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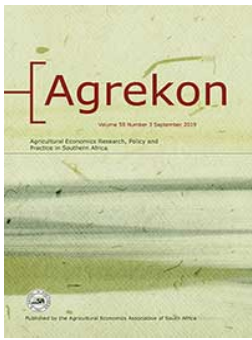
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Examining the farmer-buyer relationships in vegetable marketing channels in Eswatini

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ABSTRACT

Vegetable farming is the main source of livelihood for smallholder farmers in Eswatini. However, the production and marketing challenges they faced inhibits the farmers from benefiting fully, which calls for relational transactions to enhance exchange efficiency. Therefore, this study aims to determine the nature of relationship constructs between vegetable farmers selling to formal and informal channels. Data elicited from 170 farmers were analysed using factor analysis, multiple regression analysis and discriminant analysis. Results revealed that farmers derived satisfaction from the price offered and communication, while trust was derived from satisfaction, communication and duration of the relationship, and commitment was derived from trust in both channels. The discriminant analysis results revealed that there is statistical significant difference between the channels. Farmers supplying formal markets perceived levels of satisfaction, trust, and commitment better than those supplying informal markets. The results also indicated that satisfaction and trust were the best predictors of the nature of the relationships. The lack of written contracts and low produce quantity purchased by the formal markets contributes to the low-level establishment of the farmer-buyer relationships. Therefore, coordinated supply chains and supplier-development approaches are necessary to complement the logistical requirements associated with fresh produce and to create mutual benefits.

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KEYWORDS

Farmer-buyer relationships; formal markets; informal markets; vegetable marketing

1. Introduction

The seller-buyer relationships concept is increasingly being recognised as a means of improving marketing systems through effective communication, risk and uncertainty reduction, and enhancing exchange efficiency and stability (Dwyer, Schurr, and Oh 1987; Batt 2004; Naidu 2012). The concept is associated with partners working together for mutual benefits in a long-term programme (Shahab 2014). Li and Nicholls (2000) suggest that mutual relational exchanges are based on mutual interest, interdependence, intense interaction and personal bonds. Relationship marketing focuses on the establishment of exchange relationship between seller and buyers (Roberts-Lombard, Mpimganjira, and Svensson 2017). The globalised, competitive and complex market environment has emphasised the relevance of relational transactions (Fischer et al., 2008; Shahab 2014) because of high uncertainty and risk in doing business (Schulze, Wocken, and Spiller 2006). For instance, food safety and quality requirements by final consumers increase the need for supply chain transparency (from production to marketing) and relationship quality (Schulze, Wocken, and Spiller 2006).

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Hartmann, Froberg, and Fischer (2010) concur that food retailers insist on more product information along the food supply chain to ensure food quality standards and consumers' needs are met. Shahab (2014) adds that procurement decisions are now based more on relationships between trading partners than the price of the product being exchanged.

A good exchange relationship requires effective communication and collaboration which in turn enhances exchange efficiency and reduced uncertainty (Dwyer, Schurr, and Oh 1987). Collaborative efforts to deal with information asymmetry between trading partners in the supply chain are fundamental to improving marketing systems. Factors that influence the development of supplier-buyer relationships include market channel characteristics, the nature of the product, and the socio-economic and regulatory environment in which the business operates (Campbell 1985; Handfield et al., 2006; Fischer et al., 2008). According to Handfield et al., (2006), buyers can switch to capable suppliers for low value-added, non-strategic commodities. However, for innovative goods that enhance the competitive edge of the buyer, the buyer has no choice but to nurture the relationship with the supplier. Therefore, an improved understanding of how characteristics of marketing channels influence linking arrangements between farmers and their main buyers as well as how the nature of the products influence the levels of the relationships is important. Several studies have investigated supplier-buyer relationships, buyer-seller relationships and relationship quality between buyers and sellers/suppliers (Dwyer, Schurr, and Oh 1987; Batt and Wilson 2000; Masuku et al., 2003; Batt 2004; Darroch and Mushayanyama 2006; Stringer, Umberger, and Gyau 2012; Puspitawati 2013; Aji 2016). These researchers (apart from Stringer, Umberger, and Gyau 2012) have studied relationships between seller/supplier and the main buyer within a supply chain mainly focusing on seed potatoes, sugarcane, wine, and chillies. They argued that buyer-seller relationships improve supply chain efficiency by reducing uncertainty, lower transaction costs, improve partner loyalty and promote competitive advantage. Little research has been undertaken regarding the exploration of the dynamics of the nature of farmer-buyer relationships between two marketing channels (formal and informal), in particular involving highly perishable green leafy vegetables, and how the nature of the commodity influences the establishment of the relationships. This is what this paper seeks to achieve.

This study aims to contribute to the buyer-seller relationship research and to show that formal market suppliers perceive formal markets better in terms of satisfaction, trust, and commitment compared to informal market suppliers and that the nature of the product influence the establishment of farmer-buyer relationships. The focus is on relationship differences in factors influencing satisfaction, trust, and commitment amongst formal and informal suppliers. These channels differ significantly in market relationship practices and conditions (Stringer, Umberger, and Gyau 2012). For instance, formal channels are characterised by vertical coordination and the use of contracts to guard the relationship, yet informal channels are typically characterised by spot market relationships and once-off transactions (Fischer et al., 2008; Rao, Brümmer, and Qaim 2012). These attributes may have implications for satisfaction, trust, and commitment by the trading partners. Furthermore, knowledge of factors that affect satisfaction, trust, and commitment in an exchange relationship can inform policy making and the design of programmes to regulate procurement practices by buyers and to ensure that smallholder farmers have mutually beneficial trading relationships with buyers.

This study is different from those carried out previously because, first, Eswatini is a small, land-locked country that is highly dependent on its neighbour (South Africa) for goods and services, including retailers. The retailers are part of foreign-owned supermarket chains with well-developed procurement channels from South Africa and company policies that generally require their stores to make use of those procurement channels or procure from sources that comply with various regulations. The net result is that smallholders in Eswatini cannot compete with the imported fresh produce, except for relatively more perishable produce, such as green leafy vegetables. Marketing of relatively more perishable products is challenging (Blackburn and Scudder 2009). Handfield et al., (2006) argue that supplier-development (a form of developing buyer-seller relationships) is

not necessary in cases where the buyer has made sourcing arrangements with world-class suppliers. It is then believed that this could influence the establishment of farmer-buyer relationships, in particular, those in the formal marketing channels. Second, the conceptual foundations of relationships in marketing are not yet fully developed and more studies would bring understanding and more diverse perspectives (Sheth, Parvatiyar, and Sinha 2012). Naidu (2012) argues that it is necessary that empirical research is conducted in developing countries to understand how channels operate. The findings, therefore, provide a relatively unique and diverse perspective that will contribute to the understanding of marketing relationships between smallholders and supermarkets. Hence, this study seeks to contribute to the literature regarding the following: first, it identifies differences in the factors influencing satisfaction, trust, and commitment between formal and informal channels. Lastly, very little empirical information is available on the factors that affect the quality of the relationships between two different channels in particular vegetables yet the nature of the produce is one of the factors influencing the development of supplier-buyer relationships (Campbell 1985; Fischer et al., 2008) and its nutritional importance makes it a valuable study.

The rest of the paper is organised as follows: this section is followed by the background to the analysis, which is followed by a section on the economic theory on the nature of supplier-buyer relationships. This is followed by the methodology of the study and the results in section 4. Conclusions of the study are presented at the end.

2. Trading of vegetables in Eswatini

The agricultural sector in Eswatini is characterised by many smallholder farmers, significant variation in product quality, and an oligopolistic trading system of few traders (Mhlanga and Hladga 2015). Vegetable farming is important to most farmers as it is their source of livelihood and income (World Bank 2011; Xaba and Masuku 2012). Vegetables are grown throughout the year, though the type varies (World Bank 2011). Due to financial constraints, lack of productive assets, inadequate marketing information, and poor infrastructure, smallholders tend to engage in subsistence farming and the surplus is sold to informal markets. However, some producers channel their produce through other market outlets, including formal markets and export markets. Compared to the informal markets, formal markets have relatively strict procurement requirements. These requirements result in the volume of produce procured from smallholders being very low (Xaba and Masuku 2013) because supermarkets chain regulations require their outlets to procure from their own established procurement networks. This makes it very difficult for smallholders in Eswatini to access these marketing channels except for highly perishable vegetables. However, those who can enter the market enjoy market stability, competitive prices and in some cases assistance with inputs (Boselie, Henson, and Weatherspoon 2003; Rao and Qaim 2011). According to Mhlanga and Hladga (2015), most farmers sell their produce only through informal markets, and they depend on these channels for income. Therefore, informal marketing channels need nurturing too.

The perishable nature of vegetables and concerns about food quality and safety by final consumers emphasize the relevancy of farmer-buyer relationships. Relational transactions are expected to guarantee product quality and availability and eventually sales revenue to the farmers to improve their livelihoods. Farmers' perceptions of satisfaction, trust, and commitment about buyers are important in determining the nature of the relationships and a good efficient vegetable supply chain based on satisfaction, trust and commitment with buyers will assist farmers to reap the benefits of market participation.

The nature of the exchange relationship between smallholder farmers and supermarkets in Eswatini resembles the market/discrete relationship, which is described by Tangpong et al., (2015) as the type of buyer-supplier relationship with low rationalism. Both parties are not dependent on each other and there is no investment made by either party (Dwyer, Schurr, and Oh 1987; Tangpong et al., 2015). The trading parties can change and decide to trade with another party in the market place without notifying the other. Contrary to that, a study carried out in Tanzania on the maize

industry discovered that the Buyer-Supplier Relationship is collaborative, which was highly influenced by communication and commitment (Msemwa, Ruoja, and Kazungu 2017).

3. Economic theory on the nature of supplier–buyer relationships

The nature of supplier-buyer relationships may be described in terms of three relationship constructs: satisfaction, trust, and commitment (Dwyer, Schurr, and Oh 1987; Batt 2000; Batt and Wilson 2000; Schulze, Wocken, and Spiller 2006; Hartmann, Frohberg, and Fischer 2010; Aji 2016). Satisfaction is the feeling of contentment and gratification that arises when needs or desires have been fulfilled (Hartmann, Frohberg, and Fischer 2010). Relationship satisfaction occurs when exchange performance between trading parties exceeds their expectations (Batt and Rexha 2000; Batt 2003, 2004; Schulze, Wocken, and Spiller 2006) and is influenced by positive economic rewards from the exchange (Batt 2004). A satisfied partner feels pleased with the relationship based on financial reward, frequent contact, concern, and respect shown in the relationship. The greater the mutual satisfaction the more sustainable the relationship will be, which in turn translates to continuity (Fischer and Reynolds 2010; Hartmann, Frohberg, and Fischer 2010), loyalty and retainment of trading partners.

In an environment characterised by risk, uncertainty and information asymmetry, trading partners need trust for transactions to succeed (Batt 2004). Relationship trust is an asset that creates benefits for a firm (Masuku and Kirsten 2004), which arise from a constant and detailed exchange of information or repeated relational encounters between trading parties (Hartmann, Frohberg, and Fischer 2010). It reflects the degree to which a trading partner views another partner as being honest (Roberts-Lombard, Mpingingjira, and Svensson 2017). Trust reduces performance uncertainty and therefore plays a crucial role in a relational transaction (Li and Nicholls 2000). It safeguards opportunistic behaviour and reduces transaction costs (Batt 2003; Ruben 2007). Trust, therefore, plays a major role in buyer-supplier relationships in any market environment (Dwyer, Schurr, and Oh 1987; Schulze, Wocken, and Spiller 2006); it influences the way transactions are done considering high uncertainty and risk faced in business (Liu, Luo, and Liu 2009). Handfield et al., (2006) argue that trust is very important, more especially with high technology products that contribute to the buyer's competitive edge. Trading partners use previous experience (honesty, integrity, competence, reliability, or considerations of the other partner) to gauge trust (Ruben 2007). Batt and Rexha (2000) argue that trust is not necessary if there is no vulnerability and uncertainty.

Roberts-Lombard, Mpingingjira, and Svensson (2017) state that the establishment and building of a mutually beneficial relationship based on satisfaction and trust leads to long-term commitment. Relationship commitment refers to an implicit or explicit pledge of relational continuity between exchange partners (Dwyer, Schurr, and Oh 1987). It symbolises the value of the relationship between the trading partners (Masuku et al., 2003). Committed partners are prepared to make short-term sacrifices for long-term gain (Dwyer, Schurr, and Oh 1987). Commitment enhances sustainability in a relationship because committed partners are more likely to continue working with each other and less likely to switch business partners (Hartmann, Frohberg, and Fischer 2010). Macchiavello and Morjaria (2015) state that sellers are able to plan their production activities better when buyers show commitment to the relationship. Trading partners may indicate their commitment to the relationship by providing resources dedicated to the contract (Naidu 2012). Batt (2003) points out that when one of the trading partners perceives that the relationship has been undermined, the partner might reduce commitment in the relationship. For instance, when one party is not certain about the product price being exchanged, commitment in the relationship is reduced (Darroch and Mushayanyama 2006).

Dwyer, Schurr, and Oh (1987) state that maintaining the buyer-seller relationship comes at a cost. The opportunity cost of association with one partner may result in loss of an alternative trading partner. Trading partners need to estimate the cost and benefits from the total association against the expected outcome of the next alternative.

3.1 Conceptual framework

To investigate the nature of the relationships in the formal and informal marketing channels, this study uses the three relational constructs, namely satisfaction, trust, and commitment, following ideas from Dwyer, Schurr, and Oh (1987), Batt and Rexha (2000) and Schulze, Wocken, and Spiller (2006). These authors have investigated these variables, but in other markets and for other types of products. The conceptual framework for the vegetable farmer (supplier) and buyer (retailers, distributors, vendors, and consumers) relationship is depicted in Figure 1, based on a model by Batt and Rexha (2000).

The relational variables for **satisfaction** are offer, uncertainty and relationship-specific investments (Batt and Rexha 2000). It is conceptualised that farmers offered a good price (for their produce), transport and technical support are more likely to perceive a high level of satisfaction in the exchange. Relationship-specific investments (communication and training) by the buyer motivates both trading partners to maintain the relationship (Batt 2003; Naidu 2012). Such investments offer mutual benefits to trading partners; formal markets may offer inputs and technical support to ensure the product meets the quality and quantity requirements (Boselie, Henson, and Weather- spoon 2003; Rao and Qaim 2011). Therefore, the provision of training and communication between the two parties is expected to also improve relationship satisfaction. Uncertainty is described as the unanticipated changes in the relationship which may arise from the price, quantity, and quality of the produce. Noordewier, John, and Nevin (1990) argue that unanticipated changes in prices, quantity and quality, which bring difficulties, may strain the relationship for both partners. Uncertainty is managed by the implementation of adaptation procedures established during the planning stage of the relationship (Noordewier, John, and Nevin 1990). Therefore, the more unanticipated changes surrounding the relationships, the less satisfied the partners would be. Based on this, it is hypothesised that farmers supplying formal market channels perceive a higher level of satisfaction than farmers supplying informal markets.

According to Batt and Rexha (2000), the relational variables for **trust** are satisfaction, duration of the relationship, relational specific investments, and dependency. They state that the more reliable, loyal and willing to refrain from opportunistic behaviour the higher is the level of trust. Batt (2003) further suggests that the duration of the relationship between the farmer and market agent boosts trust levels. A close relationship enriches the supplier’s understanding of the needs of the buyer thereby enhancing loyalty and repeated sales (Kalwani and Narayandas 1995). Naidu (2012) states that close relationships enhance innovation and competitive advantage by understanding

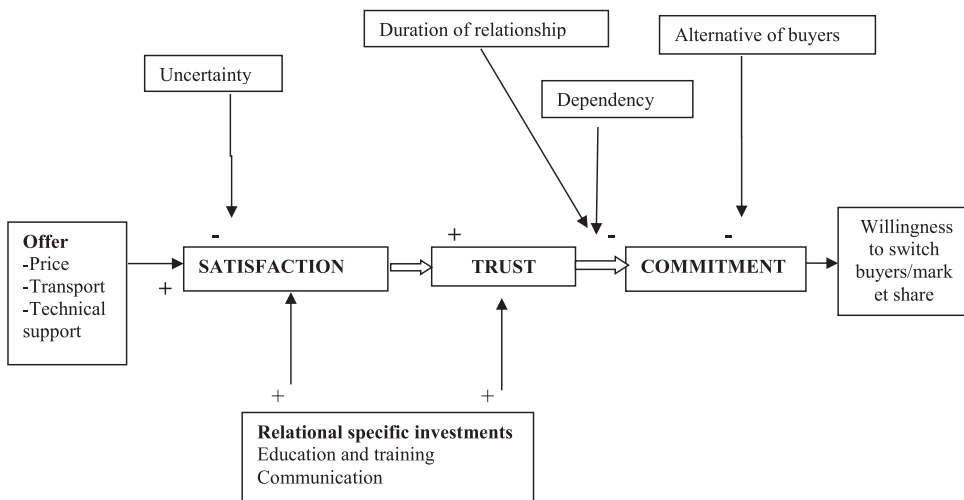


Figure 1. Model of seller-buyer relationships in the vegetable industry in Eswatini. Adapted from Batt and Rexha (2000).

the needs of the buyer. Liu, Luo, and Liu (2009) state a long-term relationship between trading partners enhances market access and reliable information sharing. Therefore, a positive relationship between trust and the duration of the relationship is expected.

Çerri (2012) states that consistency with relationship-specific investments by one partner in an exchange increases dependence by the other partner. For instance, consistent sharing of information enhances efficient planning, collaboration, mutual trust and understanding in the relationship (Boselie, Henson, and Weatherspoon 2003; Çerri 2012; Msemwa, Ruoja, and Kazungu 2017). Handfield et al., (2006) concur that ineffective lines of communication have an influence on trust. Trust is strengthened when both trading parties believe that they are concerned about each other's welfare, which could be through determining and understanding the needs and expectations of each party (Roberts-Lombard, Mpinganjira, and Svensson 2017). Therefore, a positive relationship between communication and trust is expected.

A trading partner is said to be dependent on another when the outcome of the relationship is very important and is larger than what other alternative firms would offer (Batt 2004). Farmers supplying formal markets tend to be highly dependent on their buyers, who control the information and resources necessary for the exchange since they want to gain access to the markets, capital and credit (Batt 2004). Li and Nicholls (2000) suggest that informal transactions are characterised by minimal interdependence. Dependency on the relationship is reduced by the availability of alternative exchange partners (Heide 1994; Batt and Wilson 2000). Heide (1994) concurs that trading partners tend to supply multiple firms as a strategy to reduce dependency. Therefore, due to the differences in the characteristics of the channels, it is hypothesised that farmers supplying formal market channels perceive higher levels of trust than informal market channel suppliers.

The relational variables for **commitment** are trust, duration, dependency, and the availability of alternatives (Batt and Rexha 2000). Trust is a key determinant and antecedent of commitment (Morgan and Hunt 1994; Schulze, Wocken, and Spiller 2006; Hasche, Linton, and Öberg 2017; Roberts-Lombard, Mpinganjira, and Svensson 2017). Darroch and Mushayanyama (2006) and Hasche, Linton, and Öberg (2017) concur that higher levels of trust in relationship marketing result in trading parties showing commitment. The availability of alternative buyers reduces the commitment of honouring the relationship with the current buyer; hence, a negative effect is expected between availability of alternatives and commitment. It is hypothesised that farmers supplying formal market channels perceive higher levels of commitment than informal suppliers.

Schulze, Wocken, and Spiller (2006) state that the output variables from the relational constructs are the seller's willingness to switch buyers versus their willingness to forge strong collaboration and increased business dealings with the current business partner. Naidu (2012) states that farmers who trust their buyer will not switch the buyer even if other buyers offer similar economic incentives.

4. Research methodology

4.1 Data collection

Data used in the analysis were elicited from smallholder vegetable farmers from the Manzini and Hhohho regions. These regions were selected because most of the formal markets are in these regions. A list of 450 smallholder farmers was obtained from the National Marketing Board (NAM-Board) and the Swaziland National Agricultural Union (SNAU) and a further 63 were from retailers. The list of 450 comprised of 270 farmers from Manzini and 180 from the Hhohho region. A sample size of 110 was randomly selected from the list¹ where 66 respondents were from Manzini and 44 from the Hhohho region. Out of the 63 from the retailers, only 60 were available for the interviews, to make a total sample of 170 respondents.

To test the hypotheses formulated, a list of statements on farmers' perceptions of the relationship between sample farmers and the primary buyer were presented in a questionnaire where face-to-

face interviews were carried out to elicit responses from the sample of farmers. The statements were adapted from Batt (2000), Batt and Wilson (2000) and Schulze, Wocken, and Spiller (2006). Farmers were asked to respond to 37 statements which were measured using a 7-point Likert scale, where 1 indicated “totally disagree” up to 7 indicating “totally agree”. The statements were divided into 11 sections: satisfaction, price satisfaction, offer, trust, commitment, communication, uncertainty, education and training, duration of the relationship, dependence, and availability of alternatives. The farmers were also asked to list their buyers, indicate the main buyer, the type of vegetables they sell the most, the associated price received, and to indicate if they had a contractual arrangement with their main buyer as well as the benefits of selling to their main buyer.

4.2 Analytical framework

Factor Analysis with Kaiser Normalisation was used to analyse the various measures of relationship constructs. The Kaiser-Meyer-Olkin (KMO) approach is the measure of sampling adequacy which ranges between 0 and 1; values closer to 0 indicate that variables have little in common to justify the analysis, and values close to 1 indicate that patterns of correlations are relatively compact; therefore, factor analysis should yield distinct and reliable factors (Field 2013). KMO values over 0.5 are considered satisfactory for an analysis (Field 2013). Further clarification of the items contributing to each factor was achieved by applying the reliability coefficient (Cronbach’s alpha). This measure the reliability of the factors extracted from the analysis. The alpha ranges between 0 and 1; values closer to 0 imply that items are entirely independent of one another and values close to 1 imply that the items have shared covariance and probably measure the same underlying concept. An alpha value of 0.7 is most acceptable (Field 2013).

To determine the influence of the variables on the level of satisfaction, trust, and commitment in the relationships between farmers and their main buyers, linear regression analysis was applied. This involves regressing the resultant factor scores of the relationship constructs against the variables that were deemed to have an influence as identified in Figure 1. The possible presence of multicollinearity was assessed by estimating the Variance Inflation Factor (VIF) in all equations. The degree of multicollinearity in the explanatory variables is deemed to be high if VIF values exceed 10 (Wooldridge 2015).

A discriminant analysis (DA) was then estimated to identify statistically significant differences in the relationship constructs between formal and informal suppliers. Discriminant function analysis is multivariate analysis of variance (MANOVA) reversed (Field 2013). Unlike with MANOVA where the dependent variable must be continuous, in DA the dependent variable must be categorical. It is used to determine the relationship between a dependent variable and one or more independent variables. The discriminant function is expressed as follows:

$$D = \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k \quad (1)$$

Where D is the discriminant function score, β is the discriminant function coefficient relating the independent variable to the discriminating function score, and X is the value of the independent variable (discriminating variable). The DA uses the Wilks lambda as the test statistic; it tests if there are differences between group means for a combination of dependent variables. In this section when applying the DA, the independent variables are satisfaction, trust, and commitment and the dependent variables are the two channels.

5. Results and discussion

5.1 Descriptive characteristics of sample farmers

For purposes of the analysis, respondents were classified according to whether their main buyer was part of a formal or informal channel (Table 1). The formal marketing channels consist of farmers’ sales

Table 1. Marketing outlets for vegetables, Eswatini, 2017.

Formal marketing channels	Number of farmers	Informal marketing channels	Number of farmers
Direct to retailers	60	Hawkers	40
NAMBoard	28	Traditional markets	42

to retailers (60), NAMBoard (28), fast food restaurants (2) and private pack-house (1). Informal channels consist of sales to hawkers (40) and direct to consumers (42).

Figure 2 depicts the vegetable marketing channels in Eswatini. Producers either sell to formal or informal marketing channels. Formal markets are those registered market outlets that have a fixed structured location and this includes supermarkets, NAMBoard, restaurants and private-pack houses. To supply these markets, producers need to meet certain requirements (consistent quality, quantity, etc). With the exception of NAMBoard, (a state-owned entity) that collect the produce from smallholder farmers, and provide technical assistance; the other markets in the formal channel expect the farmer to deliver the produce at the market outlet. On the other hand, the informal channel consists of hawkers and consumers who purchase the produce at farm-gate. Unlike the formal markets, there are no strict procurement requirements in this channel.

Table 2 presents the descriptive statistics of suppliers from both channels, where 52% (88) predominantly supplied formal channels and 48% (82) supplied informal channels. The formal channel was further sub-divided into two categories, namely supermarkets (60) and NAMBoard suppliers (28). The demographic characteristics of the farmers were measured in frequencies and in percentages. Previous studies have shown similarities and differences between formal and informal channels (Neven et al., 2009; Stringer, Umberger, and Gyau 2012; Puspitawati 2013). Farmers characteristics that are statistically significant between the groups are; the proportion of household members between 18 and 65 years, farm size, vegetable farm size and distance to the market. The results also show that both channel categories are dominated by male farmers of similar age group, with an average of 45 years for formal and 47 years for informal suppliers. Stringer, Umberger, and Gyau (2012) found that farmers supplying supermarkets were younger and had more years of education. The results for the formal marketing channel category were further split into two; supermarket and NAMBoard marketing outlets. Within the formal category, NAMBoard farmers were much older, with an average of 50 years compared to those supplying supermarkets (42 years). The average years of schooling of respondents were also similar (10.9 and 10.7) for formal and informal channels. However, within the formal channel category, farmers' predominantly supplying supermarkets had more years of schooling than all the other outlets. Contrary to these results regarding the proportion of household members between 18 and 65 years, Stringer, Umberger, and Gyau (2012) found no

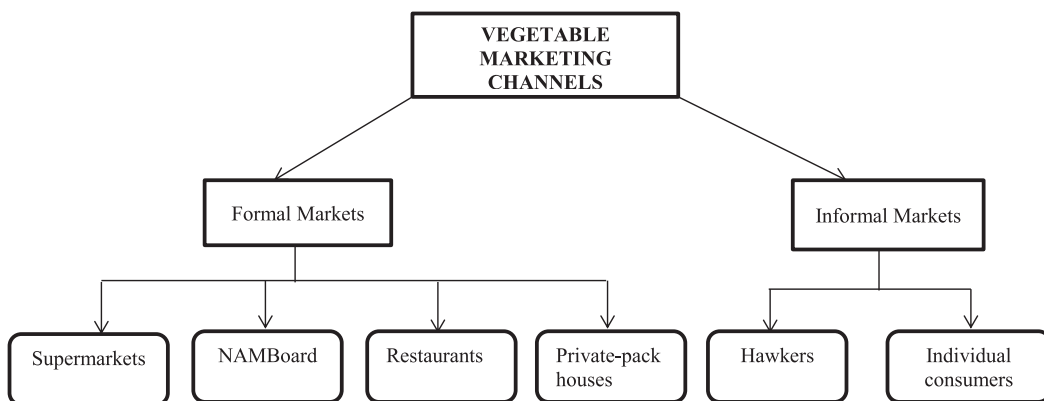
**Figure 2.** The structure of the vegetable marketing channels in Eswatini, 2017.

Table 2. Descriptive statistics for respondents by primary marketing channels category for vegetables, Eswatini, 2017.

	Formal marketing channels				Total	Informal marketing channels		significance ^a
	Supermarket		NAMBoard			N	%	
	N	%	N	%				
<i>Total Sample</i>	60		28		88	82		
<i>Gender</i>								
Male	45	75	16	57.1	69.3	45	54.9	
Female	15	25	12	42.9	30.7	37	45.1	
<i>Mean age (years)</i>	42.5	–	50.3	–	45	46.6	–	0.82
<i>Mean schooling years</i>	11.6	–	9.1	–	10.9	10.7	–	0.13
<i>Mean experience in vegetable farming</i>	11.7	–	13.1	–	12	9.8	–	1.65
<i>Mean household size</i>	5.68	–	5.82	–	5.73	4.98	–	1.56
<i>Proportion of household members between 18 and 65 years</i>	55.57	–	42.89	–	51.53	59.89	–	2.14**
<i>Is farming the only source of Income</i>					–			–
No	22	36.7	7	25	33.0	36	43.9	
Yes	38	63.3	21	75	67.0	46	56.1	
<i>Member of a farmer's organisation</i>								–
No	47	78.3	14	50	69.3	48	58.5	
Yes	13	21.7	14	50	30.7	34	41.5	
<i>Mean farm size (ha)</i>	2.2	–	2.4	–	2.3	1.5	–	2.86***
<i>Mean vegetable farm Size (ha)</i>	1.1	–	1.4	–	1.2	0.6	–	3.79***
<i>Number of outlets supplied</i>								–
1	11	18.3	4	14.3	17.1	81	98.8	
2	41	68.3	24	85.7	72.7	1	1.2	
3	8	13.3	0	0	10.2	0	0	
<i>Owning a contract</i>								–
No	60	100	13	46.4	83.0	82	100	
Yes	0	0	15	53.6	17.0	0	0	
<i>Access to credit</i>								–
No	46	76.7	19	67.9	73.9	65	79.3	
Yes	14	23.3	9	32.1	26.1	17	20.7	
<i>Distance to the market (kilometres)</i>	28.67	–	6.79	–	21.70	8.29	–	4.98***

NB: ^aBased on t-test; Significant at 1% (***), 5%(**) and (*) 10% levels of probability.

statistical significance between chilli farmers supplying supermarkets and those supplying traditional markets.

The results also show that there is no significant difference in average years of vegetable farming experience between farmers in the formal and informal channel. About 67% of the formal market respondents were full-time farmers, reporting that farming was their only source of income, compared to 56% of those supplying primarily the informal channel. The proportion of respondents who were members of a farmers organisation was higher for those supplying primarily informal channels (42%) than those supplying formal channels (31%).

Formal market suppliers have a larger average farm size (2.3 hectares), where an average of 1.2 hectares of the total land is allocated to vegetables, compared to an average farm size of 1.5 hectares for informal market suppliers. The coefficients for the size of the farm and land allocated to vegetables are statistically significant at 1% level. The results are similar to those obtained by Neven et al., (2009). Within the formal category, farmers supplying NAMBoard had a slightly greater farm size (2.44 ha) compared to those supplying supermarkets (2.14 ha). This could be explained by the fact that one of the requirements required to supply NAMBoard is access to greater farm size.

Most farmers (83%) supplying formal markets were supplying multiple markets, unlike informal market suppliers where 99% supplied a single market. Within the formal marketing channel category, about 13% supplied three market outlets, which is not a surprise since other markets are needed for produce that does not meet the requirements of formal marketing channels in particular retailers.

Only farmers supplying NAMBoard (54%) within the formal channel had written contracts. Stringer, Umberger, and Gyau (2012) observed similar results with tomato farmers in Indonesia, where written contracts were not offered in both supermarket and traditional markets. This is contrary to

Table 3. Average prices of the most commonly grown vegetables by marketing channel category, Eswatini, 2017.

Vegetable	Formal channels Average price (E) ^a	Informal channels Average price (E)	Price differences (%)
Lettuce	3.28	2.97	10
Spinach	4.34	4.61	6
Cabbage	7.08	6.60	7

^aOne Lilangeni (Eswatini's currency) is equivalent to one Rand (South Africa's currency).

other studies, which highlight that buyers in modern markets tend to issue farmers with contracts and provide inputs to reduce the risk of product quality and quantity problems (Van Der Meer 2006; Naidu 2012; Puspitawati 2013; Chege, Andersson, and Qaim 2015).

When asked about the vegetables they were cultivating, the farmers reported that they mostly grew green leafy vegetables, mainly lettuce, spinach, and cabbage. Though farmers may choose any channel, the prices were almost similar. Table 3 reports that for a lettuce, formal markets pay a premium of 10% above the informal markets and 7% more for a cabbage. However, on average formal markets pay 6% less for a bunch of spinach than informal markets. As expected the distance to formal channels is longer (22 km) than the distance to informal marketing channels (8.3 km) and statistically significant.

5.2 Nature of farmer-buyer relationships within the marketing channels

The results are divided into three parts: first, preliminary analysis using descriptive statistics (mean and standard deviations); followed by factor analysis; then linear regression results using factor analysis results, and finally, discriminant analysis.

Table 4 presents initial impressions of the nature of the relationship from suppliers of the two channels. The results are from a 7-point Likert scale where; 1 = strongly disagree, and 7 = strongly agree. Significant differences are observed between the channels regarding the relational variables. Generally, formal channel suppliers reported to be pleased with the relationship (mean score = 5.3) and perceived the relationship to be stable (5.08), which is enhanced by the fact that they could easily contact their main buyer (5.49). With respect to trust, formal suppliers were less confident about the relationship perceiving low levels of concern for farmers' welfare (3.05) by the main buyer, no assistance and could not count on the main buyer to consider them in decision making (3.89). However, they generally believed the information shared and that their main buyer kept promises. The results are similar to the ones obtained by Batt (2004) in a study about smallholder potato farmers and traders regarding information and keeping promises. However, the author obtained contradictory results regarding trust. The farmers perceived the duration of the relationship with the main buyer neither close nor long (mean score = 4) and they indicated that they could readily choose an alternative buyer (5.15), though they would neither drop nor remain (indifferent) in the relationship (4.84). It can be acknowledged that vegetable vendors in Eswatini are located at fixed places (city centres) and that set-up allows farmers to communicate and observe their buyers' behaviour, practices, requirements and adapt.

Formal marketing suppliers reported that their main buyer seldom determined the crop variety (2.8) nor controlled marketing information (2.92) and had no difficulty with finding alternative buyers as 83% were supplying multiple buyers. Supplying multiple buyers and the freedom of selecting any buyer reduces relationship dependency (Naidu 2012). Informal suppliers were indifferent (mean score = 4.17) about the stability of the relationship and were relating more willingness to drop their main buyer for an alternative buyer (3.78). Because of the variations in the quantity of vegetables bought by informal buyers, informal suppliers perceived the least amount of trust in the relationship with their main buyer. As anticipated, informal suppliers perceived low dependence with respect to the selection of the crop variety, control of information (2.33), finding alternative buyers (3.05) and adhering to buyers' demands (3.66).

Table 4. Relationship constructs using descriptive statistics, Eswatini, 2017.

Relationship Construct	Statements	Formal marketing channels		Informal marketing channels		Significance ^a
		Mean	Std. Dev	Mean	Std. Dev	
Satisfaction	I am pleased with the relationship	5.3	1.64	4.21	1.61	4.37***
	I am able to reduce total cost	3.89	1.66	3.43	1.53	1.87*
	The relationship is stable	5.08	1.35	4.17	1.55	4.08***
	I feel that I am rewarded adequately	4.26	1.62	3.56	1.66	2.78***
	I frequently reject other buyers	3.02	1.92	2.32	1.39	2.73***
	Buyer keeps promise regarding commodity price	4.76	1.58	3.93	1.51	3.52***
	I do not believe other buyers will have the same price	3.82	1.66	2.82	1.63	3.95***
	I am satisfied with grading system	4.25	1.88	3.17	1.84	3.77***
Offer	I sell to a buyer that offers transport	2.83	2.44	2.24	1.78	1.78*
	I sell to a buyer that offers technical support	2.58	2.2	1.23	0.66	5.42***
	I sell to a buyer that offers a good price	4.48	1.97	4.23	1.79	2.4*
Communication	The buyer provides relevant market information	4.31	1.72	3.2	1.58	4.37***
	Information sharing is important	4.32	1.6	3.38	1.79	3.61***
	It is relatively easy to contact buyer	5.49	1.24	4.6	1.41	4.38***
	My buyer keeps me informed on technical matters	3.89	1.91	2.54	1.6	4.97***
Uncertainty	The vegetable prices are very unstable	5.22	1.63	5.54	1.29	1.42
	The quantity requirement is highly unstable	4.39	1.74	5.24	1.38	3.54***
	The quality requirement is highly unstable	2.74	1.95	3.78	1.91	3.52***
Education & Training	My buyer regularly provides training programmes	2.67	2.08	1.46	1	4.76***
Trust	My buyer will be ready to assist	3.48	1.75	2.67	1.62	3.11***
	When making decisions, my buyer is concerned about my welfare	3.05	1.61	2.68	1.55	1.49
	I can count on the buyer to consider his decision affect	3.89	1.59	2.99	1.68	3.59***
	The buyer usually keeps the promises made	4.76	1.48	3.91	1.49	3.72***
	I believe the information provided by the buyer	4.55	1.54	3.84	1.56	2.96***
	I can count on the buyer to be sincere	4.45	1.36	3.74	1.59	3.15***
	My buyer has a good reputation	4.41	1.57	3.48	1.58	3.87***
	I have a close relationship with the buyer	4.14	1.53	3.45	1.71	2.76***
Duration of Relationship	My buyer and I have a long-standing relationship	4.42	1.72	3.73	1.74	2.59**
	My buyer determines what varieties to grow	2.8	1.82	2.63	1.54	0.62
Dependence	My buyer controls information	2.92	1.42	2.33	1.02	3.09***
	Have great difficulty finding alternative buyers	2.99	1.81	3.05	1.51	0.23
	I have no choice than to adhere to buyer	4.56	1.55	3.66	1.63	3.67***
	I am not going to drop main buyer	4.84	1.69	3.78	1.69	4.09***
Commitment	I want to remain in buyer's network	4.91	1.58	4.1	1.5	3.43***
	My positive feelings towards the buyer is the major reason	4.34	1.74	3.72	1.5	2.44**
	I want to continue with buyer					
Availability of Alternatives	I supply many buyers	4.73	1.44	4.16	1.37	2.63***
	I am free to choose another buyer	5.15	1.41	5.35	1.08	1.06

NB: 1 = Strongly disagree; 2 = Disagree; 3 = Slightly disagree; 4 = Indifferent; 5 = Slightly agree; 6 = Agree; 7 = Strongly Agree.

^aBased on t-test; Significant at 1% (***), 5%(**) and (*) 10% levels of probability.

Table 5. KMO and Cronbach's alpha values for formal and informal vegetable marketing channels, Eswatini, 2017.

	Formal marketing channels			Informal marketing channels		
	Variation explained	KMO	Cronbach's alpha	Variation explained	KMO	Cronbach's alpha
Satisfaction	0.93	0.79	0.77	0.85	0.83	0.86
Trust	0.87	0.81	0.77	0.91	0.89	0.91
Commitment	0.93	0.65	0.77	0.93	0.70	0.74

Furthermore, suppliers in both marketing channel categories felt indifferent about the price offered by their main buyer (4.48). Batt (2003) reports that commodities traded in an open market are exposed to high price volatility. All the suppliers perceived high uncertainty with the vegetable price (formal markets mean score = 5.22; informal markets mean score = 5.54) and quantity (5.24 for informal channel) and were indifferent about remaining in their main buyer's network, which is not surprising considering that the majority (83%) of the formal market suppliers had no contract with the main buyer. Naidu (2012) states that in contract farming, farmers commit to supply the specified crop quality and quantity and the buyer in-turn contributes inputs, extension support and has a say in production decisions.

An initial factor analysis was run and produced only one eigenvalue above the Kaiser's criterion of 1 in both channels, hence rotation was not necessary. Results of the analysis are presented in Appendix 1 and variables with factor loadings below 0.4 were excluded. The three relationship constructs' (satisfaction, trust, commitment) accounted for above 80% of the variation (Table 5). The KMO measure verified the adequacy of the analysis since all KMO values were equal to 0.7 and above; apart from commitment items from the formal channels. However, all the values are considered acceptable as they are all above the acceptable threshold of 0.5. The reliability of the items in measuring the relationship constructs are confirmed by the Cronbach's alpha coefficients all exceeding 0.7 (Field 2013). As such factor analysis was considered appropriate.

5.2.1 Satisfaction

Results reported in Table 6 show that the level of relationship satisfaction in both categories of marketing channels is determined by the price offered and communication. It is not surprising that perception of price has a strong positive influence at all levels of significance for the formal and informal channels ($\beta = 0.29$, $p < 0.01$; $\beta = 0.12$, $p < 0.01$), respectively. Naidu (2012) observed that the unit price for tomatoes, overall profit and services offered and practices followed by buyers were important determinants of continuity in the relationship. Xaba and Masuku (2013) state that low product prices decrease the motivation of farmers to participate in formal markets and instead prefer to side-sell to traditional channels.

Uncertainty with quantity has a negative influence on relationship satisfaction in the formal channels as expected ($\beta = -0.09$, $p < 0.1$). This implies that satisfaction would significantly decrease as uncertainty with produce quantity increases which could be arising from uncertainty about whether the quantity of produce of specified quality will be accepted. In the informal sector, the uncertainty with quantity coefficient was not significant, but the uncertainty coefficient with quality was ($\beta = 0.12$, $p < 0.05$), implying that informal suppliers' relationship satisfaction would significantly decrease as uncertainty with produce quality requirements increases. This is contrary to expectations since informal buyers consist of individuals and vendors who have flexible procurement practices.

Communication statements have positive signs as expected. A significant relationship is observed in communication based on the provision of relevant marketing information and satisfaction in the formal channel ($\beta = 0.12$ at the 5% level of significance). This suggests that provision of relevant information is important in improving relationship satisfaction with formal suppliers. Aji (2016) obtained similar results in a study on potato seeds in Indonesia. Batt (2004) states that communication between exchange partners is a sign of respect and being pleased with the exchange. Likewise, communication statements from informal suppliers have a positive influence on relationship satisfaction as indicated by statistical significance at 5% level which is contrary to expectations.

However, this could be explained by the fact that almost half (48.8% in Table 1) of the respondents supplying predominately informal channels were supplying hawkers. No statistically significant relationship was observed between training and education and relationship satisfaction in both channels. The R^2 indicates that 61% and 45% of the variance in satisfaction from both categories of marketing channels, respectively, was explained by the variables included in each equation. The degree of multicollinearity was low as indicated by the VIF values.

5.2.2 Trust

Table 7 presents the estimated coefficients from the Trust regression equation for formal and informal market suppliers. The results indicate that the level of trust in both channel categories is to a great extent determined by satisfaction and the provision of relevant marketing information by the main buyers. The strong positive and significant relationship between relationship satisfaction and trust was anticipated. Batt (2003) concurs that the more satisfied trading partners are with the economic rewards from the relationship, the more they feel the relationship was based on trust. Table 4 (presented earlier) had shown that both categories of suppliers were indifferent to the price offered for their vegetables sold to formal and informal markets.

Communication regarding sharing relevant information also has a strong influence on trust ($\beta = 0.15, p < 0.05$) in the formal and ($\beta = 0.07, p < 0.01$) informal marketing channels. Çerri (2012) found out that communication was the second most important factor influencing trust. The more formal suppliers feel close to their main buyer, the more they perceive trust in the relationship ($\beta = 0.25, p < 0.05$), as anticipated. The results also show that buyers in the informal channel inform producers on marketing issues which has a positive influence on relationship trust. This could be explained by the presence of hawkers who are some of the buyers in the informal channel.

An unanticipated negative influence of the length of the relationship on trust from formal suppliers is also observed ($\beta = -0.11, p < 0.1$). It is then believed that levels of trust may be naively high at the start of a relationship and the longer the relationship lasts, the more likely the seller will adjust to the realities of the relationship. This could imply that successively repeated transactions with formal buyers enact high expectations in the relationship on the side of the farmers, such as issuing of contracts, technical support, and providing transport. However, without these services, the farmers' level of trust is reduced. Regarding the informal channel, farmers supplying the sector perceived the duration of the relationship having a positive influence on relationship trust. Again, this could be the influence of trading with hawkers, where repeated transactions seem to occur as indicated by the statistical significance of relationship trust. Fischer et al., (2008) concur that a non-formal relationship can also involve repeated market transactions with the same buyer.

Table 6. Estimated coefficients for satisfaction regression for formal and informal marketing channels, Eswatini, 2017.

Satisfaction	Formal channel		Informal channel		
	Coefficient	Std. Err.	Coefficient	Std. Err.	
Offer	Transport	0.02	0.05	0.04	0.04
	Technical Support	-0.07	0.06	-0.06	0.12
	Price	0.29***	0.05	0.12**	0.05
Uncertainty	Quantity	-0.09*	0.05	-0.09	0.12
	Quality	-0.05	0.04	-0.12**	0.05
	Price	0.05	0.05	-0.07	0.11
Training & Education		0.02	0.05	0.07	0.07
	Communication				
	Relevant information	0.12**	0.05	0.15**	0.06
	Technical Support	0.01		0.14**	0.06
_constant		-1.49		-0.12	0.51
F		13.4		6.57	
R^2		0.61		0.45	
VIF		2.06		1.53	

NB: Dependent Variable: Satisfaction; statistically significant at the 1% (***), 5% (**) and (*) 10% levels, respectively.

The observed positive relationship between trust and informal buyers regarding crop variety to be grown could be explained by that many smallholder farmers in Eswatini depend largely on agriculture for their livelihood, hence their decision-making process becomes complex. Again, no significant relationship is observed in the training and education variable in both channels.

5.2.3 Commitment

As expected, trust has a strongly significant and positive relationship in the formal marketing channels ($\beta = 0.43$; $p = 0.001$) and the informal channels ($\beta = 0.55$; $p = 0.000$) with relationship commitment (Table 8). Darroch and Mushayanyama (2006) concur that for the partners in the supply chain to cooperate and show more commitment to the relationship a higher level of trust is required. This argument is supported by Roberts-Lombard, Mpinganjira, and Svensson (2017) asserting that buyers would show more commitment to trustworthy suppliers. Stringer, Umberger, and Gyau (2012) argue that farmers need to commit to delivering what is required by the buyers, and buyers should commit to support the farmers and respect the contractual arrangement.

Contrary to expectations, the availability of alternative buyers (supplying many buyers and the freedom to select any buyer) has a positive and significant relationship with commitment. This suggests that regardless of having alternatives and the freedom to choose other buyers do not prevent the suppliers from showing commitment to the formal markets. The duration of the relationship between formal suppliers and markets has a positive influence on commitment as perceived by the farmers. Contrary to expectations, there is a strong relationship between commitment and the length of the relationship in the informal channel. However, this could be explained by the presence of hawkers.

5.3 Marketing channel differences of relationship constructs in the vegetable industry in Eswatini

Table 9 depicts the group statistics of means and standard deviations of satisfaction, trust and commitment using Discriminant Analysis. As expected, formal markets are perceived better by smallholder vegetable farmers in terms of satisfaction (4.3 against 3.6), trust (4.1 against 3.3) and commitment (3.4 against 2.9) compared to informal markets. Stringer, Umberger, and Gyau (2012) obtained similar results where potato farmers perceived supermarkets better with respect to satisfaction and commitment than the traditional market. However, in terms of the Likert scale, farmers supplying formal marketing channels were indifferent regarding relationship satisfaction and trust whilst

Table 7. Estimated coefficients for trust regression for formal and informal marketing channels, Eswatini, 2017.

Trust		Formal marketing channels		Informal marketing channels	
		Coefficient	Std. Err.	Coefficient	Std. Err.
Satisfaction		0.51***	0.10	0.47***	0.09
Communication	Relevant marketing information	0.15**	0.05	0.09***	0.05
	Easy to contact	-0.11	0.08	-0.07	0.05
	Keeps me informed	0.02	0.05	0.17***	0.05
Duration	Close relationship	0.25***	0.07	-0.04	0.06
	Good long-term relationship	-0.11*	0.06	0.13**	0.06
Dependence	Determines crop variety	-0.01	0.05	0.08*	0.05
	Difficulty finding alternative	-0.01	0.05	0.02	0.04
	Free to choose	-0.01	0.06	-0.07	0.06
Regular Training & Education		-0.02	0.05	-0.05	0.07
_cons		0.69	0.51	-0.58	0.48
F		9.30		26.24	
R ²		0.55		0.73	
VIF		1.82		1.80	

Dependent variable: Trust; statistically significant at the 1% (***), 5% (**) and 10% (*) levels, respectively.

those supplying informal markets disagreed as shown in the table. The results also show that both categories of farmers did not perceive commitment in the relationship which is consistent with the results obtained.

Table 10 presents the tests of equality of means for all the variables in the analysis. There is a statistically significant difference between the formal and informal channels with respect to satisfaction ($p = 0.000$), trust ($p = 0.000$), and commitment ($p = 0.002$). Wilks' lambda is statistically significant for each relationship construct (predictor) with a p = value below 0.05, which is appropriate for the analysis. This also implies that there are significant differences with respect to satisfaction, trust, and commitment between formal and informal marketing channels. Stringer, Umberger, and Gyau (2012) obtained similar results where statistically significant differences in satisfaction and commitment were observed among chilli farmers supplying supermarkets than traditional markets.

The standard discriminant function shows the relative importance of the relationship constructs. The results suggest that relationship satisfaction is the best predictor (0.631), followed by trust (0.591), while commitment is the worst predictor (-0.072) of the nature of the relationship. Again these results are still consistent with the results obtained earlier pertaining to relationship satisfaction, trust and commitment. The canonical correlation coefficient of 0.357 implies a low level of association between the groups, and the discriminant function though Wilks' lambda is statistically significant at the 1% level, suggesting that the prediction model fits well.

6. Conclusion, implications and recommendations

6.1 Conclusion

This paper examines relationship constructs, namely satisfaction, trust, and commitment between smallholder vegetable farmers and buyers as perceived by smallholder farmers supplying the formal and informal marketing channels. The results reveal important differences between the categories of marketing channels. Farmers supplying these categories are similar in relation to some aspects of the farmer-buyer relationships. Firstly, both categories perceived the nature of the relationship based on satisfaction regarding price, communication and trust. The price of the produce and communication between buyers and sellers has a positive influence on satisfaction as perceived by both categories of the channels. Secondly, most of the suppliers did not receive training and education from the buyers, except those supplying NAMBoard, though still no significant influence was observed. This could be due to the perceived quality of the information received during the training sessions. Lastly, the results also reveal that most of the formal buyers have a flexible non-binding (no written contract) relationship with the buyer which is also common in the informal category; this is contrary to expectations and results in low levels of commitment. Dissimilarities have been observed in relation to uncertainty, which confirms the different characteristics of formal and informal

Table 8. Estimated coefficients for commitment regression for formal and informal marketing channels, Eswatini, 2017.

Commitment		Formal marketing channels		Informal marketing channels	
		Coefficient	Std. Err.	Coefficient	Std. Err.
Trust		0.43***	0.10	0.55***	0.09
Alternatives	Supply many buyers	0.13***	0.05	0.01	0.05
	Free to choose	0.16***	0.05	0.06	0.06
Dependence	Determines variety	-0.06	0.04	-0.11**	0.05
	Finding alternatives	0.02	0.03	-0.02	0.05
Duration	Close relationship	0.06	0.09	-0.04	0.05
	Good long relationship	0.13**	0.05	0.19***	0.06
_cons		-2.14	0.36	-0.62	0.40
F		26.10		20.4	
R ²		0.60		0.64	
VIF		1.70		1.83	

Dependent variable: Commitment; statistically significant at the 1% (***), 5% (**) and 10%(*) levels, respectively.

Table 9. Mean and standard deviation of relationship constructs in the informal and formal marketing channels, Eswatini, 2017.

Variable	Formal Marketing channels		Informal marketing channels	
	Mean	Std. Dev.	Mean	Std. Dev.
Satisfaction	4.291	1.122	3.556	1.093
Trust	4.063	1.057	3.326	1.248
Commitment	3.402	1.019	2.920	0.946

NB: Means based on Likert scale of 1 (totally disagree) to 7 (totally agree).

marketing channels. Formal markets require produce of high quality at all times, yet informal marketing channels concentrate on making as many sales as possible.

The research findings also indicate the nature of the trading relationship between smallholder farmers and their buyers as being discrete. This is evidenced by the low linkage between the trading parties (lack of commitment) and flexible relationship with no contractual arrangements. The presence of already established procurement channels in South Africa, where most of the super-market chains come from, contributes to the status of the relationship.

The study has provided insight to guide policy-makers and supply chain participants in Eswatini on the different relationship marketing variables that should be considered when developing relationship-building strategies. The farmers' perspective is important since it provides different dynamics in each channel. This provides an understanding regarding the trading environment smallholder farmers are operating in; which could enhance the development of procurement regulations that will allow farmers to work in a fair environment and in an efficient supply chain where all supply chain participants benefit as well as ensuring the provision of support services to strengthen the relationships.

6.2 Implications

Based on the results of the study the following implications are drawn. First, to ensure positive satisfaction in the exchange relationship, buyers need to offer competitive product prices, which could further enhance the farmers' trust and commitment. Second, buyers, in particular those in the formal marketing channel category, need to make long-term sustainable relational specific investments such as consistent relevant information to their buyers since it has been reported to have a positive influence on relationship satisfaction and trust. This could be through the adoption of coordinated supply chains and supplier-development approaches, which could complement the logistics requirements associated with fresh and highly perishable produce. This is likely to create mutual benefits by enhancing exchange efficiency and reduction in product quantity and quality uncertainty. Third, there is also a need by policy-makers to capacitate farmers on managing fresh produce and provision of marketing information, which will enhance the farmers to deliver the right produce at the right time to either channel of their choice that will provide better prices.

6.3 Recommendations for future studies

Three recommendations are drawn from this study: first, the study explored relationship constructs from the viewpoint of the suppliers (farmers) only, which means that there's a possibility that buyers

Table 10. Vegetable marketing channels relationship constructs based on discriminant analysis, Eswatini, 2017.

Variable	Wilks' Lambda	F-ratio	Standard Discriminant Function	Significance
Satisfaction	0.900	18.663	0.631	0.000
Trust	0.907	17.308	0.591	0.000
Commitment	0.943	10.207	-0.072	0.002

Note: Canonical correlation coefficient = 0.357; Wilk's Lambda = 0.872; Chi-square = 22.732; p = 0.000.

could have a different view about the nature of their relationship with suppliers. Therefore, further research is recommended to address this gap. Second, the study explored the supplier-buyer relationship model of satisfaction being the antecedent for trust, yet other studies argue for the other way around. A study based on this model strengthens the marketing relationship literature regarding the positioning of relationship constructs. Therefore, a study of a similar nature with trust as the antecedent for satisfaction and commitment is recommended. Lastly, one of the interesting aspects of this study is that it includes supermarkets from several supermarket chains; however, in the analysis no differentiation is made between the various supermarket chains and outlets, yet each chain imposes different rules (internal policies) on its outlets, which have implications for the nature of their marketing relationships with farmers. Therefore, future research could compare the marketing relationships with smallholders at the level of supermarket chains, or individual outlets.

Note

1. NAMBoard and SNAU

Disclosure statement

No potential conflict of interest was reported by the authors.

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