaction with business type								
Service * Ability			-0.09	(-0.65)				
Service * Integrity			0.26**	(2.63)				
Service * Benevolence			-0.19	(-1.32)				
Control variables								
Higher education	-0.07	(-0.78)	-0.10	(-1.14)	-0.04	(-0.33)	-0.27	(-1.46)
Business training	0.02	(0.25)	0.05	(0.58)	0.08	(0.80)	-0.00	(-0.02)
Over-claiming	0.03	(0.84)	0.02	(0.58)	0.04	(0.97)	-0.01	(-0.09)
Age	0.00	(0.07)	0.00	(0.04)	-0.00	(-0.65)	0.00	(0.65)
Sex	0.03	(0.34)	0.01	(0.08)	0.06	(0.63)	-0.18	(-0.98)
Constant	0.21	(0.40)	0.22	(0.41)	0.27	(0.48)	0.17	(0.12)
R^2	0.285		0.298		0.311		0.266	
Observations	509		507		391		116	

t statistics in parentheses, based on heteroscedastic-consistent/robust standard errors

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

6.1 Test of H1

Hypothesis H1 hypothesized that all of the three trustworthiness dimensions a) ability, b) integrity and c) benevolence would have independent and significant positive effects on retailer preference. Regression model 1 shows that integrity (b=0.35, t=4.01) and benevolence (b=0.20, t=3.22) has significant effects on retailer preference (p-value less than .01 for both), while the coefficient on ability (b=0.04, t=0.63) can not be said to be significantly different from zero on a 5% confidence level. All the coefficients have a positive sign, meaning increased levels of perceived integrity or benevolence would be associated with higher preference. Since the regression is linear, the coefficients could be interpreted as "one unit increase in [independent variable] gives a [coefficient] increase in

retailer preference". For example, a one unit increase in perceived integrity is estimated to give/be associated with an increase in retailer preference of .35. Remembering that all variables are given on a five point Likert scale, a one unit increase would mean going from e.g. "somewhat agree" to "completely agree" or similar. (Interpreting the coefficients in this manner is not very meaningful, however.) I would say the size of the coefficients (.35 on integrity and .20 on benevolence) can be seen as moderate, with both practical and statistical significance. The effect of integrity seems to be slightly larger than that of benevolence. For comparison, perceived product/service quality has an estimated coefficient of .36, only slightly larger than that of integrity. The R^2 of the regression is .285, showing that a considerable amount of variance is explained by the independent variables, but also that far from all the variance is explained. This only means that there are other variables, not included in this regression, which also explains retailer preference. The regression result shows support for H1b and H1c, but not for H1a, meaning higher levels of perceived integrity and benevolence is associated with higher levels of retailer preference, while this can not be said for perceived ability. Perceived quality is also associated with retailer preference.

6.2 Test of H2

Hypothesis H2 suggests that a) integrity and b) benevolence has a *more positive* effect on preference than what ability has. From the estimated regression (model 1), this seems to be the case. To test this formally, I have conducted an F-test in STATA (see appendix) after running regression 1, to see whether the coefficients are significantly different from each other – or more precisely, whether the differences between the coefficients are significantly different from zero. For H2a, the F-statistic is 7.74, with 1 and 499 degrees of freedom, giving a p-value of .0056. For H2b, the F-statistic is only 2.67 (same degrees of freedom), with p-value .1026. The result gives support for H2a, but not H2b, meaning I can infer that integrity has a significantly stronger effect on preference than ability.

6.3 Test of H3

As mentioned this regression is made on the whole sample, not considering type of business in focus. To see how the effects are in the two business types (service and product oriented firms), it could be useful to have a look at model 2 and 3. This is the same regression as

model 1, only run on the service/products subsamples separately. Looking at the coefficients, the coefficients on integrity and benevolence are quite different in the service-firms sample (model 3; integrity 0.64, t=3.53; benevolence 0.03, t=0.27) compared to in the product-firms sample (model 2; integrity 0.31, t=3.20; benevolence 0.23, t=3.40). With services, the coefficient of integrity is almost twice as large compared to in products, while the benevolence-coefficient is close to zero. Note that the variation in subsample size leads to variation in power and significance of coefficients between the two regressions. This may be part of the reason for the low significance of the coefficient on perceived quality in services.

To test the differences between business types formally, the dummy interaction regression (model 4) is used. The interaction variables show the incremental effect in services, while product firms serve as the baseline. Starting with the baseline of product firms, the coefficients of the main predictors are almost identical with those in model 2, as expected. They are also very similar to those in model 1, since product firms represent the majority, and the coefficients in model 1 thus can be seen as a weighted average, giving product firms larger weight. Now to whether service firms are different. The hypothesis H3 argued that each of the trustworthiness dimensions would have a more positive effect on preference in services, following the logic that people (and their trustworthiness) are more important in services than in products. The regression estimated a significant coefficient on the interaction with integrity of .26 (p-value less than .01). As this coefficient shows the incremental effect, this means that in services the impact of integrity on preference is almost twice as large as in products (b=0.31), which must be said to be practically significant as well. This gives support for H3b. The interaction with ability however is insignificant, both statistically and practically, meaning no support is found for H3a. The interaction with benevolence is also insignificant, and has a rather large negative coefficient, meaning no support for H3c either. Although not significant, the negative coefficient on the interaction with benevolence indicates a tendency that benevolence is less important in services (or more important in products), contrary to what I hypothesized. I suspect the low significance may be (at least partly) due to the relatively low number of observations with service firms.

6.4 Mediation analysis

After having tested the hypotheses, I wanted to see if it could be some indirect effects that were not revealed in the regression analyses. Following the retailer loyalty model presented by Grewal (2004), perceived quality seems to be a likely mediator of the effects of trustworthiness on loyalty. In order to see whether any of the trustworthiness-dimensions' effects could be mediated through perceived product/service quality; I used a structural equations model (SEM) in the statistical program AMOS. I also used bootstrapping in the same model in order to calculate precise confidence intervals for the estimates.

SEM enables researchers to study relationships where multiple constructs are related to each other in ways such that one dependent variable can also be an independent variable for a second dependent variable. SEM has several benefits. It incorporates techniques from factor analysis, where multiple items are used to measure a latent construct. This enables the software to estimate the measurement error for each item, with better construct validity as an outcome (Hair et al., 2010). SEM is able to estimate models that would require several regression models, with only one model. This means all relations are tested at the same time, controlling for each other.

Bootstrapping (from "lifting oneself after the bootstraps") is a resampling method in order to estimate the sample distribution. Because data often is not perfectly normal (clearly the case here), using confidence intervals based on the normal distribution will be inaccurate, and may lead to erroneous inference. Bootstrapping iteratively draws a number (typically 500 or 1000) of new samples from the sample, with replacement, and uses these to estimate the sample distribution. This is then used to estimate confidence intervals (Blunch, 2008). These will typically not be symmetrical, and significance will typically be less with bootstrapping than without. Bootstrapping is often used with mediation in order to ensure precise confidence intervals and significance levels, and it also helps with the problem of non-normal data. In my analysis, I used 1000 bootstrap samples.

Mediation analyses can be done by following four steps: 1) test that the independent variable has an effect on the dependent variable (that there is an effect that could be mediated, 2) test that the independent variable has an effect on the mediating variable, 3) test that the mediating variable has an effect on the dependent variable, and finally, 4) test whether the effect of the independent variable on the dependent variable is still significant, to see

whether the mediation is full or partial (Kenny, 2013). According to Kenny (2013), step two and three are the essential ones.

Mediation can be investigated by estimating several equations with multiple regression, or with SEM, which makes it quite a bit faster. With SEM I will be able to test step two, three and four simultaneously. The first step is already done as I have estimated multiple regression models with direct effects of the trustworthiness dimensions on loyalty. Those regressions showed that integrity and benevolence had effects on loyalty, while ability had not. The third step is also done, as the regressions showed that the suggested mediator, perceived product/service quality ("quality" or "the mediator"), also have an effect on loyalty. What I am interested in now is to see whether the trustworthiness dimensions have effects on the mediator, quality, and if so, whether this mediation is partial (leaving a significant direct effect on loyalty present) or full (leaving no significant direct effect).

The model used in AMOS can be seen in the figure below. Ellipses indicate latent variables or constructs, rectangles indicate observed variables or questionnaire items, and circles indicate error terms. Curved lines indicate correlation among independent variables, while straight lines indicate the suggested causal effects. As can be seen, the trustworthiness dimensions are allowed both to affect loyalty directly and through quality as a mediator. The items used to measure the constructs are the same as mentioned earlier.
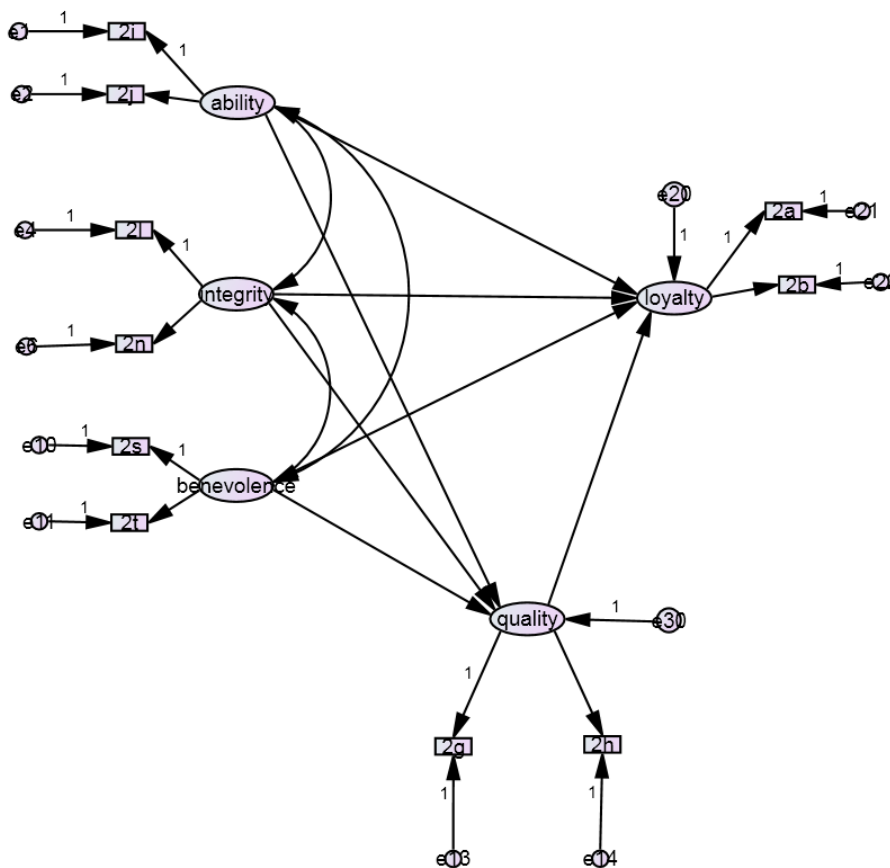
Figure 3: AMOS mediation model

Model fit indices: Chi-square: 76,598 with 25 degrees of freedom; Chi-square/DF: 3.064; CFI: .973; IFI Delta2: .973; RMSEA: .064. Acceptable fit.

The AMOS estimates can be seen in table 3 below, along with significances. The significances are approximations based on the two-sided (bias-corrected) confidence intervals from the bootstrap procedure – the interpretation is similar to that of p-values for OLS coefficients. Bootstrap-resampling was used with 1000 iterations. Note that this is a mediated model, unlike the OLS models. The estimates of the direct effects from this model will therefore not be comparable to the OLS estimates. The total effects, however, should be rather similar to the OLS estimates, which they also are. New in this model are the estimated effects of the trustworthiness dimensions on (perceived) quality, which is modelled as a mediator. The AMOS output from this model shows that both integrity and ability have effects on quality, while benevolence has not. The indirect (mediated) effect of a independent variable on the dependent variable can be calculated as the variable's effect on the mediator multiplied with the mediator's effect on the dependent variable. AMOS kindly

outputs estimates of these as well, along with bootstrapped confidence intervals and significances. The estimates shows that ability has an indirect effect on loyalty, mediated through quality, with a standardized effect of .150, significant at a 1% significance level. Integrity also has an indirect effect estimated to .104, which is not significant on a 1% significance level but on a 5% significance level. Benevolence does not have a significant indirect effect.

Table 4
Bootstrapped SEM estimates

	Direct Effects					Indirect Effects	
	Loyalty		Quality			Loyalty	
Integrity	.254*	(.027)	.318**	(.009)	Integrity	.104*	(.011)
Benevolence	.249**	(.008)	.073	(.355)	Benevolence	.024	(.299)
Ability	-.094	(.394)	.461**	(.001)	Ability	.150**	(.007)
Quality	.326*	(.011)	-	-			

	Total Effects			
	Loyalty		Quality	
Integrity	.358**	(.002)	.318**	(.009)
Benevolence	.273**	(.007)	.073	(.355)
Ability	.057	(.500)	.461**	(.001)
Quality	.326*	(.011)	-	-

Parentheses show Bias-Corrected Two Tailed Significance Levels (from bootstrap)
All estimates are standardized
* $p < 0.05$, ** $p < 0.01$

The mediation analysis shows that ability has an indirect effect on loyalty, mediated through perceived quality. Since there is no direct effect when the mediator is introduced, ability can be said to be fully mediated through quality. In this particular case, the (insignificant) direct effect of ability on loyalty is actually negative, making the total effect insignificant as well. (This is known as an inconsistent mediation, as the indirect and direct effects have opposite signs). This explains why the OLS estimation did not show any significant effect of ability on loyalty. Why the direct effect is negative, however, is not very easy to say based on the available information. Perhaps successful or able people have some negative associations in people's minds, based on the fact that many of the successful (as in rich) people in this context have come to that point by taking from others (e.g. many politicians).

Integrity is also estimated to have an indirect/mediated effected on loyalty through perceived quality. In addition to the indirect effect, integrity also has a direct effect, meaning integrity is only partially mediated through quality. The estimated effect sizes show that the direct effect is larger than the indirect effect, so integrity mainly affects loyalty in a direct way.

This mediation analysis contributes to the study of trustworthiness' effects on loyalty by showing that ability also is important, but only by building perceptions of quality. Integrity is not only important as it directly affects loyalty; it also indirectly affects loyalty by increasing quality perceptions. For benevolence the conclusion remains unchanged; benevolence has a direct effect on loyalty. It does not affect quality perceptions.

6.4.1 Retesting hypotheses with SEM

In addition to showing mediation, the SEM model can be used to show that the hypotheses H1bc H2(ab) and H3xx are confirmed via this estimation method in addition to the OLS regressions:

The H1 (b and c) hypothesis of significant effects is confirmed by looking at the estimated regression weights (coefficients), showing significant effects of integrity and benevolence on loyalty (total effects .358 (.002) and .273 (.007) respectively). Ability has an effect on loyalty only indirectly through perceived quality (indirect effect .150 (.007)), leading to partial support for H1a.

H2, that integrity and benevolence have more positive effects than ability on loyalty, can be investigated in the SEM model by estimating the original unconstrained model (no constraints among the regression weights), and comparing the model fit of this to that of a constrained model, where the regression weight of ability (A) is constrained to be equal with that of either integrity (I) or benevolence (B), or both. This results in four models (unconstrained, A=I, A=B, A=I=B). The nested model comparison in AMOS shows that the model fit is significantly worse for all of the three constrained models compared to the unconstrained model, with increases in Chi-square of 11.0 (p=.001), 8.9 (p=.003) and 13.1 (p=.001) respectively, compared to the unconstrained model. This shows that the effect of ability is not equal to the effect of integrity, nor that of benevolence, confirming both H2a and H2b. That the difference is in favor of a more positive effect of integrity and benevolence can be seen by the estimated coefficients.

H3, that the trustworthiness dimensions are more important in service firms than in product firms, can be tested with a multigroup analysis in AMOS, estimating one unconstrained model, one where integrity is constrained equal among the two groups/subsamples (firm types), one where benevolence is constrained equal among subsamples, and one where ability is constrained to be equal among subsamples. If any of the three constrained models have worse fit than the unconstrained, there is variance in the effect of that trustworthiness dimension between the subsamples. The model comparison show that constraining integrity to be equal clearly worsen model fit (increased chi-square 10.8, p=.001). Integrity is estimated to have a larger effect in services, meaning H3b is confirmed. Actually, the model constraining the effect of ability to be equal among the firm types also (barely) significantly worsen model fit, with increased chi-square of 3.9, p=.047. Ability is estimated with a larger negative effect in services than in products (direct effect), meaning the direct effect of ability on loyalty is significantly more negative in services than in products. The constraining of the effect of benevolence to be equal among firm types does not significantly worsen fit, meaning the effect of benevolence is invariant between product and service firms.

7. Discussion and implications

7.1 Introduction

This study aimed to develop insight about the importance of the different dimensions of trustworthiness in buyer-seller relationships in a subsistence setting such as Nairobi's slum areas. In the following, I will first summarize the findings from the analysis, then these will be discussed, and finally practical and theoretical implications are drawn.

7.2 Summary and discussion of findings

In this study the effect of the three trustworthiness-dimensions ability, integrity and benevolence on preference/loyalty was tested. Perceived quality was used as an alternative explanatory factor for preference. The relative importance among the trustworthiness dimensions was tested, as was the different importance of trustworthiness dimensions in product- versus service-firms.

From the analysis, several hypotheses are supported, while some are not. H1 hypothesized that each of the trustworthiness-dimensions would have individual, significantly positive effects on preference, also when perceived quality was controlled for. This hypothesis was supported for both integrity (H1b) and benevolence (H1c), but not for ability (H1a). Note that for service firms only H1b with the effect of integrity could be confirmed. The mediation analysis showed that the effect ability is fully mediated by perceived quality, and that ability has a significant indirect on loyalty through perceived quality. Based on this, H1a is partially supported, that ability has an effect on loyalty – but only indirectly.

Support for H1b and H1c means that in this subsistence context, integrity and benevolence are two important characteristics of business-persons in order for the firm to gain loyalty among its customers. Although these factors (integrity and benevolence) are not typically considered as the main drivers for retailer loyalty, it seems that in this subsistence context these factors are important. There are several explanations for this high importance of these factors in this context. One reason is that the context is characterized with high levels of crime and corruption. Retailers who are characterized with integrity and benevolence may therefore stand out from the crowd. To be able to trust others is not taken for granted, and the

sanctions and formal mechanisms of the society are not functioning well in these informal settlements. To be able to trust someone may therefore be a point of differentiation as well as a driver for choice and loyalty.

Knowing that integrity and benevolence are important, I wanted to test the relative importance of the trustworthiness dimensions.. The second hypothesis, H2, stated that a) integrity and b) benevolence would have (significantly) more positive effects on preference than ability. The differences in coefficients were tested with an F-test in STATA. The results supported H2a, but not H2b. This means that in this specific context integrity has a larger effect on preference than ability, and should be a key focus area in the training of subsistence entrepreneurs, in order for them to gain business/loyal customers. In training, ability is usually the key focus – to make business people good at what they do, in order to make the business run well. Of course this is important. However, in this context, ability does not seem to be what makes customers choose to be loyal to the business. Instead, the perceived quality (which might stem from ability), along with benevolence (for products) and integrity (for all firms) seems to be what is important in order to be chosen repeatedly.

There are some shortcomings in this analysis of H2. As indicated, there is a possibility that ability is important, but only through perceived quality. Only testing the direct effects with OLS might therefore understate the importance of ability. The mediation analysis confirmed this, and showed the indirect effect of ability. It is notable that the indirect effect of ability still seems to be considerably smaller than the effects of integrity and benevolence. Also, there is a possibility that ability is not measured well enough in order to capture the full concept. As mentioned in the factor analysis, it was one more item that was intended to be included in this concept – but it did not load on the intended factor. Including more items, and properly pre-testing these in the specific context could be important in order to increase the strength of the measurements.

To investigate whether there are some effects that are mediated through perceived quality – which could hide some of the importance of ability – a mediation analysis in AMOS was conducted. The result showed that ability was fully mediated by quality, and with a negative direct effect neutralizing the total effect. This in interesting information, both as it tells us that ability is important after all, but only by building quality perceptions; and by estimating the negative direct effect. My guess for the direct effect would be that some negative associations are held in the consumers' minds related to able/successful people (making

good money). My suspicion is related to the measures used in the questionnaire to measure ability: "they have big success with this business" and "they earn good money". Although ability is related to quality, it could also be associated with "they earn good money by fooling me" or similar. See the limitations part for further discussion on measurement and construct validity. Even when the indirect effect of ability is considered (and not the negative direct effect), the effect of quality seems to be less than the effects of integrity and benevolence separately.

The mediation analysis also gives a more nuanced picture of the effects of benevolence and integrity. Benevolence only has a direct effect, while integrity is partially mediated by quality. The estimated coefficients indicate that integrity is more important than benevolence (not tested formally), and the partial mediation show that integrity not only has a substantial direct effect on loyalty, it also increases quality perceptions and thus affects loyalty indirectly.

The third hypothesis, H3, proposed that trustworthiness-dimensions have a more positive effect on preference in service-oriented firms compared to in product-oriented firms. This was tested in a regression with interaction between the trustworthiness dimensions and a dummy-variable for business type. From the regression, support can be drawn in favor of H3b; that integrity has a more positive effect on loyalty in service-firms compared to in product-firms. This means that in order to be perceived as trustworthy and gain retailer customer loyalty, people in service-firms should focus on having integrity. Although this is important in product-firms as well, the results indicate that this is even more important in service-firms. The SEM analysis confirmed this.

A reason why integrity has stood out as the most important dimension may be that it allows prediction of future events, also under high uncertainty (Doney and Cannon, 1997). It can be considered a "hygiene factor" (Agustin and Singh, 2005) (drawing on (Herzberg, 1968)'s motivational theory), which is needed in order for a relationship to work, and has largely negative effects if not present (Lee et al., 2008). Also, I believe integrity and benevolence is shown to be especially important due to the specific subsistence context.

7.2.1 Other findings

The dummy regression estimated a (insignificant) negative coefficient on the interaction between service-firms and benevolence. This indicates that benevolence may be of higher importance in product businesses. Perhaps expectations are different, in the way that people expects benevolence from service providers, but not so much from product retailers, so that when a product retailer appears benevolent it is more suprising? This is related to what Sirdeshmukh et al (2002) shows; that the effects of trustworthiness and trust can be assymetrical.

Selnes and Gønhaug (2000) also suggests different (assymetrical) effects of benevolence versus reliability. They find that benevolence can lead to positive affect (feelings) - which is suggested further can lead to satisfaction and behavioral intention, such as loyalty – while negative perceptions of reliability on the other hand is suggested to lead to negative affect. Lack of benevolence and presence of reliability are not expected to have much impact, as this is expected by the customer. Both of these studies have references to Herzberg (Herzberg, 1968) and his motivation theory suggesting different effects of "motivators" versus "hygiene" factors.

These differences (assymetrical effects of trustworthiness dimensions, different effects in service/product-firms) may be interesting paths to investigate in further research.

7.3 Theoretical implications

This study is rare in the way that it is based on a quantitative questionnaire done with largely illiterate people in a subsistence setting. Although this has been done previously, it is still a source of data that is not often exploited – and especially not with quantitative methods. Investigations of the relative importance of trustworthiness dimensions on retailer loyalty in such a context are even rarer. To my knowledge, this is the first study investigating this.

The study shows that the character and trustworthiness of the people behind a business can be of significant importance for the customers' loyalty towards the retailer. Especially, in this subsistence context, the trustworthiness dimensions integrity and benevolence seem to be of high importance, as they have direct effects on loyalty.

The findings from this study confirm several aspects in previous research on subsistence consumers. The importance of trustworthiness confirms that people and relations are very important in subsistence contexts, not only products (and their quality), as is found in several studies (see Viswanathan et al, 2010). In their study of factors affecting buying decisions at the point of purchase, (Viswanathan et al., 2010) find that the "top concern was the fairness with which the seller weighed products, followed by the apparent quality of the product, and the total price." (p575, scale means omitted). Regarding post-purchase satisfaction the response showed "accurate weighing to be the most important", and "other key concerns included … a fair treatment by the shopkeeper." (ibid). They add in their discussion that "the main influencers of purchase satisfaction were relational factors pertaining to the manner of treatment by the seller…" (ibid). In my study, I have found integrity and benevolence to be of high importance. The integrity and benevolence of the salesperson is highly related to how the customer perceives to be treated. It may be that the respondents in my study thought about the fairness of the transactions when they were asked about the integrity of the business-people. My findings confirm the importance of fairness and character of/treatment by salesperson, and also give a more nuanced understanding about which specific factors are important – namely those of integrity and benevolence.

The findings from this study shows that in a subsistence context characterized with corruption and crime, integrity and benevolence are important factors for retailer loyalty, and should be incorporated in future models modeling subsistence customers' retailer loyalty.

7.4 Practical implications

The results from this study show that in order to succeed with business in a subsistence market, or in the bottom of the pyramid, it is not only traditional business training and high product/service-quality that are of importance. In this context, character in the form of trustworthiness, or more specifically integrity and benevolence, seem to be of high importance. A likely reason for why integrity and benevolence is so important in this context is the fact that these people suffer daily because of choices made based on egocentric self-interest, low morale and lack of integrity and benevolence. The importance of trustworthiness (integrity and benevolence) should be reflected in the training of business people, whether in business schools and universities, in training inside a company, or in training and education from NGOs. This is also something people running a business, and

managers in particular, should take note of – both in order to train themselves in order to build these dimensions of their character, and in order to train their staff similarly.

The implications from this study may not only be of interest for those already running businesses inside slums or in subsistence markets. (Prahalad, 2006) argues for the possibilities for companies to earn profits by serving the customers at the bottom of the pyramid (BOP, synonym for subsistence customers, or "the poorest of the poor"), and at the same time empowering them and helping them out of poverty as "they co-create value" (p114). He also points to the importance of trustworthiness in order for the BOP consumers to be willing to interact with the business, and gives examples where consumers have been sceptical due to previous experiences with demands for bribes and untransparent processes, for example with banking (p121-122). As Prahalad emphasizes, the subsistence/BOP customer segment is vast (especially seen on an aggregate/global level, but also locally), and if one succeeds in making a product or service that caters to this segment it can be very profitable. It could also benefit the subsistence customers in multiple ways. Prahalad has several histories of success in his book, where innovative companies have made good money and at the same time helped the poorest of the poor.

7.4.1 Building trustworthiness

Training ability is familiar, but is it possible to build integrity and benevolence? Many people see these characteristics as static attributes describing a person. I believe that these characteristics are possible to build by training. How this is done is somewhat outside the scope of this text, but I will give some hints.

A classic study by Swan et al (1985), "How industrial salespeople gain trust", finds that trust in the salesperson "increases as the customer gains the impression that the salesperson is dependable, honest, competent, customer oriented, and likable" (ibid, p. 203). The study was based on investigating what salespersons said that they actually did in order to build customers' trust. Swan et al emphasized that trust develops over time, as the salesperson repeatedly has contact with (calls) the customer. Dependability could be shown by telling the customer what you intend to do, and then do exactly that.

Grayson et al (2008) writes: «For example, companies can encourage trust by communicating well with customers (Anderson and Weitz 1989; Doney and Cannon 1997), satisfying them (Ganesan 1994), and fostering interdependent relationships with them (Kumar, Scheer, and Steenkamp 1995b).

For those who want concrete, ready-made material to work with, there are several sources that provide programs and material specifically designed to build trustworthiness into organizations, leaders and salespeople. Examples could be "The Trustworthy Leader" (TheTrustwortyLeader, 2013), based on research by Amy Lyman and Hal Adler and the Great Place to Work Institute (Pfeiffer, 2013), and "Trustworthy Selling" by Hoopis Performance Network and LIMRA International (Hoopis, 2013) (I do not guarantee the quality of either one of them).

Hawes et al. (1989) point out that trust and risk are largely concepts of perceptions. It is not so much the actual trustworthiness or risk that matters as it is the consumer's *perception* of the risk and trustworthiness. It does not help to be trustworthy if it is not perceived by the consumer. Does this mean that retailers can stick to window-dressing, and slick sales arguments? Probably not. Perceptions follow actions, and in order to be perceived as trustworthy, retailers needs to be proactive. As they conclude in their article:

> One final note--while salespeople engage in various behaviors to increase the buyer's **perception** of the seller's trustworthiness, we should never lose sight of the fact that salespeople should work to truly deserve the buyer's trust. Salespeople should, in fact, be trustworthy. While it is important to consciously work to convince the buyer that you can be trusted, in the long run nothing is likely to work better than doing what you say you will do, keeping all your promises, and always telling the truth. In the short run certain behaviors have been shown to speed this attribution of trustworthiness. But over the long term, nothing will earn the buyer's trust as effectively as **truly being a trustworthy individual.** *(Hawes et al., 1989)*

7.5 Conclusion

The findings from this thesis show that the trustworthiness dimensions ability, integrity and benevolence affects retail customer loyalty in the Nairobi subsistence context. Ability only affects loyalty indirectly through perceived quality, while integrity and benevolence have significant direct and independent effects on loyalty, also when perceived quality is controlled for. The effect size of integrity is comparable to that of perceived quality, while

the effect of benevolence seems to be slightly smaller. The effect of ability on loyalty through perceived quality is relatively small. The results show that integrity and benevolence are significantly more important than ability for retailer loyalty in this context, and comparable to that of perceived quality. The effects of the trustworthiness dimensions vary across firm types. In service firms, integrity has a significantly larger effect on loyalty compared to in product-oriented firms. Benevolence seems to have the same effect (size) in service- and product-oriented firms.

For future research, this thesis shows that subsistence consumers consider trustworthiness - especially integrity (all firms) and benevolence (product firms) - when choosing retailer. This should therefore be included in future models of subsistence customer's retailer loyalty. The findings from this study are useful for managers, salespeople and entrepreneurs in subsistence contexts in order to know what to focus on in their training and selling. Institutions interested in helping the local entrepreneurs to succeed, be it traditional educational institutions or NGOs, should incorporate training of integrity and benevolence into their training programs. Also for larger companies there is a potential in knowing the special needs and characteristics of subsistence customers (cf Prahalad 2005/2006).

8. Limitations, Validity and Future research:

This study has several limitations. As a master thesis, the time and resources available has been limited. From the time I started reading about these topics until this thesis was delivered, it has been six months. Several of the topics in this thesis are topics I previously had not studied. More time would have enabled a more thorough study, both of the available theory on these subjects and in the analysis. The fact that the data used in this study was designed for a different study and already collected has also given certain limitations. In this part I will consider the validity of the inferences in this study and discuss important limitations, before I give suggestions for future research.

Validity can be divided into many different dimensions. I will mainly look at statistical conclusion validity, internal validity, construct validity and external validity, as suggested by Trochim (2006) among others. Other nuances of validity may be discussed along the way.

A good illustration of the four validities:
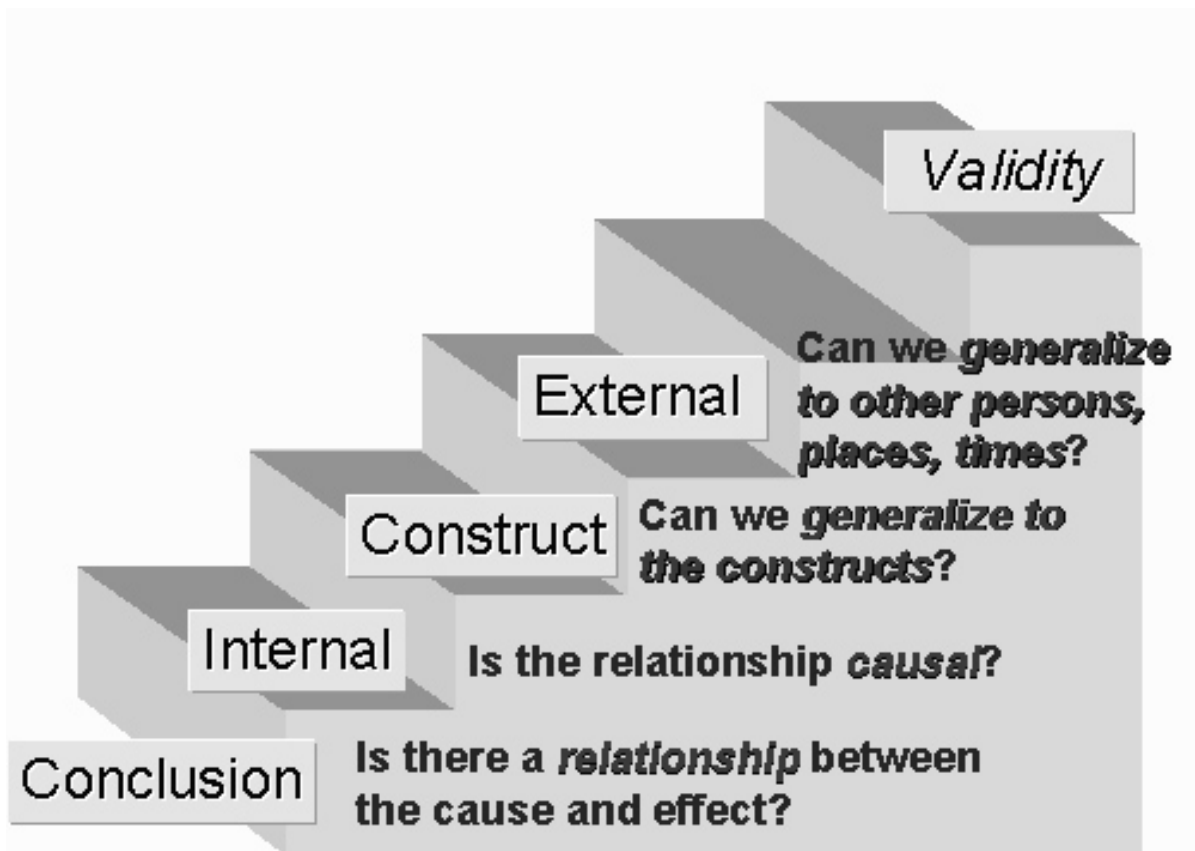
Figure 4: Steps of Validity, adapted from Trochim, 2006

8.1 Statistical conclusion validity

Statistical conclusion validity refers to whether the conclusions drawn from the statistical analysis can be said to be valid. This includes discussing whether the methods used are appropriate, and thus whether it can be said that there are relationships between the variables as suggested.

In this thesis, the main analysis is conducted with ordinary least squares (OLS) multiple regression. This specific method of analysis has its own assumptions and limitations, and several of these are mentioned and tested in the analysis part (see assumption testing). Several characteristics of the data material challenge some of the assumptions. I discussed the normality of the variables in the analysis part. Formally, the OLS assumptions require normally distributed residual errors, not normally distributed variables, but the two are related. Transformations of the variables were considered, but not used due to lack of practical impact. The residuals showed signs of deviance from normality, but I argue that this problem is reduced given relatively large sample size. Also, the Gauss-Markov-theorem (Stock and Watson, 2012) state that OLS is best linear unbiased estimator (BLUE), even without this assumption. The more critical assumption is that of homoscedasticity, constant variance in errors. This is also violated – and corrected for by using heteroscedastic consistent/robust standard errors.

After using OLS, I expand on and confirm the first analyses using structural equations modeling (SEM). This is generally considered a better technique compared to multiple regression, with several benefits. Some of the main benefits are the correction for measurement error, the opportunity it gives to estimate complex models with mediation, and the possibility that a dependent variable can be an independent variable in another relationship. It gives an ability to test multiple relationships simultaneously, something which is not possible with OLS.

Although there are several benefits of SEM, there are also some limitations and assumptions related to it. SEM requires moderate to large sample sizes – which I consider met by the full sample and the products sub-sample, but not the services sub-sample. The SEM estimations for differences between firm types may therefore be inaccurate. This is reflected in inacceptable model fit when looking at the service subsample separately. In order to take full benefit of SEM using latent constructs, each construct should be measured with several

items. Hair et al (2010) recommends at least three items per construct. In my model, I only have two items per construct. This reduces the ability to correct for measurement error in the model. SEM also assumes multivariate normality, which is not the case (I believe) in this dataset. To correct for this, I used bootstrapping in order to obtain precise confidence intervals and correct for non-normality.

The fact that the SEM estimations confirm the findings from the OLS estimations (that two methods are used and give similar results) adds to the reliability of the analysis as a whole.

8.1.1 Alternative techniques

Logistic (logit) regression (binary or ordinal) could be beneficial, as it estimates a non-linear relationship (similar to a flat S-shape), where the dependent variable is limited (e.g. 0 or 1, or categorical). A problem with the continuous linear OLS regression is that it may predict values outside of the range of the scale of the dependent variable. Especially this may be problematic when the data is skewed and shows "floor or ceiling effects", with many observations on one end of the scale, as is the case in this study (Hedeker, 2008). In general, the shape of the logit function makes it adequate to estimate choice functions. Logistic regression also has far less assumptions than OLS, making it more robust in cases of non-normality and heteroscedasticity (Hair, 2010). Challenges with using logistic regression are that one either has to recode the dependent variable (loyalty) into a binary/dichotomous variable (0 or 1), which leads to efficiency loss (Armstrong and Sloan, 1989 in Hedeker 2008), or that one has to use ordinal regression, which is rather un-intuitive to interpret (especially with many categories/points on the scale).

Random effects or fixed effects models, usually used on surveys conducted over several time periods (panel data), could be used instead of pooled OLS regression, if several respondents were asked about each business in focus. The respondents giving response related to the same business could then be seen as a cluster. By using a fixed effects model (within-group transformation), it would be possible to strengthen the analysis (lessen bias) by eliminating the effects of unobserved factors which are common to all the customers of one business and correlated with the observed explanatory variables (Wooldridge, 2009).

8.1.2 Possible biases

When asking several questions about the same object (focal firm and business persons), there is always a danger of respondents wanting to be consistent in their answers, leading to higher correlations than what should be the case if they answered completely honest. This might stem from an internal need to be self-consistent. The respondents may also want to "please" the interviewer by answering in a positive manner, leading to less variation in the responses (Trochim, 2006). The fact that all the questions are asked in the same questionnaire, directly following each other may also lead to biases. In addition to wanting to be consistent, respondents may be primed by the first questions and keep these in mind when answering the following. The order of the questions are therefore important (Trochim, 2006). In this study, it might be the case that correlations are inflated because of respondents wanting to be consistent. Trying to measure the same constructs using different questionnaires may be one way of improving on this.

8.1.3 Type I and Type II errors

This thesis has used a significance-level, or alpha, of .05. This means that the probability of stating that there is a relationship when it actually is not is 5 per cent. From this we could say that in five out of one hundred tests, or one out of twenty tests (on average), we will state an significant effect that is not true (Trochim, 2006). Using a larger alpha increases the number of times one would be able to state significant effects (increases power), but also increases the risk of stating false claims. As more tests are run, the chances of finding spurious significant results increase. The 5% significance level is generally considered a good compromise between type I (stating false effects) and type II (ignoring true effects) errors (Stock and Watson, 2012). There is always a temptation for researchers to "fish" after significant effects, leading to possible spurious results. One remedy for this is to have good theoretical foundation for the hypotheses, which I believe to have for the hypotheses in this study.

8.2 Internal validity

Internal validity refers to whether the relationships found can be said to be causal relationships – that is, whether the observed effects or changes in the dependent variable actually are caused by the independent variables.

Since this is study based on a cross-sectional questionnaire, not a longitudinal study, nor an experimental design, it is not formally possible to prove that the effects studied actually are causal. In order to state causation, there are four elements that should be in place: sufficient covariance, temporal sequence (effect follows cause in time), no other reasonable explanatory variables (no spurious relations), and theoretical support (Hair et al, 2010). This study does not have the time-dimension. Also, there is always a possibility that at least parts of the effects found in this study are really explained by some other variable not included in this study. Although there is some lack of formal evidence for causality due to lack of time-dimension and total control of alternative explanations, I will argue that the theoretical fundament is quite strong in favor of the suggested causal effects, and thus I believe the causality of the effects found to be quite plausible.

The analysis could have benefitted from more (alternative) explanatory variables in order to estimate the effects of interest as accurately as possible. There are of course many other factors that affect retailer preference in addition to what is included in this study – which is also reflected in the not very high R2 of the regressions. Although this is the case, the product/service quality-measure is quite broad, and is likely to capture a considerable amount of the alternative explanations for retailer preference. (The fact that the effects of the trustworthiness-dimensions are so strong (especially of integrity) adds to the evidence that the effects found in this study are not just spurious effects.)

Other variables that should be considered included in order to build a more complete picture of the antecedents for loyalty are the other parts of the marketing mix; place, promotion, price. In subsistence contexts, the importance of some of these factors are probably quite different from non-subsistence contexts. Especially, I believe promotion to be of lesser importance in this specific context. As shown by (Viswanathan et al., 2010), subsistence consumers rely heavily on social sources of information rather than un-social sources such as mass media. Word of mouth (not initiated by the firm) is probably more important, and falls outside of the traditional promotion factor. The other two P's, price and place, however, are probably quite important and should be included in order to give a good picture of important antecedents for loyalty. Price is generally a very important factor for subsistence customers with scarce financial resources (Viswanathan et al., 2010), and I would guess that place in the form of location and distance also is an important factor.

Omitted variables do not always pose a threat to the conducted analyses. The problem with omitted variables is the possibility for omitted variable bias (among other problems; Simultaneity..?). This, however, is only a problem when the omitted variable is correlated both with the dependent variable (retailer loyalty) and with the included independent variables (trustworthiness dimensions and/or quality). If this is not the case, then the omitted variables will not bias the coefficient estimates of the included variables (Stock and Watson, 2012). I believe several of the omitted variables (e.g. price) are likely to be correlated both with perceived quality and retailer loyalty, leading to bias of the coefficient on perceived quality (probably too large). This is not a problem, however, as this is not the variable in focus – actually it may benefit the model in the way that the quality construct covers more than it should. I have a harder time imagining that the mentioned omitted variables are correlated with the trustworthiness dimensions such as integrity and benevolence, and therefore I do not think the main effects' coefficients are suffering from omitted variable bias (inflation).

8.3 Construct validity

Construct validity refers to whether it is possible to (legitimately) generalize from the measures used in the study to the theoretical constructs the measures are supposed to measure (Trochim, 2006). This means that construct validity is highly related to the issues of measurement, and this part therefore relates to chapters 4.4 Questionnaire and Measures and 5.2 Factor Analysis, where some of these topics were discussed.

Note that this study does not measure trust as an individual measure. It could be argued that the model should have trust as a mediating variable between trustworthiness and the outcomes of trust (loyalty), as argued in the KMV-model by Morgan and Hunt (1994). There are several arguments both for and against the inclusion of trust as a separate variable. I will argue that loyalty can be seen as an operationalization/manifestation of trust. When a consumer says that he prefers this one shop, he (implicitly) states a willingness to give his money to the salesman, and that he expects to get a good quality product or service in return, risking this not being the case, or the transaction otherwise not living up to the expectations (not delivered on time, not delivered at all, loses his money etc). He states that he expects a good outcome, or at least intention, from the other, and acknowledges that he does not have full control over the transaction. He also states that he is more willing to use his money in a

transaction with this specific shop, compared to the other. A different argument for not including trust separately is for reasons of simplification and parsimony, both for the model and the interpretation of effects between variables, and also to make it as easy as possible for the respondents to respond to the questionnaire.

8.3.1 Face and content validity

Face and content validity are subjective considerations about whether the measures are likely to represent the theoretical constructs (Hair et al, 2010, Trochim, 2006). Chapter 4.4 discussed the items used in this study related to previous studies using similar items for similar measures. This discussion showed that the constructs seemed to have good face validity. The fact that only two items are used per construct, however, reduces the content validity, as two items are less likely to cover the whole breadth of the constructs. Most of the measures cover central parts of the constructs, and are very similar to what has been used in previous studies. Based on this I consider most of the construct measures to have decent face and content validity. The measures for ability does clearly not cover the whole content of the construct ability, especially since one item from the questionnaire had to be left out, and this is an important limitation. This may have affected the relative effects among the trustworthiness dimensions.

8.3.2 Convergent- and divergent validity and reliability

The exploratory factor analysis (see appendix, five factor EFA) showed that the items used in the study had high loadings on the factors they represented (over .7 or .8), indicating convergent validity, and low or insignificant loadings on the other factors (below .4 or .3), indicating divergent validity. All communalities in this factor analysis were above .7, indicating that the constructs explain most of the variance in the items. A similar investigation could be done with the confirmatory factor analysis (see appendix, confirmatory factor analysis). Most of the standardized regression weights (loadings) in the measurement model were above .7, with two exceptions (items 2j in ability and 2n in integrity). The squared multiple correlations (communalities) were above .6, with three exceptions, including the mentioned two items.

Reliability, measured by Chronbach's alpha, were above the recommended value of .7 for all constructs, except for ability (.693) and integrity (.646). Alphas were calculated for alternative generated variables as well, resulting in lower alpha for a three-item ability

measure, and higher alpha for a three item integrity measure. Using SEM should correct for some of the measurement error (lack of reliability), leading to better inferences.

A measurement model including one more item on ability and integrity was tested out (see appendix, CFA). Compared to the model used, this increased loadings of the integrity items, but worsened loadings of ability items, and generally gave worse model fit. Other alternative measurement models were tested and also gave worse fit than the model used. Model fit was used as the overarching criteria in choice of measurement model.

In sum, most of the constructs seem to meet the criteria for construct validity, but there are some challenges. Especially the ability-construct does not show as good construct validity as would be preferred. In order to be fully acceptable, better divergent validity (from perceived quality), better convergent validity (higher loadings in CFA), and better content validity in the form of more items would be wanted. Successfully including more items could possibly resolve the other issues as well. As mentioned, it was an additional item intended to be used for ability, but it did not load properly. In order to get a proper scale with several usable items, more scale validation in the specific context needs to be done.

The scales/measures should be developed further (specifically for this kind of context) to measure the constructs clearer and better. The measures used in this study are quite clear, but would probably have benefitted from more usable items for each construct. Examples of constructs where this would be beneficial are the ability construct, where more items regarding e.g. competence could be useful. The loyalty measure could be refined in order to give more information about the level of loyalty the customers actually have towards the retailer. Regarding the ability-construct, the questionnaire included a question about whether the business people were clever, which would be useful to include in such a measure. Unfortunately, this item did not factor together with the other ability-measures. In order to ensure that this does not happen again, the questionnaire should be pre-tested properly, with a similar sample to the one of interest, before conducting the questionnaire on the full sample.

8.4 External validity

External validity refers to whether the results found can be generalized, e.g. to other people, places, times and settings (Trochim, 2006). Important aspects of external validity are related

to sampling – whether the population sampled is similar to the population one would like to generalize to, and whether the sample drawn from the population in a good way reflects the population sampled.

The sample in this study obviously is quite special, and generalization of the results found must therefore be done with caution. There are several characteristics of this study and its sample that should be taken note of. The study is conducted in informal settlements (slums) in Nairobi, Kenya. In addition to poverty (as with other subsistence settings), corruption and crime are important characteristics of this context. In other settings that do not share these characteristics, I would expect the effects to be somewhat different. Further, the respondents for this study are all entrepreneurs receiving or having received microcredit loans - no casual workers or ordinary employees etc. The reason for sampling only customers who are also entrepreneurs having received microcredit is that the data used in this study originally was planned to be used for a somewhat different kind of study. The planned study did not go as planned due to a failure to collect all the data as intended. This does however not affect my study, other than the somewhat special sample.

Although this study is conducted in a context with some very special characteristics, and the strength of some of the effects found quite probably are because of this, I believe several of the findings in this study is transferable also to developed countries and mature markets. Especially I believe this will be the case in transactions (or buyer-seller interactions) where the customer perceives a rather high degree of risk. This may for example be because of the magnitude of the value of the transaction, because of information asymmetry, or because it is a part of the market the customer is not very familiar with. There are many occasions where these transaction characteristics would fit also in a mature market. Although the reasons for the importance of trustworthiness may be quite different in other contexts, this shows that trustworthiness may be important across several contexts. Examples of very different contexts that acknowledge the importance of trustworthiness could be such as online retailing, financial services etc. These settings share the risk of being exposed to un-trustworthy actors, and offer many possibilities for fraud and deception (Büttner and Göritz, 2008).

8.5 Future research

In general, the limitations of this study can be seen as opportunities for future research. For example, the development of clearer and broader measurements for the constructs, developed especially for a subsistence context, is one clear opportunity for future research. The inclusion of more marketing mix concepts, such as price or value, is another one.

It would be interesting to see if the effects found in this study could be replicated in a different subsistence setting, to learn more about how characteristics of the context affect the importance of trustworthiness and its dimensions. Perhaps would a different sample of subsistence customers, not living in an area characterized by crime and corruption in the same way as Nairobi, lead to somewhat different effects. It could also be useful with a replication from a sample of others than those being entrepreneurs having received microcredit. That being said, I have no particular reason to believe the people having received microcredit are very different from their neighbors not having received this, with respect to the effects of trustworthiness on customer retailer loyalty.

Several researchers have shown that curvilinear (Agustin and Singh, 2005) and assymetrical (Sirdeshmukh et al., 2002) effects are present in the effects of trustworthiness. This gives an interesting direction for future research to pursue in order to gain more detailed information about how these mechanisms work.

A concept that could be included is the distinguishing between trust and distrust. Studies have shown that distrust is not just the opposite of trust, but should be seen as a distinct construct from trust (e.g. Lewicki et al 1998). Singh and Sirdeshmukh 2000 suggest that distrust may be more important than trust in consumer decision processes, as negative information is weighted more than positive information. Sitkin and Roth 1993 argue that value incongruence engenders distrust, while trust is violated when task reliability expectations are not met. Value incongruence, or lack of integrity, is highly relevant for the Nairobi context, making it even more likely that distrust could be a relevant construct for a trust-study in this context.

Antecedents for the trustworthiness dimensions, and especially how (perceived) integrity and benevolence is built in a subsistence context, would be an interesting area for future research. Investigating what those subsistence entrepreneurs do, who actually are successful with loyal customers and a trustworthy image, should be a promising path. As Viswanathan

and Rosa (2010) points out, "…these are sophisticated markets, comprised of individual consumers and their families, entrepreneurs, communities, and markets *from which we can learn much.*" (p. 535).

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10. Appendices

10.1 Questionnaire

1		**Focal business**	
	a	Name of business	_____
	b	Main product/service sold	_____
	c	Location of business	_____
2		**Reputation of focal business**	
	a	When I need the product/service they sell I usually go to this store	_____
	b	For this kind of product, I prefer this store	_____
	c	I like this store a lot	_____
	d	This is a very good store	_____
	e	I have good feelings for this store	_____
	f	I admire the people behind this store	_____
	g	The services/products they offer are high quality	_____
	h	I can trust the quality of their products/services	_____
	i	They have big success with this business	_____
	j	They earn good money	_____
	k	The people behind this business are clever	_____
	l	The people behind this business are dependable	_____
	m	The people behind this business are good people	_____
	n	The people behind this business are honest	_____
	o	The people behind this business work hard	_____
	p	The people behind this business have the same values as I do	_____
	q	The people behind this business care for their customers	_____
	r	The people behind this business show respect for their customers	_____
	s	The people behind this business help people with their problems	_____
	t	The people behind this business care for people in this area	_____
	u	I feel that I know the people behind this business personally	_____
	v	They are like friends to me	_____

Questions about demographics and over-claiming is not shown here.

10.2 Exploratory factor analysis.

Factor loadings from analysis including all items in questionnaire part two, except 2u and 2v. Number of factors decided by eigenvalue/latent root criteria. Loadings over .3 bold, over .5 larger font size.

Rotated Component Matrix[a]

Factor / Item	1	2	3	4	Used in construct
2a	.206	**.798**	.061	.225	Preference
2b	.229	**.809**	.044	.239	Preference
2c	.185	**.750**	.297	.077	
2d	.170	**.673**	**.476**	.038	
2e	.296	**.536**	**.423**	.135	
2f	**.380**	**.402**	**.543**	.057	
2g	.268	**.424**	**.548**	.018	Perceived quality
2h	.193	**.327**	**.594**	.037	Perceived quality
2i	.125	.107	**.784**	.101	Ability
2j	.040	.025	**.682**	.255	Ability
2k	**.458**	.085	**.423**	.262	
2l	**.696**	.096	.252	.192	Integrity
2m	**.820**	.211	.125	.035	
2n	**.792**	.156	.142	-.035	Integrity
2o	**.600**	.168	.204	.042	
2p	.184	.141	**.536**	**.314**	
2q	**.504**	.277	.083	**.386**	
2r	**.632**	.278	.028	**.312**	
2s	.110	.196	.198	**.788**	Benevolence
2t	.155	.148	.249	**.824**	Benevolence

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Factor loadings from 5-factor solution (a priori criteria)

Factor Item	**Rotated Component Matrix**[a]					
	1	2	3	4	5	Used in construct
2a	**.890**	.188	.171	.058	.191	Preference
2b	**.899**	.161	.166	.122	.131	Preference
2g	.242	**.792**	.106	.186	.185	Perceived quality
2h	.119	**.871**	.139	.157	.090	Perceived quality
2i	.073	**.380**	.105	**.752**	.135	Ability
2j	.102	.057	.194	**.884**	.072	Ability
2l	.071	.279	.243	.026	**.795**	Integrity
2n	.239	.023	.003	.165	**.851**	Integrity
2s	.188	.106	**.859**	.106	.120	Benevolence
2t	.127	.133	**.864**	.190	.090	Benevolence

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

10.3 Confirmatory Factor Analysis

Model used in the study

Standardized Regression Weights			Estimate
2j	<---	abil	,642
2i	<---	abil	,827
2n	<---	inte	,595
2l	<---	inte	,832
2t	<---	bene	,830
2s	<---	bene	,775
2h	<---	qual	,771
2g	<---	qual	,816

Unstandardized Regression Weights	Estimate	S.E.	C.R.	P
2j <---abil	,868	,087	9,923	***
2i <---abil	1,000			
2n<---inte	,546	,071	7,712	***
2l <---inte	1,000			
2t <---bene	1,000			
2s<---bene	,988	,091	10,854	***
2h<---qual	,904	,070	13,007	***
2g<---qual	1,000			

Squared Multiple Correlations	Estimate
2g	,653
2h	,578
2s	,601
2t	,685
2l	,714
2n	,350
2i	,670
2j	,419

Alternative model with more items, and worse model fit

Standardized Regression Weights			Estimate
2j	<---	abil	,598
2i	<---	abil	,682
2k	<---	abil	,597
2l	<---	inte	,689
2n	<---	inte	,748
2m	<---	inte	,861
2t	<---	bene	,865
2s	<---	bene	,744
2h	<---	qual	,766
2g	<---	qual	,821

Unstandardized Regression Weights			Estimate	S.E.	C.R.	P
2j	<---	abil	,979	,092	10,669	***
2i	<---	abil	1,000			
2k	<---	abil	,801	,075	10,660	***
2l	<---	inte	1,000			
2n	<---	inte	,829	,057	14,419	***
2m	<---	inte	,947	,063	15,001	***
2t	<---	bene	1,000			
2s	<---	bene	,910	,082	11,157	***
2h	<---	qual	,892	,068	13,068	***
2g	<---	qual	1,000			

Squared Multiple Correlations	Estimate
2k	,373
2m	,740
2g	,659
2h	,573
2s	,553
2t	,745
2l	,495
2n	,559
2i	,459
2j	,352

10.4 F-tests for hypothesis H2

To test H2, whether integrity and benevolence could be said to have a stronger effect on loyalty than ability, a post-estimation F-test was used in STATA. The STATA-output follows below:

```
. test inte=abil

 ( 1)  - abil + inte = 0

       F(  1,    499) =     7.74
             Prob > F =    0.0056

. test bene=abil

 ( 1)  - abil + bene = 0

       F(  1,    499) =     2.67
             Prob > F =    0.1026
```

10.5 Tests for heteroscedasticity

```
. reg uhatsq qual abil inte bene  //Breusch-Pagan-test: X-variables against residuals^2

      Source |       SS       df       MS              Number of obs =     511
-------------+------------------------------           F(  4,    506) =   13.32
       Model |  198.05839     4  49.5145974           Prob > F      =  0.0000
    Residual |  1881.59568   506  3.71856854           R-squared     =  0.0952
-------------+------------------------------           Adj R-squared =  0.0881
       Total |  2079.65407   510  4.07775308           Root MSE      =  1.9284

------------------------------------------------------------------------------
      uhatsq |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        qual |  -.1607259   .1433151    -1.12   0.263    -.4422918    .1208401
        abil |   -.086973   .1043483    -0.83   0.405    -.2919824    .1180363
        inte |  -.1465277   .1368099    -1.07   0.285    -.4153131    .1222578
        bene |  -.4761845   .0940492    -5.06   0.000    -.6609595   -.2914094
       _cons |   4.548255   .6923206     6.57   0.000     3.188079    5.908432
------------------------------------------------------------------------------

. //Significant coefficients for bene -> heteroscedaticity
.


. reg uhatsq yhat yhatsq          //White's test: predicted values against residuals

      Source |       SS       df       MS              Number of obs =     511
-------------+------------------------------           F(  2,    508) =   22.30
       Model |  167.838174     2  83.9190871           Prob > F      =  0.0000
    Residual |   1911.8159   508  3.76341712           R-squared     =  0.0807
-------------+------------------------------           Adj R-squared =  0.0771
       Total |  2079.65407   510  4.07775308           Root MSE      =    1.94

------------------------------------------------------------------------------
      uhatsq |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        yhat |   .7336669   1.334544     0.55   0.583    -1.888238    3.355572
      yhatsq |  -.2191801   .1657219    -1.32   0.187    -.5447648    .1064046
       _cons |   1.980554   2.652788     0.75   0.456    -3.231231    7.192339
------------------------------------------------------------------------------

. test (yhat=0) (yhatsq=0)        //White's test

 ( 1)  yhat = 0
 ( 2)  yhatsq = 0

       F(  2,    508) =   22.30
             Prob > F =    0.0000

. //One or more coefficient different from 0 -> heteroscedaticity
```

10.6 Regression estimates without robust option

	TABLE X							
	Results of OLS Regression Analyses on Retailer Preference							
	All firms pooled				**Firm types separated**			
Variables	**Model 1**		**Model 4**		**Model 2**		**Model 3**	
Main predictors								
Ability	0.04	(0.76)	0.04	(0.84)	0.04	(0.68)	-0.05	(-0.45)
Integrity	0.35***	(5.52)	0.31***	(4.78)	0.31***	(4.31)	0.64***	(4.32)
Benevolence	0.20***	(4.57)	0.24***	(4.99)	0.23***	(4.83)	0.03	(0.31)
Perceived quality	0.36***	(5.47)	0.35***	(5.43)	0.36***	(4.94)	0.33*	(2.00)
Interaction with business type								
Service * Ability			-0.09	(-0.76)				
Service * Integrity			0.26*	(2.26)				
Service * Benevolence			-0.19	(-1.67)				
Control variables								
Higher education	-0.07	(-0.82)	-0.10	(-1.20)	-0.04	(-0.35)	-0.27	(-1.50)
Business training	0.02	(0.25)	0.05	(0.57)	0.08	(0.78)	-0.00	(-0.02)
Over-claiming	0.03	(0.65)	0.02	(0.46)	0.04	(0.68)	-0.01	(-0.09)
Age	0.00	(0.07)	0.00	(0.04)	-0.00	(-0.63)	0.00	(0.59)
Sex	0.03	(0.35)	0.01	(0.08)	0.06	(0.63)	-0.18	(-1.08)
Constant	0.21	(0.58)	0.22	(0.60)	0.27	(0.68)	0.17	(0.19)
R^2	0.285		0.298		0.311		0.266	
Observations	509		507		391		116	

t statistics in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

10.7 OLS assumption tests (plots)

Plots of residuals from regression model 1:

Residuals versus fitted values:
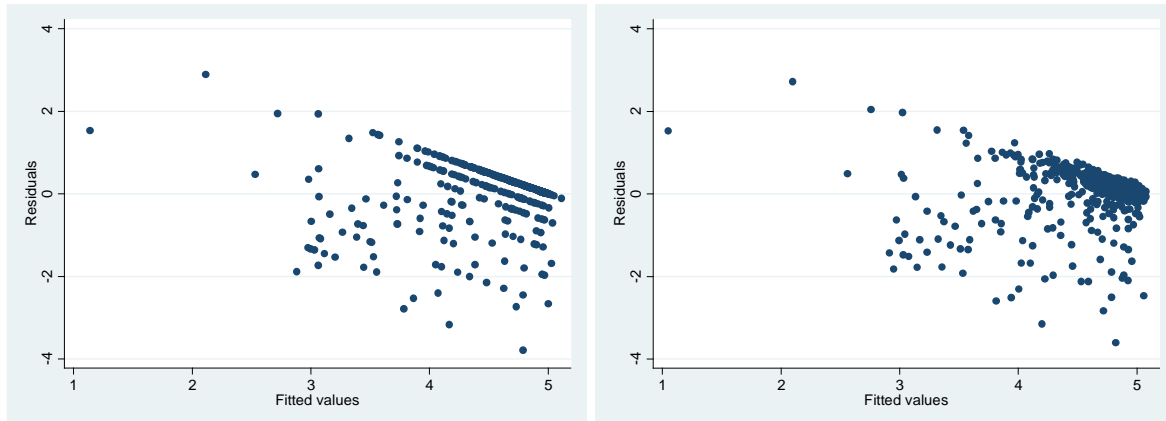
The graph to the right is applied 5% jitter to show how many points are hidden behind each point in the graph. The graph clearly shows a trend in the error terms, and the distribution is quite similar to the plot of loyalty versus for example integrity, only "tilted". This of course makes sense, since the regression fits a linear, sloping regression line to the data which is limited by the scale. To see whether heteroscedasticity is present, formal tests are conducted (see above).

Normal probability plot for residuals:
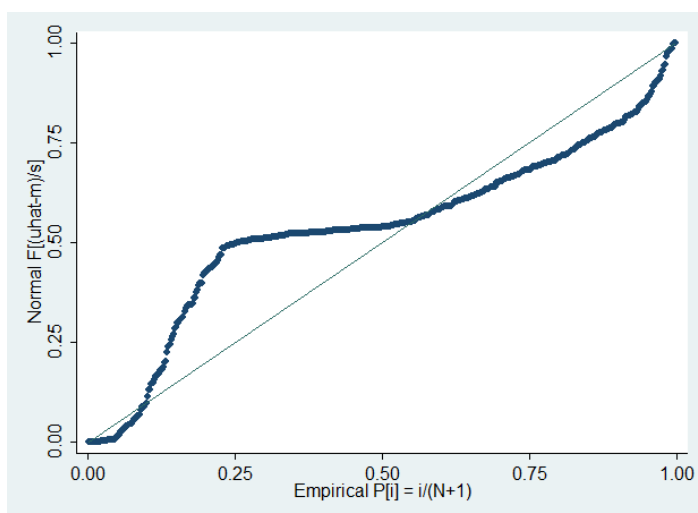
Perfectly normal data/residuals would lie on the diagonal. The plot indicates non-normal distribution of the residuals.

10.8 Mediated SEM model separately for firm types

Table
Bootstrapped SEM estimates – Firm types separated

Service Firms	Direct Effects				Indirect Effects		Total Effects	
	Loyalty		Quality		Loyalty		Loyalty	
Integrity	.845[*]	(.012)	-.183	(.148)	-.084	(.050)	.762[**]	(.007)
Benevolence	.305	(.056)	.103	(.591)	.047	(.325)	.352[*]	(.023)
Ability	-.723[**]	(.006)	.503[**]	(.009)	.230[***]	(.003)	-.493[*]	(.022)
Quality	.457[***]	(.000)	-	-				

Product Firms	Direct Effects				Indirect Effects		Total Effects	
	Loyalty		Quality		Loyalty		Loyalty	
Integrity	.162	(.222)	.379[**]	(.002)	.134[*]	(.011)	.296[**]	(.014)
Benevolence	.298[**]	(.005)	.071	(.522)	.025	(.369)	.323[***]	(.002)
Ability	-.061	(.654)	.470[**]	(.001)	.167[**]	(.006)	.106	(.271)
Quality	.354[*]	(.014)	-	-				

Parentheses show Bias-Corrected Two Tailed Significance Levels (from bootstrap)
All estimates are standardized
[*] $p < 0.05$, [**] $p < 0.01$, [***] $p < 0.005$

Fit indices: Services: Chi-square=59 (25 df), Chi/df=2.4, CFI=.893, IFI Delta2=.899, RMSEA=.110.   n=116
            Products: Chi-square=64 (25 df), Chi/df=2.5, CFI=.975, IFI Delta2=.976, RMSEA=.063.   n=391
Services estimation used Bootfactor=4 in order to enable AMOS to estimate standardized effects, this may
affect significances. (alternatively, unstandardized estimates could be used)