Market Orientation in Ethiopian Seed Producer Cooperatives: Implications for Performance and Members' Livelihood Improvement

Dawit Tsegaye Sisay

Thesis committee

Promotor

Prof. Dr J.C.M van Trijp

Professor of Marketing and Consumer Behaviour

Wageningen University & Research

Co-promotor

Dr F.J.H.M. Verhees

Assistant professor, Marketing and Consumer Behaviour Group

Wageningen University & Research

Other members

Prof. Dr J.H. Trienekens, Wageningen University & Research

Prof. Dr P.C. Struik, Wageningen University & Research

Prof. Dr K. Koelemeijer, Nyenrode Business University, Breukelen

Dr Berhanu Gebremedhin, ILRI, Ethiopia

This research was conducted under the auspices of the Wageningen School of Social Sciences (WASS).

Market Orientation in Ethiopian Seed Producer Cooperatives: Implications for Performance and Members' Livelihood Improvement

Dawit Tsegaye Sisay

‘

Thesis

submitted in fulfilment of the requirements for the degree of doctor

at Wageningen University

by the authority of the Rector Magnificus,

Prof. Dr A.P.J. Mol,

in the presence of the

Thesis Committee appointed by the Academic Board

to be defended in public

on Tuesday 11 April 2017

at 4 p.m. in the Aula.

Dawit Tsegaye Sisay
Market Orientation in Ethiopian Seed Producer Cooperatives: Implications for Performance and Members' Livelihood Improvement,
217 pages.

PhD thesis, Wageningen University, Wageningen, the Netherlands (2017)
With references, with summary in English

ISBN: 978-94-6343-107-1
DOI: 10.18174/406574

To Mihiret, Kidus and Kaleb

Acknowledgements

Many people and organizations have participated in, contributed to, and support this study. Without their active support, the completion of the study would not have been realized. I would like to express my sincere appreciation for all of them.

I am grateful to the Directorate General for International cooperation of The Netherlands through the Embassy of the Kingdom of the Netherlands in Addis Ababa, Ethiopia for funding the Integrated Seed Sector Development (ISSD) Program of which this research project was a part. I would like to thank Prof Hans van Trijp for his interest and confidence in my application for the PhD position, and allowing me to pass through the 'sweet' and 'painful' PhD trajectory.

I would like to express my deepest thanks to my promotor Prof. Dr. Ir. Hans J.M. van Trijp and my co-promotor Dr. Ir. Frans J.H.M. Verhees for their diligent and valuable guidance, unreserved support, critical comments and insights, and encouragement from the beginning of this PhD project to the end of the entire thesis. This thesis would not have been completed without their professional guidance, advice and support; many thanks! Hans, thank you very much for your dedication and support to help me, for critical comments, enthusiastic discussions and encouragement. I was surprised that during the discussions you always started by noticing my efforts, although there were limitations and a lot needed to be done. Then step by step you clearly indicated where I should do more work and where to focus. I usually felt encouragement and found new 'forward spirit' after our meetings, although not always. Especially, I liked very much your sketches or drawings at the end of the discussion, which were important to make sure I was on the same track as my supervisors. You patiently guided me in every step. Dear Hans, I always appreciated that you made me feel welcome, even though you were always extremely busy. Thank you for encouraging and inspiring words during the challenging periods and when I was home sick.

Dr Frans, thank you very much for your day to day guidance, critical suggestions, comments, criticism and interesting discussions. Your office is always open, even during times when you are busy with other academic assignments; I thank you for this devotion. Frans, your background in agricultural science, and field experience with the seed sector and marketing in Ethiopia benefited this PhD project by identifying researchable problems, planning and conducting research, and reporting. I also thank you for regular skype meetings when I was back home for field work.

I would like also thank the thesis examining committee members, Prof. Dr J.H. Trienekens, Prof. Dr P.C. Struik, Prof. Dr K. Koelemeijer and Dr Berhanu Gebremedhin, for their interest and willingness to

critically review this thesis work and contributing to the public defence. I appreciate their valuable contribution in this regard and am honoured to have you as my thesis examiners.

I would like to thank the ISSD staff (past and present) at CDI/WUR, program management unit (Addis Ababa), regional units in Bahir Dar, Hawassa, Haramaya, and Mekelle universities, and Oromia seed enterprise for their support during this PhD trajectory. At CDI/WUR, I especially thank Marja, Gareth, Abishkar, Mirjam and Karen for their support and for individual talks we had in the Netherlands. My special thanks for Marja and Walter for their encouraging words during their high involvement in the LSB project, and the ISSD program. Marja, I thank you for your support particularly during the first months of the PhD project, and for your critical review and valuable comments on one of the chapters of this thesis. Besides professional advice, your facilitation is highly appreciated. Thank you for taking care of financial and administrative issues.

At home, I thank Dr Amsalu Ayana for his positive thinking, support and willingness to facilitate my travel to the Netherlands to do my study. I would like thank all ISSD staff and coordinators (past and present) for their support during data collection and all the relevant information that they provided for this study. I am grateful for ISSD/Amhara unit colleagues, Dr Tadesse, Daniel, Seid, Mesfin, Demeke M, Minilek, Ahmed, Dr Tesfaye, Adamu, Alemnew, Aderaw, Legesse, Biressaw, Simegn, Mengistu, Amanu, and Dr Dereje, for the time we spent together in the project. My special thanks for ISSD experts, particularly Abdo, Anteneh, Arfassa, Demeke S, Diriba, Edeo, Gebregzihaber, Negus, and Tadesse, for their great support during data collection. I cannot imagine how it would have been possible for me to gather data across the country without their kind and wonderful support; many thanks! I also thank Amhara Regional Agricultural Research Institute for allowing me to use the library and computer room, and for great support of librarians; Kalkidan, Habtam and Yebelay. I would also like to thank various government and non-government organizations and individuals for their support during data collection, such as delivering messages to interviewees and for their kind logistic support. It is impossible to mention all of them here. My special thanks go to the experts that assisted me with translating interviewees' response from Oromiffa and Tigregna to Amharic and vice versa. I thank also Aderaw for the back translation of the questionnaire.

I am thankful to all of my colleagues in the Marketing and Consumer Behaviour Group for their helpful approach and advice during my stay in the Netherlands. Ivo van der Lans, thank you for your advice and help in data analysis. Arnout Fischer and Ynte van Dam, thank you for help in statistical analysis and suggestions on specific topics. To my office mates (past and present), thank you very much for the time we spent together and for a good working atmosphere. Ellen, Liesbeth, Johnnatan

and Marloes, thank you very much for all your help and facilitation regarding administrative and financial matters. My special thanks go to Robert Goedegebure and Quang Ta Minh for their willingness to be my paranymphs.

To all friends, I thank Mohammed, Merga and Shimelis for helping each other particularly at the time of proposal development as we were working under the umbrella of one project. I am grateful my Ethiopian friends in the Netherlands; Workneh, Adane, Lebeyesus, Mebrahtu, Desalegn, Baye, Mulatie, Yalemzewd, Delelegne, Mohammedamin, Beshier, Mohammed B, Brehan, Mequanint, Belay and Abebayehu, for the good times we had together. My special thanks for Abate, Genet, Biructawit, Addisalem, Shiferaw, Adugna, Aregaw, Lemessa, Meron, Bethelhem, Thomas, Aregash and Masresha for group spiritual devotion time, Bible study, dinners and helping each other in time of difficulties. I also thank the Emmanuel Evangelical Church of Wageningen and its leaders and members, for the good time we had and spiritual blessings we shared. I am also grateful to the foreign friends I met in Wageningen from all over the world including Waliou, Daniel, Faith, James, Emmanuel, Alex, Vilarie, Rose, Femi, Ioana, Keiven, Souvik, Haldar, Anita, Gula, Akshita and Yvon .

I thank my sisters and brother (Mekdes, Helen, Lemlem and Firew), my father and mother-in-law (Mr Mulugeta and Mrs Muluemebet), my sister and brothers-in-law (Hiwot, Dawit and Abey) for their support and encouragement. Firew, thank you very much for taking care of our kids in my absence.

Very special and big thanks for my beloved wife Mihiret (Milla) and my sons Kidus and Kaleb for their unconditional love, affection, patience and support. Milla, I am because you are, thank you very much again. Thank you for being with me in all ups and downs and taking care of our kids during my long period of absence. My PhD study would have been difficult without your support and courage, I love you forever.

Dawit Tsegaye Sisay

Wageningen, April 2017

Table of Contents

Chapter 1

General Introduction

1.1 Background and problem statement

Sharp increases of food prices in global and national markets affect low-income countries (Ivanic & Martin, 2008). Increasing food prices result from the imbalance between the growth of world population and agricultural production (see Godfray et al., 2010; Ray et al., 2012). It is estimated that the world population will reach 9 billion people by 2050, indicating that the population is growing at an alarming rate (Godfray et al., 2010). Agricultural production, however, improved less than the rate of population growth. As a result the number of hungry and malnourished people increased in different parts of the world (FAO, 2009). The problem is particularly prevalent in sub-Saharan Africa (SSA) and South Asia. The global demand for agricultural production is expected to roughly double by 2050, driven mainly by increases in population (Ray et al., 2012). Global food crises have increased the awareness of policy-makers. It stimulates them to design, allocate resources to, and implement development interventions in order to improve global agricultural production and distribution (FAO, 2009). However, a lot has to be done to overcome the problem.

1.1.1 Agriculture and food security in sub-Saharan Africa and Ethiopia

Agriculture employs 62% of the population of SSA, excluding South Africa (FAO, 2006; World Bank, 2006). However, it generates only 27% of the GDP of these countries (FAO, 2006; World Bank, 2006). This difference indicates a low productivity per employee in the agriculture sector. In Zambia, for instance, the agriculture sector generates about 21% of the country's GDP and provides a livelihood for more than 64% of the population (Kaczan et al., 2013). Malawi's agriculture sector accounts for approximately 30% of GDP and 90% of employment (Kaczan et al., 2013). This shows that the economies in SSA are dependent on agriculture (Diao et al., 2010).

Despite its size, the agriculture sector cannot feed the growing population in SSA and many people still live in poverty (Clover, 2003). Poverty is measured by the percentage of people living on less than US$1.25 a day (World Bank, 2008). Taking US$1.25 a day, in SSA almost 50% of the people live in poverty (Chen & Ravallion, 2010). More than 60% of the rural population lives in poverty, and almost 90% of the rural population lives on less than US$2 a day in SSA (IFAD, 2011). Moreover, no significant progress has been made in SSA as evidenced by the fact that half of the population remained below the poverty line in 2005, which is the same level as in 1981 (Thorbecke, 2013). People under poverty cannot and/or rarely have access to nutritious food which jeopardizes food insecurity. Food security at household level exists "when individuals in the household, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life." (FAO, 1996). Individuals who are food secure do not live in hunger and fear of starvation (FAO, 2006).

Major causes of food insecurity are drought and flooding (Shiferaw et al., 2014). Drought is mainly caused by lack of rain as a result of extreme climate change (Wheeler & van Braun, 2013). It affects the food production in SSA because agriculture is mainly dependent on rain fall (Calzadilla et al., 2013). In SSA, extreme droughts impede people's ability to grow food (Kebede et al., 2011; Songok et al., 2011b). Flooding increases due to climate changes (Tschakert et al., 2010), which reduces the areas suitable for agriculture and declines agricultural yields in many regions of SSA (Sarr, 2012). In total, droughts and floods account for 80% of the loss of life and 70% of economic losses in SSA (Bhavnani et al., 2008).

Importantly, growth in agricultural outputs in SSA is slower than the growth of the population in the region (FAO, 2009) and hence agricultural production cannot totally feed the expanding population in SSA (Suttie & Benfica, 2016). Low agricultural production is caused by several factors including the limited use of irrigation and the fact that agriculture is mostly dependent on small scale subsistence farms. In SSA, agriculture production is largely dependent of rain fall and only 4% of agricultural land is irrigated (Burney et al., 2013). Although an estimated 40 million ha are suitable for irrigation, only 7.3 million ha (18% of the total potential irrigable land) are actually irrigated (Burney et al., 2013). As a result, the majority of farmers produce only once in a year during rainy season which limits agricultural production. Small scale subsistence farmers are the overwhelming majority of agricultural producers in SSA. They are asset-poor smallholders, who use simple technologies (e.g. hand hoes and oxen) and traditional cultivation practices (low agricultural input practices), which further adds to low productivity (Haddad et al., 2011). This low agricultural production further contributes to low income for farmers and affects their livelihood.

A livelihood comprises the capabilities, assets (material and social resources) and activities required for a means of living (Ellis, 2000). Agriculture is the largest economic sector in terms of livelihood provision in SSA (Rakotoarisoa et al., 2011). In SSA, between 40% and 70% of rural households earn more than three-quarters of their income from agricultural production (IFAD, 2011). This clearly indicates that agriculture can contribute to improve livelihood for the majority of the rural poor (DFID, 2004; World Bank, 2008). It is estimated that every 10% increase in yields in SSA leads to a 7% reduction in poverty of rural household and thus livelihood improvement (Pretty et al., 2011). Beyond livelihood, agricultural productivity contributes to economic growth and economic development (Juma, 2015). Moreover, high agricultural production increases exports of agricultural products from SSA to the world markets, which is important to economic development, because it provides countries with foreign currencies and thus opportunities to buy other resources (IMF, 2007; UNCTAD, 2010; World Bank, 2007).

In Ethiopia, the situation is similar to most of SSA in that the economy of Ethiopia is largely based on agriculture (Evangelista et al., 2013). In Ethiopia the agricultural sector provides direct livelihood for about 83% of the population, and contributes around 42% to the GDP (CSA, 2016). Agricultural exports, on average, contribute around 90% of total exports earnings of the country. In terms of employment, agriculture engaged the largest proportion of the population, employing 85% of the labour force in Ethiopia (CSA, 2016). This makes the agricultural sector the most important economic activity in the Ethiopian economy.

Ethiopian agriculture, however, is plagued by drought (Rahman, 2008), unexpected flooding and El Niño (Battisti & Naylor, 2009; WFP, 2016). Ethiopia's agricultural system is highly dependent on rainfall, particularly on the amount and seasonal distribution (Bewket, 2009; Tefera, 2012). The frequency of drought and irregular rainfall patterns in Ethiopia have increased in recent decades (Viste et al., 2013), which results in food insecurity (Bazezew & Bewket, 2013). With a population exceeding 86 million people, over 30% of Ethiopia's population is considered food insecure (CSA & WFP, 2014). In Ethiopia, poverty is more prevalent in rural (30.4%) than urban areas (25.7%) (MoFED, 2012). Ethiopia has shown significant agricultural development in the past years. For example, growth in cereal (maize, wheat, sorghum, barley, teff) production has increased by 7% per year from 2000 to 2009 (Taffesse et al., 2012). However, Ethiopia is still reliant on foreign aid.

Ensuring food security at rural household level is a challenge as rural households are smallholder farmers (Taffesse et al., 2012) who have small-sized farmlands and often do not use agricultural inputs (EEA, 2002). The average Ethiopian farmer holds only 1.2 hectares of land, with 55.13% of them holding less than 1.0 hectare (CSA, 2009). Most smallholder farmers do not use important agricultural inputs such as improved quality seed and fertilizers. Improved quality seeds in this context refers to seeds that have desirable agronomic (e.g. yield) and quality (e.g. colour, size) attributes that farmers want (Thijssen et al., 2008). In general, the use of improved seed by smallholders is low, although use of improved seed has shown increment over years (Atilaw & Korbu, 2011). Similarly, smallholders use low amounts of fertilizers (McIntosh et al., 2013). Use of improved seeds and fertilizers provides higher yields (Spielman et al., 2010; UNCTAD, 2010). However, smallholders cannot access these agricultural inputs because the cost of the inputs is high, which they cannot afford, and seed supply from producers is limited (Bernard et al., 2008). Moreover, smallholder farmers also often do have less access to modern agricultural machineries (Gautam, 2006). The limited use of modern technologies (machineries) and agricultural inputs by smallholders results in low productivity (Deressa & Hassan, 2009). Because of low productivity, smallholders supply few products to the markets. Sometimes they may have nothing to sell due to crop failure.

Hence, they hardly obtain sufficient income from their farm (Yesuf & Bluffstone, 2009). As a consequence the large majority of smallholders are not able to feed their families and cannot obtain sufficient nutritious food, better medical care, and education for their children.

1.1.2 Improving seed supply and seed producer cooperatives in Ethiopia

Various approaches have been followed to increase agricultural productivity and to ensure the livelihood of rural communities (Koko & Abdullahi, 2012). This includes improving production through agricultural intensification (maximizing the productivity of farmland with new agricultural inputs) and extensification (extending the size of existing farms) (Koko & Abdullahi, 2012; Teklewold et al., 2013). The government of Ethiopia has made significant efforts in terms of public investments to speed up the growth of agriculture (MoFED, 2012). For example, official figures supplied by Ethiopia MoFED show that, over the decade 2002/3-2011/12, agriculture was allocated an average of 15% of the government's development budget (Berhanu & Poulton, 2014). Government has tried to improve agricultural research and extension systems to support smallholders to access improved technologies (e.g. Dercon et al., 2009). Efforts have been made to supply quality seed to farmers. Skilled manpower supports agricultural research and extension to supply better technologies and inputs to farmers (Dorosh & Radish, 2012, Gebremedhin et al., 2009). Educating farmers is a key to help farmers to acquire knowledge and make appropriate decisions on their farm activities (e.g. Asfaw & Admassie, 2004). Connecting farmers to potential markets is another intervention that has been used to improve rural livelihood in Ethiopia (Bernard et al., 2008; Chen & Ravallion, 2007). Access to markets could help farmers to sell their produce to alternative buyers and obtain higher profits from the products they supply (Maertens et al., 2011). This is an important strategy to improve smallholder producers livelihood (Grwambi et al., 2016) as high production and commercialization contribute to an increase in smallholders' livelihood (Fafchamps, 2005).

Prior researches indicate that farmers, who organize themselves into producer organizations or cooperatives can overcome some of the challenges that affect their livelihood at individual level (Barham & Chitemi, 2009; Kaganzi et al., 2009). Cooperatives or producer organizations are rural organizations owned and controlled by farmers. Cooperatives can access inputs through collective actions and hence are able to reduce transaction costs so as to increase members' access to high value markets (Narrod et al., 2009) and to benefit from economies of scale (Bijman, 2016). Government and development partners can easily support and facilitate trainings and education for members to acquire technical skills and provide advice to improve agricultural production, when farmers are organized into cooperative (Alemu, 2011; Shiferaw et al., 2014). Cooperatives are suitable to provide agricultural inputs that benefit their members (Beyene, 2010) and hence

members of the cooperative do have better access to agricultural inputs and technologies than individual farmers (Bernard et al., 2008). Both in terms of quantity and quality, this support helps members of the cooperatives to improve their agricultural production to meet the market needs. In addition, cooperatives are able to keep the products properly stored until they find the appropriate buyers to sell it for good prices and obtain high income (Abate et al., 2014; Grwambi et al., 2016). Hence, cooperatives help members to access inputs, improve agricultural production, obtain higher income, and eventually improve livelihoods.

Agriculture could be improved through the application of quality seed (Louwaars et al., 2013). Agricultural production and rural development in Ethiopia certainly depends on the availability of improved quality seed to the farmers (see Alemu & Bishaw, 2015). Use of improved quality seed significantly increases agricultural production (FAO, 2012). For example, hybrid maize seeds (i.e. improved seeds) are estimated to have 30% higher yields than local maize (Holden, 2013). However farmers cannot fully access seed as they want in terms of quantity and quality (Emana & Nigussie, 2011; Thijssen et al., 2008). Access to seed includes the type (different crops and varieties), quality (e.g. colour, size, nutrition value etc.) and quantity (volume of seed) of seed (Alemu, 2010). In Ethiopia, only public institutes and a few private companies develop and multiply seed. They focus on only a few crops and cannot provide sufficient seed to farmers and are hence unable to satisfy the demand of farmers (Bishaw & Louwaars, 2012). Seed can contribute to agricultural production if and only if it is available in good quality, in sufficient quantity, at the right time, and for the right price (Louwaars & de Boef, 2012). Effective seed systems can improve the availability and supply of quality seed to farmers (ISSD Africa, 2012).

Well-performing seed systems refer to systems that guarantee and facilitate for effective delivery of quality seed to farmers (Louwaars et al., 2013). A seed system is a chain of production and distribution activities to supply seed to farmers. Effective seed systems allow farmers to choose their preferred seed in terms of seed type, quantity and quality (Alemu, 2010). In Ethiopia, seed systems are traditionally categorized into formal and informal seed systems (e.g. Atilaw & Korbu, 2011; de Boef et al., 2010; Louwaars et al., 2013). The formal seed system is a system that involves a chain of activities leading to certified seed of verified varieties (Louwaars, 2007). However, its contribution to the total seed supply is limited to a few cereal crops particularly hybrid maize and bread wheat (Bishaw & Louwaars, 2012), and covers only less than 10% of the total seed demand of the country (Atilaw & Korbu, 2011). The informal seed system in the Ethiopian context is defined as seed production and distribution practices where there is no legal certification in the process (Alemu, 2010). It provides access to seed adapted to local conditions, while making use of local resources

(Alemu, 2010; Thijssen et al., 2008). Recently an alternative seed system appeared in the Ethiopian seed sector, which is categorized as intermediary seed system (ATA, 2015; Hassena & Dessalegn, 2011). The system has distinct and overlapping features with the formal and informal seed systems (ATA, 2015). In intermediary seed system seed can be produced by local farmers under technical and financial support from different partners (GOs, NGOs). The system has various forms and considers different seed production approaches such as conservation oriented seed producer groups and farmers' research group-based seed production (Hassena & Dessalegn, 2011). Seed producer cooperatives (SPCs) are categorized under intermediary seed system because they have features of both formal and informal seed systems. The details of the Ethiopian seed sector and the roles and contributions of SPCs for seed supply improvement are briefly discussed in chapter 2 of this thesis.

Seed producer cooperatives are agricultural marketing cooperatives established by a group of farmers in order to supply quality seed to the markets (Alemu, 2011; FCA, 2016). They are specialized marketing cooperatives for seed business (Subedi & Borman, 2013). Like other cooperatives, SPCs aim to achieve members' common goal (i.e. to access inputs and supply quality seed to the market so as to obtain high income and improve members' livelihoods) that could not be accomplished by individual members acting on their own (Valentinov, 2007). The main objectives of SPCs are to produce and market quality seed to local markets and beyond, to make seed a commercial product, and thus to generate income and improve the livelihood of their members (Subedi & Borman, 2013). SPCs have to be commercial in order to perform well as a business. Market orientation theories and practices (Kohli & Jaworksi, 1990; Narver & Slater, 1990) are used as guiding frameworks for SPCs to be commercial and perform well in the business.

1.1.3 Market orientation for seed producer cooperatives in Ethiopia

Market orientation is defined as the implementation of the marketing concept (Deshpande & Farley, 2004). Market orientation is the cornerstone of the marketing discipline and contributes to long-term profitability (Deshpande & Farley, 2004; Kohli & Jaworski, 1990). It is a business approach or philosophy that focuses on identifying and meeting the stated and hidden needs and wants of customers (Narver et al., 2004). Market-oriented firms are known for their superior understanding of the expressed and latent needs of existing and potential customers and by their ability to offer solutions to those needs (Amirkhani & Fard, 2009; Ellis, 2006). Moreover, they do not only focus on short term profit, but focus on sustainable profits (e.g. Narver et al., 2004).

Seed producer cooperatives could benefit from a market orientation adapted to their context in order to satisfy their customers. SPCs' customers include individual farmers, big seed companies

(mostly through contract agreements) and other institutional buyers. Farmers directly buy the seed from the SPCs and use the seed for agricultural production (Subedi & Borman, 2013). Big seed companies (contracting parties) also buy seed from SPCs mostly on the basis of prior contractual arrangement (Ayana et al., 2013; Tsegaye, 2012). SPCs also sell their seed to institutional buyers such as development projects, government organizations and NGOs. Institutional buyers often buy the seed from SPCs and distribute it to other farmers in places where they conduct seed and food security missions (Beyene, 2010). Moreover, SPCs are also responsible for satisfying their members as internal customers. In the SPCs context, member farmers can support their livelihoods through two ways. One, they directly benefit on the basis of the cooperative performance in which members sell the seed to their cooperative and then the cooperative again sells to customers with better price. To this end, members could benefit from the price, and get profit and high income. Two, members use improved seed in their farm to get high grain production which could be used for household consumption as well as could be sold to the local market to obtain better income. In both cases, members of the cooperative are able to obtain better incomes and support their livelihood improvement.

Government organizations, the Integrated Seed Sector Development Programme/Ethiopia, NGOs and various development projects have supported sustainable seed business in the country. They support SPCs to increase their market orientation. The aim of the support is to help SPCs to be more market-oriented in their business venture which may contribute to performance of the SPCs as well as their members' livelihood (Subedi & Borman, 2013). Through the approach of market orientation, cooperatives may improve their performance in the supply of quality seed to customers and improve their financial performance. Customer farmers may use the seed to increase their agricultural production, increase income, and improve livelihood, which eventually contributes to ensuring food security in Ethiopia.

The concept and practices of market orientation have been widely studied in high income countries (HICs), particularly in the United States and other Western countries. Moreover, market orientation has been studied mainly in large company settings (Burgess & Steenkamp, 2006; Maydeu-Olivers & Lado, 2003). The general finding is that market orientation positively contributes to business performance in HICs (e.g. Cano et al., 2004; Ellis, 2006; Kirca et al., 2005). With mature economies characterized by the prevalence of buyer's markets, stable growth, and intense competition, market orientation positively contributes to the company's sustainable competitive advantage (Ellis, 2005).
The direct transferability to the D&E economies of the market orientation theories and practices which were developed on the assumptions of Western world might be difficult (Burgess &

Steenkamp, 2006; Steenkamp, 2005). Most of the existing body of research has been focused in HICs. Obviously the arguments of the market orientation theories and practices are assumed to be constant and equally applicable in other environmental conditions (e.g. Narver & Slater, 1990). However, the context of D&E economies differs considerably from HICs' context in which market orientation theory was originally developed (Ellis, 2005). Most countries in D&E economies suffer from inadequate infrastructure, lack of access to technologies, and resource shortages (Sheth, 2011). Underperformance of formal institutions and weak institutional environment are also considered as limitations in D&E economies (van Tilburg, 2010). The institutional context of D&E economies departs from the assumptions of theories developed in terms of socioeconomic, demographic, cultural and regulative attributes (Wright et al., 2005). Hence, firms in D&E economies may not be able directly to incorporate and apply the knowledge of marketing that is derived almost exclusively from high income, industrialized countries (Burgess & Steenkamp, 2006). This creates a need to consider the specific context in the implementation of the market orientation practices. Moreover, understanding the unique situation of D&E economies may give fertile ground to develop new perspectives and practices in the marketing discipline (Burgess & Steenkamp, 2006; Sheth, 2011). For example, competitor orientation is considered as one of the key components of market orientation that significantly contributes to firm performance in HICs (Narver & Slater, 1990). However, studies in the D&E economies show that competitor orientation has limited contribution for livelihood performance of Ethiopian pastoralists (Ingenbleek et al., 2013). This indicates that the practices of market orientation and their influence on performance may vary in D&E economies which are characterized by specific cultural contexts. Therefore, specific market orientation practices of D&E economies need to be understood for the proper implementation of the concept of market orientation.

A second feature of the study of market orientation and its influence on firm performance is that it has extensively relied on research among large firms (e.g. Kirca et al., 2005). Studies indicate that market orientation has a significant contribution to firm performance (e.g. Cano et al., 2004). However, surprisingly little information exists about small firms in D&E economies (e.g. Boohene et al., 2012). Empirical relationships particularly have not been well quantified and are very scarce for agricultural marketing cooperatives (Benos et al., 2016). More specifically, we have limited information on how the market orientation practices can contribute to the performance of small agricultural marketing cooperatives in D&E economies. Cooperatives run the business with the objective to assist their members to trouble-free their life and enhance their standard of living. They also help their members to attain increased productivity, income and maximum utilization of economies of scale. They greatly contribute for GDP and are seen as key to development of

smallholder agriculture. However, the lack of study on cooperatives contrasts with the importance given, at least from a theoretical perspective, to market orientation in other sectors (Agirre et al., 2014). Specific to the Ethiopian context, we have limited information about the implementation of market orientation and its effects in the context of Ethiopia (e.g. Tessema, 2012). A recent research shows the contribution of market orientation on the livelihood of Ethiopian pastoralists (Ingenbleek et al., 2013). To this end, our understanding is partial with regard to how market orientation is interpreted and practiced in the context of small agricultural marketing cooperatives in Ethiopia and how it influences their performance. This thesis considers SPCs as a case of small agricultural marketing cooperatives in D&E economies. Understanding the concept and practices of market orientation of SPCs, and its relationship with performance is important for SPCs to improve their market orientation and to become commercial and successful in the seed business. With their dual objectives of serving customers as well as their members, SPCs may benefit from adapting market orientation to their context. They have two customers that they should satisfy at the same time. They should supply quality products (i.e. seed) to markets based on customers' needs and maintain customers' value. Moreover, they should provide goods and services to members and link members' product to the market so that members attain high incomes and livelihood improvement.

1.2 Aim and research questions

The general aim of this thesis is to deepen the understanding of the implementation of market orientation in the agricultural marketing cooperatives in the D&E economies. To this end, taking Ethiopian SPCs as a case, the thesis aims to answer the following five research questions.

1. What is the current position of SPCs in the Ethiopian seed sector and their role in the seed supply improvement of Ethiopia?
2. How is market orientation interpreted and practiced in SPCs?
3. How is market orientation best operationalized or measured in the SPCs context?
4. How does market orientation influence cooperative performance and livelihoods of member farmers? and
5. What are the most important marketing activities for the performance of SPCs?

1.3 Structure of the thesis

This thesis is organized into seven chapters, including this general introduction (chapter 1) and a general discussion (chapter 7). The remaining chapters, chapter 2 through chapter 6, answer the research questions of the thesis. The structure of the thesis is displayed in Figure 1.1.

Chapter 2 (Seed producer cooperatives in the Ethiopian seed sector and their role in seed supply improvement) provides a review of the relevant literature about the current situation of the seed sector in Ethiopia, the seed systems, and the roles and involvement of various stakeholders (seed companies, SPCs, researches, government organizations, NGOs etc.). More specifically, this chapter focuses on the position of SPCs in the seed system, their contribution to seed supply, their typical features, how members benefit from the seed business, the business opportunities, and the internal and external challenges SPCs face. The chapter further discusses the contribution of SPCs to increase seed security, improve crop productivity and thus to improve rural economic development in Ethiopia.

In chapter 3 (Market orientation practices of Ethiopian seed producer cooperatives) a bottom-up (inductive) approach is used in case studies to explore the understanding and interpretations of the market orientation concept by Ethiopian SPCs. It also investigates the market orientation practices related to three components of market orientation: information generation, information dissemination, and responsiveness. The study identifies themes specific for market orientation in SPCs' context. It also compares experts' opinions with the current market orientation practices of SPCs.

Based on the outcomes obtained from the case study in chapter 3, chapter 4 (Developing measures of market orientation: the case of Ethiopian seed producer cooperatives) develops market orientation measurement scales specific for Ethiopian SPCs. Building on Item-Response Theory (IRT), the chapter considers etic items from the literature and emic items from SPCs' context to resolve the etic-emic dilemma in scale construction. The chapter reports the results of a quantitative survey that combines the etic and emic items in measurement scales development for Ethiopian SPCs context.

Chapter 5 (The influence of market orientation on firm performance and members' livelihood in Ethiopian seed producer cooperatives) empirically and quantitatively tests the relationships between market orientation components and various performance indicators. Besides business performance, the livelihood improvement of member farmers' families is used as a performance indicator. Customer orientation, competitor orientation, interfunctional coordination and supplier orientation are included as market orientation components. The mediating role of business performance in the relationship between market orientation and livelihood improvement of member farmers is tested.

Chapter 6 (Marketing activities as critical success factors: the case of seed producer cooperatives in Ethiopia) aims to assess the internal marketing activities that contribute to the performance of

Ethiopian SPCs. The chapter identifies practices in the implementation of marketing activities among Ethiopian SPCs. Using qualitative and quantitative techniques specific suggestions about marketing activities to improve SPCs' performance are provided.

The concluding chapter of this thesis, Chapter 7 (General discussion), synthesizes the main findings of the thesis, draws the main conclusions, and outlines the theoretical and managerial (practical) implications of the main findings. It also discusses limitations and opportunities for future research.

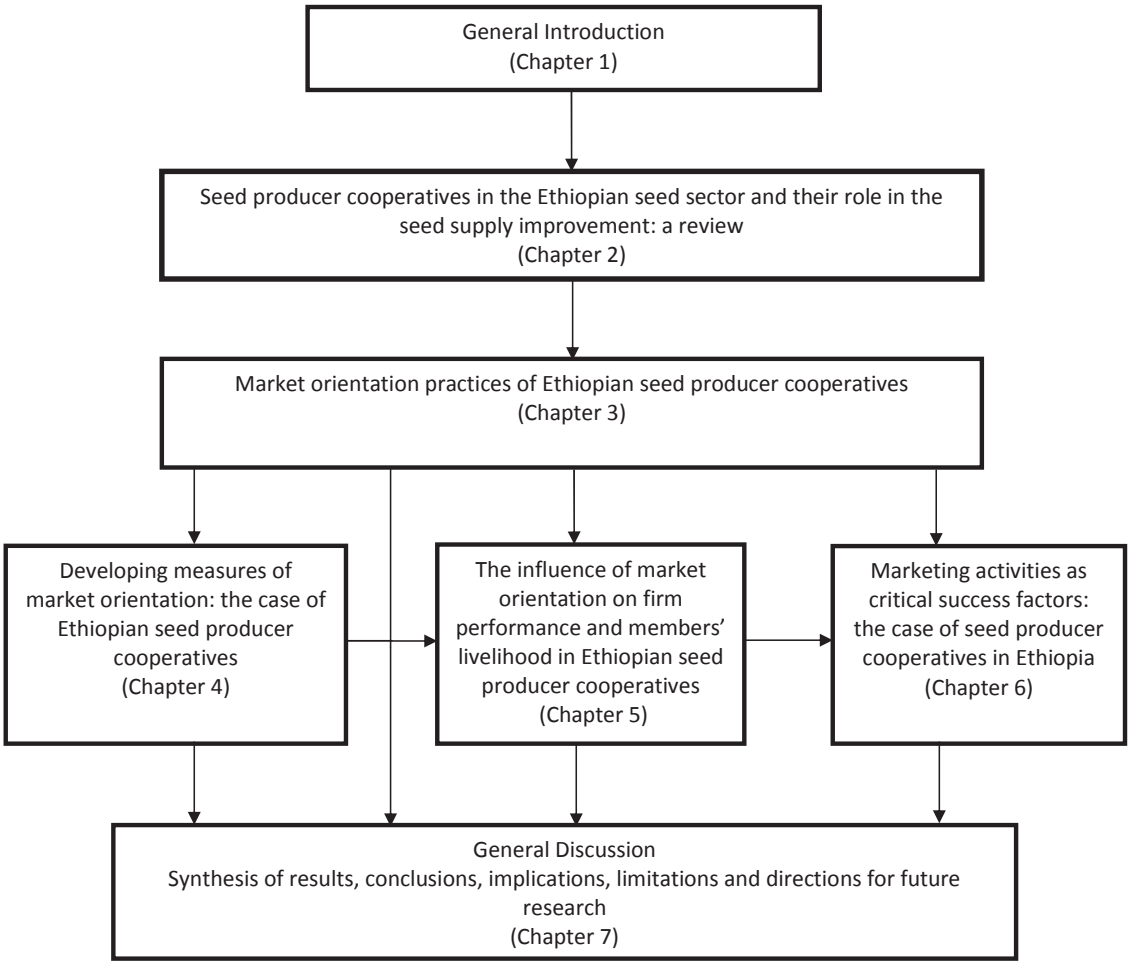


Figure 1.1: Outline of the thesis

Chapter 2

Seed Producer Cooperatives in the Ethiopian Seed Sector and their role in Seed Supply Improvement: a Review

Dawit Tsegaye Sisay, Frans J.H.M. Verhees, and Hans C.M. van Trijp (2017). Seed producer cooperatives in the Ethiopian seed sector and their role in seed supply improvement: A review. Journal of Crop Improvement. DOI: 10.1080/15427528.2017.1303800

Abstract

This paper reviews and discusses the seed producer cooperatives (SPCs) in the Ethiopian seed sector. Specifically, the paper reflects on their contribution for improving seed supply in the country. The current liberal market system of Ethiopia creates new opportunities for growth as successful enterprises but also brings new challenges such as more intense competition for smallholder producers. The policy encourages SPCs to engage in seed business. This paper draws on scientific literature, reports, white papers, project documents and websites. The review shows that the seed sector in Ethiopia consists of three seed systems: formal, informal and intermediary seed systems. Each seed system has a specific contribution in delivery of seed to farmers, but they vary in their approach and respective strategies. SPCs are categorized in the intermediary seed system because they have features of both formal and informal seed systems. SPCs play a key role in meeting seed demand. They contribute greatly to seed supply improvement through production of high volume of seed supply, crop and variety diversification, and seed delivery to farmers. They produce and market the seed through various market channels including direct sales to farmers, sales through contractual agreement and sales directly to institutional buyers. Their contribution to improve the seed supply and seed security has received considerable recognition by policy makers and development practitioners. Therefore, government and development partners should support and strengthen SPCs to maximize their success in the seed business and their contribution for improvement of the seed supply in Ethiopia.

Keywords: Economic development, markets, seed producer cooperatives, seed security, seed systems.

2.1 Introduction

As the world's political and economic systems are changing, many countries now-a-days are shifting from a planned economy to a market or mixed economy. Many African countries are currently undergoing a long process of economic reform (Block, 2002). Ethiopia, one of many African countries, introduced the liberal market economy almost three decades ago. Since 1988, Ethiopia has gradually moved from a communist-inspired, controlled economy to a mixed economy. Mixed economy refers to market economies with strong regulatory oversight and governmental provision of public goods. Since 1991, policies of economic liberalization in Ethiopia have been effective to release the economy from rigid state control (Kodama, 2007). The economic reform and shifting ideology affect all sectors in the country.

The economic reform affects the agricultural sector in Ethiopia without exception, which is the mainstay of the rural areas (Hazell et al., 2010). The Ethiopian economy is largely dependent on the agricultural sector, which is hence a key to accelerate economic development and to overcome poverty (Dorosh & Mellor, 2013). Ethiopian agriculture contributes 42% to the GDP and represents 90% of total exports earnings of the country (CSA, 2016). Agriculture is serving as a springboard for the development of other economic sectors within the country (Keeley & Scoones, 2000). Since the 1990s, the Ethiopian government has formulated and implemented the policy framework, known as Agricultural Development Led Industrialization (ADLI), with agriculture as a primary stimulus to increase output, employment, and income for the people. According to ADLI, the agriculture sector will turn Ethiopia into an industrialized economy (MoFED, 2003).

With the introduction of structural reforms and market liberalization in Ethiopia and the change in the agricultural sector, the role of state-owned farms has dramatically declined and instead the involvement of private investors in agriculture production has increased. This policy shift also re-defined the role of agricultural cooperatives (Emana, 2009). Government policy allows and encourages the high involvement of private companies and other entities including cooperatives in agricultural production and marketing (Bernard et al., 2013). Large areas of agricultural production are now shifting to crops that are important for food security, crops used as raw materials for industries (e.g. malt barley for brewery, wheat for flour factory), commercially traded crops (e.g. haricot bean, sesame), and crops with high market value (e.g. vegetables). Efforts have been made to improve the agricultural productivity and economic development of the country (MoFED, 2012).

Agricultural productivity depends on the use and availability of better agricultural technologies and practices. As a result of intensification (i.e. maximizing the productivity of farmland with new

agricultural inputs) and extensification (i.e. extending the size of existing farms) (Koko & Abdullahi, 2012) the demand for improved technologies, including improved seed and fertilizer, has increased in Ethiopia (Spielman et al., 2010). This demand for improved technologies comes from smallholders, producer organizations, and private companies. Quality seed in particular is a key factor in Ethiopian agricultural production (Alemu et al., 2010). Quality seed is at the core of the "technology package" needed to increase agricultural production, food production and rural economic development (Alemu, 2011; Bradford & Bewley, 2002). Its contribution is high when it is available in demanded quality and quantity at the right time and for the right price (Adetumbi et al., 2010; Louwaars & de Boef, 2012). However, limited availability of and access to quality seed is regarded as one of the main obstacles to increase agricultural productivity in Ethiopia (Ojiewo et al., 2015).

To satisfy the seed demand, improved seeds are supplied particularly by public organizations: public seed enterprises, agricultural research institutes, and universities (Thijssen et al., 2008). Private seed producers also supply seed to the market. However, both public and private seed producers mainly concentrate on a few cereal crops, particularly hybrid maize and bread wheat. Moreover, they supply only a small portion of the total quantity of seed demanded by farmers. Thus, they do not satisfy the diversified seed demand of farmers (Bishaw & Louwaars, 2012). Most smallholders tackle the seed shortage through farmer-to-farmer seed exchange or using saved seed (Thijssen et al., 2008). To narrow the gap between seed demand and seed supply, farmers are stimulated and supported to organize themselves in seed producer cooperatives (SPCs) to produce and sell quality seed (Subedi & Borman, 2013). The government encourages SPCs to engage in seed production and supply to the market. SPCs are supplying quality seed of diversified crops and varieties based on farmers' interests, local demand and beyond. Thus they contribute to seed security in the country. SPCs' contribution to the Ethiopian seed sector has received considerable attention of policy makers and development practitioners, and is recognized in the Ethiopian agricultural development strategies (ATA, 2015; MoA, 2015). Hence, the aim of this paper is to review and discuss the current position of SPCs in the Ethiopian seed sector; and their role in seed supply improvement and their contribution to ensuring seed security in the country.

The remainder of the paper is structured as follows. First the paper explains the overview of seed sector in Ethiopia by describing the formal, informal and intermediary seed systems; which is followed by discussing the seed production in Ethiopia. Then, it provides overview of cooperatives in Ethiopia. Next, it briefly discusses about the SPCs in Ethiopia including their features, their contribution for seed supply improvement, their roles for members, the business opportunities and challenges. The paper ends with conclusions.

2.2 Overview of seed sector in Ethiopia

Through history several government (public) entities, private companies, cooperatives and smallholders have been contributing to seed sector development in Ethiopia (Thijssen et al., 2008). The participation and coordinating role of public entities is very high in Ethiopia as compared to other sub-Saharan Africa countries (ISSD Africa, 2012), which were colonised by Western countries and thus adopted more a Western market philosophy. Public entities support the seed sector, notably by carrying out research in developing varieties, by arranging (and subsidizing) seed quality control and seed promotion, by stimulating investments in the seed sector, by introducing tax measures, by subsidizing specific seed products, and by direct and indirect participation in seed production and distribution (Louwaars & de Boef, 2012). The role of public entities is still crucial in supporting the seed sector. Recently, the contribution of private producers (companies) and other forms of producer organizations (e.g. SPCs) has increased. Projects are designed with the aim to increase seed production and distribution by strengthening the public and private sectors and also promoting community-based seed production strategies (Alemu, 2010; ATA, 2015).

The seed sector in Ethiopia can be categorized into different seed systems. Traditionally seed systems in Ethiopia are broadly categorized into two systems: the formal and the informal seed systems (e.g. Atilaw & Korbu, 2011; de Boef et al., 2010). Louwaars et al. (2013) classified the seed systems as farm-saved seed, community-based, public companies, commercial companies, and closed value chain. Farm-saved and community based categorize under informal system. Farm-saved seed refers to a practice of saving seeds for use from year to year. Community-based is an informal arrangement wherein a group of farmers has established a system of producing and exchanging or selling quality seed. This can include both local and improved seeds. Public and private companies are part of the formal seed system and produce and commercially sell seed under the formal rules and regulations. The closed value chain seed system, part of formal system, cover seeds specific for a value chain. Coffee and cut flowers are examples of closed value chain system in Ethiopia (Louwaars et al., 2013). Others used classifications of seed systems for specific crops. For instance, Hirpa et al. (2010) reported the presence of formal, informal and alternative potato seed systems in Ethiopia. Alternative seed systems include seed that is produced by local farmers under financial and technical support from NGOs and breeding centres. In recent years the idea of intermediary seed system has appeared in the Ethiopian seed sector. Intermediary seed system combines attributes of both the formal and the informal seed systems (Hassena & Dessalegn, 2011). The seed system development strategy prepared by Ethiopian Agricultural Transformation Agency (ATA) has recognized the three seed systems in the Ethiopian seed sector: formal, informal and intermediary (ATA, 2015). In this section we elaborate on this classification and present specific attributes of the three seed systems.

Formal seed system

The formal seed system in the Ethiopian context is a system that involves a chain of activities leading to certified seed of released varieties (Louwaars, 2007). The formal seed system is guided by scientific methodologies for plant breeding. Multiplication is controlled and operated by public or private sector specialists, and significant investments have been made throughout the process (Louwaars & de Boef, 2012). The research system or certified multipliers produce and distribute basic seed. Suppliers of basic seed are public seed enterprises and a few licensed private seed companies. Regulatory agencies supervise the production and distribution of certified seed along with all actors involved in the seed chain (Alemu, 2010).

In Ethiopia formal seed production can be dated back to the opening of Jimma Agricultural College (now Jimma University) in 1942, Alemaya University of Agriculture (now Haramaya University) in 1954, Institute of Agricultural Research (now Ethiopian Institute of Agricultural Research) in 1966, and the Chilalo Agricultural Development Unit in 1967 (Gebeyehu et al., 2001; Simane, 2008). The latter no longer exists. The Ethiopian seed program was very much ad hoc and the seed production activities were not well coordinated until the late 1970s. Institutionalized seed production, processing, distribution and quality control were started by the end of 1970s when the National Seed Council (NSC) and the Ethiopian Seed Enterprise (ESE) (the then Ethiopian Seed Corporation) were established (Bishaw et al., 2008; Gebeyehu et al., 2001).

Together with ESE, other public organizations such as agricultural research institutes, universities, ministry of agriculture, and state agricultural development corporations gradually engaged in seed production in order to meet the national seed demand. However, despite all these efforts, it remained difficult to satisfy the seed demand (Gebeyehu et al., 2001). ESE was the only seed producer organization responsible for supplying seed to the entire farming community through local production and/or imports from abroad. However, its activities were highly skewed to the state farms and cooperatives (Bishaw et al., 2008). There were no private seed companies engaged in seed production when the economy was led according to state-owned socialist principles.

In Ethiopia, seed production in the formal seed system is highly dominated by the public sector. ESE (accountable to the federal government) and regional government seed enterprises play dominant roles in the formal seed system. They are governed by the board of directors of their respective federal and regional governments, and responsible for production, processing and marketing of seed to meet the regional as well as the national seed demand. Though they are responsible for production of seed for all crops (cereals, pulses, fruits, vegetables, forages), their seed production is

dominated by a few cereal crops mainly hybrid maize and wheat (Bishaw & Louwaars, 2012). They produce, process, distribute, and market improved seed based on official demand projections of the ministry of agriculture and the respective regional bureaus of agriculture. Several private seed producers and companies, involved in the formal seed system, supply large quantities of seed to users. They mainly focus on hybrid maize seed. According to Bishaw & Louwaars (2012), wheat and maize make up nearly 64% and 23%, respectively, of the total certified seed supply from the formal sector. The interest of private seed companies to engage in other crops than maize is less because profit potential is limited. Farmers need hybrid maize seed every year which attracts private companies. For other self-pollinating crops for which farmers do not buy every year, private companies show little interest to invest. Efforts have been made to satisfy the Ethiopian seed demand through the formal seed system. However, the formal seed system could not satisfy the seed demand of the vast majority of the nation's farmers who are smallholders and subsistence farmers particularly in remote areas (Bishaw et al., 2008). The formal system clearly demarcates the roles and responsibilities of stakeholders in the seed chain such as research organisations, universities, public seed enterprises, private seed companies, farmer organizations, and smallholder farmers. Each stakeholder contributes to seed development or distribution. Table 2.1 presents the major stakeholders and their roles in the formal seed system of Ethiopia. Ethiopian Institute of Agricultural Research (EIAR), Regional Agricultural Research Institutes (RARIs) and universities are responsible in new varieties development. They are also involved in basic seed production. National Variety Release Committee (NVRC), at federal level, is a responsible body to make a decision whether the varieties proposed by researchers are officially registered and released for production. Ethiopian Seed Enterprise (ESE), Regional Seed Enterprises (RSEs), private companies, SPCs and unions engage in seed production. Ministry of Agriculture (MoA) and regional bureau of Agriculture (BoA) undertake regulatory activities at all seed system components.

Table 2.1: Major stakeholders in the formal seed system and their roles

Seed system components	Involved stakeholders	Regulatory stakeholders	Regulatory measures
Plant breeding	EIAR, RARIs, Universities		
Variety release	NVRC	MoA	Distinctiveness, uniformity, stability
Breeder seed production	EIAR, RARIs, Universities		
Pre-basic seed production	EIAR, RARIs, Universities, ESE, RSEs	MoA, regional BoA	Seed quality assurance
Basic seed production	ESE, RSEs, private companies, SPCs	MoA, regional BoA	Seed quality assurance
Certified seed production	ESE, RSEs, private companies, SPCs, unions, farmers based seed production	MoA, regional BoA	Seed quality assurance

Source: Adapted from Bishaw et al. (2008)
Note: EIAR-Ethiopian Institute of Agricultural Research; RARIs-Regional Agricultural Research Institutes; NVRC-National Variety Release Committee; MoA-Ministry of Agriculture; ESE-Ethiopian Seed Enterprise; RSEs-Regional Seed Enterprises; BoA-Bureau of Agriculture; SPCs-Seed Producer Cooperatives

Informal seed system

The informal seed system in the Ethiopian context is defined as seed production and distribution practices where there is no legal certification in the process (Alemu, 2010). The system constitutes millions of individual small-scale farmers who save or exchange seed at the local level. It also includes development agencies and projects supporting community seed production with no regulatory oversight (Alemu & Bishaw, 2015). It is considered as the most flexible system and it supplies both local and improved crop varieties. The seed production and distribution is not monitored or controlled by government policies and regulations, but rather by local standards, social structures and norms (McGuire, 2001).

Globally about 60-90% of the seed is produced and distributed through the informal system, although the figures vary depending on the region and the crop (e.g. Almekinders et al., 2007; Duijndam et al., 2007). It is the dominant system in SSA (Africa Union, 2008). Similarly, in Ethiopia it is the primary source of seed supply (McGuire, 2005) and up to 90% of the seed demand is covered by the informal seed system, despite all investments in the formal seed system. There are several reasons for this. Smallholder farmers in general request relatively small quantities of seed, which the formal system does not supply. Smallholder farmers live in remote areas where the formal system cannot reach them. Smallholder farmers have limited financial resources to purchase the formally certified seed, which is expensive. Smallholders have diversified and difficult to predict seed demand, which the formal system is unable to predict. The formal seed system does not tend to offer a wide

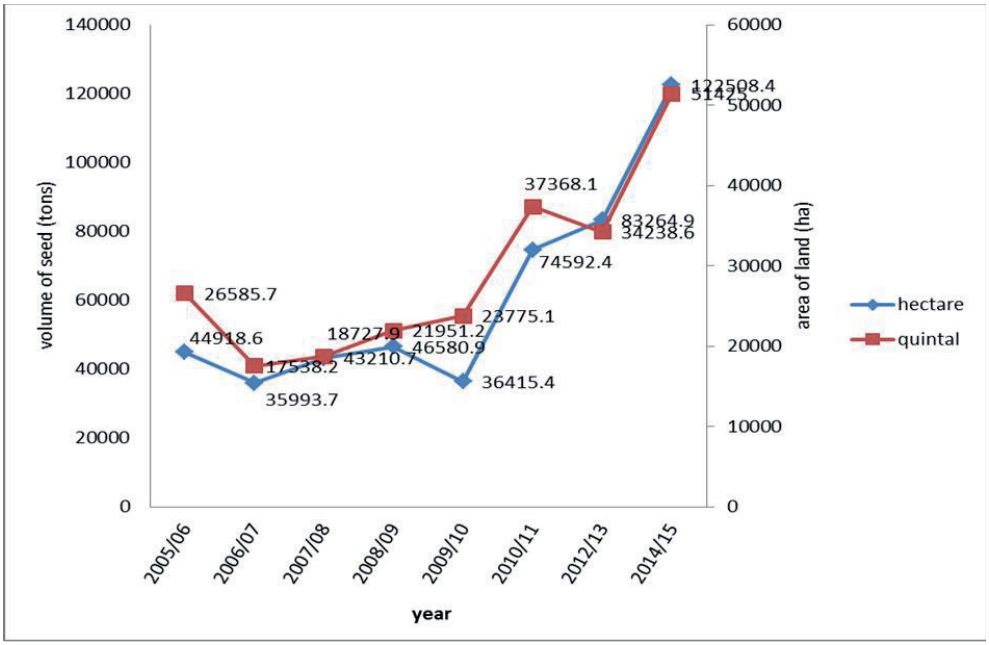
range of varieties for crops and does not provide seed for minor crops due to demand for small quantities (Almekinders & Louwaars, 2002). Thus farmers depend on the informal seed system because seeds from the formal seed system are not available in adequate quantities and at the right time (Seboka & Deressa, 2000).

Intermediary seed system

In Ethiopia, both the formal and informal seed systems are operating simultaneously and sometimes overlap (Atilaw & Korbu, 2011). The failure of the formal seed system to provide seed for smallholder farmers has raised the question whether it is possible to combine positive attributes of the formal and the informal seed systems (Okry, 2011). How to combine the two seed systems needs exploration because there has been little scientific research so far (Okry, 2011). The newly recognized intermediary seed system has overlapping features with both the formal and informal seed systems. The major actors in this system are groups (of farmers) engaged in community-based seed production and marketing (ATA, 2015). In this system, cooperatives may be licensed to produce and sell seed. However, they do not necessarily go through formal channels to get planting materials or through the formal certification process (Hassena & Dessalegn, 2011). The intermediary seed system also includes the production and marketing of seed by local farmers under financial and technical support from NGOs and breeding centres, which is referred to as the alternative seed system by Hirpa et al. (2010).

2.3 Seed production in Ethiopia

In Ethiopia, various actors and stakeholders are involved in seed production activities. All these actors and stakeholders, in one way or another, contribute to production, promotion, supply and marketing of improved seed in the country. Studies show that only a small area of land is covered by improved seed. According to Atilaw & Korbu (2011), only 3.5% land is covered by improved seed from the total of 12 million hectares of land cultivated by major food crops between 2005/6 and 2009/10. However, the total amount of improved seed used and the area of farmland covered by improved seed have increased over recent years. Figure 2.1 shows the trend of the total area of coverage by improved seeds for the decade by smallholder farmers. It also displays the amount of improved seed used to cover the area of land. The total area covered by improved seed, during main cropping season, increased from 44,918.6ha of land in 2006 to 122,508.4ha of land in 2015. Similarly, the total amount of seed used increased from 26,585.7 tons in 2006 to 51,425 tons in 2015. In this section, we highlight the specific role of seed producers (public seed enterprises, private seed companies (producers), SPCs, and other producer organizations) in the seed production.



Source: CSA farm management practice survey (2005/6-2014/15)
NB: the figures represent only the main cropping season
Figure 2.1: Areas covered by improved seed and amount of seed used over years by smallholder farmers

Public seed enterprises

The role of public seed enterprises is significant in Ethiopia. ESE has been multiplying and distributing improved seed for major crops of cereals, pulses, fruits, vegetables, and forages (Alemu et al., 2008). The total amount of seed supplied by ESE has increased from 20,746 tons in 2006 to 54,326 tons in 2010 (Atilaw & Korbu, 2011). Before 1991, the enterprise sold most of its seed directly to state farms, to farmers through NGOs, and to the Agricultural Inputs Supply Corporation (AISCO). The state farms are gradually declined from the agricultural sector due to policy reform. Hence, ESE has distributed major share of its seed to farmers, NGOs and emergency relief programs of the MoA (Gebeyehu et al., 2001).

Regional seed enterprises (RSEs) have been established to decentralize the agricultural and rural development efforts to regional states (Alemu, 2011). RSEs include Amhara seed enterprise (ASE), Oromia seed enterprise (OSE), and South seed enterprise (SSE). RSEs started gradually to replace ESE as the sole public seed enterprise (Alemu, 2011). The main objective of RSEs is to multiply and distribute improved seed of major crops in order to satisfy the regional seed demand. These public seed enterprises produce and supply large volume of improved seed in the country. However, they

focus only on a few crops (hybrid maize, bread wheat, tef, barley) and do not have much interest to invest in crops/varieties demanded by niche markets.

Private seed producers (companies)

With the gradual move of the country towards a market economy, the private sector is getting more and more involved. This also applies to the agricultural domain including the seed sector. The government policy encourages the involvement of the private sector in agricultural intensification in areas of variety development, seed production and marketing (Spielman et al., 2010). Pioneer Hi-bred Ethiopia, a multinational private company, is the first private seed company that started its operation in the 1990s following the economic reform. Gradually other private seed producers started to engage in the Ethiopian seed business. Big private seed companies target mainly hybrid maize, potato and some vegetable seeds. Other small-and-medium seed producers also mainly focus on hybrid maize. Some produce seeds in their own farms and others in contractual farming with individual or groups of farmers.

The private sector has made some initial forays into Ethiopia's seed industry over the last decade, and more specifically into the maize seed business. Although private seed companies are limited to a few crops, their share of seed volume has increased. Private producers in aggregate provide 32% of the total formal seed supply in the country (Atilaw & Korbu, 2012). Figure 2.2 displays the total amount of seed produced by private producers in Ethiopia for the three years-2012/13 to 2014/15 (ISSD, 2016). The volume of seed production by private producers increased from 4994.1 tons in 2012/13 to 9819.2 tons in 2014/15. More specifically, the contribution of private producers is high for hybrid maize seed production and distribution. For instance, in Amhara region alone, from the total amount of hybrid maize seed produced and distributed in 2014 (4803.7 tons), private producers shared 38% (1832.2 tons) of the total (ISSD/BDU, 2015).

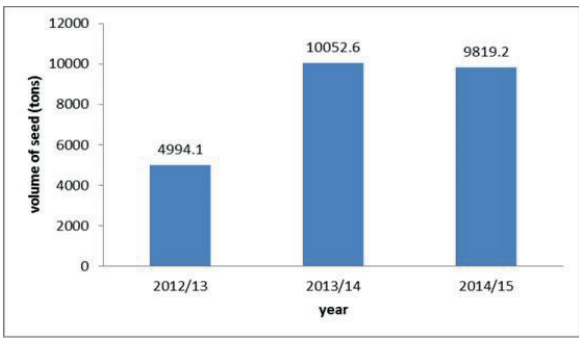


Figure 2.2: Amount of seed produced (tons) by private producers (2012/13-2014/15)

Seed producer cooperatives

Recently, the role of SPCs in the Ethiopian seed sector development received attention by researchers, policy makers, and development partners. SPCs produce seeds of diversified crops and varieties. They sell the seed through diversified market channels: direct sell to farmers, sell through contractual arrangement with intermediaries (public and private seed companies, research institutes), and direct sell to institutional buyers (GOs, NGOs). Since SPCs are the main topic of this paper, we present details about SPCs in section 2.5.

Unions and multipurpose cooperatives

Large numbers of multipurpose cooperatives are involved in seed production (FCA, 2016). They do not have a legal licence to produce and sell seed, but they are working with public and private seed companies on a contractual basis. They mobilize and organize their members to work as out-growers of seed companies. The responsibilities of these multipurpose cooperatives are to help members to get the required agricultural inputs (e.g. seeds, fertilizers), to negotiate about seed prices with contracting parties (big seed companies), and to support members to access trainings and technical support in seed production and marketing.

Currently there are only two seed unions in Ethiopia (FCA, 2016), which are legally registered enterprises to produce and sell seed. They are well-organized and have skilled manpower (experts) for seed production, management and marketing. Seed unions often produce seed through primary seed cooperatives that are members of the seed union. In some regions, selected multipurpose unions are allowed to engage in seed business if they fulfil the criteria set by the regional quality control agency. Both types of unions are formally licensed to produce seed. Their production is included in the national seed production and allocation plan (Hassena & Dessalegn, 2011).

In general Ethiopian cooperatives, whether primary or multipurpose cooperatives and unions, have long year experience in engaging on seed production and marketing activities. However, their involvement was mainly on contractual seed production arrangement with public seed enterprises. The history of cooperative development in Ethiopia is associated with the contribution of cooperatives in agricultural production and marketing including seed production. In the following section, we discuss of cooperative development in Ethiopia.

2.4 Overview of cooperatives in Ethiopia

This section presents an overview of cooperatives' development in Ethiopia. In addition, it highlights the types of cooperatives in Ethiopia with special emphasis on agricultural cooperatives such as SPCs.

History of cooperatives in Ethiopia

Cooperation is as old as human-society since people have worked together to support each other. There are different traditional forms of cooperation in Ethiopia. These include Equb, Debo (Jigie/Wonfel) and Edir. In "*Equb*" group members voluntarily pool financial resources and distribute the resources to members on rotating basis (Kedir & Ibrahim, 2011). In "*Debo*" people mobilize labour resource to overcome seasonal labour peaks. In "*Edir*" members organize themselves for provision of social and economic insurance in the events of death, accident, and damage to property (Emana, 2009; Veerakumaran, 2007). These traditional forms of cooperation operate independent of the formal structures of the government and so they are less likely influenced by the political system. These cultural forms of cooperation are the basis of Ethiopian modern types of cooperatives and they exist still today.

Cooperatives in Ethiopia were recognized as legal institutions in the 1960s during emperor Haile Selassie's regime (Kodama, 2007). During this time there were only a few cooperatives. They were engaged mainly in the production of industrial crops such as tea and spices (Emana, 2009). During the state-owned economic system (1974-1991) cooperatives were formed and reorganized to facilitate the implementation of collective ownership of properties, which was the government policy (Emana, 2009). The political system forced cooperatives to operate in line with the socialist ideology and the government viewed cooperatives as instruments to build a socialist economy in the country.

In the current market-based economy, cooperatives play a key role in the socio-economic improvement of communities. The promotion and development of cooperatives is based on principles of the free market economy, where people organize themselves to meet their social, economic and other common targets. The current policy strongly promotes agricultural cooperatives to provide smallholders access to the market through collective actions (Bernard et al., 2008). The government of Ethiopia is working to promote a well-functioning cooperative sector that fulfils the promise of sustainably improving the livelihoods of smallholder farmers and economic development (ATA, 2012).

Cooperatives enhance the members' social and economic conditions (Bernard et al., 2008). Cooperatives play a major role in providing farmers with inputs while ensuring members' social cohesion and economic improvement (ATA, 2012). In general the number of primary cooperatives has increased over years. Table 2.2 shows the number of primary cooperatives in Ethiopia during the past decades. It increased from 7366 in 1991 to 60126 in 2015 (FCA, 2015). Of these, the number of

agriculture cooperatives increased from 6,825 in 2008 to 15,568 in 2014 (FCA, 2015). Agricultural cooperatives account close to 31% of the total cooperatives in Ethiopia (FCA, 2016).

Table 2.2: Trends in the number of primary cooperatives for years

	Year										
	1974	1975-90	1991	2006	2007	2008	2009	2010	2011	2014	2015
No of primary cooperatives	149	10524	7366	20437	22275	24937	26672	35527	37247	50982	60126

Source: Adopted from Emana (2012) and http://allafrica.com/stories/201505180595.html

Types of cooperatives

Cooperatives in Ethiopia are classified based on the activities in which they engage (Emana, 2009). Some cooperatives are multipurpose and engage in multiple activities. Some other cooperatives engage in a single activity such as dairy, fishery, irrigation, apiary, seed production, fruit and vegetable marketing, livestock production, veterinary service, coffee, tree growing, sugarcane production, saving and credit (SACCOs), and housing (Emana, 2009; Veerakumaran, 2007). The number of cooperatives, number of members, and capital invested vary for each category. The highest number of cooperatives are registered in the agricultural sector, followed by housing and SACCOs (FCA, 2016).

Agricultural cooperatives contribute greatly to the economy (Bernard et al., 2008). They have received attention from researchers, policy makers, and development practitioners over the past decades (e.g. Francesconi & Heerink, 2010). The government and various development partners support and encourage agricultural cooperatives. The support aims to strengthen modern and market-oriented agricultural cooperatives in order to improve the efficiency of agricultural markets (Shiferaw et al., 2014). Agricultural cooperatives include cooperatives engaged in agricultural commodities production and marketing such as dairy, fruits and vegetables, and seed. In the following section we extensively discuss the SPCs in Ethiopia covering their current position, contribution to the seed supply improvement, the similarities and variations among themselves, their governance structure, business opportunities, and challenges.

2.5 Seed producer cooperatives in Ethiopia

What are seed producer cooperatives?

Seed producer cooperatives in Ethiopia are enterprises established by a group of individual farmers from a given locality. Like other cooperatives, SPCs aim to accomplish together a given goal that could not be accomplished by individual members acting on their own (Valentinov, 2007). SPCs are specialized cooperatives for seed business (Subedi & Borman, 2013). The main objectives of SPCs are to produce and market quality seed to local markets and beyond, to make seed a commercial product, and thus to generate income and improve the livelihood of their members. SPCs are recognized by the government's agricultural development strategies. The government is committed strongly to support the newly established and existing SPCs (MoA, 2015).

In supporting the efforts of the government, various partners have been involved in the facilitation to promote and strengthen the SPCs. These partners include government offices, development projects, universities, research institutes, ATA and NGOs. The Integrated Seed Sector Development (ISSD)/Ethiopia programme along with Ethiopian partners introduced the approach of local seed business (LSB) within which SPCs are key players (Ayana et al., 2013). The programme supports the development of LSBs in which groups of farmers produce and sell seed to the local market and beyond. The main objective is to promote sustainable LSBs by making farmer groups and community-based seed production more autonomous, commercial, and entrepreneurial in their approach. These LSBs should become better organized, self-reliant, entrepreneurial, and professional (LSB, 2012). Moreover, promoting LSBs helps groups of farmers to respond to changes in ecological, socio-economic and other conditions, and to build upon and complement existing strategies within both the formal and informal seed sectors (LSB, 2012). SPCs produce seeds of improved and local varieties to meet the local seed demand and beyond. Community based seed producers, like SPCs, can provide service to the community by delivering quality seed of crops and varieties, which are in demand (MacRobert, 2009).

The number of SPCs has increased in most parts of the country. Various organizations (universities, government offices, NGOs etc.) have contributed to and supported the development of SPCs. According to FCA (2016), currently the total number of SPCs in Ethiopia that are engaged in seed production and marketing reaches 327. These SPCs are located in different parts of the country from lowland to highland, and from food secure to food insecure areas (Ayana et al., 2013). There are considerable similarities and variations among them in terms of agro-ecological condition, sociocultural context, farming (irrigation) facilities, local market demand, technical, managerial, and

financial capabilities, infrastructure development (roads, electricity), credit access, external support, and experience (Mohammed et al., 2012).

Seed producer cooperatives: intermediary seed system

Seed producer cooperatives categorize under the intermediary seed system (ATA, 2015; Hassena & Dessalegn, 2011). SPCs share some features both from formal and informal seed systems. Features shared with the formal seed system are: 1) SPCs produce improved varieties, 2) seeds sometimes pass through a formal certification process, 3) SPCs are connected to the formal systems to obtain basic seed from legal suppliers and quality assurance from authorized agencies. Moreover, some SPCs have contractual arrangements with big seed companies. Features shared with the informal seed system are that 1) SPCs produce a large number of crops and local varieties, depending on agro-ecological conditions and niche market opportunities, and that 2) seeds often do not pass through formal certification processes as quality declared by farmers themselves is determinant. Some seeds like onion and pepper do not always go through a formal certification process. Since SPCs combine attributes of both the formal and informal seed systems, they often categorize under intermediary seed system.

Features of Ethiopian seed producer cooperatives

Geographical distribution of SPCs

Seed producer cooperatives are widely dispersed across different parts of the country (Subedi & Borman, 2013) covering a wide range of environmental and socio-cultural conditions. SPCs are located in both potential/food secure areas (surplus production) and less-potential (food insecure) areas of the country (Ayana et al., 2013). However, most are located in high production potential areas of the country. The number of SPCs is increasing in various parts of the country with support of federal and regional organizations (cooperative promotion agency, bureau of agriculture, higher education and learning institutes, research institutes) and NGOs.

Formation history

The formation history of SPCs is diversified due to a number of technical and social factors (Mohammed et al., 2012). Some SPCs originated from farmers' research groups (FRGs). FRGs are often organized by research institutes to speed up the development, verification, promotion and dissemination of agricultural technologies. It is a long tradition in Ethiopia that agricultural researchers, NGOs and government offices are working with groups of farmers for crops and/or varieties adaptation and demonstration (e.g. Hassena et al., 2013). These organized farmers gradually shifted to legal SPCs. Supporting FRGs to organize themselves into SPCs is considered as an

effective pathway towards SPCs development (Abay & Halefom, 2012). Other SPCs originated from groups of farmers originally organized for crop biodiversity purposes. Their main objective was to conserve the genetic resources of local crops and varieties in their locality (Feyissa et al., 2013). These groups of farmers then organized themselves into SPCs and produced both improved and local varieties in their seed business. The cluster-based community seed production is another pathway to establish SPCs. Cluster-based seed production and multiplication is common in Ethiopia particularly for the purpose of contractual seed production for public and private seed companies. Farmers organized themselves based on seed multiplication sites. Suitable sites for clustering are selected first and then farmers owning those sites are organized as contract growers. Cluster based seed production is mainly facilitated by extension personnel at district levels. These organized farmers are gradually established their own SPCs. Most SPCs, however, are immediately organized as independent enterprises with seed as their business.

Organizational and governance structure

Seed producer cooperatives have different organizational setups depending on the number of members, seed marketing experience, and the type of crops produced. However, most often SPCs have three separate committees with clear roles and responsibilities: an executive committee (SPCs leaders), a seed quality control committee, and a controlling committee (supervisory committee). Committee members are selected out of members of the cooperative. The executive committee, usually five to seven members, is responsible to manage the overall activities of the cooperative. The committee is selected by and from its members to make decisions and initiate actions for regular activities. Some major decisions require approval of members. The seed quality control committee (often three members) is responsible only for seed quality related issues. This committee monitors and controls the quality of the seed at all levels such as in the field, in storage, during packaging and transportation. The controlling committee (often three members) is responsible for controlling management and finances. A number of SPCs have additional committees responsible for tasks such as purchasing and marketing. Some SPCs also have strong internal bylaws for effective internal management and administration. The bylaws usually develop and approve by members themselves implying members adhere to it.

Crops produced and sold

Seed producer cooperatives engage in diversified production of crops and varieties (ISSD, 2016). The crops and varieties that the SPCs produce have increased both in terms of number and types. These include seed of cereals, pulses, oil crops, potatoes, and vegetable seeds. A few SPCs also engage in forage seed production. Unlike to public and private seed producers, SPCs produce a wide range of

crops and varieties both for addressing the high local demand (niche markets) and beyond. Most SPCs engage in the commercial production of more than one crop. Through diversified crops and varieties, SPCs play a crucial role to increase crop production and ensure food security. SPCs often start with one seed crop, but extend their seed crop portfolios over the years as a strategy to promote ecological sustainability and business risk management (ISSD, 2015).

Firm experience

The experience of SPCs varies in terms of year of establishment, technical capacities to produce quality and quantity of seed production, linkages with suppliers and value chain actors, and autonomy (Altaye & Mohammed, 2013). Some SPCs have more experience in working with research institutes than others. Some have only a few years of experience indicating they are at infant stage of seed business. Members' long year experience in seed production makes most SPCs professional in organizing and managing farm fields to ensure the quality of seed. Some SPCs are well qualified and experienced in hybrid maize seed production in large cluster farmlands, which requires basically practical skills, commitment and organizational capabilities.

Member size

The number of members varies among SPCs. There is no common rule across the country on the minimum number of members required to establish an SPC. According to Proclamation No. 147/98, a minimum of ten or more individuals can voluntarily form a primary cooperative, including an SPC (FDRE, 1998). However, some regions set their own requirements. In Amhara region, for instance, the smallest number of members should be 40 to establish a new SPC (ANRS/CPA, 2012). The inclusion of additional members is often decided by the SPCs themselves. SPCs have different criteria to accept new members such as own land within the clustered farmlands, commitment and seed production skills, social acceptance, and marketing opportunities for the product. Sometimes SPCs do not allow additional members but arrange special agreements with farmers to continue as out-growers of the cooperatives. Some practitioners consider SPCs not to have large number of members because quality control becomes more difficult when the number of members increases (Ayana et al., 2013).

Market arrangement and market clients

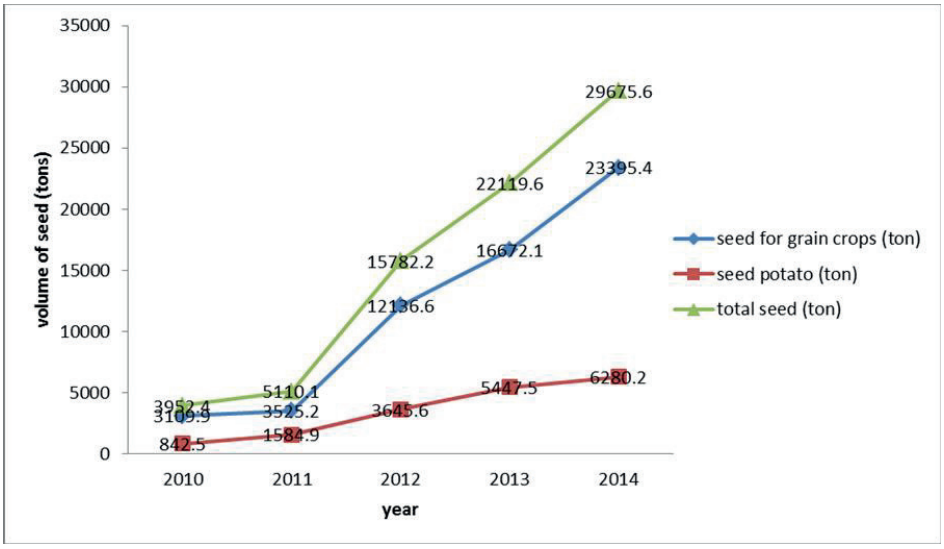
Market arrangements and target customers vary among SPCs. Some SPCs sell their seed directly to final users. Some other SPCs are producing seed through a contractual arrangement with public or private seed companies (Ayana et al., 2013; Tsegaye, 2012). They sell the seed to the contracting party. Other SPCs produce seed often in contractual arrangement with cooperative Unions, which

are responsible for input supply and marketing. Others sell their seed to institutional buyers such as NGOs, government organizations, and development projects. NGOs buy seed for their seed and food security operations. Some SPCs have experience in producing unique/diversified crops and varieties (e.g. onion, haricot bean, hybrid maize, pulse crops etc.) that have high local and international market demand. They sell these products directly to the final users and/or the institutional buyers. SPCs choose market arrangements depending on the type of crops they produce, the market price they expect after production, and the priori agreement with contracting party.

The contribution of seed producer cooperatives in seed supply

Seed producer cooperatives play a key role in the Ethiopian seed sector. They produce higher quality seed of diversified crops and varieties and directly sell to customers locally and beyond. For example, in 2014 alone, more than 23 different crops and 131 varieties were produced by SPCs (ISSD, 2016). They supply based on the needs of customers and agro-ecological conditions. They may function as out-growers to public and private seed enterprises and unions under contractual arrangement. They address the niche market for crops where there is less investment interest (i.e. financial attractiveness) by private seed producers and for crops that are addressed by public seed enterprises to lesser extent. SPCs can supply quality seed of those crops and varieties that have high local demand and are often extremely important for local food production and cultural practices (Thijssen et al., 2013). In both scenarios (out-growers and direct selling), the involvement of SPCs contributes to the seed supply of the country.

Reports indicate that SPCs supply large volumes of seed to the market every year. For example, in 2015 alone the total amount of seed produced and distributed by SPCs through the formal distribution procedure accounted 37% of the total seed distributed in the country (FCA, 2016). In 2014, SPCs supplied nearly 32.2% and 20.9% of the estimated national certified seed use for wheat and potato, respectively (http://www.issdethiopia.org/index.php/services/intermediary-seed-systems). Ethiopian SPCs reportedly contribute more than 10% of certified seed of tef, legumes, oilseeds and potato (van den Broek et al. 2015). In general the volume of seed produced by Ethiopian SPCs has increased over the past years. Figure 2.3 displays the trend of the total volume of seed produced by SPCs for grain crops and potato. The total volume of seed produced by SPCs has increased from 3,952.4 tons in 2010 to 29,675.6 tons in 2014.



Source: ISSD 2015 national workshop presentation
Figure 2.3: The volume of seed produced by SPCs over years

Similarly, the share of the total volume of seed that the SPCs market has increased over years. Table 2.3 shows the projections on the percentage of the market that can be served with SPCs over the years of 2010 to 2014 (ISSD, 2016). The projections are considered based on production data of SPCs, seed replacement rate of each crop and data from the Ethiopian agriculture statistics. In general, the percentage of the market that served with SPCs seed has increased over years for majority of the crops assessed.

Seed producer cooperatives make the seed affordable, available and accessible to the community because they reduce transaction costs. Some well-performing SPCs produce the same type and quality of seed as public and private seed enterprises supply, but they can deliver to farmers for lower prices than big seed enterprises. Costs associated with transportation, administration, labour and promotion are not included in the price of SPCs. In addition, the community can see and evaluate the performance and quality of the seed while the SPCs multiply it. This creates trust among buyers about the seed quality.

Table 2.3: Estimated percentage of seed of selected crops

Crop	2010	2011	2012	2013	2014
Barley	0.4	1.5	5.5	8.9	7.2
Chickpea	NA	0.2	2.6	7.8	12.7
Common bean	0.9	3.2	2.4	3.2	10.2
Finger millet	NA	NA	2.6	0.9	1.8
Groundnut	1.0	0.7	2.9	5.9	12.1
Lentil	NA	0.5	4.6	16.0	22.8
Maize	2.1	0.5	1.9	1.7	2.6
Potato	3.1	5.3	11.4	22.3	20.7
Rice	7.5	72.4	44.1	31.7	37.8
Sesame	NA	NA	0.2	1.1	10.5
Sorghum	NA	NA	6.8	14.1	14.9
soybean	NA	NA	10.4	3.7	9.6
Tef	0.07	1.0	5.6	12.8	20.1
Wheat	1.8	2.4	12.1	18.2	31.1

Source: adopted from ISSD 2015 annual report (ISSD, 2016)
Note: LSBs include both legally registered SPCs and those under process

Role of seed producer cooperatives for members

Quality seed production

Quality seed production requires members' commitment, skills and experience. Farmers who are members of SPCs produce better quality seed than farmers who are not (Aklilu, 2013). The quality control mechanisms by SPCs could benefit members to produce seed that meets the quality standards. Members clearly know that their cooperative cannot accept their product when it does not fulfil the agreed quality standards. Thus, they are very much concerned with farming activities and practices. Moreover, the seed quality control committee provides advice to members on maintaining the seed quality during the field activities and after harvest. Members have a common goal for the seed business that inspires them to produce the best quality seed (Stockbridge et al., 2003). Government and development partners facilitate trainings for members to acquire technical skills and advice for producing quality product (Shiferaw et al., 2014).

Reduced transaction costs

Transaction costs are costs associated with contacts (costs for information in searching partners/products), contracts (costs for negotiation/making agreement), and control (costs for

monitoring/enforcing/safeguarding the agreement) (Williamson, 1985). SPCs have routines and activities that require coordination of tasks to obtain timely access to inputs from suppliers. SPCs reduce transaction cost through collective actions (Berdegue, 2001). SPCs obtain access to high value markets that individual farmers are unable to access (Markelova et al., 2009; Valentinov, 2007). Effective cooperatives are able to reduce transaction costs so as to increase members' access to high value markets (Narrod et al., 2009). Through their bargaining power, cooperatives can reduce transaction costs and help their members to benefit from economies of scale (Bijman, 2016).

Input (seed) access

Access to agricultural inputs, particularly to basic seed is a concern and challenge in the Ethiopian seed sector (Emana & Nigussie, 2011; Thijssen et al., 2008). Access to basic seed includes the type, quality and quantity of seed. In Ethiopia, variety development is undertaken by public institutes (research institutes and universities) and a few private companies. Improved varieties developed by research institutes are further multiplied mainly by public seed enterprises and by research institutes themselves. But their capacity is limited to provide sufficient basic seed for seed growers and farmers. Moreover, seed suppliers concentrate only on a few crops and cannot address the diversified seed demand of the farming community (Bishaw & Louwaars, 2012). This makes access to basic seed a challenge. SPCs work with public enterprises in order for their members to access basic seed (Tsegaye, 2012). SPCs are also eligible to engage in basic seed production as far as they fulfil all the required criteria set by external quality assurance agencies. Some SPCs have already started basic seed production indicating the better opportunity for their members to access the seed. SPCs can also access seed for their members through their strong linkages and relationships with suppliers. They are also officially entitled to request seed from government offices.

Market access

Seed producer cooperatives help members reach potential markets. Bargaining power of SPCs helps members to secure good price for their products, although sometimes constrained by external factors. Cooperatives collect the product from their members at a fair price during harvest time when the prices usually fall drastically. They keep the product properly until they find the appropriate buyers and sell it for good prices (Abate et al., 2014; Emana, 2009). SPCs access the market by reaching directly the final customers, through intermediaries (e.g. public seed enterprises) and institutional buyers (e.g. NGOs). Gashu (2011) reported that SPCs access markets for their members through organized contractual marketing. In general, the business-oriented approach of SPCs and the extensive support from different stakeholders helps members to access better market.

Working with and support from externals

Members of SPCs have better opportunities to work with and obtain support from partners than non-members. Partners of SPCs include research institutes, public and private seed companies, cooperative promotion offices, agricultural offices, seed related projects and NGOs. Research institutes work with SPCs for variety development, adaptation, and multiplication (Alemu, 2011; Hassena et al., 2013). Variety adaptation and demonstration are practical means of improving the crop variety portfolios of SPCs (Thijssen et al., 2013). SPCs need to work with research institutes to increase the crops/varieties inflow in their seed business (ANRS/CPA, 2012). SPCs working with researchers on-farm trials and demonstration of varieties, which help members to make their choice among the varieties for high yield, disease tolerance and other desirable traits (Witcombe et al., 1996). Some SPCs have good experience in working with research institutes and development partners to diversify their crop and variety portfolios (Abay & Halefom, 2012), which is crucial for success and sustainability of the business. Members of SPCs would benefit from exchanging knowledge, skills and experience with researchers and development practitioners. Working with external partners helps SPCs to acquire knowledge and skills to produce and market a wide range of quality seed and keeps them competitive in their business (Thijssen et al., 2013).

Government and development partners (e.g. NGOs, development projects) intervene in areas where SPCs require intensive and organized support. The government intervenes in research activities/investment where private sector is unlikely to provide such service. Government provides extension services to promote new varieties and other agricultural technologies and provides other services such as audit, legal service, seed quality control and certification, as well. The NGOs also operate as facilitators to bring government services to the benefit of cooperatives and their members (Beyene, 2010). The support of development partners is necessary at early stages of SPCs, but as they evolve SPCs should be allowed to work independently.

Business opportunities for seed producer cooperatives

In Ethiopia there are tremendous opportunities for SPCs to evolve into strong medium scale seed enterprises. SPCs are interested to satisfy the specific needs of farmers in their localities and beyond. They produce seed of cereals, vegetables, and pulses, for which a market exists. SPCs may compete with other seed suppliers taking advantage of reduced distribution costs to transport the product to the farming community. SPCs could address specific niche markets to provide farmers with access to quality seed of those crops and varieties that have high local demand and are often extremely important for local food production and cultural practices. Locally demanded crops and varieties are often ignored by the large private and public seed companies because the demand and profit

margins are too thin for private seed companies to justify investment (Thijssen et al., 2013). The lack of interest from big seed companies creates a niche for the SPCs to deal with local customers. The support from the government in linking SPCs with potential markets is a good opportunity.

Challenges for seed producer cooperatives

Seed producer cooperatives have been confronted with several challenges. Some of the challenges are internal, which SPCs can control and manage. However, others are external, in the sense that SPCs have no or little control over them. The following challenges are frequently mentioned.

Internal organization and management of SPCs is one critical issue to consider. Leadership capability of the cooperative is one factor (Borda-Rodriguez et al., 2016). Cooperatives require highly committed, skilled and well-experienced leaders. Dedicated and competent leaders in SPCs are cornerstones to access information about product markets, and to maintain the quality of seed production (Ortmann & King, 2007). Strong leaders are able to increase members' commitment (Fulton & Giannakas, 2001). Ethiopian SPCs are often led by executive committees selected from members rather than by specialised and trained professionals. This is a key challenge for SPCs in their dynamic and competent seed business environments. The absence of professional cooperative managers, and the low literacy level of the existing leaders are key problems in many of the Ethiopian cooperatives (Awoke, 2014).

Cooperatives are often diversified in the level of membership characteristics in terms of age, gender, knowledge/skills, commitment and other attributes. Although difficult to get absolute homogeneity of members, it is important to get more or less homogenous members for better cooperative performance (Stockbridge et al., 2003). There are variations in the Ethiopia SPCs with regard to members' skills and capabilities in seed production, seed business, and commitment, which is reflected in their performance (Subedi & Borman, 2013). The cooperatives' degree of success is measured as members' commitment towards cooperatives, and members' trust in the board of directors (Österberg & Nilsson, 2009). There are some members that are opportunistic in getting higher prices via other market outlets even if they have an agreement with their SPC. Some farmers become members of the SPCs to access inputs particularly basic seed, but often show less interest and commitment.

Seed producer cooperatives have limited financial capacities to run the business. This hinders them from responding to customer needs and competitive actions. Cooperatives established with members' financial contributions largely depend on the commitment of their members to patronize

the cooperative (Fulton & Adamowicz, 1993). Seed businesses need financial capabilities to purchase required inputs (seed-fertilizers), collect market information, maintain relationship with suppliers, perform seed processing and promotion, build capacity and train members etc. Because of financial limitations, it is hardly possible for SPCs to have all the required facilities. In most cases SPCs collect the seed from their members at fair price without immediate payment ('loan base transactions'). The seeds are kept until they find appropriate buyers and until the price goes up. SPCs have difficulties to borrow cash from banks due to collateral problems, particularly for those newly established SPCs that do not have fixed assets (e.g. store/building).

Seed producer cooperatives are sometimes constrained by limited support from partners. In government offices, shortage of professionals and associated facilities are the limiting factors to support and follow-up cooperatives (Veerakumaran, 2007). Because of the frequent restructuring at the federal, regional and district levels, there is high staff turnover at the cooperative promotion office. Commonly experienced cooperative professionals transfer to other offices with promotion, and are replaced by less-experienced staff. This has an impact on the effective support and development of the cooperatives in the country (Emana, 2009; Veerakumaran, 2007).

Basic seed shortage is a critical problem and affects the seed sector development in Ethiopia. Seeds are developed by research institutes and universities, and further multiplied and supplied by themselves and public seed enterprises. However, these suppliers have limited capacity to satisfy the seed demand. Thus the problem of basic seed shortage is the bottleneck (Ojiewo et al., 2015; Thijssen et al., 2008). Moreover, seed suppliers do not address the diversified seed demand of the farming community. Beneficial crops that farmers demand most such as pulses and oilseeds remain less prioritized (Atilaw & Korbu, 2011). The seed shortage hinders SPCs to multiply and supply large quantities of seed to the market, despite the huge demand for a particular crop seed. Because of seed shortage, sometimes SPCs are forced to change their cropping calendar which has a serious impact on the performance of SPCs.

A good level of cooperation between SPCs and their partners is necessary to access information. However, some SPCs have limited networks with partners. Sometimes they are less motivated to maintain and improve their relationship with externals. The geographical locations (remote areas) where some of the SPCs are located, the limited infrastructure development (roads, communications, electricity), and the lower motivation of some partners to work in remote areas are some of the factors that limit SPCs' external network. This hinders SPCs in accessing the required information and finding support from partners.

Limited infrastructure development is another factor, although Ethiopia has made significant progress in infrastructure development including roads, electricity, telecoms and irrigation facilities (Foster & Morella, 2011). Some SPCs are located in areas where there is less infrastructure development. Living in remote areas with poor infrastructures exposes cooperatives and their members to high input costs that highly reduce their incentives for market participation (Barrett, 2008). Some SPCs have modern post-harvest machineries, but they are unable to use these due to electric power problems. Moreover, most cooperatives cannot get sufficient extension service and rural credit, which are important for production improvement and market success (e.g. Reardon et al., 2009; Wiggins et al., 2010).

2.6 Roles and responsibilities of stakeholders support for seed producer cooperatives

Numerous actors and stakeholders are involved in promoting sustainable seed business in Ethiopia. These include SPCs themselves (members and leaders), local level partners, public seed enterprises, private seed companies, research institutes, agriculture offices, cooperative promotion offices, regulatory agencies, institute of biodiversity conservation of Ethiopia, development projects and NGOs. The roles and functions of these partners vary and sometimes overlap. SPC members are the owners of the business. Members are aware that the seed business is tightly associated with their livelihoods. As owners, their commitment, determination and roles are a solid foundation for firm success, which ultimately affects their livelihoods. SPC leaders are responsible for the overall administration and management of the business, and accountable for linking the business with stakeholders.

Local level partners play key roles in capacity building of SPC members through technical and managerial trainings. They provide consultation and extension services for SPCs. Public seed enterprises are working with SPCs mainly for contractual seed production. SPCs access seed from these enterprises (Alemu et al., 2008). Furthermore, these enterprises support SPCs in capacity building activities including trainings, experience sharing, and provision of market information. Research institutes and universities are the only sources of newly released varieties. All seed producers, including SPCs, are entirely dependent on the availability of new seeds from public research institutes (Thijssen et al., 2008). Some NGOs serve as a bridge between SPCs and final users (farmers). They buy the seed from SPCs and distribute to other farmers in places where they are operating for seed and food security missions. In addition, they support cooperatives in capacity building activities including trainings, materials provision, and market information (Beyene, 2010).

2.7 Conclusion

Seed sector development in D&E economies including Ethiopia is a complex issue. A strong seed sector can contribute to a country's economic development, when it adopts vibrant, pluralistic, and market oriented approaches. Each seed system in Ethiopia has its own specific contribution. Thus seed sector development strategies should develop programs upon a diversity of seed systems. Moreover, a strong seed sector exploits the complementary roles of public seed enterprises, private seed companies, SPCs, research institutes, government offices and other development partners.

The formal seed system covers a few crops and supplies a small volume of seed to the market. It cannot satisfy the existing diversified and huge seed demand. SPCs play an important role in supplying seed to the market which contributes to the narrowing of the gap between seed demand and supply. Their contribution is also particularly important for crops where there is less investment interest by private seed companies and for crops that are covered by public seed enterprises to lesser degree. SPCs significantly reduce costs associated with input access and they support members and farming communities in quality seed production and dissemination of agricultural technologies. Although Ethiopian SPCs are diversified and face various challenges, they contribute to the seed supply improvement of the country. Therefore, government and development partners should support and strengthen SPCs to maximize their success in the seed business and their contribution to improve the seed supply and ensure seed security in Ethiopia.

Chapter 3

Market Orientation Practices of Ethiopian Seed Producer Cooperatives

This chapter is submitted as: Dawit Tsegaye Sisay, Frans J.H.M. Verhees, and Hans C.M. van Trijp. Market orientation practices of Ethiopian seed producer cooperatives.

Abstract

The practices of market orientation are context specific. This paper focuses on the concept and practices of market orientation in Ethiopian Seed Producer Cooperatives (SPCs) as a case for agricultural marketing cooperatives in developing and emerging (D&E) economies. Based on 44 semi-structured interviews with experts, and practitioners (SPC leaders and member farmers), we identify key market orientation elements in SPCs' context. Analysis of the interview transcripts reveals that market orientation criteria in the Ethiopian SPCs context could meaningfully be grouped into five underlying dimensions; quality of produce, business organization, external orientation, value addition activities, and supplier access. There are interesting similarities and differences between experts' suggestions and current practices of SPCs. The understanding of market orientation by practitioners, particularly by member farmers, is limited to quality seed production as a final target. There is considerable recognition of respondents on the importance of customer orientation in the SPCs context. Information on produced seeds, market prices, and profits is considered important. Information on competitors, although recognized by experts as important, is not really gathered by SPCs. In general SPCs are dependent on external contacts for their market information. Experts believe that the SPC committees should be responsible for information dissemination, but in practice there is also an important role for the SPC chairman personally. Specific market orientation practices by SPCs are discussed in detail.

Keywords: D&E economies, Ethiopia, market orientation, seed producer cooperatives

3.1 Introduction

Market orientation lies at the heart of marketing theory (Ozkaya et al., 2015) and is seen as a key contributor to organizational performance in terms of profitability, sales growth, return on investment, customer perceived quality, customer satisfaction and loyalty, employee's satisfaction, esprit de corps, and organizational commitment (Jaworski & Kohli, 1993; Jaworski & Kohli, 1996; Kirca et al., 2005; Kohli & Jaworski, 1990; Maydeu-Olivares & Lado, 2003; Narver & Slater, 1990; Raaij & Stoelhorst, 2008).

Empirically, the concept and practice of market orientation and its effect on business' performance are well documented for large companies in developed countries (Cano et al., 2004; Ellis, 2006; Harris & Ogbanna, 2001; Homburg & Pflesser, 2000; Jaworski & Kohli, 1993; Kirca et al., 2005; Langerak, 2001; Slater & Narver, 1994). The general finding is that, in developed countries with mature economies characterized by the prevalence of buyer's markets, stable growth, and intense competition, market orientation positively contributes to the company's sustainable competitive advantage (Ellis, 2005). Market-oriented businesses are able to satisfy the expressed and latent needs of their customers (Farrell, 2000; Harris & Ogbonna, 2001; Homburg & Pflesser, 2000; Inoguchi, 2011; Langerak, 2001).

As a positive market orientation-performance relation in large businesses exists, it is postulated that the market orientation practices also are applicable to and profitable for small businesses (Alam, 2010; Blankson & Stokes, 2002; Verhees & Meulenberg, 2004). Although based on relatively few studies, the available evidence suggests that this is indeed the case (Blankson & Cheng, 2005; Chao & Spillan, 2010; Inoguchi, 2011; Pelham, 2000; Renko et al., 2009).

Studies in the context of D&E economies are scarce (Mahmoud, 2011). Several scholars have urged for exploring the tenability of marketing theory taking into consideration the specific situation of D&E economies (e.g. Burgess & Steenkamp, 2006; Sheth, 2011). Most D&E economies are highly local and suffer from inadequate infrastructure, lack of access to technologies, and chronic resource shortages (Sheth, 2011). Such challenges are highly determinant particularly for small businesses. Because of the wide technical, managerial, financial, political, socio-economical, and infrastructural differences between large businesses in developed nations and small businesses in D&E economies, market orientation thinking and practices may need to be adjusted to the context of small businesses in D&E economies (Burgess & Steenkamp, 2006; Sheth, 2011). There is a need to conduct more research in diverse cultures and contexts to boost conviction in the nature and power of market orientation (Burgess & Steenkamp, 2006; Narver & Slater, 1990). The specific context of businesses in

D&E economies offers great opportunities to develop new perspectives in marketing and thus market orientation (Sheth, 2011).

The present study focuses on the implementation of market orientation by small businesses in D&E economies. Our case study focuses on the Ethiopian seed sector with specific consideration for seed producer cooperatives (SPCs) and how the concept of market orientation is understood and applicable in their context. Various partners including government organizations, the Integrated Seed Sector Development (ISSD) in Ethiopia programme, and NGOs support SPCs to develop into commercially sustainable seed businesses. The ISSD programme together with Ethiopian partners has been working to promote a vibrant, pluralistic and market-oriented seed sector in Ethiopia in order to increase the sustainable access to affordable quality seed of superior varieties (Louwaars & de Boef, 2012). These SPCs show considerable variation both in terms of their formation history, production potential, infrastructure, seed crops produced, year of establishment, seed marketing experience, number of members, and seed marketing strategies (Mohammed et al., 2012). SPCs consisting of seed producing farmers, are led by an executive committee (SPC leaders) selected from among the member farmers, with dedicated committees for seed quality control, managerial, and financial control.

The structure of the paper is as follows. First, the paper briefly introduces the market orientation concept in general, and the evidence on its applicability to SMEs in D&E economies. Next, it introduces the case study of SPCs in the Ethiopian context. This is followed by the description of the methodology of the study and presentation of the results. The paper continues with the conclusion and discussion and ends with suggestions for further research.

3.2 Market orientation

Narver & Slater (1990) and Kohli & Jaworski (1990) studied market orientation empirically in different industries. Market orientation has been approached as a company culture building on three components: orientation on the customer and on competitors, and cross-functional coordination within the company to effectively and efficiently respond to and anticipate on the challenges in the external environment (Narver & Slater, 1990). In terms of market intelligence functions, market orientation practices involve the generation and dissemination of market intelligence and the responsiveness to such intelligence (Kohli & Jaworski, 1990). These two seminal works provided conceptualizations, definitions and measures of the market orientation constructs.

Market orientation provides a business with a better understanding of its customers, competitors, and environment, which subsequently provides necessary inputs on the basis of which superior business performance can be built (Kirca et al., 2005). A market-oriented business is one that successfully applies the marketing concept (create value for customers), which indicates that the key to organizational success is through the determination of the needs of target markets and satisfaction of these needs for profit and/or other objectives (Blankson & Stokes, 2002; Deshpande & Farley, 2004). Market oriented businesses should focus on customers' satisfaction and sustainable profits, and should also develop close relationships with important customers to gain deeper insight into those customers' desires (Slater & Narver, 1998). Meta-analysis assessments reveal that market orientation has predominantly positive relationships with various performance measures including profits, sales and market share, customer satisfaction, new product performance, team spirit and job satisfaction (Cano et al., 2004; Kirca et al., 2005).

Market orientation in small businesses

The typical features of SMEs render the implementation of the market orientation concept more challenging than for large companies. This is because SMEs typically do not have specialised functions and departments (under one roof) and are constrained by technical and financial resources. Because of the differences in infrastructure, the availability of and access to resources (skilled labour, finance), the number and type of customers, and firm's technological competence, both the processes of information generation and dissemination, as well as the process of coordinated response are more fluid, less structured and possibly less articulated (Blankson & Stokes, 2002; Chaston et al., 2001; Mahmoud, 2011; Verhees & Meulenberg, 2004). As a result, in SMEs market orientation practices reside much more at the individual level, rather than at the formalized departmental level as in large companies.

Small businesses have limitations in technical, managerial and financial capabilities to run their business. Unlike large companies, they do not have marketing specialists to generate information about customers' needs (preferences) and competition or to make good forecasts. The owner (manager) of the business is largely responsible for marketing, and hence for the survival of the business (Rizzoni, 1991). SMEs are constrained by scarce resources and poorly developed management systems to access information (Carpenter & Petersen, 2002). Their market intelligence is mostly based on external (personal) contacts with customers and suppliers (Verhees & Meulenberg, 2004).

The dissemination of market intelligence provides a shared basis for concerted actions by the different departments (Kohli & Jaworski, 1990). For small businesses owned by one individual person, coordination between internal departments is not an issue because the owner makes the major decisions (Inoguchi, 2011). Literature supports the omission of the intelligence dissemination component of market orientation for small businesses (Verhees & Meulenberg, 2004). Importantly, information dissemination increases employee motivation, which has a direct impact on external market orientation (Ian & Gordon, 2009).

Small businesses run by the owner can respond with alacrity and flexibly to market intelligence because decision-making is non-bureaucratic and the decision-maker is able to oversee the whole production and marketing process (Carson et al., 1995; Verhees & Meulenberg, 2004). Coordinated response towards the information generated is the key element for successful business performance (Hult & Ketchen, 2001). The predominant view is that the limited financial and technical resources can hinder small businesses from responding to customers' needs. However, some researchers have reported that responding to market intelligence seems to be easier for small businesses compared to the larger organizations because of the size (Inoguchi, 2011). Besides their limited resources and narrow range of technological competences, owner's (manager's) technical capabilities also hinder firm's response to customers need. Owner often focuses on the efficiency of current operations (Chaston et al., 2001).

Market orientation in D&E economies

The market situation in D&E economies puts a further challenge on the implementation of market orientation, both in terms of business structures as well as regarding the socioeconomic, cultural, and political contexts. Basic marketing infrastructures such as marketing data, communication availability, electricity, roads, e-banking (e-commerce), and skilled manpower are largely absent or poorly developed in D&E economies (Sheth, 2011). In most cases, markets in D&E economies are local, very fragmented, and small. Underperformance of formal institutions, uneven distribution of value added in supply chains, underperformance of spot markets, weak institutional environments and politically affiliated marketing systems are some of the key limitations in D&E economies (van Tilburg, 2010). However, despite these bottlenecks there is rapid economic growth in many developing countries.

The limited technical and managerial capabilities of firms in D&E economies together with poor marketing infrastructure hinder the level of implementation of market orientation. Firms may not have well organized and structured information gathering schemes and capabilities, and market

intelligence is costly for individual firms to generate. In most cases, market information is generated through secondary data using both formal and informal approaches such as customer surveys, meetings and discussions with customers and trade partners, and analysis of sales reports. Advances in information technology are potentially helpful in generating intelligence (Ngamkroeckjoti & Speece, 2008) but require skills and infrastructural facilities. Particularly for small businesses in rural areas of emerging economies, accessing intelligence via advanced technologies is limited. However, the increasing coverage of mobile phones in emerging economies provides a good opportunity to facilitate decision making process regarding the type of goods to produce and sales prices (Arinloye, 2013). Besides the limited resources available to the companies, the poor infrastructural development hinders firms to respond for customers' needs. E-banking (e-commerce) is very limited, or even absent in some countries, which makes reaching customers and expanding business troublesome (Asikhia, 2009).

The implementation of market orientation in D&E economies and particularly in small businesses is expected to involve unique market orientation practices, beyond those identified in "general" marketing theory. It has context specific features concerning customers' needs identification, dissemination of information within the business, and implementation of a coordinated response to the information generated and disseminated.

Context of the study

Improving agricultural productivity is indispensable, in the aim to increase food supply for a growing population and for improving the economic status of Ethiopia (Hopfenberg & Pimentel, 2001). Seed is one of the basic inputs in agriculture and plays a vital role in sustainable development of the Ethiopian agricultural sector (Alemu, 2011). Seed security and food security are linked together with agricultural economic development (Louwaars & de Boef, 2012; Thijssen et al., 2008). To satisfy the seed demand of farmers, public and private seed companies have been trying to provide quality seeds for farmers. However, they focus only on a few cereal crops, are able to supply only about 10% of the seed farmers use, and cannot satisfy the diversified seed needs of farmers (Bishaw et al., 2008).

In terms of customer demand, farmers' seed demand varies between locations. Agro-ecological adaptability, sociocultural interest, irrigation facilities, local market demand, technical and financial capabilities, and government regulations are some of the factors that determine farmers' choice for specific varieties and seeds (Thijssen et al., 2008). To satisfy the diversified seed demand of farmers and to contribute to seed security at the local level and beyond, the government and development

partners support the establishing and strengthening of SPCs in various parts of the country (Mohammed et al., 2012). The support aims to promote sustainable local seed business so that they become technically well-equipped, professional, market oriented and self-reliant in their seed business. SPCs are small seed enterprises and autonomous organizations established by a group of individual farmers from a given locality, organized as agricultural marketing cooperatives. They produce quality seed and become profitable using contractual seed production and direct selling to final customers (Tsegaye, 2012). Rural communities, but also other stakeholders, including policy makers, recognize SPCs' contributions to the seed sector (Alemu, 2011). The government of Ethiopia sees a key role for a well-functioning agricultural cooperative sector, with cooperatives being self-sustaining economic enterprises, to support economic growth (ATA, 2012).

Seed producer cooperatives are not managed by one person, unlike typical small businesses. Most SPCs have three separate committees with clear roles and responsibilities, although the organizational setup varies. These committees are: an executive committee (SPC leaders), a seed quality control committee, and a managerial and financial control committee. Committee members are selected out of members of the cooperative. Some SPCs do also have other committees such as a marketing committee and purchasing committee. The executive committee is responsible for managing the overall seed business' activities. This committee develops annual budgets, implements bylaws approved by members, recruits employees, manages all the resources of the cooperative, searches for market opportunities, accesses agricultural inputs (basic seeds for commercial seed production, fertilizers, crop protection chemicals, farm implements) for members, takes disciplinary actions against members that violate the bylaws, and regularly reports to the general assembly. The seed quality control committee is responsible for all seed quality related issues. This committee monitors and controls the quality of the seed at all levels: in the field, during storage, packaging, and transportation. The control committee is responsible for managerial and financial related issues, and is accountable to the general assembly. In the general assembly, members of the SPC participate in decision making on major issues. The general assembly is nominating, electing, and re-electing committee members.

Although market orientation is seen as an important feature to further develop the seed sector in Ethiopia and has been implemented as a strategic intent of the Ethiopian SPCs, there is a lack of understanding to what extent and in which form this strategic intent has been put into practice. To fill the gap in understanding of market orientation practices and experiences within the D&E small marketing cooperative context, we employ a case study approach (Yin, 2003).

3.3 Methodology

The purpose of using the case study method is to emphasize detailed contextual analysis of a limited number of events or conditions to examine contemporary real-life situations (Yin, 2003). This study of Ethiopian SPCs explores the understanding and interpretation of market orientation in the context and takes inventory of current practices in the domain of market orientation components: information generation, information dissemination, and responsiveness to this information. In this section we describe the study area, case selection, data collection, and data analysis procedures.

Study area and case selection

To ensure adequate coverage of potential heterogeneity in the Ethiopian situation, four SPCs were selected from four regional states in Ethiopia: Amhara region, Oromia region, Southern Nations Nationalities and Peoples region (SNNPR), and Tigray region. These four SPCs vary in terms of their organizational structure, formation history, production potential, seed marketing experience, number of members, marketing strategy and market arrangement, and agroecological conditions. The four SPCs are described in more detail in Appendix 3.1.

Data collection

Primary data were collected from individual interviews to get an inside perspective on opinions, ideas about, and experiences with the concept and practices of market orientation. In-depth face-to-face interviews were conducted with three groups of interviewees: SPC leaders, member farmers and experts who have knowledge about and experience with the market orientation practices of SPCs.

Interview guides were similar between the different groups of respondents, with the exception that the interview guides for experts were framed normatively as what "should" be done, whereas for practitioners these were framed descriptively in terms of actual practices conducted. Also, the questions for experts referred to SPCs in general ("an SPC"), whereas those for SPC leaders and farmers made explicit reference to their specific SPC ("your SPC").

Interview guides consisted of two main parts. The first part focussed on understanding and interpretation of the market orientation concept generally, guided by two open-ended questions: (1) "W*hen do you consider your (/an) SPC to be market oriented?",* and (2) "*What activities does your SPC (/should an SPC) do to be market oriented?"* The second part focussed on each of the specific components of market orientation: information generation, dissemination and responsiveness. Again, first an open question was asked (e.g. *"what kind of information does your (/should an) SPC gather about the market?"*) to allow respondents to express their understanding and experiences in

their own words. Then more specific questions were asked for further details (how, from whom, who etc.) on each of these market orientation practices.

Prior to the interview, respondents were briefed about the purpose of the interview and research, the reason why they were selected, the importance of participation, and the anonymity and confidentiality of the interview (Saunders et al., 2000). Before the interview the concept of market orientation was explained to the interviewees, using the following description: "It basically refers to the organization wide information generation, dissemination, and appropriate response to satisfy customers' needs." In the beginning, a few farmer respondents did not have clear opinions about the open-ended questions regarding the meaning of the concept of market orientation. To them the meaning of the questions was explained at the level of their understanding in terms of consequences of market orientation (i.e to explain when they consider the SPC to be successful in terms of members' satisfaction, obtain better income, and other objectives such as satisfying customers' need), after which they expressed their opinions.

Pilot interviews were carried out with seven respondents (three experts, two SPC leaders and two member farmers) to check the ease with which respondents responded and to check the appropriateness of the interview guide. For actual data collection field assistants were recruited to facilitate the effective communication between the researcher and the respondents (i.e. translation to/from local languages). Each interview question was translated in such a way that interviewees could easily understand and respond. Overall, we obtained a purposive sample in which in-depth interviews were conducted with a total of 44 respondents: 16 SPCs leaders, 12 member farmers, and 16 experts. Experts included those that have in-depth knowledge and experience on the SPCs with regard to their organization, seed production and marketing activities. Experts include those have relevant educational background and experience in research, seed projects, NGOs and government offices either in marketing, cooperative marketing or agribusiness, economics or seed development and extension. During interviews a digital voice recorder was used to gather all the information and to increase the accuracy of data presentation.

Data analysis

The data collected were analyzed using full transcripts of the individual interviews. We used Atlas.ti software to analyse the transcribed data. A total of 44 documents were uploaded into the software. Data were classified along the two main parts of the interview: market orientation understanding and market orientation practices, differentiating between the three groups of respondents. For

market orientation practices we further differentiated the data among the three components of market orientation: information generation, information dissemination and responsiveness.

Upon careful reading of all transcripts, an inductive data analysis was used for coding, categorising and identifying the key themes (Lincoln & Guba, 1986). This was a 'bottom-up' approach, progressing from a very detailed level to greater generality by assigning text fragments without prior assumptions. Inductive data analysis refers to approaches that primarily use detailed readings of raw data to derive concepts, themes and/or models through interpretations made from the raw data by an evaluator or researcher (David, 2006). We analyzed our data as they became available to check and refine emerging understandings. Line-by-line coding was applied to interview transcripts. We identified representative primary codes (quotations of the respondents with similar meanings) from text fragments that were related to the market orientation understanding and market orientation practices. We further added codes and then finally condensed codes (family codes) to those that can capture critical aspects of the market orientation practices.

3.4 Results

The concept of market orientation

The concept of market orientation understanding was expressed as a mix of more conceptual *("when do you consider your (/an SPC) to be market oriented?")* and behavioural *("what activities does your (/should a SPC) do to be market oriented?"*) quotations which are combined in the analysis.

From the primary codes that we extracted from the interview transcripts, a clear pattern emerged in terms of twelve key topics (elements) of market orientation, which could further be classified into five major themes (see table 3.1). These major themes of market orientation are described below in detail.

Table 3.1: The major market orientation themes emerging from key topics (elements)

Themes	Elements
Quality of produce	a. Supply of quality or acceptable product; the extent to which the SPC supplies quality declared or certified seeds b. Supply of high market value products; the extent to which the SPC produces and supplies seeds that have better market value
Value adding activities	a. Profitability; the extent to which the SPCs and their members become profitable from the seed business b. Selling the seed directly to customers; whether SPCs sell their products directly to final customers, not to intermediaries c. Developing better marketing strategies; the extent to which the SPCs develop and practice effective marketing strategies considering their existing situations d. Seed value addition; the extent to which the SPCs add value to their products by processing, treating, packaging, transportation etc.
External orientation	a. Access to market information; whether the SPCs gather market information by themselves or via access to partners and/or intermediaries b. Customer focus; whether the SPCs supply products based on customers' preferences c. Competitor orientation; the extent to which SPCs understand what their competitors are doing and respond to their activities
Business organization	a. Well organized cooperatives; the SPCs have organized the business well in terms of managerial, financial and infrastructural measures that enhance their efficiency in seed production and marketing activities b. Commitment and capabilities; whether the SPCs (their members) are committed and professionally disciplined in supplying quality seed
Supplier access	a. Access to inputs and services; the extent to which the SPCs are capable enough to access the necessary inputs and services for quality seed production

Quality of produce emerged as the dominant theme from the interviews. In a sense seed quality refers to having the necessary elements of the seeds that customers want including good germination and moisture content, free from unwanted seed and inert materials, and high market value. Buyers require quality seeds to increase yields and obtain high incomes. It was expressed in a more/narrow product quality sense as the *supply of quality product* and in the value/economic sense as the *supply of high market value product.* At the level of individual quotes, quality of produce was

referred to as 'focus on seed quality', 'provision of quality seed to the market', 'production of market demanded seed', 'production of improved seed', 'sufficient quality seed production', 'supply of quality seed for customers', 'timely provision of quality seed', 'work on providing quality seed production' etc. Respondents stated:

> *"If we use all the required agricultural inputs and produce quality seed, I can say our cooperative is market-oriented." (farmer11)*
>
> *"Customers do not have any complaint on the seed that we delivered. In general, we are providing quality seed for our customers." (farmer2)*

Value adding activities emerged as a second important theme in relation to market orientation of SPCs. It was expressed in terms of internal activities such as *seed value addition*, external activities of the SPC in terms of *selling the seed directly to customers*, and *developing better market strategies*, as well as the outcome level in terms of *profitability*. Profitability was emphasised as most respondents believe that profit is the key for the consistent growth of the business. Practitioners explained:

> *" ... a cooperative is market oriented when it produces quality seed and sells its seed with reasonable profit." (leader2)*
>
> *" ... a seed producer cooperative can produce improved quality seed and become profitable. It also obtains high income. .... because of this its members and other farmers in the community can benefit from producing improved seed ..." (farmer1)*

In addition, several respondents expressed value adding activities in terms of quotes related to 'provide seed with reasonable profit', 'sell the seed with profit', and 'when using value additions profitably'. Experts particularly linked the high profitability with the value addition capabilities of the SPCs. For example, one expert said:

> *"I can say a given cooperative is market-oriented when the seed (it produces) is cleaned and sold directly to its customers by its own capacity. ... it can obtain higher prices and become profitable by packaging its own seed." (expert2)*

External orientation came out as a third key theme of market orientation in SPCs and basically relates to the concept of information-based competitive advantage in the market place. External orientation covers the topics of *access to market information*, *customer focus* and *competitor orientation*. Results show that most SPCs are more customer-focused rather than competitor oriented. Several respondents shared the opinion that the SPCs should make an effort to satisfy their customers and should be customer oriented. It was mentioned by the respondents that customers are satisfied when they get what they want, which in term will turn them into loyal customers. For example:

" ... for SPC to be market oriented first it should collect information about the benefit of seed production and marketing. Then, it should produce seed that customer farmers need. ... able to process and pack accordingly. If SPC is in a position to do all these activities, I can say the cooperative is market-oriented." (expert4)

"... Furthermore, from a marketing point of view the cooperative should know in advance who really demands its seed, when they need the seed, which quality standards, and the amount of the seed they want to buy ..." (expert5)

"In addition, I can say a cooperative is market-oriented when it is able to process and pack its seed by itself and satisfy its customers. Customers can only be satisfied when we deliver quality seed ..." (leader4).

Business organization came out as a relevant theme, although less frequently articulated than the previous themes. It relates to performance of the SPC in terms of it being a *well-organized and managed cooperative* with *committed and capable members* that are professionally disciplined to supply quality seed. Most respondents emphasized that SPCs should be well organized and their members should be committed to become profitable and stay in the business. For example:

"Our cooperative is working hard to produce and maintain quality seed ... " (leader9)

"We have our own bylaws to maintain the seed quality." (farmer12)

At the more specific level of quotes, business organization was expressed in such terms as 'strong relationship with partners (i.e. supporting organizations)', 'when SPCs are able to obtain support from partners', 'when SPCs are able to develop a plan for quality seed production and marketing'. Moreover, respondents explained the commitment in terms of high member participation, and members' integrity and hard work.

Supplier access is the final theme that emerged from the interviews, reflecting the important task of cooperatives to ensure access to inputs and services for their members to enable them to produce the required quality and quantity of seed. Cooperatives are supporting their members to access the necessary inputs and services at the right time and at the desired level, which was expressed by respondents as *inputs and services access for members.* The argument centres on access to basic seed. Because of high basic seed shortage in the country, the SPCs usually approach partners (agriculture office, cooperative promotion office, research institutes, public seed enterprises, seed related projects etc.) to get support to access basic seed from available sources. Respondents explained:

"In general, SPCs should access quality basic seed from seed sources and distribute it to their members." (expert10)

"We accessed basic seed from seed sources through the support of district offices of agriculture and cooperative promotion." (leader5)

Experts' vs. practitioners' interpretation of market orientation

Fig. 3.1 shows the occurrence of quotes related to the five themes of market orientation in the context of Ethiopian SPCs as obtained from three respondent categories. From the occurrence of quotes (relative number of quotes within each of the five themes) several similarities and differences stand out. First of all, quality of produce is seen as the dominant element of market orientation for all respondent groups, but is particularly prominent in the perception of farmers/members. Experts emphasise external orientation as a crucial element of the market orientation concept much stronger than the SPC leaders and member farmers. SPC's value adding activities are perceived by all respondent groups as an important component of market orientation, but more so by SPC leaders than by member farmers and experts. All groups see business organization as a component of market orientation without too much distinction between respondent groups. Access to seed is seen as a less central element of market orientation, although more prominent by leaders than by experts and particularly farmers.

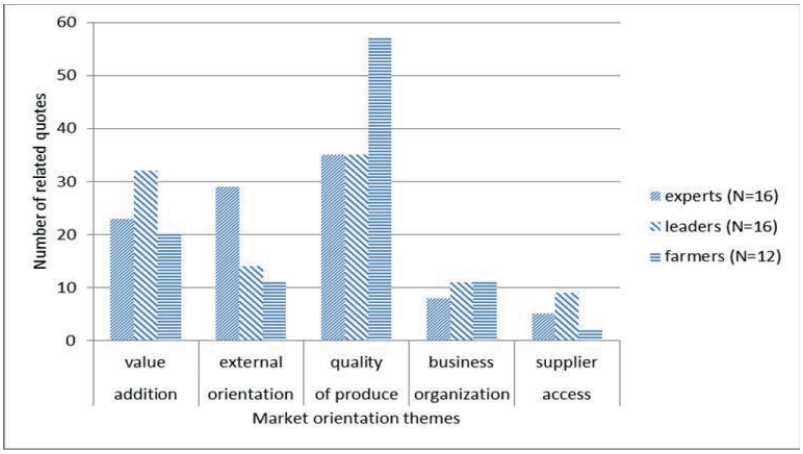


Figure 3.1: Response pattern of experts, leaders and farmer members on market orientation themes

Overall, when reflecting on market orientation as a general concept in the context of SPCs, experts and practitioners do agree on five key themes, although they do emphasise specific themes to different degrees. We developed the conceptual model shown in Fig. 3.2 on the basis of this

qualitative research. Business organization leads to better access to inputs from potential suppliers. Inputs may include seeds, fertilizers and agrochemicals, but centrally focuses on accessing basic seed from certified suppliers such as research centres, universities and big seed companies. Sometimes SPCs' access to basic seed depends on the business-to-business relationship with suppliers. Well-organized SPCs have strong relationships with suppliers, which results in accessing the right input at the right time. The business organization also contributes to better coordinating members of the cooperatives. SPCs search for and provide the necessary inputs to their members to satisfy their basic seed demand, and help them to produce the best quality seed that customers need. The quality of seed can influence buyers to pay higher prices and contribute to a higher market share. The business organization also links with gathering relevant information from the environment in terms of customers' needs and competitors´ actions. It also depends on the organizational capacity of the cooperative to disseminate the information gathered to members and respond accordingly. Business organization also leads to more customer satisfaction by adding value to the product. Value addition in the seed business may include sorting, grading, transporting and packaging.

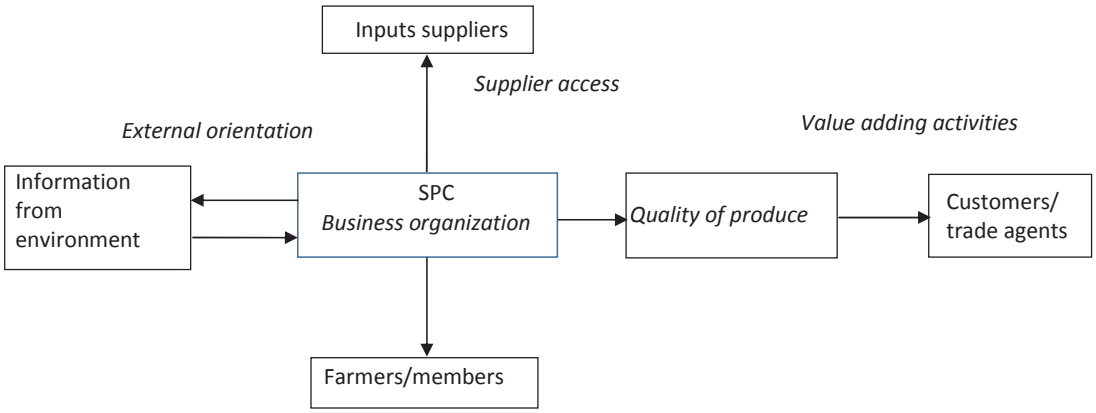


Figure 3.2: Conceptual model of market orientation in SPCs

Specific market orientation practices

Information generation, information dissemination and a coordinated responsiveness to that information are core behaviours within market orientation theory. In the second part of the interviews these behaviours were assessed and made explicit by respondents as they apply to their specific context, again in terms of "what *is being* done" (practitioners) and "what *should* be done" (experts). In this section, we discuss these specific market orientation behaviours in terms of information generation, information dissemination and responsiveness.

Information generation

Information generation about the seed that the SPC is producing and/or wants to produce came out as a major theme, together with information on market prices, customers' needs, and to a lesser degree information about competitors. Experts consider information on seeds that have high market value important, which is also dominant in the current practices of SPCs. Two experts stated that:

> *"In the first place they (SPCs) should gather information about the varieties demanded by the market, and the place where these varieties can be sold." (expert4)*
>
> *"When we say collecting market information, it includes information about whether the crop/seed aligns with market demand. Before they start seed production, they have to know which crops/varieties are really demanded by the market." (expert13)*

Information that SPCs are gathering about products (seed) includes the seed demand (quality and variety) by customers, the adaptability of the seed to the locality, the seed productivity (production potential), availability of alternative varieties, and the place to market the seed. They gather market price information from local markets and markets outside their vicinity.

> *"We access market information from partners about which crops/varieties we need to produce to profit, and how to sell our product (seed) for a reasonable price." (leader2)*

Experts also emphasised the importance of collecting information about customers as a basis for SPCs to design appropriate strategies and to find all possible ways to satisfy their customers and to obtain a better income.

> *" ... They should also collect information about customers' needs and how they can satisfy their needs ..." (expert16)*

Collecting market information about customers is, however, not very much considered in the current practices of SPCs. The emphasis in information gathering is on prices. Market price information is useful to set the seed price while considering customers' willingness to pay. SPCs also access information about their competitors through external contacts. Some respondents consider big government seed enterprises as their competitors, but most consider them as partners. In some cases, respondents consider other SPCs as their competitors. For example:

> *"We also gather information about other seed producer cooperatives and we understand where we stand as compared to other cooperatives ..." (leader5)*

Both experts and SPC leaders/farmers emphasise partners in the network as important sources through which information can be obtained. Experts suggest that SPCs should collect and access

information through external contacts such as district offices, research institutes, seed related projects, Universities, NGOs and cooperative Unions. Experts' suggestions take into account that most of the existing SPCs have limited technical and financial capabilities to gather market information by themselves, and do not have their own employees responsible for gathering market information. One expert said:

> *"There are stakeholders supporting the seed producer cooperatives. For example, ... in connection with marketing and market linkage SPCs should gather information from district office of marketing and cooperative promotion. In addition, SPCs should access information from other organizations including NGOs ..." (expert5)*

This is also reflected in current SPC practices, where respondents stated that SPCs are gathering information from partners and intermediaries (e.g. big seed enterprises). Particularly local level government offices, which are closely working with SPCs, are supporting the cooperatives in information gathering. One SPC leader explained:

> *"Our cooperative is gathering information from the district office of cooperative promotion, district office of agriculture, the ISSD project and seed enterprises." (leader1)*

Experts suggested that SPCs should not only rely on information from partners and intermediaries but also collect such information themselves. However, this is not a well-developed practice in SPCs yet.

In line with market orientation theory, experts indicated that customers, particularly farmers in the direct vicinity can be an important source of information to SPCs, but this practice is implemented only to a limited degree in SPCs. An expert from the district office of cooperative promotion and marketing suggested:

> *"Information should be gathered from experts, the market place (traders), and customers. I said from customers, that is, from customer farmers. They should ask customer farmers to give feedback about their seed ... they should gather information about customers' preference from farmers themselves." (expert6)*

In agreement with market orientation theory, competitor intelligence came up as a theme among experts ("should be done"), but also this theme seems weakly developed in current SPC practices. Competitors in a sense may include other SPCs within and outside their locality, as well as private and government seed companies. Experts explained:

" I think SPCs should also collect information from other seed producer cooperatives..." (expert5)

"...furthermore, SPCs should know their competitors' price and competitors' product. They should know where their competitors are found ... are they near to their place or far away? Do competitors have transportation facilities and road access?" (expert12)

In terms of how SPCs should collect market information, experts suggested that SPCs should gather market information through both formal and informal mechanisms. Formal information gathering mechanisms include collecting market information by asking and interviewing partners, reviewing documents, and through structured information gathering techniques. Experts also acknowledged the importance of various informal ways of collecting market information through personal contacts and communication. Experts suggested SPCs should use the various social gatherings to collect market information from customers and other supporting organizations.

"SPCs should also gather market information from the community ... when people gather for various activities-for instance in Church ..." (expert1)

In fact SPCs are gathering information (e.g. on market prices) when collecting/purchasing the seed from their members and when they are selling to customers. Members also gather price information from the market place when they go there for their own purposes, as well as from neighbours, friends and relatives. Accordingly, members inform cooperative leaders about the price information they came across. SPCs also exchange market information with each other.

"We collect information from farmers in neighbouring villages ..." (leader14)

"We also ask market information from office of marketing and cooperative promotion." (leader8)

"There are other SPCs in other areas of the region... we ask them through telephone about the market price of the seed in their respective areas." (leader9)

Experts see an important role for SPC committees in gathering market information, and also a role for the SPC chairman. Depending on the existing situation of a particular SPC, the committee responsible for gathering market information would be either a marketing committee, selling committee or executive committee. Experts suggested that the executive committee members should be responsible for collecting the market information, because in most cases they have a better education, more experience and social status than other SPC members. A few suggested that the chairman of the cooperative should be responsible. Some others also suggested that SPCs should

have employees responsible for both gathering market information and to support the SPCs in other technical activities. Experts explained:

> *"In my opinion, the capacity of the cooperative determines who should be responsible to gather market information. If the cooperative has financial capacity, it can hire a professional/expert ... if it is not able to hire an expert, the leaders of the cooperative should be responsible to gather market information." (expert2)*
>
> *"From my experience, the chairman of the cooperative should be responsible for gathering market information." (expert16)*

SPCs have various committees with specific responsibilities. Several interviewees stated that these committees are gathering market information. Some respondents said that information is gathered by the chairman of the cooperative, indicating the chairman is fully responsible for information generating. Although different committees are involved in gathering market information depending on the organizational structure of the SPCs, most interviewees believed that it should be the responsibility of the executive committee.

> *"Market information is gathered by various committees of the cooperative."(leader5)*
>
> *"We made the chairman responsible. Thus, he has to gather information about the market." (farmer3)*

Information dissemination

Information dissemination is a common practice within the SPC, as indicated by SPC leaders/farmers. They share and discuss market information within the business, particularly about market prices, market places, expected profit, quality of product, and customers' preferences as suggested by experts. However, different from what experts envisioned, this sharing focuses on customer needs and not on competitor information. Both the committees and the chairman take a leading role in this information dissemination. One farmer said:

> *"We, members, usually discuss where, how and for how much to sell our seed to buyers." (farmer2)*

Market information should be shared and discussed within the SPC, according to experts. They suggested that information about market prices, market places, expected profit, quality of products, customers' preferences, and competitors should be shared and discussed within the SPC. In the SPCs' context, members of the cooperatives are owners of the business and therefore information should be shared among members.

Both experts and SPC leaders/farmers acknowledge the importance of formal and informal ways of information dissemination. According to experts, information should be disseminated during the general assembly facilitated by the executive committee and assemblies of other sub-committees. Sharing information at local and religious festivals and through contacts within their neighbourhood are recommended channels for information dissemination. In most cases SPCs use informal events, for example social gatherings, religious places and community based organizations. The internal hierarchical structure of the cooperative also helps to disseminate information from committees to members, and between committees. The chairperson of the SPC and other committees disseminate the information to all members through internal mechanisms which may vary among SPCs depending on specific social, cultural, and religious practices.

> "*One of the mechanisms of information dissemination within SPC is through the general assembly. ...*" *(expert3)*
>
> *"Executive committee members discuss the market information. ... and then this information is further disseminated to and discussed with members. We know that there will be a problem, if we do not discuss the market information with members." (leader8)*
>
> *"We also share information during informal meetings in the Church. We use local community based organizations to share market information." (farmer3)*

Concerning the responsibility for information dissemination, leaders and members believed that cooperative leaders should take responsibility. However, a few of them preferred the chairperson to be responsible mainly because of individual commitment and capabilities. Some respondents described that all members are equally responsible to disseminate information. One farmer explained:

> *"... we shouldn't keep silent by saying it is only the responsibility of the executive committee. We should support the executive committee ..." (farmer7)*

Responsiveness

Responsiveness to market information about customers' preferences by setting seed prices, by providing the right quality seed in sufficient quantities, and by adding value to the seed is suggested by experts. Experts particularly advised SPCs to respond on the basis of seed pricing mechanisms taking into account production costs, a profit margin, whether the seed quality meets the needs of customers, and competitors' seed prices.

> *"In relation to their competitors, SPCs should understand what their competitors are doing at present. Accordingly, they should respond to the market information by considering the pricing mechanism of the competitors." (expert1)*

Experts agreed that SPCs should be responsive to market knowledge by providing quality seed and by considering the specific needs of their customers. SPCs should not produce seed with low market demand and seed that can be easily produced by other farmers. They should adapt themselves to produce more than one crop (and variety) and satisfy their customers' preferences by widening their product portfolios i.e. product diversification. They also stated that SPCs should focus on providing seed that receives limited attention and interest from public and private seed companies. Locally demanded crops and varieties are often ignored by the large seed companies because the demand and profit margin are too small for these companies to justify their investment. This provides good opportunity for SPCs to satisfy specific target customers' demand and eventually to obtain better profit. Moreover, experts suggested more value additions on the product in relation to market responsiveness. Almost all experts stressed that SPCs should be responsive to customers' preferences. To achieve that, the SPCs should know what their target customers really want to have and understand the places where their buyers want to obtain their seeds.

> *"I think the key thing that is expected from the SPCs is to provide the product in accordance with the interest of customers." (expert11)*
>
> *"It would be better if the SPCs had its own branches and shops to distribute their seed to buyers." (expert2)*

SPC leaders/farmers said that the SPCs are making efforts to respond to the market by supplying quality seed, and fixing the price by considering their production cost and a profit. However, current SPC practices to add value to the seed are limited. When SPCs sell their seed without further processing and packaging, it limits their profit and their future competitive capabilities. Particularly the SPCs producing seed in contractual agreement with big seed enterprises sell their seed with limited value addition.

> *"Currently, we are providing quality seed to our customers based on an agreement. Because of limited capabilities, we are not able to reach a position to provide quality seed using post-harvest technologies such as treating, processing and packaging." (leader1)*

On the other hand, those SPCs selling their seed directly to farmer customers have more experience in value additions including through seed processing and packaging. Farmers said:

> *"We are distributing our seed with different packaging size. For instance we distribute with 15kg and 100kg bags." (leader6)*
>
> *"We usually process and pack our seed before selling." (farmer5)*

SPCs also respond to the market by providing alternative crops/varieties. When SPCs understand that a given crop/variety is not profitable, they change the variety based on market interest, which is indicative for their adaptation strategy. Moreover, SPCs encourage their members to provide large quantities of quality seed to the cooperative. It is observed that some SPCs award prizes for members who provide the largest quantities of quality seed. Farmers that provide higher quantities of seed receive higher dividends and thus have a better income than other members.

3.5 Conclusion

The present study, among experts, leaders and member farmers, reveals that the concept and practices of market orientation in the Ethiopian SPCs context centre around five major themes: quality of produce, value adding activities, external orientation, business organization, and supplier access. These key themes by and large cover important elements of the market orientation concept in "general" marketing theory. However, an important observation is that normative (experts) and descriptive (practitioners) views on market orientation do not fully overlap in terms of the core concept of market orientation. Experts put greater emphasis on external orientation as a component of market orientation, more so than what is currently being practiced in SPCs. Across all groups' expressed associations, quality of produce came out as the most prominent theme, and particularly so among farmers where it dominated the conceptualisation. Access to suppliers came out as a unique theme in this context, which is not explicitly covered by the market orientation concept as it is typically operationalised in "general" marketing theory.

When focussing on market orientation's specific behaviours, particularly those of information generation, information dissemination and coordinated response (Kohli & Jaworski, 1990), there is shared recognition of the importance of customer orientation. However, in the studied context information on produced seeds and market prices and profits came out as an equally important consideration. Interestingly, information on competitors, although recognized by experts as important, does not really resonate in current SPC practices. In general, there is a strong emphasis on obtaining market relevant information from secondary sources. Although experts emphasise that SPCs should also generate market intelligence themselves, this is hardly practiced by SPCs. This is reflected in the fact that intelligence generation is seen as a key responsibility at the level of the SPC's executive committee and even more specifically at the level of the SPC's chairperson. Information is generated, as well as disseminated within the cooperative, through a combination of formal and informal approaches, including at festivities and religious gatherings. Although experts believe that the SPC committees should be responsible for information dissemination, in practice

there is also an important role for the SPC chairman personally. In terms of responsiveness, SPC's reactions to the market seem to be driven primarily by seed quality issues and prices.

3.6 Discussion

In the Ethiopian SPCs context, we have compiled a number of context specific market orientation practices. The five market orientation themes (quality of produce, value addition activities, business organization, external orientation, and supplier access) can be related to the "prototypical" market orientation model. The themes of *external orientation* and *supplier access* capture the orientation on developments and constraints in the environment. Through their external networks, SPCs gather market information from the external environment including mainly from customers (buyers), trade agents, partners, intermediaries and in very rare cases from competitors. As a unique case for SPCs, they work with the external environment to access the required inputs and services, and more specifically to get access to basic seed. SPCs usually approach research centres, universities, seed companies, and other partners to access the basic seed. *Business organization* relates to what is recognized as antecedents of market orientation such as top management characteristics, organizational structures and interdepartmental dynamics (Jaworski & Kohli, 1993). Like other businesses, better organizational capabilities of SPCs matter a lot in successful business venture. *Value adding activities of the SPC*, represents a consequence of market orientation which relates directly to the performance of the business in terms of customer satisfaction, profit (financial performance), and employees' satisfaction. In the case of SPCs, members' satisfaction can be also considered as a consequence (Opoku et al., 2014). Higher *quality of members' produce* plays a mediating role between market orientation and consequences. The effect of quality of produce reflects itself in higher price and higher market share. Our study is in alignment with literature that captures a broader concept of market orientation related to capabilities of market-driven organizations, which makes less distinctions between the concept of market orientation, its antecedents and consequences (Day & Wensley, 1988; Deng & Dart, 1994). Our results suggest that indeed the concept of market orientation has equal recognition in the D&E context.

Our results deviate from the predominant view about the importance of competitor orientation. SPCs largely emphasise customer satisfaction with less focus in competitor orientation. Experts emphasise external orientation more strongly than SPCs currently do. Farmers emphasise the consequence of market orientation for their performance (quality of produce) and SPC leaders seem to put relatively more emphasis on the value adding activities and supplier access. This is reflective for the different roles that experts, SPC leaders, and farmer members hold in the complex supply chains that characterise D&E markets. However, the different components of the market orientation

model in marketing theory seem to be well captured. Importantly, as cooperatives, SPCs serve two customer groups both buyers (farmers, unions, traders and big seed companies) and member farmers.

The present study identified supplier access as an important factor in the conceptualisation of market orientation, next to customer and competitor orientation and interfunctional coordination. This finding reflects that in complex and fragmented value chains in D&E countries and particularly in the context of seed production, free access to high quality inputs cannot be taken for granted. Rather it needs to be carefully managed through sensing and responding activities. Supplier orientation can be recognized as a key component of market orientation within a value chain context. Our results suggest that in D&E context supplier orientation may be an important part of the market orientation concept.

The specific market orientation behaviours of information generation, dissemination and responsiveness are well recognized also in a D&E context. Both experts and SPC members emphasise the importance of generating information about the quality of inputs (basic seed as input to produce commercial seed). Moreover, SPC members emphasise a focus on information about market value of the produce (in terms of price and profit), more so than experts think they should. On the other hand, whereas experts emphasise the importance of collecting competitor information, this is not practiced by most SPCs. The latter finding relates well to other research on market orientation in D&E countries and Ethiopia in particular (e.g. Ingenbleek et al., 2013). The concept of competitor orientation does not resonate well in cultures with high levels of embeddedness and a focus on social capital, which is typical for D&E economies (Steenkamp, 2005). Together these findings suggest that in a D&E context competitor orientation may not be a central component of the market orientation concept.

Profitability considerations came out as a very prominent element of market orientation, particularly among SPC members, next to a focus on the high quality of the basic seed needed as a production input, and the seed produced. Given the context of D&E economies with many farmers operating at the bottom of the pyramid, a focus on short term profit is understandable as it is an important factor in ensuring the livelihood of farmers. However, much of the market orientation literature has emphasised that reactive market orientation should be combined with a pro-active approach to the market (Bodlaj, 2010; Narver et al., 2004; Voola & O'Cass, 2010). This delicate balance between reactive and proactive market orientation approaches is reflected both at the level of the SPC business organization and its business strategies. At the business organization level the long term

strategic orientation on quality, marketing, value addition and strengthening partnerships is the main responsibility of SPC committees under the final responsibility of the executive committee chaired by the SPC chairperson. These committees and the chairperson in particular, are assigned important responsibilities in ensuring long term prospects of the SPC in terms of sensing, sharing and responding to information on important developments in the external environment. In terms of their market-approach strategies, SPCs differ in where they aim to compete. Some SPCs choose to operate in niche markets that are not served by large seed companies. Other SPCs also produce seed in contractual arrangement with buyers to secure main stream markets. This again illustrates the importance of market orientation as such decisions should best be made on the basis of solid evidence, both in terms of market opportunities and access to resources such as basic seed.

In terms of conceptualization and specific practices, our study provides a detailed insight into market orientation at the level of Ethiopian SPCs context. It identified various key issues that are (proto) typical characteristics of D&E economies. However, the specifics of the study (cooperative seed businesses in a specific value chain) may not necessary allow full generalization to other D&E contexts. Further research may explore the extent to which the current insights in market orientation practices generalise to other forms of cooperatives and other D&E business contexts. Also, in D&E economies marketing research represents various challenges (Ingenbleek et al., 2013) and our study is no exception. Ethiopia is characterised by a high cultural diversity. Hence, for the data collection we administered a number of interviewees with different languages. Field assistants were recruited to facilitate the translation to/from local languages. Despite extensive training and instruction, it can formally not completely be ruled out that some information may have gone lost during this complex process.

3.7 Suggestions for further research

Several suggestions for future research result from our study. First, this study explored the market orientation understanding and practices of SPCs in Ethiopia in a qualitative research design. Follow up quantitative research is needed to formalise and quantify the key findings of this research. Such quantitative research should be based on formal measurement scales for the key constructs. Such measurement instruments should also include the concept of supplier orientation as emerging from this qualitative research. Also, the fact that obtaining better income (profit) popped up as major consideration from the present study suggests that further quantitative research is warranted on the market orientation-performance relationship in the context of SPCs, and the specific (contextual) factors that might moderate this relationship. Finally, a central hypothesis emerging from the market orientation literature is that being more market oriented might be an important way forward to

enhance livelihood performance of the smallholder farmers. An important line of future research would be to quantitatively assess this fundamental assumption underlying the governmental and business focus on market orientation in the context of livelihood performance of seed grower farmers in Ethiopia.

Appendix 3.1: Description of study sites

The first SPC is located in the northern dry land area of the country. The area is characterized as one of the dryland areas on country. The SPC is experienced in seed potato and food barley seed production and sells its products to customers (i.e. farmers) in the vicinity and beyond, but the majority of its seed is sold at the local market. The SPC sometimes sells its seed directly to institutional buyers such as NGOs. In the area, farmers often use a simple bartering system for seed exchange. The cooperative has 33 members and is led by a committee selected out of its members. The SPC has nine years of seed production and marketing experience. The SPC is also produce other locally demanded crop varieties.

The second SPC is located in the northwest highland part of the country. This part of the country is known for its high production potential and it being a food secure area. The SPC produces mainly cereal crop varieties: hybrid maize, tef and malt barley. Most of the time it sells its products on the basis of a contractual arrangement with public seed enterprises. This cooperative is led by an executive committee along with other supporting committees such as controlling committee and quality control committee. This SPC has more than eight years of seed production and marketing experience.

The third SPC is located in the central part of the country. The area has high production potential and better infrastructures (road, electricity, proximity to potential markets etc.) than most parts of the country. The SPC is involved in bread wheat, chick pea, tef and lentil seed production and marketing since 2007. It sells its seeds directly to farmers and institutional buyers. It has good experience in working with researchers in varieties promotion, demonstration and dissemination. The SPC is led by an executive committee. Moreover, it has a quality control committee, purchasing committee and control committee.

The fourth SPC is located in the southern part of the country and has the potential to produce various crops. Executive committee members are responsible for leading and supervising the cooperative's seed business activities. It has diversified seed marketing approaches: direct marketing to customers (i.e. farmers) and contractual arrangement with unions. Tef and haricot bean are the main seeds produced and marketed by the cooperative. The cooperative has more than six years of seed production and marketing experience.

Chapter 4

Developing Measures of Market Orientation: the case of Ethiopian Seed Producer Cooperatives

This chapter is submitted as: Dawit Tsegaye Sisay, Frans J.H.M. Verhees, and Hans C.M. van Trijp. Developing measures of market orientation: the case of Ethiopian seed producer cooperatives.

Abstract

The purpose of this study is to develop and illustrate a generally applicable approach on how scales for marketing constructs can adequately be developed for application in diverse cultural contexts, and to illustrate the approach in the development of market orientation measurement for seed produce cooperatives (SPCs) context in Ethiopia. Both cross-context comparable (i.e. etic) items and context-specific (i.e. emic) items are included. Data are collected from 190 respondents from 29 SPCs in different parts of Ethiopia. Results show that an instrument for measuring market orientation in the specific context combines both general and context-specific items. The use of both etic and emic items is applicable for measures of market orientation in Ethiopian SPCs context. Results also show that market orientation in the Ethiopian SPCs context is a multidimensional construct consisting of four dimensions: customer orientation, competitor orientation, interfunctional coordination, and supplier orientation. SPCs and organizations that aim to support SPCs can use the market orientation measure to monitor the progress of SPCs towards successful commercial enterprises.

Keywords: Item Response Theory, market orientation, scale development, seed producer cooperatives

4.1 Introduction

Market orientation, as a business philosophy places customer satisfaction at the centre of the business' operations and its value delivery to customers (Doaei & Bakhtiari, 2005; Ozkaya et al., 2015). It is considered as the very heart of modern marketing theory (Grinstein, 2008; O'Cass & Ngo, 2007). The positive relationship between the level of market orientation and business performance has been well established over the years (Shoham et al., 2005) and is largely attributed to a focus on and effective response to changes and challenges in the business' external environment (Kirca et al., 2005). Essentially, market orientation is achieved through a focus on information gathering related to target customer demands as well as competitor capabilities, and then integrating and applying such knowledge and insight to create superior value for customers (Tse et al., 2005). Research evidence suggests that firms benefit from being market-oriented irrespective of the size of their business (Blankson & Cheng, 2005), and probably even the location of the business. Increasingly, research in the fields of academia and practice (Sheppard, 2011) suggests that the benefits of market orientation, that are so convincingly evidenced in high income countries (HICs), also accrue to developing and emerging (D&E) economies (e.g. Mahmoud, 2011; Ngo & O'Cass, 2012; Nimalathasan, 2009; Renko et al., 2009).

Market orientation as a concept can be quantified. Throughout the literature a number of measurement scales have been proposed to measure market orientation (Tomášková, 2009). As long as these are reliable and valid, such measurement instruments provide an important tool for the monitoring and management of a firm's level of market orientation and where it can be improved. Many of the current market orientation scales find their origin in two early measures for market orientation (Gray et al., 1998; Tomášková, 2009), namely MKTOR (Narver & Slater, 1990) and MARKOR (Kohli et al., 1993). Such scales are composed of multiple items that quantify the level of market orientation through addressing specific aspects of the business philosophy and culture, as well as the intensity of specific business' behaviours and/or practices that are considered expressions of a higher level of market orientation (Tomášková, 2009). Since then several market orientation scales have proposed (e.g. Cadogan & Diamantopoulos, 1995; Deshpande & Farley, 1998; Matsuno et al., 2000; Ruekert, 1992; Tomášková, 2009), but there is no consensus on which is the better measure for different cultural contexts (Harris, 2002; Matsuno et al., 2005). The existing measurement scales are culturally/contextually sensitive, and scale items reflect the specific practices, from the business context in which they were developed.

Many of the existing market orientation measurements have been developed based on the specific business culture and context of large companies in HICs such as USA and Western Europe

(Tomášková, 2009). They did not take into consideration the specific situations of D&E economies (Craig & Douglas, 2012). Different contexts may have their own typical governing beliefs and behaviours. This may be reflected in the items selected for the market orientation scale which may similarly be biased towards the specific behaviours, and practices of large companies in HICs. This in turn may have impact of the reliability and validity of such market orientation scales in different context, as it would assume at least three things: (1) the (latent) concept of marketing orientation is identical across business contexts and cultures, (2) the attitudinal and behavioural expressions (the items) are similar across cultures and contexts, and (3) the contributions of the items are similar across cultures and contexts. For cross-context studies the demonstration of such equivalence (lack of bias) is a prerequisite (He & van de Vijver, 2012). However, such assumptions are far from self-evident given the large differences between HICs and D&E market conditions. HICs are typically characterized by the prevalence of buyer's markets, stable growth and intense competition (Ellis, 2005), which determine the specific behaviours and practices of the companies. D&E contexts, however, are characterized by underperformance of formal institutions, underperformance of spot markets, weak institutional environments, and politically affiliated marketing systems (Sheth, 2011; van Tilburg, 2010). In most cases, markets in D&E economies are local, very fragmented and small. This specific cultural context reflects on the specific behaviours of the firm in D&E context. The cultural variations between HICs and D&E markets may result in the occurrence of bias because the indicators of a particular construct do not (necessarily) correspond to differences in the underlying trait or ability (van de Vijver & Tanzer, 2004). Scale items should be tested and evaluated outside the Western context where they originally have developed to assess their applicability across contexts (Steenkamp, 2005).

The challenge of comparability (i.e. culture/context (in-)sensitivity) of measurement scales and procedures is far from specific to D&E applications of market orientation. Such challenge of using indicators across contexts is not the only problem for the marketing discipline. The issue of cross-cultural measurement indicators has for long been a central theme within cross-cultural psychology (van de Vijver & Leung, 1997). This large literature from cross-cultural psychology on this topic (e.g. Olive, 2014; Sun and Li, 2011) has increasingly spread into the marketing (research) literature (Baumgartner & Steenkamp, 2006; Steenkamp, 2005).

In general, two approaches *viz* adopting (applying scales cross culturally in their existing format) and assembly (developing context/cultural specific scales on a need to basis) have been dominant in the past as reflection of the broader debate on so-called "etic" and "emic" items (de Jong et al., 2009). Etic items are those that apply with similar meaning and content across different cultures/contexts.

Emic items, however, appreciate that meanings are culture bound, and thus items may not necessarily have similar meaning across cultures. Insights, primarily from cross-cultural psychology, show that the application of these divergent perspectives cannot easily be reconciled and this equally holds for the measurement of market orientation in D&E countries. Etic items can increase the (over-) confidence in construct equivalence, namely that the same psychological construct is being operationalised/measured. However, it may be at stake if in different contexts different behaviours are reflective on the underlying construct. Adding emic items can provide the researcher with a greater in-depth understanding of a construct in a given culture (Ægisdóttir et al., 2008) and appreciate cultural specifics, but may change the "operational" meaning of the construct thereby challenging construct equivalence (Ingenbleek et al., 2013). In recent years, both perspectives have been extensively discussed in terms of their relative pros and cons but the debate is still continuing.

Recently, grounded in item response theory, de Jong et al. (2008; 2009) have suggested an approach that can solve the etic-emic dichotomy in scale development by including some items that can be generically applied (i.e. etic) but augment these with items that are culture specific (i.e. emic). The conceptualization of measurement scales could not be comprehensive and complete in the absence of the cultural components (Harris & Ogbonna, 1999). Such approach provides great potential for market orientation measurement scales where inclusion of both etic and emic items has been advocated (Burgess & Steenkamp, 2006; Steenkamp, 2005). Combining etic and emic items ensures, on the one hand, that there is a certain level of communality across contexts (due to the etic items), and on the other hand, leaving room for context specific expressions of the underlying construct (via the emic items). The application of advanced scale development procedures allows for the assessment of convergent and discriminant validity of the various (etic and emic) items.

Building on insights of de Jong et al. (2009), the aim and contribution of the present study is hence twofold. The first is to develop and illustrate a generally applicable approach to how scales for marketing constructs can adequately be developed for application across diverse cultural contexts. We illustrate the approach in the context of a measure for market orientation applicable to seed producer cooperatives (SPCs) in Ethiopia. This specific measure constitutes the second contribution of this paper.

This paper first discusses the theoretical background including the measurement scale development, its generalizability and specificity, and the application in the D&E markets. It then presents the methods and the findings of the study. The paper then concludes with discussion followed by a reflection on the theoretical and practical implications of the study.

4.2 Theoretical background

Measurement scales and specific behaviours

Leading measurement instruments for a firm's market orientation emphasise a mix of either firms' internal cultural orientation (Narver & Slater, 1990), and/or specific marketing intelligence activities (Kohli & Jaworski, 1990). Moving beyond the specific market intelligence activities of information generation, dissemination and responsiveness, Narver and Slater's MKTOR measurement scale focusses on three behavioural components, namely customer orientation, competitor orientation and interfunctional coordination. Previous studies (e.g. Deshpande & Farley, 1998) have argued that the cultural and behavioural approaches lend themselves applicable and generalizable across different cultures and contexts.

However, closer inspection of the items involved in MKTOR shows that the quantification of the level of market orientation is based on specific items that form a blend between more strategic and more operational items. Customer orientation comprises the customer satisfaction objective, customer commitment, understanding customer needs, creation of customer value, measurement of customer satisfaction, and after-sales service. Competitor orientation covers the extent to which salespeople share competitor information, responding rapidly to competitor actions, top managers discussing on competitor strategies, and targeting opportunities for competitive advantages. Interfunctional coordination consists of interfunctional customer calls, information sharing between customer functions, functional integration in strategy, all functions contributing to customer value, and the sharing of resources with other business units (Narver & Slater, 1990). More abstract items of strategic intent are more likely to hold cross-cultural and cross-contextual relevance, compared to the more concrete items that reflect specific (modes of) behaviour and existing practices. As a result it is not self-evident that the market orientation measurement scales that have been developed based on specific behavioural characteristics of large companies in the HICs (Kohli et al., 1993; Narver & Slater, 1990) equally apply to other contexts, including other cultures.

Market orientation measures include indicators/items suitable for the given context. Items of existing market orientation measurement scales have been derived from asking people to explain their specific situation and scenarios. They rely on intra-firm informants, in that, they depend exclusively on the perceptual reports of intra-organizational members (Harris, 2002). For example, for the construction of the MARKOR scale, Kohli et al. (1993) held extensive field interviews with managers and executives and examined market orientation of a given organization. The respondents then explained the specific experiences of their companies which reflected the specific behaviours that served as a basis for measurement items. In other words, the existing scales for market

orientation reflect the perceptions of key informants about the dominant orientation and specific activities and practices within the firm (Schlosser & McNaughton, 2009). This is captured through self-report procedures where the respondents answer specific questions in a more conscious and reflective manner (Harms & Luthans, 2012). The existing approaches focus on management perception of the activities and behaviour of an organization and not the extent to which such activities and behaviours compare to those of competitors (Harris, 2002).

In summary, to adequately measure market orientation in contexts that differ from the HICs context in which scales were originally developed requires recognition of the fact that the specific behaviours that are reflective of market-oriented behaviour may differ as a result of both internal and external factors. Internal factors include the organizational structures, capabilities and skills of the company, as well as human attitudes. Behaviours are reflections of such values and beliefs of people in the company. External factors relate to the political, economic, social, technological, legal and environmental aspects (Czinkota, 2007). The political orientation of the government in power and the economic condition and trend can influence the environment within which the firm must operate.

Generalizability of marketing relationships

To understand whether market orientation is equally relevant cross-culturally and cross-contextually, three central questions need to be asked: (1) does the concept of market orientation have the same meaning cross-culturally and cross-contextually, (2) does market orientation have the same dimensionality cross-culturally and cross-contextually, and (3) are the same specific measurement items applicable in different cultures and/or different contexts. These questions are central to the concept of "equivalence" brought forward in cross-cultural psychology, which emphasises that equivalence, the level of comparability of scales across cultures, is a prerequisite for any meaningful cross-cultural comparison (He & van de Vijver, 2012; van de Vijver & Tanzer, 2004).

Equivalence is viewed as specific to a given cross-cultural comparison, and a function of the characteristics of the research instrument and the cultural groups or contexts that are being compared (van de Vijver & Leung, 1997). It cannot be taken for granted as several sources of bias, specifically construct bias, can be present (see Ingenbleek et al., 2013). Construct equivalence is a vital condition for primary cross-cultural data to be comparable and for results to be interpretable (Douglas & Craig, 2006). Construct bias indicates that the construct measured (in our case market orientation) is not identical across cultures (He & de Vijver, 2012). Construct bias occurs when (a) there is only overlap in definition of the construct across cultures (e.g. in terms of the three

dimensions of market orientation), or (b) when relevant behaviours associated with the construct are not present or properly sampled in each culture (He & de Vijver, 2012). Items under each market orientation component may not fully and properly represent a specific cultural context. The argument is that behaviours vary across cultures, hence, cross-cultural research would be greatly aided by the availability of psychometrically sound measures that have specific attributes of the cultural context.

Cross-cultural psychology suggests three approaches for adequate measurement (and hence comparison) across different cultures and contexts: adoption, adaptation and assembly (He & van de Vijver, 2012), with different underlying assumptions about the construct and its relationship to measurement indicators.

Adopting all original items is the dominant approach, which ensures measurement equivalence across different contexts. It assumes that general items are relevant in all contexts and not only to the specific context in which they were originally developed (i.e. irrespective of the specific context). The assumption is that original items are culture-free, and that the broadly applicable items only require a thorough translation. However, using scale items in their original form may not be appropriate for a specific context (Farrell & Oczkowski, 1997). The interpretation of original items developed in the Western situation, may be different in D&E economies. The key problem here is that respondents from the target group may not grasp or understand the original meaning of the items and thus the meaning of the construct might be changed. This creates a serious challenge for the development of a market orientation measure that is applicable across contexts (Burgess & Steenkamp, 2006; Steenkamp, 2005).

Adaptation of the original items to the context of the study is another approach. This means keeping "the spirit" of the original items, but adjusting the wording to the context (Deng & Dart, 1994). However, there is no way to ensure that the true meaning and intention is secured. Changes in the context cannot always be accommodated by simply translating an existing instrument and changing the wording (Cadogan et al., 1999). Adapting scale items may not fully capture the actual meaning of a construct, which is defined by and reflected in the items that measure it. Adjustment is challenging because the actual meaning of a construct is reflected in the items that measure it. When items change, the meaning of the construct may change. This eventually creates serious limitations to cross-cultural comparison.

The third approach is assembly. It involves the compilation of a new instrument having only context specific items. This maximizes the cultural suitability of the instrument (He & van de Vijver, 2012), but misses the cross-cultural comparability. This approach is suggested when adopting and adapting instruments could not produce an instrument with a satisfactory cultural accuracy (He & van de Vijver, 2012).

Application to market orientation measurement in D&E markets

Efforts have been made to adapt and develop measurement instruments for the market orientation concept and its dimensionality in different D&E contexts. However, Gray et al. (1998) claim that academicians and practitioners have failed to provide empirical support for market orientation because they fail to establish a model of market orientation that can be employed in different contexts and can precisely and adequately measure the level of market orientation. Quite a number of studies have applied different approaches to adopt the market orientation concept depending on the specific study context (e.g. Jaiyeoba & Amanze, 2014; Li et al., 2008). In table 4.1, we describe how studies in the D&E context have applied the different approaches in terms of the dimensionality of market orientation concept (i.e. customer orientation, competitor orientation and interfunctional coordination) and measurement items selection. We further discuss the approaches in relation to their practical implications in capturing the market orientation concept.

Table 4.1: Studies on construct and item selection for measurement development in D&E economies

Instrument	Studies	MO-dimension (items)			Items selected	Remarks
		CO	CMO	INF		
Adoption	Charles et al., 2012	6	4	5	All the original items of CO, CMO, INF	No reliability and validity test
	Boohene et al., 2012	6	4	4	Adopted all original items of CO, CMO; and adapted items of INF; Only one item from INF missed	Checked the reliability; factor analysis to assess the relationship between items and their underlying construct
	Liu et al., 2013	5	3	4	Did not include one item from each of CO, CMO and INF	Verified the validity of the items
Adaptation	Snoj et al., 2007	6	4	4	Adapted items from MKTOR scale	Checked reliability; factor analysis
	Alam, 2010	6	4	4	All, except one item from INF, items from the MKTOR scale included	Not clear information for items reliability and validity
	Shehu, 2014	5	4	3	One item of CO didn't include; all the three items of INF were more context specific	Checked the reliability; factor analysis to assess the relationship between items and their underlying construct
	Hussain et al., 2015	6	4	5	Used adapted items of MKTOR	Didn't check the validity of items
Assembly	Asikhia, 2010	11	-	-	All specific items of CO	Verified the validity of the items
	Ingenbleek et al., 2013	7	5	7	All specific items for CO, CMO and INF	Verified the validity of the items
Combination	Jaiyeoba & Amanze, 2014	11	4	-	Specific items of CO, and adapted items of CMO	Verified the validity of the items. One item from CO and two items from CMO were deleted in the process
Others	Subramanian & Gopalakrishna, 2001	6	4	5	Adopted items of CO; adapted items of CMO; adapted and specific items of INF	Verified the validity of the items
	Gaur et al., 2011				Didn't specify the number and types of items used; No clear information whether adopted or adapted items	
	Dauda & Akingbade, 2010				Used items from Narver and Slater (1990) and Subramanian and Gopalakrishna (2001) but didn't report the number of items used under each construct	No clear information whether adopted or adapted
	Soehadi et al., 2001	9	6	6	CO (3 from MKTOR, 5 from MARKOR, 1 specific); CMO (3 from MKTOR, 2 from MARKOR, 1 specific); INF (1 from MKTOR, 5 from MARKOR)	Included some items from MARKOR under the three components of MKTOR
	Olavarrieta & Friedmann, 2008	7	5	3	Used existing and new items; but no detailed information about the items	
	Seilov, 2015	6	4	-	Study reported that items used based on the MKTOR scale, but no clear information on approach	No clear information the items used
	Ospina & Pérez, 2013	5	2	3	Adapted and specific items of MKTOR, together with MARKOR items	Reliability and validity test

NB: CO=customer orientation; CMO=competitor orientation; INF= interfunctional coordination

A first set of studies is representative of the "adoption approach" to market orientation measurement in D&E context. These studies directly take the items and constructs from the original scales for granted and apply these to D&E context with blind faith (e.g. Charles et al., 2012). While adopting scale items and constructs, studies have applied various approaches and statistical procedures. For example, Boohene et al. (2012) included all of the original items of the MKTOR scale and verified the validity of the items through factor analysis. They find that those original items are reliable and valid in the Ghanaian small enterprises' context. Some other studies have checked only the reliability of the original items with their respective constructs. Other studies have refrained from verifying the reliability and validity of the measurement scale items. They argued by stating that the scale has been tested under different settings and context for generalizability, reliability, internal and external validity and found to be a robust measure (e.g. Charles et al., 2012). Under such condition, where studies do not report the scale performance (reliability and validity), it is difficult to conclude whether the studies adopt the market orientation concept.

Adaptation of items is another approach that some other studies used. For example, Snoj et al. (2007) have adapted the MKTOR scale items to transitional economy of Slovenia. They assessed the reliability and checked the validity of the items. Other studies also mentioned that they used the adapted scale items from MKTOR for specific context such as Malaysian small firms (Alam, 2010) and Pakistani SMEs (Hussain et al., 2015). Studies might adapt scale items for all of the three constructs of market orientation or for selected once. For example, Shehu (2014) adapted only items of customer orientation for Nigerian SMEs context.

A third stream of studies have used only contextually-specific items for one or more of the dimensions of market orientation. In the Nigerian SMEs context, for instance, Asikhia (2010) has considered only customer orientation through eleven specific items and checked the reliability and validity of scale items. In the Ethiopian pastoralists marketing condition, Ingenbleek et al. (2013) have used all specific items for each of customer orientation, competitor orientation and interfunctional coordination. Studies that used only specific items have an advantage in explaining the specific context using close to local items, but are unable to provide evidence that the market orientation concept is really captured in the study context (i.e. not sure to conclude whether they adopt the market orientation concept).

Limited works have been reported on the combination of original and specific items for SMEs in the D&E contexts. The number and composition of original and specific items for each component of market orientation vary from one context to another. Some studies have considered the inclusion of

both the original and specific items for all components of market orientation. Other studies have included both original and specific items for selected construct. For example, Jaiyeoba & Amanze (2014) have used the combination of both original and specific items for customer orientation and competitor orientation. They have considered the inclusion of only the original items for competitor orientation and mixed items for customer orientation.

Interestingly, studies also used mixed approaches in using scale items for specific conditions. Some studies used original, adapted and specific items together. For example, Subramanian & Gopalakrishna (2001) used adopted items of customer orientation, adapted items of competitor orientation, and both adapted and specific items of interfunctional coordination in the manufacturing and service firms in India. Other studies considered only specific constructs and items. Seilov (2015) has used items only for customer orientation and competitor orientation, but not for interfunctional coordination. The argument might be related with researchers beliefs' on those specific items and constructs in relation to their study context. Most troublesome case is that quite number of studies mentioned that they have used items relevant to the study context which derived from original scale and new items, but did not mention the specific items that they have used. For example, Olavarrieta & Friedmann (2008) have reported that their study considered 15 items for customer and competitor orientation, and interfunctional coordination, but they did not provide detailed information the list of items they used. Many of these studies provide surprisingly limited evidence on the justification of how they used those indicator items and constructs (e.g. Dauda & Akingbade, 2010; Gaur et al., 2011; Olavarrieta & Friedmann, 2008; Seilov, 2015). Some studies also used items and constructs from both MKTOR and MARKOR measurement scales at the same time (e.g. Ospina & Pérez, 2013). Interestingly, Soehadi et al. (2001) have included those items adapted from MARKOR scale under the three MKTOR components.

Balancing adopting and assembly approaches

The choice between original measurement scales versus assembly as a way to develop culturally specific measurement scale, is reflective for the more fundamental issue of emic versus etic items selection approaches (McArthur, 2007), which has been prevalent in the domains of cross-cultural psychology as well as in social, behavioural, and business sciences (House et al., 2004). The assumptions underlying the use of etic or emic items are quite different because they usually consider different perspectives with their own advantages and limitations. An "emic approach" refers to a research approach and design that studies behaviour within a culture. An "etic approach" connotes an approach and design that uses external, culture-free, universal terms to study behaviour (Triandis & Marín, 1983). Etic items are assumed to have shared meaning, to be culture-free and to

have equivalence across cultures (i.e. universal). The emic items are relevant to some specific cultures under study (i.e. culture specific). Their meaning, however, may not be similar across-cultures. Emic approaches hold that items are specific to a given context and thus constructs require specific items for each context.

Both perspectives (i.e. using either etic alone or emic alone) have been critically evaluated in the literature (Canino et al., 1997). On the one hand, the emic approach suffers from the problem of observation bias and lack of generalizability, although a thorough understanding of concepts relevant to one specific culture is obtained using the emic approach. On the other hand, the etic approach emphasizes reliability by standardizing the measures at the expense of validity that is measuring what is supposed to be measured (Canino et al., 1997).

There is no straightforward solution to the selection of generic versus specific items in the measurement of the market orientation construct. Etic items facilitate cross-cultural comparison provided that it has been established that these items have the same meaning and relevance also in the different context. If not, then inclusion of such items changes the substantive meaning of the construct hence hampering theoretical generalizability. Emic items, in terms of contextually sensitive orientations, practices and concrete behaviours enhance relevance and accurate reflection, provided that it has been established that those specific expressions are indeed reflective of the intended underlying constructs. The key challenge is to somehow reconcile the etic-emic dilemma to preserve the integrity of a scale across different cultures (Burgess & Steenkamp, 2006; Craig & Douglas, 2001; Kumar, 2000).

Recently, de Jong et al. (2009) proposed and developed a pragmatic approach to address the etic-emic dilemma by adding contextually specific items to or replacing cross-nationally standardized items (Steenkamp, 2005), hence effectively combining country-specific items and standardized items. This procedure seeks to identify country-specific yet fully cross-nationally comparable marketing scales. The idea is that researchers first identify general items that appear to be universal, and then add specific items. Then the combined instrument can be tested. The use of item response theory advocates measuring the combined etic-emic items (e.g. de Jong et al., 2009; May, 2006). The key advantage of using the combined etic-emic approach is that the etic items are comparable to other well-established instruments in the West while the emic items can maximize the specific context advantages (cultural suitability). In the present paper, we adhere to this approach for the development of a market orientation scale for the specific context of SPCs in Ethiopia.

4.3 Methods

Item generation

This study includes both original scale items from the existing literature and context specific items (de Jong et al., 2009). Four components of market orientation in the Ethiopian SPCs context were considered in this study: customer orientation, competitor orientation, interfunctional coordination, and supplier orientation. First, the authors identified the original MKTOR items which contain six items of customer orientation, four items of competitor orientation, and five items of interfunctional coordination. Two experts (a PhD student in marketing having experience in Ethiopian seed sector and a seed system specialist) were requested to assess these original items in relation to the specific SPCs context. After a thorough discussion on each item, some of the items were decided upon for inclusion in the initial pool. Additional items that specifically represent the current practices of Ethiopian SPCs were also included. Hence, we developed a mix of items in which some of the items were from the original scale and others were context-specific. The original items for customer orientation, competitor orientation, and interfunctional coordination were taken from the MKTOR scale (Narver & Slater, 1990) and the items for supplier orientation from the work of Siguaw et al. (1998). During item generation care was taken to avoid redundancy, confusing ideas, exceptionally lengthy items, jargons and multiple negatives (DeVellis, 1991). The resulting items reflect the degree to which market-oriented SPCs should behave according to the existing literature and current market orientation practices of SPCs. This procedure resulted in a pool of 24 items.

Item purification

Item purification was conducted in two steps. During the first step, authors again requested feedback from experts on the initial pool of items in order to critically evaluate whether those items could be represent active for the Ethiopian SPCs context. They reviewed the comprehension of the items and made suggestions for improvement of the items. In the second step, six SPC leaders and five member farmers from one SPC (central part of Ethiopia) discussed the revised version of the items to check for their clarity. Respondents were asked to give their opinions and to point out any items that were confusing, ambiguous, difficult to understand or answer, or irrelevant for the SPCs' context (Maltz & Kohli, 1996). Afterwards, the revised scales were subjected to pretesting with six respondents from different SPCs. The items were grouped into the constructs that they were supposed to represent. The item purification process allowed the inclusion, deletion and modification of items. After this stage 21 items remained: six items for customer orientation, four items for competitor orientation, five items for interfunctional coordination, and six items for supplier orientation (Appendix 4.1).

Data collection

Data were collected from SPCs, which were drawn from several databases of the cooperative promotion agency, bureau of agriculture, and Integrated Seed Sector Development/Ethiopia programme. A cross-sectional design was employed as the data were collected from the respondents during a single period. Prior to data collection each SPC was contacted both in person and via telephone to explain the objective of the study and to make an appointment. SPCs were also asked to provide the name of the person who is knowledgeable about the marketing strategy and the seed business of the SPC. A total of 190 respondents participated in the interviews from 29 SPCs which are located in four regional states of the county: Amhara, Oromia, Southern Nations Nationalities and People's, and Tigray regional states.

To gather the information from the respondents, face-to-face interviews were employed using a structured questionnaire. Each item was scaled on a five-point Likert scale ranging from "strongly disagree" to "strongly agree" following the procedure adopted by Jaworski & Kohli (1993). Prior to the interview, respondents were briefed about the objectives of the study, the reason why they were selected, and the confidentiality of their responses. We also assured respondents that the information would be used only for research purposes. Prior to the start of the interview each respondent practiced some questions (i.e. which were not included in the main questionnaire) in order to ensure their understanding of the five-point Likert scale and the procedure. We adapted the approach of using five sticks to graphically depict the five-point Likert scale, which was found an effective instrument in earlier studies in the D&E context (e.g. Adékambi, 2013; Ingenbleek et al., 2013). The size of the sticks represents the magnitude of the scale (i.e. shortest stick for score 1 and tallest for score 5). Respondents were interviewed in the office of their SPCs, their home, or farm fields at a convenient time for them.

Data analysis

The data collected were used to assess reliability and validity of the constructs. To refine the multi-item measures, conventional procedures including exploratory factor analysis and Cronbach's alpha were used (Churchill, 1979) using the total sample (N=190). Prior to exploratory factor analysis, the suitability of the data for factor analysis was checked using various statistical tests: Bartlett Test of Sphericity, the Kaiser-Meyer-Olkin (KMO) statistic, the correlation matrix, and the scree plot (Stevens, 2002). An exploratory factor analysis was used based on principal components estimation. According to Stevens (2002), loadings above 0.4 contribute to reliable factors when the sample size is bigger than 150. Variables with cross-loadings (high loadings on more than one component) and with low factor loadings were dropped from the scales before further analysis (Kline, 2005; Stevens,

2002). Discriminant validity was assessed in order to ensure that a construct measure is empirically unique and represents phenomena of interest that other constructs do not capture (Hair et al., 2010). Fornell & Larcker's (1981) procedure was used for discriminant validity analysis, which has been widely applied in the field of marketing research (Hair et al., 2012a). SPSS software was used for exploratory factor analysis and reliability analysis.

Confirmatory factor analysis was used to validate whether the factors and items suggested in the exploratory factor analysis are a good representation of market orientation in the context (Churchill, 1979; Steenkamp & van Trijp, 1991). We used two alternative models to measure market orientation. Model 1 (i.e. full/unrestricted model) consists of both etic and emic items for each component of market orientation without imposing constraints on the factor loadings. The combined effect of emic and etic items for measurement improvement of each dimension was evaluated. Thus factor loadings were estimated by the model. For model 2 (i.e. fixed loadings model), we fixed factor loadings for etic items to the level reported in the literature and subsequently the factor loadings for the emic items were estimated based the model itself. The assumption was that those cross-culturally invariant items were believed measuring the same construct across contexts. Equality of factor loadings is required to compare relationship constructs across contexts (Byrne et al., 1989; Steenkamp & Baumgartner, 1998) and hence we derived factor loadings for the etic items from previous studies (Gounaris & Tzempelikos, 2012; Ward et al., 2006). Accordingly, we fixed factor loadings to 0.84 for item2, 0.86 for item4, 0.79 for item7, 0.82 for item8, and 0.89 for item13. For etic items of supplier orientation, we used equal loadings for all etic items, i.e. 0.75 for items 16, 17 and 18. The fit of the proposed model (M2) with fixed factor loadings is compared to the fit model in which the factor loadings are determined by model itself (M1). Confirmatory factor analysis was used to assess the best fit for the proposed models. Confirmatory factor analysis was also used to test the dimensional structure of market orientation. To test the multidimensionality of the market orientation constructs, we compared the multidimensional model (i.e. four unrestricted first-order constructs) with a unidimensional model (i.e. all items loading on a single construct).

Model fit was evaluated using several indexes: exact fit (i.e. the Chi-square value), RMSEA, incremental fit index (CFI, GFI, TLI, IFI) and SRMR (Fan et al., 1999; Hu & Bentler, 1999; Kline, 2005; Matsunaga, 2010). Under most circumstances, RSMEA should be below 0.08; SRMR should be below 0.1, and CFI, GFI, TLI, and IFI should be above 0.9 (with a measure of 1 indicating a perfect fit) (see Fan et al., 1999; Hair et al., 2010; Hu & Bentler, 1999; Kline, 2005; Marsh et al., 2004). The normed chi-square (NC), which is the chi-square index divided by the degrees of freedom, should be less than 2 (Ullman, 2001). Coefficients were estimated using Maximum Likelihood (ML) and the R package

Lavaan (Rosseel, 2012). The mean and standard deviations of the items in their respective categories (general, specific and overall) were calculated in order to understand the perception of the respondents towards the market orientation practices of their cooperatives. Correlations were calculated to assess the association between general and specific items in their respective components of market orientation.

4.4 Results

Results of factor analysis

The variables in this study were validated through factor analysis. Before performing the analysis, the suitability of the data was assessed. Results showed that the data are suitable for the factor analysis; the Bartlett Test of Sphericity is significant (0.000). This implies that the correlations between variables are significantly different from zero. KMO is 0.773 indicating that the data are adequate for factor analysis (Hutcheson & Sofroniou, 1999). The inter-item correlations were above the recommended level (0.3). Factor loadings of the retained items are presented in Table 4.2. A total of 18 items are retained: five, four, four and five items of customer orientation, competitor orientation, interfunctional coordination, and supplier orientation, respectively. Three items which have low loadings and cross loadings were eliminated in the analysis. The items were: one etic item (item1) from customer orientation, one etic item (item11) from interfunctional coordination, and one emic item (item21) from supplier orientation. Moreover, two of the items are shifted to other constructs from where they originally supposed to be. Item12 (freely communicate information about successful and unsuccessful customer experiences), which was categorized under the dimension of interfunctional coordination in the MKTOR scale (Narver & Slater, 1990), moved to customer orientation. This might be due to the fact that respondents understand this item in relation to the customer-oriented domain. Similar results have reported in earlier studies for the consideration of this item under customer orientation (e.g. Deshpande & Farley, 1998; Grawe et al., 2009). Similarly, item5 moved to interfunctional coordination. This is because the item focuses more integration and discussion among cooperative executive committees (leaders) about buyers (i.e. individual farmers, contacting parties, institutional buyers). The analysis suggests that four factors should be retained. These four dimensions showed Eigen values above 1 and together explained over 51% of the cumulative variance in the items. Moreover, the four dimensions have good discriminant validity because the dimensions are highly uncorrelated with each other. The variances extracted among components are greater than the corresponding correlations square. Hence, discriminant validity is established. They are likely measuring different concepts. The result of this stage was a parsimonious and interpretable solution having four dimensions with 18 items of the original 21 items.

Table 4.2: Factor loadings of items using rotated component matrix

Variables	Factor 1 (Competitor orientation)	Factor 2 (Customer orientation)	Factor 3 (Interfunctional coordination)	Factor 4 (Supplier orientation)
Item2		0.628		
Item3		0.632		
Item4		0.603		
Item6		0.652		
Item12		0.702		
Item7	0.773			
Item8	0.523			
Item9	0.844			
Item10	0.867			
Item13			0.582	
Item14			0.669	
Item15			0.533	
Item5			0.537	
Item16				0.688
Item17				0.457
Item18				0.582
Item19				0.574
Item20				0.676

Results of the measurement models

The measurement properties and the model fit of the proposed measurement models are presented in Table 4.3. The full model (M1) fitted the data well for all dimensions of market orientation: customer orientation (X^2=10.52 (df=5, p<0.000), CFI=0.968, GFI=0.979, TLI=0.936, IFI=0.969, RMSEA=0.076, SRMR=0.045, NC=2.01), competitor orientation (X^2=3.28 (df=2, p<0.000), CFI=0.996, GFI=0.992, TLI=0.989, IFI=0.996, RMSEA=0.058, SRMR=0.026, NC=1.64), interfunctional coordination (X^2=1.22 (df=2, p<0.000), CFI=1.000, GFI=0.997, TLI=1.000, IFI=1.000, RMSEA=0.000, SRMR=0.019, NC=0.61), and supplier orientation (X^2=7.22 (df=5, p<0.000), CFI=0.973, GFI=0.985, TLI=0.945, IFI=0.974, RMSEA=0.048, SRMR=0.041, NC=1.44). Overall fit of the fixed loadings model (M2) was unacceptable for all components of market orientation. The values of the goodness of fit indices for

this model were far from the recommended range (Fan et al., 1999; Kline, 2005; Marsh et al., 2004; Matsunaga, 2010).

Table 4.3: Confirmatory factor analysis results for three measurement models of market orientation

Construct	Model	X^2	*P*	df	CFI	GFI	TLI	IFI	RMSEA	SRMR
Customer	M1(5)	10.53	0.000	5	0.968	0.97	0.936	0.969	0.076	0.045
orientation	M2(5)	111.09	0.000	7	0.395	0.840	0.136	0.406	0.280	0.877
Competitor	M1(4)	3.28	0.000	2	0.996	0.992	0.989	0.996	0.058	0.026
orientation	M2(4)	46.38	0.000	4	0.873	0.901	0.810	0.874	0.236	0.612
Interfunctional	M1(4)	1.22	0.000	2	1.000	0.997	1.041	1.013	0.000	0.019
coordination	M2(4)	19.56	0.000	3	0.713	0.946	0.426	0.727	0.170	0.100
Supplier	M1(5)	7.22	0.000	5	0.973	0.985	0.945	0.974	0.048	0.041
orientation	M2(5)	110.23	0.000	8	0.000	0.869	0.581	0.235	0.259	0.810

Note: GFI = Goodness-of-fit statistics; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; IFI = Incremental Fit Index; RMSEA = Root Mean Square Error of Approximation; SRMR = Standardized Root Mean Square Residual
Model1: full model
Model2: fixed factor loadings model
Figures in parenthesis are the number of items

Multidimensionality assessment

The next step was to assess the dimensionality of the construct. Confirmatory factor analysis was used to test whether the four dimensions of market orientation are good representation of market orientation in the Ethiopian SPCs context. The first-order multidimensional model with four factors had a good fit. The RSMEA was 0.048, SRMR was 0.067, and CFI, GFI, TLI and IFI were all above 0.9. The NC was 1.43. The unidimensional first-order model had a poor fit: CFI, GFI, TLI, IFI, RSMEA and SRMR were all not in the recommended range, but NC was 1.94. Results are shown in Table 4.4. The results indicate that customer orientation, competitor orientation, interfunctional coordination, and supplier orientation are to be considered as separate dimensions and probably have independent effects on performance. The market orientation in the Ethiopian SPCs context is a multidimensional construct consisting of four dimensions which can be measured by 18 items using a five-point Likert scale. The final multidimensional measurement model with standardized loadings is presented in Figure 4.1.

Table 4.4: Comparison of the results obtained for the market orientation constructs

	X^2	*P*	df	CFI	GFI	TLI	IFI	RMSEA	SRMR	NC
Four factors	184.42	0.001	129	0.928	0.909	0.915	0.930	0.048	0.067	1.43
One factor	462.52	0.000	135	0.575	0.731	0.518	0.585	0.113	0.124	1.94

Correlation matrix

Results reveal there are associations between the four components of market orientation (Figure 4.1). The strongest and positive association (r=0.50) is between competitor orientation and interfunctional coordination. There are also significant and positive association of customer orientation with interfunctional coordination (r=0.48), competitor orientation (r=0.40), and supplier orientation (r=0.40), and between interfunctional coordination and supplier orientation (r=0.38). However, supplier orientation showed a weak and negative association with competitor orientation.

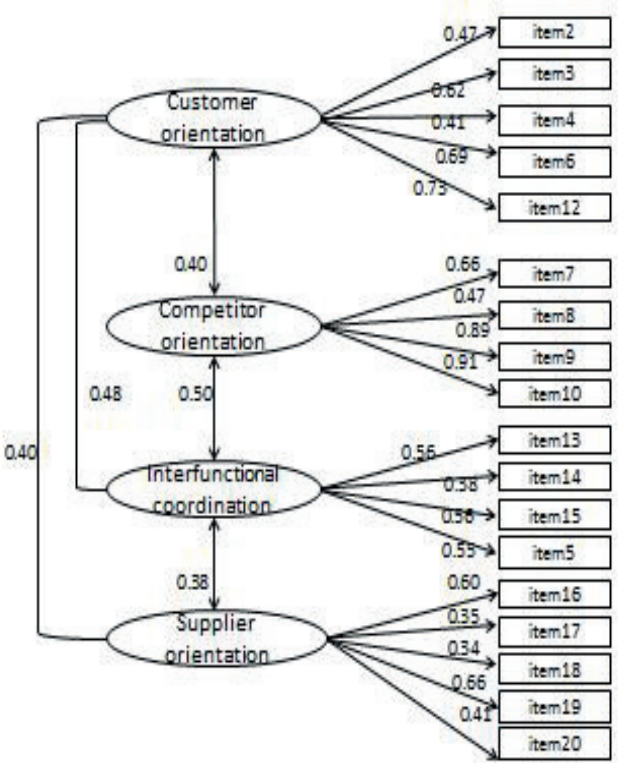


Figure 4.1: Final measurement model

Component items and their means, and standard deviations

Table 4.5 shows respondents' perceptions of the level of market orientation in their SPCs. The descriptive results show that the respondents judge for proposed items of customer orientation was not relatively fair (M=2.65, SD=0.61). These results may indicate the low response of the respondents for aggregate customer-oriented items. However, their understanding and response to specific items of customer orientation is good (M=2.89; SD=0.88). The perception of respondents to the four items of competitor orientation was not relatively fair (M=2.70, SD=0.70). SPCs may not sufficiently recognise that the competition is the nature of the seed business. The perception of respondents towards items of interfunctional coordination is well-recognized (M=3.68, SD=0.48). This clearly implies that most SPCs appreciate cross-cutting relationship between various committees (departments) within the cooperative. Moreover, this shows a considerable attention by the SPCs in strategic use of resources and sharing information within the cooperative. Similarly, the descriptive results show that the respondents judged supplier orientation as acceptable (M=3.39, SD=0.49), indicating the clear understanding of most SPCs in having strong relationship with suppliers in order to serve the target customers and to sustain in the seed business.

Table 4.5: Respondents perception of cooperatives' level of market orientation

	Minimum	Maximum	Mean	SD
General CO	1.33	4.00	2.48	0.56
Specific CO	1.50	4.50	2.89	0.88
All CO	1.60	4.20	2.65	0.61
General CMO	1.50	4.00	2.72	0.67
Specific CMO	1.00	4.00	2.68	0.87
All CMO	1.25	4.00	2.70	0.70
General INF	2.00	5.00	3.43	0.79
Specific INF	2.00	4.67	3.76	0.49
All INF	2.00	4.75	3.68	0.48
General SO	2.33	4.33	3.62	0.45
Specific SO	1.50	4.50	3.06	0.75
All SO	2.20	4.40	3.39	0.49

NB: CO=customer orientation; CMO=competitor orientation; INF=interfunctional coordination; SO=supplier orientation

Correlations among group of items

The level of correlations between general items and specific items were r=0.54, r=0.63, r=0.40, and r=0.45 for customer orientation, competitor orientation, interfunctional coordination, and supplier orientation, respectively (Table 4.6). This might show that the items have assigned in the components where they supposed to represent well. The associations of the aggregate of all items

with both the general and specific items were positive and significant for all components of market orientation.

Table 4.6: Correlations among group of items

Customer orientation			
	General CO	Specific CO	All CO
General CO	1	0.54**	0.87**
Specific CO		1	0.88**
All CO			1
Competitor orientation			
	General CMO	Specific CMO	All CMO
General CMO	1	0.63**	0.87**
Specific CMO		1	0.93**
All CMO			1
Interfunctional coordination			
	General INF	Specific INF	All INF
General INF	1	0.40**	0.71**
Specific INF		1	0.93**
All INF			1
Supplier orientation			
	General SO	Specific SO	All SO
General SO	1	0.45**	0.84**
Specific SO		1	0.86**
All SO			1

NB: CO=customer orientation; CMO=competitor orientation; INF=interfunctional coordination; SO=supplier orientation

4.5 Conclusion

The present study developed a specific market orientation measurement scale for the Ethiopian SPCs context. Building on the principles of Item Response Theory it combines both cross-culturally invariant items and items specifically designed for the context. The scale developed in this study can be used to monitor the progress of SPCs. Although developed in the context of Ethiopian SPCs, this instrument may be of interest for other cooperative types and SMEs in the D&E economies. We suggest this approach as a generally applicable procedure to develop market orientation measurement scales for diverse cultural contexts. The measure of market orientation developed in this study context contributes to the literature in broadening the understanding how to develop better instruments for specific culture.

The fixed factor loadings approach assuming that factor loadings are culturally insensitive, had to be rejected in the present study context. Thus, using scale items that exhibit high factor loadings in the HICs where the original scale have been tested/used should not always be taken for granted. This

study also illustrates the market orientation measurement scale development applicable for Ethiopian SPCs. Market orientation in the Ethiopian SPCs context is a multidimensional construct consisting of four dimensions: customer orientation, competitor orientation, interfunctional coordination, and supplier orientation. To our knowledge, this study has introduced the first measurement scale for market orientation using a combination of general and specific items for agricultural marketing cooperatives in D&E contexts. Future studies that consider the approach in other cultures will contribute to existing knowledge.

4.6 Discussion

The findings show that market orientation in the Ethiopian SPCs context is a multidimensional construct that consists of four dimensions: customer orientation, competitor orientation, interfunctional coordination, and supplier orientation. The present study differs from the original work of Narver & Slater (1990), which reported market orientation as a unidimensional construct having three dimensions (customer orientation, competitor orientation, and interfunctional coordination). These four dimensions are the key concepts for measuring market orientation in the Ethiopian SPCs context. Although the basic theory applies, constructs may need to be added or modified on the basis of the specific context (Douglas & Craig, 2006). Local practices may suggest alternative frameworks to be considered indicating the possible modification of the original conceptual framework in line with the diverse context. This includes the extension, and hence modification of the dimensionality of the market orientation construct depending on the specific context. Similar results were reported in previous studies (e.g. Gray et al., 1998; Ospina & Pérez, 2013; Soehadi et al., 2001). Our findings indicate that valid measurement in different contexts may require the modification of exiting measurement scales to different cultural contexts (Burgess & Steenkamp, 2006).

The present study develops the measurement scale that will foster the measurement of the level of market orientation within the SPCs context. The scale could help the cooperatives to monitor how they become market-oriented and perform well in the market place. The proposed scale could be used as a diagnostic tool for cooperatives to identify their areas of strengths and weaknesses, thereby enabling them to take appropriate actions where needed. The instrument could also help cooperatives to compare their level of market orientation with the average level found in this study. When their self-assessment is low, the market orientation items in this study will provide some suggested areas on which to focus attention. The successful implementation of the marketing concept can produce tangible customer and organizational benefits for the cooperatives (Gray et al., 1998).

The present study shows that some general items were applicable to the Ethiopian SPCs context, while others were not. The probable explanation is that the high level scale items may not sufficiently be captured by the current day-to-day practices of SPCs. This contradicts with the principle of etic theory, which holds that all general items are equally suitable outside the context where they have originally developed. It supports previous arguments against etic theory (e.g. Ward et al., 2006; de Jong et al., 2009; Thompson, 2007). Hence, using all items, developed in HICs, in completely different context is not a proper procedure for better instrument development (Steenkamp, 2005). Prior studies use some of the general items for specific study context (e.g. Ospina & Pérez, 2013; Smirnova et al., 2011; Ward et al., 2006). The findings also confirm that the specific items, that were extracted from the market orientation practices of Ethiopian SPCs, performed well as expected. The existing practices highlighted that additional issues were of importance when measuring cooperatives' seed business market-oriented activities. It provides evidence for the need to develop better measurement instrument by considering specifically designed items which reflect the context in which market orientation is to be measured.

4.7 Implications

The findings of this study have both theoretical and practical implications. First, the implication for researchers is to consider both general and specific items for developing better measurement scale of market orientation in specific cultural contexts. When the context in which market orientation is measured changes, a measure development procedure may be required in order to create a proper measurement instrument. It may need to take into account the context in which market orientation is to be measured. Second, to our knowledge, this study introduces the first measurement scale for market orientation using the general-specific items procedure for agricultural marketing cooperatives in D&E contexts. Thus, it contributes to the literature as an important step in broadening the understanding on how to develop better instruments for specific cultures. Researchers may take the advantage from this effort and consider those items in their research. Third, we suggest that the market orientation dimensions and items identified here have practical use for SPCs in D&E economies. This helps cooperative leaders to have a comprehensive inventory of market-oriented activities, which can be used to identify areas of strengths and areas that need improvement. SPCs wishing to improve their performance need to consider their market-oriented approach and to take appropriate action where necessary. The seed they provide to the market should be on the basis of the customers' needs, and their activities should also be well integrated in order to satisfy those customers' needs. Fourth, the findings also have implications for organizations that aim to support SPCs to become more market-oriented and successful in their business venture.

Government institutions, NGOs, policy makers, and development organizations can take into consideration the key market orientation components in their development intervention agendas.

4.8 Limitations and future research

This study is not without its limitations. The study did not include all the general scale items, because during items selection only a few were considered relevant for SPCs context. The study also included only a few specific items. Hence, researchers may include more general and specifically designed items depending on the particular context. The context of the study itself may be another limitation. A single type of cooperative (i.e. SPCs) in the context of Ethiopia was considered in this study. There is a constraint in the generalizability of the results to other types of cooperatives and SMEs in the D&E economies. It seems reasonable to suggest that future researches may repeat the present study in other types of cooperatives and SMEs in the D&E economies. Finally, prior researches suggest that market orientation and its components affect the performance of the firm. Future research should determine if market orientation and its components can influence the performance of SPCs in Ethiopia.

Appendix 4.1: A pool of scale items for measuring market orientation

Items	Description
	Customer orientation
	General
Item1	Our business objectives are driven primarily by customer satisfaction
Item2	We constantly monitor our level of commitment and orientation to serving customer's needs
Item4	We measure customer satisfaction systematically and frequently
	Specific
Item3	We assess feedback from our customers with the seed they bought from us (i.e informal mechanisms)
Item5	Our cooperative leaders discuss customers' (e.g. farmers, intermediaries, buying organizations) need and preference
Item6	Our cooperative leaders visit (field visit, informal mechanisms) customers
	Competitor orientation
	General
Item7	We rapidly respond to competitive actions that threaten us
Item8	We target customers where we have an opportunity for competitive advantage
	Specific
Item9	Our cooperative leaders interested/concerned about what other seed producers are doing in the market
Item10	Cooperative leaders and other committees share information within the SPC concerning other seed producers
	Interfunctional coordination
	General
Item11	All of our business functions are integrated in serving the needs of our target markets
Item12	We freely communicate information about our successful and unsuccessful customer experiences across all business functions
Item13	We share resources with each other
	Specific
Item14	We all know the role and contribution of each member and committee for the success of the seed business
Item15	We have inter-committee meetings at least once a month to discuss on seed business
	Supplier orientation
	General
Item16	We feel that suppliers have been on our side
Item17	We work together with suppliers to be successful
Item18	We are patient with suppliers when they make mistakes that cause us trouble
	Specific
Item19	We communicate with seed and other inputs suppliers
Item20	Our seed suppliers do have experts (to give support) about the seed they are supplying
Item21	We are willing to cooperate with inputs (seed) and service suppliers

Chapter 5

The Influence of Market Orientation on Firm Performance and Members' Livelihood in Ethiopian Seed Producer Cooperatives

This chapter is submitted as: Dawit Tsegaye Sisay, Frans J.H.M. Verhees, Hans C.M. van Trijp. The influence of market orientation on firm performance and members' livelihood in Ethiopian seed producer cooperatives.

Abstract

The market orientation-performance relationship is a cornerstone of the marketing literature. The positive effects of market orientation and its components on firm performance are empirically supported by studies conducted for large firms in developed economies. However, its influence on performance in D&E economies particularly under cooperatives context has been under-researched. The purpose of this paper is to examine the impact of market orientation on the performance of seed producer cooperatives (SPCs) in Ethiopia. This study examines the influence of customer, competitor and supplier orientation, and interfunctional coordination on cooperative performance and members' livelihoods. Using structured questionnaires, cross-sectional data are collected from a sample of 29 SPCs with a total of 190 respondents from four regional states of Ethiopia. Results show that customer orientation, interfunctional coordination, and supplier orientation, but not competitor orientation, contribute to higher business performance (customer satisfaction and financial performance). Our findings confirm that customer orientation is the key factor for superior business performance in D&E economies. Business performance has a mediating effect between market orientation components and livelihood performance. Interfunctional coordination and supplier orientation influence the livelihood of member farmers both directly, and indirectly via business performance. The study concludes that market orientation of SPCs is very important for business performance and provides a strong basis for the livelihood of seed producer families. SPCs can improve their performance and the livelihood of member-farmer families by implementing market oriented strategies, emphasising customer orientation, interfunctional coordination, and supplier orientation.

Keywords: Business performance, market orientation, members' livelihood improvement, seed producer cooperatives

5.1 Introduction

Ensuring livelihood is quite crucial for rural smallholders. Livelihood is a multifaceted concept which comprises the capabilities, assets (material and social resources), and activities required for a means of living (Ellis, 2000). It also refers to the maintenance or enhancement of rural families' access to food and income-generating activities on a long-term basis (Kumar et al., 2006). The livelihood of smallholder farmers in D&E economies depends largely on agricultural production which is the mainstay of the rural areas (e.g. Hazell et al., 2010; Yakubu & Akanegbu, 2015). Increasing agricultural production for smallholders is therefore a key to poverty reduction, ensuring food security, and economic development (Baldos & Hertel, 2014).

However, ensuring livelihoods for rural families is challenged by various internal and external factors. The overwhelming majority of agricultural producers are asset-poor smallholders who use simple technologies (hand hoes and oxen) and cultivation practices (low agricultural input practices) and are characterized by low productivity, limited capital, and vulnerability to natural and man-made changes (Haddad et al., 2011). Their agricultural activities are mainly dependent on unpredicted rainfall, and their practice in using irrigation is very limited (Olesen & Bindi, 2002; Gautam, 2006). The rainfall pattern has been dramatically changing due to the increase of temperature as a result of serious global climate change (Rahman, 2008). Erratic rainfall patterns together with unexpected flooding and El Niño cause crop and livestock failure, low productivity and eventually severe drought (Battisti & Naylor, 2009; Hellmuth et al., 2009; Nicholson, 2001; WFP, 2016). These factors significantly impact on the livelihood improvement of smallholder producers in D&E economies (Shiferaw et al., 2014).

The livelihoods of farmers are constrained by various external factors that cannot be managed and controlled at the individual level. Lack of access to proper roads, for example, limits smallholders' ability to transport inputs and produce as well as their access to information, inducing high transaction costs (Barrett, 2008). When infrastructure is very poor, markets for agricultural inputs and outputs are often missing and/or unreliable for smallholder farmers. Lack of information and access to services hinders smallholder participation in potentially lucrative markets. Increased costs of transport, which affects inputs used and the market strategies selected, as well as high transaction cost, lack of reliable markets, and lack of human capital (illiterate with poor technological skills) are the key factors that significantly impede the livelihood improvement of smallholders (Hendrikse & Bijman, 2002).

Prior literature suggests a role for agricultural and marketing cooperatives in overcoming the various internal and external factors that affect the rural smallholders' livelihoods (Barham & Chitemi, 2009; Kaganzi et al., 2009). Connecting smallholder producers to high value markets by organizing them into a cooperative is believed to be an important strategy towards improving smallholder producers' livelihood (Grwambi et al., 2016). Agricultural marketing cooperatives could make a key contribution in linking member farmers' products with potential markets and contribute to sustainable livelihoods for farmers (Kumar et al., 2015). Cooperatives represent a governance structure that enables to reduce transaction costs related to buying agricultural inputs and selling farm products to improve the cooperative performance as well as income of their members (Hendrikse & Bijman, 2002). Cooperatives are also able to support smallholders to benefit from commercialization by reducing high transaction costs (Bernard & Taffesse, 2012; Jayne et al., 2006).

Unlike to investor-owned firms (IOFs), cooperatives have a dual perspective namely to ensure the business performance of the cooperative, and facilitate their members' satisfaction (Davis, 1997). Cooperatives aim to ensure the performance as firms and satisfy members' need (Soboh et al., 2009a). Cooperatives are formed by individuals who coordinate among themselves (horizontal integration) in order to achieve vertical integration and eventually to improve member firm performance. Cooperatives improve members' livelihood by offering better prices for their produce (Bernard et al., 2008; Francesconi & Heerink, 2010), by maximizing patronage returns to members, reducing transaction costs and providing higher bargaining power (Bernard et al., 2007; Getnet & Anullo, 2012), increasing the efficiency of various agricultural inputs (Kumar et al., 2015), and ultimately the higher prices received leading to higher farm incomes (Fischer & Qaim, 2012a).

Adopting the concept of market orientation has been suggested as a key and priority concern for cooperatives in their aim of determining the best way of delivering higher value to customers (cooperative firm) and satisfying members' wellbeing (member firm) (Agirre et al., 2014; Bijman, 2010). Market orientation relates of the systematic generation and dissemination of information about customers and competitors, and to ensure coordinated actions, with the aim to create higher value for customers (Lafferty & Hult, 2001). Cooperatives need to ensure that they realize the benefits of being market-oriented to deliver higher value to customers (Beverland, 2007; Kyriakopoulos et al., 2004). Donors, governments and researchers show renewed interest in market-oriented cooperatives as a means of increasing rural households' participation in the market, improving income, and ultimately reducing poverty (Chen et al., 2007).

Although the key contributions of market orientation on firm performance have been extensively studied for IOFs (e.g. Kirca et al., 2005), surprisingly few studies have attempted to assess the market orientation-performance relationship for cooperatives. The empirical relationship has not been well quantified and information about the relationship is very scarce. Benos et al. (2016) have suggested a need to study the link of market orientation with performance in a cooperative's perspective. In response to this call, this study examines the role of market orientation and its components on the business performance of the seed producer cooperatives (SPCs) in Ethiopia and ultimately their impact on the livelihoods of seed grower members. This study contributes to the literature by broadening the understanding of market orientation and its impact on the performance of agricultural marketing cooperatives in D&E economies, taking Ethiopian SPCs as a case. By examining the contribution of market orientation to the livelihood of member farmers, the study further extends the market orientation-performance literature into the domain of 'societal' impact. The seed sector is among the sectors that the Ethiopian government has given due attention, as a critical way to improve agricultural production, increase rural livelihoods, and ensure economic development of the country. In Ethiopia, where the economy is dependent on agriculture, improving agricultural productivity is indispensable when aiming to increase the food supply. The agriculture sector contributes 42% of the GDP, 90% of the total exports earnings, and 85% of employment and the livelihoods of 83% of the population are largely dependent on agriculture (CSA, 2016). SPCs are business enterprises organized with the aim to turn seed into a commercial product produced by farmer groups, such that it becomes a potential source of income generation and livelihood improvement for their members (Subedi & Gareth, 2013). The objective of this paper therefore is threefold: (a) to explore the effect of market orientation (components) on the business performance of the SPCs, (b) to explore the mediating role of business performance (firm performance) in the relationship between market orientation (components) and members' livelihood (member performance), and (c) to identify the direct and indirect effects of market orientation components on livelihood performance of the cooperative's member farmers.

This paper first discusses the theoretical background, including the market approach for smallholders, market orientation in the cooperatives context, and the role of supplier orientation in agricultural marketing cooperatives. It then develops the conceptual framework and formulates the hypotheses. Next, it subsequently presents the methods, followed by the results and main conclusions. It then finishes with a discussion and implications for SPCs, policy makers and development organizations.

5.2 Theoretical background and conceptual framework

Market approach for smallholders

Market access is crucial for smallholder farmers to increase their incomes, improve their livelihoods and to contribute to local economic development (Barham & Chitemi, 2009; van Tilburg & van Schalkwyk, 2012). Market access includes the ability to obtain necessary farm inputs and farm services, and the ability to deliver farm products to buyers. High-value markets offer lucrative opportunities for enhancing smallholders' income. The positive impacts of market inclusion of smallholders are associated with income generation, employment and access to credit and technical assistance (Shepherd, 2007). Barrett (2008) reviewed several studies on the participation of smallholders in markets that help them to increase their incomes by reducing transaction costs, and by improving their access to improved technologies. Smallholders in D&E economy context generally tend to be semi-subsistence farmers, which are partially linked to markets usually through a diversification of their commodities produced. It is for these reasons that the drive to improve market access is central to the efforts in developing smallholder agriculture for poverty reduction. Shepherd (2007) suggests that development interventions should take into consideration the connection of smallholders' produce with potential markets, because developments could be sustainable when they are commercially viable.

However, smallholder farmers face many constraints that impede them from taking advantage of market opportunities (Barrett, 2008; van Tilburg & van Schalkwyk, 2012). The scope for smallholders to participate in markets depends on their own ability to compete against alternative suppliers and the interests and demands of buyers. Smallholders are equipped with few assets and often have limited capacities and capabilities to access credit, upgrade production systems and explore new markets (Reardon et al., 2009; Wiggins et al., 2010). They have limited access to key resources (cultivable land, irrigation facilities, and financial resources), which inhibit investment and farm productivity (Hernandez et al., 2007). Living in remote areas with poor infrastructure induces high transaction costs for farmers and significantly reduces their incentives for market participation (Barrett, 2008; Omamo, 1998; Winters et al., 2005). Smallholders are also often constrained in what they can produce, are confronted with limited marketing opportunities, limited ability to diversify into new crops, and limited negotiation power. Moreover, for higher-value markets the participation of smallholders is severely constrained by the requirements of higher level need of consumers and supply chains (Henson et al., 2008). All these constraints can significantly reduce the benefit that smallholders can take from the market opportunities. These constraints cannot be solved by individual approaches and are difficult to be addressed by other social institutions (e.g. family, friends, community).

Cooperative: an alternative model for collective action

Farmer groups (producer organizations and producer cooperatives) are often proposed to bridge market imperfections and lower transaction costs (Barham & Chitemi, 2009; Kaganzi et al., 2009). According to Barrett (2008) interventions should aim at facilitating smallholder organizations to stimulate the inclusion of smallholders in the markets. This significantly reduces costs of intermarket commerce, and improves poorer households' access to improved technologies and productive assets (Barrett, 2008). Cooperatives are basically formed by a group of people with the main aim to accomplish together a given goal that could not be accomplished by individual members acting on their own (Valentinov, 2007). Cooperatives are avenues to reduce high transaction costs (Markelova et al., 2009; Valentinov, 2007). Since individual farmers live in remote areas where there is poor infrastructure and limited resources, the role of cooperatives has become increasingly important.

Marketing cooperatives provide possible market outlets for farmers which encourages them to produce more (Ayenew et al., 2009). They also facilitate in integrating the product of smallholders with high markets through the provision of necessary inputs and equipment, technical knowledge and market information (Shiferaw et al., 2014). A member-dominated cooperative can enable smallholders to reap economies of scale while increasing their countervailing power (Christy, 2001). Holloway et al. (2000) find that agricultural marketing cooperatives are potential catalysts for reducing transaction costs and stimulate market entry in east-African highlands. Moreover, through strong network governance and chain upgrading, cooperatives provide smallholders with modern farm technologies and training on the better production practices (Ruben et al., 2006).

Unique features of the cooperatives vis-à-vis Investor-owned firms

Cooperatives are not IOFs. They are unique because their members are stakeholders at different levels. A cooperative is member-owned and democratically controlled and in which the members have an equal say, and its purpose is to meet the needs of members (Penrose-Buckley, 2007). International Cooperative Alliance (ICA, 1995) defines a cooperative as "an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise." People form a cooperative to meet their own common goal, which may be economic, social, or a combination.

Cooperatives have unique characteristics compared to IOFs. In IOFs, the distribution of surplus (benefit) is for investors in proportion to their investment, whereas for case of cooperatives distribution of surplus is among users in proportion to use (use products, supplies or services of the cooperative). Members of a cooperative provide the financing to support the cooperative's

operations. Cooperatives and IOFs also differ in terms of key objectives. The primary objective of every cooperative is to provide goods and services to its members and thus enable them to attain increased income and savings, productivity, and maximum utilization of economics of scale. For IOFs, however, the key objective is profit maximization (e.g. Bontems & Fulton, 2009). Cooperatives run the business with the objective to assist their members to trouble-free their life and enhance their standard of living. Management (governance) structure is another difference between the two. In most cooperatives, members typically do have one vote, although in recent development in European cooperatives the vote relies based on the investment of members (Bijman et al., 2014). However, for IOFs the vote is based on the proportion of the investment.

In principle, cooperatives have two main objectives that they should achieve at the same time i.e. cooperative business performance and member performance (Davis, 1997). A cooperative shall provide maximum economic benefits to its members, teach them efficient ways of doing things in a cooperative manner, and propagate cooperative practices and new ideas in business and management. They have to provide goods and services to members and thus enable them to attain increased income and savings, and productivity (Shiferaw et al., 2014).

Role of market orientation

Market orientation is an organizational culture that involves placing customer satisfaction at the centre of the business' operations. It delivers value for customers and results in better performance for organizations (Ozkaya et al., 2015). The specific market intelligence activities of information generation, sharing the information within the organization, and responding to the market demand are the key practices that are executed by market-oriented firms (Kohli & Jaworski, 1990). Market-oriented firms are better in responding to the market demand than less market-oriented firms (e.g. Ruekert, 1992). Market orientation facilitates the collection and use of market information, and focuses on the coordination of resources to deliver superior customer value (Slater & Narver, 1995). Moving beyond the specific market intelligence activities of information generation, dissemination and responsiveness, Narver & Slater (1990) conceptualized market orientation as three behavioural components: customer orientation, competitor orientation, and interfunctional coordination. Customer orientation refers to the sufficient understanding of target buyers to be able to create superior value for them continuously (Narver & Slater, 1990). It is considered to be an essential element for firm success and a key focus for any firm's relationship to its customers. Firms need to put the customer's interest first, while not excluding those of all other stakeholders, to develop a long term profitable enterprise (Deshpande et al., 1993). Competitor orientation is the key part of a firm's strategic orientation which focuses on understanding the strengths and weaknesses of existing

and potential competitors (Narver & Slater, 1990). Firms need to understand what their competitors are doing in the market and target possible markets where they have an opportunity for competitive advantage. Interfunctional coordination allows for the bringing together of firm capabilities to develop a product that meets customer needs and can be effectively delivered by the firm (Kahn, 2001). A high level of coordination between different departments is likely to facilitate the sharing of important information between departments for fast and efficient response to the market and to improve the firm performance. From the perspective of the market orientation concept, several literature suggests the implementation of market orientation for better cooperative performance.

Market orientation and cooperatives

Despite the key differences between IOFs and cooperatives in terms of governing structural and ultimate objectives (Kyriakopoulos et al., 2004), both are operating in the same market and share the concept of market orientation. Firms must find a way to discover unfulfilled customer needs and bring to the market products that satisfy those needs (Slater & Narver, 1995). Similar to IOFs, cooperatives should deliver higher value to customers through the implementation of market orientation (Bijman, 2010). Cooperatives are no longer sheltered from the current competitive market pressures (Beverland, 2007) and should respond by becoming more market-oriented enterprises (Kyriakopoulos et al., 2004; Harte & O'Connell, 2007).

It is assumed that the concept of market orientation can be pursued and be made applicable without limits (Narver & Slater, 1990); in fact, any strategy is contingent upon the organization's structure (Kyriakopoulos, 1998). Marketing cooperatives need to strive to optimize their qualities and capabilities to respond to customers' demand (Bijman et al., 2014). Delivering higher value to customers through the adoption of the concept of market orientation should be their key concern (Bijman, 2010). They need to develop the capacities to create sustainable competitive advantage by adopting the market-oriented approaches to respond for existing highly competitive markets (e.g. Agirre et al., 2014; Harte & O'Connell, 2007; Ketchen et al., 2007). As a general principle from the marketing literature, organizations that perform market-oriented activities score better than their less-oriented rivals in a wide variety of indicators (Cano et al., 2004). Studies suggest the need to assess market orientation in cooperative perspective considering the issue of internal governance mechanisms, organizational structures and strategic attributes of the cooperatives (Benos et al., 2016).

It might not be easy to draw straightforward conclusion from the literature on the application of market orientation to the cooperatives context. This is mainly due to the fact that the presence of

different strategic approaches and governing structures of cooperatives than IOFs (Bijman et al., 2013; Kyriakopoulos et al., 2004). The extent to which the adoption of market orientation by cooperatives depends on the significant of human-resource development, organizational restructuring, and reallocation of resources within the cooperatives (Kryiakopoulos & van Bekkum, 1999). Limited attention by cooperative management devote to the effective implementation of market orientation is a key factor in cooperatives (Agirre et al., 2014). Prior studies indicate that strengthening of customer orientation has been claimed to be essential for the success of marketing cooperatives (Bijman, 2010). Benos et al. (2016) reported the positive influence of cooperative organizational attributes on the implementation of market orientation. They also found the positive influence of market orientation on the performance of the cooperative (sales volume, new market entry and market share). Similarly, Agirre et al. (2014) identified the influence of internal organizational factors of the cooperatives (organizational commitment, integration of cooperatives) on the degree of the market orientation of the cooperatives. They reported the positive influence of market orientation on the cooperative performance in terms of efficiency (profitability, return on investment) and efficiencies (growth of sales, growth in market, growth in profits).

Empirical evidence for the contribution of market orientation on the performance of the cooperative is very scarce and lagging much behind the theory compared to IOFs (Benos et al., 2016). Despite being investigated in large and small businesses, and agricultural and food industries, the relationship between market orientation and performance has not been investigated well in agricultural cooperatives. Particularly, information in the D&E context is very scant. The vast majority of researches have focused on the influence of internal governance structure of cooperatives on performance. For example, Kyriakopoulos et al. (2004) consider the structure of Dutch cooperatives on market orientation and performance, but did not specifically evaluate the link between market orientation and performance. The lack of study contrasts with the importance given, at least from a theoretical perspective, to market orientation in other sectors (Agirre et al., 2014).

Supplier orientation and agricultural marketing cooperatives

The market orientation of the cooperatives is broad and may include other orientations. The recent qualitative study on the market orientation practices of SPCs in Ethiopia confirms that supplier orientation is an integral part of market orientation in this particular context. Supplier orientation is the pattern of shared beliefs and values that help managers understand and manage firm's suppliers in the creation of superior value (Al Jafari et al., 2015). Supplier orientation basically involves the managing of the relationship between firms in the supply chain (Hult et al., 2008; Li et al., 2009). Firms are not only to manage their own resources and capabilities but, in responding to customer

needs, are ever more dependent on the resources and capabilities of supplying firms (Johnston et al., 2004; Kibbeling et al., 2013). Without proper integration with potential suppliers, firms may not be able to succeed in their business venture (Hamid & Sukati, 2011). The key concept of market orientation (creating value for customers) is beyond the boundaries of the individual firm and becomes a supply chain concern (Song & Thieme, 2009). Firms should pay critical attention in their supplier selection and collaboration to make business integration (Agan, 2011).

Literature reveals that there is a positive relationship between supplier orientation (integration) and firm performance (Edwards et al., 2001; Shin et al., 2000). Frohlich & Westbrook (2001) find strong and consistent evidence for the relationship between integrated supply chains and a variety of performance improvements. Supply chain integration will likely improve performance by eliminating inefficiencies and inconsistencies, streamlining processes, providing customers with what and when they want, reducing excess inventories, and proactive management of demand (Agan, 2011). The higher the level of integration with suppliers, the greater the potential benefits for firm's performance (Frohlich & Westbrook, 2001). In particular, for agricultural marketing cooperatives the role of supplier orientation is quite indispensable and has significant impact on their performance. This is because they often demand inputs from suppliers to provide quality products and services for their customers. SPCs, for instance, need better (advanced) agricultural technologies to produce quality product so as to satisfy their customers (Shiferaw et al., 2014; Subedi & Gareth, 2013).

Conceptual framework and research hypotheses

The performance measures for cooperatives include both business related performance and members' performance. In this section, we develop a conceptual framework and hypotheses (Fig 5.1) on the relationship between market orientation components and performance measures in the Ethiopian SPCs context. The commonly used objective performance measures (profit, sales growth, return on investment) typically in use at IOFs are difficult to obtain or insufficiently reliable particularly for small cooperatives in the D&E economies. Performance measures should consider the specific context of the cooperatives in terms of firm structure, firm culture and governing objectives, because the relative importance of performance measures varies with the objectives of different types of cooperatives (Benos et al., 2016; Soboh et al., 2009a).

For this study, we used subjective measures of performance. Performance can be measured using objective measures or subjective measures (Kirca et al., 2005). Objective approaches concentrate on using absolute values of performance measures (e.g. $ profit per employee) (Wall et al., 2004). Subjective approaches ask respondents for their assessment of the performance using various items

and allow for assessing non-financial criteria. Subjective measures have been used substantially in the past (see Ingenbleek et al., 2013; Zulkiffli, 2014). Literature reveals that subjective and objective performance measures are highly correlated and give similar results (e.g. Wall et al., 2004). Therefore, it is appropriate to use subjective measures where objective measures are unavailable or hard to obtain (Zulkiffli, 2014). This study used subjective measures for several reasons. First, SPCs are at infant business stage, and objective performance data are not available, yet. Second, objective performance data are often not available in small enterprises in D&E economies, as in the case of SPCs. Third, cooperatives are established not only to provide income and profit, but also to provide services for their members (Bijman et al., 2014) which complicates the interpretation of objective measures.

Cooperatives aim to improve their business performance. Most commonly, similar to IOFs, business performance measures are also used in the cooperatives (Soboh et al., 2009a). Cooperatives that want to sustain in the market for the long run should have better financial performance (sales growth, market share, income, profit, return on investment) than other businesses in the industry. Those cooperatives that are profitable in their business venture can continue in the business, but those unable to make profit will perish in the long run. Being market-oriented involves being customer oriented, competitor oriented, and having interfunctional coordination efforts, which are associated with performance (Narver & Slater, 1990). Thus, the sustainable performance of the cooperatives is influenced by their ability to acquire information about customers and competitors in the target market, apart from their internal coordination functions (Kyriakopoulos et al., 2004). A market-oriented cooperative provides better products to customers than competitive firms and thus increases its sales, its price and financial performance. In light of this, it is anticipated that the market orientation components positively influence the business performance of the SPCs. We therefore propose to test the following hypothesis:

H1: Market orientation components positively influence the business performance of SPCs.

Marketing cooperatives provide an economic benefit for their members through two ways. One is by improving the firm performance and members could benefit from the success of the cooperatives. Second, members could benefit individually from cooperatives' activities such as input provision, high productivity and technical knowledge (Ruben et al., 2006; Shiferaw et al., 2014). Cooperatives improve the bargaining power of their members and let members benefit from economies of scale (Bijman, 2016). Cooperatives that have good financial performance can collect the product from their members at fair price, sell it at good price, and distribute the net profits to their members through dividend (Abate et al., 2014). Similarly, SPCs can therefore be expected to collect the seed from their

members at fair prices during harvest time when the price usually fall drastically and sell when prices recover (Emana, 2009). Better performing SPCs enable their members to generate income and accumulate assets; and develop human and social capital, as well as economic independence (Nembhand, 2002; 2004b). Successful cooperatives also participate in additional investment to expand the business in which members benefit directly. Therefore, the change in members' livelihoods should be measured when evaluating the firm performance. Besides the key contribution of the business performance of the cooperative to the livelihood of members, each component of market orientation may have an individual effect on the members' livelihood. In the SPCs context, member farmers can support their livelihoods by using improved quality seed and enhance their productivity (i.e. food security) and ultimately get better income (i.e. profit). The scenarios indicate that the livelihood performance of members could be influenced through the business performance of the cooperatives and through the individual contribution of the market orientation components. Therefore, we test the following hypotheses:

H2a: Business performance of the SPCs has a positive influence on the livelihood performance of member farmers.

H2b: Market orientation components have direct positive influence on the livelihood performance of member farmers.

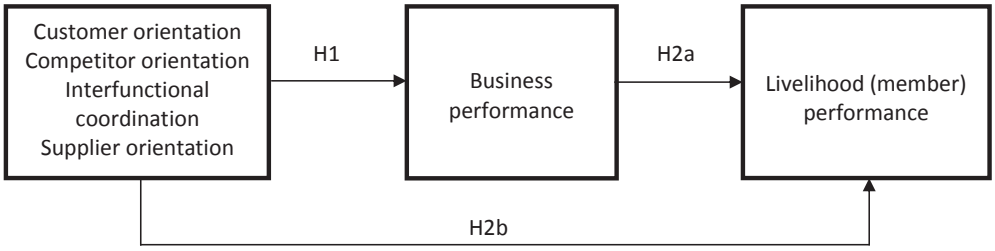


Figure 5.1: Conceptual framework

5.3 Methods

The present study consists of two parts (i.e. pre-study and main study). In the pre-study, we developed comprehensive measures for performance in the SPCs context. In the main study, we used these performance measures to assess their relationship with market orientation components. The method section consists of research context, sample selection, data collection, results of the pre-study and analytical procedure for the main study. Sample SPCs, individual respondents and data collection procedures are the same for both pre-study and main study.

Research context

The hypotheses of the present study were tested on a sample of SPCs in Ethiopia. Ethiopia's economy is largely based on agriculture, which contributes 43% of the GDP and 90% of exports earnings (CSA, 2016). To feed the growing population of the country, the Ethiopian government is working to double the agricultural productivity, which will make a direct contribution to the country's economic development. As a key input, quality seed for farmers plays an indispensable role in the increase of agricultural productivity. The Ethiopian government has been promoting quality seed production and marketing to reach final users (farmers) as key routes to the increase of production and the improvement of farmers' livelihood. SPCs are important business entities in reducing the seed shortage of the country. They are autonomous organizations established by a group of individual farmers from a given locality and located in different parts of the country (Subedi & Gareth, 2013). There are considerable similarities and variations among them in terms of agro-ecological condition, sociocultural context, irrigation facilities, local market demand, technical, managerial and financial capabilities (Mohammed et al., 2012).

Sample selection

The selection of respondents for this study conducted in two steps. First, a sample 29 SPCs was selected from a list of SPCs based on various sources (i.e. regional bureau of agriculture, regional cooperative promotion agency, Integrated Seed Sector Development Ethiopia (ISSD)/programme and NGOs). Care was taken to ensure that SPCs showed considerable spread in terms of their formation history, production potential, local infrastructure, type of seed/crops produce, year of establishment, seed marketing experience, number of members, and seed marketing strategies (e.g. contractual arrangements, direct to final users and institutional buyers). Sample SPCs were selected from four regional states of the country: Amhara, Oromia, Southern Nations and Nationalities People's, and Tigray regional states. Second, individual respondents were selected from each of the 29 SPCs. Five to seven respondents were interviewed from each SPC. A total of 190 respondents (130 cooperative leaders and 60 member farmers) was surveyed during the data collection process.

Data collection

Face-to-face interviews based on structured questionnaires were used for data collection which is an appropriate technique in rural areas with poor infrastructure, little access to electronic media and low-literate levels of respondents (e.g. Ingenbleek et al., 2013). Prior to data collection each SPC was contacted both in person and via telephone to be briefed about the objective of the study and to make an appointment. Interviews were conducted in the office of the cooperative, at respondents' home, or in the farm field at a convenient time for the respondents. Questions were scaled on a five-

point Likert scale ranging from 1 to 5 (1 as strongly disagree, 2 as disagree, 3 as uncertain/neutral, 4 as agree, and 5 as strongly agree). Five sticks of increasing sizes, representing the five-point Likert scale, were used for convenience. The shortest stick represented a value of 1, and the tallest stick represented a value of 5. (see Adékambi, 2013; Ingenbleek et al., 2013). Before commencing interviews each respondent practiced with trial questions (i.e. which were not included in the main questionnaire) in order to ensure their understanding of the use of the five-point Likert scale. Before the beginning of each interview, respondents were briefed about the purpose of the study and the importance of their participation. Respondents were assured of their anonymity and of the confidentially of their information.

Pre-study

The pre-study was conducted to identify performance measures for this specific context. For this purpose, we considered four performance criteria: customer satisfaction, financial performance, member satisfaction, and livelihood performance. We adopted the first two performance measures from the marketing literature and the latter two performance measures based on the current practices of Ethiopian SPCs. Financial performance and customer satisfaction are the two most prominent business performance measures in marketing studies (e.g. Boohene et al., 2012; Hilal & Mubarak, 2014). Member satisfaction and livelihood performance are associated with cooperative business objectives in the D&E economies. We first generated a pool of items both from the literature and the current SPCs' practices that were purported to tap these performance criteria. Experienced agricultural and marketing experts were consulted to give their comments and suggestions on the list of items. The resulting questionnaire was pre-tested with six respondents using face-to-face interview. Based on experts' suggestions and the pilot test, items that were confusing, ambiguous, difficult to understand, and irrelevant for the context were reduced. Thus 22 performance indicators were remained for further analysis (Appendix 5.1).

The collected data were used to assess internal consistency of the items and to explore their validity. Exploratory factor analysis in combination with Cronbach's alpha (Churchill, 1979) was used to assess the structure behind the 22 initial items. Prior to exploratory factor analysis, the suitability of the data was checked using KMO statistics (i.e. above 0.5), the correlation matrix (above 0.3), and the scree plot for appropriate factor extraction (i.e. the point where the slope of the curve is clearly levelling off) (Hutcheson & Sofroniou, 1999). Items that reduced the reliability of the measure, and items with low item-total correlations (below 0.3) were dropped from the scales before further analysis. Confirmatory factor analysis was then used to confirm the dimensions of performance.

Results show that the Bartlett Test of Sphericity is significant (0.000) indicating that the correlations between variables are significantly different from zero. KMO is 0.792 which is good (Hutcheson & Sofroniou, 1999) and indicates that the sample is adequate for factor analysis. The inter-item correlations were above the recommended level (0.3). The result of the factor analysis was a parsimonious and interpretable solution containing 11 items and three factors (i.e. customer satisfaction, financial performance, and livelihood performance) (Table 5.1). These include four items for customer satisfaction, four for financial performance, and three for livelihood performance. During analysis, items supposed to reflect members' satisfaction did not perform well. The proposed items had shown low factor loadings and cross-loadings on different components. Hence, they were dropped before further analysis (Kline, 2005; Stevens, 2002)

Table 5.1: Construct items and loadings using rotated component matrix

Variables	Factor 1 (financial performance)	Factor 2 (customer satisfaction)	Factor 3 (livelihood performance)
FP1	0.697		
FP2	0.717		
FP3	0.853		
FP4	0.840		
CS1		0.628	
CS2		0.727	
CS4		0.670	
CS5		0.680	
LIV3			0.758
LIV4			0.735
LIV5			0.737

Note: FP-financial performance; CS-customer satisfaction; LIV-livelihood performance

The next step of the analysis was to confirm the multidimensionality of the performance construct. We compared a multidimensional model with three first-order freely correlated dimensions (customer satisfaction, financial performance, and livelihood performance) with a unidimensional model having all items loading onto a single construct. Then, we explored two alternatives of second-order dimensions to understand further the structure of the performance construct. The first model consisted of one second-order performance construct, based on the three performance dimensions. The second model consisted of one second-order business performance construct, based on

customer satisfaction and financial performance and one first-order (livelihood performance) construct. Multiple criteria such as chi-square, RMSEA, one of the fit indices (CFI, TLI, IFI, GFI) and SRMR were used to evaluate fitness of the model (Fan et al., 1999; Hu & Bentler, 1999; Kline, 2005; Matsunaga, 2010). Under most circumstances models with RSMEA below 0.08; SRMR below 0.1, and CFI, GFI, TLI, IFI above 0.9 should be considered acceptable (Kline, 2005; Marsh et al., 2004). The normed chi-square (NC), which is the chi-square index divided by the degrees of freedom, should be less than 2 (Ullman, 2001). SPSS version 22 and R package Lavaan (Rosseel, 2012) were employed for data analysis. Results show that the unidimensional model had a poor fit: X^2=335.27 (df=44, p<0.000), RMSEA=0.187, CFI=0.648, GFI=0.745, TLI=0.559 IFI=0.652, SRMR=0.125, and NC=7.62 which is far away from the recommended values. The multidimensional model and the two alternative second order models had good fit (X^2=78.51 (df=41, p<0.000), RMSEA=0.069, CFI=0.955, GFI=0.933, TLI=0.939, IFI=0.955, SRMR=0.054, and NC=1.91). Since the second model has good fit and theoretical and conceptual support from the literature, it is used as our measurement model for performance (Figure 5.2).

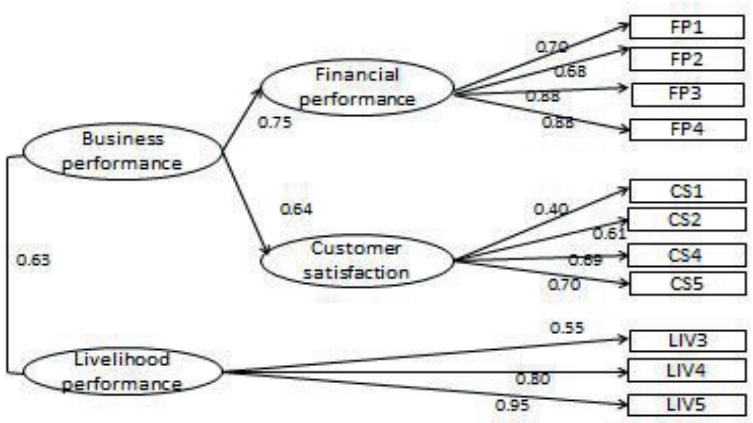


Figure 5.2: Performance measurement model in the context of SPCs in Ethiopia

Main study

The main study assessed the relationship between market orientation components and the various performance measures identified in pre-study. We made use of four multidimensional components

of market orientation as identified in our previous study, represented through 18 items: five items for customer orientation, four for competitor orientation, four for interfunctional coordination, and five for supplier orientation (Appendix 5.2).

Market orientation-performance relationship

Correlations among performance measures and market orientation dimensions were computed to determine criterion validity. Criterion validity is demonstrated when there is a relationship between the predictors (i.e. market orientation components) and outcomes (i.e. performance measures). Multiple regression analysis and structural equation modelling were used to assess and quantify the potential effects of market orientation components on performance. We used multiple criteria such as chi-square, RMSEA, fit indices (CFI, TLI, IFI, GFI), SRMR and NC to evaluate fit of the models (Fan et al., 1999; Hu & Bentler, 1999; Kline, 2005; Matsunaga, 2010).

Mediating role of business performance

The mediating effect of business performance on the relationship between market orientation components and the livelihood performance was tested based on the procedure suggested by Baron and Kenny (1986). This procedure includes four criteria to illustrate mediation. First, there should be an effect of the predictor on the outcome variable. Second, there should be a significant relationship between the predictor variable and the mediator. Third, there is a significant relation between the mediator variable and the outcome variable. In the fourth step, if the predictor is no longer significant when the mediator is controlled for, then there is full mediation. If the effect of the predictor variable is reduced but still significant, the findings support partial mediation. The effect size of the mediation was also analyzed using Kappa-squared (k^2) suggested by Preacher & Kelley (2011) and Hayes (2013). k^2 was used to determine the effect size, which expresses the indirect effect as a ratio to the maximum possible indirect effect. k^2 can be equated to the values used for R^2: a small effect is 0.01, a medium effect is around 0.09, and a large effect is in the region of 0.25 (Preacher & Kelley, 2011). SPSS software and R package Lavaan were used to analyze the data.

5.4 Results

Correlations between market orientation components and performance measures

Table 5.2 shows the Pearson correlations between market orientation components and performance measures. Results confirm that the four components of market orientation have positive and significant correlations to both financial performance, customer satisfaction, business performance, and livelihood performance. The correlation values range from 0.2 to 0.56. The highest correlations were observed between customer orientation and customer satisfaction (r=0.56), and between

customer orientation and business performance (r=0.55); whereas, the lowest were observed between supplier orientation and financial performance (r=0.22), and competitor orientation and livelihood performance (r=0.2). These correlations illustrate the criterion validity of our measures for market orientation and performance. The relationships among performance measures are also positive and significant.

Table 5.2: Correlations between market orientation components and performance measures

	1	2	3	4	5	6	7	8
Customer orientation(1)	1	0.35**	0.28**	0.24**	0.37**	0.56**	0.55**	0.27**
Competitor orientation(2)		1	0.34**	-0.01	0.33**	0.22**	0.34**	0.2**
Interfunctional coordination(3)			1	0.17*	0.38**	0.27**	0.4**	0.37**
Supplier orientation(4)				1	0.2**	0.31**	0.3**	0.3**
Financial performance(5)					1	0.37**	0.87**	0.41**
Customer satisfaction(6)						1	0.79**	0.3**
Business performance(7)							1	0.44**
Livelihood performance(8)								1

**,*coefficient is significant at the 0.01 and 0.05 levels, respectively

Effects of market orientation components on performance measures

The effects of the four components of market orientation on the performance of SPCs were examined using multiple regression analyses (see Table 5.3). The results indicate the significant and positive influence of customer orientation (b=0.407, p<0.001), interfunctional coordination (b=0.214, p<0.001), and supplier orientation (b=0.170, p<0.001) on business performance (customer satisfaction and financial performance). This finding partially supports H1, namely that customer orientation, interfunctional coordination, and supplier orientation positively influence business performance. However, the relationship between competitor orientation and business performance is not confirmed (b=0.125, p>0.05). Concerning livelihood performance, only interfunctional coordination (b=0.281, p<0.001) and supplier orientation (b=0.226, p<0.01) have a positive and significant effect on livelihood performance. Both customer orientation (b=0.116, p=0.113) and competitor orientation (b=0.064, p=0.380) do not have a significant direct influence on livelihood performance. These findings also partially support H2b.

The role of business performance

The results reveal a positive and significant effect of business performance on the livelihood performance of member farmers (b=0.288, p<0.01). This fully supports H2a, and indicates potential

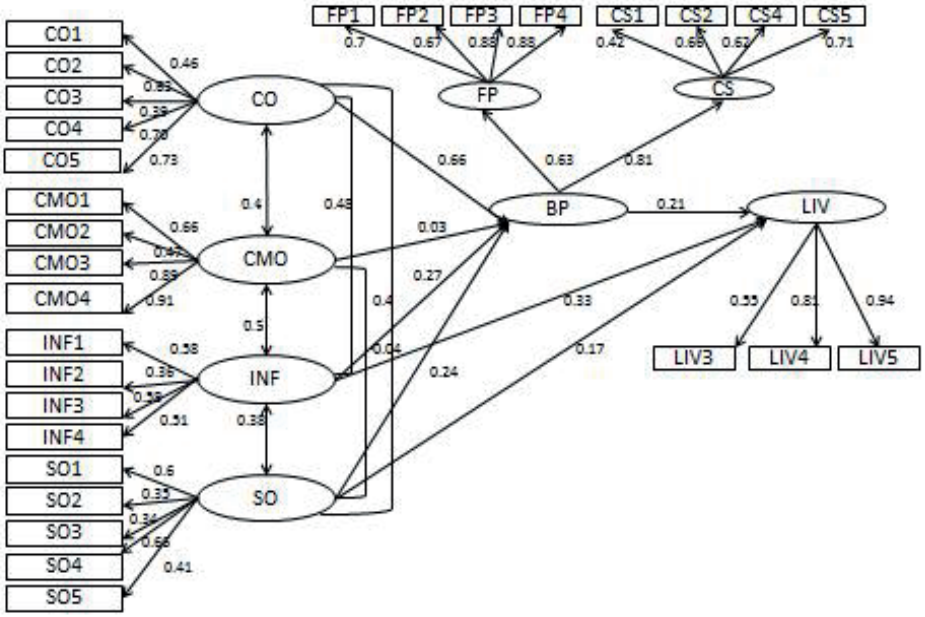
mediating role for business performance in the relationship between market orientation components and livelihood performance. Results (Table 5.3) confirm a partial mediation effect. The direct effects of interfunctional coordination and supplier orientation on livelihood performance becomes weaker when business performance is included in the regression (Beta coefficient reduced from 0.281 to 0.219 for interfunctional coordination and from 0.226 to 0.178 for supplier orientation). Business performance hence partially mediates the effect of interfunctional coordination and supplier orientation on livelihood performance. The indirect effect of customer orientation on livelihood performance was explained through the effect of business performance.

Moreover, the effect sizes of the mediation analysis show that there was a significant indirect effect of interfunctional coordination on livelihood performance through business performance, (b=0.1953, p<0.001). Similarly, k^2=0.1352, 95% CI (0.0794, 0.2115). This indicates that the indirect effect of interfunctional coordination is about 13.52% of the maximum value that it could have been. There is also a significant indirect effect of supplier orientation on livelihood performance through business performance, (b=0.1605, p<0.05). k^2=0.1158, 95% CI (0.0569, 0.1777). The result shows that the indirect effect of supplier orientation accounts about 11.58% of the maximum value that it could have been. Both interfunctional coordination and supplier orientation have medium indirect effect on the livelihood performance via business performance. Results on the relationship between market orientation components and performance measures were also confirmed using structural equation modelling (Figure 5.3). The overall fit of the model was good (X^2=569.29 (df=362, p<0.000), RMSEA=0.055, GFI=0.986, IFI=0.9, SRMR=0.068 and NC=1.57).

Table 5.3: Results of multiple regressions and mediating role of business performance

	Business performance	**Livelihood performance**	**Livelihood performance mediated by business performance**
Customer orientation	0.407**	0.116^{ns}	0.002^{ns}
Competitor orientation	0.125^{ns}	0.064^{ns}	0.028^{ns}
Interfunctional coordination	0.214**	0.281**	0.219**
Supplier orientation	0.170**	0.226**	0.178**
Business performance	-	-	0.288**
F(P-value)	31.02**	12.78**	13.35**
Multiple R	0.63	0.47	0.52
Adjusted R^2	0.38	0.22	0.25

**p<0.01; ^{ns} non-significant



Note: CO-customer orientation; CMO-competitor orientation; INF-interfunctional coordination; SO-supplier orientation; BP-business performance; FP-financial performance; CS-customer satisfaction; LIV-livelihood performance

Figure 5.3: Structural equation modelling results

5.5 Conclusion

The present study contributes to the literature on market orientation. The study confirms that market orientation components have a positive influence on the performance of small agricultural marketing cooperatives in D&E economies. Business performance is positively influenced by customer orientation, interfunctional coordination, and supplier orientation. However, competitor orientation does not influence performance, which supports previous findings that questioned the added value of competitor orientation in explaining performance in D&E economies. Interfunctional coordination and supplier orientation also directly influence livelihood performance.

The study concludes that business performance of SPCs forms a basis for livelihood improvement of seed producer families. Business performance is mediating the relation between market orientation components and livelihood performance. This study, in particular, suggests that while business

performance has a positive significant impact on livelihood performance, customer orientation has no direct significant impact on livelihood performance. Instead, there is an indirect relationship between customer orientation and livelihood performance, which is mediated by business performance.

Both interfunctional coordination and supplier orientation influence the livelihood of member farmers directly and indirectly via business performance. Moreover, supplier orientation is an important part of market orientation in agricultural marketing cooperatives of D&E economies, because it has a particular contribution to both business performance and livelihood performance. The study concludes that market orientation of SPCs is very important for business performance and a strong basis for the livelihood of seed producer families. SPCs can improve their performance and the livelihood of member-farmer families by implementing a market orientation, emphasising customer orientation, interfunctional coordination, and supplier orientation.

5.6 Discussion

Our findings are in line with and further substantiate the previous studies that also support the strong theoretical assumption that customer orientation positively influences firm performance (e.g. Cano et al., 2004; Kirca et al., 2005). Customer orientation is the key factor for superior business performance, also in D&E economies. A market-oriented cooperative can enhance its product quality to boost customer satisfaction. Satisfied customers spend more and become more loyal to the firm, which increases sales and market share and eventually improves performance. This implies that irrespective of economic development (i.e. developed versus D&E economies), establishing a customer-oriented culture contributes to superior performance of the business. Moreover, the positive effect of customer orientation and interfunctional coordination on business performance provides partial support for the market orientation-performance model proposed by Narver & Slater (1990).

Our findings do not support the positive effect of competitor orientation neither for business performance nor for livelihood performance. This finding deviates from the common literature that confirms the contribution of competitor orientation to performance (e.g. Boohene et al., 2012; Hilman & Kaliappen, 2014; Hussain et al., 2015). The non-significant contribution of competitor orientation on the business performance may be attributable to the less consideration towards competitors' activities and the limited capacity of SPCs in the seed market. The most likely explanation for this is extracted from a qualitative study on the market orientation practices of SPCs in Ethiopia. For most of the SPCs, discussing about and responding to competitive actions is not

considered a priority. The understanding of SPCs about competitor orientation is minimal and in some cases SPCs do not consider the effect of competition on the success of their business. Moreover, many SPCs choose to operate in niche markets that are not served by large seed companies. Other SPCs prefer to produce seed in contractual arrangement with big seed companies to secure the present market and to reduce to some extent the external competition. All these factors contribute to limited influence of competitor orientation on performance. Our finding is not exceptional. Similar results are reported for other D&E contexts (e.g. Alizadeh et al., 2013; Gaur et al., 2011; Ingenbleek et al., 2013).

The study found a positive effect of interfunctional coordination on livelihood performance of member farmers. Interfunctional coordination within SPCs relies on the social network among members and good cooperative management skills. Members of the cooperative are living in the same county and there are many social connections and networks in place for exchange of information and mutual communication. Member farmers exchange information with each other, which helps them to make good decisions about when, how and to whom they should sell their product. Sometimes farmers make a decision to sell their seed to other markets, particularly when there is disagreement on price issues with contracting parties. In this regard, leaders play a crucial role in the dissemination of market information within the cooperative. Sharing information and communication are key aspects in the interfunctional coordination which contributes to superior livelihood performance.

Results also confirm that business performance is a key factor for livelihood performance of member families. Member farmers are able to get more benefit when their cooperative is profitable. Such extra benefit materialises because the cooperative buys their seed for fair price and processes and sells it to customers for attractive prices. In this process, members get dual benefits: by selling their product for high prices and by dividends (Emana, 2009). Moreover, high business performance encourages SPCs to engage in seed value-adding activities to create value for customers and earn even higher profits, which eventually improve the income of member farmers.

Our findings indicate that while customer orientation had a strong and positive effect on business performance, no significant direct link was found between customer orientation and livelihood performance. A strong and positive relationship was noted between business performance and livelihood performance. Considering the indirect route through business performance, customer orientation influences livelihood performance.

An interesting finding is the crucial contribution of supplier orientation on livelihood performance. Members are dependent on suppliers for key inputs and services. For high quality seed and grain production, members need better agricultural technologies particularly basic seed. Members of SPCs that have higher levels of integration with their potential suppliers in the supply chain have better chances for success than members of less supplier-oriented SPCs (Frohlich & Westbrook, 2001). When members access the required type and quality seed from suppliers, they can produce and supply to the market large quantities of seed, and improve the grain production for family consumption as well as local markets. The success of the livelihood improvement of member families is largely determined by the availability of high quality basic seed, which can be accessed from potential suppliers. Thus, in satisfy their members' need and contribute for members' livelihood improvement cooperatives do not only have to manage their own resources and capabilities but are also dependent on the resources and capabilities of suppliers (Kibbeling et al., 2013).

5.7 Implications

The findings of the present study have several managerial and academic implications. Concerning managerial implications, the current study provides key issues for cooperative leaders, supporting organizations, and policy makers. First, the findings confirm the importance of market orientation for the SPCs to be successful. Market orientation improves a firm's ability to continually satisfy its customers in the face of changing market conditions and thereby increases firm performance. Cooperative leaders (managers) need to develop a deep understanding of how to achieve superior performance via market orientation. Second, the study also emphasises cooperatives' need to increase business performance, because it is a basis for the livelihood improvement of member families. Third, this study also provides specific advice for management bodies of the cooperatives and supporting organizations to focus on the key market orientation dimensions of customer orientation, interfunctional coordination, and supplier orientation. This combination could help the cooperatives to be truly successful in the seed market place.

From an academic point of view, the present study contributes to the body of market orientation literature in various ways. This study provides evidence for applicability of the marketing concept in the case of agricultural marketing cooperatives in D&E economies. Its findings contribute to the deeper and broader understanding of the market orientation-performance relationship in the D&E context. The effect of market orientation components on firm performance is applicable to agricultural marketing cooperatives of D&E economies as much as it is to large companies in high-income markets. Another contribution is the use of different performance measures to elaborate the market orientation–performance relationship. This study used various subjective performance

measures. It is advisable to use subjective measures when objective data are difficult to obtain from or insufficiently reliable for firms in the D&E economies.

5.8 Limitations and future research

The present study is not without limitations. The first limitation is the context-specific nature of the study. Its focus is limited to SPCs, and some of the results might be different from studies in other types of firms. This may limit the generalizability of the study's findings to other business contexts. Therefore, replication of the study in other contexts would be necessary for the generalization of the findings. This study used subjective performance measures. Although use of subjective measures is common in marketing literature and similar results are obtained as with objective measures (Wall et al., 2004), the results are less convincing due to self-reported measures. Future research may include objective measures to complement subjective measures. Acknowledging the limitation of the study for not considering the moderating factors on the relationship between market orientation and performance and the key antecedents of market orientation, this study suggests that using key moderating variables and antecedents of market orientation may provide additional insights and further evidence for the generalizability of the findings. Our study is also cross-sectional, which restricts our conclusions to those of association. Data collected across time periods using longitudinal framework would strengthen the evidence. Finally, further research should also focus on investigating the key marketing activities, which contribute most to the performance of SPCs, and reveal the real differences among Ethiopian SPCs in implementing those key marketing activities.

Appendix 5.1: A pool of scale items for measuring performance

Performance
Customer satisfaction (CS)
1. Our customers are getting (acquiring) the quality of the seed they want
2. We receive positive feedback from customers/buyers
3. Our customers/buyers advice their peers/families/ neighbors to buy seed from our SPC
4. Once buyers bought seed from our SPC, there is an intention to return
5. Customers repeatedly purchase the seed from our SPC
6. Our seed meets the expectations of customers/buyers
Financial performance (FP)
1. Our SPC is increasing its assets
2. Our SPC is increasing its market share (volume of seed sold)
3. Our SPC shows progressive in capital improvement
4. Our SPC increases its net profit
Member satisfaction (MS)
1. Members of our SPC are satisfied with the basic seed access
2. Members of our SPC are satisfied with the prices they receive
3. My cooperative membership has resulted in increased profit
4. Overall, I am satisfied with the results of my membership of the cooperative
5. Members like to increase their stake in the SPC
6. Members advice other farmers to become members of the SPC
7. Members volunteer to re-invest the money they get from the SPC
Livelihood performance (LIV)
1. Producing for and selling seed greatly supports our livelihood
2. We are able to send our kids to school (no school dropout)
3. Members' family having sufficient food throughout the year
4. There is improvement in the quality of members' house
5. Members having basic (necessary) household equipment

Appendix 5.2: Market orientation construct items

Description
Customer orientation (CO)
1. We constantly monitor our level of commitment and orientation to serving customer's needs
2. We measure customer satisfaction systematically and frequently
3. We assess feedback from our customers with the seed they bought from us (i.e informal mechanisms)
4. Our cooperative leaders visit (field visit, informal mechanisms) customers
5. We freely communicate information about our successful and unsuccessful customer experiences across all business functions
Competitor orientation (CMO)
1. We rapidly respond to competitive actions that threaten us
2. We target customers where we have an opportunity for competitive advantage
3. Our cooperative leaders are interested/concerned about what other seed producers are doing in the market
4. Cooperative leaders and other committees share information within the SPC concerning other seed producers
Interfunctional coordination (INF)
1. We share resources with each other
2. We all know the role and contribution of each member and committee for the success of the seed business
3. We have inter-committee meetings at least once a month to discuss on seed business
4. Our cooperative leaders discuss customers' (e.g. farmers, intermediaries, buying organizations) need and preference
Supplier orientation (SO)
1. We feel that suppliers have been on our side
2. We work together with suppliers to be successful
3. We are patient with suppliers when they make mistakes that cause us trouble
4. We communicate with seed and other inputs suppliers
5. Our seed suppliers do have experts (to give support) about the seed they are supplying

Chapter 6

Marketing Activities as Critical Success Factors: the case of Seed Producer Cooperatives in Ethiopia

This chapter is submitted as: Dawit Tsegaye Sisay, Frans J.H.M. Verhees, and Hans C.M. van Trijp. Marketing activities as critical success factors: the case of seed producer cooperatives in Ethiopia.

Abstract

The purpose of this paper is to identify the specific marketing activities that contribute most to the performance improvement of seed producer cooperatives (SPCs) in Ethiopia. Data were collected from 24 SPCs, a priori categorized as high versus low performing in the market. Both quantitative and qualitative procedures were adopted to extract information from knowledgeable and experienced experts using structured questionnaires. Results indicate that clear differences exist between Ethiopian SPCs in their intensity and quality of execution of marketing activities, indicating that these activities are managed and controlled by SPCs themselves. However, the similarity in patterns of intensity and quality of execution of marketing activities shows that these effects cannot be disentangled in the Ethiopian SPCs context. Ethiopian SPCs performed well on marketing activities related to interfunctional coordination, but poorly on activities associated with competitor orientation. Our findings suggest that SPCs are likely to perform better when they use a variety of marketing activities including quality control of product (seed), product differentiation, managing customer and supplier relationships, responding to customers and competitors, customer and competitor assessment, leadership, integration of activities, and interconnections among committees and members. Hence, to provide value to customers SPCs need to have resources and the capabilities to coordinate these resources in order to execute marketing activities efficiently and effectively. Government organizations, NGOs, and seed related projects could play an important role in strengthening the capability of the SPCs to perform marketing activities.

Keywords: Intensity, marketing activities, quality, seed producer cooperatives

6.1 Introduction

The performance of any firm depends strongly on the specific activities that the firm implements (Forman & Hunt, 2005; Hansen & Wernerfelt, 1989; Tvorik & McGivern, 1997). Internal behaviours and the internal environment that influence the performance of firms are known as organizational business performance factors (Scott-Young & Samson, 2008; Wood, 2006). They can be altered and modified by the organization itself, such as adjustments to and adaptations in personnel capabilities, physical facilities, the organizational structure, and changes in budget allocations.

For firms it is important to identify the specific activities that affect their performance (Appiah-Adu et al., 2001; Scott-Young & Samson, 2008). This would help the firm to make appropriate decisions about investments and budget allocations. Marketing research has identified a wide variety of internal activities that influence firm performance (Mokhtar et al., 2009). There is, however, no comprehensive and unequivocal list of internal activities, as these may be contingent on the type of the business and the external environment (e.g. Appiah-Adu, 1998).

Marketing activities influence the success of the firm (Kumar et al., 2011). The purpose of marketing activities is to align organizational efforts with customer needs and thus to offer better products and services to customers. Empirical research reveals that there is a direct contribution of marketing activities to firm performance (Bansal et al., 2001). Thus, selecting appropriate marketing activities is crucial for increasing firm success. At the highest level of abstraction such marketing activities relate to the concept of market orientation and reflect customer orientation, competitor orientation, and interfunctional coordination (Kirca et al., 2005).

Dunn et al. (1986) have identified marketing activities related to product (planning, schedules, service), sales (control, forecasts, training, recruiting), control (inventory, quality), relations (customers, dealers, public), market research, pricing, advertising, warehousing, packaging, and credit extension. Firms need to identify the specific marketing activities that influence their performance, but this influence depends on the business strategy and the external context. As a result different marketing activities have been identified in prior research as influential for firm performance. In the context of new product development success, for instance, Cooper & Kleinschmidt (1993) identified marketing activities such as market assessment (study), product and customer tests, and technical assessment. Marketing activities such as product promotion, product quality, employees' training, pricing mechanisms, targeting strategy, and satisfied with skills levels were used to explain small firm overall business performance in the UK (Wood, 2006).

Whether and how firms implement marketing activities depends on the firms' access to resources and their capabilities to coordinate those resources. Thus, both resources and firm capabilities influence firm performance (Nath et al., 2010; Yu et al., 2014). Firms use their own resources to implement marketing activities aimed at improving their competitive position in the market, which in turn enhances performance (Ketchen et al., 2007). Resources of a firm include both tangible (physical assets) and intangible (non-physical assets) resources. Firm capabilities refer to what the firm does at its core to effectively coordinate its resources. Firm capabilities enable the firm to coordinate, deploy and take advantage of its resources in the implementation of its strategies (Dutta et al., 2005). The firm's capabilities may include the technological competences, skills and commitment of leadership, organizational capabilities, and strong cooperation and relationships with partners and stakeholders (Carmeli et al., 2010; Lin & Wu, 2012; Puni et al., 2014). Thus, identifying marketing activities that contribute to firm performance is the first important step for firms, but identifying resources and capabilities to implement those marketing activities effectively and efficiently is the second important step.

Prior research on identifying marketing activities and their effect on firm performance is scarce and has mostly focused on Investor-owned firms (IOFs) in developed economies (Morgan, 2012). Moreover, there has been little conceptual development and systematic examination of how researchers in marketing should measure the performance outcomes associated with marketing activities (Katsikeas et al., 2016). Based on our examination of the literature, there has only been scant scholarly consideration regarding marketing activities in D&E economies in general and particularly for the small agricultural marketing cooperatives which are prevalent in such economies. With their dual objectives of serving customers as well as their members, cooperatives could benefit from insight into marketing activities that influence their performance, not only to gain more benefits from commercialisation, but also to support the well-being of their members (Grwambi et al., 2016).

To broaden our understanding of the influence of marketing activities on firm performance, this study focuses on the specific context of Ethiopian seed producer cooperatives (SPCs) and the marketing activities over which they have control. SPCs are business enterprises established by a group of farmers with the aim to produce and market quality seed to local markets and beyond, and to turn seed into a commercial product, so that it becomes a potential source of income and livelihood improvement for members (Subedi & Borman, 2013). Previous studies in the context of SPCs in Ethiopia revealed that there is a positive and significant contribution of market orientation

components to both the performance of the cooperative as well as to the livelihood improvement of its member farmers. SPCs that adopt a market orientation show better performance than SPCs that do not. Market orientation is a business philosophy which is operationalized through effective implementation of marketing activities reflected both by the intensity and quality of execution. Intensity of execution explicitly refers to the frequency with which SPCs practice marketing activities ('*do how often*'), and quality of execution refers to the way in which SPCs implement marketing activities ('*do how well'*). Therefore, this paper has two objectives: to understand which marketing activities improve most the performance of SPCs in Ethiopia; and to give practical and actionable advice for SPCs in terms of which capabilities are required to implement marketing activities that improve SPCs' performance most.

The remainder of the paper is structured as follows. The paper discusses the relevant literature and develops the conceptual framework, and subsequently presents the research methods and results. This is followed by conclusions and discussion. Finally, the paper discusses the implications for SPCs, policy makers and development-oriented organizations; and limitations of the study and ideas for further research.

6.2 Literature review and conceptual framework

Organization business performance factors

Organizational business performance factors by definition influence firm performance (Hansen & Wernerfelt, 1989; Wood, 2006), and are thus crucial to sustain a business (Appiah-Adu et al., 2001; Forman & Hunt, 2005). Organizational business performance factors comprise of factors within the firms (Scott-Young & Samson, 2008), which they can control and manage through their capabilities and business decisions.

A wide variety of organizational business performance factors can influence firm performance (Wood, 2006). These include effective management (Rahman, 2001; Yusof & Aspinwall, 2000), human resource management (Jameson, 2000), strategy and firm experience (Ahmet, 1993; Liargovas & Skandalis, 2010), and marketing strategy development (Morgan et al., 2003). These organizational business performance factors are strengths if the firm performs them better and weaknesses if the firm performs them worse than competitors. Thus, managing these factors is key to continued success of the firm.

Identifying organizational business performance factors

Not all organizational business performance factors contribute equally to firm success, depending on the nature and objectives of the firm and its context. Organizational business performance factors that are considered critical for firm performance are known as critical success factors (CSFs) (Dadashzadeh, 1989). The concept of CSFs first appeared in the literature in the 1980s when there was interest in why some organizations seemed to be more successful than others, and research investigated the success components (Ingram et al., 2000).

Critical success factors are defined in different ways in the literature (Amberg et al., 2005). There are two broad views on CSFs. The first is to consider CSFs as necessary conditions for the survival of the firm. CSFs are "those things that must be done if a company is to be successful" (Freund, 1988). Saraph et al. (1989) viewed CSFs as those critical areas of managerial planning and action that must be practised in order to achieve effectiveness. Brotherton (2004a) considers CSFs to be combinations of activities and processes that must be designed to achieve outcomes specified in the company's objectives or goals. Rockart (1979) explains CSFs as "the limited number of areas that, if they are satisfactory, ensure successful competitive performance for the organization." The second view is to consider CSFs as conditions that significantly improve the performance of the firm. Pinto & Slevin (1987) defined CSFs as "factors, which, if addressed, significantly improve performance." When those factors do not addressed properly, the performance of the organization will be less than defined. In both views, as the name implies, CSFs are a limited number of factors that significantly influence the performance of the firm (Selim, 2007). For the present study, from the perspective of SPCs in Ethiopia, CSFs are viewed as those activities and practices that improve the performance of the firm, which is in line with the second view.

As identified in the literature CSFs are highly diverse, including among many: effective business strategies (e.g. Chen & Jermias, 2014), manpower and skills (e.g. Lin & Wu, 2012; Theodosiou et al., 2012), and leadership quality (e.g. Carmeli et al., 2010). Business strategy can be described as a company's behaviour in the market, including policies, plans and procedures (Gemunden & Heydebreck, 1995; Porter, 1980). It is generally assumed that a well-planned strategy helps in leading a firm to success (Lynch et al., 2000). This holds also for marketing strategy which plays a central role in winning and retaining customers, ensuring business growth and renewal, developing sustainable competitive advantages, and driving financial performance (Srivastava et al., 1998). Manpower and skills enable firms to make use of their resources in pursuing managerial objectives (Droge et al., 1994). Leadership quality is expected to inspire, guide and energize employees, to set standards and

mobilize people to make extraordinary things happen in firms, to overcome uncertainty, turn visions into realities and move organizations forward (Kouzes & Posner, 2012). Leadership quality facilitates organizing and integrating activities for firm performance (Campbell et al., 2009; Kouzes & Posner, 2012; Martin, 2007; Puni et al., 2014).

Most CSFs remain fairly constant over time, though they may change as the firm's environment changes (Bullen & Rockart, 1981). CSFs may change over time depending on how the firm adapts to the external environment, including customers, competitors, suppliers, and regulators (Caralli, 2004). Thus, CSFs need to be reviewed periodically. For example, new legislation for the hotel industry on the privacy of customer information may result in a CSF like 'customer information management' for all businesses in this industry. CSFs could also differ from firm to firm, and from manager to manager (Caralli, 2004). There are many levels of management in a typical organization, each of which may have vastly different operating environments. For example, executive-level managers may have CSF such as managing strategic relationships with business partners; and line-level managers may have CSF such as training employees (Caralli, 2004). Once a firm has identified its CSFs, it should properly maintain and manage those factors to compete successfully in a particular industry (Leidecker & Bruno, 1984).

Marketing activities and firm performance

Performance of firms is influenced by various marketing activities (Forman & Hunt, 2005). Marketing activities facilitate firms to exploit opportunities and satisfy customer needs. Marketing activities influence various performance measures such as customer acquisition, satisfaction, and retention, and financial performance (e.g. revenue, profit) (Katsikeas et al., 2016; Kim & Ko, 2011). Firms can recognize and exploit opportunities to more efficiently or effectively serve customer needs through the implementation of marketing activities (Webb et al., 2010). The competitive environment of modern day firms necessitates the successful implementation of marketing activities (Appiah-Adu et al., 2001). Through efficient implementation of marketing activities, firms respond effectively to changes in the needs of customers (Holcombe, 2003). Moreover, marketing activities build long-term assets of firms such as brand equity (Rust et al., 2004).

Literature has identified marketing activities that increase performance (Scott-Young & Samson, 2008). The importance of marketing activities depends on the objectives, the strategy and the implementation capabilities of the firm (Mokhtar et al., 2009). Those marketing activities that significantly contribute to firm performance should receive high priority (Kumar et al., 2011).

Identifying marketing activities as CSFs is crucial for marketers to obtain budget for their implementation (Morgan, 2012). Research in marketing has increasingly focused on building knowledge about how firms' marketing activities contribute to performance outcomes. In the context of small firms in the US, Dunn et al. (1986) identified key marketing activities. These activities relate to product (planning, schedules, service), sales (general sales, control, forecast, training, recruiting), control (inventory, quality), relations (customers, dealers, public), market research, pricing, advertising, warehousing, packaging, and credit extension. Siu (2009) explored to what extent internet-based and traditional small firms in Taiwan differ in the execution of these marketing activities (Dunn, 1986). He found that both internet-based and traditional small firms focus on sales, product planning, and customer relationships. However, traditional firms emphasize quality control, while their internet-based counterparts focus more on dealer relationships and sales forecasts. This demonstrates similarities and differences of marketing activities as CSFs across firm types. Cooper & Kleinschmidt (1993) considered market assessment (study), product and customer tests, and technical assessment as CSFs for new product development success. Marketing activities such as targeting strategy, quality product, employees training, pricing mechanisms, and product promotion were used to explain small firms overall business performance in the UK (Wood, 2006).

Market orientation and marketing activities

Literature presents strong evidence for the positive contribution of market orientation to firm performance (Cano et al., 2004; Kirca et al., 2005). Market orientation provides a business with a better understanding of its customers, competitors, and environment, which subsequently leads to superior performance (Kirca et al., 2005). Market orientation urges employees to develop and exploit market information to create and maintain superior customer value (Narver & Slater, 1990). In this study, we view market orientation as the extent to which culture is devoted to meeting customers' needs and outperforming competitors (Narver & Slater, 1990). Market-oriented firms implement marketing activities to achieve their objectives (e.g. satisfaction of their customers). Market orientation influences performance through effective implementation of marketing activities (Hult et al., 2005). Han et al. (1998) explained that market orientation remains incomplete if it is not understood through which activities a market-oriented culture is transformed into superior value for customers.

Market-oriented culture of a firm embodies values and beliefs that guide organizational activities that enhance performance (Langerak et al., 2004), and provides a unifying focus for the efforts and projects of individuals and departments within organizations (Baker & Sinkula, 1999a). Market

orientation culture motivates and inspires the implementation of various marketing activities, which eventually influences firm performance (Atuahene-Gima 1996; Gatignon & Xuereb, 1997; Jorge et al., 2012; Langerak et al., 2004; Moorman, 1995).

The influential body of literature in the field of strategic management emphasizes the importance of firm resources and their implications for firm performance, which is a basis for the resource-based view (RBV). Firm resources include both tangible (physical) assets (e.g. machines, buildings, labor) and non-tangible (non-physical) assets (e.g. information, knowledge, reputation) (Teece et al., 1997). RBV deals with how a firm's resources influence performance (Hult et al., 2005). Firms need to access resources to implement marketing activities and increase positional advantage, which in turn enhances performance (Ketchen et al., 2007). RBV suggests that a firm has a foundation for a sustained competitive advantage if its resources provide value to customers, are superior to those of competitors, and are difficult to imitate or substitute (Barney, 1991). However, RBV is criticized as it lacks to explain how resources are developed and deployed to achieve competitive advantage, and it does not consider the impact of dynamic market environments (Lengnick-Hall & Wolff, 1999; Priem & Bulter, 2001).

To address these limitations, the dynamic capabilities view (DCV) is proposed (Newbert, 2007). Scholars of the DCV extend RBV to examine the influence of dynamic markets (Helfat & Peteraf, 2003). According to Teece et al. (1997), dynamic capability is defined as "the firm's ability to integrate, build and reconfigure internal and external competences to address rapidly changing environments." The DCV posits that since marketplaces are dynamic, what explains interfirm performance variance over time is the capabilities by which firms' resources are acquired and deployed in ways that match the firm's market environment (Eisenhardt & Martin, 2000; Makadok, 2001). The dynamic capabilities of the firm should be better than its counterparts to perform well in the market place (Bingham et al., 2007). Teece et al. (1997) describe that capabilities are dynamic when they enable the firm to implement new strategies to reflect changing market conditions by combining and transforming available resources in new and different ways. Based on RBV and DCV, our argument is that marketing activities require resources and capabilities if its value to the firm is to be fully realized (Dutta et al., 2005; Morgan et al., 2009). Prior studies integrate RBV of the firm and the DC perspective with marketing theory (Bharadwaj et al., 1993). Not all firms are able to generate and sustain competitive advantage by implementing a market orientation (Day, 1994; Hunt & Morgan, 1995). Those market-oriented firms that enable the use of their resources effectively and efficiently could implement marketing activities, which eventually provide greater improvement for

firm performance. Market orientation, in isolation, is unlikely to qualify as dynamic capability; it needs to be complemented by other internal resources that will lift its competitive value (Menguc & Auh, 2006; Moorman & Slotegraaf, 1999). Market orientation encourages firms to use their capabilities to coordinate resources (e.g. employees) in order to better serve customers (Hult et al., 2005). To perform marketing activities effectively and efficiently firms need resources and capabilities to coordinate those resources.

Conceptual framework

Literature reveals that market orientation inspires the execution of various marketing activities (e.g. Jorge et al., 2012) facilitated by the firm's resources and capabilities (Menguc & Auh, 2006). The way how firms execute these marketing activities affects performance. This is governed by the level of intensity and quality of execution of the marketing activities. The intensity of execution refers to what degree the firms are practicing marketing activities (i.e. frequency); whereas the quality of execution refers to the way in which firms are practicing marketing activities (i.e. how good they do it). Higher execution of intensity and quality could lead to higher firm performance.

There is a positive association between market orientation components and performance in the Ethiopian SPCs context. The present study augments this work by identifying the specific marketing activities that drive firm performance. The performance of SPCs is influenced by the effective and efficient execution of marketing activities both in terms of intensity and quality. The effective execution of marketing activities requires resources and capabilities. Market orientation in the Ethiopian SPCs context comprises customer orientation, competitor orientation, interfunctional coordination, and supplier orientation. Performance includes customer satisfaction, financial performance, and members' livelihood performance. In Figure 6.1, we show a conceptual framework relating market orientation, and the intensity and quality of execution of marketing activities, to outcomes. The expectation of this relationship is that market orientation stimulates SPCs to execute key marketing activities (both in terms of intensity and quality), and the effective execution of these activities eventually influences performance.

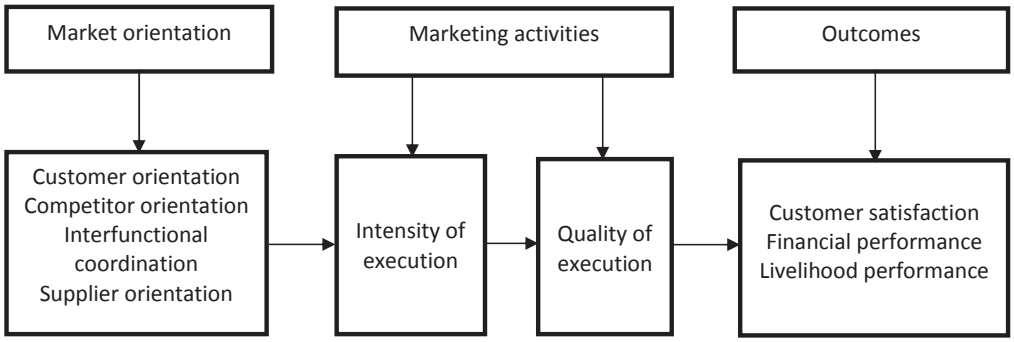


Figure 6.1: Conceptual framework

6.3 Methods

Seed producer cooperatives categorization

Data were collected from 24 SPCs in Ethiopia. These SPCs were selected based on the assessment of the market orientation-performance relationship in previous research and profiled in terms of self-rated level of marketing orientation and performance. Based on these self-assessments, SPCs were priori classified into two distinct groups: (1) high market orientation and high performance (11 SPCs) i.e. high performing SPCs; and (2) low market orientation and low performance (13 SPCs) i.e. low performing SPCs. Classification was based on the median scores for market orientation and overall performance.

Sample selection

Data were obtained from experts, selected on the basis of their experience with and knowledge of the marketing activities and performance of the 24 SPCs included in the study. We identified experts that are experienced with seed business in Ethiopia and have an in-depth understanding on the SPCs. Experts included three university instructors who have many years of teaching and research experience and participated in seed projects to support SPCs, 13 project officers (from seed business projects and NGOs) who are among the best experts in sustainable seed business development of SPCs in Ethiopia, and three experienced local experts closely working with SPCs. Of the 19 experts involved, sixteen hold an MSc degree and three a BSc degree in the field of agribusiness, cooperative marketing, economics or seed sciences.

Procedure

Experts were contacted in person and by telephone, and asked to participate in the research. Those that agreed were further briefed about the objective of the research, the reason why they were selected to participate in the study, and reassured about the anonymity of their responses. Then, the questionnaires were handed over to the experts either during face-to-face contact or via mail. To ensure timely completion, help and reminders were given via regular telephone communication. Experts were identified from different organizations that are working with SPCs. Experts evaluated a specific SPC only when they were familiar with its marketing activities and performance. As a result each SPC was evaluated by one to four experts, and mostly by two experts. A total of 52 questionnaires across the 24 SPCs was obtained.

Measures

Marketing activities

Specific marketing activities were identified that relate to the market orientation of SPCs. Prior research reported that supplier orientation next to customer orientation, competitor orientation, and interfunctional coordination are defining factors of market orientation practices among Ethiopian SPCs. Initially, a gross list of marketing activities was identified based on literature review and SPCs' experience. Marketing activities that were identified from literature ranged from activities limited to the specific firm (e.g. in-house product testing) to activities that are broadly applicable to most firms (e.g. quality control). Further, a number of specific marketing activities were considered that the Ethiopian SPCs are practicing based on the previous study. Experienced experts were consulted to comment on the proposed list of marketing activities taken from the literature and local practices. A series of consultations with experts helped to identify and remove those marketing activities that could not sufficiently represent the SPCs context (e.g. market research) and that were found redundant and having similar meaning. As a result, the process identified 15 marketing activities potentially related to performance of the SPCs in Ethiopia, and these were categorized under the four components of market orientation. *Customer orientation* included five marketing activities, namely (1) quality control of product (seed), (2) collection of information on customer needs, (3) assessment (verification) of customers' satisfaction, (4) responsiveness to customer needs and complaints (volume, diversification), and (5) direct customer visits to maintain customer relations. *Competitor orientation* comprised three marketing activities, namely (1) differentiation of product from competitors, (2) collection of information on competitors' activities, and (3) responsiveness to competitive actions (pricing). *Interfunctional coordination* included five marketing activities, namely (1) their leaders motivating committees and members, (2) committees'

communication and integration, (3) sharing of information within the cooperative, (4) their leaders integrating activities, and (5) inter-committee discussion on market trends and developments. *Supplier orientation* involved two marketing activities, namely (1) meeting with suppliers for opportunities (approach suppliers), and (2) maintaining relationships with suppliers (supplier relations).

For all 15 marketing activities experts rated the intensity and quality of execution. Intensity of execution of marketing activities was defined as the frequency with which an SPC practices the marketing activity and was rated on a five-point Likert scale with scale points rated as never, seldom, sometimes, often and constantly. Quality of execution of marketing activities was defined as the way in which an SPC implements the marketing activity, measured on a five-point Likert scale with scale points rated as poor, fair, satisfactory, good and excellent.

After rating the marketing activities on their intensity and quality of execution, experts were asked in open response format to elaborate on their ratings by explaining the current practices of the specific SPCs. Experts described the behaviours of the SPCs for each of the marketing activities. Moreover, they were asked to suggest areas of improvement that the SPCs should consider in order to improve their performance. The qualitative data were aggregated into the four components of market orientation.

Performance

Expert ratings of SPC performance were collected to validate the a priori classification on self-rated performance. Performance was measured on 11 performance indicators categorized under three dimensions based on previous research: customer satisfaction, financial performance, and members' livelihood performance. *Customer satisfaction* was measured with four indicators (1) customers getting (acquiring) the quality seed they want, (2) receiving positive feedback from customers, (3) customers' intention to buy the seed from the firm, and (4) customers repeat purchasing the seed. Financial performance included four indicators, namely (1) the firm increasing its assets, (2) the firm increasing its market share, (3) the firm shows progress in capital improvement, and (4) the firm increasing its net profit. Members' livelihood performance was measured with three indicators, namely (1) members' family having sufficient food throughout the year, (2) improvement in the quality of members' house, and (3) members having basic (necessary) household equipment. The performance measures were assessed on a five-point Likert scale with scale points rated as strongly disagree, disagree, neutral/uncertain, agree and strongly agree.

Data analysis

Quantitative and qualitative procedures were employed in data analysis. Repeated measures analysis of variance was used to assess the association between the intensity and quality of execution of the marketing activities among high and low performing SPCs. Analysis of variance was also used to assess the difference between high and low performing groups for implementation of marketing activities. Comparisons between the high and low performing groups were based on two sample *t*-tests. Expert-based performance measures for the two groups were similarly compared between the two groups by means of two sample *t*-test. To complement the quantitative analysis, qualitative experts' judgements (elaborations and suggestions) were summarized and aggregated on the basis of the four components of market orientation. We assessed the similarities and differences of the two groups in the execution of the marketing activities, and specific recommendations of the experts. SPSS software was used for data analyses.

6.4 Results

Comparison of intensity and quality execution of marketing activities

As each expert provided multiple ratings, the associations between the intensity and quality of execution of marketing activities both for high and low performing SPCs were assessed using repeated measures ANOVA based on the averaged data per SPC. Results (reported in Table 6.1) show the main and interaction effects for intensity versus quality ratings (I_Q), the different marketing activities (item), and the high versus low performing groups of SPCs (group). The scores for intensity and quality of execution in the Ethiopian SPCs are significantly different overall (F=18.787; p<0.000) reflecting the different response scales for intensity and quality. The scores of intensity and quality of execution also significantly differ between the high and low performing SPCs (F=10.39; p=0.004) showing that the difference between intensity and quality is not equal between the two groups. The scores between marketing activities are significantly different (F=18.34; p<0.000; see Figure 6.2) indicating that the influence of various marketing activities differs. The differences among marketing activities are also significantly different between the high and low performing SPCs (F=2.827; p=0.006). However, the results also show that the patterns of intensity versus quality of execution ratings do not differ across the marketing activities (F=0.480; p=0.894) and that these do not differ between the high and low performing groups of SPCs (F=1.016; p=0.507). Together these results show that ratings of quality of execution do not provide unique information compared to those on intensity of execution (and vice versa). This may indicate that intensity of practice increased goes hand in hand with quality of execution. Hence, we further only discuss the intensity of execution of marketing activities between high and low performing groups of SPCs. Results also illustrate the

significant differences between the two groups (F=44.03; p<0.000) regarding the implementation of the marketing activities.

Table 6.1: Effect and pattern of intensity and quality of execution

Effect		Value	F	Hypothesis df	Error df	Sig.
I_Q	Roy's Largest Root	0.854	18.787	1	22	0.000
I_Q*group	Roy's Largest Root	0.472	10.390	1	22	0.004
item	Roy's Largest Root	28.529	18.340	14	9	0.000
item*group	Roy's Largest Root	4.397	2.827	14	9	0.006
I_Q*item	Roy's Largest Root	0.747	0.480	14	9	0.894
I_Q*item*group	Roy's Largest Root	1.581	1.016	14	9	0.507
group			44.03	1	22	0.000

NB: I=intensity; Q=quality; item=marketing activity; group=high and low performing groups

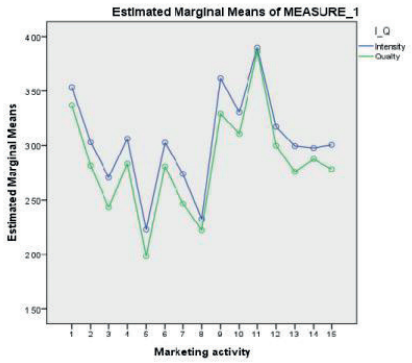


Figure 6.2: Overall association between intensity and quality of execution

Intensity of execution of marketing activities

Table 6.2 compares the similarities and differences between high and low performing SPCs in terms of the intensity with which marketing activities are executed. The results show that, for almost all marketing activities, high performing SPCs outperform low performing SPCs in terms of intensity with which these marketing activities are being implemented. However, from the mean ratings (5 point scale) it is evident that some of the key marketing activities are more common than others.

For customer orientation, high performing SPCs conduct quality control to improve seed on a regular basis as well as collecting and responding to customer information. However, direct customer intimacy, through direct visits to customers is much less common. This indicates that Ethiopian SPCs have limited experience in direct customer visit regardless of their level of performance. Despite these varying levels of implementation intensity, all customer related marketing activities significantly differentiate high performing SPCs from their low(er) performing counterparts. Concerning competitor orientation, all competitor related marketing activities are significantly different between high and low performing SPCs. High performing SPCs make efforts to differentiate their products and collect competitor information. However, responding to competitive actions (e.g. pricing) is uncommon. Low performing SPCs generally show lower frequency of implementation in competitor related marketing activities than other marketing activities associated with customers, internal coordination and suppliers. All, except sharing information, interfunctional coordination related marketing activities significantly differentiate high performing SPCs from low performing SPCs. High performing SPCs often perform better in motivating members, interdepartmental communication, and integrating activities than low performing SPCs. Social networks and strong cultural practices assure that both high and low performing SPCs are effective in sharing of information within the firm. In general Ethiopian SPCs show more marketing activities related to interfunctional coordination than marketing activities associated with customers, competitors and suppliers. Supplier related marketing activities significantly differentiate high performing SPCs from low performing SPCs. High performing SPCs often meet and approach suppliers and make an effort to maintain relationships with suppliers. Low performing SPCs seldom have contact with suppliers. This indicates better performing capacity (network, external contact) of high performing SPCs than low performing SPCs to access the necessary inputs particularly basic seed.

Table 6.2: Intensity of execution of marketing activities between the two groups

Variable	Performance		Two sample *t*-test results		Effect size
	High(n=11) Mean(SD)	Low(n=13) Mean(SD)	*t*(df=22)	*P* value	
Customer orientation					
Quality control of product (seed)	4.03(0.47)	3.03(0.64)	4.392	0.000	1.00
Collection of information on customer needs	3.52(0.55)	2.54(0.44)	4.717	0.000	0.98
Assessment (verification) of customers' satisfaction	3.03(0.47)	2.38(0.51)	3.229	0.004	0.65
Responsiveness to customer needs and complaints (volume, diversification)	3.47(0.48)	2.65(0.52)	3.999	0.001	0.82
Direct customer visits to maintain customer relations	2.52(0.64)	1.94(0.48)	2.504	0.022	0.58
Competitor orientation					
Differentiation of product from competitors	3.62(0.38)	2.42(0.67)	5.283	0.000	1.20
Collection of information on competitors' activities	3.26(0.74)	2.21(0.43)	4.334	0.000	1.05
Respond to competitive actions (pricing)	2.59(0.49)	2.06(0.61)	2.364	0.027	0.53
Interfunctional coordination					
Their leaders motivating committees and members	4.28(0.61)	2.94(0.74)	4.912	0.000	1.34
Committees' communication and integration	3.96(0.72)	2.65(0.58)	4.849	0.000	1.31
Sharing of information within the cooperative	4.00(0.10)	3.79(0.39)	1.709	0.102	0.21
Their leaders integrating activities	3.48(0.61)	2.86(0.39)	2.952	0.007	0.62
Inter-committee discussion on market trends and development	3.38(0.42)	2.61(0.54)	3.926	0.001	0.77
Supplier orientation					
Meeting with suppliers for opportunities (approach suppliers)	3.48(0.55)	2.47(0.80)	3.599	0.002	1.01
Maintaining relationships with suppliers (supplier relations)	3.57(0.57)	2.44(0.95)	3.555	0.002	1.13

n=number of SPCs

Experts' judgement on SPCs' performance

Table 6.3 shows that the expert judgments on performance by and large confirm the self-rated performance by the SPCs. Significant differences exist between the two groups for all performance measures (customer satisfaction, financial performance, and members' livelihood improvement). The largest differences were observed for financial performance confirming that high performing SPCs are better in financial capabilities than low performing SPCs. In particular, a big difference was observed between the two groups for increased market share (volume of seed sold), which indicates the better capabilities of high performing SPCs in supplying larger quantity of higher quality seed into the market than low performing SPCs. Low performing SPCs exhibit lower capital improvement and lower net profit gain than high performing SPCs. Considerable differences were also observed

between the two groups for measures of customer satisfaction particularly for perceived quality seed. For the case of members' livelihood improvement, the highest difference was observed for having sufficient food throughout the year. Both groups performed well in increasing their assets.

Table 6.3: Comparisons between the two groups in terms of performance based on experts judgement

Variable	Performance		Two sample *t*-test results		Effect size
	High(n=11) Mean(SD)	Low(n=13) Mean(SD)	*t*(df=22)	*P* value	
Customer satisfaction					
Customers getting (acquiring) the quality seed they want	4.04(0.33)	3.23(0.43)	5.172	0.000	0.81
Receiving positive feedback from customers	3.91(0.49)	3.26(0.55)	3.045	0.006	0.65
Customers' intention to buy the seed from the firm	3.62(0.73)	2.74(0.91)	2.618	0.016	0.88
Customers repeat purchasing the seed	3.86(0.64)	2.85(0.75)	3.553	0.002	1.01
Financial performance					
The firm increasing its assets	4.28(0.45)	3.03(0.69)	5.272	0.000	1.25
The firm increasing its market share	4.16(0.55)	2.83(0.61)	5.583	0.000	1.33
The firm shows progress in capital improvement	3.91(0.53)	2.75(0.69)	5.061	0.000	1.16
The firm increasing its net profit	3.96(0.56)	2.75(0.69)	4.733	0.000	1.21
Livelihood performance					
Members' family having sufficient food throughout the year	4.04(0.72)	2.89(0.48)	4.483	0.000	1.15
Improvement in the quality of members' house	4.01(0.59)	3.26(0.55)	3.214	0.004	0.75
Members having basic (necessary) household equipment	3.81(0.39)	3.27(0.35)	3.524	0.002	0.54

n=number of SPCs

Further elaboration by experts

This section summarizes experts' more detailed qualitative information on why and how high performing SPCs executed the marketing activities better and more frequently than low performing SPCs. In addition we present experts' specific suggestions on how SPCs might practice activities in order to improve their performance.

Customer orientation

In relation to customer orientation related marketing activities, experts emphasised that SPCs traditionally have quality control committees (or a sort of responsible body) in place for

implementing quality control of product (seed). Compared to low performing SPCs, high performing SPCs are typically characterised by more capable and better experienced committees with clear tasks and responsibilities, and members with more technical skills. They also have strong internal bylaws to maintain the seed quality that their members must follow showing high performing SPCs have better capabilities of internal management. Experts highlighted that high performing SPCs manage to get access to high quality basic seed from suppliers, implement better agricultural technologies and practices, and more often work with an external quality assurance agency. Also, whereas low performing SPCs tend to rely entirely on externals as a source of customer needs, high performance SPCs augment such knowledge through direct contacts with final buyers (customers) using formal and informal approaches. Experts described that high performing SPCs sometimes directly visit customers' field to get feedback or acquire feedback via telephone. However, SPCs do not have sufficient experience to assess customers' satisfaction in more formal ways.

Experts emphasize the importance of accurate information about the needs of prospective buyers (customers) before the start of seed production. Therefore, experts suggest all SPCs should visit their customers and use all the possible mechanisms (both formal and informal) to assess the level of their customers' satisfaction. Experts advised for SPCs to visit their customer farmers field to receive direct feedback. In particular low performing SPCs should focus on the strengthening of their internal seed quality control mechanisms, closely working with external seed quality assurance agencies, and increase the seed production skills of their members through trainings.

Competitor orientation

Concerning competitor orientation related marketing activities, experts agreed that most SPCs commonly produce only a few types of crops or varieties (e.g. bread wheat, tef). However, experts also mentioned that most high performing SPCs are capable in, and have better experience of, producing diversified crops and varieties and/or unique crops (e.g. onion, haricot bean, hybrid maize, pulse crops etc.) than low performing SPCs. According to experts, these unique crops have high local and international market demand. Experts also indicted that high performing SPCs produce seeds that require high skills and effective coordination, something that their lower performing competitors cannot achieve easily. A few of the high performing SPCs, according to experts, engage in seed value addition activities and fulfil the legal seed quality certification standards; but both high and low performing SPCs lack defined strategies to differentiate themselves from what competitors do. Experts described that high performing SPCs are trying to access competitors' information through secondary sources, but that most low performing SPCs do not bother about competition. In

general Ethiopian SPCs accidentally gather information about competitors during various formal and informal events such as in workshops, local administrative meetings, field days, exhibitions, seed fairs, religious and local festivities. Experts mentioned price adjustment and large volume seed supply are some of the activities that high performing SPCs practice to respond for competitive actions. Experts agreed that Ethiopian SPCs do not perform as expected on competitor-oriented marketing activities compared to other activities related to customers, internal coordination and suppliers.

In this regard, experts highlight the consideration of competitor-related marketing activities if SPCs want to perform well in the market. Hence, the suggestions of experts for low performing SPCs are that they should include unique crop seed (e.g. onion, haricot bean, hybrid maize, pulse crops etc.) in their production portfolios and train their members to have special skills to produce and maintain the seed quality according to the standards. They should also clearly know first their target competitors and design specific responsive mechanisms. The specific mechanisms include price adjustment, seed value addition activities, and the production of crops that have high local demand and for which big companies have low interest. Leaders of low performing SPCs should approach partner organizations to acquire knowledge to identify their competitors. In specific, Ethiopian SPCs should develop strategies to assess precise information about their competitors using various mechanisms executed by themselves and through partners in the network. They should also develop adaptation strategy to tackle the competitors' actions.

Interfunctional coordination

For interfunctional coordination related marketing activities, experts underlined that the vast majority of leaders in high performing SPCs are capable of motivating members and committees through official recognition, awards and financial rewards (e.g. money, farm tools, certificates). According to experts' elaboration, the capacities of leaders from high performing SPCs are associated with their higher level of commitment, dedication, experience, and skills than that of leaders from low performing SPCs. Low performing SPCs do not reward members and they have limited experience with informal ways to giving recognition. Leaders of high performing SPCs provide members access to inputs (basic seed), which is an effective motivator for members. Experts mentioned that high performing SPCs usually do have more specialized committees with clear tasks and responsibilities than low performing SPCs indicating more specialization and a higher need of integrate the activities. High performing SPCs also assign specific tasks to appropriate committees and/or individual members, and constantly oversee those tasks. Experts also described that in the

majority of high performing SPCs, there are regular meetings among leaders (almost every two weeks), and among various committees (almost every month), which reflects the good communications between committees. They discuss various seed business issues including what they should produce, where and how to sell the seed, the volume and quality of seed, price mechanisms, customer handling and relationships, seed value additions, and access to basic seed from suppliers. In low performing SPCs leaders meet irregularly, not frequently, and in some cases don't meet for several months. Experts agreed that both groups of SPCs perform well in sharing information driven by strong cultural practice in the community. Experts highlighted that most high performing SPCs have well-developed plans (year and/or multiple year planning) which is absent in the majority of low performing SPCs.

According to experts' suggestions, low performing SPCs should assign leaders that have commitment, dedication, experience, and skills to coordinate activities. Experts stressed that low performing SPCs should take lessons from high performing SPCs and implement specialised committees and guarantee connectedness between them, increase the frequency of committee meetings, and discuss critical market developments and trend. Rewards have social value in the rural community, so low performing SPCs should practice to acknowledge the efforts of leaders and their members through various reward mechanisms for better motivation. For high performing SPCs, experts suggested that they should recruit professional managers to minimize the leaders' work load and cherish their commitment.

Supplier orientation

Regarding supplier orientation related marketing activities, experts described that high performing SPCs have direct and frequent contact with suppliers. However, in the low performing SPCs contact with suppliers is mostly limited to when they need basic seed during planting time. Experts underlined the efforts of high performing SPCs to request support from other stakeholders (research institutes, GOs and NGOs) to maintain their relationship with suppliers. They often approach and negotiate with suppliers to access inputs ahead of planting time. Experts emphasised that high performing SPCs often work in contractual seed production and marketing arrangements with suppliers, other big seed enterprises and seed unions, which helps them to secure the basic seed and maintain the relationship. Experts described that high performing SPCs have good experience in working with research institutes and suppliers during seed (varieties) testing and demonstrations. In most cases, suppliers consider high performing SPCs as their strategic and loyal partners. Low

performing SPCs are largely dependent on external support to access inputs (particularly basic seed) from suppliers.

In terms of suggestions, experts emphasised that all SPCs should review periodically their relationships with suppliers and plan actions when improvements are needed. In particular for low performing SPCs, experts recommended that they should approach suppliers not only to obtain seed, but focus also on long-term relationships, and meet frequently to develop good firm-supplier relationship. Moreover, they should signal their demand ahead of time and should avail themselves as strategic partners for suppliers in joint seed demonstration and production activities. For high performing SPCs, experts suggested that they should clearly consider supplier relations as part of their business strategy as suppliers can influence the quality, timeliness and competitiveness of their product. Since a few seed suppliers are found in Ethiopia, experts advised SPCs to be patient and keep their relationship with suppliers even sometimes suppliers are not able to keep their promise.

6.5 Conclusion

This study shows a clear difference between high and low performing SPCs in the implementation of marketing activities revealing marketing activities as CSFs. The strong association between intensity and quality of execution for individual marketing activities shows that intensity results in quality of execution in the Ethiopian SPCs context. The effect of intensity and quality cannot be disentangled in the Ethiopian SPCs context. Low performing SPCs implement marketing activities less frequently than high performing SPCs, except for sharing information within the SPCs, which is a common practice for all SPCs regardless of their level of performance. In general, Ethiopian SPCs performed well on marketing activities related to interfunctional coordination, but poorly implemented activities associated with competitor orientation.

The study reveals that the implementation of key marketing activities is crucial for the sustainable competitive advantage of SPCs in Ethiopia. Our findings suggest that SPCs are likely to perform better if they use a variety of marketing activities focussed on customers, suppliers and competitors and inter-committees integration. More specifically, Ethiopian SPCs have to give due attention to the implementation of marketing activities related to quality control, product diversification, assessment of customers and competitors, motivation and integration of activities by leaders, and maintenance of relations with suppliers. Hence, the study lends support to the assertion that SPCs need to strengthen their capabilities to combine and coordinate their resources in an efficient way in order to execute the marketing activities. Moreover, government organizations, NGOs and seed related

projects could play an important role in strengthening the capabilities of the SPCs to perform marketing activities that enhance their performance.

6.6 Discussion

Our findings reveal that the performance of SPCs is influenced by effectively and efficiently implementing marketing activities identified as CSFs. High performing SPCs implemented marketing activities more and better than low performing SPCs, which suggests that these marketing activities are CSFs. These marketing activities can be managed by SPCs themselves. The finding shows that effective implementation of marketing activities remains a key strategy for SPCs to improve their performance.

In extant literature in marketing and strategic management (e.g. Morgan et al., 2009), it is suggested that market orientation inspires the implementation of marketing activities based on the resources that firms have and their capabilities to coordinate these resources effectively and efficiently. Our findings of a significant difference between high and low performing SPCs in implementation of these marketing activities is consistent with this view. Most high performing SPCs have strong leaders, members with better knowledge and skills, and have better external linkage with suppliers and other supporting organizations than low performing SPCs. These, in turn, help them to give special attention and devote their resources to the implementation of the key marketing activities.

The findings of this study show a strong association between intensity and quality of execution of marketing activities in the current Ethiopian SPCs context. More specifically, contrary to our expectation, the study does not support the significant difference between intensity and quality of execution for marketing activity in SPCs context. The patterns of intensity and quality of implementation of marketing activities are found to largely overlap. One possible explanation for absence of a significant difference between intensity and quality of execution is that intensity of execution ultimately results in quality of execution. In other words, for the current SPCs, we do not find unique contributions to performance of quality of execution over and above intensity of execution of marketing activities. It may be that the intensity of execution increases the quality of execution. In the current Ethiopian SPCs situation, the implementation frequency of the marketing activities is considered as very important rather than quality of implementation.

As reported in the literature (e.g. Carmeli et al., 2010; Kouzes & Posner, 2012; Puni et al., 2014), the role of mangers (leaders) is indispensable for the implementation of marketing activities and thus to

ensure firm performance. Our findings indicate that leadership quality of SPCs differentiates SPCs in effective implementation of marketing activities and consequently in performance. Empowered leadership is the base for the success of the business. In the case of SPCs, the role of cooperative leaders is an important element that has a significant impact on business culture. The leader's commitment, motivation, and experience determines the efficient way of integrating various firm resources and activities. Leaders' motivation could attract members in and inspire members to committing themselves to the success of the business. The considerable variation among Ethiopian SPCs depends on the knowledge and experience of leaders, which can foster or inhibit the development of cooperative's success (Subedi & Borman, 2013). The role of leaders (top management) would help a firm to achieve its objectives (Jaworski & Kohli, 1993).

The implementation of customer-focused marketing activities contributes to SPCs performance. The proper implementation of marketing activities that related to customer orientation could help SPCs to create and maintain high value products for customers. SPCs that develop and strengthen their customer-focused marketing activities also increase their customers' satisfaction, market share and profit (Chi & Gursoy, 2009). As the firm can satisfy its customers, the willingness of customers to pay for the product increases which eventually improves the performance of the firm. This confirms the effect of customer-focused marketing activities on the various performance measures (Joung et al., 2015; Lings & Greenley, 2010). However, SPCs' performance on direct customer visits (customer relations) is low. Visiting customers, to offer them adequate after-sales service, is a major generator of revenue, profit and competency in modern competitive markets (Cohen & Kunreuther, 2007; Cohen et al., 2006). Nevertheless, in most cases, SPCs do not have experience in after-sales service which is a common limitation of small businesses and marketing cooperatives in D&E economies. SPCs should give priority to customer-focused marketing activities, which also is the main concern for IOFs.

Significant variations were observed between high and low performing SPCs in supplying the large quantities of higher quality seed to the market that customers need. Quality seeds in this context refers to seeds that have desirable agronomic (e.g. yield) and quality (e.g. colour, texture, size) attributes that final customers (farmers) want (Thijssen et al., 2008). Seed is a complex business that requires special skills, experience and high level of commitment to provide quality seed for customers. It is closely interlinked with the farm management skills of member farmers and leaders' commitment in motivating members and integrating various activities. The knowledge and skills on seed production techniques are the determinant factors for the better performance of SPCs (Subedi

& Borman, 2013).

In general Ethiopian SPCs show little marketing activities associated with competition, though we found significant variations between high and low performing SPCs in implementing competitor-focused marketing activities. Low performing SPCs do not bother about competitors and have very limited practices in competitor-related marketing activities. Concerning price, for example, they do not try to set the seed price by considering competitors' price. High performing SPCs have experience in supplying diversified and unique crops (seeds) indicating their attempt to differentiate products. SPCs need to pay attention to competition, if they want to perform well in competitive markets.

To improve performance, SPCs should develop better relationship with suppliers. Our findings show that, in general, high performing SPCs have better relationships with input suppliers (i.e. in particular basic seed) than low performing SPCs. In seed business context of D&E economies like Ethiopia where the public organizations are responsible for development of new seeds, basic seed shortage is a major challenge both for small as well as large seed enterprises. Without reliable seed supply sources, it is difficult to continue a smooth operation of the seed business. Thus, for SPCs approaching and working with these seed suppliers is the only possible solution to access seed. SPCs having strong relationships with suppliers can enhance their market share and meet the quality standards set forth to satisfy the needs of their customers. The activities of the firms towards supplier orientation can improve their marketing activities and enhance performance (Asare et al., 2013; Hassan et al., 2014; Schiele, 2012).

The non-significant difference between high and low performing SPCs in sharing information within the cooperative shows the presence of common cultural practices of SPCs in this regard. SPCs practice sharing information regardless of their level of performance. The most probable explanation for this is that the presence of high social network and high level of embeddedness culture in the study context i.e. which is a typical feature of D&E economies (Steenkamp, 2005). Members of the cooperatives share information using both formal and informal mechanisms. Since members are living in the same village and have common social interests, they use all the possible opportunities (religious festivities, social gatherings etc.) for sharing information.

6.7 Managerial implications

The current study has several managerial implications for SPCs, government organizations, NGOs, seed related development projects, and policy (decision) makers. It identifies key marketing activities

that can strengthen the performance of Ethiopian SPCs. First, SPCs should focus on the key marketing activities that have significant contribution to their performance. These activities could be controllable and managed by SPCs themselves. Thus, they should adjust their internal strengths and capabilities to the external opportunities. Second, marketing activities of SPCs related to competition are minimal. The emergence of other seed producers (seed cooperatives, seed unions, private seed companies, public seed enterprises) is a challenge for the success of the cooperatives' seed business. They should realize that they are in a dynamic and competitive market environment. Hence, SPCs should understand the influence of competitors and give due attention to those marketing activities. Third, government organizations, NGOs and seed related projects play an important role in strengthening the capacity of the SPCs. They should consider the marketing activities identified in this study as CSFs. Government organizations should give special consideration to SPCs in accessing basic seed from suppliers considering their key contribution in improving the seed security of the country at large and serving the farming community in particular.

6.8 Limitations and suggestions for future research

The study has limitations that should be addressed. It was conducted among small seed cooperatives in the Ethiopian context and the marketing activities may only be CSFs for this specific business environment. Hence, it would be worth to conduct cross-cooperative sector studies. This study also used expert judgement which can be considered (more) objective. However, it is suggested that future research may consider more objective criteria to complement.

Chapter 7

General Discussion

7.1 Introduction

Market orientation is seen as a key contributor to the success of the firm (e.g. Kirca et al., 2005; Raaij & Stoelhorst, 2008). Market-oriented firms create superior value (quality products and/or services) to their customers (Tse et al., 2005). They do so in considering and addressing both the current (expressed) and the latent (hidden) needs of their customers (Mohr & Sarin, 2009; Narver et al., 2004). There is considerable empirical evidence that the application of market orientation, as a business philosophy, is a powerful strategy to help firms to create superior value for customers and to sustain the business (e.g. Cano et al., 2004). The vast majority of studies on the understanding and application of market orientation and its influence on firm performance have been devoted to investor-owned firms in developed economies, where there is prevalence of buyer's markets, stable growth and intense competition (e.g. Ellis, 2005). There are considerably less researches on small firms in both developed and D&E economies, but the available scarce evidence suggests a positive relationship between market orientation and performance (e.g. Chao & Spillan, 2010; Verhees & Meulenberg, 2004). The present study aimed to add to the literature by further investigating and assessing the application of market orientation and its contribution to the performance of agricultural marketing cooperatives in the D&E context. Market orientation is expected to improve the qualities and capabilities of agricultural marketing cooperatives to respond to customers' demands, which include both the external customers as well as members of the cooperatives (Agirre et al., 2014; Bijman et al., 2014). Although the concept of market orientation and its influence on performance has been widely studied, surprisingly little information exists about agricultural marketing cooperatives (Benos et al., 2016). There is limited insight in how the concept could be applied in the cooperative contexts and how it influences the performance of cooperatives (e.g. Agirre et al., 2014). More specifically, empirical evidence on how market orientation practices are applicable to and profitable for small agricultural marketing cooperatives found in the D&E economies is very scarce.

Regarding cooperatives, to date most studies in both the developed and D&E economies focus on the internal governance structure (Bijman et al., 2014). These studies help us in particular to understand the contribution of effective governance and organization management of cooperative to reduce transaction costs, provide inputs and technologies for members, and stimulate market entry (Holloway et al., 2000; Shiferaw et al., 2014). However, there is limited insight from agricultural marketing cooperatives about the application of market orientation, and its influence on cooperative performance and members' livelihood improvement. This thesis therefore focussed on agricultural marketing cooperatives in D&E economies and their implementation of market orientation in order

to be successful. The implementation of market orientation would help agricultural marketing cooperatives to achieve their intended dual objectives i.e. satisfying customers as well as members of the cooperatives.

This thesis specifically focused on the market orientation of seed producer cooperatives (SPCs) in Ethiopia as a case of agricultural marketing cooperatives in D&E economies. The thesis thereby deepened the understanding of the application and specific practices of market orientation, and its influences on cooperative performance as well as members' livelihood. It serves as a basis for developing effective and efficient interventions to further strengthen SPCs, improve cooperative performance and livelihoods of member farmers' families, and ultimately contribute to the agricultural economic development of the country.

The main motivation of the studies presented in this thesis was to explore the specific market orientation practices of Ethiopian SPCs and assess their contribution to performance in order to design specific interventions to promote the sustainable seed business in Ethiopia. To this purpose, this study is devoted to agricultural marketing cooperatives in the D&E economies taking Ethiopian SPCs as a case. This main objective is further broken down into five specific sub-objectives as described in chapter 1. The results from these specific studies are presented in chapters 2 to 6. This final chapter of the thesis first presents the key findings of the thesis. Next, it describes its main conclusions, followed by its implications for theory, SPCs, policy makers and development organizations (partners). Subsequently, the chapter finally discusses the research limitations and directions for future research.

7.2 Overview of the key findings

The main aim of this thesis was reached by answering the following five research questions: (1) What is the current position of SPCs in the Ethiopian seed sector and their role in seed supply improvement of Ethiopia?; (2) How is market orientation interpreted and practiced in the Ethiopian SPCs context?; (3) How is market orientation best operationalized or measured in the SPCs context?; (4) How does market orientation influence cooperative performance and livelihoods of member farmers?; and (5) What are the most important marketing activities for the performance of SPCs? These five research questions were addressed through one literature review study and four empirical studies presented in five subsequent chapters of this thesis. The key findings for each chapter are described below.

Chapter 2 primarily focused on reviewing and discussing the existing SPCs in Ethiopia and their part in the Ethiopian seed sector. It also discussed the contribution of SPCs in improving the seed supply in the country. This chapter reviewed scientific literature, reports, project documents, white papers and websites. The current liberal market system of Ethiopia creates new opportunities (e.g. to grow as successful enterprises) and challenges (e.g. intense competition in the market) for smallholder producers including SPCs. It is identified that there are three seed systems in Ethiopia namely formal, informal and intermediary seed systems and that these vary in approaches and implementation strategies. Each seed system has a specific contribution to the delivery of seed to the final users. SPCs categorized in the intermediary seed system hold features both from the formal and informal seed systems. Features shared with the formal system include SPCs produce improved varieties, the presence of a formal seed certification process, and SPCs' connection to the formal systems to obtain basic seed from legal suppliers. Production of local varieties and SPCs' seeds do not necessarily pass through formal certification process which is a main feature that SPCs share with the informal system. The chapter revealed that SPCs make a significant contribution to seed production and marketing through various market channels, including direct sales to customers (farmers), sales through contractual agreements with contracting parties (big seed enterprises, unions etc.), and sales directly to institutional buyers (e.g. government organizations, development projects, NGOs). Moreover, they make specific contributions to high volume seed supply, crop and variety diversification, transaction cost reduction for member farmers, and seed delivery to farmers, particularly where there is less involvement from big seed enterprises. Optimistically, the chapter finally concludes that the seed shortage problem could be reduced and gradually solved when the government and development partners improve the Ethiopian seed sector. More specifically, the seed systems in general, and seed producers in particular including SPCs should be strengthened to ensure seed security in the country.

Chapter 3 presented the results of a qualitative study for deeper understanding and interpretation of the market orientation concept in the Ethiopian SPCs context. It took stock of the specific market orientation practices of SPCs in terms of the three components of market orientation: information generation, information dissemination, and responsiveness (Kohli & Jaworski, 1990). Using case studies from different parts of Ethiopia and collecting data from practitioners (SPC leaders and member farmers) as well as experts, the chapter examined how the concept is interpreted and practiced in SPCs' context. This chapter revealed that in the Ethiopian SPCs context the market orientation concept centres around five key themes: quality of produce, external orientation, business organization, value adding activities and supplier access. The themes of external orientation

and supplier access capture the attention for developments and constraints in the environment. Business organization includes issues recognized in the existing literature as antecedents of market orientation such as top management characteristics, organizational structures and interdepartmental dynamics (Jaworski & Kohli, 1993). Value adding activities of the SPCs represent the consequences of market orientation, which relate directly to the performance of the business. Higher quality of members' produce plays a mediating role between market orientation and consequences. These key themes of market orientation by and large cover important elements of the market orientation concept in general marketing theory, which can be related to the "prototypical" market orientation model proposed by Jaworski & Kohli (1993). Hence, the results of chapter 3 suggested that the conceptualization of market orientation is also applicable in the D&E context. The chapter further identified that market orientation in the Ethiopian SPCs context consists of four components (customer orientation, competitor orientation, interfunctional coordination, and supplier orientation) instead of the three components identified by Narver & Slater (1990). Supplier orientation has a specific role in the market orientation in the D&E context which is not included as a component of market orientation in the HICs context. Supplier orientation and market orientation have different roles in HICs context (e.g. Min et al., 2007). However, supplier orientation is recognized as a component of market orientation in the SPCs context. SPCs need to carefully manage their relationship with suppliers through sensing and responding to supplier-related activities. An important observation from this chapter is that experts' opinions on the way SPCs should practice market orientation, and practitioners' views on how market orientation is being practiced do not fully overlap in terms of the core concept of market orientation. Although several similarities exist between experts' suggestions and SPCs' practices, there are differences particularly for activities associated with external orientation. Experts emphasise external activities related to competition, suppliers and gathering information directly from customers. These are, however, not necessarily being practiced by SPCs. This may indicate that SPCs sometimes consider the advice of experts in their seed business, but also sometimes they do not fully internalize experts' recommendations. This may be related to the educational background of farmers, which makes it hard to understand the marketing perspective on their business. Moreover, various external factors such as infrastructure, technologies, resources and the institutional environment may hinder SPCs to practice the activities effectively.

Chapter 4 focused on how market orientation is best measured in the Ethiopian SPCs context building on insights from Item Response Theory. The chapter used both cross-cultural (etic) and context-specific (emic) scale items to develop the market orientation measurement scale. Marketing

literature indicates that the market orientation measurement scales developed in HICs context (Kohli et al., 1993; Narver & Slater, 1990) may not be fully applicable in the D&E context. The items of main stream market orientation scales have been developed based on the large company settings in HICs. It is a challenge to apply them unaltered in diverse D&E contexts, because the context differs between HICs and D&E economies in terms of economic, socio-cultural, political and infrastructure conditions. However, some of the general items are applicable in diverse cultural contexts. Therefore, measurement scale development requires approaches that combine both cross-cultural and context-specific items (e.g. de Jong et al., 2008; de Jong et al., 2009; Steenkamp, 2005). In chapter 4 we developed a framework, based on the idea that items supposed to be universally applicable (etic) and items that reflect specific context should be combined. Such approach captures the diversity across cultural contexts, while at the same time maintaining comparability across contexts. The key contribution of the study in chapter 4 is that it demonstrated the procedure to develop scales for marketing constructs for diverse cultural contexts. From this framework, this chapter has also developed a market orientation measurement scale applicable to the SPCs context. Moreover, it is proposed that the universally applicable items that this study identified could be applicable to other D&E contexts as well. Hence, researchers could consider these items together with their own context specific items in order to develop measurement scales for diverse contexts.

Based on the specific measurement scales developed in chapter 4, chapter 5 investigated the market orientation-performance relationship in the Ethiopian SPCs context. This chapter quantitatively assessed the influence of market orientation components (i.e. customer orientation, competitor orientation, interfunctional coordination and supplier orientation) on the cooperative performance and the livelihood performance of member farmers. The results show that customer orientation, interfunctional coordination and supplier orientation contribute to higher business performance (customer satisfaction and financial performance). The relationship between market orientation and business performance, which is well documented in the literature, also exists for Ethiopian SPCs. The positive influence of customer orientation on business performance in D&E economies aligns with the core of marketing concept i.e. create and maintain customer value. This chapter shows that irrespective of economic development (i.e. developed versus D&E economies), establishing a customer-oriented culture contributes to superior performance of the business. But, uniquely SPCs have dual goals that should be achieved at the same time: business performance and members' livelihood performance. In the SPC context, the market orientation-performance relationship holds not only at the cooperative level but also at the individual member level. The chapter further revealed the contribution of business performance to livelihood performance. This indicates that

market orientation of SPCs is very important for business performance and a strong basis for the livelihood of seed producer families. Members directly benefit from the performance of the cooperative to which they sell the seed because the cooperative can sell to customers for better prices. This may be due to the fact that cooperatives collect the product from their members at fair prices when the price usually fall drastically and sell when prices recover (Emana, 2009). Thus business performance of the cooperative plays a mediating role between market orientation and livelihood performance. Supplier orientation and interfunctional coordination directly influence the livelihood of member farmers, and indirectly via business performance. Through strong SPCs-supplier relationships members can access improved seed that they use in their farm for grain production. The produce can be used for household consumption or can be supplied to the local market to obtain a higher income. The better interfunctional coordination benefits members to access information. As explained in chapter 3 information dissemination is a common practice in the Ethiopian SPCs context. This could help members to access relevant information. Customer orientation, however, does not have a direct influence on livelihood performance, but it influences the livelihood of members through business performance. Customer orientation leads to better customer satisfaction and financial performance (Kirca et al., 2005). Competitor orientation appeared to have a significant influence on neither business performance nor livelihood performance, which is also found in other studies (e.g. Ingenbleek et al., 2013). This is because, as indicated in chapters 3, 5 and 6, Ethiopian SPCs have few practices to gather information about and respond to competitors' actions, and are less motivated to monitor how other seed producers are doing in the market. A previous study in Ethiopian pastoralists context has also reported the non-significant contribution of competitor orientation on performance (e.g. Ingenbleek et al., 2013). This is attributed to the high level of embeddedness and a focus on social capital in the Ethiopian SPCs context in which the concept of competitor orientation does not resonate well. This is a typical feature for D&E economies (Steenkamp, 2005). Moreover, at the current level of business understanding most SPCs give less priority to and do not sufficiently discuss and respond to competitors actions.

Chapter 6, the final empirical chapter of the thesis, further identified the specific marketing activities that improve the performance of SPCs in Ethiopia most. The motivation for this chapter was that market orientation is a business philosophy or mind-set and should be operationalized through specific marketing activities that are considered as critical factors for performance. The effect of market orientation depends on the specific marketing activities that firms are implementing in order to satisfy the needs of their customers. Based on the results of chapter 5, SPCs were categorized into high and low performing, and the two groups were compared for their implementation of marketing

activities both in terms of intensity (*do how often*) and quality (*do how well*) of implementation. The findings of the chapter showed a considerable differentiation between Ethiopian SPCs in implementing marketing activities, which implies that these activities are not common practices, and can be managed and controlled by SPCs themselves. Results revealed the key marketing activities that SPCs need to consider in order to improve their performance: quality control of products (seed), product differentiation, managing customer and supplier relationships, customer and competitor assessment, leadership qualities in motivating members and committees, integration of activities, and interconnection among committees and members. This chapter further revealed that, contrary to our expectation, the pattern of intensity and quality of implementation of marketing activities is found to largely overlap. This may indicate that the meaning of intensity and quality cannot be disentangled in the Ethiopian SPCs. In other words, this study did not find a unique contribution to performance of quality of implementation over and above intensity of implementation of marketing activities. In the current Ethiopian SPCs situation the implementation frequency of the marketing activities is considered as very important rather than quality of implementation. However, when SPCs further develop their marketing and competition intensifies, the quality of implementation may be more important for SPCs to sustain in the business. Furthermore, the study showed that Ethiopian SPCs performed well on marketing activities related to interfunctional coordination, but poorly implemented activities associated with competitor orientation. The chapter further concluded that SPCs need to have resources, and the capabilities to coordinate the resources in order to implement marketing activities effectively and efficiently so that they can provide value to customers.

7.3 Conclusion

Based on the main results of this research, this thesis comes to the following conclusions. First, the concept and practices of market orientation, which are developed in the Western context, are also applicable in D&E contexts. The present study indicated that the key themes of market orientation in the Ethiopian SPCs context cover important elements of the market orientation concept in the "general" marketing theory. However, the way how the market orientation concept is understood and practiced does not fully overlap with the Western context in which theories and practices have developed. The assumption that the market orientation theories and practices can be considered constant and equally applicable in the diverse D&E context may not be fully generalized, because the situation in D&E economies is different from the Western world. D&E economies are characterized by inadequate infrastructure, lack of access to technologies, and resource shortages, and weak institutional environment, which determine the interpretation, specific approaches and implementation practices of market orientation in the diverse D&E context.

Second, the conceptualization of market orientation appropriate to the Ethiopian SPCs context involves customer orientation, competitor orientation, interfunctional coordination and supplier orientation. Customer and supplier orientation, and interfunctional coordination contribute to higher performance of the cooperatives. Interfunctional coordination and supplier orientation in particular have direct influence on the livelihood of member farmers. However, under the current SPCs condition, competitor orientation does not contribute to business performance or members' livelihood performance. Therefore, SPCs and organizations that aim to support SPCs should consider these components to monitor the improvement of SPCs towards successful commercial enterprises.

Third, while developing market orientation measurement scales for D&E economies, local experiences should be considered as measurement items together with items from existing scales that are expected to be cross-culturally applicable. This study used a generally applicable procedure for measurement development. Therefore, research in other contexts should consider this procedure for measurement development. Research on market orientation could make use of the general items identified in this study (to ensure global generalizability) together with local items in order to develop appropriate measurement scale for specific contexts (to ensure local sensitivity).

Fourth, market orientation as a business philosophy critically depends on the implementation of the specific marketing activities. The marketing activities identified in this study are critical and improve the performance of SPCs. Therefore, SPCs should manage these marketing activities that significantly influence the success of the business, and that are controllable by themselves. They should monitor their progress and improve their performance through the effective implementation of the marketing activities. Furthermore, SPCs need to have resources and the capabilities to coordinate the resources for effective and efficient implementation of the key marketing activities. Government organizations, NGOs and development partners could also play an important role in strengthening the capacity of the SPCs to perform marketing activities so as to improve their performance.

Finally, the contribution of Ethiopian SPCs to seed supply improvement has received considerable recognition by policy makers and development practitioners. They have been supporting SPCs to improve their contribution in the seed supply improvement. However, still extensive and well-designed support is needed to boost the role of SPCs in the seed security of Ethiopia. Therefore, government through its administrative structures down to the local level and development partners through various projects should support and strengthen SPCs to maximize their success in the seed

business and to improve their contribution for food security and economic development of the country.

7.4 Implications

Implications for theory

This thesis has theoretical implications for marketing and development literature. Marketing literature reveals that marketing theories and practices including market orientation have been developed in the Western context mainly on large firms settings (e.g. Kohli & Jaworski, 1990; Narver & Slater, 1990). It is assumed that the theories and practices could be generally applicable for diverse contexts. However, D&E economies significantly depart from the assumptions of theories developed in the Western context. As suggested in the marketing literature, research should be done or replicated in diverse cultures to build the generalizability of the market orientation theories and practices developed in the Western context (e.g. Burgess & Steenkamp, 2006). This thesis has further extended research on the interpretation and practices of market orientation in small agricultural marketing cooperatives in D&E economies taking Ethiopian SPCs as a case. This study used a "bottom-up" approach (e.g. Viswanathan et al., 2010) to investigate the market orientation understanding and practices in the D&E context in general and in the Ethiopian SPCs' context in particular. Accordingly, this study identified supplier orientation as a unique component of market orientation besides customer and competitor orientation, and interfunctional coordination. Supplier orientation has a specific role in market orientation in the D&E context, which is not explicitly covered by the market orientation concept. In the marketing literature, supplier orientation and market orientation are considered as separate concepts, which independently influence firm performance. However, in the SPC context supplier orientation is found to be a component of market orientation. Moreover, competitor orientation, as evidenced in other D&E contexts (e.g. Ingenbleek et al., 2013) is less applicable in the current SPCs' context. Generally market orientation in D&E context can be related to the "prototypical" market orientation model in the literature, although not fully overlapping with the market orientation theory developed in the Western context.

Another theoretical implication for marketing literature emerged from the applied Item Response Theory in measurement scale development to the D&E context. The market orientation measurement scales developed in HICs (Kohli et al., 1993; Narver & Slater, 1990) context may not be fully applicable in the D&E context (Steenkamp, 2005). Marketing literature suggests that measurement scale development in D&E context should combine both cross-cultural and context-specific items (de Jong et al., 2009). Hence, this study explored this approach as a generally

applicable procedure to develop market orientation measurement scales for D&E context. The study included context-specific items together with universally applicable items to develop a specific measurement scale for Ethiopian SPCs context. Although the study assessed this in the context of Ethiopian SPCs, this instrument may be of interest for other cooperative types and SMEs in the D&E economies. Thus, the measure of market orientation developed in this study context contributes to the literature as an important step in broadening the understanding of how to develop better measurement scales for specific cultures. Researchers may take the advantage from this effort and consider the procedure in their research context.

The development literature has traditionally advocated the need to link smallholders with markets to improve the livelihood of smallholders and to ensure sustainable development (Jayne et al., 2010). Smallholders' market linkage could help farmers to obtain profit from the products they supply to the market, and is considered as an indispensable pathway out of poverty (Bernard et al., 2008). In this regard, agricultural marketing cooperatives play significant roles in linking members' products to potential markets and thus contribute to sustainable livelihood of farmers (Kumar et al., 2015). Market linkage can be successful when producers and marketing cooperatives understand the key marketing strategy in order to meet the demand of the target customers. Drawing on marketing theory (i.e. market orientation), agricultural marketing cooperatives should identify their target customers and meet the needs of those customers. Therefore, this thesis has further explored and combined the concept of development (i.e. livelihood improvement) with the marketing concept (i.e. market orientation).

Implications for seed producer cooperatives

The thesis has also implications for SPCs. The market orientation dimensions and items identified in this thesis have practical use for SPCs. SPCs should be customer, competitor, and supplier-oriented and interfunctionally well-coordinated in order to perform better in the market. Moreover, the scale items identified in this study could help SPCs to monitor their progress in terms of implementing the specific market-oriented activities. Thus they should identify areas of strengths and areas that need improvement. SPCs wishing to improve their performance need to consider their market orientation approaches and should take appropriate actions where necessary. As the core concept of market orientation, customer orientation has a direct influence for business performance of the SPCs. Hence, SPCs should first identify customers' needs and so supply to the market on the basis of customers' needs.

Seed producer cooperatives should also take into consideration the relationship between business performance and livelihood of their members. This study evidenced the unique contribution of business performance of the cooperative to improve individual members' livelihood. Marketing literature states that market orientation contributes to higher business performance. For the case of cooperatives, the performance includes individual members' performance as well. The results of this study clearly showed that business performance is a basis for livelihood improvement of member families. Business performance mediated the relationship between market orientation components and livelihood performance. To this respect, SPCs should focus on activities related to customer orientation, interfunctional coordination and supplier orientation as these have direct influence on business performance.

Besides the indirect contribution of supplier orientation and interfunctional coordination to members' livelihood via business performance, they do have also direct influence on livelihood performance. Hence, SPCs should maintain and strengthen their relationship with suppliers particularly with seed suppliers in order for their members to access improved seed to increase grain production for household consumption as well as for local market supply. SPCs should also strengthen the existing inter-committees coordination and leader-member relationships to increase the benefit of their members from the information disseminated within the SPC. This could help members to obtain relevant information as a basis to improve their crop production and access potential markets. Furthermore, SPCs should focus on the key marketing activities that have significant contribution to their performance. They should also allocate appropriate resources to implement the marketing activities. These marketing activities should be controllable and managed by SPCs themselves.

The present study identified the key roles of cooperative leaders for the better performance of the cooperatives. Under the current situation, leaders are responsible for motivating their members and other committees within the cooperative, for coordinating seed production and marketing activities, and for improving relationships with externals including seed and other inputs suppliers, research institutes, and various supporting organizations. Therefore, SPCs should assign leaders that have commitment, dedication and stewardship, and are well-experienced in coordinating activities to achieve the objectives of their cooperatives. Besides, SPCs should also strengthen other committees that are responsible for specific tasks such as seed quality control committees, marketing committees and controlling (supervisory) committees.

Implications for policy makers and development organizations (partners)

This thesis has also implications for government and various development organizations (partners) that are supporting SPCs to become more market-oriented and successful in their business venture. These include both government and non-government organizations, and development projects. These partners design development programmes with the aim to support SPCs to be successful in the business, and to effectively support the farming community at large and their members' livelihood in particular. Hence, partners should include the key activities related to customer, competitor and supplier orientation, and interfunctional coordination in their development programmes. Moreover, they should also support SPCs through various mechanisms, such as capacity building (e.g. trainings), infrastructure development and the facilitation of market linkages, in order for SPCs to implement specific marketing activities identified in this study: quality control of seed, product differentiation, relationship with customers and suppliers, customer and competitor assessment, and integration of activities. Furthermore, policy makers and development partners that support the sustainable development of market-oriented SPCs in Ethiopia, can benefit from an understanding of the key market orientation practices and how they contribute to better performance of the cooperative. It may help them, for instance, to incorporate key activities in their project implementation strategies and in the policy framework development.

Policy makers and development practitioners have given considerable attention to the role of SPCs in the improvement of seed supply in the Ethiopian seed sector. SPCs greatly contribute to seed supply improvement through production of high volumes of seed, crop and variety diversification, and seed delivery to niche markets. However, as discussed in this study (chapter 2), basic seed shortage is a critical challenge that all seed producers in general and SPCs in particular are facing. SPCs are constrained in obtaining specific basic seed because of limited suppliers in the country (both in terms of type and quantity), and the high costs of the seed which farmers cannot afford. Hence, regional and federal policy makers and development practitioners should support SPCs to access basic seed through special consideration during seed allocation by the government, facilitation of loans for seed purchase, and facilitation of linkage with research centres so that SPCs would have own seed. Ethiopian government, through its national and regional research and extension services, could also contribute to overcome the seed shortage so that SPCs could access the seed accordingly.

Despite the extensive efforts made by the government and international and local development partners to support the formal seed system to provide larger quantities of higher quality seed to farmers, it is found that the formal system covers less than 10% of the total seed demand. SPCs

recognized as intermediary system could serve as hubs for various development interventions that want to combine both formal and informal seed systems, because SPCs have features of both seed systems. Therefore, government and development partners should design appropriate strategies to strengthen the capacities of SPCs at the interface of formal and informal systems. Support in decision-making of SPCs, trainings, and facilitation of linkage with suppliers and markets are the possible interventions that development partners could contribute in order to strengthen the SPCs. It is also suggested to organize SPCs into big seed unions so that they may improve their business performance, increase their competition in the market, and increase their contribution to the seed security of Ethiopia.

Access to the relevant information about customers, competitors and suppliers is quite important for the success of SPCs. As discussed in chapter 3, most SPCs access market information from secondary sources (externals), which helps them to make appropriate decisions. In this regard, supporting partners and organizations could provide SPCs the updated market information about customer needs, competitor actions, price setting, access to inputs etc.

7.5 Research limitations and directions for future research

The present study is not without limitations as an academic enquiry. Specific limitations have been discussed in separate chapters of this thesis. One of the main limitations of the thesis is that the study focused only on specific agricultural marketing cooperatives (notably SPCs in Ethiopia). It did not include other forms of cooperatives, producer organizations, and cooperatives from other D&E countries. So, it remains uncertain whether the findings are equally applicable to other forms of agricultural and non-agricultural marketing cooperatives and smallholder producers. Although cooperatives in D&E economies have several characteristics in common, they may considerably vary in the type of activities in which they engage, their stage of development, and the external factors they face, such as socio-cultural, economic, and political conditions. Therefore, the confidence in the generalizability of the findings of this research may benefit from further research in other forms of marketing cooperatives as well as in other D&E countries.

Another limitation lies in the cross-sectional nature of the data that this study used and analyzed. The study has not allowed us to examine a longitudinal perspective to how market orientation contributes for higher performance of the cooperatives as well as members' livelihood improvement. Therefore, future research need to be conducted based on longitudinal data in order to examine the sustainable contribution of market orientation on performance over a period of time.

The third limitation of this thesis is its use of subjective performance measures. In chapter 5, we used expert judgement which can be considered (more) objective. In chapter 3 and 4, we used self-reporting methods for which respondents assessed their own cooperatives. Such subjective self-report measures may not be fully accurate due to inability (lack of knowledge) and/or unwillingness (social desirability bias) to reveal information. However, it was difficult to get objective data for some of the indictors mainly due to limited documentation. Although use of subjective measures is common in marketing literature and similar results are obtained with objective measures (Wall et al., 2004; Zulkiffli, 2014), still the results would be more convincing when including objective measures. Hence, more objective data would be of great importance to consolidate the findings of this thesis. Moreover, the present study has considered only cooperatives' (as seed suppliers) own assessment of performance. Hence, future research would be recommended to include customers' assessment besides suppliers' own assessment of customer orientation.

In addition to the specific directions for future research based on the limitations of this study, this study also suggests the need for further research to examine the association between market orientation and other firm strategies for performance. Literature indicates that the performance of a firm can be increased by implementation of other strategies such as entrepreneurial orientation, stakeholder orientation, brand orientation and learning orientation (Boso et al., 2013; Duesing, 2013; Urde et al., 2011; Mahmoud & Yusif, 2012). These strategies influence firm performance directly or indirectly. It would be interesting to understand the relationship between market orientation and other strategies and how they influence the performance of the firm.

Finally, this study suggests further research to investigate the key external factors that affect firm performance. Literature shows that the relationship between market orientation and firm performance is moderated by external factors (e.g. Kohli & Jaworski, 1990). Hence, future research is recommended to investigate and measure the effect of moderating factors on the market orientation-performance relationship of SPCs. Furthermore, this study also suggests that the assessment of the key antecedents of market orientation may provide additional insights and further evidence for the generalizability of the findings of this study.

References

Abate, G.T., Francesconi, G.N., & Getnet, K. (2014). Impact of agricultural cooperatives on smallholders' technical efficiency: empirical evidence from Ethiopia. *Annals of Public and Cooperative Economics, 85*(2), 257-286.

Abay, F., & Halefom, K. (2012). Impact of participatory variety selection (PVS) on varietal diversification and seed dissemination in the Tigray region, north Ethiopia: a case of barley. *Journal of the Drylands, 5*(1), 396-401.

Adékambi, S.A. (2013). *The roles of exploration and exploitation in the export market integration of Beninese producers at the base of the pyramid*. PhD Thesis, Wageningen University, The Netherlands.

Adetumbi, J.A., Saka, J.O., & Fato, B.F. (2010). Seed handling system and its implications on seed quality in South western Nigeria. *Journal of Agricultural Extension and Rural Development, 2*(6), 133-140.

Ægisdóttir, S., Gerstein, L.H., & Cinarbas, D.C. (2008). Methodological issues in cross-cultural counselling research: equivalence, bias, and translations. *The Counselling Psychologist, 36*(2), 188-219.

African Union. (2008). *African seed and biotechnology programme*. Africa Union, Addis Ababa, Ethiopia.

Agan, Y. (2011). Impact of operations, marketing, and information technology capabilities on supply chain integration. *Journal of Economic and Social Research, 13*(1), 27-58.

Agirre, I., Peinares, P., & Agirre, A. (2014). Antecedents to market orientation in the worker cooperative organizations: the Mondragon group. *Annals of Public and Cooperative Economics, 85*(3), 387-408.

Ahmet, C.A. (1993). The impact of key internal factors on firm performance: an empirical study of small Turkish firms. *Journal of Small Business Management, 31*(4), 86-92.

Aklilu, S.G. (2013). *The role of seed producer and marketing cooperatives on wheat crop production and its implication to food security*. MSc Thesis, Mekelle University, Ethiopia.

Al Jafari, A.M., Jimenez, F.R., & Frankwick, G.L. (2015). Supplier orientation: expanding the conceptual scope of market orientation. In Jr.L. Robinson (Ed.), *Proceedings of the 2008 academy of marketing science (AMS) annual conference*. University of Houston, Clear Lake Houston, TX.

Alam, M.M. (2010). Effect of market orientation on small business performance in small town in Malysia: an emperical study on Malaysisan small firms. *Management and Marketing Journal, 0*(1), 91-104.

Alemu, D. (2010). *The political economy of Ethiopian cereal seed systems: state control, market liberalization and decentralization*. Future Agricultures. Working Paper 017.

Alemu, D. (2011). *Farmer-based seed multiplication in the Ethiopian system: approaches, priorities and performance*. Future Agricultures Working Paper 036.

Alemu, D., & Bishaw, Z. (2015). Commercial behaviours of smallholder farmers in wheat seed use and its implication for demand assessment in Ethiopia. *Development in Practice, 25*(6), 798-814.

Alemu, D., Mwangi, W., Nigussie, M., and Spielman, D.J. (2008). The maize seed system in Ethiopia: challenges and opportunities in drought prone areas. *African Journal of Agricultural Research, 3*(4), 305-314.

Alemu, D., Rashid, S., & Tripp, R. (2010). *Seed system potential in Ethiopia: constraints and opportunities for enhancing the seed sector*. International Food Policy Research Institute (IFPRI). Washington, DC.

Alizadeh, A., Alipour, H., & Hasanzadeh, M. (2013). Market orientation and business performance among SMEs based in Ardabil industrial city-Iran. *Kuwait Chapter of Arabian Journal of Business and Management Review, 2*(7), 38-47.

Almekinders, C.J.M., & Louwaars, N.P. (2002). The importance of the farmers' seed systems in a functional national seed sector. *Journal of New Seeds, 4*, 15-33.

Almekinders, C.J.M., Thiele, G., & Daniel, D.L. (2007). Can cultivars from participatory plant breeding improve seed provision to small-scale farmers? *Euphytica, 153*(3), 363-372.

Altaye, S., & Mohammed, H. (2013). Linking seed producer cooperatives with seed value chain actors: implications for enhancing the autonomy and entrepreneurship of seed produce cooperatives in Southern region of Ethiopia. *International Journal of Cooperative Studies, 2*(2), 61-65.

Amberg, M., Fischl, F., & Wiener, M. (2005). *Background of critical success factor research*. Working paper no. 2/2005. Friedrich-Alexander-Universität Erlangen-Nürnberg, Nürnberg, Germany.

Amirkhani, A., & Fard, R.S. (2009). The effect of market orientation on business performance of the companies designing and manufacturing clean rooms. *American Journal of Applied Sciences, 6*(7), 1373-1379.

ANRS/CPA. (2012). *Guideline for organizing Seed Production and marketing Cooperatives in Amhara region (First revision) No 41/2005*. Amhara National Regional State, Cooperative Promotion Agency, Bahir Dar, Ethiopia. የኅብረት ስራ ኤጀንሲ (2005). የዘር ብዜትና ግብይት ኅብረት ስራ ማሕበራት የአደረጃጀት መመሪያ፡- ለመጀመሪያ ጊዜ የተሻሻለ፤ ቁጥር 41/2005፣ የአማራ ብሔራዊ ክልላዊ መንግስት የኅብረት ስራ ማስፋፊያ ኤጀንሲ፣ ባሕር ዳር ኢትዮጵያ፡፡

Appiah-Adu, K. (1998). Marketing activities and business performance: evidence from foreign and domestic manufacturing firms in a liberalized developing economy. *Marketing Intelligence & Planning, 16*(7), 436-442.

Appiah-Adu, K., Fyall, A., & Singh, S. (2001). Marketing effectiveness and business performance in the financial services industry. *Journal of Services Marketing, 15*(1), 18-34.

Arinloye, D.A.A. (2013). *Governance, marketing and innovations in Beninese pineapple supply chains*. PhD. Thesis, Wageningen University, The Netherlands.

Asare, K.A., Brashear, T.G., Yang, F., & Kang, F. (2013). The relationship between supplier and development and firm performance: the mediating role of marketing process improvement. *Journal of Business and Industrial Marketing, 28*(6), 523-532.

Asfaw, A., & Admassie, A. (2004). The role of education on the adoption of chemical fertiliser under different socioeconomic environments in Ethiopia. *Agricultural Economics, 30*(3), 215-228.

Asikhia, O.U. (2009). The moderating role of e-marketing on the consequences of market orientation in Nigerian firms. *International Journal of Business and Information*, *4*(2), 243-270.

Asikhia, O.U. (2010). Customer orientation and firm performance among Nigerian small-and-medium scale businesses. *International Journal of Marketing Studies, 2*(1), 197-212.

ATA. (2012). *Agricultural cooperatives sector development strategy 2012-2016*. Addis Ababa, Ethiopia.

ATA. (2015). *Seed system development strategy: vision, systemic challenges, and prioritized interventions*. Ethiopian Agricultural Transformation Agency (ATA). Working strategy document.

Atilaw, A., & Korbu, L. (2011). Recent development in seed systems of Ethiopia. In D. Alemu, S. Kiyoshi & A. Kirub (Eds.), *Improving Farmers' Access to Seed Empowering Farmers' Innovation. Series No. 1* (pp 13-30).

Atilaw, A., & Korbu, L. (2012). Roles of public and private seed enterprises. In T. Adefris, F. Asnake, A. Dawit, D. Lemma and K. Abebe (Eds.), *The Defining Moments in Ethiopian Seed System. Ethiopia Institute of Agricultural Research (EIAR), Addis Ababa, Ethiopia*. (pp.181-196).

Atuahene-Gima, K. (1996). Market orientation and innovation. *Journal of Business Research, 35*(2), 93-103.

Awoke, H.M. (2014). *Enhancing member commitment in agricultural cooperatives: evidence from east Gojjam zone, Amhara region, Ethiopia*. MSc Thesis, Wageningen University, The Netherlands.

Ayana, A., Borman, G., Subedi, A., Abay, F., Mohammed, H., Nefo, K., Dechassa, N., & Dessalegn, T. (2013). Integrated seed sector development in Ethiopia: local seed business development as an entrepreneurial model for community-based seed production in Ethiopia. In C.O. Ojiewo,

S. Kugbei, Z. Bishaw & J.C. Rubyogo (Eds.), *Community Seed Production, December 9-11, 2013, Addis Ababa, Ethiopia* (pp. 88-97).

Ayenew, Y.A., Wurzinger, M., Tegegne, A., & Zollitsch, W. (2009). Handling, processing and marketing of milk in the North Western Ethiopian highlands. *Livestock Research for Rural Development, 21*(7). paper No. 97.

Baker, W.E., & Sinkula, J.M. (1999a). The synergistic effect of market orientation and learning orientation on organizational performance. *Journal of the Academy of Marketing Science, 27*(4), 411-427.

Baldos, U.L.C., & Hertel, T.W. (2014). Global food security in 2050: the role of agricultural productivity and climate change. *Australian Journal of Agricultural and Resource Economics, 58*(4), 554-570.

Bansal, H.S., Mendelson, M.B., & Sharma, B. (2001). The impact of internal marketing activities on external marketing outcomes. *Journal of Quality Management, 6*(1), 61-76.

Barham, J., & Chitemi, C. (2009). Collective action initiatives to improve marketing performance: lessons from farmer groups in Tanzania. *Food policy, 34*(1), 53-59.

Barney, J.B. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99-120.

Baron, R.M., & Kenny, D.A. (1986). The moderator-mediator variable distinction in social psychological research: conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, 51*(6), 1173-1182.

Barrett, C. (2008). Smallholder market participation: concepts and evidence from eastern and southern Africa*. Food Policy, 33*(4), 299-317.

Battisti, D.S., & Naylor R.L. (2009). Historical warnings of future food insecurity with unprecedented seasonal heat. *Science, 323*(5911), 240-244.

Baumgartner, H., & Steenkamp, J.E.M. (2006). An extended paradigm for measurement analysis of marketing constructs applicable to panel data. *Journal of Marketing Research, 43*(3), 431-442.

Bazezew, A., & Bewket, W. (2013) Analysis of vulnerability to food insecurity in drought-prone areas of the Amhara region of Ethiopia: case study in Lay Gaint woreda. *Eastern Africa Social Science Research Review, 29*(2), 25-49.

Benos, T., Kalogeras, N., Verhees, F.J.H.M., Sergaki, P., & Pennings, J.M.E. (2016). Cooperatives' organizational restructuring, strategic attributes, and performance: the case of agribusiness cooperatives in Greece. *Agribusiness, 32(1),* 127-150.

Berdegué, J. (2001). *Cooperating to compete: associative peasant business firms in Chile*. Universidad de Wageningen, Holanda.

Berhanu, K., & Poulton, C. (2014). The political economy of agricultural extension policy in Ethiopia: economic growth and political control. *Development Policy Review, 32*(s2), s197-s213.

Bernard, T., & Taffesse, A.S. (2012). Returns to scope? smallholders' commercialization through multipurpose cooperatives in Ethiopia. *Journal of African Economies, 21*(3), 440-464.

Bernard, T., Abate, G.T., & Lemma, S. (2013). *Agricultural cooperatives in Ethiopia: Results of the 2012 ATA Baseline Survey*. The International Food Policy Research Institute (IFPRI). Washington, DC.

Bernard, T., Gabre-Madhin, E., & Taffesse, A.S. (2007). *Smallholders' commercialization through cooperatives: a diagnostic for Ethiopia*. International Food Policy Research Institute (IFPRI). Washington, DC.

Bernard, T., Taffesse, A.S., & Gabre-Madhin, E. (2008). Impact of cooperatives on smallholders' commercialization behavior: evidence from Ethiopia. *Agricultural Economics, 39*(2), 147-161.

Beverland, M. (2007). Can cooperatives brand? Exploring the interplay between cooperative structure and sustained brand marketing success. *Food Policy, 32*(4), 480-495.

Bewket, W. (2009). Rainfall variability and crop production in Ethiopia: case study in the Amhara region. In S. Ege, H. Aspen, B. Teferra & S. Bekele (Eds.), *Proceedings of the 16th International Conference of Ethiopian Studies, Trondheim, Norway* (pp. 823-836).

Beyene, F. (2010). The role of NGO in informal seed production and dissemination: the case of eastern Ethiopia. *Journal of Agriculture and Rural Development in the Tropics and Subrtopics, 111*(2), 79-88.

Bharadwaj, S.G., Varadarajan, P.R., & Fahy, J. (1993). Sustainable competitive advantage in service industries: a conceptual model and research propositions. *Journal of Marketing, 57*(4), 83-89.

Bhavnani, R., Vordzorgbe, S., Owor, M., & Bousquet, F. (2008). *Report on the status of disaster risk reduction in the Sub-Saharan Africa region*. Commission of the African Union, United Nations and the World Bank.

Bijman, J. (2010). Agricultural cooperatives and market orientation: a challenging combination? In A. Lindgreen, M. Hingley, D. Harness & P. Custance (Eds.), *Market orientation, transforming food and agribusiness around the customer* (pp. 119-136). Gower Publishing: UK.

Bijman, J. (2016). The changing nature of farmer collective action: introduction to the book. In J. Bijman, R. Muradiand & J. Schuurman (Eds.), *Cooperatives, Economic Democratization and Rural Development* (pp. 1-22): Edward Elgar: UK.

Bijman, J., Hanisch, M., & van der Sangen, G. (2014). Shifting control? The changes on internal governance in agricultural cooperatives in the EU. *Annals of Public and Cooperative Economics, 85*(4), 641-661.

Bijman, J., Hendrikse, G., & van Oijen, A. (2013). Accommodating two worlds in one organization: changing board models in agricultural cooperatives. *Managerial and Decision Economics, 34*(3-5), 204-217.

Bingham, C.B., Eisenhardt, K.M., & Furr, N.R. (2007). What makes a process a capability? Heuristics, strategy, and effective capture of opportunities. *Strategic Entrepreneurship Journal, 1*(1-2), 27-47.

Bishaw, Z., & Louwaars, N. (2012). Evolution of seed policy and strategies and implications for Ethiopian seed systems development. In A.T. Wold, A. Fikre, D. Alemu, L. Desalegn & A. Kirub (Eds.), *Defining Moments of Ethiopian Seed Sector, Addis Ababa, Ethiopia* (pp. 31-60).

Bishaw, Z., Sahlu, Y., & Simane, B. (2008). The status of the Ethiopian seed industry. In M.H. Thijssen, Z. Bishaw, A. Beshir & W.S. de Boef (Eds.), *Farmers, seeds and varieties: supporting informal seed supply in Ethiopia*. Wageningen, Wageningen International. (pp. 23-33).

Blankson, C., & Cheng, J.M.S. (2005). Have small businesses adopted the market orientation concept? The case of small businesses in Michigan. *Journal of Business and Industrial Marketing, 20*(6), 317-330.

Blankson, C., & Stokes, D. (2002). Marketing practices in the UK small business sector. *Marketing Intelligence and Planning, 20*(1), 49-61.

Block, S.A. (2002). Political business cycles, democratization, and economic reform: the case of Africa. *Journal of Development Economics, 67*(1), 205-228.

Bodlaj, M. (2010). The impact of a responsive and proactive market orientation on innovation and business performance. *Economic and Business Review, 12*(1), 241-261.

Bontems, P., and Fulton, M. (2009). Organizational structure, redistribution and the endogeneity of cost: Cooperatives, investor-owned firms and the cost of procurement. *Journal of Economic Behaviour & Organization, 72*(1), 322-343.

Boohene, R., Agyapong, D., & Asomaning, R. (2012). A micro level analysis of the market orientation-small business financial performance nexus. *American International Journal of Contemporary Research, 2*(1), 31-43.

Borda-Rodriguez, A., Johnson, H., Shaw, L., & Vicari, S. (2016). What makes rural cooperatives resilient in developing countries? *Journal of International Development, 28*(1), 89-111.

Boso, N., Story, V.M., & Cadogan, J.W. (2013). Entrepreneurial orientation, market orientation, network ties, and performance: study of entrepreneurial firms in a developing economy. *Journal of Business Venturing, 28*(6), 708-727.

Bradford, K.J., & Bewley, J.D. (2002) Seeds: biology, technology and role in agriculture. In M.J. Chrispeels & D.E. Sadava (Eds.), *Plants, genes and crop biotechnology, 2nd ed* (pp. 210-239). Jones and Bartlett: Boston.

Brotherton, B. (2004a). Critical success factors in UK budget hotel operations. *International Journal of Operation and Production Management, 24*(9), 944-969.

Bullen, C.V., & Rockart, J.F. (1981). *A Primer on critical success factors*. Centre for Information Systems Research, Sloan School of Management, Massachusetts Institute of Technology.

Burgess, S.M., & Steenkamp, J.E.M. (2006). Marketing renaissance: how research in emerging markets advances marketing science and practice. *International Journal of Research in Marketing, 23*(4), 337-356.

Burney, J.A., Naylor, R.L., & Postel, S.L. (2013). The case for distributed irrigation as a development priority in sub-Saharan Africa. *PANS, 110*(31), 12513-12517.

Byrne, B.M., Shavelson, R.J., & Muthen, B. (1989). Testing for the equivalence of factor covariance and mean structures: the issue of partial measurement in-variance. *Psychological Bulletin, 105*(3), 456–466.

Cadogan, J.W., & Diamantopoulos, A. (1995). Narver and Slater, Kohli and Jaworski and the market orientation construct: integration and internationalization. *Journal of Strategic Marketing, 3*(1), 41-60.

Cadogan, J.W., Diamantopoulos, A., & de Mortanges, C.P. (1999). A measure of export market orientation: scale development and cross-cultural validation. *Journal of International Business Studies, 30*(4), 689-707.

Calzadilla, A., Zhu, T., Rehdanz, K., Tol, R.S.J., & Ringler, C. (2013). Economy wide impacts of climate change on agriculture in Sub-Saharan Africa. *Ecological Economics, 93*, 150-165.

Campbell, A., Whitehead, J., & Finkelstein, S. (2009). Why good leaders make bad decisions. *Harvard Business Review, February*, 60-69.

Canino, G., Lewis-Fernández, R., & Bravo, M. (1997). Methodological challenges in cross-cultural mental health research. *Transcultural Psychiatry, 34*(2), 163-184.

Cano, C., Carrillat, F., & Jaramillo, F. (2004). A meta-analysis of the relationship between market orientation and business performance: evidence from five continents. *International Journal of Research in Marketing, 21*, 179-200.

Caralli, R.A. (2004). *The Critical Success Factor Method: Establishing a Foundation for Enterprise Security Management* (CMU/SEI-2004-TR-010). Software Engineering Institute, Carnegie Mellon University.

Carmeli, A., Gelbard, R., & Gefen, D. (2010). The importance of innovation leadership in cultivating strategic fit and enhancing firm performance. *The Leadership Quarterly, 21*, 339-349.

Carpenter, R.E., & Petersen, B.C. (2002). Is the growth of small firms constrained by internal finance? *The Review of Economics and Statistics, 84*(2), 298-309.

Carson, D., Cromie, S., Mc.Gowan, P., & Hill, J. (1995). *Marketing and entrepreneurship in SMEs: an innovative approach*. London, UK: Prentice Hall.

Chao, M.C., & Spillan, J.E. (2010). The journey from market orientation to firm performance: a comparative study of US and Taiwanese SMEs. *Management Research Review, 33*(5), 472-483.

Charles, L., Joel, C., & Samwel, K.C. (2012). Market orientation and firm performance in the manufacturing sector in Kenya. *European Journal of Business and Management, 4*(10), 20-27.

Chaston, I., Badger, B., Mangles, T., & Sadler-Smith, E. (2001). Organizational learning styles, competencies and learning systems in small, UK manufacturing firms. *International, 21*(11), 1417-1432.

Chen, M., Jhabvala, R., Kanbur, R., & Richards, C. (2007). Membership based organization of the poor: concepts, experience and policy. In M. Chen, R. Jhabvala, R. Kanbur & C. Richards (Eds.), *Membership-Based Organizations of the Poor* (pp. 3-20). New York: Routledge.

Chen, S., & Ravallion, M. (2007). Absolute poverty measures for the developing world, 1981-2004. *PNAS, 104*(43), 16757–16762.

Chen, S., & Ravallion, M. (2010). The developing world is poorer than we thought, but no less successful in the fight against poverty. *Quarterly Journal of Economics, 125*(4), 1577–1625.

Chen, Y., & Jermias, J. (2014). Business strategy, executive compensation and firm performance. *Accounting and Finance, 54*(1), 113-134.

Chi, C.G., & Gursoy, D. (2009). Employee satisfaction, customer satisfaction, and financial performance: an empirical examination. *International Journal of Hospitality Management, 28*(2), 245-253.

Christy, R.D. (2001). Evaluating the economic performance of alternative market institutions: Implications for the smallholder sector in Southern Africa. *Agrekon, 40*(4), 522-536.

Churchill Jr, G.A. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research, 16*(1), 64-73.

Clover, J. (2003). Food security in sub-Saharan Africa. *African Security Review, 12*(1), 5-15.

Cohen, M.A., & Kunreuther, H. (2007). Operations risk management: overview of Paul Kleindorfer's contributions. *Production and Operation Management, 6*(5), 525-541.

Cohen, M.A., Agrawal, N., & Agrawal, V. (2006). Winning in the aftermarket. *Harvard Business Review, 84*(5), 129-138.

Cooper, R.G., & Kleinschmidt, E.J. (1993). New-product success in the chemical industry. *Industrial Marketing Management, 22*(2), 85-99.

Craig, C.S., & Douglas, S.P. (2001). *International Marketing Research* (2nd ed.). John Wiley & Sons, New York.

Craig, C.S., & Douglas, S.P. (2012). International advertising research: conceptual and methodological issues. In S. Okazaki (Ed.), *Handbook of research on international advertising* (pp. 201-231). Northampton: Edward Elgar.

CSA & WFP. (2014). *Comprehensive food security and vulnerability analysis (CFSVA)*. Ethiopian Central Statistical Agency and the World Food Programme. March 2014, Ethiopia.

CSA. (2009). *National statistical abstract. Section D. Agriculture*. Central Statistical Agency of Ethiopia. Addis Ababa, Ethiopia.

CSA. (2016). *Key findings of the 2015/2016 agricultural sample survey*. FDRE Central Statistical Authority (CSA) country summary. July, 2016, Addis Ababa, Ethiopia.

Czinkota, M.R.I. (2007). *International marketing*. (8th ed.). USA: Thomson.

Dadashzadeh, M. (1989). Teaching MIS concepts to MBA students: a critical success factor approach. *Journal of Information Systems Education, 1*(4).

Dauda, Y.A., & Akingbade, W.A. (2010). Employee's market orientation and business performance in Nigeria: analysis of small business enterprises in Lagos State. *International Journal of Marketing Studies, 2*(2), 134-143.

David, R.T. (2006). A general inductive approach for analysing qualitative evaluation data. *American Journal of Evaluation, 27*(2), 237-246.

Davis, P. (1997). *Cooperative identity and cooperative management*. Report of the Special Workshop on ICA Cooperative, Identity Statement-From Theory to Practice, 17-21 August, Jaipur, India (pp. 32-41).

Day, G.S. (1994). The capabilities of market-driven firms. *Journal of marketing, 58*(4), 37-52.

Day, G.S., & Wensley, R. (1988). Assessing advantage: a framework for diagnosing competitive superiority. *Journal of Marketing, 52*(2), 1-20.

de Boef, W.S., Dempewolf, H., Byakweli, J.M., & Engels, J.M.M. (2010). Integrating genetic resource conservation and sustainable development into strategies to increase the robustness of seed systems. *Journal of Sustainable Agriculture, 34*(5), 504-531.

de Jong, M.G., Steenkamp, J.E.M., & Veldkamp, B.P. (2009). A model for the construction of country-specific yet internationally comparable short-form marketing scales. *Marketing Sciences, 28*(4), 674-689.

de Jong, M.G., Steenkamp, J.E.M., Fox, J.P., & Baumgartner, H. (2008). Using item response theory to measure extreme response style in marketing research: a global investigation. *Journal of Marketing Research, 45*(1), 104-115.

Deng, S., & Dart, J. (1994). Measuring market orientation: A multi-factor, multi item approach. *Journal of Marketing Management, 10*(8), 725-742.

Dercon, S., Gilligan, D.O., Hoddinott, J., & Woldehanna, T. (2009). The impact of agricultural extension and roads on poverty and consumption growth in fifteen Ethiopian villages. *American Journal of Agricultural Economics, 91*(4), 1007-1021.

Deressa, T.T., & Hassan, R.M. (2009). Economic impact of climate change on crop production in Ethiopia: evidence from cross-section measures. *Journal of African Economies, 18*(4), 529-554.

Deshpandé, R., & Farley, J.U. (1998). Measuring market orientation: generalization and synthesis. *Journal of Market-Focused Management, 2*(3), 213-232.

Deshpandé, R., & Farley, J.U. (2004). Organizational culture, market orientation, innovativeness, and firm performance: an international research odyssey. *International Journal of Research in Marketing, 21*(1), 3-22.

Deshpande, R., Farley, J.U., & Webster, F.E. (1993). Corporate culture, customer orientation, and innovativeness in Japanese firms: A Quadrad Analysis. *Journal of Marketing, 57*(1), 23-37.

DeVellis, R.F. (2003). *Scale development: theory and applications. Applied social research methods, series 26* (2nd ed.). New- bury Park, California: Sage Publications.

DFID. (2004). *Agriculture, growth and poverty reduction*, DFID, Oxford.

Diao, X., Hazell, P., & Thurlaow, J. (2010). The role of agriculture in African development. *World Development, 38*(10), 1375-1383.

Doaei, H., & Bakhtiari, A. (2005). The impact of market orientation culture on business performance of maker Parts Company in Mashhad. *Journal of Business Research, 42*, 53-82.

Dorosh, P.A*.,* & Radish, S. (2012). Introduction. In P.A. Dorosh *&* S. Radish *(*Eds.*), Food and Agriculture in Ethiopia: Progress and Policy Changes* (pp. 1-18). Philadelphia, PA: University of Pennsylvania Press.

Dorosh, P.A., & Mellor, J.W. (2013). Why agriculture remains a viable means of poverty reduction in sub-Saharan Africa: the case of Ethiopia. *Development Policy Review, 31*(4), 419-441.

Douglas, S.P., & Craig, C.S. (2006). On improving the conceptual foundations of international marketing research. *Journal of International Marketing, 14*(1), 1-22.

Droge, C., Vickery, S., & Markland, R.E. (1994). Sources and outcomes of competitive advantage: an exploratory study in the furniture industry. *Decision Sciences, 25*(5/6), 669-689.

Duesing, R.J. (2013). Integrating market and stakeholder orientation theory. *International Journal of Business, Humanities and Technology, 3*(6), 26-33.

Duijndam, F.P., Evenhuis, C.J., & Parlevliet, J.E. (2007). Production and use of maize seed for sowing in Bolivar, Ecuador. *Euphytica, 153*(3), 343-351.

Dunn, M., Birley, S., & Norburn, D. (1986). The marketing concept and the smaller firm. *Marketing Intelligent & Planning, 4*(3), 3-11.

Dutta, S., Narasimhan, O., & Rajiv, S. (2005). Conceptualizing and measuring capabilities: methodology and empirical application. *Strategic Management Journal, 26*(3), 277-285.

Edwards, P., Peters, M., & Shaman, G. (2001). The effectiveness of information systems in supporting the extended supply chain. *Journal of Business Logistics, 22*(1), 1-27.

EEA (Ethiopian Economic Association). (2002). *Research report on land tenure and agricultural development in Ethiopia*. Ethiopian Economics Association: Addis Ababa. Ethiopia.
Eisenhardt, K.M., & Martin, J.A. (2000). Dynamic capabilities: what are they? *Strategic Management Journal, 21*(10-11), 1105-1121.
Ellis, F. (2000). *Rural livelihoods and diversity in developing countries*. New York: Oxford University Press.
Ellis, P.D. (2005). Market orientation and marketing practice in a developing economy. *European Journal of Marketing, 39*(5), 629-645.
Ellis, P.D. (2006). Market orientation and performance: a meta-analysis and cross-national comparisons. *Journal of Management Studies, 43*(5), 1089-1107.
Emana, B. (2009). *Cooperatives: a path to economic and social empowerment in Ethiopia*. Coop Africa Working Paper. No.9. International Labour Organization.
Emana, B. (2012) *Cooperative movement in Ethiopia*. Paper presented in workshop on perspectives for cooperatives in Eastern Africa, 2-3, October 2012, Uganda.
Emana, B., & Nigussie, M. (2011). *Potato value chain analysis and development in Ethiopia. Case of Tigray and SNNP regions*. International Potato Centre (CIP-Ethiopia).
Evangelista, P., Young, N., & Burnett, J. (2013). How will climate change spatially affect agriculture production in Ethiopia? case studies of important cereal crops. *Climate Change, 119*(3), 855-873.
Fafchamps, M. (2005). *Market institutions in Sub-Saharan Africa: theory and evidence*. MIT Press, Cambridge, MA.
Fan, X., Thompson, B., & Wang, L. (1999). Effects of sample size, estimation methods, and model specification on structural equation modelling fit indexes. *Structural Equation Modelling: A Multidisciplinary Journal, 6*(1), 56-83.
FAO. (1996). Rome declaration on food security and world food summit plan of action. 13-17 November 1996. Rome, Italy. Retrieved on 24 September 2016, from http://www.fao.org/docrep/003/w3613e/w3613e00.htm.
FAO. (2006). *Food security*. Policy Brief. Issue 2. Rome, Italy.
FAO. (2009). The special challenge for sub-Saharan Africa. High level expert forum-how to feed the world in 2050. 12-13 October 2009, Rome, Italy. Retrieved 18 September 2016, from http://www.fao.org/fileadmin/templates/wsfs/docs/Issues_papers/HLEF2050_Africa.pdf
FAO. (2012). Food and Agriculture Organization of the United Nations AQUASTAT—FAO's information system on water and agriculture. Available at http://www.fao.org/NR/WATER/AQUASTAT/main/index.
Farrell, M.A. (2000). Developing a market-oriented learning organization. *Australian Journal of Management, 25*(2), 201-223.
Farrell, M.A., & Oczkowski, E. (1997). An analysis of the MKTOR and MARKOR measures of market orientation: an Australian perspective. *Marketing Bulletin, 8*, 30-40.
FCA. (2015). *Cooperative movement in Ethiopia: performances, challenges and intervention options*. Annual bulletin report, Federal Cooperative Agency. Addis Ababa, Ethiopia.
FCA. (2016). *3rd National cooperatives exhibition, bazar and symposium*. Federal Cooperative Agency (FCA) Ethiopia. February 2016, Addis Ababa, Ethiopia.
FDRE. (1998). *Proclamation No. 147/1998 to provide for the establishment of cooperative societies*. Federal Negarit Gazeta. Addis Ababa Ethiopia: Federal Democratic Republic of Ethiopia.
Feyissa, R., Gezu, G., Tsegaye, B., & Desalegn, T. (2013). On-farm management of plant genetic resources through community seed banks in Ethiopia. In W.S. de Boef, A. Subedi, N. Peroni, M. Thijssen and E. O'Keeffe (Eds.), *Community Biodiversity Management-Promoting resilience and the conservation of plant genetic resources* (pp. 26-31).
Fischer, E., & Qaim, M. (2012a). Linking smallholders to markets: determinants and impacts of farmer collective action in Kenya. *World Development, 40*(6), 1255-1268.

Forman, H., & Hunt, J.M. (2005). Managing the influence of internal and external determinants on international industrial pricing strategies. *Industrial Marketing Management, 34*(2), 133-146.

Fornell, C.G., & Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39-50.

Foster, V., & Morella, E. (2011). *Ethiopia's infrastructure: a continental perspective*. World Bank Policy research working paper 5595. World Bank, Washington, DC.

Francesconi, G.N., & Heerink, N. (2010). Ethiopian agricultural cooperatives in an era of global commodity exchange: Does organisational form matter? *Journal of African Economies, 20*(1), 153-177.

Freund, Y.P. (1988). Critical success factors. *Planning Review, 16*(4), 20-25.

Frohlich, M., & Westbrook, R. (2001). Arcs of integration: an international study of supply chain strategies. *Journal of Operations Management, 19*(2), 185-200.

Fulton, J.R., & Adamowicz, W.L. (1993). Factors that influence the commitment of members to their cooperative organization. *Journal of Agricultural Cooperation, 8*, 39-53.

Fulton, M., & Giannakas, K. (2001). Organizational commitment in a mixed oligopoly: Agricultural cooperatives and investor-owned firms. *American Journal of Agricultural Economics, 83*(5), 1258-1265.

Gashu, T. (2011). Why do farmers join in contractual wheat seed production: a case study from Woken, Amhara. *Local Seed Business Newsletter, 7*, 10-12.

Gatignon, H., & Xuereb, J-M. (1997). Strategic orientation of the firm and new product performance. *Journal of Marketing Research, 34*(1), 77-90.

Gaur, S.S., Vasudevan, H., & Gaur, A.S. (2011). Market orientation and manufacturing performance of Indian SMEs: moderating role of firm resources and environmental factors. *European Journal of Marketing, 45*(7/8), 1172-1193.

Gautam, M. (2006). *Managing Drought in Sub-Saharan Africa: policy perspectives*. Invited paper for a panel session on drought: economic consequences and policies for mitigation, at the IAAE Conference, 12-18, August 2006, Gold Coast, Queensland, Australia.

Gebeyehu, G., Dabi, G., & Shaka, G. (2001). Focus on seed programs the Ethiopian seed. *Focus on Seed Program Newsletter*.

Gebremedhin, B., Jaleta, M., & Hoekstra, D. (2009). Smallholders, institutional services, and commercial transformation in Ethiopia. *Agricultural Economics, 40*(1), 773-787.

Gemunden, H.G., & Heydebreck, P. (1995). The influence of business strategies on technological network activities. *Research Policy, 24*(6), 831-849.

Getnet, K., & Anullo, T. (2012). Agricultural cooperatives and rural livelihoods: evidence from Ethiopia. *Annals of Public and Cooperative Economics, 83*(2), 181-198.

Godfray, H.C.M., Beddington, J.R., Crute, I.R., Haddad, L., Lawrence, D., Muir, J.F., Pretty, J., Robinson, S., Thomas, S.M., & Toulmin, C. (2010). Food security: the challenge of feeding 9 billion people. *Science, 327*(5967), 812-818.

Gounaris, S., & Tzempelikos, N. (2012). Conceptualization and measurement of key account management orientation. *Journal Business Marketing Management, 5*(3), 173-194

Grawe, S.J., Chen, H., & Daugherty, P.J. (2009). The relationship between strategic orientation, service innovation, and performance. *International Journal of Physical Distribution and Logistics Management, 39*(4), 282-300.

Gray, B., Matear, S., Boshoff, C., & Matheson, P. (1998). Developing a better measure of market orientation. *European Journal of Marketing, 32*(9-10), 884-903.

Grinstein, A. (2008). The relationships between market orientation and alternative strategic orientations-a meta-analysis. *European Journal of Marketing, 42*(1/2), 115-134.

Grwambi, B., Ingenbleek, P., Obi, A., Schipper, R.A., & van Trijp, H.C.M. (2016). Towards achieving sustainable market access by South African smallholder deciduous fruit producers: the road

ahead. In J. Bijman & V. Bitzer (Eds.), *Quality and Innovation in Food Chains-lessons and insights from Africa* (pp. 213-236): Wageningen Academic Publisher: The Netherlands.

Haddad, N., Duwayri, M., Oweis, T., Bishaw, Z., Rischkowsky, B., Aw Hassan, A., & Grando, S. (2011). The Potential of small-sclae rainfed agriculture to strengthen food security in Arab countries. *Food Security, 3*(1), 163-173.

Hair, J., Anderson, R.,E., Tatham, R.L., & Black, W.C. (2010). *Multivariate data analysis* (7th ed.). Englewood Cliffs: Prentice-Hall.

Hair, J.F., Sarstedt, M., Ringle, C.M., & Mena, J.A. (2012a). An assessment of the use of partial least squares structural equation modelling in marketing research. *Journal of the Academy of Marketing Science, 40*(3), 414–433.

Hamid, A.B.A., & Sukati, I. (2011). The relationship between firm integration and supply chain orientation. *Jurnal Kemanusiaan, 17*, 33-56.

Han, J.K., Kim, N., & Srivastava, R.K. (1998). Market orientation and organizational performance: is innovation a missing link? *Journal of Marketing, 62*(4), 30-45.

Hansen, G., & Wernerfelt, B. (1989). Determinants of firm performance: the relative importance of economic and organisational factors. *Strategic Management Journal, 10*(5), 399-411.

Harms, P.D., & Luthans, F. (2012). Measuring implicit psychological constructs in organizational behaviour: An example using psychological capital. *Journal of Organizational Behaviour, 33*(4), 589–594.

Harris, L. (2002). Measuring market orientation: exploring a market oriented approach. *Journal of Market-Focused Management, 5*(3), 239-270.

Harris, L., & Ogbonna, E. (1999). Developing a market oriented culture: a critical evaluation. *Journal of Management Study, 36*(2), 177-196

Harris, L.C., & Ogbonna, E. (2001). Leadership style and market orientation: an empirical study. *European Journal of Marketing, 35*(5/6), 744-764.

Harte, L., & O'Connell, J.J. (2007). European dairy cooperative strategies: horizontal integration versus diversity. In K. Karantininis & J. Nilsson (Eds.), *Vertical Markets and Cooperative Hierarchies-the role of cooperatives in the agri-food industry* (pp. 195-211). Dordrecht, Springer.

Hassan, T.R., Habib, A., & Khalid, M. (2014). Role of buyer-supplier relationship on buying firm's performance in chemical sector of Pakistan. *European Journal of Business and Management, 6*(28), 51-57.

Hassena, M., & Dessalegn, L. (2011). *Assessment of Ethiopian seed sector*. Paper presented at the African seed and biotechnology program: Integrated Seed Sector Development in Africa workshop, Kampala, Uganda.

Hassena, M., Dessalegn, T., Abay, F., & Thijssen, M.H. (2013). Participatory varietal selection for enhancing farmers' access to quality seed in Ethiopia. In W.S. de Boef, A. Subedi, N. Peroni, M.T. Thijssen & and E. O'Keeffe (Eds.), *Community Biodiversity Management-promoting resilience and the conservation of plant genetic resources* (pp. 279-284). New York: Earthscan, Routledge.

Hayes, A.F. (2013). *Introduction to mediation, moderation, and conditional process analysis: a regression-based approach.* NY: Guilford.

Hazell, P., Poulton, C., Wiggins, S., & Dorward, A. (2010). The future of small farms: trajectories and policy priorities. *World Development, 38*(10), 1349-1361.

He, J., & van de Vijver, F. (2012). Bias and equivalence in cross-cultural research. *Online Readings in Psychology and Culture, 2*(2).

Helfat, C.E., & Peteraf, M.A. (2003). The dynamic resource-based view: capability lifecycles. *Strategic Management Journal, 24*(10), 997-1010.

Hellmuth, M.E., Osgood, D.E., Hess, U., Moorhead, A., & Bhojwani, H. (2009). *Climate and society, No. 2*. IRI, Columbia University, New York, USA.

Hendrikse, G., & Bijman, J. (2002). Ownership structure in agrifood chains: the marketing cooperative. *American Journal of Agricultural Economics, 84*(1), 104-119.

Henson, S., Jaffee, S., Cranfield, J., Blandon, J., & Siegel, P. (2008). *Linking African smallholders to high-value markets: practitioner perspectives on benefits, constraints and interventions*. Policy research working paper 4573. Washington: World Bank.

Hernandez, R., Reardon, T., & Berdegué, J. (2007). Supermarkets, wholesalers, and tomato growers in Guatemala. *Agricultural Economics, 36*(3), 281-290.

Hilal, M.I.M., & Mubarak, K.M. (2014). Market orientation adoption strategies for small restaurants: a study in the Eastern Sri Lanka. *Journal of Management, VIII*(1), 14-26.

Hilman, H., & Kaliappen, N. (2014). Market orientation practices and effects on organizational performance: empirical insight from Malaysian hotel industry. *SAGE Open, 4*(4), 1-8.

Hirpa, A., Meuwissen, M.P.M., Tesfaye, A., Lommen, W.J.M., Oude Lansink, A.G.J.M., Tsegaye, A., & Struik, P.C. (2010). Analysis of Seed Potato Systems in Ethiopia. *American Journal of Potato Research, 87*(6), 537-552.

Holcombe, R.G. (2003). The origins of entrepreneurial opportunities. *Review of Austrian Economics, 16*(1), 25-43.

Holden, S. (2013). *Amazing maize in Malawi: input subsidies, factor productivity and land use intensification*. Centre for land tenure studies working paper 04/13. Norwegian University of Life Sciences.

Holloway, G., Nicholson, C., Delgado, C., Staal, S., & Ehui, S., (2000). Agro-industrialization through institutional innovation: transaction costs, cooperatives and milk-market development in the east-African highlands. *Agricultural Economics, 23*(3), 279-288.

Homburg, C., & Pflesser, C. (2000). A multiple-layer model of market-oriented organizational culture: measurement issues and performance outcomes. *Journal of Marketing Research, 37*(4), 449-462.

Hopfenberg, R., & Pimentel, D. (2001). Human population numbers as a function of food supply. *Environment, Development and Sustainability, 3*(1), 1-15.

House, R.J., Hanges, P.J., Javidan, M., Dorfman, P.W., & Gupta, V. (2004). *Globe, cultures, leadership, and organizations: the globe study of 62 Societies*. CA: Sage.

http://allafrica.com/stories/201505180595.html. (Accessed on 2 August 2016).

http://www.issdethiopia.org/index.php/services/intermediary-seed-systems. (Accessed on 27 August 2016).

Hu, L., & Bentler, P.M. (1999). Cut-off criteria for fit indices in covariance structure analysis: conventional criteria versus new alternatives. *Structural Equation Modeling, 6*(1), 1-55.

Hult, G.T.M., Ketchen, D.J., Adams, G.L., & Mena, J.A. (2008). Supply chain orientation and balance scorecard performance. *Journal of Management Issues, 20*(4), 526-544.

Hult, G.T.M., & Ketchen, D.J. (2001). Does market orientation matter?: a test of the relationship between positional advantage and performance. Strategic *Management Journal, 22*(9) 899-906.

Hult, G.T.M., Ketchen, D.J., & Slater, S.F. (2005). Market orientation and performance: an integration of disparate approaches. *Strategic Management Journal, 26*(12) 1173-1181.

Hunt, S.D., & Morgan, R.M. (1995). The competitive advantage theory of competition. *Journal of Marketing, 59*, 1-15.

Hussain, J., Ismail, K., & Akhtar, S.S. (2015). Market orientation and organizational performance: case of Pakistani SMEs. *Arabian Journal of Business and Management Review, 5*(5), 1-6.

Hutcheson, G., & Sofroniou, N. (1999). *The multivariate social scientist: introductory statistics using generalized linear models*. Thousand Oaks, CA: Sage Publications.

Ian, L., & Gordon, G. (2009). The impact of internal and external market orientations on firm performance. *Journal of Strategic Marketing*, *17*(1), 41-53.

ICA. (1995). *Statement on the cooperative identity, in review of international cooperation*. Vol.88, No.3.

IFAD. (2011). *Rural poverty report: new realities new challenges. new opportunities for tomorrow's generation*. IFAD, Rome, Italy.

IMF. (2007). *Regional economic outlook: Sub-Saharan Africa*. Washington, D.C.

Ingenbleek, P.T.M., Workneh, T.K., & van Trijp, C.M. (2013). Conducting field research in subsistence markets, with an application to market orientation in the context of Ethiopian pastoralists. *International Journal of Research in Marketing, 30*(1), 83-97.

Ingram, H., Biermann, K., Cannon, J., Neil, J., & Waddle, C. (2000). Internalizing action learning: a company perspective. Establishing critical success factors for action learning courses. *International Journal of Contemporary Hospitality Management, 12*(2), 107-113.

Inoguchi, J. (2011). Implementation of market orientation in small sized company: case study on a Japanese apparel manufacturer. *International Journal of Emerging Science, 1*(3), 200-210.

ISSD Africa. (2012). *ISSD Africa-Ethiopian seed systems assessment*. ISSD Briefing Note-ISSD Assessment Ethiopia.

ISSD. (2015). *Programme on integrated seed sector development in Ethiopia. 2014 annual report*. Centre for Development Innovation, Wageningen UR, Wageningen.

ISSD. (2016). *Programme on integrated seed sector development in Ethiopia. 2015 annual report*. Centre for Development Innovation, Wageningen UR, Wageningen.

ISSD/BDU. (2015). *Amhara region 2014 annual report for the programme integrated seed sector development*, Bahir Dar, Ethiopia.

Ivanic, M., & Martin, W. (2008). Implications of higher global food prices for poverty in low-income countries. *Agricultural Economics, 39*(1), 405-416.

Jaiyeoba, O., & Amanze, D. (2014). Testing the applicability of Narver and Slater's market orientation concept and firm performance in Botswana companies. *Journal of Business Theory and Practice, 2*(1), 1-12.

Jameson, S.M. (2000). Recruitment and training in small firms. *Journal of European Industrial Training, 24*(1), 43-49.

Jaworski, B.J., & Kohli, A.A. (1996). Market orientation: review, refinement, and roadmap. *Journal of Market-Focused Management, 1*(2), 119-135.

Jaworski, B.J., & Kohli, A.K. (1993). Market orientation: antecedents and consequences. *Journal of Marketing, 57*(3), 53-70.

Jayne, T., Zulu, B., & Nijhoff, J. (2006). Stabilizing food markets in eastern and southern Africa. *Food Policy, 31*(4), 328-341.

Jayne, T.S., Mather, D., & Mghenyi, E. (2010). Principal challenges confronting smallholder agriculture in sub-Saharan Africa. *World Development, 38*(10), 1384-1398.

Johnston, D.A., McCutcheon, D.M., Stuart, F.I., & Kerwood, H. (2004). Effects of supplier trust on performance of cooperative supplier relationships. *Journal of Operations Management, 22*(1), 23-38.

Jorge, C.R., Sérgio, T,M., & João, R. (2012). *Marketing activities, market orientation and other market variables influence on SMEs performance*. In conference proceedings of 41st EMAC conference-marketing to citizens-going beyond customers and consumers. Lisboa: ISCTE.

Joung, H-W., Goh, B.K., Huffman, L., Jingxue, J.Y., & Surles, J. (2015). Investigating relationships between internal marketing practices and employee organizational commitment in the foodservice industry. *International Journal of Contemporary Hospitality Management, 27*(7), 1618-1640.

Juma, C. (2015). *The new harvest: agricultural innovation in Africa* (2nd ed.). Oxford University Press.

Kaczan, D., Arslan, A., & Lipper, L. (2013). *Climate-smart agriculture. A review of current practice of agroforestry and conservation agriculture in Malawi and Zambia*. ESA Working Paper No.13-07.

Kaganzi, E., Ferris, S., Barham, J., Abenayko, A., Sanginga, P., & Njuki, J. (2009). Sustaining linkages to high value markets through collective action in Uganda. *Food Policy, 34*(1), 23-30.

Kahn, K.B. (2001). Market orientation, interdepartmental integration, and product development performance. *The Journal of Product Innovation Management, 18*(5), 314-323.

Katsikeas, C.S., Morgan, N.A., Leonidou, L.C., & Hult, G.T.M. (2016). Assessing performance outcomes in marketing. *Journal of Marketing, 80*(2), 1-20.

Kebede, A., Hasen, A., & Negatu, W. (2011). Comparative analysis of vulnerability of pastoralists and agro-pastoralists to climate change: a case study in Yabello Woreda of Oromia Region, Ethiopia. *Ethiopian Journal of Development Research, 33*(1), 61–95.

Kedir, A.M., & Ibrahim, G. (2011). ROSCAs in urban Ethiopia: are the characteristics of the institutions more important than those of members? *Journal of Development Studies, 47*(7), 998-1016.

Keeley, J., & Scoones, I. (2000). Knowledge, power and politics: the environmental policymaking process in Ethiopia. *Journal of Modern African Studies, 38*(1), 89-120.

Ketchen, D.J., Hult, G.T.M., & Slater, S.F. (2007). Toward greater understanding of market orientation and the resource-based view. *Strategic Management Journal, 28*(9), 961-964.

Kibbeling, M., van der Bij, H., & van Weele, A. (2013). Market orientation and innovativeness in supply chains: supplier's impact on customer satisfaction. *Journal of Product Management, 30*(3), 500-515.

Kim, A.J., & Ko, E. (2011). Do social media marketing activities enhance customer equity? An empirical study of luxury fashion brand. *Journal of Business Research, 65*(10), 1480-1486.

Kirca, A.H., Jayachandran, S., & Bearden, W.O. (2005). Market orientation: a meta-analytic review and assessment of its antecedents and impact on performance. *Journal of Marketing, 69*(2), 24-41.

Kline, R.B. (2005). *Principles and practice of structural equation modelling* (2nd ed.). New York: Guilford.

Kodama, Y. (2007). New role of cooperatives in Ethiopia: the case of Ethiopian coffee farmers cooperatives. *African Study Monographs: Supplementary Issue, 35*, 87-108.

Kohli, A.K., & Jaworski, B.J. (1990). Market orientation: the construct, research propositions, and managerial implications. *Journal of Marketing, 54*, 1-18.

Kohli, A.K., Jaworski, B.J., & Kumar, A. (1993). MARKOR: a measure of market orientation. *Journal of Marketing Research, 30*(4), 467-477.

Koko, I.S., & Abdullahi, D. (2012). Effects of migration of farmers on sustainable livelihood in Nigeria. *Journal of Business Management, 3*(3), 10-14.

Kouzes, J.M., & Posner, B.Z. (2012). *Leadership challenge* (5th ed.). San Francisco: Jossey-Bass.

Kumar, P., Singh, N.P., & Mathur, V.C. (2006). Sustainable agriculture and rural livelihoods: a synthesis. *Agricultural Economics Research Review, 19*, 1-22.

Kumar, V. (2000). *International marketing research*. Prentice Hall, Upper Saddle River, NJ.

Kumar, V., Jones, E., Venkatesan, R., & Leone, R.P. (2011). Is market orientation a source of sustainable competitive advantage or simply the cost of competing? *Journal of Marketing, 75*(1), 16-30.

Kumar, V., Wankhede, K.G., & Gena, H.C. (2015). Role of cooperatives in improving livelihood of farmers on sustainable basis. *American Journal of Educational Research, 3*(10), 1258-1266.

Kyriakopoulos, K. (1998). *Agricultural cooperatives: organizing for market-orientation*. IAMA World Congress VIII, Building Relationships to Feed the World: Firms, Chains, Blocs from 29 June-2 July, 1998, Uruguay, Punta Del Este.

Kyriakopoulos, K., & van Bekkum, O-F. (1999). *Market orientation of European agricultural cooperatives: strategic and structural issues*. IX European Congress of Agricultural Economists, from August 24-28, 1999, Warsow, Poland.

Kyriakopoulos, K., Meulenberg, M., & Nilsson, J. (2004). The impact of cooperative structure and firm culture on market orientation and performance. *Agribusiness*, *20*(4), 379–396.

Lafferty, B.A., & Hult, G.T.M. (2001). A synthesis of contemporary market orientation perspectives. *European Journal of Marketing, 35*(1), 92-109.

Lam, D. (2011). How the world survived the population bomb: lessons from 50 years of extraordinary demographic history. *Demography, 48*(4), 1231-1262.

Langerak, F. (2001). Effects of market orientation on the behaviours of salespersons and purchasers, channel relationships, and performance of manufacturers. *International Journal of Research in Marketing, 18*(3), 221-234.

Langerak, F., Hultink, E.J., & Robben, H.S.J. (2004). The impact of market orientation, product advantage, and launch proficiency on new product performance and organizational performance. *Journal of Product Innovation Management, 21*(2), 79-94.

Leidecker, J., & Bruno, A. (1984). Identifying and using critical success factors. *Long Range Planning, 17*(1), 23-32.

Lengnick-Hall, C.A., & Wolff, J.A. (1999). Similarities and contradictions in the core logic of three strategy research streams. *Strategic Management Journal, 20*(12), 1109-1132.

Li, G., Yang, H., Sun, L., & Sohal, A.S. (2009). The impact of IT implementation on supply chain integration and performance. *International Journal Production Economics, 120*(1), 125-138.

Li, Y., Zhao, Y., Tan, J., & Liu, Y. (2008). Moderating effects of entrepreneurial orientation on market orientation-performance linkage: evidence from Chinese small firms. *Journal of Small Business Management, 46*(1), 113-133.

Liargovas, P.G., & Skandalis, K.S. (2010). Factors affecting firms' performance: the case of Greece. *Global Business and Management Research: an International Journal, 2*(2/3), 184-197.

Lin, Y., & Wu, Lei-Yu. (2012). Exploring the role of dynamic capabilities in firm performance under the resource-based view framework. *Journal of Business Research, 67*(3), 407-413.

Lincoln, Y.S., & Guba, E.G. (1986). *Naturalistic inquiry*. Beverly Hills, California: Sage.

Lings, I.N., & Greenley, E.G. (2010). Internal market orientation and market-oriented behaviours. *Journal of Service Management, 21*(3), 321-343.

Liu, H., Ke, W., Wei, K.K., & Hua, A. (2013). Effects of supply chain integration and market orientation on firm performance: evidence from China. *International Journal of Operations and Production Management, 33*(3), 322-346.

Louwaars, N. (2007). *Seeds of confusion: The impact of policies on seed systems*. PhD Thesis, Wageningen University, The Netherlands.

Louwaars, N.P., & de Boef, W.S. (2012). Integrated seed sector development in Africa: a conceptual framework for creating coherence between practices, programs, and policies. *Journal of Crop Improvement, 26*(1), 39-59.

Louwaars, N.P., de Boef, W.S., & Edeme, J. (2013). Integrated seed sector development in Africa: a basis for seed policy and law. *Journal of Crop Improvement, 27*(2), 186-214.

LSB. (2012). *Local seed business and partnerships in Ethiopia. 2011 annual activity report*. Centre for Development Innovation, Wageningen UR, Wageningen

Lynch, D.F., Keller, S.B., & Ozment, J. (2000). The effect of logistics capabilities and strategy on firm performance. *Journal of Business Logistic, 21*(2), 47-67.

MacRobert, J. (2009). *Seed Business in Africa*. Harare, Zimbabwe, CIMMYT.

Maertens, M., Colen, L., & Swinnen, J.F.M. (2011). Globalisation and poverty in Senegal: a worst case scenario? *European Review of Agricultural Economics, 38*(1), 31-54.

Mahmoud, M.A. (2011). Market orientation and business performance among SMEs in Ghana. *International Business Research, 4*(1), 241-251.

Mahmoud, M.A., & Yusif, B. (2012). Market orientation, learning orientation, and the performance of non-profit organisations (NPOs). *International Journal of Productivity and Performance Management, 61*(6), 624-652.

Makadok, R. (2001). Toward a synthesis of the resource based and dynamic-capability views of rent creation. *Strategic Management Journal, 22*(5), 387-401.

Maltz, E., & Kohli, A.K. (1996). Market intelligence dissemination across functional boundaries. *Journal of Marketing Research, 33*(1), 47–61.

Markelova, H., Meinzen-Dick, R., Hellin, J., & Dohrn, S. (2009). Collective action for smallholder market access. *Food Policy, 34*(1), 1-7.

Marsh, H.W., Hau, K-T., & Wen, Z. (2004). In search of Golden Rules: comment on hypothesis-testing approaches to setting cutoff values for fit indexes and dangers in overgeneralizing Hu and Bentler's (1999) findings. *Structural Equation Modeling: A Multidisciplinary Journal, 11*(3), 320-341.

Martin, R. (2007). How successful leaders think. *Harvard Business Review, June*, 60-67.

Matsunaga, M. (2010). How to factor-analyze your data right: do's, don'ts, and how-to's. *International Journal of Psychological Research, 3*(1), 97-110.

Matsuno, K., Mentzer, J.T., & Rentz, J.O. (2000). A refinement and validation of the MARKOR scale. *Journal of the Academy of Marketing Sciences, 28*(4), 527-539.

Matsuno, K., Mentzer, J.T., & Rentz, J.O. (2005). Conceptual and empirical comparison of three market orientation scales. *Journal of Business Research, 58*, 1-8.

May, H. (2006). A multilevel Bayesian IRT method for scaling socioeconomic status in international studies of education. *Journal of Educational Behaviour Statistics, 31*(1), 63-79.

Maydeu-Olivers, A., & Lado, N. (2003). Market orientation and business economic performance: a mediated model. *International Journal of Service Industry Management, 14*(3), 284-309.

McArthur, D.N. (2007). Construct equivalence in international business research: the first and the last of it. *The Journal of Business Inquiry, 6*, 28-38.

McGuire, S. (2001). Analysing farmers' seed systems: some conceptual components. In L. Sperling (Ed.), *Targeted seed aid and seed-system interventions: strengthening small-farmer seed systems in East and Central Africa*. Proceedings of a workshop held from 21-24 June, 2000 in Kampala, Uganda.

McGuire, S. (2005). *Getting genes: rethinking seed system analysis and reform for sorghum in Ethiopia*. PhD Thesis, Wageningen University, The Netherlands.

McIntosh, C., Sarris, A., & Papadopoulos, F. (2013). Productivity, credit, risk, and the demand for weather index insurance in smallholder agriculture in Ethiopia. *Agricultural Economics, 44*, 399-417.

Menguc, B., & Auh, S. (2006). Creating a firm-level dynamic capability through capitalizing on market orientation and innovativeness. *Journal of the Academy of Marketing Science, 34*(1), 63-73.

Min, S., Mentzer, T., & Ladd, R.T. (2007). A market orientation in supply chain management. *Journal of the Academic Marketing Science, 35*, 507–522.

MoA. (2015). *From 2002 E.C. to 2007 E.C. agricultural inputs provision and distribution evaluation and second round growth and transformation plan*. Agricultural Inputs and Marketing Directorate, Ministry of Agriculture, Addis Ababa, Ethiopia.

MoFED. (2003). *Rural development policy and strategies*. Ministry of Finance and Economic Development (MoFED), Addis Ababa, Ethiopia.

MoFED. (2012). *Ethiopia's progress towards eradicating poverty: an interim report on poverty analysis study (2010/11)*. Ministry of Finance and Economic Development (MoFED), Addis Ababa, Ethiopia.

Mohammed, H., Dessalegn, T., Abay, F., Nefo, K., Dechassa, N., Thijssen, M., & de Boef, W.S. (2012). Variations in farmer organizations engaged in seed entrepreneurship. In T. Adefris, F. Asnake, A. Dawit, D. Lemma & K. Abebe (Eds.), *The Defining Moments in Ethiopian Seed System* (pp.253-269). Ethiopia Institute of Agricultural Research (EIAR), Addis Ababa, Ethiopia.

Mohr, J.J., & Sarin, S. (2009). Drucker's insights on market orientation and innovation: implications for emerging areas in high-technology marketing. *Journal of the Academy of Marketing Science, 37*(1), 85-96.

Mokhtar, S.S.M., Yusoff, R.Z., & Arshad, R. (2009). Market orientation critical success factors of Malaysian manufacturers and its impact on financial performance. *International Journal of Marketing Studies, 1*(1), 77-84.

Moorman, C. (1995). Organizational information processes: cultural antecedents and new product outcomes. *Journal of Marketing Research, 32*(3), 318-335.

Moorman, C., & Slotegraaf, R.J. (1999). The contingency value of complementary capabilities in product development. *Journal of Marketing Research, 36*(2), 239-257.

Morgan, N.A. (2012). Marketing and business performance. *Journal of the Academy of Marketing Science, 40*(1), 102-119.

Morgan, N.A., Vorhies, D.W., & Mason, C.H. (2009). Market orientation, marketing capabilities, and firm performance. *Strategic Management Journal, 30*(8), 909-920.

Morgan, N.A., Zou, S., Vorhies, D.W., & Katsikeas, C.S. (2003). Experiential and informational knowledge, architectural marketing capabilities, and the adaptive performance of export ventures. *Decision Sciences, 34*(2), 287-321.

Narrod, C., Roy, D., Okello, J., Avendano, B., Rich, K., & Thorat, A. (2009). Public-private partnerships and collective actions in high value fruit and vegetable supply chain. *Food Policy, 40*(12), 8-15.

Narver, J.C., & Slater, S.F. (1990). The effect of market orientation on business profitability. *Journal of Marketing, 54*(10), 20-35.

Narver, J.C., Slater, S.F., & MacLachlan, D.L. (2004). Responsive and proactive market orientation and new-product success. *Journal of Product Innovation Management, 21*(5), 334-347.

Nath, P., Nachiappan, S., & Ramanathan, R. (2010). The impact of marketing capability, operations capability and diversification strategy on performance: a resource-based view. *Industrial Marketing Management, 39*(2), 317-329.

Nembhand J.G. (2002). Cooperatives and wealth accumulation: preliminary analysis. *American Economic Review, 92*(2), 325-329.

Nembhand J.G. (2004b). Non-traditional analyses of cooperative economic impacts: preliminary indicators and a case study. *Review of International Co-operation, 97*(1), 6-21.

Newbert, S.L. (2007). Empirical research on the resource based view of the firm: an assessment and suggestions for future research. *Strategic Management Journal, 28*(2), 121-146.

Ngamkroechjoti, C., & Speece, M. (2008). Technology turbulence and environmental scanning in Thai food new product development. *Asia Pacific Journal of Marketing and Logistics, 20*(4), 423-432.

Ngo, L.V., & O'Cass, A. (2012). Performance implications of market orientation, marketing resources, and marketing capabilities. *Journal of Marketing Management, 28*(1/2), 173-187.

Nicholson, S.E. (2001). Climatic and environmental change in Africa during the last two centuries. *Climate Research, 17*, 123-144.

Nimalathasan, B. (2009). An association between market orientation and business performance: a case study of small medium enterprises in Sri Lanka. *Manager Journal, 10*, 122-130.

O'Cass, A., & Ngo, L.V. (2007). Balancing external adaptation and internal effectiveness: achieving better brand performance. *Journal of Business Research, 60*(1), 11-20.

Ojiewo, C.O., Kugbei, S., Bishaw, Z., & Rubyogo, J.C. (2015). *Community seed production*. Workshop Proceedings, 9-11 December 2013. FAO, Rome & ICRISAT, Addis Ababa, Ethiopia.

Okry, F. (2011). *Strengthening rice seed systems and agro-biodiversity conservation in West Africa: a socio-technical focus on farmers' practices of rice seed development and diversity conservation in Susu cross border lands of Guinea and Sierra Leone*. PhD Thesis, Wageningen University, The Netherlands.

Olavarrieta, S., & Friedmann, R. (2008). Market orientation, knowledge-related resources and firm performance. *Journal of Business Research, 61*(6), 623-630.

Olesen, J.E., & Bindi, M. (2002). Consequences of climate change for European agricultural productivity, land use and policy. *European Journal of Agronomy, 16*(4), 239-262.

Olive, J.L. (2014). Reflecting on the tensions between emic and etic perspectives in life history research: lessons learned. *Forum: Qualitative Social Research Sozialforschung*, *15*(2), 1-13.

Omamo, S.W. (1998). Farm-to-market transaction costs and specialization in small-scale agriculture: explorations with a non-separable household model. *Journal of Development Studies, 35*(2), 152-163.

Opoku, E., Opuni, F.F., & Adjei, K.S. (2014). An empirical study on the effect of internal market orientation on firm performance: the case of commercial banks in Ghana. *British Journal of Marketing Studies, 2*(6), 37-51.

Ortmann, G., & King, R. (2007). Agricultural cooperatives II: Can they facilitate access of small-scale farmers in South Africa to input and product markets? *Agrekon, 46*(2), 219-244.

Ospina, J. M., & Pérez, G. (2013). A Measure of market orientation: development and validation in a different cultural context. *Innovar, 23*(49), 41-49.

Österberg, P., & Nilsson, J. (2009). Members' perception of their participation in the governance of cooperatives: the key to trust and commitment in agricultural cooperatives. *Agribusiness, 25*(2), 181-197.

Ozkaya, H.E., Droge, C., Hult, G.T.M., Calantone, R., & Ozkaya, E. (2015). Market orientation, knowledge competence, and innovation. *International Journal of Research in Marketing, 32*(3), 309-318.

Pelham, A.M. (2000). Market orientation and other potential influences on performance in small and medium sized manufacturing firms. *Journal of Small Business Management, 38*, 48-67.

Penrose-Buckley, C. (2007). *Producer organisations. a guide to developing collective rural enterprises.* Oxfam GB: Oxford.

Pinto, J., & Slevin, D. (1987). Critical factors in successful project implementation. *IEEE Transactions on Engineering Management, 34*(1), 22-27.

Porter, M.P. (1980). *Competitive strategy: techniques for analysing industries and competitors*. New York: Free Press.

Preacher, K.J., & Kelley, K. (2011). Effect size measures for mediation models: quantitative strategies for communicating indirect effects. *Psychological Methods, 16*(2), 93-115.

Pretty, J., Toulmin, C., & Williams, S. (2011). Sustainable intensification in African agriculture. *International Journal of Agricultural Sustainability*, *9*(1), 5-24.

Priem, R.L., & Butler, J.E. (2001). Is the resource-based 'view' a useful perspective for strategic management research? *Academy of Management Review, 26*(1), 22-40.

Puni, A., Ofei, S.B., & Okoe, A. (2014). The effect of leadership styles on firm performance in Ghana. *International Journal of Marketing Studies, 6*(1), 177-185.

Raaij, V.M.E., & Stoelhorst, W.J. (2008). The implementation of market orientation–a review and integration of contributions to date. *European Journal of Marketing, 42*(11/12), 265-1293.

Rahman, S. (2001). Total quality management practices and business outcome: evidence from small and medium enterprises in Western Australia. *Total Quality Management, 12*(2), 201-210.

Rahman, S. (2008). Effect of global warming on rainfall and agriculture production. *International Review of Business Research Papers, 4*(4), 319-329.

Rakotoarisoa, M.A., Iafrate, M., & Paschali, M. (2011). *Why has Africa become a net food importer? Explaining Africa agricultural and food trade deficits*. Food and Agriculture Organization of the United Nations, Rome, Italy.

Ray, D.K., Ramankutty, N., Mueller, N.D., West, P.C., & Foley, J.A. (2012). Recent patterns of crop yield growth and stagnation. *Nature Communication, 3*, 1293.

Reardon, T., Barrett, C.B., Berdegue´, J.A., & Swinnen, J.F.M. (2009). Agrifood industry transformation and small farmers in developing countries. *World Development, 37*(11), 1717-1727.

Renko, M., Carsrud, A., & Brannback, M. (2009). The effect of a market orientation, entrepreneurial orientation, and technology capability on innovativeness: a study of young biotechnology ventures in the United States and in Scandinavia. *Journal of Small Business Management, 47*(3), 331-369.

Rizzoni, A. (1991). Technological innovation and small firms: a taxonomy. *International Small Business Journal, 9*(3), 31-42.

Rockart, J. (1979). Chief executives define their own information needs. *Harvard Business Review, March*, 81-92.

Rosseel, Y. (2012). lavaan: an R package for structural equation modelling. *Journal of Statistical Software, 48*(2), 1-36.

Ruben, R., Slingerland, M., & Nijhoff, H. (2006). *Agro-food chains and networks for development.* Springer.

Ruekert, R.W. (1992). Developing a market orientation: an organizational strategy perspective. *International Journal of Research in Marketing, 9*(3), 225-245.

Rust, R.T., Ambler, T., Carpenter, G.S., Kumar, V., & Srivastava, R.K. (2004). Measuring marketing productivity: current knowledge and future directions. *Journal of Marketing, 68*(4), 76-89.

Saraph, J.V., Benson, P.G., & Schroeder, R.G. (1989). An instrument for measuring the critical factors of quality management. *Decision Sciences, 20*(4), 810-829.

Sarr, B. (2012). Present and future climate change in the semi-arid region of West Africa: a crucial input for practical adaptation in agriculture. *Atmospheric Science Letters, 13*(2), 108-112.

Saunders, M., Lewis, P., & Thornhill, A. (2000). *Research methods for business students* (2nd ed.). Pearson Education, Harlow.

Schiele, H. (2012). Accessing supplier innovation by being their preferred customer. *Research-Technology Management, 55*(1), 44-50.

Schlosser, F.K., & McNaughton, R.B. (2009). Using the I-MARKOR scale to identify market-oriented individuals in the financial services sector. *Journal of Services Marketing, 23*(4), 236-248.

Scott-Young, C., & Samson, D. (2008). Project success and project team management: evidence from capital projects in the process industries. *Journal of Operations Management, 26*(6), 749-766.

Seboka, B., & Deressa, A. (2000). Validating the farmers' indigenous social networks for local seed supply in central Rift valley of Ethiopia. *The Journal of Agricultural Education and Extension, 6*(4), 245-254.

Seilov, G.A. (2015). Does the adoption of customer and competitor orientations make small hospitality businesses more entrepreneurial? Evidence from Kazakhstan. *International Journal of Contemporary Hospitality Management, 27*(1), 71-86.

Selim, H.M. (2007). Critical success factors for e-learning acceptance: confirmatory factor models. *Computers & Education, 49*(2), 396-413.

Shehu, A.M. (2014). Relationship between market orientation and firm performance: a look at Nigerian SMEs. *Developing Country Studies, 4*(12), 87-93.

Shepherd, A.W. (2007). *Approaches to linking producers to markets, a review of experiences to date*. Food and Agriculture Organization (FAO) of the United Nations, Rome.

Sheppard, R. (2011). The evolution and conceptualization of market orientation: what managers ought to know. *Journal of Management Policy and Practice, 12*(6), 30-45.

Sheth, J.N. (2011). Impact emerging markets on marketing: rethinking existing perspectives and practices. *Journal of Marketing, 75*(4), 166-182.

Shiferaw, B., Tesfaye, K., Kassie, M., Abate, T., Prasanna, B.M., & Menkir, A. (2014). Managing vulnerability to drought and enhancing livelihood resilience in sub-Saharan Africa: technological, institutional and policy options. *Weather and Climate Extremes, 3*, 67-79.

Shin, H., Collier, D.A., & Wilson, D.D. (2000). Supply management orientation and supplier/buyer performance. *Journal of Operations Management, 18*(3), 317-333.

Shoham, A., Rose, G.M., & Kropp, F. (2005). Market orientation and performance: a meta-analysis. *Marketing Intelligence & Planning, 23*(5), 435-454.

Siguaw, J.A., Simpson, P.M., & Baker, T.L. (1998). Effects of supplier market orientation on distributor market orientation and the channel relationship: the distributor perspective. *Journal of Marketing, 62*(3), 99-111.

Simane, B. (2008). Seed policies and regulations and informal seed supply in Ethiopia. In M.H. Thijssen, Z. Bishaw, A. Beshir & W.S. de Boef (Eds.), *Farmers, seeds and varieties: supporting informal seed supply in Ethiopia*. Wageningen, Wageningen International. (pp. 312-316).

Siu, W. (2002). Marketing activities and performance: a comparison of the Internet-based and traditional small firms in Taiwan. *Industrial Marketing Management, 31*(2), 177-188.

Slater, S.F., & Narver, J.C. (1994). Does competitive environment moderate the market orientation performance relationship? *Journal of Marketing, 58*(1), 46-55.

Slater, S.F., & Narver, J.C. (1995). Market orientation and the learning organisation. *Journal of Marketing, 59*(3), 63-74.

Slater, S.F., & Narver, J.C. (1998). Customer-led and market-oriented: let's not confuse the two. *Strategic Management Journal, 19*(10), 1001-1006.

Smirnova, M., Naude, P., Henneberg, S.C., Mouzas, S., & Kouchtch, S.P. (2011). The impact of market orientation on the development of relational capabilities and performance outcomes: the case of Russian industrial firms. *Industrial Marketing Management, 40*(1), 44-53.

Snoj, B., Milfelner, B., & Gabrijan, V. (2007). An examination of the relationships among market orientation, innovation resources, reputational resources, and company performance in the transitional economy of Slovenia. *Canadian Journal of Administrative Sciences, 24*(3), 151-164.

Soboh, R.A.M.E., Oude Lansink, A.G.J.M., Giesen, G.W.J., & van Dijk, G. (2009a). Performance measurement of the agricultural marketing cooperatives: the gap between theory and practice. *Review of Agricultural Economics, 31*(3), 446-469.

Soehadi, A.W., Hart, S., & Tagg, S. (2001). Measuring market orientation in the Indonesian retail context. *Journal of Strategic Marketing, 9*(4), 285-299.

Song, M., & Thieme, J. (2009). The role of suppliers in market intelligence gathering for radical and incremental innovation. *The Journal of Product Innovation Management, 26*(1), 43-57.

Songok, C.K., Kipkorir, E.C., Mugalavai, E.M., Kwonyike, A.C., & Ngweno, C. (2011b). Improving the participation of agro-pastoralists in climate change adaptation and disaster risk reduction policy formulation: a case study from Keiyo district, Kenya. In W.L. Filho (Ed.), *Experiences of Climate Change Adaptation in Africa* (pp. 55-68). Springer: Hamburg.

Spielman, D.J., Byerlee, D., Alemu, D., & Kelemework, D. (2010). Policies to promote cereal intensification in Ethiopia: the search for appropriate public and private roles. *Food Policy, 35*(3), 185-194.

Srivastava, R.K., Shervani, T.A., & Fahey, L. (1998). Market-based assets and shareholder value: a framework for analysis. *Journal of Marketing, 62*(1), 2-18.

Steenkamp, J.B.E.M., & Baumgartner, H. (1998). Assessing measurement invariance in cross-national consumer research. *Journal of Consumer Research, 25*(1), 78-90.

Steenkamp, J.B.E.M., & van Trijp, H. (1991). The use of LISREL in validating marketing constructs. *International Journal of Research in Marketing, 8*(4), 283-299.

Steenkamp, J.E.M. (2005). Moving out of the U.S. silo: a call to arms for conducting international marketing research. *Journal of Marketing, 69*, 6-8.

Stevens, J. (2002). *Applied multivariate statistics for the social sciences* (4th ed.). Mahwah, NJ: Lawrence Erlbaum Associates.

Stockbridge, M., Dorward, A., & Kydd, J. (2003). *Farmer organizations for market access: learning from success*. Briefing Paper. Wye College, University of London, UK.

Subedi, A., & Borman, G. (2013). *Critical success factors for local seed business: report on the 2012 assessment*. Centre for Development Innovation, Wageningen UR, Wageningen, The Netherlands.

Subramanian, R., & Gopalakrishna, P. (2001). The market orientation-performance relationship in the context of a developing economy: an empirical analysis. *Journal of Business Research, 53*(1), 1-13.

Sun, Y., & Li, S. (2011). Testing the effect of risk on intertemporal choice in the Chinese cultural context. *The Journal of Social Psychology, 151*(4), 517-522.

Suttie, D., & Benfica, R. (2016). *Fostering inclusive outcomes in sub-Saharan African agriculture. Improving agricultural productivity and expanding agribusiness opportunities*. IFAD Research Series 03.

Taffesse, A.S., Dorosh, P., & Gemessa, S.A. (2012). Crop production in Ethiopia: regional patterns and trends. In P. Dorosh & S. Radish (Eds.), *Food and Agriculture in Ethiopia: Progress and Policy Changes* (pp. 53-83). Philadelphia, PA: University of Pennsylvania Press.

Teece, D.J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal, 18*(7), 509-535.

Tefera, A. (2012). *Ethiopia: grain and feed annual report. global agricultural information network*. USDA Foreign Agriculture Service, Report Number ET 1201.

Tekelewold, H., Kassie, M., & Shiferaw, B. (2013). Adoption of multiple sustainable agricultural practices in rural Ethiopia. *Journal of Agricultural Economics, 64*(3), 597-623.

Tessema, W.K. (2012). *Marketing's contribution to the sustainability of pastoralism: evidence from Ethiopia*. PhD Thesis, Wageningen University, The Netherlands.

Theodosiou, M., Kehagias, J., & Katsikea, E. (2012). Strategic orientations, marketing capabilities and firm performance: an empirical investigation in the context of frontline managers in service organizations. *Industrial Marketing Management, 41*(7), 1058-1070.

Thijssen, M., Bishaw, Z., Beshir, A., & de Boef, W.S. (2008). *Farmers, seeds and varieties: supporting informal seed supply in Ethiopia*. Wageningen, Wageningen International.

Thijssen, M.H., Borman, G., Verhoosel, K., Mastenbroek, A., & Heemskerk, W. (2013). Local seed business in the context of Integrated Seed Sector Development. In C.O. Ojiewo, S. Kugbei, Z. Bishaw & J.C. Rubyogo (Eds.), *Community Seed Production, December 9-11, 2013, Addis Ababa, Ethiopia* (pp. 39-45).

Thompson, E.R. (2007). Development and validation of an internationally reliable short-form of the positive and negative affect schedule (PANAS). *Journal of Cross-Cultural Psychology, 38*(2) 227-242.

Thorbecke, E. (2013). The interrelationship linking growth, inequality and poverty in Sub-Saharan Africa. *Journal of African Economics, 22*(1), 15-48.

Tomášková, I.E. (2009). The current methods of measurement of market orientation. *European Research Studies, XII*(3), 135-150.

Triandis, H.C., & Marin, G. (1983). Etic plus emic versus pseudoetic: a test of a basic assumption of contemporary cross-cultural psychology. *Journal of Cross-Cultural Psychology, 14*(4), 489-500.

Tschakert, P., Sagoe, R., Ofori-Darko, G., & Codjoe, S.N. (2010). Floods in the Sahel: an analysis of anomalies, memory, and anticipatory learning. *Climate Change, 103*(3), 1-32.

Tse, A., Sin, L., Yim, F., & Heung, V. (2005). Market orientation and hotel performance. *Annals of Tourism Research, 32*(4), 1145-1147.

Tsegaye, D. (2012). Profitability of contractual bread wheat seed production in Mecha district of Amhara region, Ethiopia. *Journal of Central European Agriculture, 13*(1), 142-149.

Tvorik, S.J., & McGivern, M.H. (1997). Determinants of organizational performance. *Management Decision, 35*(6), 417-435.

Ullman, J.B. (2001). Structural equation modeling. In B.G. Tabachnick & L.S. Fidell (Eds.). *Using Multivariate Statistics* (4th ed) (pp. 653-771). Needham Heights, MA: Allyn & Bacon.

UNCTAD. (2010). *Economic development in Africa report 2009-strengthening regional economic integration for Africa's development*. United Nations Conference on Trade and Development (UNCTAD). New York and Geneva.

Urde, M., Baumgarth, C., & Merrilees, B. (2011). Brand orientation and market orientation-from alternatives to synergy. *Journal of Business Research, 66*(1), 13-20.

Valentinov, V. (2007). Why are cooperatives important in agriculture? An organizational economics perspective. *Journal of Institutional Economics, 3*(1), 55-69.

van de Vijver, F., & Leung, K. (1997). *Methods and data analysis for cross-cultural research*, SAGE Publications, Thousand Oaks, CA.

van de Vijver, F.J.R., & Tanzer, N.K. (2004). Bias and equivalence in cross-cultural assessment: an overview. *Revue Européenne de Psychologie Appliquée/European Review of Applied Psychology, 54*, 119-135.

van den Broek, J., Subedi, A., Jongeleen, F.J.J., & Lin Oo. N. (2015). *Pathways for the developing Myanmar's seed sector: a scoping study*. Centre for Development Innovation, Wageningen UR (University & Research centre). Report CDI-15-018. Wageningen.

van Tilburg, A. (2010). Linkages between theory and practice of marketing in developing countries. In H. van Trijp & P. Ingenbleek (Eds.), *Markets, Marketing and Developing Countries; where we stand and where we are heading* (pp. 164–184). Wageningen: Academic Publishers.

van Tilburg, A., & van Schalkwyk, H.D. (2012). Strategies to improve smallholders' market access. In H.D. van Schalkwyk, J.A. Groenewald, G.C.G. Fraser, A. Obi & A. van Tilburg (Eds.), *Unlocking Markets to Smallholders: Lessons from South Africa* (pp. 35-58). Mansholt publication series, Wageningen Academic Publishers.

Veerakumaran, G. (2007). *Ethiopian cooperative movement-an explorative study*. Mekelle, Ethiopia: Mekelle University.

Verhees, F.J.H.M., & Meulenberg, T.G.M. (2004). Market orientation, innovativeness, product innovation, and performance in small firms. *Journal of Small Business Management, 42*(2), 134-154.

Viste, E., Korecha, D., & Sorteberg, A. (2013). Recent drought and precipitation tendencies in Ethiopia. *Theoretical and Applied Climatology, 112*(3), 536-551.

Viswanathan, M., Rosa, J.A., & Ruth, J.A. (2010). Exchanges in marketing systems: the case of subsistence consumer-merchants in Chennai, India. *Journal of Marketing, 74*(3), 1-17.

Voola, R., & O'Cass, A. (2010). Implementing competitive strategies: the role of responsive and proactive market orientations. *European Journal of Marketing, 44*(1/2), 245-266.

Wall, T.D., Michie, J., Patterson, M., Wood, S.J., Sheeran, M., Clegg, C.H., & West, M. (2004). On the validity of subjective measures of company performance. *Personnel Psychology, 57*(1), 95-118.

Ward, S., Girardi, A., & Lewandowska, A. (2006). A cross-national validation of the Narver and Slater market orientation scale. *Journal of Marketing Theory and Practice, 14*(2), 161-173.

Webb, J.W., Ireland, R.D., Hitt, M.A., Kistruck, G.M., & Tihanyi, L. (2010). Where is the opportunity without the customer? an integration of marketing activities, the entrepreneurship process, and institutional theory. *Journal of the Academy of Marketing Science, 39*(4), 537-554.

WFP. (2016). WFP El Niño 2015-2016 Preparedness and response situation report #2. from http://reliefweb.int/sites/reliefweb.int/files/resources/WFP%20El%20Nino%202015-2016%20Preparedness%20and%20Response%20External%20Situation%20Report%20%232,%2028%20January%202016.pdf

Wheeler, T., & van Braun, J. (2013). Climate change impacts on global food security. *Science, 341*(6145), 508-513.

Wiggins, S., Kirsten, J., & Llambı´, L. (2010). The future of small farm. *World Development, 38*(10), 1341-1348.

Williamson, O. (1985). *The economic institutions of capitalism: firms markets, relational contracting*. New York: The Free Press.

Winters, P., Simmons, P., & Patrick, I. (2005). Evaluation of a hybrid seed contract between smallholders and a multinational company in East Java, Indonesia. *Journal of Development Studies, 41*(1), 62-89.

Witcombe, J.R., Joshi, A., Joshi, K.D., & Sthapit, B.R. (1996). Farmer participatory crop improvement. I. Varietal selection and breeding methods and their impact on biodiversity. *Experimental Agriculture, 32*(4), 445-460.

Wood, E.H. (2006). The internal predictors of business performance in small firms. *Journal of Small Business and Enterprise Development, 13*(3), 441-453.

World Bank. (2006). *Africa development indicators 2006*. World Bank, 2006.

World Bank. (2007). *Accelerating development outcomes in Africa-progress and change in the Africa*. Action Plan Africa Region, The World Bank, Washington, D.C.

World Bank. (2008). *World development report 2008: agriculture for development*. Washington, DC: The World Bank.

Wright, M., Filatotchev, I., Hoskisson, R.E., & Peng, M.W. (2005). Strategy research in emerging economies: challenging the conventional wisdom. *Journal of Management Studies, 42*(1), 1-33.

Yakubu, M., & Akanegbu, B. (2015). Neglecting agriculture and its consequences to the Nigerian economy: an analytical synthesis. *European Journal of Research in Social Sciences, 3*(3), 18-27.

Yesuf, M., & Bluffstone, R. (2009). Poverty, risk aversion, and path dependence in low-income countries: experimental evidence from Ethiopia. *American Journal of Agricultural Economics, 91*(4), 1022-1037.

Yin, R.K. (2003). *Case study research designs and methods* (3rd ed.). Applied social research methods series. Vol. 5. SAGE publications.

Yu, W., Ramanathan, R., & Nath, P. (2014). The impacts of marketing and operations capabilities on financial performance in the UK retail sector: A resource-based perspective. *Industrial Marketing Management, 43*(1), 25-31.

Yusof, S.M., & Aspinwall, E.M. (2000). Critical success factors in small and medium enterprises: survey results. *Total Quality Management, 11*(4), 448-462.

Zulkiffli, S.N.A. (2014). Business performance for SMEs: subjective or objective measures? *Review of Integrative Business and Economics Research, 3*(1), 371-381.

Summary

The overall economy of Ethiopia and the food security of the majority of the population depend on smallholder agriculture. Agriculture is dominated by over 15 million smallholders producing about 95 percent of the national agricultural production. The growth of agriculture is crucial to improve the national economy of Ethiopia. Various approaches have been followed to increase agricultural productivity and ensure the livelihood of rural communities in Ethiopia. These mainly include improving production through agricultural intensification and extensification, and through connecting farmers to potential markets. Agriculture production could be improved through the application of technologies and practices, but mainly through the use of good seed. Seed can contribute to agricultural production if it is available in good quality, in sufficient quantity, at the right time, and for the right price. This could be achieved through effective seed systems. Efforts have been made to improve the seed sector. However, the sector cannot satisfy the growing seed demand of the farming community. Stimulating and supporting farmers to organize themselves into market-oriented seed producer cooperatives (SPCs) is designed as an intervention strategy to improve the seed supply to the farming community and livelihood improvement. Market orientation theories and practices are used as a guiding framework for SPCs to become commercial and perform well. Market orientation is seen as a key contributor to the success of SPCs because it stimulates creating and maintaining superior value to customers. It improves the qualities and capabilities of SPCs to respond to customers' demands. SPC need to create and maintain value for both external customers as well as members of the cooperatives. The concept of market orientation and its influence on performance has been widely studied, but surprisingly little information exists about agricultural marketing cooperatives. More specifically, empirical evidence on how market orientation practices are applicable to and profitable for small agricultural marketing cooperatives in D&E economies is very scarce. The general aim of this thesis is to deepen the understanding of the implementation of market orientation in agricultural marketing cooperatives in D&E economies, taking Ethiopian SPCs as a case.

To achieve the general objective of the study, this thesis explored five lines of research: (1) What is the current position of SPCs in the Ethiopian seed sector and their role in the seed supply improvement of Ethiopia?; (2) How is market orientation interpreted and practiced in SPCs?; (3) How is market orientation best operationalized or measured in the SPCs context?; (4) How does market orientation influence cooperative performance and livelihoods of member farmers?; and (5) What are the most important marketing activities for the performance of SPCs?

To understand the current position of SPCs in the Ethiopian seed sector and their contribution to the seed supply in the country, Chapter 2 reviews and discusses scientific literature, reports, project documents, white papers and websites. It discusses the three seed systems in Ethiopia (formal, informal and intermediary seed systems) and their specific contribution to farming communities. SPCs are categorized in the intermediary seed system because they have features both from the formal and informal seed systems. SPCs make a significant contribution to seed production and marketing through various market channels, including direct sales to customer farmers, sales through contractual agreements with contracting parties, and sales directly to institutional buyers. Moreover, they make specific contributions to high volume seed supply, crop and variety diversification, transaction cost reduction for member farmers, and seed delivery to farmers, particularly where there is less involvement of big seed enterprises. In order to reduce (and solve) the seed shortage problem and ensure seed security in the country, seed systems in general, and seed producers in particular including SPCs should be strengthened.

In Chapter 3, the understanding, interpretation and practices of market orientation in the Ethiopian SPCs context were investigated. In the Ethiopian SPCs context the market orientation concept centres around five key themes: quality of produce, external orientation, business organization, value adding activities and supplier access. These key themes of market orientation by and large cover important elements of the market orientation concept in marketing theory, which can be related to the "prototypical" market orientation model. Market orientation in the Ethiopian SPCs context consists of four components: customer orientation, competitor orientation, interfunctional coordination, and supplier orientation. Supplier orientation has a specific role in market orientation in the D&E context that is not included as a component of market orientation in the HICs context. This chapter further identifies that experts' opinions on the way SPCs should practice market orientation, and practitioners' views on how market orientation is being practiced do not fully overlap in terms of the core concept of market orientation.

To develop the specific market orientation measurement scales for SPCs in D&E context, Chapter 4 used Item Response Theory. It is argued that measurement scale development should consider both cross-cultural and context-specific scale items. This is guided by the inclusion of general items and specific items in measurement scale development. This chapter describes the procedure (framework) to develop scales for marketing constructs and illustrates a generally applicable approach to adequately measure in diverse cultural contexts. Following the procedure, it has also develops a market orientation measurement scale applicable to the SPCs context. It further identifies that

market orientation in the Ethiopian SPCs context is a multidimensional construct consisting of four dimensions: customer, competitor and supplier orientation, and interfunctional coordination. Moreover, it is proposed that the universally applicable items identified in this study are applicable to other D&E contexts as well.

In chapter 5, the influence of market orientation components on cooperative performance and the livelihood performance of member farmers is quantitatively assessed. Customer orientation, interfunctional coordination and supplier orientation contribute to higher business performance (customer satisfaction and financial performance), but competitor orientation does not. The positive influence of customer orientation on business performance in D&E economies indicates that irrespective of economic development (i.e. developed versus D&E economies), establishing a customer-oriented culture (i.e. core of marketing concept) contributes to superior performance of the business. Business performance of the cooperatives contributes to livelihood performance of member farmers. This indicates that market orientation of SPCs is very important for business performance and a strong basis for the livelihood of seed producer families. Supplier orientation and interfunctional coordination directly influence the livelihood of member farmers, and indirectly via business performance. However, customer orientation does not have a direct influence on livelihood performance, but influences the livelihood of members through business performance. Interestingly, competitor orientation does not influence neither business performance nor livelihood performance. SPCs and organizations that aim to support SPCs should consider these components to monitor the improvement of SPCs towards successful commercial enterprises.

Chapter 6 identifies and examines the specific marketing activities that improve the performance of SPCs in Ethiopia most. There is a considerable differentiation between Ethiopian SPCs in implementing marketing activities, which implies that these activities can be managed and controlled by SPCs themselves. The key marketing activities that this chapter identifies include: quality control of products (seed), product differentiation, managing customer and supplier relationships, customer and competitor assessment, leaders' motivation of members and committees, integration of activities, and interconnection among committees and members. Furthermore, the intensity and quality of implementation of marketing activities in the current Ethiopian SPCs context is found to largely overlap, which is contrary to expectations. In general, Ethiopian SPCs perform well on marketing activities related to interfunctional coordination, but poorly implement activities associated with competitor orientation. The results of this chapter further suggest that SPCs need to

have resources, and capabilities to coordinate the resources, to implement marketing activities effectively and efficiently so as to provide value to customers.

Finally, Chapter 7 synthesizes the results of the preceding chapters, draws main conclusions, and discusses the implications for theory, SPCs, policy makers and development partners. In general, this thesis shows that market orientation can help in strengthening the performance of the SPCs and improving the livelihood of member farmers. SPCs need to establish and strengthen a customer-oriented culture that contributes to superior performance of the business, and members' livelihood. This thesis also explores and combines the concept of development (i.e. livelihood improvement) with the marketing concept (i.e. market orientation). SPCs contribute to seed supply improvement through production of high volumes of seed, crop and variety diversification, and seed delivery to niche markets. For SPCs to be successful and sustain in the business, policy makers and development partners should support SPCs to implement effectively and efficiently the key market orientation components and marketing activities.

Biography

Dawit Tsegaye Sisay was born and grew in Addis Ababa, Ethiopia. He attended his primary and secondary education at Felege Yordanos Public School and Menelik II Secondary School, respectively, in Addis Ababa, Ethiopia. He graduated with a BSc degree in agriculture (Plant Sciences) in 2000 from Haramaya University, and an MSc in agriculture (Plant Breeding) in 2011 from Bahir Dar University, Ethiopia. Dawit started his professional career as junior agricultural (crop) researcher at Adet Agricultural Research Centre. He served as researcher and coordinator of pulse crops improvement program at centre level. After four years of experience, he joined FHE-international NGO as livelihood officer and agronomist for the next four years. And then he shortly worked in International Livestock Research Institute at Improving Productivity and Market Success (IPMS) Ethiopian Farmers Project as Research and Development Assistant. In September 2009, he then joined Integrated Seed Sector Development Program (ISSD)/Ethiopia based at Bahir Dar University, which is a joint project between Wageningen University & Research and Ethiopian institutes. He was actively participated in agricultural research, crop improvement, livelihood improvement, seed sector development, project development, implementation, and monitoring and evaluation. His areas of interest are agricultural marketing, crop improvement, seed sector development, agribusiness, smallholder commercialization, seed systems, and rural livelihood.

Publications

Selected Journal articles

Dawit Tsegaye Sisay, Frans J.H.M. Verhees and Hans C.M. van Trijp (2017). Seed Producer Cooperatives in the Ethiopian Seed Sector and their role in Seed Supply Improvement: a Review. *Journal of Crop Improvement, DOI: 10.1080/15427528.2017.1303800*

Dawit Tsegaye (2012). Profitability of Contractual Bread Wheat Seed Production in Mecha District of Amhara Region, Ethiopia. *Journal of Central European Agriculture, 13*(1), 142-149.

Dawit Tsegaye, Wuletaw Tadesse and Muluken Bayable (2012). Genotype X Environment Interactions and Grain Yield Stability of Haricot Bean Varieties in Northwest Ethiopia. *Scientific Research and Essays, 7*(41), 3489-3493.

Dawit Tsegaye, Tadesse Dessalegn, Yigzaw Dessalegn and Getnet Share (2012). Analysis of Genetic Diversity in Some Durum Wheat (*Triticum durum* Desf) Genotypes Grown in Ethiopia. *African Journal of Biotechnology, 11*(40), 9606-9611.

Dawit Tsegaye, Tadesse Dessalegn, Yigzaw Dessalegn and Getnet Share (2012). Genetic Variability, Correlation and Path Analysis in Durum wheat Germplasm (*Triticum durum* Desf). *Agricultural Research and Reviews, 1*(4), 107-112.

Dawit Tsegaye, Tadesse Dessalegn, Ahmed Yimam and Minilek Kefale (2012). Rural Women Participation in Seed Production and their Decision Making: A Case in Northwest of Amhara Region, Ethiopia. *Global Advanced Research Journal of Agricultural Sciences, 1*(7), 186-190.

Proceedings

Mesfin Astatike, Ahmed Yimam, **Dawit Tsegaye**, Minilek Kefale, Demeke Mewa, Tadesse Dessalegn and Mohammed Hassena (2012). Observation on Direct Seed Marketing in Amhara Region. In: Seed Demand Assessment Practice, Challenges and Options. Adefris T., Dawit A., Kiyoshi, S. and Abebe K (eds). FRGII Project Empowering Farmers' Innovation Series No.5.

Wondafrash Mulugeta, Asresie Hussen, Dejene Girma, **Dawit Tsegaye** and Muluken Bayable (2007). Chickpea Variety Development in Vertisol areas of the Amhara Region, Ethiopia. In Ermias Abage., Akalu Teshome., Alemayehui Assefa., Melaku Wale., Wuletaw Tadesse., and Tilahun Tadesse. (eds). Proceedings of the 1st Annual Regional Conference on Completed Crop Research Activities, 14-17 August 2006. Amhara Regional Agricultural Research Institute, Bahir Dar, Ethiopia. pp229.

Wondafrash Mulugeta, **Dawit Tsegaye**, Beyene Dimtsu and Hailemicheal Shewayrga (2006). Review of Food Legumes Breeding and Genetics Research in Northern Ethiopia. In: Food and Forage Legumes of Ethiopia: Progress and Prospects. Kemal Ali, Gemechu Keneni, Sied Ahmed, Malhotra R, Beniwal S, Makkouk K, Halila MH (eds). Proceedings of the Workshop on Food and Forage Legume, 22-26 September 2003, Addis Ababa, Ethiopia. ICARDA, Allepo, Syria. pp351.

Newsletters

Dawit Tsegaye, Wuletaw Tadesse and Muluken Bayable (2005). Performance of Grass pea (*Lathyrus sativus* L.) Somaclones at Adet, Northwest Ethiopia. *Lathyrus Lathyrism Newsletter, 4*, 5-6.

Dawit Tsegaye, Daniel Tilahun, Seid Mohammed, De Boef, S.W. and Thijssen, M.H. (2010). Book Discussion: Seed Business Management in Africa, by John MacRobert. *LSB Newsletter, 3 (January 2010)*, 14-15.

Dawit Tsegaye, Minilek Kefale, Seid Mohammed and Mesfin Astatkie (2011). Woken Zuria Awramba Seed Producer and Marketing Cooperative. *LSB Newsletter, 7 (January 2011),* 7-8.

Dawit Tsegaye, Minilek Kefale, Seid Mohammed and Mesfin Astatkie (2011). New LSB Innovation Sites in Amhara. *LSB Newsletter, 7 (January 2011)*, 8-9.

Completed Training and Supervision Plan

Dawit Tsegaye Sisay

Wageningen School of Social Sciences (WASS)

Completed Training and Supervision Plan

Name of the learning activity	Department/Institute	Year	ECTS*
A) Project related competences			
Writing of the PhD research proposal	WASS	2013	6
Cooperatives and producer organizations (BEC 53306)	WUR	2016	6
'Market orientation in the Ethiopian seed producer cooperatives: a general perspective'' Presentation and Chair of session	European Marketing conference, Lisbon, Portugal	2016	2
'Market orientation practices in Ethiopian seed producer cooperatives: preliminary results'	ISSD, Addis Ababa, Ethiopia	2014	1
PhD colloquium meeting MCB group	MCB/WUR	2013 & 2015	0.14
Proposal presentation for ISSD national workshop (Ethiopian partners)	Mekelle, Ethiopia	2013	1
B) General research related competences			
Quantitative and qualitative research techniques (Social sciences) (YSS 20306)	YSS	2012	6
WASS introduction course	WASS	2013	1
Research methodology: from topic to proposal	WASS	2013	4
Project and time management	WGS	2013	1.5
Techniques for writing and presenting scientific papers	WGS	2013	1.2
Information literacy including EndNote introduction	WGS	2013	0.6
Data management	WGS	2013	0.4
Multidisciplinary perspectives on quality improvement in value chains	WASS	2016	1
C) Career related competences/personal development			
'Market orientation practices of seed producer cooperatives in Ethiopia: a qualitative study' 'Marketing activities that determine firm performance: a case of Ethiopian seed producer cooperatives'	PhD seminars of MCB group, WUR	2015-16	2
'Qualitative insights into market orientation practices in Ethiopian seed producer cooperatives'	WASS PhD day	2016	1
'The role of market orientation on firm performance and members' livelihood in the Ethiopian seed producer cooperatives'	ERNAC, WUR	2016	1
Reviewing scientific paper	WGS	2016	0.1
Scientific publishing	WGS	2016	0.3
Total (30 - 45 ECTS)			**36.24**

*One credit according to ECTS is on average equivalent to 28 hours of study load

Funding organization

The research described in this thesis was implemented as part of the Integrated Seed Sector Development Programme in Ethiopia (ISSD Ethiopia). The programme has been funded by the Directorate General for International Cooperation of The Netherlands, through the Embassy of the Kingdom of the Netherlands in Addis Ababa, Ethiopia.

Publisher: Digiforce/Proefschriftmaken.nl, Vianen