

Full Length Research Paper

The role of market learning in the market integration of African smallholders

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The integration of smallholders with the market is essential to provide enough food for the growing populations in most African countries. The existing literature emphasizes in that respect the role of transaction costs. This paper offers a complementary view, namely individual-level market learning, which is conceptually integrated in the existing market integration framework. The paper demonstrates that market learning will play a mediating role between the traditional factors studied in the export market integration debate, like the state of the infrastructure, the possession of assets and access to (micro) credit. A higher level of market learning will strengthen market integration, and subsequently increase food availability on the market and improve smallholders' livelihoods. The implication is that in addition to strengthening factors that reduce transaction costs, policy-makers should design and implement interventions that help smallholders to develop more insights in their market as a basis for individual-level decision-making.

Key words: Markets, market integration, smallholders, market learning.

INTRODUCTION

In most African countries, agriculture is an economic sector of substantial importance. In Sub-Saharan Africa, it accounts for about 30% of the Gross Domestic Product (GDP), 75% of total employment, and 40% of total export earnings in the region (Reij and Smaling, 2008; Hazell, 2013). Agriculture is in this part of the world dominated by smallholder farmers (Ochieng, 2007). However, smallholders face difficulties in accessing markets to sell their produce, causing a decrease in their living standards and a lower market availability of food ((Van der Heijden and Vink, 2013; Lyttimäki et al., 2011). Improving access to markets is therefore an important way to ultimately reduce poverty (Piamongsant and

Ingco, 2003; Kitinoja et al., 2011; Kader, 2012).

Smallholders typically produce for subsistence while the surplus is sold at the market (Fafchamps, 1992; Kherallah et al., 2002; Poulton et al., 2010). Well-functioning marketing systems may help to bring these products from primary producers to consumers. Smallholders usually sell their products to traders who aggregate the products. These, in turn, resell to other traders for further aggregation, or to formal-sector companies that may process, trade or export the products (Gabre-Madhin, 1997; Fafchamps and Minten, 1999; Arnould, 2001).

For smallholders, marketing is, however, expensive in

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terms of costs and potential risks (Meissner, 1989; Tollens, 2010). Economists have therefore investigated factors that will affect the marketing costs and risks. These factors include in particular the quality of infrastructure, the accessibility to credit, the assets owned by the household, the availability of market information, and the relationships with traders (Reardon et al., 2009). Although these factors often have a significant impact on market integration (Kabbiri et al., 2016), studying these concrete supply-side factors also has a limitation, in that they are taken from the institutional environment in which smallholders operate. This approach follows the logic that smallholders' market integration depends significantly and directly on the institutional conditions. For example, market information is mostly seen as an institutional factor and as such approached in terms of whether or not smallholders have access to it. However, according to business researchers market information is also an individual-level factor since it should be actively acquired and interpreted before it becomes instrumental (Day, 1994; Kohli and Jaworski, 1990; Sinkula, 1994). Market information can therefore be available in the smallholders' environment, but may not necessarily contribute to the production and marketing of agricultural products that are accepted by customers. A complementary perspective is therefore necessary that emphasizes the role of market information at the individual level of the smallholder.

The academic discipline mostly concerned with that perspective is marketing. According to this discipline, a business (such as a smallholder's "business") basic reason for existence is to satisfy customers (Drucker, 1954). Satisfying customers entails decisions on which customers to focus on and then to specialize the business so that it can produce output that meets or exceeds customers' expectations (Vargo and Lusch, 2004). Businesses that produce outputs that meet or exceed customers' preferences and customers' expectations are oriented towards their markets (Kohli and Jaworski, 1990; Narver and Slater, 1990), thereby inferring that they learn from their markets in that they generate information, make sense of it and respond to it (Sinkula, 1994; Slater and Narver, 1995).

In the same order of ideas, smallholders can generate new insights from their markets and make use of these insights in their decisions. Such a process is referred to in the following as *smallholder market learning*. Because market learning generates insights that smallholders make use of in their marketing decisions, incorporating the concept of market learning in the conceptual framework of market integration is a key first step in developing a more complete perspective on the market integration of smallholders.

This article offers such integration by providing a conceptual framework that is explained in the next section. The following sections subsequently explain the different components of that framework (the institutional

environment, the drivers of market integration, the role of market learning, and the consequences). The paper will finish with conclusions, directions for future research and concrete implications.

CONCEPTUAL FRAMEWORK

The general conceptual framework is portrayed in Figure 1. Four groups of variables are distinguished: market integration, market learning, the value chain and institutional environment, and the market integration drivers from the development literature. Market integration is referred to as the share of production sold by smallholders to markets (Bernard et al., 2008; World-Bank, 2008; Maertens et al., 2011). Drivers of market integration have been extensively studied (Alene et al., 2008; Chamberlin and Jayne, 2013; Kabbiri et al., 2016), following a transaction cost logic (Williamson, 1975). Asset holdings, quality of infrastructure, access to credit, community support, and relationships with traders have been found to have direct and significant effects on market integration. The next sections will explain the relationships in the framework and integrate the concept of market learning into the previously studied relationships.

Smallholders' institutional environment

Smallholder market learning is explained from the institutional environment in which smallholders operate. We referred to the institutional environment as the socially constructed "rules of the game" that define and control production and exchange within a society (North, 1990). Smallholders operate in a different institutional environment than traders do (local and urban traders and food companies) (Adekambi et al., 2015). Smallholders live in a rural environment that is often highly dominated by informal institutions, such as values, norms, and beliefs, while food companies belong to an environment that is much more led by formal institutions, such as regulatory rules and laws (Rivera-Santos and Rufin, 2010; Rufin and Rivera-Santos, 2013). Actors in the informal environment engage by definition in unreported activities. Although they are easy to enter for resource-poor actors (Dayaratna-Band, 2007; Fafchamps, 2001) because no fees are required for registration, it is often difficult to leave informal economies, since producers are socially embedded in a network of other actors they count on for crucial resource inputs like labour and capital (Babah et al., 2019).

In the informal environment, smallholders are usually connected to food companies –through collectors (small-scale traders who collect products from smallholders) and then larger traders (Gabre-Madhin, 1997). Collectors visit villages that are sometimes remote and often buy small

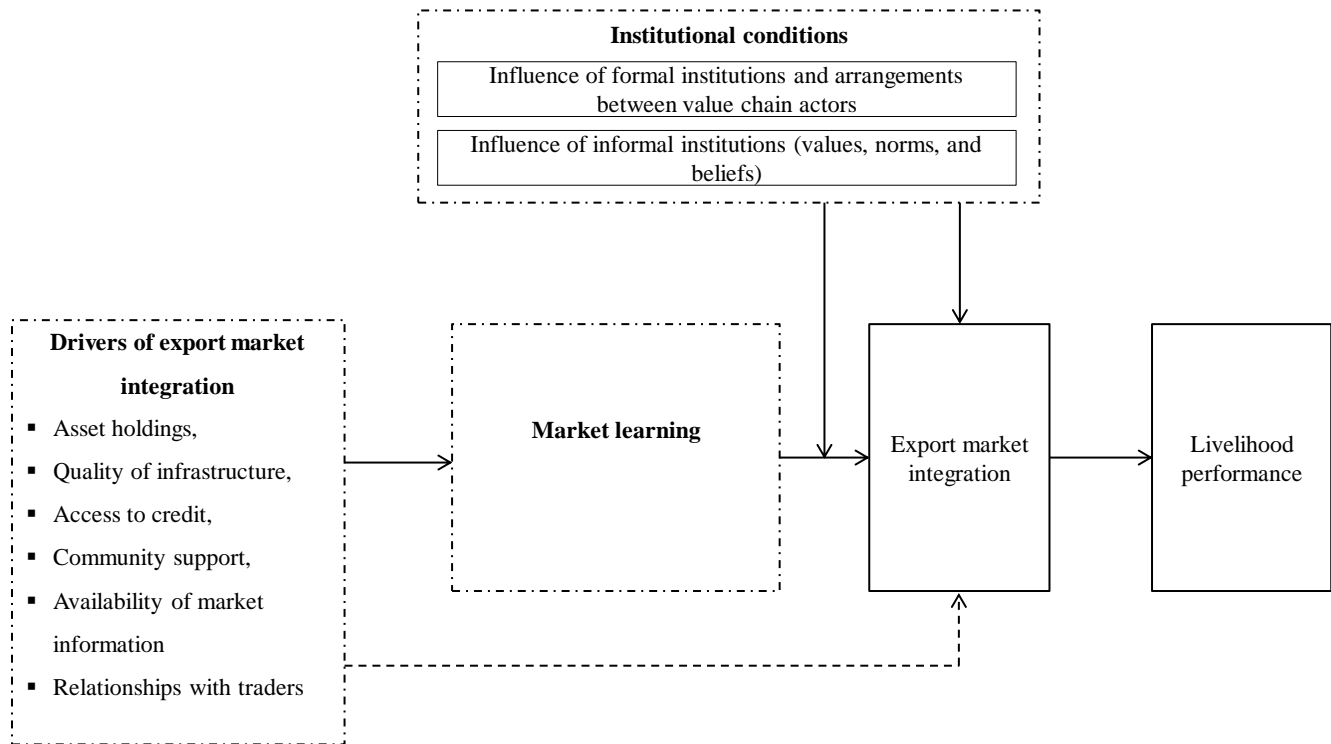


Figure 1. Conceptual framework.

quantities of products that they sell to traders. Traders sell the products at informal markets and/or sell to food companies through their procurement agents. Smallholders that sell to customers in informal markets are almost by definition constrained to markets with low purchasing power that are more sensitive to price than to quality. Differentiation generally takes place more on the basis of relationship-building, like doing favours and offering credit, than on product quality (Viswanathan et al., 2010).

Products that are not sold to consumers in informal markets are collected from different villages and municipalities and delivered to companies. Distances between smallholders and food companies can therefore be large, both in terms of geographic distance and in terms of the number of intermediaries in the system before the products reach the company (Marter, 2005). Market feedback from the company may therefore get distorted or not arrive at all at the level of smallholders, unless the company makes an extra effort to organize the system.

Standards represent one of the mechanisms used to bring this level of organization. They usually pertain to quality aspects of the products, also including food safety and hygiene and sometimes environmental and social aspects, like how biodiversity and farm workers are treated. Standards are referred to as codes of conduct that consist of a description of specific aspects of a product “which are accepted for current use through

authority, custom, or general consent” (Utterback, 1996: 29). They are formulated by the companies or third parties and communicated to smallholders. Standards serve as a “license to deliver” by the companies in their procurement processes (Reardon and Berdegue, 2002; Swinnen, 2007). They are particularly important for products that are sensitive for safety or quality violations in the informal environment where governmental regulative institutions are often inadequate to protect the interests of companies (Swinnen, 2007; Tran et al., 2013). Because standards can be seen as a formalization of customer preferences, they stand as an efficient means to reinforce the customer focus of a chain.

Smallholders’ compliance with standards cannot be taken for granted. Actors in informal economies generally possess small holdings (e.g., small pieces of land) and have limited access to critical production factors, such as capital, information, and (basic) infrastructure such as storage facilities, market and road infrastructures (World Bank, 2008; Banerjee and Duflo, 2007; Viswanathan et al., 2010a). As such, they generally face difficulties producing quality at a consistent level. Moreover, smallholders often produce small quantities, making their produce difficult to trace back. The high level of inconsistency in quantity and quality of supplies therefore forces companies to buy from many suppliers to meet the desired volumes. Lack of storage facilities may lead to the loss of products, in particular for perishable products. This results in a decline in product quality, and therefore

a decline in shelf life. Low coverage and poor quality of road infrastructure may prevent smallholders from producing quality products, since it isolates them in more remote areas (Ruben et al., 2007).

Smallholders may also lack information about the precise standards, particularly when they reside in more remote places that are rarely visited by extension agents (information providers that are usually employed by governmental or non-governmental organizations to improve agricultural practices) and only by one or few traders. In addition, the length of the value chain may also distort information (Marter, 2005). Consequently, smallholders are not always aware of the product standards and the higher rewards associated with producing in accordance with these standards. Non-governmental organizations (NGOs) sometimes assist smallholders, creating a more enabling environment. NGOs can provide training and coaching supports in (micro-) credit and technical assistance (Hens, 2012). Companies may also establish their own "buying force" of intermediary traders that are training to communicate standards and control their purchases.

Formal institutions and the arrangements between companies and smallholders will also affect the extent and type of market information that is present in the channel and whether and how such information is disseminated to smallholders (Adekambi et al., 2015, 2018). They provide the conditions for the information to flow from one actor to another within the value chain, including both the mechanisms through which information is transmitted and the incentives to actually use these mechanisms. The establishment of digital networks that provides information to smallholders (Kamani, 2016; Haworth et al., 2018) is an example of such mechanisms. A higher price paid for products that meet the quality standards usually provides an incentive to indeed transmit information to traders and smallholders at the base of the value chain. As such, the institutional conditions will not only influence market integration directly, but they will also moderate the effect of smallholders' market learning on the outcome variables.

Drivers of market integration

The question how smallholders' market integration can be improved is examined primarily in development economics (Piampongsant and Ingco, 2003; Fafchamps et al., 2005; Swinnen and Maertens, 2007). The main reason is that market integration is considered as an antecedent of economic growth and poverty reduction (IMF, 2001; World Bank, 2008). These studies typically adopt a transaction cost approach (Williamson, 1975), following the logic that the decisions whether and how much smallholders sell to markets depend on the costs related to the transaction. Such costs appear to be affected fundamentally by behavioural, volume, and technological uncertainties (Williamson, 1975).

Behavioural uncertainty is related to buyers' opportunistic behaviours that arise relatively frequently in informal economies (Viswanathan et al., 2010a), due to weaker influence of formal regulative institutions (Burgess and Steenkamp, 2006). Volume uncertainties occur when the required volume of buyers cannot be accurately adapted to the (potential) supplied volume of suppliers (Walker and Weber, 1984). Technological uncertainty occurs when it is difficult to anticipate, predict or understand production systems (Downey et al., 1975; Milliken, 1987). When examining the drivers of market integration, development economists generally contextualize these three fundamental antecedent factors into six concrete factors that are likely to influence transaction costs in informal parts of the system. These factors are asset holdings, community support, access to credit, quality of infrastructure, relationships with traders, and availability of market information.

Asset holdings refer to smallholders' belongings such as agricultural land and production equipment (Boughton et al., 2007; Barrett, 2008). They serve as important sources of financial support that enable smallholders to make the more risky specific investments in quantity and quality necessary to sell to the markets (Minten et al., 2009; Reardon et al., 2009). Credit and micro-credit in particular, minimizes smallholders' financial constraints, and as such provides them with another basis for making the required investment in equipment and skills to respond to their customers' expectations (Khavul, 2010; Bruton et al., 2011). Communities and families also appear to play a part in smallholders' market integration (Fafchamps, 2004; Holloway et al., 2007). They are sources of extra labour, and serve as financial buffers that give resource injections in smallholders' businesses (Fafchamps, 2004; Viswanathan et al., 2010b; Tadesse and Shively, 2013). The poor quality of road infrastructure contributes to increase transaction time and thereby may augment transaction costs and it may hamper traders that visit the producers to transport the produce. Traders may therefore experience quality losses and delays due to a lack of storage facilities (Swallow, 2005; Mu and Van de Walle, 2011; Rao and Qaim, 2011).

For traders as well as companies, the behaviour can also be uncertain. For instance, the trader may not go back to smallholders after buying from them on credit (Fafchamps and Minten, 1999; Ali and Peerlings, 2011). To protect themselves against behavioural uncertainty, smallholders often engage in social relationships (Fafchamps, 2004). Through support to each other and reciprocity among themselves, they for example, share knowledge and other resources with each other. Another factor that is likely to affect transaction costs is market information. As mentioned earlier, market information can be treated as an institutional factor (as something that is available in a sector or not), as well as withheld from some market participants or distorted or manipulated in buyer-seller relationships (Marter, 2005).

The present article sees market information also as an

individual-level factor, because like any other business, smallholders may differ in obtaining and processing of information (Slater and Narver, 1995). The role that market information plays in the value chain can therefore also be approached from a market-learning viewpoint. The basic assumption of transaction costs theory is that smallholders are rational, have full access to market information, and face no difficulty in processing the information when comparing the costs and benefits associated with different market segments. Less attention has therefore focussed on the *process* of market integration from the perspective of smallholders themselves. This is important because smallholders' actions and attitudes towards markets may develop over time when they acquire more understanding of the market that they produce for. In doing so, they may vary in the opportunities that they see in the market, even though the information that they can reach is identical. In that respect, the rationality of the producers, like that of any decision-maker, is bounded (March, 1991; Williamson, 1979). Therefore, there is a room for complementary theoretical perspectives that acknowledge the bounded rationality of smallholders more explicitly.

Market learning as a complementary approach to understand market integration

Market learning theories have to do with the question how businesses learn about their markets. They belong to organizational learning theories (Levinthal and March, 1993; March, 1991), that in turn evolved from the behavioural theory of the firm in which bounded rationality of decision-makers is fundamental (Cyert and March, 1963). Because empirical studies in the marketing literature highlight the importance of the firm's ability to learn from markets on its survival and success (Moorman, 1995; Petersen et al., 2008; Song and Shin, 2008), market learning is a logical concept to study smallholders' market integration.

Market learning is a capability that enables businesses to acquire the ability to process and deploy market knowledge that is required to create superior customer value (Grant, 1996). However, market information is often ambiguous, making learning tasks difficult for smallholders to accomplish. Its ambiguity is due to the fact that the precise meaning of market information is open to different interpretations. For instance, consumers find it often difficult to reveal their preferences, the boundaries of market segments are fuzzy, and competitors may involve companies from different areas that use different technologies (for example, imported tinned pineapple competes with fresh mango's for consumers' expenditures). Drawing on Huber (1991), the literature on market learning in formal-sector businesses, often conceptualizes market learning as four interrelated

processes. These include information generation, dissemination, interpretation, and utilization (Sinkula, 1994; Slater and Narver, 1995; Moorman and Miner, 1997; Diamantopoulos and Souchon, 1999).

Information generation is conceptualized as the acquisition of market knowledge via different mechanisms such as market research (for example, customer surveys, analysis of exogenous market factors such as competition, technology, and government regulations), along with formal and informal discussions between customers and trade partners (for example, collectors, companies). Information dissemination refers to the formal (for example, formal meeting) and informal (for example, stories, informal conversations) diffusion of market knowledge to relevant actors who participate in the value creation process. Information interpretation concerns the process through which information is given some commonly understood significance. Finally, information utilization is referred to as the actions undertaken to effectively use information for decision making purposes (Slater and Narver, 1995; Souchon and Diamantopoulos, 1999; Diamantopoulos and Souchon, 1999; Theodosiou and Katsikea, 2013). Empirical studies on market learning reveal that businesses may differ in the acquisition and processing of information (Day, 1994; Sinkula, 1994; Slater and Narver, 1995).

The context of smallholders clearly differs from that of companies operating in formal sectors of the economy, but also smallholders may generate information from their market connections. They may acquire information from traders that come to visit them and they can ask explicit questions that traders may answer at their next visit. Smallholders may also share information with their community members, discuss that information to give meaning to it, and inventorise the possible consequences of the decisions that they should take (for instance, -what are the risks of growing a new variety for a new customer?).

Because smallholders may still face multiple market opportunities within their environment from which they can choose (growing different crops that can be sold at local informal markets, formal markets that require compliance with standards, or self-consumption), the decisions of whether and how much to sell to a marketing channel may not only be dependent on the corresponding transaction costs, but also logically on what the seller has learned, and on how (s)he learns. Thus, the integration of producers with markets is a complex process that requires attention in addition to the process outcome (the degree of market integration). To integrate with markets, smallholders need to build up competencies that help them to learn from their market environments which traders are reliable and/or to respond to the requirements of their on-going trade-relations. Market learning helps the sellers to understand which opportunities are available in their environment, and it also addresses how they can select and seize such opportunities (March,

1991; Kyriakopoulos and Moorman, 2004; Atuahene-Gima, 2005).

The smallholder market learning concept suggests that market information acquisition, sharing, and interpretation are crucial factors in understanding one's markets, customers, and competitive position (Kohli and Jaworski, 1990; Day, 1994; Sinkula, 1994; Moorman, 1995). Because market learning provides smallholders with competencies respectively to sort out and seize the market opportunities, learning leads to export market integration. Market learning processes themselves require input in terms of information to become aware of opportunities, or more precisely market relationships with traders that bring such information (Adekambi et al., 2015), social relationships with community members to debate and interpret information with others (Fafchamps, 2004). Assets like land and input materials as well as financial capital to make investments, are necessary to seize opportunities. Because the awareness, interpretation and ability to seize opportunities can be seen as sources of transaction costs (Reardon et al., 2009), market learning in fact reduces transaction costs. As such, market learning can be seen as a consequence of the drivers of export market integration that are discussed in the development literature. Hence, the conceptual framework therefore includes market learning as a mediator of the relationships between the drivers and export market integration.

Consequences of market integration

Market integration in which smallholders learn from their markets is likely to lead to the similar outcomes as those indicated in the market integration literature. First, past studies have shown that successful market integration profits food companies, which can expect more consistent deliveries in terms of quantity and quality and fewer losses (Ruben et al., 2007; London et al., 2010).

The effects are however not only beneficial to companies in the formal part of the chain, they will also benefit the smallholders. Extant studies in the development literature see the integration with markets as a key driver of livelihood performance, as export marketing channels offer higher prices than local markets, and with these higher prices, smallholders can better cover their basic needs like medical expenses, costs for schooling their children and buying consumer goods (Arnould et al., 2009; Minten et al., 2009; Maertens et al., 2011). Considering that more than 43 per cent of the population in this part of the world live with less than US\$ 2 a day, the connection with markets may offer them a direct opportunity to move out of poverty (Karnani, 2007). At the macro level, market integration is therefore positively related to the national income and growth of developing countries (Dollar and Kraay, 2004; Achchuthan, 2013; Billmeier and Nannicini, 2013).

CONCLUSION AND IMPLICATIONS

This article has integrated the concept of market learning in the market integration framework as it is suggested in development economics. The inclusion of the market learning concept also implies that there are new relationships in the framework. A deeper understanding of these relationships may be a basis for new development interventions that strengthen market learning and can further strengthen the integration level of smallholders with markets, better livelihoods for their families, better procurement conditions for companies, and in the long run a higher economic growth.

Market learning enables smallholders to select the customers/marketing channels that are most suitable for their situation and seize the opportunities provided by these customers. Companies and policy makers can influence that situation by starting new channels, thus creating new opportunities for smallholders. They can also design and implement interventions in the institutional environment of the system. Such interventions should be developed from a learning perspective, meaning that not only the content of the standards matters, but also how they are introduced and disseminated. Think for example of developing tools that help extension workers to explain standards to smallholders and developing incentives for traders to transfer information on standards or other customer preferences so that they "pull" the desired varieties and qualities from the supply, encourage smallholders to produce more of such varieties and qualities, and share information on the market expectations and risks pertaining to this channel. Such interventions help smallholders to learn about new opportunities, trade-off the risks and benefits, and integrate these in their own decisions. Depending on the farm resources and the personality of the farmer (e.g. risk aversion), decision outcomes may differ between smallholders, but the learning process enables them to choose and seize the opportunities that fit them best, and learn on how they can further benefit from the market in the future.

Directions for future research

Empirical research from a market learning perspective will be necessary to better understand the barriers for learning, the forms of learning and its relative impact. Such a research program should probably start with qualitative studies that refine the framework proposed in this article. These qualitative studies may examine how information flows from downstream food companies to upstream suppliers and smallholders. It may also obtain a deeper understanding of the barriers in the information flow, like the decisions that chain members may take about which information they move forward and what they withhold.

To understand the relative impact of market learning as a driver of market integration, quantitative studies will also be important. Future research may in that respect also draw on the learning literature to study different forms of learning from markets. One particularly interesting view is whether smallholders explore their market in order to discover new opportunities or whether they try to refine their knowledge thus developing the capabilities that help them to seize one opportunity more effectively. In the literature these two forms of learning are respectively known as exploratory and exploitative learning (Kyriakopoulos and Moorman, 2004; Atuahene-Gima, 2005).

Finally, research may study the effectiveness of interventions that aim to strengthen market learning at the smallholder level. Interventions developed from this perspective may reduce food losses and improve smallholder livelihoods. A rigorous examination of the intended effects may help the design and implementation of future interventions in that respect.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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