

**THE DIFFERENTIAL ADVANTAGE APPROACH AS A RURAL DEVELOPMENT
STRATEGY: AN ASSESSMENT OF THE “ONE VILLAGE ONE PRODUCT”
(OVOP) PROJECTS IN KENYA**

BY

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DECLARATIONS

I hereby declare that this thesis is my original work and has not been submitted for award a degree or any other award in any university. This thesis has been submitted for examination with the approval of my supervisors.

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DEDICATION

This research is dedicated to my late Mum and Dad.

ABSTRACT

Most of the world's poor who are not economically active but economically dependent live in rural areas. Whilst poverty in the world's growing cities is a major problem, a large proportion of the urban poor are migrants from rural areas. Differential advantage approach has been applied to unlock rural under development based on premises of making rural poor economically active by delivering valuable products or services for the market hence faster income growing. Rural firms' needs adjustment and upgrading differentiating factors to achieve rural development. Lack of attention to product competitiveness, human resource development, marketing and cluster productive process differentiating factors may decline level of success for the approach on rural development. This study therefore sought to investigate the differential advantage approach as a rural development strategy. The study sought to; analyse the relationship between product competitiveness and rural development in the One Village One Product (OVOP) projects; find out the relationship between human resource development and rural development in the OVOP projects; determine the relationship of market accessibility contribute on rural development in the OVOP projects and establish the relationship between cluster productive process and rural development in the OVOP projects. The study adopted descriptive case design in assessing the four pioneer projects as unit of study. The selection of four OVOP projects (Jitunze, Watuka, Rumuruti and Kionyweni) was by use of pre-qualification characteristics and desired degree of accuracy determined by Slovin's formula. Questionnaires, interview guides, FGDs and observations were methods used to collect qualitative data. Means and standard deviation were calculated, hypothesis was tested and significant value was done by use of bivariate Pearson correlation and linear regression. The regression result indicated statistically significant of product competitiveness at 0.782; human resource development at 0.770; market accessibility at 0.788 and cluster productive process at 0.751 on rural development. The study concluded that differential advantage approach was a strategy of rural development through human resource development, product competitiveness, market accessibility and cluster productive process factors. The study recommended for: upgrading of village polytechnics; promotion of product development in the village cottage industries; develop bulking centers and joint village cooperatives; develop and promote industrial clusters; collective economic movement and strengthen consultative mechanisms policy for village land use. It was expected that the lesson provided by this study provides deep understanding the factors of differential advantage approach as a rural development strategy.

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ABBREVIATIONS

ABC	Attitude, Behaviour & Competency
ALRMP	Arid Lands Resource Management Project
CBOs	Community Based Organizations
CIDI	Charge Incharge Discharge Institutionalize
CIDP	County Integrated Development Plan
CPP	Cluster Productive Process
DAA	Differential Advantage Approach
DIDOs	District Industrial Development Officers
DOC	District OVOP committee
EPC	Export Promotion Council and Export
EPZA	Export Processing Zone Authority
FGD	Focus Group Discussion
GVCs	Global Value Chains
HRD	Human Resource Development
ICT	Information Communication Technology
IDS	Institute of Development studies
IFAD	International Fund for Agricultural Development
ISO	International Standard Organization
JETRO	Japan External Trade Organization
JICA	Japan International Cooperation Agency
JOCV	Japan Overseas Cooperation Volunteer
KEBS	Kenya Bureau of Standards

KIDRI	Kenya Industrial Research and Development Institute
KIE	Kenya Industrial Estate Limited
KIPI	Kenya Industrial Property Institute Analysis
KIPRA	Kenya Institute for Public Policy Research
MA	Marketing Accessibility
MSMEs	Micro Small Medium Enterprises
NGOs	Non-Government Organizations
ONS	OVOP National Secretariat
OECD	Organization for Economic Cooperation and Development
OTOP	One Tambon One Product (Tambon=village in Thailand)
OVOP	One Village One Product
PC	Product Competitiveness
R&D	Research and Development
RTPC	Rural Trade & Production Centers
SHG	Self Help Group
SMEs	Small Medium Enterprises
SPSS	Statistical Package for Social Scientists
TIVE	Technical Industrial Vocational Entrepreneurial Training
TQM	Total Quality Management
UNIDO	UnitedNational Industrial Development Organization
VIPCs	Village Innovation and Production Centres

OPERATIONAL DEFINITION OF TERMS

Agglomeration economies: It is production facilitated when clustering of economic activity. It is related to the idea of economies of scale and network effects where firms are often located near to each other

Cluster: characterized as a geographically and sectorally bounded entity akin to a (local) innovation system emphasizes on the inter-firm and collective learning (networking of individuals, firms and organizations) fostering the innovative performance of firms.

Cluster Productive Process: It a process of geographic concentration of interconnected businesses, suppliers, and associated institutions in a particular field to increase the productivity and gain a competitive advantage through local proximity and processes

Competitive advantage: It is the ability gained through various attributes and different level resources to perform at a higher level than others in the same industry or market.

Differential advantage Approach: It is a firm or business strategy of creating unique value to customers based on product competitiveness, human resource development, market accessibility and collective efficiency.

Economic Growth: It is a process of improving level of income, productivity, cash flow, assets and employee opportunities.

Human Resource Development: It is a holistic process of organizing and enhancing the physical, mental and emotional capabilities of individuals for productive work.

Institutionalization: Refers to the process of embedding a concept within an organization, it is a mental or social welfare of committing individuals on a societal concept.

Market Access: It is the ability of firm in terms of information, infrastructure, technology and institutional capacity to sell goods or services in a wide market.

Product Competitiveness: It is product competency (differentiation advantage) preferred by buyers over that offered by competing products on the basis of superior quality, prices, fast delivery, design innovation and unique features.

Rural Development: referred to as improvement of economic capabilities primarily in the living conditions of the group of individuals, belonging to deprived, marginalized and socio-economically backward through increased income, productivity, cash flow, assets and employee opportunities.

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CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Most of the world's poor still live in rural areas, and whilst poverty in the world's growing cities is a major problem, a large proportion of the urban poor are migrants from rural areas. This makes rural development important; not only for the rural poor but also for the urban poor (Kirori, 2015). More so, the majority of people in developing countries live in rural areas (Sachs, 2005). Rural Kenya constitute more than 60 per cent of Kenya's population, major employer of labour force, provider of the bulk of forex earnings, and contributor to gross domestic product (GDP) at more than 30 per cent of the total (Kirori, 2015). Additionally many of the poor are not economically active instead they are economically dependent (Killick, 2001). The urge of this study was to investigate how rural firms would distinctively exploit the differentiation opportunities of globalized market in addressing rural underdevelopment.

Differential advantage approach referred as the process of creating a competitive advantage by making the product (or service) different from those of rivals to the extent that superior performance results. The approach to the market is distinctive and prospers in markets segments in which different customer needs can be identified and products designed for those needs (McGee, 2014). The Differential advantage approach has been proved to be a successful rural development strategy where it gives rise to a dynamic process of sustainable growth with social inclusion, 'a process where the incomes of the poor would grow faster than those of the non-poor' (Left and Sen, 2007). Differentiation strategy is inseparable to any successful development

process; either you go differentiation or die for the survival in our era of killer competition”(Johnson and Scholes, 1993).Differentiation factor revealed the importance of creating a competitive advantage as well as identification of those vital activities of the chain that provide the end product with high value from the consumer’s point- of-view. Identification of the activities of the value generating chain, which from the consumer’s point-of-view reveal a high potential value of differentiation, would enable the company to establish and set the foundation on which to create that differential advantage (Jung and Sung, 2008; Tong and Hawley, 2009; Kim *et al.*, 2009).

Differential advantage approach is a branch of competitive advantage by Porter’s concept of competitive strategies which explains that competitive advantage for a company exists in a set of generic strategies – cost leadership strategy, differentiation strategy, and focus strategy.The company can achieve the above average performance in an industry by implementing one of these three strategies. The generic strategies are not by premise compatible with one another. If a company attempts to achieve an advantage on both cost leadership and differentiation, it may end up with achieving noadvantage.To achieve a competitive advantage, the company must perform more value creating activities or assets in a way that create more total value than company`s competitors(Porter, 1998).

According to Banker *et al.* (2014) both cost leadership and differentiation strategies have a positive impact on contemporaneous performance. However, the differentiation strategy allows a firm to sustain its current performance in the future to a greater extent than a cost leadership strategy. Building a strategy on a differentiation requires a company to continuously invest in and develop:Superior product quality (features, benefits, durability, and reliability); Branding

(strong brand recognition, desire and loyalty); Industry-wide distribution across all major channels (i.e. the product or brand is an essential item to be stocked by retailers) and Marketing capabilities (advertising, sponsorship etc.). Kelchner (2019) added that the two strategies are incompatible, because the two strategies are mutually exclusive. Porter's view of the two strategies implies that cost leadership and differentiation viewed as opposite ends of a single scale. The differentiation strategy also allows business to compete in areas other than price. It creates a perceived value among consumers and potential customers. A strategy that focuses on value highlights the cost savings or durability of a product in comparison to other products. In general, much more room exists in most industries for differentiated business strategies than for low-cost strategies. Ultimately, only one company can survive as the true low-cost provider in an industry. Thus, any companies not wanting to engage in a high-risk battle as a low-cost provider must opt for a differentiated approach.

Differentiation consists in differentiating the product or service offered by the firm, in other words, creating something that is perceived industry-wide as being unique. Differentiation may be achieved in various ways, for example through design, brand image, technology, features, customer service, and dealer network. Bases of differentiation may be sorted into three categories. Firstly, to implement differentiation, a firm may focus directly on product (or service) attributes, i.e. product features, product complexity, timing of product introduction, or location. Secondly, a firm may focus on the relationship between itself and its customers, for example through product customization, consumer marketing and product reputation. Finally, differentiation may be implemented by focusing on the linkage within or between firms, which includes linkage within functions of a firm, linkage with other firms, product mix, distribution

channels and service support. Ideally, the firm should differentiate itself along several dimensions (Porter, 2004; Rothaermel, 2015).

A differentiation strategy is appropriate where the target customer segment is not price-sensitive, the market is competitive or saturated, customers have very specific needs which are possibly under-served, and the firm has unique resources and capabilities which enable it to satisfy these needs in ways that are difficult to copy. These could include patents or other intellectual property, unique technical expertise, talented personnel, or innovative processes. Successful brand management also results in perceived uniqueness even when the physical product is the same as competitors. Sustained product differentiation leads to competitive positioning that leads to corporate growth (Johnson *et. al.*, 2008). The differentiation strategy is effectively implemented when the business provides unique or superior value to the customer through product quality, features, or after-sale support. Firms following a differentiation strategy can charge a higher price for their products based on the product characteristics, the delivery system, the quality of service, or the distribution channels. The differentiation strategy appeals to a sophisticated or knowledgeable consumer interested in a unique or quality product and willing to pay a higher price (Pearce & Robinson, 2013).

More so implementation of differential advantage strategy involves firms developing distinctive competence in their activities. In analyzing differentiation opportunities it is important to distinguish between tangible, intangible and human dimensions of differentiation (Grant, 2005). Grant (2002) and White (2004) explain that there is a potential for differentiation strategy which exists on the demand (market) side and supply (firm) side. To develop distinctive competence Zekiri and Nedelea (2011) explained that it requires internal resources and capabilities of the organization which collectively known as the core competency and is a source

of competitive advantage over rival firms. Gaining competitive advantage entails a set of specialized skills, assets, and capabilities for the organization. In order to have a sustainable competitive advantage by making above average profits, these resources must be valuable, inimitable, non-substitutable and non-transferable (Barney 1991, 2001, Kraaijenbrink *et al.*, 2010, Peteraf, 1993, Eisenhardt and Martin, 2000, Amit and Shoemaker, 1993). This means that differences in the performance of firms are the result of their distinct resources and capabilities (Madhani, 2014). However according to (Alexander, 1985; Brinkerhoff, 1996; Charan & Colvin, 1999; Gluck *et al.*, 1980; Kazanjian & Drazin, 1987; Weiss & Birnbaum, 1989) firms have not been short of strategies but have fallen short of strategy implementation.

Globally the implementation of differential advantage approach may be understood through the emerging of global value chains (GVCs) process of productivity and trade (Gereffi, 2015). According to Porter (2012) all competitive advantage resides in the value chain. Strategy is manifested in choices about how activities in the value chain are configured and linked together. Achieving superior performance depend on operational effectiveness (best practices), a distinctive value chain, a unique value proposition or strategic positioning (creating a unique and sustainable competitive position). Rao (2018) study further showed that GVC framework leverages of an industry-level understanding of firms in order to provide innovative solutions for rural areas to reap the benefits of globalization. According to Mitchell *et al.* (2009) value chains development objectives are maximising firm's profit, increasing the efficiency of vertical integration, increasing the competitiveness of a locality and enhancing the position of poor people in value chains in order to achieve sustainable income. Value chain analysis has given development economics a tool to understand why the weak, poor and disorganised are unlikely

to benefit from trade (that is, owing to their failure to appropriate rents or assets) and also a series of practical strategies to empower poor people to change the terms of their engagement in global trade by overcoming barriers to entry or creating barriers to entry of their own (in order to reduce poverty). It is the capacity to upgrade into rent-rich activities that underpins sustainable income growth (Kaplinsky, 2000). Upgrading is acquiring technological, institutional and market capabilities that allow firms (or communities) to improve their competitiveness and move into higher-value activities (de Ruijter de Wildt *et al.*, 2006).

In Africa according to Kaplinsky and Morris (2001) firms need to be assisted to acquire new competencies and take on activities or functions associated with being located elsewhere in the value chain (which may or may not mean acquiring control over new intangible activities). Governments can facilitate firms (either individually or through sharing collectively in the process) to upgrade their knowledge intensive process competencies. Leigh and Blakely (2013) pointed out that the collaboration of all these players and the leveraging of their particular strengths is the key to rural economic success. For East African firms, standardized and flexible GVCs lead to potentially increasing marginalization and new risks. For smaller firms, barriers to GVC participation e.g. standards and product quality, are heightened by digital integration requirements, beyond the skills and capabilities of such firms. Improving connectivity has generally resulted in thin integration, through which small firms tend to make small communication and productivity improvements without more substantial upgrading. More so innovative activity could allow smaller firms to establish themselves with relatively novel products or new consumers, where competitive pressures from conventional GVCs were weaker (Foster *et al.*, 2018). More so distinctive and integrative mechanism deemed necessary for effective upgrading productivity of small rural firms.

In Kenya long term national development goal is envisioned in the “Kenya Vision 2030” which envisages “A globally competitive and prosperous nation with a high quality of life by 2030.” OVOP programme is anchored on Vision 2030 with an aim of making Kenya newly industrialized middle income country. Manufacturing is one of the key sectors under which the vision that is expected to deliver the envisaged 10 per cent economic growth rate per annum. The industrial master plan provides mechanism by which the government of Kenya leverages and catalyzes the implementation of strategic actions to accelerate industrial development and enhanced industrial growth and competitiveness. The master plan formulated agro-processing; agro-machinery and electric, electronic/ICT sub-sectors strategy that help in identifying such unique issues and put actions that help leap the benefit of the sub-sector. OVOP programme is one of the projects in the Medium Term Plan. The aim of the One Village One Product is to produce competitive product utilizing the local resource, which the area has a comparative advantage. The movement starts from creating a network in the community and comes up with a vision of transforming the community to the one which can produce more value – added products and expand markets, thus increasing the income level. It finds the way to utilize the local resources including commodities, technology and human resources in the most effective manner. This movement is considered applicable to Kenya rural development through empowering the local community. More so the government of Kenya has embarked on rapidly industrializing country focusing on value addition for both primary and high valued goods; and linkages between industrial sub-sectors and other productive sectors to drive the industrialization process and aims at providing strategic direction for the sector growth and development (Republic of Kenya, 2008, 2010 and 2012).

Nyeri County prioritized industrialization and factored in value addition activities into the 2018-2022 county integrated development plan for the purpose of generating wealth. According to Nyeri CIDP (2018) the county projected on improving branding and promotion of local products. It also embarked on establishing cottage industries skills training and engaging institutions of higher learning to train on social enterprise activities and basic manufacturing skills. The county also geared toward the formation of 15 producer business groups; enhance capacity building, value addition, incubation, market linkage; establishment of fruit and nut processing factory and warehousing. Finally the county intended to establish marketing value chains and promote fair trade practices and also forming Mt Kenya and Aberdares economic block for promoting regional integration through markets, exploit economies of scale and regional development.

Thus in Laikipia County government has identified various industrial potentials which needed to be exploited. The county embarked on up scaling the production, processing and value addition of agricultural products mainly maize, wheat, beans, pineapples, sunflowers; french beans and citrus fruits among others. It increased production, processing and value addition of livestock products mainly milk, hides, skins and meat: Production, processing and marketing of medicinal plants such as Aloe and African wild potato was projected. Lastly, bee honey and wax production and processing within Rumuruti, Lariak, Marmanet, Mukogodo forests and fish farming in existing ponds (dams, pans) were heightened to generate more wealth in the county (Laikipia CIDP, 2013). In Machakos CIDP (2015) recognize the comparative advantages of each sub-County through One Village One Product programme by: initiating 5 cottage industries for production of local and export markets products using locally available raw materials. The county purposed on developing entrepreneurial and business skills within the county; undertake

value addition of food products, fruits, milk, skins and hides which are readily available; promote regional integration and trade and participate in international trade fairs, train exporters.

To investigate differential advantage approach as a strategy for rural development, this study assessed “One Village One Product” (OVOP) projects in Kenya. According to Oita International Exchange Promotion Committee (August 2006) OVOP concept is a unique approach to local development which originated in Japan. The concept has been very successful in the Japanese prefecture of Oita and has attracted and continues to attract wide international appeal, particularly in developing countries, because of its potential to reverse local decay and decline. The OVOP movement encourages the mobilization of local human, material, and cultural resources to create value-added products and services for domestic and external markets (Kurokawa *et al*, 2010). OVOP concept was initiated in Kenya through pilot projects, which were begun in three phases: The first phase was started in 2008 in Nyeri North, Laikipia West and Yatta sub-counties. The second phase was rolled out in 2009 in Kisii, Nandi Hills, Bomet and Vihiga sub-counties while the third phase commenced in 2010 in West Pokot, Garissa, Isiolo and Kwale sub-counties. Notably Kenyan OVOP initiative was a government-driven project and not people driven movement a diversion from the original approach in Japan.

According to Haraguchi (2008) the OVOP as the name ‘One Village One Product’ indicates, its emphasis is on product differentiation. The movement is to encourage villages to come up with a product, which is unique in the world. In economic theory, the effectiveness of such a project can be understood from the concept of product differentiation. Firms that succeed in a differentiation strategy often have critical internal strengths: Access to leading scientific

research, highly skilled and creative product development team, strong sales team with the ability to successfully communicate the perceived strengths of the product and corporate reputation for quality and innovation (Hitt, *et. al.*, 2012). Ndione and Suzuki (2018) argued that the critical success factors of OVOP projects in Japan and overseas includes: exploration and development of local resources; market development; marketable and innovative products making; technical and financial supports; human resources management and enhancement of managerial capabilities. More importantly according to Haraguchi (2008) it is this embedding of the process of interactive learning in their activities that makes the OVOP effective and sustainable rural development method. Yamazaki (2010) added that OVOP concept is more social and human-centred strategy with instruments of product development, marketing, human resource development, and mechanism of collective learning.

The differentiation strategy is effectively implemented when the business provides unique or superior value to the customer through product quality, features, or after-sale support (Pearce & Robinson, 2013). Differentiation may be achieved in various ways, for example through design, brand image, technology, features, customer service, and dealer network. Bases of differentiation may be sorted into three categories. Firstly, to implement differentiation, a firm may focus directly on product (or service) attributes, i.e. product features, product complexity, timing of product introduction, or location. Secondly, a firm may focus on the relationship between itself and its customers, for example through product customization, consumer marketing and product reputation. Finally, differentiation may be implemented by focusing on the linkage within or between firms, which includes linkage within functions of a firm, linkage with other firms, product mix, distribution channels and service support (Porter, 2004; Rothaermel, 2015).

If rural firms are able to produce sufficiently differentiated products, there are chances that they will be not only able to compensate their higher transportation and other costs with the products' higher profitability, but will also be able to compete with urban firms in major domestic markets, or even in foreign markets. Differentiation is not limited to only physical features of products. Advertising and publicity can help similar products to be differentiated in people's mind. Consumers also select one product over others because it is sold in a convenient place or displayed in a place, which attracts special attention. Having successful products is not the end to, but the entry point of, the development process (Haraguchi, 2008). In the differentiation strategy, each value activity is determined by a company needs to identify its uniqueness drivers that will allow them to understand why a value activity is unique (Porter, 1985). According to Mitchell, *et al.* (2009) value chain is a chain of activities that a firm operating in a specific industry performs in order to deliver a valuable product or service for the market. Moreover the concept of value chains as decision support tools was added onto the competitive strategies paradigm developed by Porter as early as 1979.

According to Mitchell, *et al.* (2009) value chain analysis has been employed in the development sector as a means of identifying poverty reduction strategies by upgrading along the value chain. Value chain interventions have over-emphasized the role of the poor as producers as the main means of reducing rural poverty. In fact, the poor engage with value chains at all nodes as producers, intermediaries, workers and consumers. Upgrading means acquiring the technological, institutional and market capabilities that allow resource-poor rural communities to improve their competitiveness and move into higher-value activities (de Ruijter de Wildt *et al.*

2006). According to Mitchell, *et al.* (2009) value chain analysis it is important to understanding how poor people in rural areas of developing countries well suited and can engage, or improve their terms of engagement with, domestic, regional or international trade. Rural firms' needs adjustment if it is to be relevant to the pressing task of upgrading some of the poorest and most disadvantaged, including agricultural producers and exporters, into viable value chains. Differentiation strategy requires horizontal coordination (collective structure), vertical coordination (building trust between buyer and seller) and process upgrading (improving quality) before moving into product upgrading and on into functional (value adding activities) and inter-chain (interactive learning) upgrading. It is against this background, therefore, that this study investigated the differential advantage approach as a rural development strategy in Kenya.

1.2 Statement of the Problem

The largest population lives in rural areas and also in SME sector which stand as driving force of Kenya's economy. Since independence Kenya government has continuously reoriented its policies and strategies towards a more market oriented approach toward addressing rural underdevelopment. Most recent strategy was introduction of a localised approach by differentiating rural product for improved economic condition. Surprisingly rural enterprises continue producing undifferentiating commodities disadvantaged them in a perfect competitive market despite several government interventions. More so rural firms faced with several hurdles related to marketing, product development and improvement, limited capital and lack of access to financing, capacity building training and limited access to large markets. In fact, the rural poor suffer from technological, institutional and market capabilities that allows resource-poor rural communities to improve their competitiveness and move into higher-value activities. Rural enterprises exist in small, isolated and operate in one-off spot transactions making it difficult in

accessing market, incur high costs and competitions. There were limited effort of upgrading of functional, product, process and inter-chain among rural firms.

Despite rural Kenya being rich in natural and social capital, however was unable to harness local assets through differential advantage approach for the globalized market opportunities. Most if not all rural enterprises offer undifferentiated commodities and services disadvantaged them from the benefits of product value chain. The downgraded product development, human resource development, marketing process and coordinated activities constrained differential advantage approach as rural development strategy. Lack of attention to differentiating factors of differential advantage approach to rural development was the main concern of this study. More so, several studies engaged in explaining differential advantage approach as business strategy but fail to investigate product development, human resource development, market accessibility and cluster productive process factors of differential advantage approach in rural development.

1.3 Purpose of the Study

The purpose of the study was to assess the differential advantage approach as a rural development strategy in Kenya.

1.4 Research Hypothesis

The study was guided by the following research hypothesis:

i. H_1 : There is no relationship between product competitiveness and rural development in the OVOP projects.

H_0 : There is relationship between product competitiveness and rural development in the OVOP projects.

ii. H₁: There is no relationship between human resource development and rural development in the OVOP projects.

H₀: There is relationship between human resource development and rural development in the OVOP projects.

iii. H₁: There is no relationship between market accessibility and rural development in the OVOP projects.

H₀: There is relationship between market accessibility and rural development in the OVOP projects

iv. H₁: There is no relationship between cluster productive process and rural development in the OVOP projects.

H₀: There is relationship between cluster productive process and rural development in the OVOP projects.

1.5 Significance of the Study

The study was instrumental for operationalizing differential advantage approach as a strategy for rural development in Kenya. The study benefits rural and regional planning practitioners and researchers in advancing accumulated knowledge on building collective agency and effective institutional framework for rural and regional development. The research work provides practical insight of convergence and social development theories through catch-up effect in differential advantage approach. The study also provides elaborative mechanisms of implementing differentiating of product competitiveness, human resource development, market accessibility and cluster productive process differentiating factors. The participants of the study benefits by having a clear understanding the implementation shortfalls and sustainable manner of implementing differential advantage model in OVOP projects. More importantly it is hoped that

the study finding will be helpful for devolved units of government in Kenya by providing detailed process for sustainable development by maximizing wealth generation and creating employment through perfecting differential advantage model or product differentiation for instance counties prioritizing or specializing in different economic activities or products “One County One Product” (OCOP). All in all the lesson learned may be useful for the improvement of rural livelihood through differential advantage approach in their small enterprises.

1.6 Scope of the Study

Conceptually, the study chose to investigate differential advantage approach as a strategy for rural development. Technically the study investigated product competitiveness, human resource development, market accessibility and cluster productive process factors for differential advantage approach on rural development. Content wise; the study focused on product competitiveness, quality of human resource development, market accessibility and cluster productive process in Kenya OVOP projects. Geographically, the study was carried out in Nyeri, Laikipia and Machakos Counties. The study was also limited to four projects in pioneer districts or sub-county namely: Jitunze trout fish project in Kieni East sub-county, Watuka farmers’ cooperative society in Kieni West sub-county; Rumuruti aloe vera project in Laikipia West and Kionyweni basket weaving project in Yatta sub-county adopted by OVOP national committee in 2008. The study commenced from February 2016 up-to Dec 2018.

1.7 Limitations of the Study

This study was focused only on existing OVOP projects that were started before 2008 and incorporated by OVOP programme. Questionnaires, interviews, FGDs and observation methods were used in the field work for a period of four months (March, April, May, and June, 2018) to probe product competitiveness, human resource development, market accessibility and cluster

productive process factors of differential advantage approach in the four OVOP projects. Plenty of time was given for the survey to allow willingness for respondents to participate and also being more detail to the target population. Formulation of questions that focusing on the respondent's true point of view instead of questions that implies that there was a right answer were used in order to reduce friendliness bias. Finally the researcher also kept on engaging respondents by using varying wording for similar questions.

To mitigate researcher's biases in terms of using own belief and information was mitigated by constantly reexamining impressions of respondents and test preexisting assumptions. Question-order bias where one question influences answers to subsequent questions was addressed by asking general questions before specific, unaided and favorable before aided and unfavourable questions. Leading questions and wording biases were mitigated by using respondent's language when asking questions and probing further implication of their thought and reactions. The researcher also avoided summarizing respondent's opinion in his own way and assuming the relationships of respondent's feeling and behavior. Finally halo effect by assuming similar pattern of answers from respondent was solved by asking all related questions section per section. All in all the study generally observed adequate planning, systematic implementations and used appropriate combination of mixture of research methodologies, testing reliability and validity of research instrument. Triangulation methodologies were applied by having several data source (primary and secondary), using of two theories such as convergence and social development theories, analysis and making conclusion.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The purpose of the literature reviewed in this study was to examine conceptual and empirical research to provide further understanding of product competitiveness, human resource development, market accessibility and clusterproductive process differentiating factors. This chapter therefore presents review of four variables of differential advantage approach, theoretical and conceptual framework.

2.2 Rural Development

The term —Rural Development|| ... refers to a distinct approach to interventions by the state in the economies of underdeveloped countries. The approaches and the strategies need to be designed to bring about improvements, primarily in the living conditions of the individuals, belonging to deprived, marginalized and socio-economically backward sections of the society. Development of rural societies in underdeveloped nations and that of the rural societies in developed nations is totally different in its approach and strategy of development. In developing societies, rural people are socially and economically deprived from many factors. They are not just poor and ignorant, but have multiple problems such as poverty, illiteracy, ill-health, unemployment, inequality in income and wealth. The development of rural communities is the ultimate outcome of the transactions between physical, technological, economic, socio-cultural and institutional factors. The objectives of rural development are improvement of economic capabilities, improvement of human capabilities, improvement of protective capabilities and improvement of political capabilities leading to effective growth and progression of rural

communities. Economic capabilities: employment opportunities, to earn an income, to consume and to have assets (Chapter 3, & 4, 2019). The above studies however did not explain in detail how economic activities in rural enterprises were differentiated for the purpose of economic development.

Through time the approach of rural development has changed, shifting from sectoral to multisectoral, territorial and local approaches. On the sectoral approach, priorities were dictated by agricultural policy driven by a need to ensure domestic food security and the central role of agriculture in rural economies. The multisectoral policy recognises the limits to agricultural production support and sees agriculture as one of several economic sectors through which the development objectives can be attained. The territorial approach recognises the wider interactions within the rural economy and the importance of social and environmental as well as economic issues. Finally, the differentiation between rural areas and the variation in individual circumstances within areas promotes a search for actions that recognise the specificity of solutions at most local levels {Hodge and Midmore, 2008}. The study failed to explain how differentiation process was implemented in rural businesses.

In principle, rural development in localised approach resources needs to be directed towards particular problems at the individual household or business level. There needs to be a system whereby local circumstances can be assessed against national priorities and information disseminated to individual households and businesses on the opportunities and resources that can be made available in support of the objectives. This will depend on local institutions and the level of social capital. A sectoral approach required little institutional development at the subnational level. However, the move towards a territorial, and especially to a local approach,

involves a much greater degree of choice and discretion in the ways in which public resources might be applied. Complexity of local approach makes far greater demands on information and local institutional developments are required in order to handle it. Local institutions have an important role in dealing with the increasing complexity of policy implementation by building social capital for dissemination of information, networking amongst participants and co-ordination of activities (Hodge and Midmore, 2008). However the study did not show in detail how localized approach based of inclusive businesses effectively implemented to address rural under- development.

2.3 Differential Advantage Approach

The differential advantage approach on the part of inclusive businesses has great potential in making the rural poor economically active partnering with developed one to innovate and achieve sustainable win-win scenarios. Many poor people in Africa are involved in the informal sector, which often struggles to access markets (Hollmann, *et al.*, 2013). Johnson & Scholes (1993) differentiation strategy is inseparable to any successful development process; either you go differentiation or die for the survival in our era of killer competition". According to Kelchner (2019) the differentiation strategy also allows business to compete in areas other than price. A strategy that focuses on value highlights the cost savings or durability of a product in comparison to other products. Grant (2002) and White (2004) explain that there is a potential for differentiation strategy which exists on the demand (market) side and supply (firm) side. The above studies did not explain how differentiating advantage approach was related to rural development.

For successful implementation of differential advantage; value chains as decision support tools was added onto the competitive strategies by Porter. The contribution of value chain analysis to an understanding of how the incomes of the rural poor can be augmented lies in the notion of upgrading. At the heart of pro-poor value chain development is a difficult trade-off. On the one hand, barriers to entry to participate and to gain from participation in value chains are a bad thing because they disproportionately exclude the poorer and more vulnerable members of society (who are the target groups for development projects). As such, value chain analysis has given development economics a tool to understand why the weak, poor and disorganised are unlikely to benefit from trade (that is, owing to their failure to appropriate rents) and also a series of practical strategies to empower poor people to change the terms of their engagement in global trade by overcoming barriers to entry or creating barriers to entry of their own (Mitchell, *et al.*, 2009). It is the capacity to upgrade into rent-rich activities that underpins sustainable income growth (Kaplinsky 2000). According to Mitchell, *et al.* (2009) the key changes for sustainable pro-poor growth are therefore internal to the value chain, involving upgrading of poor people within the chain rather than initiatives external to the core functioning of the value chain. The study sought to review literatures on upgrading of product competitiveness, human resource development, market accessibility and productive process factors of differential advantage approach for rural development.

2.4 The Factors of Differentiation Advantage Approach

Differentiation advantage approach is based on firm or supply side and market (demand side) by creating value on a product and buyers perceive those changes as being unique. The study therefore sought to interrogate product competitiveness, human resource development, market

accessibility and cluster productive process factors of differential advantage on rural development in Kenya.

2.4.1 Product Competitiveness

The one way of implementing differentiation advantage approach by a firm was to create unique value through product development. Product differentiation as one factor or source of competitive advantage as it was explained by Porter (1986). Product differentiation strategy can be a tool of competitive advantage which is adopted by organizations in order to provide products that satisfies individual customer's needs. In satisfying individual customer's needs, quality has become a major differentiating factor among products (Shammot, 2011). Morgan *et al* (2004) measured product competency (differentiation advantage) by: higher product quality, packaging, design and style. In addition Chenhall and Langfield-Smith (1998) measured product differentiation strategy using five variables: providing high quality products, providing fast deliveries, making changes in design, introducing new products and providing unique product features. Also, Abu-Aliqah (2012) adopted the following variables to measure product differentiation strategy: high product quality, fast delivery, design and new products, and unique product features. Dirisu, *et al.* (2013) stated that there have been different measurement variables for organizational performance in literatures, ranging from financial to non-financial measurement (unique product, high product quality, product design and product innovation). Despite the above studies identifying key elements of product competitiveness, however they failed to explain how upgrading mechanism of product development among rural firms remains a great challenge. The study therefore sought to investigate mechanisms of achieving product uniqueness, quality, cost and innovation for product competitiveness among rural firms enhancing productivity and economic growth hence rural development.

2.4.1.1 Product Uniqueness

Among different attributes of product differentiation was product unique features. Dirisu, *et al.* (2013) explained that product uniqueness serves basic function; as a result, customers are willing to pay more for products that cater to their individual size, taste, style, need or expression. The basic function can be supplemented by adding some characteristics to the product. The characteristics that supplement the basic function of the product can be termed as features. In addition to the basic product, a company can create additional versions by adding new characteristics to attract new groups. The study didn't show how poor rural firms consistently and competitively implement the process of product development. Product's design will always aid to determine a consumer's choice of purchase amongst products of same brands and categories. Product design is defined as the totality of features that affect how a product looks, feels, and functions. A well-designed product offers both functional and aesthetic benefits to consumers, which could become an important source of differentiation (Koter and Keller, 2011). According to Bordes (2009) firms practicing differentiation seek to design and produce highly distinctive or unique product or service attributes that create high value for their customers. Both studies explained the important of designing for product competitiveness but failed to show the mechanism of embracing it in the process in rural firms. Dirisu, *et al.* (2013) added that a well-designed product can also be a point-of-difference in the marketplace aiding consumer acceptance through its ease of use, durability, reliability, or packaging; therefore, serve as a source of competitive advantage. Notably, from the above study was that the study didn't show the mechanism of transforming rural firms during their product development process.

In regard to the source of product uniqueness for small firms Nishikawa (2008) argued that originality and ingenuity part of a local community are essential attributes and what counts most is the creation of a commodity that is unique to a particular locality. Haraguchi (2008) illustrated how local flavour adds value to local products while the use of local human and material resources will help make economic activities sustainable. The advantage of OVOP activities lies in product differentiation, which can reduce the price elasticity of demand for products. Haraguchi further reiterated that differentiation is not limited to only physical features of products but advertising and publicity can help similar products to be differentiated in people's mind. Consumers also select one product over others because it is sold in a convenient place or displayed in a place, which attracts special attention. Differentiation is, therefore, considered a function of all the elements of marketing mix. Successful OVOP producers seem to understand this point and work not only on improving their products but also on their distribution and promotion to achieve a greater degree of differentiation for a higher profit margin. However, both studies failed to show how products from small rural firms in Kenya competitively withstand strong global forces.

Industries in rural setting can be divided into three categories namely small-scale cottage activities, medium-scale village enterprises, and large –scale rural industries (Ainebyona, 2014). A report done by JICA (2013) revealed that most Kenya OVOP groups which are doing products ranging from cosmetics, yoghurt, honey, handicrafts and detergents encounter constraints in achieving product competitiveness. These products vary in their quality but the most challenge currently being experienced is packaging. This explains why these groups cannot sell these products beyond their localities as some of the products do not even have Kenya

Bureau of Standards (KEBS) logo, bar codes, manufacturing date as well as sell by dates. To get out of this, the report recommended that the groups to be connected with the packaging material suppliers and label manufacturers. In the long run, there was need to create a national packaging directory where packaging producers and converters, importers, printers, equipment suppliers and designers can easily be accessed not only by OVOP groups but other stakeholders as well. However the study didn't show the engagement mechanism for product development between government institutions and small rural firms in Kenya.

According to Were (2016) the informal sector should be seriously considered and measures to rectify this issue should inform interventions by stakeholders such as government. In short, there should be efforts to support informal firms so they are in a stronger position to start the journey to formalization of rural firms. The study by Kurokawa *et al.* (2010) showed that ICT may serve as a competitive tool for African countries. In order to take advantage of Internet-mediated marketing, African producers need to improve the quality of their products and services and establish their "brands." Logo labeling is another promising strategy for branding African products. However, introducing processing machines or beautiful packages does not automatically lead to more value-added products or services. Local people have to tap every potential source of new value in their own community. The above studies didn't show how an intense institutional arrangements and networks at local level for sustainable implementation of product development in rural Kenya.

2.4.1.2 Product Quality

Researchers have designed the concept of quality performances in different ways ranging from perception of value, conformance to requirements, completeness to use and to meeting

customer's expectations (Oakland, 2004). According to Dirisu, *et al.* (2013) quality' was viewed as a key market differentiator, resulting in many organizations defining and improving processes, adopting and implementing total quality management systems, and attaining quality standard accreditation. Product quality can have large effects on demand and consumer welfare (Daniel and Reitsperger, 1991). Product benefits are product performances or product's ability to deliver the desired benefit to consumers (Janiszewski and Meyvis, 2002). The above studies recognize the importance of product quality as an element of product competitiveness; however they didn't demonstrate how high product quality was to be implemented among small rural firms in Kenya without strong human, technical and financial capacities.

According to Jaskulska (2013) quality improvement has become the important tool in differentiating the products and services in the competitive market. Garvin (1984, 1987) proposed eight critical dimensions or categories that be identified as a framework for thinking about the basic elements of product quality: performance, features, reliability, conformance, durability, serviceability, aesthetics, and perceived quality. However, the characteristics of quality were further summarized by Parasuraman *et al.* (1985, 1988) stated that there are three aspects associated with definition of quality: quality of design, quality of conformance, and quality of performance. Jaskulska (2013) reported that quality concept is defined by the author as a perspective that relates to product's design and styling, its aesthetic appeal, its functions and features and the level of service associated with the delivery of the product. Nevertheless quality that bases on reliability is another perspective. However, despite the above studies identifying the aspects of quality product, they didn't show how those elements were sustainably implemented and maintained in rural areas of developing economies.

In enhancing product quality of OVOP projects, a study done by Kurokawa *et al.* (2010) showed that quality assurance by Thailand OTOP Product Champion (OPC) system had five grades (five-star) of certification assessed by four areas of criteria: (i) exportability and brand quality, (ii) sustainable production with consistent quality, (iii) customer satisfaction, and (iv) impressive background story (Fujioka, 2006 and Kurokawa *et al.*, 2010). Haraguchi (2008) indicated that direct interaction between producers and consumers helps to increase the value added and promote their products by introducing innovativeness. The feedback from customers is pooled together and shared within a producer group for their joint learning and continuous improvement of products and marketing. In essence, taking part in multiple stages along a value chain from production of raw materials, processing, selling and servicing, OVOP producers maximize their learning opportunities by collecting information, which goes beyond the usual price and volume, such as more qualitative aspects of product quality, distribution channels and promotion strategies. Comprehensive information together with their direct experience in different stages of a value chain helps them to generate new ideas. By enhancing learning opportunities in their activities and sharing of ideas among members of an OVOP group, they work constantly toward reaching a better marketing mix. However, these studies failed to explain how developments of quality products were done in developing countries without proper structural and institutional arrangements.

However Barham (2007) pointed out that agricultural produce in developing countries such as Kenya, Tanzania, Uganda and Zambia is characterized by existence of a large number of smallholder farmers; a lack of full control over quality and quantity of the output; inability of individual farmers to engage in demand creation activities for own produce; seasonality of

production; bulkiness of commodities relative to the value; and perish ability of unprocessed products. The study did not show how power of value addition was given back to small producers instead of transferring it to other parties and location thereby transferring their control and wealth in rural areas.

Boosting quality improvement in OVOP projects required government intervention where for example according to Yamazaki (2010) supplementary support of OVOP projects in Oita Prefecture government and other subsidiaries from the central government, local government and other local actors are expected to develop a new product which leads to revitalisation of their local economy and society. Technical and institutional assistance to producers were the main instruments of the Prefectural government. For example a food processing technical support department in the agricultural research centre was newly established to provide training and consultation service. Moreover, some more newly founded prefectural technical centres in various fields (cut flowers, seafood processing, mushrooms) were fully utilised to support OVOP activities. In addition, financial schemes such as low interest loans were prepared for agricultural producers and cooperative. The study didn't explain how governments engage local arrangement and networks in the implementation of product quality development in rural areas.

2.4.1.3 Product Cost Efficiency

In defining product cost as a factor of differential advantage Porter (1980) illustrated that a firm that pursues the cost leadership strategy also achieves a low-cost position by emphasizing aggressive construction of efficient-scale facilities, vigorous pursuit of cost reductions from experience, tight cost and overhead control, avoidance of marginal customer accounts, and cost minimization in areas like research and development (R&D), services, sales force, advertising,

and etc. Cost Leadership or competitiveness aim to be competitor rather than customer oriented (Frambacht *et al.*, 2003). The explanation of why the cost leadership is to be competitor can be described as cost leadership requires a strong focus on the supply side as opposed to the demand side of the market. And this requires a high level of competitor orientation (Day and Wendley, 1988). Additionally Baroto and Abdullah (2011) revealed that firms pursuing a cost leadership strategy must continuously benchmark themselves against other competing firms in order to assess their relative cost (and therefore profitability) position in market place. The studies didn't explain how small rural firms achieve cost efficiency despite operating from a disadvantaged position in terms of high cost of input, low skills, challenges of institutions an infrastructure.

According to Haraguchi (2008) unlike the cases of firms producing homogeneous products, a firm with differentiated products, as in the case of successful OVOP firms, is able to charge a price above its marginal costs and earn higher profits. Theoretically, the greater the degree of differentiation in product or marketing and subsequent lower price elasticity, the higher the price firms can charge for their products above the marginal costs. The advantage of OVOP activities lies in product differentiation, which can reduce the price elasticity of demand for products. If rural firms are able to produce sufficiently differentiated products, there are chances that they will be not only able to compensate their higher transportation and other costs with the products' higher profitability, but will also be able to compete with urban firms in major domestic markets, or even in foreign markets (Ohaya *et al.*, 2014). In a report by the Omole (2014) identified a high input costs result in expensive and often low-quality raw materials, rising labor costs, unreliable and expensive energy. More so capital productivity in the Kenyan manufacturing sector is particularly low, compared to regional and global productivity levels. However, despite the

studies identifying the challenges of high production cost they failed to explain how the challenges were innovatively addressed.

MacCathy (2004) underlined the importance of collective activities among small producers as a mean of gaining advantage in cost reduction and bargaining power in the due to the benefits of economies of scale. The primary functions of collective activities of farmer groups are as follows; to give farmers the profits of marketing that would ordinarily flow to market intermediaries, to stimulate and develop agricultural leadership, to help make market access more efficient and farming more profitable to try and maintain high quality and to reduce costs. Through achieving economies of scale, farmer groups can overcome some of these cost disadvantages, particularly those related to high external transaction costs and market power. Yamazaki (2010) recommended that joint activities and mechanisms beyond villages such as promoting competition among villages, and sharing a local brand name among several villages to achieve scale economy moreover, a network across villages is an important mechanism for the success of OVOP Japan. However the studies failed to explain how local arrangement and networks were actively engaged in a new collective efficiency.

2.4.1.4 Product Innovation

In defining product innovation the empirical study Angelmar (2014) referred product innovation as a product which is new, at least in some respects, for the market into which it is introduced. From a competitive perspective, product innovation can be seen as a tool for achieving a competitive advantage, alongside other tools such as price reductions on existing products, the development of new customer services, and new communication and distribution programs. The description of successful innovations as possessing superior performance and

uniqueness, product innovation can be seen as a tool for achieving a competitive advantage, the competitive advantage created by a product innovation manifests itself in the speed and magnitude of market acceptance. According to Dibra (2015) study in the innovation theory identifies relative advantage, compatibility, complexity vs. simplicity, observability or visibility as the key characteristics that determine people's use of innovation. Despite the studies recognizing the importance of product innovation, however they failed to explain how effectively product innovation of small rural firms in rural areas.

Pehrsson (2009, 2016) explained that innovativeness displays the ability to differentiate products/services and it is viewed as the effective differentiation strategy in harsh competition. Innovation plays an important role in improving the quality and product scope (extended variety of product choice), and is regarded as an effective tool to bring uniqueness when faced by a tough competition. Innovation is hence a process of differentiating the products and services from competitors; it is a way of creating and expanding markets, thereby reducing the impact of price competition. However the study didn't show how small rural firms in developing countries thrive in a globally competitive environment.

Reguia (2014) reported that successful innovation result in new products and services, gives rise to new markets, generates growth for enterprises, and creates customer value. Innovation improves existing products and processes, thereby contributing to higher productivity, lower costs, increased profits and employment. Firms that innovate have higher global market share, higher growth rates, higher profitability and higher market valuation. Customers of innovative products gain benefits in terms of more choices, better services, lower prices and economic growth, long-term wealth creation and higher living standards. However the study didn't talk about successful product innovation of small scale firms in rural areas.

The company requires continuous improvement of products competitiveness, increase of sales volumes in the market segment by improving the quality of existing, or issuing new products that meet the needs of consumers at a higher competitive level (Zavyalova, 2017). In a study by Angelmar (2014) reported that innovation performance capture the resource-basis of innovators through the concept of innovation relatedness, innovation-company fit, or synergy in its various aspects, that is, from the point of view of technological, production, distribution, and customer relatedness. Rural industrialisation process to be sustained requires a set of core resources and capabilities such as skilled manpower, technological innovation and enhanced knowledge capacity, as well as access to inexpensive finance, infrastructure and appropriate policies. Rural industries are mainly agricultural based and labour intensive, thus difficult to introduce sophisticated techniques and methods of production which are expensive and there is no technical know how to run them. Rural industries like others need compliance with the various legal formalities such as licenses in order to operate. But rural entrepreneurs find it difficult to comply due to complexities of the legal provisions or illiteracy and ignorance. Other problems include poor quality standards, use of obsolete technology, machinery and equipment as well as poor communication and marketing information (Ainebyona, 2014). However, the reviewed studies failed to provide a clear relationship between product competitiveness and economic growth of rural firms and did not show distinctive mechanism of implementing product competitiveness for the purpose of rural development.

2.4.2 Human Resource Development

According to Qehaja and Kutillovci (2015) human resource can create competitive advantage for the firms. High efficiency of human resources is strongly related to firms' high performance. The

process of developing a competency framework is as important as the product. For firms to have competitive advantage, they should focus on turning talents into a source of competitive advantage. Researchers, commentators and policy makers have stressed the importance of investment in human resource development (HRD) to enhance the quality of human capital and create sustainable competitive advantage (Aragón-Sánchez *et al.*, 2003; Scheel *et al.*, 2014). The above studies illustrated the link between human resource development and rural development.

More so Soni and Saluja (2013) explained that human resource development in the organizational context is the process of organizing and enhancing the physical, mental and emotional capabilities of individuals for productive work. Mehta (2011) in an expanded ABC model agitated that when organizations are able to harness effectively the talent, energy, and motivation of their employees, they will have an ideal competitive business edge. Armstrong (2006) explained that the elements of HRD process as: learning, training, development and education. Garavan (1997) agitated that training; development and education are integrated whole with the concept of learning as the glue which holds them together. Training, development and education are essentially concerned with learning. One significant reason for increasing overlap of training, development, education and learning is the speed of change in the modern business world. The above studies explained the main activities of human resource development, however they failed to show how the upgrading of human resource development for economic growth in rural enterprises. The study therefore sought to investigate upgrading mechanism of learning, training, development and education activities among rural firms for the purpose of attaining competitive advantage and productivity.

2.4.2.1 Learning Activities

In explaining learning activities as a result of practical experience Mehta (2011) reported that for effective learning to take place employees need confidence and appropriate learning skills opportunities to turn their commitment into productive action. Haraguchi (2008) further showed that to enhance their learning capabilities, some OVOP farmers have strengthened their ties with consumers by having their own cooperative shops and restaurants, which serve dishes using their products. By enhancing learning opportunities in their activities and sharing of ideas among members of an OVOP group, they work constantly toward reaching a better marketing mix. The study failed to show how learning activities effected in rural Kenya without proper implementation framework.

To demonstrate the relationship of learning activities with human resource development a study by Schumann (2016) explained how Japan Oyama OVOP movement through development of the local workforce started early in 1969 by sending young residents with potential to lead the local agricultural industry in the future to a work-study program at a Kibbutz in Israel. This later extended to study trips to Idaho for junior high school students and to other destinations around the world to ensure the sustainability of agricultural and community development initiatives, which resulted in Oyama town having the highest ratio of passport holders in Japan (Oita OVOP International Exchange Promotion Committee, 2013). Educational trips to domestic and overseas as well as international exchange of experts with several countries such as Hawaii, China and Israel have been done over times (Stenning, 2008). Schumann (2016) found that both the overseas experience and the shift to plum and chestnut production in OVOP Japan helped to elevate the desire of residents to develop their own skills to contribute to their community. In a

more similar to that of Oyama, Yufuin's mayor Iwao had sent three young people to Germany in 1971 to learn in detail about spas and community building and subsequently these lessons were brought back to Yufuin and shared with others. Another example was Ajimu OVOP movement; informal study group, comprised of Ajimu farmers and residents, called The Ajimu Green Tourism Study Group was established in 1997 and soon conducted study tours to Germany. The studies didn't show how effectively and sustainably learning process among rural entrepreneurs was implemented in terms of contents, financing, learners, benchmarking, and facilitators in rural areas.

To enhance learning activities Haraguchi (2008) disclosed that prefecture government provided only supplementary support in the form of extension services, learning activities and product promotion. This relatively simple arrangement is nothing unique and can be found in other community or enterprise development projects. This is why the success of OVOP project does not depend too much on the institutional arrangement but more on qualitative aspects, such as leadership, commitment of community members and their cooperation. In the case of Oita, these qualitative elements have gradually developed through trial and error processes and a series of community initiatives. However the study failed to show how institutional arrangement enhanced commitment and cooperation between local communities and government and among community members for the purpose of learning in rural areas.

2.4.2.2 Training Activities

Training is described as an immediate change that involves systematic modification of behavior through learning events, programmes and instructions that enable individuals to achieve

the levels of knowledge, skill and competence needed to carry out their work effectively (Armstrong, 2006). In a study done by Schumann (2016) revealed that best training is people-centered that maintains the trust and motivation of OVOP participants. Individuals benefited from training and increased income by participating in OVOP activities. According to Kurokawa *et al.* (2010) comparative study on Japan OVOP, Thailand OTOP and Malawi OVOP training activities was at forefront in all cases product development: training in quality control, management, labelling, packaging, and marketing; Malawi OVOP concept training, management, including basic bookkeeping and packaging. All the above studies didn't show how a sustainable implementation framework of training activities for rural enterprises in developing countries.

A study done by Nishikawa (2008) on Ethiopian OVOP reported that the basic principle of training is that the trainees are asked to learn from the past trials and errors and experience in Japan, so that they shall be able to approach the issue by encouraging the local inhabitants concerned to make their own choices suited to respective local areas, rather than by imposing products and methods predetermined by a macro policy on the part of the government. While it is understood that the requests from the governments of developing countries are focused on the areas of export promotion and product development, the trainees are expected to understand as common knowledge the fact that the movement, as a prototype, is itself that of regional development of internal motivation, and contains aspects of human resources development and capacity building in administrative systems. Such knowledge does not have the character that can be transferred simply, but involves essentially the question of mindset of those concerned.

However the study did not explain details of implementation mechanism of training activities among rural enterprises for their economic growth.

According to Yamazaki (2010) Malawi approved OVOP groups also receive training on OVOP concepts, management skills, packaging, and food-processing from affiliated organisations such as a university, a financial institution, and JICA. JICA (2011) reported that training in Malawi was done in collaboration with local government (extension agents) and other organizations in Malawi: Each one of extension agents is expected to play the role of promoting the movement in his or her daily activities. A training program has been implemented continuously for these extension agents, and as of December 2007, the program had so far received the extension agents from all the districts of Malawi. For example JICA initiated in October 2005 the technical cooperation project: “Project for institutional building and human resources development for OVOP movement in Malawi”, in which until now a number of experts, Japan Overseas Cooperation Volunteer (JOCV) members, and senior overseas volunteers have been dispatched to Malawi, and several Malawian trainees have been accepted to participate in training in Japan. However the study failed to talk about institutional arrangement for sustainable implementation of the training process.

According to Yamazaki (2010) public seminar was held at the village level to discuss local development issues in Oita Japan. Capacity building programmes were conducted by the Prefectural government targeting various community leaders. As Schumann (2016) reported that successful training in OVOP projects is where leaders involved encouraging connections among different activities, dissemination of information, the provoking of debates, and the management

of training programs for the locally created initiatives. A key area of training in successful OVOP cases involved identifying highly motivated leaders within the local community and developing them as future leaders the OVOP movement. Collaborating with public and private sector organizations that have common goals through networking and knowledge sharing, communities can achieve greater collective impact rather than limited effect resulting from the scattered, piecemeal approach. However, the study didn't show how engagement mechanism among the local enterprises, private partners and government during implementation of trainings activities.

2.4.2.3 Human Development Activities

Development is realization of a person's ability and potential through the provision of learning and educational experiences (Armstrong, 2006). As Kurokawa *et al.* (2010) reported that the success of Japan OVOP movement was from peoples' self-reliance and creativity for example Oyama Town stemmed primarily from the self-reliance and creativity of the people themselves. Hisamatsu's OVOP movement inherited this spirit and called for people to take positive initiatives for themselves instead of expecting benefits to come down from the government. Nishikawa (2008) stressed that while it is understood that the requests from the governments of developing countries are focused on the areas of export promotion and product development, the trainees are expected to understand as common knowledge the fact that the OVOP movement, as a prototype, is itself that of regional development of internal motivation, and contains aspects of human resources development and capacity building in administrative systems. Such knowledge does not have the character that can be transferred simply, but involves essentially the question of mindset of those concerned. However the study failed to show an

effective arrangement for human resource development in rural enterprises for the purpose of enhancing development.

Yamazaki (2010) emphasized that link between human development and product development was critical in OVOP projects. The logic behind this is that human resource development is achieved in the process to develop OVOP product, but on the other hand, OVOP product can be produced by committed and capable human resources who are motivated to contribute to their locality. Developing products is a mere method to mobilise a community to achieve its social and economic goals. Capacity building programmes were conducted by the Prefectural government targeting various community leaders, which included subsidies for observation tours to successful cases in Japan and other developed countries, and also for community activities for social, cultural and economic purposes. The most prominent activity of Oita's OVOP was adult education on local development, which was a two-year part-time programme, in which participants could learn practical know-how of local development; it also aimed to create a network among local leaders so that they could motivate, learn, and compete with each other even after the programme. However the study didn't show how operationalization and engagement of rural communities in developing human capacity was done especially in rural areas.

As Haraguchi (2008) revealed that by strengthening these capabilities a community will be in a position to determine its own development path and adapt to changing socio-economic environments. It is crucial for communities to go through this process so that they can devise their own development path and build social capital to increase sustainability. Thus, the core of

community development is not to lay out development plans and strategies for communities but, through a participatory process, promote their learning of how to carve their development paths and develop solutions themselves amid changing economic environments. The OVOP movement in Oita has been understood as a bottom-up approach, aimed at quantitative as well as qualitative development of the whole community. These qualitative elements have gradually developed through trial and error processes and a series of community initiatives. The approach took a whole-community' development initiatives focused on increasing incomes and reducing the workload of farmers. Such knowledge does not have the character that can be transferred simply, but involves essentially the question of mindset of those concerned. However, the study failed to explain how implementation of human development capacity was done through effective engagement of rural enterprise, governments and other partners for the purpose of rural development.

2.4.2.4 Education activities

Njoroge and Gathungu (2013) reported that entrepreneurship education and training has been found to be a major determinant in the growth and survival of enterprises. According to human capital theory, investment in knowledge, skills and abilities enhance the productive capacity of the individual. According to Lekhanya (2017) study several authors believe that better entrepreneurship education could make a significant contribution to job creation and, ultimately, to poverty alleviation. Armstrong (2006) further defined education as an intermediate development of knowledge, values and understanding required in all aspects of life rather than the knowledge and skills relating to a particular area of activity. Entrepreneurship education and training entails a philosophy of self-reliance, such as creating a new cultural and productive environment, and promoting new sets of attitudes and culture for the attainment of future

challenges (Arogundade, 2011). Despite relating education activities with rural development, however the studies shallowly demonstrate how innovative education activities among rural enterprises guaranteed rural development.

The Japan OVOP being a social movement refers to human resource development that involves the participation of the local people in the overall community development process. This includes offering educational opportunities for people who would play future leading roles in OVOP, successors to family businesses, women groups engaged in the OVOP scheme as well as others who can contribute to life-long education, volunteer education, single-mother household support or the promotion of ICT (Radiah, 2009). However the study didn't talk about how local arrangements were actively engaged in transforming rural workforce for the purpose of rural development.

According to Schumann (2016) study for OVOP or any social movement to be implemented successfully and for it to be sustainable, there must be a sense of ownership among those participating. There was a need to introduce a culture of change, which was not easy due the deeply ingrained belief that change would not result in a viable economic future, especially in smaller communities with inherited traditions. Local potential for development exists in communities but the introduction of the culture of change was eventually accomplished through external stimulus. This "push" was accomplished either by individuals that gained new knowledge by visiting other places. For OVOP or any social movement to be implemented successfully and for it to be sustainable, there must be a sense of ownership among those participating. Community members were also encouraged to take pride in their own traditional

culture and to view it as an advantage to develop unique products. The study didn't show sustainable mechanism of engaging rural enterprises through integrated system of traditional and new economic approaches of conducting businesses.

A study by Yamazaki (2010) reported that the most prominent activity of Oita's OVOP was adult education on local development, which was a two-year part-time programme, in which participants could learn practical know-how of local development; it also aimed to create a network among local leaders so that they could motivate, learn, and compete with each other even after the programme. OVOP Japan, technical and institutional assistance to producers was the main instruments of the Prefectural government. A food processing technical support department in the agricultural research centre was newly established to provide training and consultation service. Moreover, some more newly founded prefectural technical centres in various fields (cut flowers, seafood processing, mushrooms) were fully utilised to support OVOP activities. The study didn't talk about the process of transforming institutional arrangement for the purpose of smooth implementation of new education activities.

To demonstrate failures of education systems on rural development, economists have maintained that the major obstacle to economic growth of poor nations is the lack of educated entrepreneurs who are able to mobilise and coordinate production inputs (Bawuah, *et al.* 2006). In most African countries entrepreneurs are not educated as evidenced by past studies (Rogerson, 1998, Martins and Tuslin 1999, and Rwigena and Kanungu, 1998) and learning materials that are easy to absorb is motivational to the trainees. Past studies by (Barrick and Mount, 1991; Salgado, Viswesvaran, and Ones, 2001; Zhas and Seibert, 2006) showed that individuals high on

conscientiousness are more dependable, well-organized, persevering, and motivated to excel in training or on the job. Such individuals tend to set themselves higher standards of performance and to be more committed to them. According to Obura (1996) study the objectives of introduction of 8-4-4 system of education in Kenya were noble. However, it failed to achieve its objectives due to its theoretical approach instead of the intended practical approach. The training curricula of various institutions and individuals offering training should be updated to match training needs. Republic of Kenya (2009) survey showed that there is still deficiency in Kenya's technical and management skills in MSE Sector. Gibbs (1998) also pointed out that for the small and medium enterprise to develop in Kenya, there has to be a change in perception towards the sector as the enterprise culture is an environment that prepares the population as a whole to take advantage of the abundant business opportunities and provides supportive measures for entrepreneurs at all levels. However the studies failed to show how new institutional arrangement was important for the purpose of effective implementation education activities in rural areas.

In suggesting possible solutions for effective education activities of rural projects Ong'olo and Awino (2013) recommended that there is need to establish tailored training institutes for SMEs at the county level; Even though there are government institutions providing courses on SMEs issues, it would be important for the government to establish SMEs specific training institutes especially in each county based on the county's competitiveness and its production output. Such training for SMEs should focus on developing and providing training, research and consulting services for small-scale entrepreneurs to enhance production, value addition and entrepreneurship skills. Lack of specialized market based education system critical in promoting human resource development enhancing competitive advantage, high productivity hence rural

development in OVOP projects was contemplated as a matter of concern. However reviewed studies failed to show the relationship between human resource development and economic growth and distinctive process of implementing HRD in small rural firms for rural development.

2.4.3 Market Accessibility

According to Van Schalkwyk, *et al.* (2012) found that markets provide the opportunity to generate income, contributing to a reduction in poverty and hunger in developing countries. Markets also drive production to meet consumer demand in terms of quantity and quality. According to Litha *et al.* (2009) market access can be seen as having three dimensions: physical access to markets, the structure of the market and the role of the producer. In a study by Lothoré and Delmas (2009) reported that marketing improvements can contribute to a significant improvement in farmers' income. The study further stated that sustainable access to markets is required to guarantee smallholders an increase in income and to lift them out of poverty and marketing improvements can contribute to a significant improvement in farmers' income. However the study did not show how upgrading of market process for the purpose of tapping opportunities of value chain by small rural enterprises.

According to OECD (2007) market access is critical for agriculture to become the main driver of pro-poor growth. Productivity gains can mean little without expanded access to markets. Market structures in many rural regions of the developing world are very weak, so the allocative efficiencies that markets achieve in fast-growing sectors of their economies do not materialize. A vicious cycle of the poor organisation and influence of producers, weak transport and communications infrastructure and limited market information in the absence of functioning

markets, rural areas remain trapped in a subsistence economy. However, the studies didn't explain in detail the mechanism of operationalizing market information, technology, infrastructures and institutional support forenhanced market accessibility of rural firms in developing countries. The study therefore sought to investigate mechanisms of implementingmarket information, technology, infrastructures and institutional support for the purpose of enhancing market accessibility among rural firms hence rural development.

2.4.3.1 Market Information

In a study by Chamberlin and Jayne (2011) found that market information may influence the perceived costs of market participation over and above actual transportation costs. Schleberger (1998) further added that the ability of SMEs to survive in an increasingly competitive global environment is largely dependent upon their capacity to leverage information as a resource and to benefit from the value of information. SMEs need ready access to comprehensive relevant information since they operate in severe time and capacity constraints. They require information on business trends and markets; business environment, legal and regulatory aspects, business management, customer needs, business expansion and diversification; technology; business opportunities; linkages and business partnerships. Despite the studies showing the relationship between market information and market accessibility, however they didn't explain how effectively sophisticated market information was effectively tapped by rural enterprises.

In a study done by Ageya and Omondi (2016) found that most respondents who were accessible to market information have higher commercialization index of 69%, and those who were not have lower commercialization index of 26%. This is because the respondents who were

accessible to market information were able to access a wide range of markets for the produce realizing increased income hence increased commercialization level. The more information the household has on marketing, the less transaction costs will be thus increasing market participation. Smallholder dairy producers are often not aware of prices and market opportunities for their product and find it difficult to participate in alternative markets. Proximity to towns/cities is also proxy for access to information. Markets removed from major cities/towns are not well integrated in these markets, competition is often highly imperfect. Finding a buyer in these markets is often a problem. Lack of reliable information also hampers commercialization in areas with bad market access. The gradual shift to more profitable enterprises (dairy) in peri-urban areas could be due to the interaction in modern market outlets. However the study failed to show mechanism of simplifying complex information for effective utilization of rural enterprises.

According to Haraguchi (2008) direct interaction provides farmers with more important information than merely selling to a commodity market. They are able to monitor the sales of their brands sold by retailers, and receive feedback from the shops. Such information could influence their production and pricing decisions. Commodity markets led OVOP communities to diversify their products and distribution channels so as to allow them to receive information conducive to their learning and improving the marketing mix. Direct market approach with direct link between producers and consumers based on information sharing and interactive learning proved being main source of successful market access in OVOP Japan and OTOP Thailand. These venues allow producers to interact with consumers and also provide opportunities to directly receive comments on their products, which help to increase the value added and to

promote their products by introducing innovativeness using their products. The study failed to talk about the arrangement of establishing effective networks between rural producer in developing countries and wide range of consumers.

To enhance access of market information Kurokawa *et al.* (2010) observed that ICT may serve as a competitive tool for information access in African countries. African producers can get access to the Internet and mobile phones easily regardless of the degree of their nation's economic development. Thai OTOP activity is characterized by the positive use of ICT (information and communication technology) for sales strategies. The Thai government has promoted development and use of websites for administrative and economic activities since early 2000. For the purpose of promoting OTOP, "Thai Tambon dot com" has been developed jointly by the Ministry of the Interior, Ministry of Commerce, Ministry of Agriculture and Cooperatives, Bangkok Metropolitan Authority, and Internet Thailand, Ltd. This website is a non-profit venture which offers information on Tambon (town) based on a large and comprehensive database. The study didn't show mechanism of effective utilization of ICT devices by illiterate rural enterprises.

Challenges of accessing information was observed by Nyende (2011) reported that agricultural markets in the East Africa region are characterized by a myriad of constraints, among them being very long chains of transaction between the farmer and the consumer; poor access to reliable and timely market information; small volumes of products of highly varied quality offered by individual smallholder farmers; and poorly structured and inefficient markets. This has resulted in wastage of produce and low prices to smallholder farmers. It was revealed that lack of timely

and relevant market information to all market actors' result from distrust and sometimes dishonesty among themselves. Under such circumstances dubious intermediary actors have flourished and further damaged the trust relationships required for efficient and profitable marketing along the whole value chain. According to Hanna (2010) explained that limited access to opportune, current, relevant and adequate information is a notable constraint to SMEs in Kenya. The enterprises struggle to gain access to important information needed for economic growth, customer satisfaction, improved cycle time and opportunities at the market place. However, it failed to address the simplicity and accessibility of information and communication technology for rural enterprises.

Major challenges in relation to market information relate to acquisition and capacity to interpret and effectively use the acquired information. Without access to timely, simplified, reliable and relevant information on market opportunities, production technology, the sector is unable to survive and grow in a highly globalized and competitive market environment (Republic of Kenya, 2005). According to Matambalya and Wolf (2002) difficulties associated with information acquisition have negative implications; lack of information may reduce the extent of mutually beneficial exchanges and lead to uncertainty concerning economic decisions in the enterprises, Information asymmetries lead to high transaction costs, uncertainty and therefore market failure. Radiah (2009) further stated that innovative distribution channel created and supported by the Thai government is the ThaiTambon.com website which provides necessary data and information to facilitate the sale and distribution of OTOP products online. However the studies failed to show the new arrangement for upgrading forms of accessing market information among rural enterprises.

2.4.3.2 Market technology

In a study by Kiveu and Ofafa (2013) reported that ICT holds a lot of potential for improved market access by addressing the various market access challenges in SMEs. It offers various opportunities to improve access to market information, communication, market research, market identification, promotion of goods and services, to enable on-line marketing and transactions, production of quality products, market expansion, to enable networking and linkages, for efficient transactions with lower transaction costs, improved market coordination and linkages. This can be achieved through the use of different ICT tools that include; mobile and fixed phones, computers, television and radio. Dovan (2011) further reported that mobile phones help to increase income, improve efficiency of marketing, reduce transaction costs and present a great opportunity for new interventions. This finding reflects the evidence that farmers equipped with information have stronger bargaining power and can access a number of markets at the same time. This study didn't explain mechanism for maximum utilization of market technology by rural enterprises for the purpose of rural development.

Changing technologies and market institutions may result in changes in the economic meaning of a given indicator over time. For example, Overa (2006) showed how marketing and communication technologies may reduce transaction costs and effectively extend geographical thresholds of viable market participation. The study also described ways in which recent changes in access to telecommunications technology are affecting the transactions costs of local trade. Her study of small traders in Ghana illustrates how mobile phones are lowering the transaction costs of interactions over dispersed areas: discovery and exchange of information, negotiation, and monitoring. She identifies a number of mechanisms by which cell phones lower transaction

costs: by reducing the number of physical trips necessary to carry out these functions, overall costs are reduced; enhanced communication leads to the potential for more rapid establishment of new trading relationships and social capital in low-trust. However the study failed to show how upgrading of marketing technology contributed to economic growth in rural enterprises.

A study done by Kiveu and Ofafa (2013) reported that opportunities exist for SMEs to apply ICT to facilitate communication and access to information, identify markets, for production of innovative quality products, product promotion, to improve transactions, for market research and analysis, to access international markets, for on-line selling, for networking and to lower transaction costs. The study recommends awareness creation for ICT use, improvement in ICT literacy levels and infrastructure, development of user friendly relevant ICT programs for SMEs, development of databases for SMEs, use of popular social sites for marketing and inclusion of ICT in SMEs marketing strategies. The study failed to show the importance of mechanism of engaging local institutions introducing new market technology.

Kurokawa *et al.*(2010) further revealed that ICT may serve as a competitive tool for African countries. African producers can get access to the Internet and mobile phones easily regardless of the degree of their nation's economic development. In terms of language and literacy, they have an advantage over producers in Thailand and Japan as they are literate in international languages such as English and French. In order to take advantage of Internet-mediated marketing, African producers need to improve the quality of their products and services and establish their "brands." Here we need to recall that one of the basic principles of the OVOP movement is the tapping and mobilisation of local knowledge and resources. Introducing processing machines or beautiful

packages does not automatically lead to more value-added products or services. Logo labelling is another promising strategy for branding African products. In Sub-Saharan Africa, a logo common to all of Africa, in addition to national logos, may help African countries market their OVOP products jointly in external markets. The study didn't emphasize on how new institution arrangement was needed for effective enhancement of market technology among rural enterprises.

Nishikawa (2007) revealed that in Africa, finding market is difficult for OVOP unique products developed in local areas. The study attested that solving all the problems in domestic and export market, it is necessary to improve technology in production process for product quality including packaging, investing human resources and material resources in the strengthening of marketing process and preparation of channels transmitting the standard and regulations of food safety and demand trend of the market are also important. To fulfill these tasks, assistance from government and donors will be necessary Assistance from government and donors will be necessary especially for export market, cooperation with private sectors such as trading companies, food companies, supermarket, which know conditions, requirements and demand trend of the export market will also be an effective way. However, the study failed to show how institutional arrangement for promoting technological capacity was critical element of rural development.

2.4.3.3 Market Infrastructures

According to Fujita (2003) infrastructure is categorized into hard and soft. Hard infrastructure includes; electricity, water, sanitation, transportation, telecommunications while soft infrastructures are administration, management, financing, marketing, technical and technological assistance, R&D institutions. According to OECD (2007) improved

infrastructure, including rural roads, rural electrification, irrigation and storage facilities links small producers to markets and reduces their risks and transaction costs. It saves time in transporting water, crops, wood and other products rural households produce. It increases the volume of marketable goods and reduces costs for inputs needed to produce these costs. And it gives them much greater access to social services, including health and education, which can provide them with new livelihood opportunities. It is important to encourage the participation of beneficiaries in planning, construction and operation, and maintenance of the infrastructure in order to strengthen their ownership and sustainability. Several recent studies highlight the link between weak infrastructure and rural poverty. For example Jalan and Ravallion (2002) find that road density has a significant positive effect on consumption expenditure in agricultural households in poor regions of China. The study shallowly explained mechanism of enhancing infrastructures for market accessibility in rural areas.

In a study by Kurokawa *et al.* (2010) revealed that the success of the Thai OTOP programme is due to the highly developed road networks and the availability of pickup trucks to villagers. Japanese OVOPs also benefit from the development of highway networks and motorization. Yokota (2006) explain that Japan Michinoeki (roadside service stations) is an excellent instrument in the third generation infrastructure intervention knowledge based focusing on regional development and integration and enhancing multisectoral and multipurpose dimensions. Fujita (2003) added that the Michino Eki road-side service stations provided much stronger links between local communities and the users of the highways. In addition to economic services through market functions, Michino Eki serves as venue for the provision of a wide variety of public services to the local community such as sanitation, health care, education and training, as

well as cultural activities. The study didn't talk about structural arrangement for an integrated infrastructural network in rural areas.

The success of the Japanese OVOP programme has been based on close urban-rural economic links through consumers and tourists. Thai OTOP producers also benefit from their links with urban consumers (Kurokawa *et al.*, 2010). Yamazaki (2010) further reported that development infrastructures such as "Road-side Station" and farmer's restaurant were promoted to activate the local market. These instruments aimed to create local linkages between producer and consumer. The local market was also expected to provide a place for producers to find and improve competitive products. Secondly, the Prefectural government strongly intervened for local supermarkets to set up OVOP corners, and to hold an exhibition of OVOP products at trade fairs. Especially for products with high production capacity, the government tried to establish a channel between producers and the urban market place by providing subsidies to producers' associations and also holding trade fairs. The study didn't show how local institutions were engaged establishing new market networks in rural areas.

World Development Report (2009) stressed that spatial connectivity is the key to rural development. As Kurokawa *et al.* (2010) reported that much of the success of the Thai OTOP programme is due to the highly developed road networks and the availability of pickup trucks to villagers. Japanese OVOPs also benefit from the development of highway networks and motorisation. For OVOP programmes to succeed in Sub-Saharan Africa, nationwide delivery services and transportation networks need to be expanded and improved quickly. As for external marketing, Internet-mediated marketing or ICT may serve as a competitive tool for African countries. African producers can get access to the Internet and mobile phones easily regardless of

the degree of their nation's economic development. Moreover Omole (2014) reported that in Kenya lethargic rates of adoption of ICT in industries, the low levels of penetration and high cost of ICT infrastructure has hindered access and usage. This leads to low access to markets and technological information and increased costs of marketing and communication. The study failed to explain sustainable arrangement for enhancing market infrastructures for rural enterprises.

2.4.3.4 Market Institutional Support

The 'institutional environment' refers to the official and unofficial rules and constraints that surround an entrepreneur and which shape a business operation (Schiebold, 2011 in Gatukui and Katuse, 2014). Holmes *et al.* (2013) indicated that political, regulatory and economic factors together create rules and standards and define the established order within which entrepreneurs and SMEs operate. In a study by Chamberlin and Jayne (2011) found that institutional and cultural factors likely also play a role in actual market accessibility at the community level. The importance of supplementary support assistance to small business success is reported in a number of studies. Porter (1985) further explained that institutional factors, includes government regulation, tax holidays and other financial incentives, unionization, tariffs and levies, and local content rules, constitute the final major cost driver. The challenge for many developing countries is to find more effective ways to pay for additional public investments, and to develop suitable institutional arrangements for their delivery. Effective public institutions require an adequate supply of trained people, including policy advisors, agricultural researchers and extension workers, business managers and financial and computer experts. However the studies did not explain institutional arrangement for implementing institution support in integrated manner among rural enterprises, governments and other stakeholders.

According to IFAD (2003) report weak, ineffective, corrupt or narrowly-based institutions create uncertainty and unfairness, discourage saving and investment, and lower growth rates. If the rule of law and judicial institutions are seen as ineffective or biased and property rights are insecure, they discourage investment for land improvements. Where markets and systems of exchange and finance are inefficient and unreliable, or captured by narrow groups, they engender distrust and raise the transaction costs of economic activities, which naturally affects poor producers particularly harshly. Not only does this entrench poverty, but it also reduces economic opportunities for all, the better-off as much as the poor. The study failed to show how new institutional arrangement was integrated into value chain of production with common conducts and framework among all stakeholders guaranteeing internal democracy and inclusiveness ownership during transaction of activities.

Sarder (1997) conducted a study of 161 small enterprises in Bangladesh and found that firms receiving support services, such as marketing, management education and training, technical, extension and consultancy, information, and common facilities from the public or private agencies experienced a significant increase in sales, employment and productivity'. Yamazaki (2010) reported that the success of Thailand OTOP was based on OTOP supplemental concepts: 1) standard (customer need and expectation; product); 2) process (order fulfilment; marketing); 3) people (training and mentoring; planning); and 4) infrastructures related with information technology and project management, and 5) law and legal legislation. Moreover according to Schumann (2016) in Japan manufacturing sector businesses have been attracted with tax incentives and infrastructure development by regional governments to move their enterprises to

their areas. However the studies did not explain how local institutions were actively involved in identifying critical supplementary support for rural enterprises.

A study by Kurokawa *et al.* (2010) showed that the prefectural and municipal governments of Oita in Japan played an important facilitating role to OVOP initiatives. Thus it should be appreciated that public offices, mainly local governments, but sometimes even national public entities, serve as facilitators of OVOP activities by helping with technical innovation, production, and marketing. The central government played an active role in providing funds, awards and training, conducting OTOP product championships for brand making, and building web sites for OTOP groups. More so according to OECD (2007) strengthening social capital, in such forms as producer organisations, can ensure that agricultural households have the ability to negotiate in the marketplace and secure fairer prices for their products. The study failed to show how existing traditional systems were involved in introducing new institutional arrangement for rural enterprises.

As Omole (2014) reported that the lack of a harmonized and clearly defined National Industrialization Policy has negatively affected the process of industrialization and is compounded by the existence of numerous laws; a weak legal framework, as well as, overlapping ministerial mandates, disharmony and a lack of constructive dialogue between the public and private sectors all of which have culminated into an uncoordinated and slow pace of industrialization. Moreover small group size, shared norms, previous successes in collective action (social capital), effective leadership, and interdependence among group members are factors that can encourage and support effective collective action. However, collective action

typically arises in instances where there are significant incentives to cooperate (Agrawal, 2001). Rules crafted by the group members themselves and adopted to the local context have a higher likelihood of being understood and followed, which contribute to the effectiveness and sustainability of collective marketing efforts (Markelova *et al.* 2009). The study did not show how collective implementation mechanism should be established for effective market institutional support among rural enterprises. More so the above studies on market accessibility failed to show a clear relationship between market accessibility and rural development; hence did not explain how upgrading of market accessibility for economic growth in small rural firms.

2.4.4 Cluster Productive Process

In the cluster literature, several empirical studies point to the important role played by the clustering of firms for growth and competitiveness. The argument is that “collective efficiency” affords clustered firms, especially smaller ones, growth and export capabilities that they could not acquire individually (Oyelaran-Oyeyinka and McCormick, 2007). According to Schejtman and Berdegué (2008) stated the elements of cluster productive process being clustering, specialized industrialization or new industrial districts, innovative R&D and culture economy or culture identity source of value in rural spaces. The studies shallowly dwelt with pro-poor implementing mechanism of cluster productive process. The study therefore sought to investigate the implementation clustering, specialized industrialization, innovative research and culture identity aspects cluster productive process for rural firms.

2.4.4.1 Clusterformation

A study by Oyelaran-Oyeyinka and McCormick (2007) explained cluster as a geographically and sectorally bounded entity akin to a (local) innovation system that emphasize on the inter-firm and collective learning (networking of individuals, firms and organizations) whose interaction fosters the innovative performance of firms. Regional agglomerations of industrial activity have long been recognized as potential sources of innovation as well as of general economic growth. An improved understanding of clusters and innovation is important for at least three reasons. First, the economies of African countries consist largely of small and medium-sized enterprises, many of them specializing in traditional sectors such as furniture, clothing, fabricated metal products and food processing. Second, as a result of liberalization that opened up the economies of most African countries, small firms must now compete in both domestic and regional markets with a wide variety of cheaper and, in many cases, higher-quality alternatives. Third, if African-based companies are to access demanding customers in an unpredictable global environment, firms and clusters have to introduce new products, raise quality, lower costs and improve delivery speeds. In short, they must learn both to innovate and to be efficient in all aspects of their businesses. Despite the study explaining the importance of cluster productive process in Africa, however it did not show how cluster productive process was made a reality through innovative implementation in unflatten African ground.

In explaining further the process of clustering Helmsing and Egziabher, (2005)observed that while active agglomeration comes from inter-firm cooperation and organisation of collective action by local producers;the OVOP theory basically intends to create two tiers of agglomerations. The first tier is within a village where OVOP activities involve active

agglomeration as well as some passive agglomerations among various local actors. The second tier is a network across villages, which is associated with collective learning in inter-firm cooperation, while creating competition, in economic and social sense, among different clusters in a wider region. The idea behind OVOP “One Village” in Oita’s case refers to a territory to which all individuals and households belong. A municipality or territorial community is the base of selection of product and other activities (Yamazaki, 2010). The study failed to show how horizontal coordination among rural units of production into a network of economically viable chain.

The interest regarding clusters is in the inherent potential of value chain components present in the same territorial area, or rather, when both the ‘backward’ linkages with suppliers of materials and services, and ‘forward’ linkages with product users are all incorporated, for these can lead to opportunities of ‘collective efficiency via external economies, low transaction costs, and joint actions’ (Altenburg and Meyer-S., 1999). Increasing evidence shows that through collective action smallholders can reduce the transaction costs of accessing input and output markets, adopt efficiency-increasing and value-adding technologies, and tap into high-value markets associated with certification and labeling (Kersting and Wollni, 2012; Wollni and Zeller, 2007; Gruere *et al.*, 2009; Devaux *et al.*, 2009; Narrod *et al.*, 2009). Additionally, collective marketing can lead to improved bargaining power in negotiations with buyers and intermediaries (Markelova *et al.*, 2009; Stockbridge *et al.*, 2003). The study did not show how rural enterprises were coordinated collective interaction was realized without disagreement and conflict of interest.

Illustrating the structure of OVOP cluster, Yamazaki (2010) reported that in Oita Prefecture Japan OVOP, in the urban areas a cluster consisted of about 10 thousand people with

supermarket chains and department stores. Considering the level of economy, a certain size of market existed in the Prefecture. OVOP initiatives took place in the condition at a certain level of density of localities and market. OVOP deals with several linkages. The first is between producers and the market. OVOP creates institutions which help producers to develop products and link with local and national markets. Coordination at the municipality level enables to create a local brand which adds value to the product and maintains the linkage with consumers. The second is to connect business development with human and social development. OVOP doesn't exclusively focus on particular producers. OVOP product is a symbol of locality, involving other activities such as tourism, cultural events, and welfare activities. These instruments with different purposes are connected with each other. The third link is a social capital among different localities. Community leaders are expected to learn and compete with each other. These links are based on participation and initiatives of local actors while the Prefectural government provides various technical and institutional assistances. The study did not explain how new institutional arrangement is formed by involving traditional system and network in rural African countries.

The role of government in the formation of clusters was explained in Morris and Robbins (2004) study which reported that government is critical in fostering cluster formation. The analysis emphasizes the role played by the government at multiple scales and over time in shaping the current state of these clusters. In Kenya OVOP concept was implemented by ministry of industrialization through the OVOP National Secretariat (ONS) responsible for steering the programme and selection of pilot districts/constituencies. The district committees were

responsible for promoting OVOP concept, coordination and implementation, resource identification and monitoring the programme. The district committee invited applications from interested individuals, CBOs, groups, societies and cooperatives. The applicants will be expected to submit the applications in a prescribed format to be provided by the secretariat (Republic of Kenya, 2010). The study therefore failed to explain how rural production units were coordinated horizontally among the groups and vertically (between producers and consumers) for the purpose of economies of scale.

2.4.4.2 Specialized Industrialization (Inter-Firm Relation)

Defining specialized industrialization Yamazaki (2010) explained that specialized industrialization in Japan is that each municipality selected at least one product with consultation of local stakeholders and the product was registered in the Prefecture. Products were chosen for various reasons such as being promoted by cooperatives, aptitude for local natural conditions, future potential in the market, and past achievements; it seems that not many products were selected just because of availability of local resources (Oita Economic Information Centre, 1982). The study did not explain in detail how product selection was conducted involving all stakeholders in rural areas.

A study by Yamazaki (2010) reported that the indicator of achievement shows OVOP actually targets diversifying products. All villages have several products from different categories; then once products were selected, the efforts of local producers were expected to improve and promote the products. However, municipalities were also deeply involved in the activities providing financial and technical support utilising existing governmental schemes. The

Prefectural government additionally provided assistance such as subsidies to municipalities for technical research and study tours. Technical and institutional assistance to producers were the main instruments of the Prefectural government. A food processing technical support department in the agricultural research centre was newly established to provide training and consultation service. Moreover, some more newly founded prefectural technical centres in various fields (cut flowers, seafood processing, mushrooms) were fully utilised to support OVOP activities. In addition, financial schemes such as low interest loans were prepared for agricultural producers and cooperative. The study failed to identify how consultative process among stakeholders was conducted in localities.

Haraguchi (2008) further revealed that by taking part in multiple stages along a value chain from production of raw materials, processing, selling and servicing, OVOP producers maximize their learning opportunities by collecting information, which goes beyond the usual price and volume, such as more qualitative aspects of product quality, distribution channels and promotion strategies. Moreover, such comprehensive information together with their direct experience in different stages of a value chain helps them to generate new ideas. By enhancing learning opportunities in their activities and sharing of ideas among members of an OVOP group, they work constantly toward reaching a better marketing mix. The OVOP movement again is not about building a certain institutional set up but is a way to make communities realize their own assets and constraints and develop their unique solutions. The study did not show how common links were established between rural producers and external or international consumers.

In explaining ways of achieving specialized industrialization in small enterprises Kinyanjui and McCormick (2001) reported that finding a solution of specialized industrialization challenges requires an understanding of the sector and the specific value chain within which the cluster is or could be inserted. Groundwork clusters need help to overcome problems associated with poor infrastructure, insecure property rights, low-level technology and weak inter-firm linkages. Industrializing clusters may need higher-level technological assistance, credit facilities and further development of their associations. The micro and small enterprises (MSEs) in complex industrial clusters may need help in acquiring the skills to negotiate profitably with larger enterprises both inside and outside the cluster. Small producers very often operate in local or national chains and the value chains of small-scale garment producers in Nairobi are market-driven and tend to be narrow and short, with very few intermediaries. Their work also shows that many of these firms are clustered (McCormick, 1999 and McCormick, *et al.*, 1997). The study failed to show how small rural firms were insulated from turf global competitions and countries trade barriers.

According to Kinyanjui and McCormick (2001) the heart of specialized industrialization problem is weak productive capacity. The authors use the notion of “productive capacity” to mean infrastructure, skill levels, intermediate inputs, technology, joint action and benchmarking. The authors argue that micro and small enterprise clusters in Kenya lack the productive capacity to take full advantage of the improved market access brought about by liberalization. Adding issues of governance, benchmarking and upgrading to the original collective efficiency framework greatly enhances the understanding of the potential of these clusters. A key practical conclusion is that encouraging clusters to produce for demanding customers such as

supermarkets, hospitals, schools and governments can enhance productive capacity. To achieve this, the clustered enterprises will need the support of government, their own associations, non-government organizations, research institutions and larger private sector actors. The study did not identify how small rural firms were able to constituently met customer demands in terms of quantity and quality.

Oyelaran-Oyeyinka and McCormick (2007) further observed that the presence of supportive formal and informal institutions attenuate communication and market failures in the joint productivity. The institutional component of different forms of agglomeration including clusters requires a systemic perspective on innovative activity within clusters. Through this, one can establish the presence of continuous learning, the dynamic combination of technical and organizational innovation, “high quality” interaction among the different actors, including knowledge flows, and continuous investment in competence-building and the social capital of the cluster. However most Kenyan clusters remained locked in low-quality, low-income markets. More so the study failed to provide upgrading mechanism for promoting specialty in shared value of productivity among rural firms.

2.4.4.3 Innovative Research & Development

According to Hassink (2004) most scholars consider learning regions or milieu as regional development concepts in which the main actors (politicians, policy-makers, chambers of commerce, trade unions, higher education institutes, public research establishments and companies) are strongly, but flexibly connected with each other and are open both to intra-regional and inter-regional learning processes. The study, therefore, failed to identify process upgrading through which common conducts was cultivated among stakeholders in clusters.

OECD (2001) further explained that learning milieu requires a broad set of innovation-related regional actors (politicians, policy-makers, chambers of commerce, trade unions, higher education institutes, public research establishments and companies) are strongly, but flexibly connected with each other, and who stick to a certain set of "policy principles". According to Banji (2002) in developing countries the role of learning institutions is important but local autonomously generated knowledge is even more critical if transplanted institutions and the knowledge they are expected to transfer will be successfully embedded in the local milieu. However the study did not show how new institutional arrangement was critical in sustaining effective clusters.

In study carried out by Kurokawa *et al.* (2010) reported that the success of Japan OVOP was due to the continuous support given by local governments. The prefectural and municipal governments of Oita played an important facilitating role, especially in technical development, producer promotion, and product marketing. In OVOP Japan research institutes belonging to the prefectural government, such as the Agriculture & Fishery Research Centre, the Mushroom Research Institute, the Floricultural Research Centre, and the Oita Prefectural Bamboo Crafts Training Guidance Centre provide technical support to help improve the quality of local products and offer training programmes to local producers. Collaboration and coordination should also be sought from local research institutions, including universities, which can contribute to the training of OVOP producers as shown by the example of Bunda College of Malawi. Private companies and civil society organisations should also be invited to join the OVOP network. Since they usually keep close collaborative relations with foreign companies or international

NGOs, private actors can serve to integrate modalities like corporate social responsibility and fair trade into OVOP activities. The studies failed to explain the modalities of engaging all stakeholders in a cluster accommodating the interest for a smooth running of a production cluster.

Oyelaran-Oyeyinka and McCormick (2007) revealed that the cluster-specific conditions are the presence of training and collective technological support entities within the cluster and the expectation of the clustered firms to benefit from inter-firm sharing of facilities. Cluster main focus was on learning and the spread of information and communication technologies within clusters as a means to increase competencies and collective efficiency. To induce high level of innovation requires a greater private sector participation in setting up training and information service centres within clusters. They also suggested that the personnel from leading firms need orientation programmes to build awareness of the potential and actual benefits of adopting new technologies. To support and/or steer moves toward new technology adoption, governments can provide a host of economic incentives including subsidies and financing schemes. The study did not show how government provides incentives to promote collective efficiency in rural areas.

On challenges of interactive learning or collective innovation as per clusters Samah (2002) who analysed Domiatt furniture-making cluster in Egypt was lack of attention to the role of conflict and competing agendas in economic activity implicitly assumes “institutional neutrality” and overlooks the question of power and asymmetries in control and access to knowledge and other resources. Egypt’s institutions, like many in the developing world, are not conducive to trust among and virtuous behaviour by the actors in their quest for economic well-being. In a further

study by Mitullah (1999) analysing institutional response at Lake Victoria Fish Cluster showed there was no effective response (no interactive learning) to falling fish supplies. Collective efficiency model underscores the need for joint action in the face of challenges to the cluster's well-being. More so Musonda *et al.* (1998) on Tanzanian clusters revealed that entrepreneurs benefit from clustering and are acutely aware of the importance of the external economy. However, contrary to official government pronouncements, this case study finds very little evidence of support from the government and other formal institutions. Support is lacking mostly in finance and technology. The studies failed to identify lack of proper institutional arrangement for supplementary support and co-existence among stakeholders as a major hindrance of successful collective efficiency in rural areas.

Kinyanjui and McCormick (2001) reported that practical actions to boost the productive capacity of these MSEs have not been forthcoming. The institutional environment for business activity in African countries is fragmented and weak, with the result that national business systems tend to consist of distinct segments that interact in very limited ways (Pedersen and McCormick, 1999). Kenya is no exception to this general pattern. Markets, legal systems, financial institutions, technology systems and social structures are weak and, to some extent, divided along racial and ethnic lines. The legal framework for commercial and industrial activity is a good example. Many laws have not been updated since the colonial period. This lack of an institutional mechanism for enforcing commercial contracts leads many small businesses to restrict their dealings to known clients whom they can contact easily in case of default (Kimuyu, 1997). Informal institutions seem to be emerging, but it is not clear how widespread such arrangements are or how much they can be counted on to replace the missing formal institutions. For example,

businesspeople have developed their own dispute-settlement mechanisms in both vehicle-repair and second-hand-clothes trading clusters (Kinyanjui, 1998; Kinyanjui and Khayesi, 2003; McCormick, 1999). The study failed to identify upgrading mechanism for promoting interactive learning and innovation among private and public institutions in rural areas.

2.4.4.4 Culture Identity or Economy

According to Ray (2002) and (1998) the culture economy idea, in essence, is about the strategic use of cultural resources in the pursuit of local socio-economic vibrancy which operate on three conceptual levels: the organisation of development within and by a local area; the dynamic interrelationship between a local area and regional, national and international institutions; and the emerging connectivity between rural development initiatives in different local areas. The particular locality's cultural attributes like traditional foods, regional languages, crafts, folklore, visual and performance arts, literary references, historic or prehistoric sites, landscape and associated flora and fauna, and so on would be key element in improving rural living standards. The studies neither touched on the functional, product and process upgrading necessary for successfully tapping local resources for a meaningful engagement in a value chain.

In underlining the critical role of culture economy in OVOP projects Haraguchi (2008) study pointed out that OVOP usually started with a self-searching process by a community to increase the awareness of their own circumstances, to enhance understanding of a community's comparative advantages and disadvantages under the continuously changing socio-economic environment and to gradually build a consensus on joint actions, which led to a positive change in the community organization and production activities. OVOP, therefore, adopted a more participatory process, which strengthened the development capability of the community as a

whole and, as a result, took a long time before the economic result became apparent. The study did not show how local institutions and networks were integrated during transformation of joint productivity in rural areas.

A study by Nishikawa (2008) further added that originality and ingenuity on the part of a local community are its essential attributes and what counts most is the creation of a commodity that is unique to a particular locality by mobilizing such originality and ingenuity and by exploiting locally available but undeveloped resources (local resources). To speak of self-reliance and self-help by relying on originality and ingenuity, for the international cooperation in the context of OVOP movement, it is essential to share the spirit of OVOP movement, which should not be the imposition of a particular formula or a particular mode of approach to the problem. The study failed to talk about the process of active involvement of local gate keepers for smooth implementation of new development approach in rural areas.

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Explaining the potential of culture economy a study by Kurokawa *et al.* (2010) reported that in the future, the richness of African nature and cultures should be tapped more seriously in conjunction with communities, governments and external aid actors. For example according to Fujita (2003) OVOP and Michino Eki strategy both in Japan and developing countries as a community-based rural development that successively identifies, cultivates and fully utilizes local resources (including natural, historical, cultural and human resources) for the continual development of an increasingly greater variety of unique local products and services (including local tourism). At the same time, through increasingly sophisticated marketing, these unique local products will be sold in larger markets, gradually establishing local brands to identify them.

In so doing, the community will accumulate technical skills, know-how and practical knowledge learned by inference through experience (otherwise known as tacit knowledge) while developing their human resources that are essential for sustained or continual innovation of their unique local products and management system. However the studies did not explain how innovatively rich Africa cultural asset should be tapped to benefit rural communities.

Suggesting for mechanisms of enhancing culture economy through collective efficiency Zheliazkov *et al.* (2015) observed that to strengthen rural development as well as the adoption of measures for promoting better and more equitable integration of the rural sectors with the rest of the national economy a better understanding is needed in terms of institutional responsibilities and priority fields. Local action groups are involved into various collaborations - non-government organizations, educational and cultural institutions. Irianto (2016) and Horlings *et al.* (2018) further reported that building mutual trust and common value are the most important aspects for successful collaboration between SME and big companies, especially for those involving global supply chains. Effective rural place leadership initiates joint reflection and enforces a collaborative spirit resulting in an expanding spiral of new alliances and new (institutional) arrangements. This underpins the importance of rural place leadership in building collective agency and its capacity to better attune the institutional setting to the specificities of place and thus enhance place-based development. The success of cluster productive process would therefore depend on effective establishment of collective spirit and institutional reform in a shared value of productivity. The process involves institutional attuning through configuration and adjustment organizations and institutions establishing shared system, collective spirit and inspiration, practices, mutual trust and networks in a collective action. However the study failed

to show a clear relationship between cluster productive process and rural development hence did not explain how upgrading of clustering process among rural firms. These gaps left by previous studies underscore the need for further research. The study therefore set to fill the gap that currently exists in those considering the fact that differential advantage approach as a strategy for rural development in rural Kenya.

2.5 Theoretical Framework

Both convergence and social development theories provided a theoretical explanation of differentiation advantage approach as a rural development strategy.

2.5.1 Convergence Theory

Convergence theory became popular in the 1960s when it was formulated by Clark Kerr. Some theorists have since expounded upon Kerr's original premise with the opinion that industrialized nations may become more alike in some ways than in others. Convergence theory presumes that as nations move from the early stages of industrialization toward becoming fully industrialized, they begin to resemble other industrialized societies in terms of societal norms and technology. The characteristics of these nations effectively converge. Eventually and ultimately, this could lead to a unified global culture, if nothing impeded the process (Crossman, 2017). The idea of convergence in economics (also sometimes known as the catch-up effect) hypothesized that poorer economies' per capita incomes will tend to grow at faster rates than richer economies. As a result, all economies should eventually converge in terms of per capita income. Developing countries have the potential to grow at a faster rate than developed countries because diminishing returns (in particular, to capital) are not as strong as in capital-rich countries. Furthermore,

poorer countries can replicate the production methods, technologies, and institutions of developed countries (Dincer and Hacıoglu, 2014).

Mitchell (2015) hypothesizing that since poorer economies have a tendency to develop more quickly than wealthier economies, therefore poorer economies will truly "make up for lost time" to the more strong economies. Bishop (2016) further explained that in any period, the economies of countries that start off poor generally grow faster than the economies of countries that start off rich. As a result, the national income of poor countries usually catches up with the national income of rich countries. Moreover new technology may even allow developing countries to leap-frog over industrialized countries with older technology. Nevertheless, according to Abramovitz (1986) the fact that a country is poor does not guarantee that catch-up growth will be achieved. Abramovitz emphasized the need for '*social capabilities*' to benefit from catch-up growth. These include an ability to absorb new technology, attract capital and participate in global markets. If poor countries are unable to use foreign technology due "*social inability*"; poor countries will not catch up thus divergence occurs. Based on social development; improved poor rural capabilities facilitate for economic catch up effect. The upgrading by acquiring technological, institutional and market capabilities thus allows resource-poor rural communities to improve their competitiveness through differential advantage approach and move into higher-value activities.

2.5.2 Social Development Theory

Vygotsky's Social Development Theory is the work of Russian psychologist Lev Vygotsky (1896-1934). Vygotsky's theory is one of the foundations of constructivism. It asserts three

major themes regarding social interaction, the more knowledgeable other, and the zone of proximal development. Social interaction plays a fundamental role in the process of cognitive development. The more knowledgeable other, MKO refers to anyone who has a better understanding or a higher ability level than the learner, with respect to a particular task, process, or concept. The MKO is normally thought of as being a teacher, coach, or older adult, but the MKO could also be peers, a younger person, or even computers. The zone of proximal development, ZPD is the distance between a student's ability to perform a task under adult guidance and/or with peer collaboration and the student's ability solving the problem independently (Vygotsky, 1980 and 1978 and Crawford, 1996).

Social Development theory attempts to explain qualitative changes in the structure and framework of society helping society to realize its aims and objectives in a better way. Development can be defined in a manner applicable to all societies' at all historical periods as an upward ascending movement featuring greater levels of energy, efficiency, quality, productivity, complexity, comprehension, creativity, mastery, enjoyment and accomplishment (Jacobs and Asokan, 1999). Development is a process of social change, not merely a set of policies and programs instituted for some specific result (ICPF, 1994). According to Jacobs, *et al.* (1997) social progress reveals three recurring types of obstacles to development – limited perception, out-dated attitudes and anachronistic behaviors. It is the energy of people seeking to fulfill their aspirations that serves as its driving force. Admittedly Jacobs and Asokan (1999) explained that development is the outer realization of latent inner potentials. That means development is a human process, in the sense that human beings, not material factors, drive development. The energy and aspiration of people who seek development forms the motive force that drives

development. People's awareness may decide the direction of development. Their efficiency, productivity, creativity, and organizational capacities determine the level of people's accomplishment and enjoyment. Jacobs *et al.* (1988) further added that organization is the human capacity to harness all available information, knowledge, resources, technology, infrastructure, and human skills to exploit new opportunities—and face challenges and hurdles that block progress. The above argument supported study's conceptual premises on the importance of capacity building in differentiation advantage approach on rural development.

According to Jacobs *et al.* (1988) development comes through improvements in the human capacity for organization. The basic mechanism driving social change is increasing awareness leading to better organization. Development is the result of society's capacity to organize resources to meet challenges and opportunities. When society senses new and better opportunities for progress it develops new forms of organization to exploit these new openings successfully. The new forms of organization are better able to harness the available social energies, skills and resources to use the opportunities to get the intended result. There must be a motive that drives the social change and essential preconditions for that change to occur. The motive must be powerful enough to overcome obstructions that impede that change from occurring. Development also requires resources such as capital, technology, and supporting infrastructure. Furthermore development is the result of society's capacity to organize resources to meet challenges and opportunities. The three main stages of social development are *physical*, *vital* (vital refers to the dynamic and nervous social energies of humanity that propel individuals to accomplish), and *mental*. Ultimately organization is a mental invention. The practical application of mind generates many inventions. The social application of mind leads to

new and more effective types of social organization. Ultimately organization is a mental invention. Moreover, pioneering individuals in development process of organizations plays a crucial role. Moreover, according to Harlan and Jacobs (1999) the gathering conscious knowledge of society matures and breaks out on the surface in the form of new ideas—espoused by pioneers who also take new initiatives to give expression to those ideas. Social development theory was applied to explain the physical, mental, and psychological transformation mechanism of poor rural communities for sustainable rural development.

Convergence and social development theories justified the reality of differential advantage approach as a rural development strategy with human resource development, product competitiveness, market accessibility and cluster productive process being differentiating factors. Differential advantage approach has been applied to unlock rural under development based on premises of making rural poor economically active by delivering valuable products or services for the market hence faster income growing. Rural firms' needs adjustment and upgrading differentiating factors to achieve rural development. Convergence theory explains how uptake of modern technology by poorer economies for catch-up growth. More so ability to absorb new technology ushers social development to enhance social ability in poor economies. The upgrading effort helps rural enterprises to acquire technological, institutional and market capabilities that improve competitiveness and move into higher-value activities. Rural firms' needs adjustment and upgrading of product, human functionality, process, inter-chain and coordination activities for active engagement in inclusive businesses.

2.6 Conceptual Framework

The research study sought to provide deep understanding of differential advantage approach as a strategy for rural development. The study was based on theoretical framework that differential advantage approach as a strategy of rural development with human resource development, product competitiveness, market accessibility and cluster productive process being differentiating factors. As shown in figure 2.1 the dependent variable was rural development and four independent variables included: product competitiveness, human resource development, market accessibility and clusterproductive process.

Rural Development

The dependent variable was rural developmentasa distinct approach to interventions by the state in the economies of underdeveloped rural areas.It is the improvements, primarily in the living conditions of the individuals, belonging to deprived, marginalized and socio-economically backward sections of the society.The objectives of rural development are improvement of economic capabilities, improvement of human capabilities, improvement of protective capabilities and improvement of political capabilitiesleading to effective growth and progression of rural communities.However the study specifically addressed the improvement of economic capabilities of rural enterprises in terms of more employment opportunities, more income, increased assets, high productivity and high cash flow.

Product Competitiveness

First independent variable was product competitivenessin terms of the following fundamental elements: Product uniqueness (special features, appearance, packagingand functionality) and Product quality; (conformance, durability, reliability and benefits): Product cost efficiency

(cheapest product, cost saving product, best price value and wide range product) and Product innovation (relative advantage, usability, compatibility and visibility). The convergence theory provided explanation on how new technology heighten product competitiveness allowing developing countries to leap-frog over industrialized countries with older technology. Upgrading product development speeds up convergence of poor economies by differentiating product hence becoming competitive in the market growing fast the income.

Human Resource Development

Second independent variable was human resource development in term of the following activities: Learning activities (educational trips, practical demonstrations and exchange programmes): Training activities (public seminars, instruction workshops, group discussion and exercise): Development activities (on-the job training, internship and mentorship programmes, vocational and technical courses): and Education (market-based curriculum, specialized trainings and entrepreneurship education). Social development theory provided explanation on physical, emotional and mental transformation causing qualitative structure and framework changes of society helping society to realize development. Human resource therefore speed catch-up effect by altering poor rural economies and embracing modern and innovative means of production of poor economies harnessing the available social energies, skills and resources for economic growth.

Market Accessibility

Third independent variable was market accessibility in terms of the following factors: market information (acquisition of relevant market knowledge on the market opportunities, technical

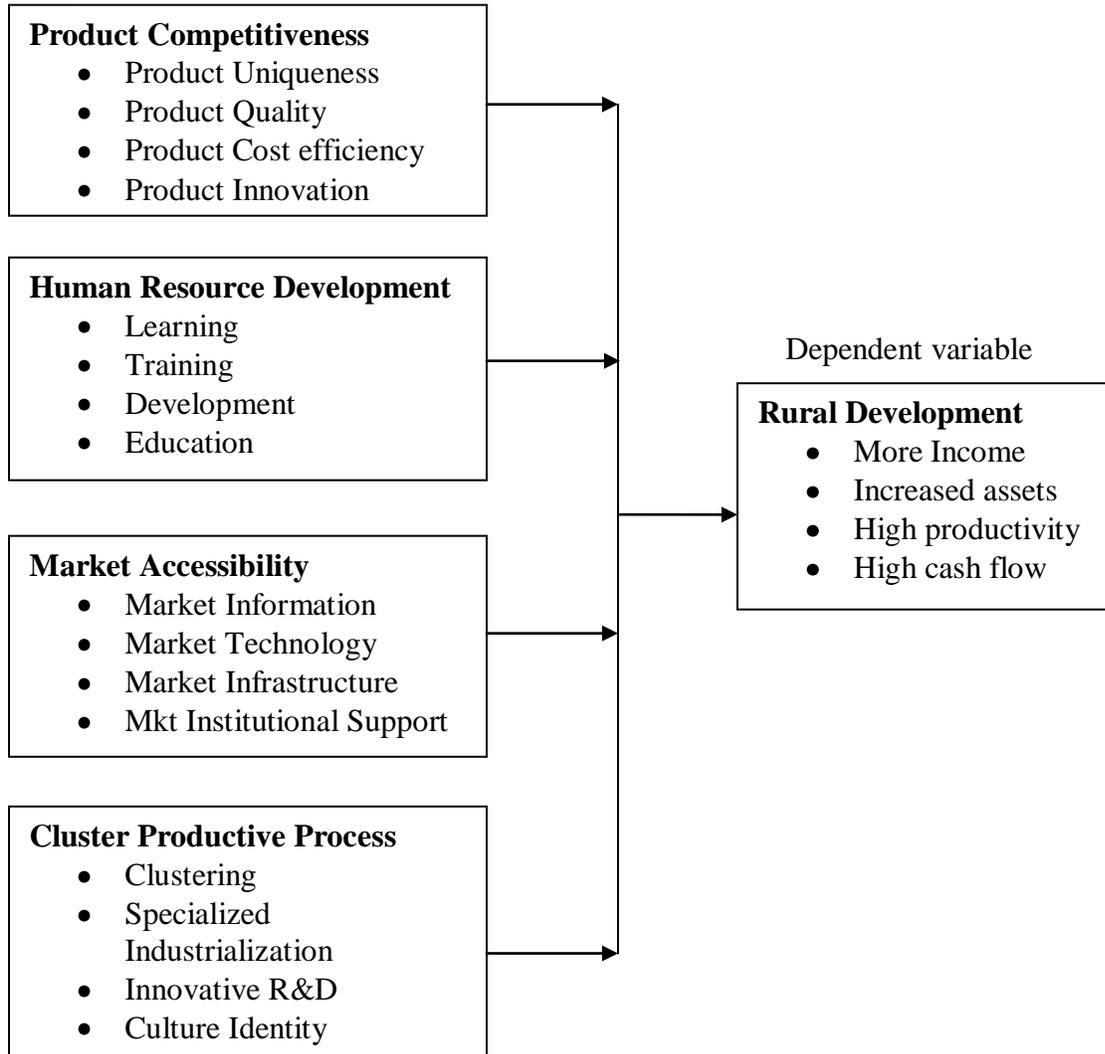
support, inputs and financial information): Market technologies (production, marketing and communication): Market infrastructures (transportation and utilities networks, regulatory and administrative, credit and finance, and ICT) and market institutional support (tax & financial incentives, marketing & technical support, legal and regulatory supplementary).Upgrading rural marketing systems through backward and forward links hastened the catch-up effect by opening up poor economies into active engagement in inclusive businesses.

Cluster Productive Process

Fourth independent variable was clusterproductive process in terms of improved the following aspects: Clustering (existence of industrial territories, collective activities, and linkages within and with other stakeholders); Specialized industrialization (industry network, stage specializationin value chain and inter-firms' linkages); Innovative Research & Development (R&D) orinnovative milieu(interactive learning, institutional collaborations, and continuous innovative activities) and culture identity or economy(identification of unique product, upgrading and integration into values chain).Social development and convergence theories helped to explain howsocietydevelops new forms of organization such as agglomeration to exploit economies of scale opportunitieswhere rural firms clustered reducing barriers, closeness to market and concentration to production.Cluster productive process enhances production quality and efficiency maximizing potential of local resources and enhancing interactive learning, knowledge flow, competition insulation, more bargaining power, ease penetration of product from poor economies into a broader market hence convergence.

Figure 2.1: Conceptual Framework

Independent variables



Source; Author (2019)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The chapter presents the study approach and methodology. It focuses on scientific approach employed by the researcher in conducting the study. It covers the study geographical areas, research design, study population, sampling formula, data collection, analysis methods, ethical considerations, reliability and validity among others.

3.2 Study Area

The areas of the study were three pioneer Counties piloted for OVOP projects in Kenya. OVOP concept was initiated in Kenya through pilot projects, where the first piloted project started in 2008 in Nyeri, Laikipia and Machakos counties. The following four projects were selected from each of the first piloted sub-counties: Jitunze trout fish from Kieni east: Watuka farmers' cooperative society from Kieni west: Rumuruti aloe vera from Laikipia west and Kionyweni basket weaving from Yatta sub-counties.

3.2.1 Jitunze Trout Fishing Project from Kieni East Sub-County

Jitunze Trout Fish project located at Latitude -0.279, Longitude 37.155 in Nyeri County, previously Nyeri North District and currently part of Kieni East sub-county, Kabarú ward in Kabarú Forest next to Kabarú Primary School. The project is located in Thegu River in the Mt Kenya Forest. The area receives plenty rainfall and fertile soil for horticulture farming. According to Nyeri CIDP (2018) majority of the people living in Nyeri County are predominantly farmers growing tea and coffee as cash crops alongside food crops such as maize, beans, assorted vegetables and sweet potatoes. The main fisheries activities in the county are pond fish farming,

dam and river line fisheries. There are a total of 2,343 households involved in the subsector with 2,488 fishponds spread across the county. The county has two forest eco-systems, namely Aberdare and Mt. Kenya. The county experiences equatorial rainfall due to its location within the highland zone of Kenya. The long rains occur from March to May while the short rains come in October to December, but occasionally this pattern is disrupted by abrupt and adverse changes in climatic conditions.

The annual rainfall ranges between 1,200mm-1,600mm during the long rains and 500mm-1,500mm during the short rains. In terms of altitude, the county lies between 3,076 meters and 5,199 meters above sea level and registers monthly mean temperature ranging from 12.8°C to 20.8°C. Since soil conditions in the county are almost similar, agricultural productivity is influenced by rainfall intensity and temperature conditions. The main fish species grown in Kieni East sub County were tilapia, catfish, and trout. Nyeri county government has revamped the fish value chain for increased productivity by operationalizing of the Wamagana fish processing plant and increase support for the fish cooperative society. To improve on fish quality the county government collects fish from sub county freezers and do the marketing.

Figure 3.2: Map of Kieni East and West Sub-Counties

rainfall occurs in September. The average in this month is 30 mm. Most of the precipitation here falls in April; averaging 160 mm. Kieni Sub County has the highest population in the Nyeri County. The low land areas of Kieni with low rainfall have lower population densities; the focus here will be on irrigated agriculture to support food security in the region. (KNBS, 2013). According to Nyeri CIDP (2018) given that the land holding per household is generally small, currently there are no ranches established in the county. However, there is potential to establish ranches in the expansive Kieni Sub County. Nyeri county government has established industrial and special zones development for the purpose of promoting value addition and wealth creation. The County is building capacity of farmers through demos, field days etc.; linking farmers to market organization and procuring and distributing milk coolers to improve milk quality in a cold chain supply. The major industries in the county are flour milling, soft drink processing and milk processing (KCC and Brokeside dairy companies).

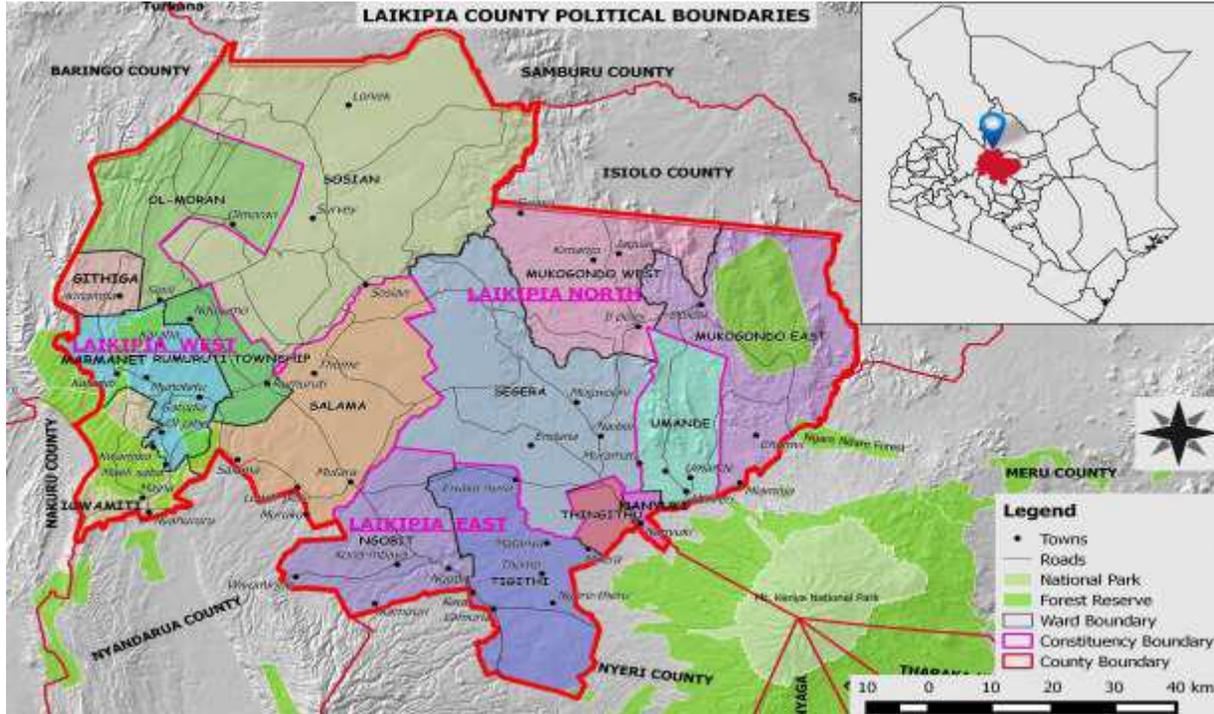
3.2.3 Rumuruti Aloe Vera project from Laikipia West Sub-county

Rumuruti Aloe vera project located at Latitude 0.263, Longitude 36.536 in Laikipia County, Laikipia West district/sub-county, Rumuruti Township ward in Rumuruti Township Mosque next to Township Primary School. The climate here is mild and generally warm and temperate. Rumuruti has a significant amount of rainfall during the year. The average annual temperature is 17.2 °C in Rumuruti. In a year, the average rainfall is 714 mm. The area has vast unutilized ranches due to limited infrastructures like electricity, irrigation, road, telecommunications, security among other essential services. The town's residents are livestock keepers, with approximately 500 cattle and 1,200 sheep and goats are sold at the town's weekly livestock auction. Rumuruti township is approximately 40 kilometers due north from Nyahururu.

Rumuruti is between Nanyuki from east and Nyahururu west that why it was selected as the administrative headquarters of Laikipia County (KNBS, 2013).

According to Laikipia CIDP (2013) Laikipia county drainage is dominated by the Ewaso Nyiro North basin with its tributaries having their sources in the slopes of the Aberdares and Mt. Kenya. The county is endowed with several natural resources. These include pastureland, rangeland, forests, wildlife, undulating landscapes and rivers among others. The high and medium potential land constitutes 20.5 per cent of the total county's land area while the remaining 79.5 per cent is low potential hence unsuitable for crop farming. The county has gazetted forest area totaling to 580 Km² comprising of both the indigenous and plantation forests. The major soils in the county are mainly loam, sand and clay. Black cotton soil which has inherent fertility spreads in most parts of the plateau. The dark reddish brown to red friable soils and rocky soils are mainly found on the hillsides. The limiting factors to agricultural production are the poor weather conditions characterized by frequent dry spells and poor rainfall distribution. In order to diversification of economic activities in Rumuruti Township, Laikipia county government projected to construct horticultural processing plant as a value addition project that improves income create employment in the area. The county proposed to develop industrial and manufacturing zone and SME parks/special economic zone in Rumuruti to boost SME production capacity as tomorrow's large industries. The County identifies industrial potentials that need to be exploited. One of the areas is production, processing and marketing of medicinal plants such as Aloe, African wild potato, bee honey and wax within Rumuruti.

Figure 3.3: Map of Laikipia West Sub - County



Source: Laikipia wildlife forum 2017

3.2.4 Kionyweni Basket Weaving project from Yatta Sub-county

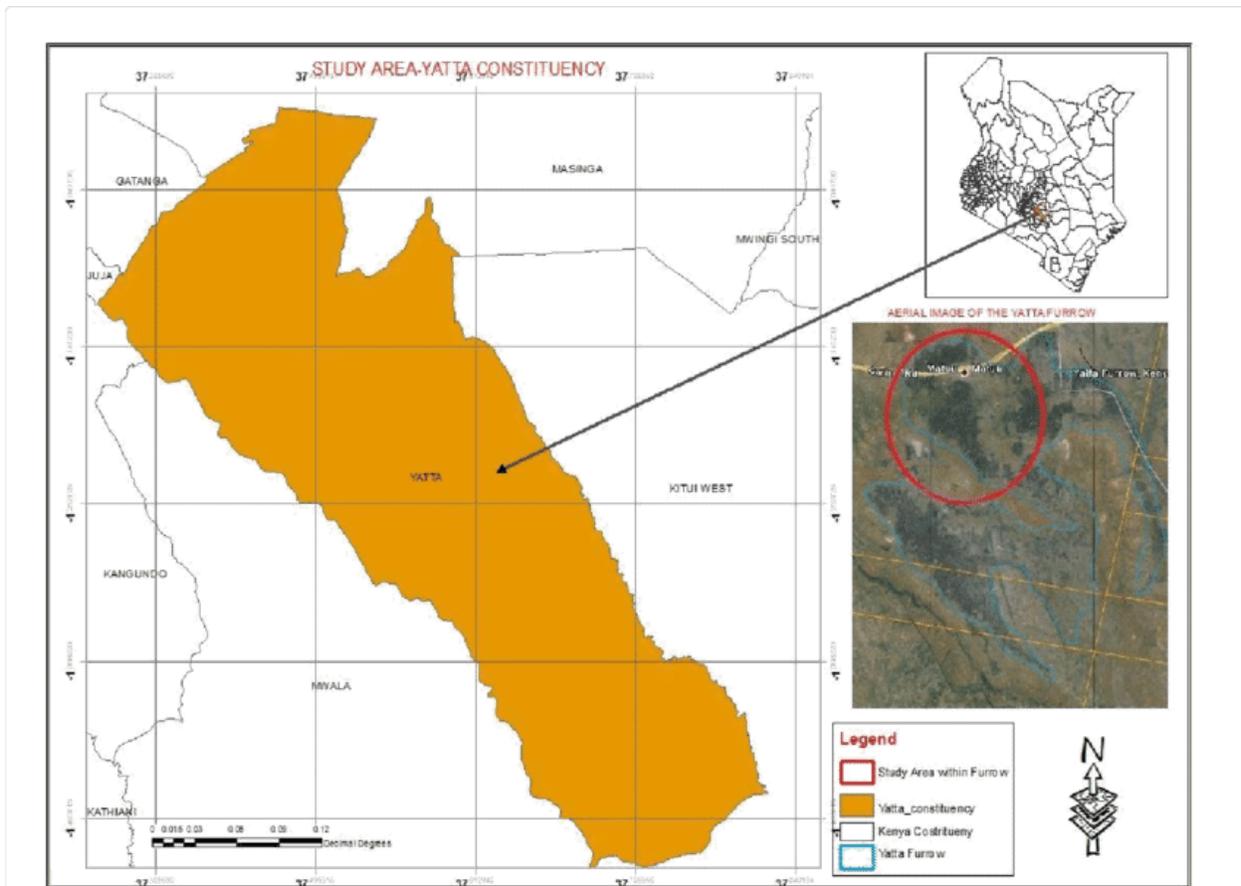
Kionyweni Basket Weaving project is located at Latitude -1.251, Longitude 37.625 in Machakos County, Yatta district/ sub-county, Ikombe ward, Kinyaata location and Makutano sub-location at Kionyweni market next to Kionyweni primary school. Kionyweni village is Machakos County is in Yatta plateau which is situated within the Yatta sub-county with land masses of 1,057 Km² thus the second biggest sub-county. Kionyweni cotton soil is fertile for leguminous food, cassava, peas, beans, maize but due to lack of water, craft business is their economic mainstay. The area is extremely dry with sisal being main habitant. Matuu is the main township although road network in the area were impassible. The area has limited infrastructures such as tarmac road electricity pipe water, telecommunication. Mathingaru River and Kariabeu dam which were seven hour walk or 45 kilometer way from Kionyweni village were the only source of water

during long dry spell after seasonal rivers dried. According to KNBS (2013) Machakos County is at the beginning of a transition from a child rich population structure where those aged between 0 - 14 at 39%, are at the onset of a decline while those aged between 15-34 years old who constitute 34% of the total population are beginning to increase. In Machakos County, 23% of the residents with no formal education 27% of those with a primary level of education and 33% of those with secondary level of education or above are working for pay. Work for pay is highest in Nairobi at 49% and this is 16 percentage points above the level in Machakos for those with secondary level of education or above.

According to Machakos CIDP (2015) Machakos County is the home for Yatta plateau which is situated within the Yatta Sub County which Sub County has a land mass of 1,057 Km² thus the second biggest Sub County. Since the County does not experience rain throughout the year it then means that there are months that experience dry spells. These months are mainly February to March and August to September. Generally the annual rainfall of the County is unevenly distributed and unreliable. The average rainfall is between 500 mm and 1300 mm. The short rains are expected in October and December while the long rains are expected in March to May. In terms of temperature, July is the coldest month while October and March are the warmest. Temperature varies between 18°C and 29°C throughout the year. The soils are well drained shallow, dark red clay soils particularly in the plains. However the vegetation across the entire County depends on the altitude of any given area/location. The rainfall distribution in the County depends on the topography of the areas. Since some areas of the County are arid while others have hills and volcanic soils and other areas are plains, the rainfall is widely distributed. For instance the plains receives less amounts of rainfall as such the dominant vegetation is grasslands

and some sparse acacia trees. Machakos county government is promoting One Village One Product programme had initiated 5 cottage industries for production of local and export markets products using locally available raw materials in all five sub-counties including Yatta to exploit the comparative advantage. The county plan to promote export by initiating market outlets for various co-operative products

Figure 3.4: Map of Yatta Sub-County



Source: Machakos County Integrated Development Plan: Uploaded by Ndunda et al. (2017)

3.3 Research Design

The study adopted a case design of assessing OVOP project in an event of justifying differential advantage approach as a rural development strategy in Kenya. According to Yin (2003) a case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident. The study design was based on theoretical framework that product competitiveness, human resource development, market accessibility and cluster productive process were critical factors for differential advantage approach on rural development. The unit of analysis of the study was OVOP project. The implementation of research was done by first establishing necessary contacts with relevant bodies and sampled projects. Secondly after finalizing research instruments were administered personally. Prior arrangements were made for organizing interviews and focus group discussions at the convenience of project members. After questionnaires were filled, they were collected for analysis together with results of interviews and focus group discussions. The analysis was conducted and a report was made. More so the results were also shared with participants.

The objective of the study was to gain deeper insight on the factors of differential advantage approach as a strategy for rural development. Convergence theory and social development theories were used to explain the catch-up effect of the approach in achieving rural development. Both qualitative (interviews, observations, narratives) and quantitative (matrix observations, questionnaires and demographical information) approaches were used. Hypotheses testing were applied to ascertain the relationships between the factors of differential advantage approach and rural development in Kenya OVOP projects. The results from four projects were replicated into

one case. Analytical generalization through literal replication logic of multiple units into a single case (OVOP concept) was applied to confirmed study conceptual proposition.

3.4 Study Population

The study was interested in assessing differential advantage approach as a rural development strategy in a case of OVOP concept. The study sought to deepen understanding on the factors of differential advantage approach on rural development in Kenya OVOP projects. The study population included pioneer CBOs adopted OVOP concept, Ministry of industrialization officials from four pioneer sub-counties to implement OVOP concept and main buyers or outlets of Pioneer OVOP projects. The study population was the registered CBOs with ministry of industrialization and operating within the selected pioneer districts (currently sub-counties) by 2008. The first piloted sub-counties by National OVOP secretariat to implement OVOP movement in Kenya were Nyeri North (currently Kieni East and West), Laikipia West and Yatta districts. Population list of eleven pioneer projects adopted by OVOP national secretariat as shown in table 3.4 was provided from respective district offices in the ministry of industrialization.

**Table 3.4 Pioneer CBOs registered with ministry of industrialization to implement OVOP
Concept in the selected sub-counties**

	No's of OVOP projects	Type	Pop	Est. Year	Membership	Product	Outlets/main buyers	MoI Officials	OVOP Support
A	Kieni West Sub-county		504					3	
1	Watuka Farmers' Cooperative Society	Society	503	1964	Mixed:	Yoghurt	3		Fund & Training
2	Nettle World Enterprise	Business enterprises	1	2005	Sole	Stinging nettle	1		No support
B	Kieni East Sub-county		69						
1	Thirigitu Mt Kenya Environment & Conservation	CBO	23	2008	Women	Tree seedling	2		Training
2	Jitunze Environment SHG	CBO	25	2005	Youth	Trout Fish	3		Training
3	Kimahuri Youth United SHG	CBO	21	2008	Youth	Silk Products	2		No Support
C	Laikipia West District/ Sub-county		36					3	
1	Elimar Arts Deport	Private Co.	4	2008	Men	Furniture	1		Training
2	Rumuruti Women Aloe Vera SHG	CBO	15	2005	Women	Soap & Lotion	4		Fund & Training
3	Enderkesi Naboisho Focus Group	CBO	17	2008	Mixed	N/A	1		N/A
C	Yatta District/ Sub-county		67					3	
1	Kionyweni Basket Weaving SHG	CBO	29	2007	Women	Sisal Basket	2		Training
2	Cornelius Bar Soap Making SHG	CBO	22	2008	Mixed	Bar Soap	3		Training
3	Sofia Dairy SHG	CBO	16	2008	Mixed	Milk	2		Training
	Total 11 Project Groups		676				20	9	

Source: Ministry of Industrialization (Republic of Kenya, 2013)

3.5 Sampling

Clustering and stratified sampling methods were adopted for selection of target CBOs and individual respondents to ensure proper spread of individuals over geographic sub-areas and

population sub-groups. Target population was arranged into four clusters of pioneer districts or currently sub-counties adopted OVOP concepts and sampled one project from every sub-county. The population list was provided by the ministry of industrialization with 11 CBOs from four piloted sub-counties in counties adopted OVOP concept in Kenya. The researcher started sampling process by determining how many cases to get for each category as quota or cluster. One project from the pioneer sub-counties was determined to represent every quota or cluster. One project from every quota was purposively selected from each pioneer district. Selection was on the basis of pre-specified characteristics so that the total sample had the same distribution of characteristics assumed to exist in the population being considered. The following pre-qualification characteristics were used for choosing study units (OVOP projects); self-help CBOs established by 2008 in pioneer sub-counties adopted to implement OVOP concept. The selected projects have also been self-initiated rural groups which suffer from social-economic inequalities (marginalized) such as smallholder farmers, small enterprises, women, youth or indigenous groups.

To determine the sample size of each category of the target population proportionate simple random sampling was applied using Slovin's formula. Slovin's formula allows a researcher to sample the population with a desired degree of accuracy (Stephanie, 2013). The sample size was determined by use of Slovin's formula:

$$n = \frac{N}{1 + Ne^2} \text{ as follows}$$

Where; n = sample size

N = total population i.e. 676

e = Error tolerance. The study confidence level 95% which will give a margin error of 0.05

Therefore;

$$n = \frac{676}{1 + 676 * 0.05^2}$$

$$n = \frac{676}{2.69}$$

$$n = 251$$

Sample size therefore = 251 respondents of OVOP project members

Using proportional allocation the proportion of the size for each stratum was presented in table 3.5.1

Table 3.5.1OVOP Project Members Sample distribution

Strata (Pioneer sub counties on OVOP Projects)	Target Pop.	Formula	Sample size	Percentage
Nyeri North Sub County	573	$(573*251)/676$	213	84.1%
• Kieni West	504	$(504*251)/676$	187	
• Kieni East	69	$(69*251)/676$	26	
Laikipia West Sub County	36	$(36*251)/676$	13	5.6%
Yatta Sub County	67	$(67*251)/676$	25	10.3%
Total	676		251	100%

Jitunze trout fish project was selected for Kieni East sub County while Watuka farmers' cooperative society was selected for Kieni West sub County. Watuka Farmers' cooperative Society population was further sampled by use of simple random sampling and stratified random sampling. The 503 target population was arranged in a stratum of Watuka farmers' cooperative society on nine geographic regions (society's electoral units) were selected through simple random sampling from each of each stratum. Systematic sampling was applied where a respondent from every subgroup was selected for equal inclusion in the sample size. The summarized sampling was shown in table 3.5.2.

Table 3.5.2 Watuka Farmers' Cooperative Society Population Sampling

Strata	Target	Formula	Sample size	Percentage
i, Cooperative Staff	11	$(11*185)/503$	4	2.2%
ii Farmers' Rep from regions	9	$(9*185)/503$	3	1.8%
iii, Farmers Groups	483	$(483*185)/503$		
1. Kiahuria	63	$(63*178)/483$	23	
2. Kiria	57	$(57*178)/483$	21	
3. Gitaru	53	$(53*178)/483$	20	
4. Kagongo	48	$(48*178)/483$	18	
5. Embaringo	74	$(74*178)/483$	27	
6. Kiamunyuro	51	$(51*178)/483$	19	
7. Kiambare	44	$(44*178)/483$	16	
8. Runjane	46	$(46*178)/483$	17	
9. Nganoini	47	$(47*178)/483$	17	
Sub Total	483		178	96%
Total	503		185	100%

Table 3.5.3 Sample population

Sub-Counties	Sampled OVOP projects	Main Outlets of OVOP products	Ministry of Industrialization Officials	Project Leader	Project Members Sampled	Total Sample
Kieni East	Jitunze	Naivas Supermarket, Sportsman club & Serena Hotels (3 buyers)	3 Nyeri County Industrial Development Officer (CIDO) Technical officer Administrative Assistant	3	25	31
Kieni West	Watuka	Mweiga supermarket, Watuka Milk Bar and Kieni Dairy Products Limited (3 sales persons)	Same as per Kieni East (Nyeri County officers)	20 Sample - 7	503 Sample - 178 +4	188
Laikipia West	Rumuruti	Rumuruti Supermarket & 3 local beauty shops (4 sale persons)	3 Laikipia County Industrial Development Officer (CIDO) Technical officer Administrative Assistant	3	15	22
Yatta	Kionyweni	Briton basket buyer {Camilla Sutton} & Matuu Supermarket (2 sale persons)	3 Machakos County Industrial Development Officer (CIDO) Technical officer Administrative Assistant	3	29	34
Total	4	12	9	29	251	275

3.6 Data Collection and Analysis

The study applied multiple sources of data collection. According to Scholz and Tietje (2013) the benefit from the multiple sources of evidence can be maximized if you follow three principles use multiple sources of evidence: create a case study database and maintain a chain of evidence. The data was collected by use of questionnaire, survey interview, focused group discussion, direct observation methods and also secondary documentation was used for multiple sources of evidence.

3.6.1 Questionnaires

The study used closed and open ended questionnaires. Predetermined questions were presented in sequential order with sensitive ones at the end and with avoidance of double-barreled questions. The benefits of using open and closed questionnaires were: easier and faster administered: They were ideal for large and diverse population. The instruments assisted to get highest response rates and better suited to collecting complex information.

3.6.2 Semi-structured Interviews

The study applied focused open-ended interview schedules for the general group members and key informants. Semi- structured interview schedules were used to gather in- depth information from the general group members. The open-ended interview schedules were considered appropriate for key informant persons. The personal interviews were conducted among OVOP project leaders, county industrialization officers and OVOP product sales agents to supplement questionnaires by giving their opinions. One leader from each of the four OVOP projects; three county industrialization officers and key sales agents of OVOP products were interviewed. According to Maart (2011) although the interview may still remain open-ended and assume a conversational manner, you are more likely to follow a certain set of questions derived from a

case study protocol. Formal survey interview entails more structured questions, along the line of a formal survey. This type of interview would follow the same procedures used in regular surveys, and it would subsequently be analyzed in a similar way. The benefits of using interview instruments were that interview schedules are flexible, intensive participatory and useful for sensitive issues.

3.6.3 Focus Group Discussion

The study conducted four focus group discussions (FGDs) in four OVOP projects as follows: on 3/05/2018 six members (two women and four men) of Jitunze trout fish project were involved from 2.15 pm to 3 pm at Kabaru Forest Station Hall: On 6/03/2018 eight farmers representatives (three women and five men) of Watuka farmers' cooperative society were involved from 3.30 pm to 4.10 pm at Watuka cooperative offices, On 14/04/2018 six members (five women and one man) of Rumuruti aloe vera project were engaged from 11.20 am to 12. 15 pm at Rumuruti township offices: and on 8/05/2018 seven members (all women) of Kionyweni basket weaving project were engaged from 12.05 pm to 12.45 pm at Kionyweni Shopping Centre. The discussions were guided by four themes of the study although the discussion began with introduction and ended with conclusion. The themes of discussions were based on four factors of differential advantage approach product competitiveness, human resource development, market accessibility and cluster productive process on economic growth in the OVOP projects. The discussions were moderated by research assistants. For an interactive process the discussions were conducted in their convenient languages and physical demonstrations. The moderators took notes and recorded the discussions. The information from FGDs was analysed according to the research themes and presented verbally or solidary statements to strengthen the findings and drawing of conclusions.

3.6.4 Direct Observation

The study used less formally and direct observation throughout field visit and during interview. The three research assistants and head investigator recorded all evidence in regard to projectmembers' attitudes and behavior in regard to adaptation of OVOP concept. The observation evidence was important to confirm the reality for example trust and cohesion among project members. Techniques for collecting data through observation were written descriptions where the researcher made written descriptions of the people, situations or environment and activities in OVOP projects. Photographs (plates) and artifacts were also used to collect observable information or phenomena such as OVOP product's quality, appearances, their buildings, neighborhoods, dressing and other aspects of livelihood.

3.6.5 Analysis of Data

The original objectives and design of the case study presumably were based on theoretical proposition which in turn reflected a set of research questions, reviews of the literature, and new hypothesis or propositions. The analysis was based on result of questionnaires, in-depth interviews from OVOP project leaders and officials, Counties MoI officials and buyers of OVOP project products. The analyses of 216 questionnaires by OVOP project members were used for the study. Although 251 questionnaires were administered, however only 216 were properly filled and returned therefore the response rate was at 86%. The representation conformed to Babbie (2004) study which asserted that return rates of 50% are acceptable to analyze and publish, 60% is good and 70% is very good. Hypothesis was tested and significance levels were determined by use of correlation bivariate Pearson correlation, simple linear regression and joint model significance. The discussion result were analysed according to themes and ordered according to their weight. Key observations like respondents' social status, attitudes and product statuses were

recorded to strengthen other data result. Pattern matching analytic techniques was applied to strengthen internal validity, where pattern matching compares an empirically based pattern with a predicted one. Specific variables were defined prior to the data collection. According to Yin (2009) in this method the first and most preferred strategy is to follow the theoretical propositions that led to your case study, if the patterns coincide, the result can strengthen the internal validity of the case study.

The result of the four selected OVOP projects were replicated by analyzing outcomes to validate the stipulated causal mechanisms proposed in the existing theoretical framework path. Pattern matching investigation was done in a general relationship of the four OVOP projects. The study also ensured that the data converged in an attempt to understand overall case. By use of SPSS the data was analyzed depending on input and output based on independent and dependent variables of each objective. The processed data was processed both qualitative and quantitative in nature. Processing of data involved checking, editing, coding, classification, tabulation, graphical representation, data cleaning and data adjustment.

3.7 Interpretation Criteria

The conclusion was made based on descriptive and inferential findings. The interpretation criterion was by generalizing that differential advantage approach was a rural development strategy from the result of case of OVOP projects. The storage of research finding will then be stored under protection of Maseno University School of Graduate Studies locked cabinet while electronic data was stored on a password-protected device with reservation right to the researcher and Maseno University.

3.8 Ethical Considerations

The study took the necessary measures by disclosing to the participants purpose, process and benefit of the study. Appropriate guidelines were adhered to such as securing research license from relevant authorities. Therefore the following ethical issues were taken into consideration:

3.8.1 Consent, Confidentiality and Anonymity

The researcher made sure participants name, ethnic and cultural background or any other sensitive information were protected. However if any information was to be revealed then the consent of the participant was sought. With relevant introduction the researcher approached respective district industrialization offices for commencement of the survey. The researcher started by booking meetings with respective district industrialization officers and explaining the purpose, plans, instruments, duration and benefit of the study. The researcher therefore used district industrialization officers to approach OVOP project leadership due to their frequent interactions with them. The researcher first and foremost sought consent of participant after explaining clearly and honestly the purpose, plan duration and benefit of the research. Comprehensive and accurate information was provided to all participants in order to have a clear understanding then easier acceptance. The researcher explained the purpose, process, rules and if participant had any question, he or she was free to ask before commencement of the interview or FGD. To enhance confidence of respondents and discussants the research questions were formulated in a manner that they were understandable and objective. The researcher used vernacular language through an interpreter for those discussants or respondents who were not conversant with English or Kiswahili languages. The researcher was honest and kept his promises for example if he promise to complete FGD within 30 minute then it was strictly adhered to.

3.8.2 Beneficence

The researcher articulated general purpose of the research which was to improve economic capacity through of differential advantage approach in small enterprises such as OVOP projects. The researcher organized meetings with respective district industrialization officers and then OVOP project leaders for a thorough explanation the purpose, benefits of the study and avoiding being biased and deceptive or exaggerations. The researcher remained impartial and objective throughout the exercise by maintaining high level of professionalism.

3.8.3 Potential discomforts, inconvenience, injuries, harm or risks

The researcher ensured the survey was conducted at the conveniences of participants in terms of time, place, language or cost factors. The researcher administered questionnaires to the respective OVOP project leaders and district industrialization officers personally after agreed appropriate how and when to deliver, duration taken and collecting time. Concerning focus group discussions, the researcher agreed on convenient location, time, language and duration of discussion. The researcher purposed to maximize time allocated for FGDs. The researcher utilized project leaders in booking for FGDs during their group meetings. The researcher sought district industrialization to introduce him to the OVOP project leaders who then introduce him to the project members. Through project leadership OVOP members were given chance to ask questions about the study after being introduced the purpose and benefit of the study. The research questions were refined and insightful to probe exactly what was intended. Permission was sought from participants before taking photographs of members and their products for the purpose of the study. The study prevented intentional harms or injuries especially psychological (e.g. hurting self-esteem), emotional, economic or social nature by refraining from asking embarrassing questions, boring, none important, wasting time or coercing participants to divulge

information causing anxiety. The language used in questionnaires was acceptable without being offensive or discriminatory to the participants. Protecting rights of vulnerable groups such as illiterate and economically disadvantaged was also assured by being fair, balanced and tactical in the study.

3.8.4 Voluntary and informed consent

The researcher explained clearly the purpose, participants' role and general benefit of the study. The consent instructions was read to the discussants in FGDs and asked their oral consent as the process was recorded in tape recorder. The participants were also informed that the exercise was voluntarily and they have a liberty to participate or to withdraw from the activity. The researcher thoroughly explained the research plan, time to spend, benefit, cost and risk involved thoroughly so that the participants were able to make informed decision (autonomy or self- rule of participants). The anonymity and confidentiality of participants was also guaranteed throughout the research process.

3.8.5 Result dissemination strategies, data storage and protection

After collecting information it was processed, analysed, compiled, report made and presented to the School of Graduate Studies of Maseno University. The result was disseminated to all three district industrialization offices and three OVOP groups in a summary form including analyses finding, conclusion and recommendations. The participants were availed with result of the study immediately after compilation of the report. The researcher presented oral and written report after completion of survey exercise to Maseno University School of Graduate Studies. The research final data will be stored and protected under reservation of Maseno University School of Graduate Studies and the researcher. The hard copies of study will be kept under protection of

Maseno University School of Graduate Studies locked cabinet while electronic data was encrypted or stored on a password- protected device.

3.9 Reliability and Validity

3.9.1 Reliability Analysis

The study used Cronbach’s alpha coefficient to measure internal consistency of instruments. Five-point Likert scales with varying number of items in each scale was used in the analysis. The study adhered to established case study protocol and develop case study database during data collection to ensure reliability. Best (1992) suggest that an instrument is reliable to the extent that it measures what it is measuring consistently. The study conducted a pilot test of the study tools on OVOP projects that did not participate in the study before administering the research tools. Pilot testing was conducted in an attempt to test the reliability and validity of the research tools. The research tool was administered to the respondents who were allowed ample time to respond. The respondents were administered to 3 officials from Kirinyaga County industrialization. The finding analysis of instruments provided information about the relationships between individual items in the scale as shown in table 3.9.1

Table 3.9.1 Reliability Testing of Questionnaires

Variables	Cronbach’s alpha	No of items
Product Competitiveness	0.982	216
HRD	0.995	216
Market Accessibility	0.975	216
Cluster Productive Process	0.954	216
General	0.988	864

The questionnaires were tested their reliability by use of Cronbach's alpha by measuring their internal consistency. The testing involved 216 questionnaires and the result was at 0.988 where the best reliability has a Cronbach alpha range from 0.7 to 1. In general, reliabilities less than 0.6 are considered to be poor, those in the 0.70 range, acceptable, and those over 0.80 good (Sekaran,2003). The result established high value of reliability as shown it table 4.1.2.6. At the individual measure product competitiveness was at 0.982; HRD = 0.0995; market accessibility=0.975 and cluster productive process = 0.954 respectively. The content validity was considered suitable because all factors of differential advantage approach were obtained from a review of the literature, the Powell model and a pilot test.

3.9.2 Validity Analysis

On the assessment of content validity the research tools were administered by professional experts. The content validity was assessed by county experts; each from ministry of industrialization and planning in the three pioneer counties adopted OVOP concepts (Nyeri, Laikipia and Machakos counties). The experts determined whether the sets of items accurately represent the factors of differential advantage approach in OVOP projects on rural development. The regional planning consultants assessed the tools to establish what concept the instrument is trying to measure.

More so in ensuring construct validity the investigator used multiple sources of evidence and established chain of evidence during data collection. A panel of three judges (County industrialization officers from Nyeri, Machakos and Laikipia) who were competent in regional planning and industrialization assessed the relevance of the content used in the instruments. The

study had key informants review draft case study report during composition of finding. Although the study was descriptive case to guarantee internal validity the investigator did pattern matching in data analysis.

3.9.3 Testing Study variables for Normality

The study tested for normality using Shapiro Wilk test (numerical method). The result obtained were as in Table 3.9.3

Table 3.9.3: Result of Normality tests on Study variables

	Kolmogorov-Smirnov ^b		Shapiro-Wilk		
	Statistic	Sig.	Statistic	Df	Sig.
Product Competitiveness	.475	.000	.522	22	.000
Human Resource Devt.	.446	.000	.571	48	.000
Market Accessibility	.462	.000	.546	81	.000
Cluster Productivity Process	.405	.000	.613	51	.000

The p-values were at 0.000 for respective variables which were less than 0.05 significant levels indicating that the data were normally distributed. According to Greenland, *et al.* (2016) if P falls on or below a cut-off (usually 0.05) is significant. The terms “significance level” and “alpha level” (α) are often used to refer to the cut-off; however, the P value can be viewed as a continuous measure of the compatibility between the data and the entire model used to compute it, ranging from 0 for complete incompatibility to 1 for perfect compatibility, and in this sense may be viewed as measuring the fit of the model to the data.

CHAPTER FOUR

RESULT AND DISCUSSION

4.1 Introduction

The chapter presents research finding, descriptive and inferential analysis, interpretation and discussion. A total of 251 questionnaires were given out to four sampled OVOP projects of which out of which 216 were properly filled and returned giving a response rate of 86%. This represented an overall successful response rate of 86%. The representation conformed to Babbie (2004) who asserted that return rates of 50% are acceptable to analyze and publish, 60% is good and 70% is very good. The result was interpreted as a very good response rate, but a failure of 14% resulted from either no returned or incomplete questionnaires. Analysis was based on the result of focused group discussions; interviews, direct observation, questionnaires and secondary data. The descriptive data was presentation in tables and charts and inferential statistics done through correlation and hypotheses testing.

The presentation has been done according to the following objectives:

- i. Analyse the relationship between product competitiveness and rural development in the OVOP projects.
- ii. Find out relationship between human resource development and rural development in the OVOP projects
- iii. Determine the relationship between market accessibility and rural development in the OVOP projects.
- iv. Establish the relationship between cluster productive processes and rural development in the OVOP projects.

4.2.1 The Economic Growth Rate in OVOP Projects

OVOP project leaders from four OVOP projects were asked to provide details of economic growth in terms of growth or decline rate of projects assets, income, profit, employee and productivity since the inception of OVOP concept (2008-2017). The researcher sought to understand the economic growth or decline (assets, productivity, number of employees and income) experienced of OVOP projects for ten years since the adoption of OVOP concepts by taking year 2008 as starting point, Expressing of the growth or decline or decline / improvement or deterioration as percentage of previous years. For example, if the company has experienced growth of 2% in year 2010 compared to year 2009, then write 102% in year 2010. If the decline was 8% for similar period, then write 92% in 2010. The result obtained from as follow:

4.2.1.1 Response on Economic Growth Rate in Watuka Farmers' Cooperative Society

Members

Watuka farmers' cooperative society leaders were asked to provide details of economic growth in terms of growth or decline rate of projects assets, income, profit, employee and productivity since the inception of OVOP concept (2008-2017). The finding was presented in table 4.2.1.1 below.

Table 4.2.1.1 Response on Economic Growth Rate in Watuka Farmers' Cooperative

Society Members

Constructs considered	Annual Growth or Decline as % age Watuka Farmers' Cooperative Project										Overall Annual Growth
	2008 =100 %	2009	2010	2011	2012	2013	2014	2015	2016	2017	
Assets	98.1 m	99.3 m	102 m	103. 5m	105. 3m	106. 1m	106. 1m	102. 222 m	110. 386 m	112. 4m	6.5%
Productivity	876, 948 L	923, 103 L	971, 688	1,04 4,82 6 L	1,13 5680 L	1.24 8 L	1,26 0,48 0 L	1,28 5,69 0 L	1,32 7,11 8 L	1.6 L	9.3%
Employees	5	6	7	7	9	9	9	10	10	11	2.7%
Income	26,3 0844 7	27,6 9310 2	29,1 5063 4	31,3 4476 8	3407 0400	37.4 4M	38.1 48M	39,7 73,9 20	40,5 69,3 98	48.2 M	6.3%
Profit	21.2 m	22.4 m	24m	25.1 m	27m	26.4 m	26.8 m	27.5 m	31.3 m	41.1 m	9.3%
Total		2.75 %	3%	4.25 %	5.5 %	6.25 %	7%	9.25 %	11.2 5%	15.5 %	

The result in table 4.2.1.1 showed that for ten years (2008 to 2017) Jitunze trout fish project had growth rate of assets was at 6.5%, productivity growth at 9.3%., number of employees at 2.7% and income 6.3% and profit at 9.3% respectively.

4.2.1.2 Response on Economic Growth Rate by Jitunze Trout Fish Project members

Jitunze trout fish project leaders were asked to provide details of economic growth in terms of growth or decline rate of projects assets, income, profit, employee and productivity since the inception of OVOP concept (2008-2017). The finding was presented in table 4.2.1.2 below.

Table 4.2.1.2 Response on Economic Growth Rate by Jitunze Trout Fish Project members

Constructs considered	Annual Growth or Decline as % age Jitunze Trout Fish Project										Overall Annual Growth
	2008 =100 %	2009	2010	2011	2012	2013	2014	2015	2016	2017	
Assets	2,91 1,56 7	3,06 4,80 7	3,22 6,11 2	3,46 8993 8	3,77 0,58 5	4,14 3,50 0	4,14 4,00 0	4,22 6,88 0	4,31 1,41 8	4,84 7,89 5	6.5%
Productivity	11,8 39	12,4 62	13,1 18	14,1 05	15,3 32	16,8 48	1701 6	17,3 56	18,0 50	21,6 00	9.3%
Employees	1	2	3	4	5	5	5	6	6	7	2.7%
Income	3,35 9,26 0	3,53 6,06 3	3,72 2,17 2	4,00 2,33 5	4,35 0,36 4	4,78 0,62 0	4,87 5,23 2	5,07 0,24 1	5,17 1,64 6	6,12 9,00 0	6.3%
Profit	1,51 1,66 7	1,59 1,22 8	1,67 4,97 7	1,80 1,05 1	1,95 7,66 4	2,15 1,27 9	2,19 3,85 4	2,28 1,60 8	2,32 7,24 1	2,75 8,05 0	9.3%
Total		2.75 %	3%	4.25 %	5.5 %	6.25 %	7%	9.25 %	11.2 5%	15.5 %	

The result in table 4.2.1.2 showed that for ten years (2008 to 2017) Jitunze trout fish project had growth rate of assets was at 6.5%, productivity growth at 9.3%., number of employees at 2.7% and income growth at 6.3% and profit at 9.3% respectively.

4.2.1.3 Response on Economic Growth Rate by Rumuruti Aloe Vera Project Members

Rumuruti aloe vera project leaders were asked to provide details of economic growth in terms of growth or decline rate of projects assets, income, profit, employee and productivity since the inception of OVOP concept (2008-2017). The finding was presented in table 4.2.1.3 below.

Table 4.2.1.3 Response on Economic Growth Rate by Rumuruti Aloe Vera ProjectMembers

Constructs considered	Annual Growth or Decline as % age Rumuruti Aloe Vera Project										Overall Annual Growth
	2008=100%	2009	2010	2011	2012	2013	2014	2015	2016	2017	
Assets	8,275	8,531	8,705	9,068	9,545	10,375	10,500	11,000	11,200	12,500	6.5%
Productivity	1,973containers	2,077containers	2,186containers	2,351containers	2,555containers	2,808containers	2,836containers	2,893containers	3,009containers	3600containers	9.3%
No's of employees	15volunteers	15volunteers	15volunteers	15volunteers	15volunteers	15volunteers	15volunteers	15volunteers	15volunteers	15volunteers	0%
Income	197,300	207,700	218,600	225,100	255,500	280,800	286,416	297,873	303,830	360,000	6.3%
Profit	78,920	63,080	87,440	102,040	102,200	112,320	114,566	119,149	121,532	144,000	6.3%
Total		2.75%	3%	4.25%	5.5%	6.25%	7%	9.25%	11.25%	15.5%	

The result in table 4.2.1.3 showed that for ten years (2008 to 2017) Rumuruti aloe vera project had growth rate of assets was at 6.5%, productivity growth at 9.3%., number of employees at 0% and income and profit at 6.3% respectively..

4.2.1.4 Response on Economic Growth Rate by Kionyweni Basket Weaving Project

Members

Kionyweni basket weaving project leaders were asked to provide details of economic growth in terms of growth or decline rate of projects assets, income, profit, employee and productivity since the inception of OVOP concept (2008-2017). The finding was presented in table 4.2.1.4 below.

Table 4.2.1.4 Response on Economic Growth Rate by Kionyweni Basket Weaving Project

Members

Constructs considered	Annual Growth or Decline as % age Kionyweni Basket Weaving Project										Overall Annual Growth
	2008 =100 %	2009	2010	2011	2012	2013	2014	2015	2016	2017	
Assets	5,000	7,500	8,250	10,500	12,000	15,500	16,000	18,375	20,745	38,700	6.5%
Productivity	45	75	75	90	150	240	260	300	400	600	9.3%
Employees	30volunteers	29volunteers	29volunteers	0%							
Income	23,625	39,200	39,378	47,250	78,750	126,000	136,500	157,500	210,000	315,000	6.3%
Profit	21,262	35,280	35,440	42,525	70,875	113,400	122,850	141,750	189,000	283,500	63%
Total		2.75%	3%	4.25%	5.5%	6.25%	7%	9.25%	11.25%	15.5%	

The result in table 4.2.1.4 showed that for ten years (2008 to 2017) Kionyweni basket weaving project had growth rate of assets was at 6.5%, productivity growth at 9.3%., number of employees at 0%, income and profit growth at 6.3% respectively..

4.2.2 Responses on Economic Growth Rate by OVOP Project Members

OVOP projects members were asked to indicate to what extent of economic growth in terms of growth or decline rate of projects assets, income, profit, employee and productivity since the inception of OVOP concept (2008-2017). The assumption made by the researcher was that strongly disagree and disagree signified low extent where neutral signified moderate extent while strongly agree and agree signified high extent of implementation mechanism for product competitiveness. The result obtained from questionnaires administered to members of OVOP projects was presented in table 4.2.2 below.

Table 4.2.2 Economic Growth Rate by OVOP Project Members

Rate of Econ growth	Frequency	Percent
None	63	29.2
Low	87	40.3
Moderate	51	23.6
High	9	4.2
Very High	6	2.8
Total	216	100.0

Findings in table 4.2.2 indicated low economic growth of pioneer CBOs after adoption OVOP at 40.3% of followed by 29.2% with no growth, while 23.6% moderate growth, 4.2% high growth and 2.8% very high growth respectively. The finding was supported by revelation by one FGD member who was in agreement that although OVOP concept was had a lot of positive benefits

despite lack of necessary upgrading for successful adoption. The finding concurred with the information provided by the OVOP project leaders and key informants that:

“The improvement of economic growth in OVOP projects was due to the upgrading of product and human development. However despite supplementary support for the projects by the ministry of industrialization there was minimal economic impact in terms of more income, employment opportunity, productivity and cash flows. However the adopted CBOs and projects, operated as part time activities by a small segment of a village like women, youth or men therefore lack full mandate and benefits of a whole village. The CBOs also suffers from undifferentiating product with inferior value. The productivity level is low due to limited product development, human resource development, in access to market and lack of collective efficiency of production ”.

(02/05/2018).

The same opinion was shared in an FGD held with OVOP project members in all areas of study.

This was confirmed in the following voice;

...” Economic growth in term of productivity, more employment opportunities, income and assets in OVOP projects progressed due technical, human and strategic capacities received by members and external support. These capacities enhance efficiency and effectiveness of producing superior product and accessing market. However progressive economic activities were constrained by informality, poor product development, unlimited human skills, expensive inputs, limited access to finance, inadequate infrastructure and irregular market

access, ineffective regulations, collective inefficiency among other implementation challenges.”
FGD02/05/2018.

The finding concurred with Kapfudzaruwa (2013) who stated that many poor people in Africa are involved in the informal sector, which often struggles to access markets. Many businesses operating in Africa, inclusive businesses and value chain development also face numerous challenges, amongst which are scaling up the viability of products and services, limited knowledge and skills, lack of market information, ineffective regulation, inadequate infrastructure, limited access to finance, lack of agricultural inputs, weak infrastructure and irregular access to markets. However, through innovative solutions inclusive businesses can access high-quality and affordable products from individuals at the Bottom of Pyramid (BoP). More so regulatory reform and government support are crucial for enabling low-income people to participate in the formal economy and to be integrated into value chains, as many of them do not have legal documentation for their informal businesses. Similarly, improving market infrastructure for low-income producers makes it easier for them to access markets beyond the local level, by ensuring price transparency and reducing transaction costs.

4.3 Product competitiveness and rural development in the OVOP projects

The first objective was to analyse the relationship between product competitiveness and rural development in the OVOP projects. In this section, the researcher sought from OVOP project members' the extent to which product uniqueness, quality, cost efficiency and innovation components of product competitiveness contributed to economic growth. Likert scale was used where 1- none contribution, 2- slightly contribute, 3- moderately contribute, 4- strongly

contribute and 5- very strongly contribute. The general level of acceptance determined by calculating the means and standard deviation for the various statements as per the responses and tabulated in descending order of means.

4.3.1 Product Uniqueness

OVOP project members were asked to indicate the extent product uniqueness activities contributed to economic growth. The finding in table 4.3.1 was obtained from questionnaires administered to members of OVOP projects.

Table 4.3.1 Product Uniqueness

Product Uniqueness Components	Mean	Std. Deviation	N
1. Product special features	2.4167	1.20561	216
2. Product appearance	2.4630	1.19632	216
3. Product packaging	2.5046	1.31183	216
4. Product value addition	2.3843	1.19516	216
Grand Mean	2.442		

The finding in table 4.3.1 showed that product uniqueness activities contributed to economic growth at a grand mean of 2.442. The result indicated that product uniqueness contribution was at a mean of (≈ 2) and standard deviation (≈ 1) with special features (mean=2.4167, standard deviation=1.20561), product appearances (mean=2.4630, standard deviation= 1.19632), product packaging (means=2.5046, standard deviation=1.31183) and product value addition (mean=2.3843, standard deviation= 1.19516).

The survey finding revealed that product uniqueness was related to economic growth. The finding was in agreement with responses by key informants from ministry of industrialization, sales agents and OVOP project leaders who confirmed that heightening of product special features appearances, packaging and value addition in the OVOP projects had a positive influence on volume of product demanded and sold. In fact, one OVOP project member FGD had this to say;

“Since the introduction of OVOP concept in our project we acquired techniques of developing new product features. This initiative also impressed our customers and increasing product demand. However development of product features has been in slow pace despite having potential of diverse characteristics due to limited technical and financial constraints”. FDG 8/05/2018

Confirming the potential of OVOP products having a variety of unique features OVOP project leader thus;

“Diverse characteristics like labeling, packaging, instructional. handling and adjustment features enhances products features hence increasing product competitiveness...” (06/03/2018)

From table 4.3.1 established that product uniqueness was at a mean of 2.4167 on economic growth in OVOP projects. The finding was further supported by narrative responses which confirmed that heightening special features by improving aesthetic or usability value had an influence on economic growth in the projects. For example it was revealed that despite limited effort of enhancing on features of Kionyweni baskets like having leather handles, labels or bidding, the

sisal baskets attracted consumers' feelings and satisfaction because of use natural materials and hand woven. It was also established from the discussions that despite Rumuruti aloe vera body and hand lotion and jelly product having escalating demand due to its medicinal and beauty benefits, the product lacked superiority compared to the same product in the market. More so Watuka yoghurtmilk was packaged in common containers with only vanilla and strawberry flavour with limited features to distinguish it from same products in the market.

The illustration in Plate 4.1 supported the observation that that intensifying product appearances or attractiveness of OVOP products mostly through superior aesthetics, packaging, decoration and designing had a positive effect in the market. The finding was supported by key informants' response who confirmed that an increased sales and income was witnessed with superior packaging of Watuka yoghurt products. The finding response further established that enhancement on product packaging with delighters, satisfiers or reassurances such as KEBS Certified and ISO certified enhanced sales of OVOP products hence resulting to improved livelihood for the projects.



Source: Field data 8/05/2018

Plate 4.1: Packed Yoghurt Milk by Watuka Farmers' Cooperative Society

The finding was further supported by Shamot (2011) who explained that product differentiation strategy can be a tool of competitive advantage which is adopted by organizations in order to provide products that satisfies individual customer's needs. The finding concurred with Jaskulka (2013) who reported that the customers appreciate diverse styles and designs of garments, as well as the wide range of sizes that the brand is providing.

The result in table 4.3.1 showed that product appearance was at a mean of 2.4630 on economic growth in the OVOP projects. The finding was supported by narrative responses which indicated that the heightening product appearance enhanced customers' excitement necessary for high demand of goods. The finding was also in agreement with responses from key informants who revealed that the branding of OVOP products to look presentable capturing customers' preference increases competitive advantage and demand choice was slightly advanced. The finding was

further solidified by information obtained from the OVOP project member FGDs who observed that:

Product appearances have greatly influenced customers' level of demand with more purchasing being new consumer..., with improvement of our product new design, shape and size increased sales of our product at local outlets. FDG 8/05/2018

The result also implied that appropriate use of colour, shape, forms and other sensory elements aid customer to choose a product at ease were not very much advanced in OVOP projects. The finding concurred with Parasuraman (1985, 1988) who showed that product aesthetic as visual appeal of the product, often taking into account factors, such as style, color, shape, packaging, tactile characteristics, and other sensory features. Garvin (1987) further explained that aesthetics as how a product looks, feels, sounds, tastes, or smells- is a matter of personal judgment and a reflection of individual preference. The illustration in Plate 4.2 supported the observation that a decorated basket with different colours improving tactile and customized features for focused market.



Source: Field data 06/03/2018

Plate 4.2: Decorated Hand-Knitted baskets by Kionyweni Project

The result in table 4.3.1 indicated that packaging was at a mean of 2.5046 on economic growth in OVOP projects. The finding was further supported by narrative responses which confirmed that heightening packaging efforts in most of OVOP projects heightened demands of product by consumers. The finding was also in agreement with responses from interview of Watuka dairy farmers' cooperative leaders who started that packaging yoghurt product with attractive plastic containers it increased sales at their outlets. In fact, field observations indicated that, established that improved product packaging heightened level of purchasing, which was further confirmed by FGDs held with OVOP project members, confirmed in the following voice;

.....Improved product appearance through packaging labeling or size and colour designing has great impact on demand level. Superior packaging heightens appeal and creates strong interest on the product...06/03/2018

Further, the finding was in agreement with key informants' responses from OVOP sales agents and ministry of industrialization revealed that distinctive packaging of product with superior labeling, barcode reader, benefits instruction information, contacts, manufacturing and expiring date improved perceived value of buyers hence more demand. The study finding concurred with Kotler (1997) who showed that if a product is styled outstandingly, the seller finds no difficulty selling the product at a high price since there are groups of customers who always look for styles. Style could be used very effectively as a differentiation variable. Good design can also form the basis of product differentiation. This is perhaps more readily appreciated in physical products, and the success of companies such as Gucci clothing. Design refers to the arrangements of items that collectively form a product. Good design provides three important aids to the consumer: it represents the 'perceived value' of the product, it enables the company to create a 'personality' for its products and by judicious periodical alterations in designing, and it creates demand through 'replacement' with more fashionable new designs.

More so the result in table 4.3.1 indicated that value addition was at a mean of 2.3843 on economic growth in OVOP projects. The finding was supported by narrative responses which confirmed that heightened value addition increased the desire on products hence more demand. The finding further revealed that product new look, appealing packaging of product, bar code, illustration document how ease to use, on-line purchasing, satisfiers or reassurances such as

International Standard Organization (ISO) and Kenya Bureau of Standards (KEBS) certified improved confidence of buyer on the product. The finding was in agreement with key informants' responses; from Watuka dairy farmers' cooperative society sales agents and OVOP project leaders who revealed pasteurizing and processing raw milk into yoghurt increased sales and revenues. The responses further confirmed that value addition on milk product through flavoring yoghurt brands improved customers' satisfaction hence increased their sales and income for the project.

The result was supported by Parasuraman (1985, 1988) who showed that customers tend to purchase products that have more value added features. The finding concurred with KIPPRRA (2018) that with the "Big Four" agenda, the manufacturing sector is targeted to achieve a 15 per cent contribution to GDP by 2022 with emphasis on agro-processing, textiles, leather and blue economy subsectors. This requires improvement in industrial competitiveness of the country by enhancing the capacity to produce more advanced products, and move to faster growing activities. Further, adequate financing is required for the heavy investments, and in supporting the SMEs. Similarly, the information from key informants revealed need for continuous capacity upgrading of products, process, and inter-chain to achieve product uniqueness in OVOP projects.

4.3.2 Product Quality

OVOP project members were also asked to indicate to what extent product quality activities contributed to economic growth. The finding in table 4.3.2 below was obtained from questionnaires administered to members of OVOP projects.

Table 4.3.2 Product Quality

Product Quality Components	Mean	Std. Deviation	N
1. Product conformance	2.4259	1.19848	216
2. Product durability	2.3611	1.13677	216
3. Product reliability	2.3565	1.21913	216
4. Product benefits	2.2685	1.12151	216
Grand total	2.353		

The result in table 4.3.2 indicated that product quality activities contributed to economic growth that a grand mean of 2.353. The finding showed that the contribution of product quality was at a mean of (≈ 2) and standard deviation (≈ 1) with special product conformance (mean=2.4259, standard deviation=1.19848), product durability (mean=2.4630, standard deviation= 1.19632), product reliability (means=2.3565, standard deviation=1.21913) and product benefits (mean=2.2685, standard deviation= 1.12151).

The survey result in table 4.3.2 revealed that product quality was related to economic growth. The finding was in agreement with responses by key informants from ministry of industrialization, sales agents and OVOP project leaders who confirmed that enhanced product quality (fitness, easy to use, comfortability), durability, reliability, benefits (value for money, variety of sizes and stylish) had increased product demand hence more income for the OVOP projects. In fact, this observation was supported by some of the key informants, who reported that,

“There was an increased sales volume and wide range of customer with enhanced product quality. There was also an increase of repetitive consumers of goods due to high level of satisfaction hence more revenues to the projects. The quality of baskets, milk, fish and

aloe vera products were on high demand both from existing and new customers due to the increased level of satisfaction brought by the quality of the product”

More so result in table 4.3.2 showed that product conformance was at a mean of 2.4259 one economic growth in OVOP projects. The finding was further supported by narrative responses which confirmed that advancement of product conformity, had ability to boost customers' needs and expectations. The finding was in agreement with responses by key informants who confirmed that product conformity was related with compliance of regulatory requirements, usage, hygiene, safety standards and security features like bar code. The illustration in Plate 4.3 supported the observation that effort of Rumuruti aloe vera project acquiring KEBs standardization heightened their sales. The observation further established that well product fitness of within a specific period of time, good reputation, bar code, illustration document consistent with product standard, certification of conformity and KEBs standardization were crucial components of product conformance in OVOP projects that accrued them differential advantage in the market.



Source: Field data 14/04/2018

Plate 4.3: StandardizedRumuruti aloe vera Lotion and Jelly Products

The finding in table 4.3.2 indicated that product durability was at a mean of 2.4630 on economic growth in OVOP projects. The finding was further supported by narrative responses which confirmed that heightening product durability was increased convenient level of customers' hence became repeated and royal consumers. The Kionyweni project leaders interviewed confirmed that durability of Kionyweni baskets increased customers' demand sustaining old customers hence becoming royal consumers; however alternatively low level of durability affected the supply rate of products. The result concurred with Garvin (1988) who found that durability is very similar to reliability. Zeithaml (1988) also reported that when it comes to performance, dimensions the product has to fulfill functional and practical benefits of the customer. More so an interview with Jitunze trout fish project leader supported the finding by it was revealed that increased durability or shelf- life of trout fish through preservation reduces wastages, improve bargaining power due to superior quality hence broaden market base.

The result in table 4.3.2 showed that product reliability was at a mean of 2.3565 on economic growth in the OVOP projects. The finding was further supported by narrative responses which confirmed that consistent supply and meeting their customers' need in terms of regularly and timely supplying goods and services heightened customers' confidence of the product. For example the finding was in agreement with response by Jitunze OVOP project leader who confirmed that consistent supply of trout fish heightened demand of loyalty and referral customers' hence more sales and income for the project. The finding was supported by Jaskulska

(2013) who reported that reliability involves consistency of performance and dependability. It means that the firm performs the service right the first time and honors its promises.

The finding in table 4.3.2 indicated that product benefit was at a mean of 2.2685 one economic growth in OVOP projects. The finding was supported by narrative responses which confirmed that heightening product benefits in terms of functionality, aesthetic or cost values increased customers' satisfaction hence more demands. The finding further revealed that improved product benefits in terms value for money, wide range of varieties, multiple benefits, usages satisfied customers' preferences and flexibility hence high demand. For example it was revealed from the from an interview with Watuka dairy farmers' cooperative society who said that offering different varieties of milk products such as cheese, powdered milk, butter, in different sizes, prices, designs and flavour like chocolate, passion, mango etc. satisfied a variety of customers' preferences hence increased demand. The finding concurred with Dirisu *et al.* (2013) which found that a product's design will always aid to determine a consumer's choice of purchase amongst products of same brands and categories. A well-designed product can also be a point-of-difference in the marketplace aiding consumer acceptance through its ease of use, durability, reliability, or packaging; therefore, serve as a source of competitive advantage.

4.3.3 Product Cost Efficiency

OVOP project members were asked to indicate the extent product cost efficiency contributed to economic growth. The finding in table 4.3.3 was obtained from questionnaires administered to members of OVOP projects.

Table 4.3.3 Product Cost Efficiency

Product Cost efficiency components	Mean	Std. Deviation	N
1. Cheapest product (discount pricing)	2.2917	.99913	216
2. Cost saving product	2.4583	1.11151	216
3. Best-price value (premium pricing)	2.4398	1.15178	216
4. Wide range of a product	2.3426	1.07972	216
Grand mean	2.3831		

The result in table 4.3.3 indicated that product cost efficiency contributed on economic growth at a grand mean of 2.3831. The finding showed that the contribution of cost efficiency was at a mean of (≈ 2) and standard deviation (≈ 1) with cheapest product (discount pricing) (mean=2.2917, standard deviation=.99913), cost saving product (mean=2.4583, standard deviation= 1.11151), Best-price value (premium pricing) (mean=2.4398, standard deviation=1.15178) and wide range product (mean=2.3426, standard deviation= 1.07972).

The finding established that product cost efficiency was related to economic growth. The finding was supported by key informants responses from ministry of industrialization, sales agents and OVOP project leaders who confirmed that that cheapest product, cost-saving product, best price value and wide range product in the OVOP projects contributed on high sales to mass and focus market. The OVOP project members from all the study areas were in agreement that:

“Cost efficiency allows flexibility addressing wide range of customer preferences based on prices, sizes and taste. The approach therefore addresses a wide range of customer’s interest hence more supply hence increased income”. FGD 3/5/2018

The finding in table 4.3.3 indicated that cheapest product approach was at a mean of 2.2917 on economic growth in the OVOP projects. The finding was supported by narrative responses which confirmed that reduction cost of production and transaction from raw materials, inputs and labour accrued pricing competitiveness hence offered cheapest prices. The finding was further in agreement with response in FGD of OVOP projects members who revealed that low cost of labour and raw materials contemplate cheap prices of trout fishes, baskets, milk and aloe vera products. The result implied that reduced cost of production and transaction through in terms of inputs, labour, energy, raw materials, transport and marketing services improved productivity hence more income in the OVOP projects. The finding was supported by revelations by leader of Watuka dairy project who stated that with introduction of solar panels for alternative source of energy and construction of new tarmac road in some part of Watuka area had reduced cost and time of collecting milk from farmers; reduced wastages of perishable milk, reduction of breakages of vehicle and buying of spare parts, reduction of fuel and energy consumption. Consequently, according to McCracken (2012) firms can have cost advantages such as accessing a large source of cheap materials, making optimal outsourcing and vertical integration decisions, or avoiding some costs altogether (Reilly, 2012).

The finding in table 4.3.3 indicated that cost saving product approach was at a mean of 2.4583 on economic growth in OVOP projects. The finding was further supported by narrative responses

which confirmed that cost saving had two sides of benefits; the consumers and producers side. On the consumers' side the result showed that there was little advancing on cost saving products in terms of easy to use, durable, multiple applications, utilize little energy and time for preparation or application of a product. The finding was supported by revelations from FGD members of Watuka dairy project who stated that collective activities was a mean of cost reduction and bargaining power due to the benefits of economies of scale, easy market access, bargaining power, sharing costs and risks. The findings further established that Watuka farmers' cooperative society gained economies of scale benefits by joining Kieni Dairy Products Limited (KDPL) a larger production unit of six milk co-operative societies in Kieni West sub-county (Endarasha, Mweiga, Gataragwa, Thuruthuru, Lamuria and Nairutia) in specializing in milk products. The finding vindicated that the project accrued numerous benefits from joint effort by achieving more bargaining power and consistent supply of product thereby low cost, shared cost, risks hence more sales and income for the project.

The finding in table 4.3.3 indicated further that best-price value was at a mean of 2.4398 on economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that high value customized products fetched best prices. The same opinion was shared in an FGD held with Kionyweni basket weaving projects and Jitunze trout fish project who confirmed that hand weaved baskets and trout fish fetched for best-price value where the main consumers were customized buyers. The finding further established that the main market were high end market, with trout fish sold at Serena hotel (Mountain Top) and other sport clubs with one kilogram of trout fish sold at 1000 Kenya shilling. More so in Kionyweni basket product main buyer was a Briton merchant where the prices of

baskets range from 350 to 450 Kenya shilling. The result therefore revealed that advancing on best-value product for value sensitive customers' insulated the project from cut throat competition and benefit from high premium for royal customers. The finding concurred with Dirisu *et al.* (2013) which explained quality focus, as a competitive advantage tool is seen as one of the fundamental ways in which individual businesses can successfully compete in the global marketplace. The choice of what product to purchase in most consumer markets is not majorly determined by the lowest price, a product's quality could be a determining factor (Matsa, 2009).

More so the result in table 4.3.3 indicated that wide range of product approach was at a mean of 2.3426 economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that a wide variety of product served diverse customers' preferences and interests leading to competitive advantage in the market. It was further established from the discussions that having a wide variety of products in terms of sizes and prices customized thereby attracting a large number of buyers. For example it was revealed from Watuka, Kionyweni and Rumuruti FGDs that packaging different sizes of product for price sensitive customers increased sales due for mass market. The finding concurred with Haraguchi (2008) who stated that firm with differentiated products, as in the case of successful OVOP firms, is able to charge a price above its marginal costs and earn higher profits. The advantage of OVOP activities lies in product differentiation, which can reduce the price elasticity of demand for products. Similarly, the information from interviewees of OVOP project leaders in all study areas confirmed that cost efficiency was achieved through embracing innovative technologies in production, transaction and marketing.

4.3.4 Product Innovation

OVOP project members were asked to indicate the extent product innovation contribute to economic growth. The finding in table 4.3.4 was obtained from questionnaires administered to members of OVOP projects.

Table 4.3.4 Product Innovation

Product Innovation Components	Mean	Std. Deviation	N
1. Product compatibility	2.4120	1.09614	216
2. Product relative advantage	2.4074	1.14962	216
3. New product usability	2.3194	1.10171	216
4. Product visibility	2.2269	1.08667	216
Grand Mean	2.3414		

The result in table 4.3.4 indicated that product innovation components contributed to economic growth at a grand mean of 2.3414. The finding showed the contribution of product innovation was at a mean of (≈ 2) and standard deviation (≈ 1) with product compatibility (mean=2.4120, standard deviation=1.09614), product relative advantage (mean=2.4074, standard deviation= 1.14962), new product usability (means=2.3194, standard deviation=1.10171) and product visibility (mean=2.2269, standard deviation= 1.08667).

The result indicated that there was a relationship between product innovation and economic growth in OVOP projects. The finding was in agreement with responses by key informants from ministry of industrialization, sales agents and OVOP project leaders who confirmed that enhanced product compatibility, relative advantage, usability and visibility in the OVOP

projects contributed to level of customers, satisfaction and requested for more products hence more revenues. The finding was confirmed by information obtained from the interviewed key informants and OVOP project leaders who observed that:

“Innovation brings about benefit to both producer and consumers, whereby on the producer’s side it enhances quality, efficiency and effectiveness; while on consumers’ side it improves product usability, relative advantage and visibility. Product innovation therefore heightens competitiveness of products hence more demand and thereafter increased revenues. ”

Further finding in table 4.3.4 showed that product compatibility was at a mean of 2.4120 one economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that product compatibility heightening customer’s satisfactory feelings or perceived value on the worthiness of a product. The finding further revealed that improvement of product conformance on price, real and perceived value was critical in heightening customers level satisfaction hence high demand for product. For example it was revealed in Kionyweni weaved project FGD that the demand of sisal made baskets were upward trend due to compatibility current requirement of environmental friendly bag against plastic bags accruing differential advantage. The illustration in Plate 4.4 supported the observation from Kionyweni basket weaving project showed that product compatibility into generally acceptable standards in terms weight, size, texture, color, taste, flavors, packaging, shape and applicability influences the rate of purchases. The finding was also in agreement that product compatibility in terms form, design, packaging, bar codes, hygiene and other regulatory standards like KEBs or ISO certification constrained accessing and acceptance in a wide market.



Source: Field data 06/03/2018

Plate 4.4: Different sizes and colours of Baskets at Kionyweni Basket Weaving Project

The result in table 4.3.4 indicated that product relative advantage approach was at a mean of 2.4074 of one economic growth in OVOP projects. The finding was further supported by narrative responses and focused group discussions which confirmed that product value addition had both monetary and non-monetary benefits which were contemplated into high customer attraction and satisfaction hence increased product demand. More specifically, field observation from Kionyweni basket weaving project showed that hand woven baskets with sisal threads mixed with locally sourced dye were more durable baskets in terms of colour, texture and compactness than same product by other competitors. From the observation that locally sourced dye blended well with local sisal threads gave a more attractive and superior quality with durability baskets colours and shape hence heightened product demand. The finding was consistent with Almassawi (2012) who reported that satisfied customers will repeat the purchase, probably be brand loyal, and convey positive word-of-mouth advertising, and all these will enhance sales. The finding further concurred with Hoyer and MacInnis (2001) who stated that satisfaction can be

associated with feelings of acceptance, happiness, relief, excitement, and delight. Customer's satisfaction may also be associated with feelings of ambivalence when there is a mix of positive and negative experiences associated with the product or service (Zeithaml *et al.*, 2009).

The finding in table 4.3.4 indicated that new product usability approach was at a mean of 2.3194 on economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that heightened new product usability in terms of improved functionality, multiple benefits, utilization, easy application, diverse forms and sizes increased customers' satisfaction hence more demand. The finding concurred with Garvin (1987) who reported that characteristics of product is required to satisfy needs or to achieve fitness for use which can also be grouped into structural or physical (size, weight or shape), sensory (colour, taste or smell) and time-oriented (durability or reliability). The finding was further supported by responses from key informants who revealed that product appropriability in terms of ease to cook trout fish, apply aloe vera lotion, comfortable basket, and different varieties, size, shape, color, flavour or form of product had positive association with product competitiveness. For example it was established from the interview with Watuka dairy project leaders who confirmed that heightened new product usability of dairy product through processing and packaging different varieties increased product demand. The finding further revealed that due to wide varieties in terms of flavour, colours, size, shape and price segmentation fulfilled different customers' preferences.

The result in table 4.3.4 indicated that product visibility was at a mean of 2.2269 of one economic growth in OVOP projects. The finding was supported by narrative responses and focused group

discussions which confirmed that enhancing the real and perceived product image in OVOP projects improved accessibility and acceptance of product in a wide market. The result further revealed that innovation aided in creating superior quality product, brand, and promotion was essential in enhancing product visibility hence heightening customers' impression and demand. The finding was supported by Reilly (2003) who found that the perceived added value has qualitative benefit of creating positive feelings among customers about a product or a service, and exerts a greater influence on what you are, rather than what you do. This includes, for instance, an increase in the market share, reduced costs, higher productivity and increased competitiveness. The study finding was further consistent with by Kurokawa *et al.* (2010) who showed that ICT may serve as a competitive tool for African countries. In order to take advantage of internet-mediated marketing, African producers need to improve the quality of their products and services and establish their "brands." Logo labelling is another promising strategy for branding African products. Consequently, the finding was solidified by information obtained from OVOP project members in FGDs and confirmed by key informants that upgrading product development technologies guaranteed superior product characteristics, quality, cost efficiency and functionality. The finding was further supported by key informants from all the study areas who were in agreement that continuous capacity upgrading of products, process, and inter-chain coordination with extensive mechanism of government supplementary support ensures product competitiveness in OVOP projects.

The study also sought to understand the extent of competitiveness of OVOP product in the market. The finding by key informants from sales agents, ministry of industrialization and OVOP project leaders confirmed that OVOP products were less competitive compared to the same

products from other competitors. The finding concurred with the information provided by the OVOP outletsales personthat:

“The OVOP product faces stiff competition with other product in the same industry. The source of competition is due to inferior quality of products in terms of limited value addition, packaging and marketing”.

Further findings from OVOP project members and key informants were in agreement that limited effort of product development compromised product quality, superior characteristics and cost efficiency hence less competitiveness. The finding confirmed that upgrading of technologiesamong OVOP projects led to superior product development. The finding further suggested need of establishing Village Innovation and Production Centres (VIPC) or cottage industries to promote product development,standardization, processing, packaging and other value addition activities.

4.4 Human Resource Development andRural Development in the OVOP Projects

The second objective was to find out the relationship between human resource development and rural development in the OVOP projects.In this section, the researcher sought from OVOP project members’ the extenthow learning, training, development and education of human resource development activities contributed to economic growth. The responses were based on a five-point Likert Scale: 1; none contribution: 2; slightly contribute, 3- moderately contribute: 4;strongly contribute and 5;very strongly contribute. The general level of acceptance was

determined by calculating the means and standard deviation for the various statements as per the responses and tabulated in descending order of means.

4.4.1 Learning Activities

OVOP project members were asked to indicate the extent learning activities contributed to economic growth. The finding in table 4.4.1 was obtained from questionnaires administered to members of OVOP projects.

Table 4.4.1 Learning Activities

Learning Activities Components	Mean	Std. Deviation	N
1. Educational trips	2.6944	1.12856	216
2. Practical demonstrations	2.8333	1.18125	216
3. Exchange programmes/benchmarking	2.7639	1.17525	216
Grand Mean	2.7639		

The finding in table 4.4.1 indicated that learning activities contributed to economic growth at a grand mean of 2.7639. The finding generally showed a mean of (≈ 3) and standard deviation (≈ 1) with educational trips (mean=2.6944, standard deviation=1.12856), practical demonstrations (mean=2.8333, standard deviation= 1.18125) and exchange programmes/benchmarking (mean=2.7639, standard deviation= 1.17525).

The finding found that there was a relationship between learning activities and economic growth. The finding was in agreement with responses by key informants from ministry of

industrialization, sales agents and OVOP project leaders who confirmed that heightening educational trips, practical demonstrations and benchmarking or exchange programmes improved efficiency of doing activities among workforce hence more productivity in OVOP projects. The finding further established learning activities heightened member's spirit to pursue high value economic activities in their project by embracing relevant skills creating unique product or service. The OVOP project members from all the study areas were in agreement that:

“...Learning activities were crucial in laying clear foundation for the project since it acts as eye opener hence motivating OVOP project members to embrace high value economic activities by tapping endowed historical and natural assets...” (FGD 14/4/2018)

The finding in table 4.4.1 indicated that education trips were at a mean of 2.6944 on economic growth in OVOP projects. The finding was further supported by narrative responses and focused group discussions which confirmed that the familiarization and benchmarking trips elevated desire to change or complement their skills and practices for better performances of the OVOP projects. The finding concurred with the information provided by the OVOP project leaders and key informants that:

“Every time project members pays a visit to advanced projects for benchmarking it evoke enthusiasim transforming their performance. However the urge of transformation lasted for a short period due to absence of consistent learning programme. This failure of continuity learning process was due to lack of sustainable arrangement for supporting learning activities”. (03/05/2018).

The same opinion was shared in an FGD held with OVOP project members. This was confirmed in the following voice;

...the learning trips organized for project members helps them in gaining big and clear picture about the project engaged in...FGD03/05/2018.

The finding concurred with Schumann (2016) who found that both the overseas experience in OVOP Japan helped to elevate the desire of residents to develop their own skills to contribute to their community. Sending people overseas help to learn in detail about spas and community building and subsequently these lessons were brought back to Yufuin and shared with others. As observed in plate 4.5 heightening of education trips was affirmed to have a positive effect on human resource development among members Jitunze trout fish project who frequently visited Sagana fisheries for awareness sessions and receive trainings from Arid Lands Resource Management Project (in Kieni Constituency). The finding was supported by Jitunze FGD who revealed that benchmarking trips boosted confident and motivation of running fishery business effectively. Moreover educational trips were revealed being essential for creating awareness and eye opening purposes among OVOP projects.



Source: Field data 03/05/2018

Plate 4.5: Jitunze Trout Fish Project Members Visitation at Sagana Fishery Centre

The result in table 4.4.1 showed that practical demonstration activities were at 2.8333 on economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that practical exercises enhanced clear understanding, acquiring confidence and commitment in OVOP projects hence high productivity. The finding was consistent with Mehta (2011) who reported that for effective learning to take place employees need to have confidence and appropriate learning skills opportunities to turn their commitment into productive action. Vroom (1964) further stated that highly conscientious individuals have confidence to succeed in the training programme. The finding was further in agreement in FGDs of Watuka dairy project members who revealed that practical demonstration exercises offered by Brokeside Dairy processor inspired them in upgrading livestock production

by embracing modern farming practices. The finding concurred with the information provided by the leader of Rumuruti aloe vera project leader who revealed that the partnership between Rumuruti aloe vera project and Kivuko private commercial farm, local private company helped members to acquire best practices of aloe vera production and best techniques of extracting aloe vera juice. The result therefore implied that to enhancing learning process through practical and interactive activities motivate learners and boost their interest in embracing new changes for better performances.

The finding in table 4.4.1 indicated that exchange programme or benchmarking was at 2.7639 on economic growth. The finding was further supported by narrative responses and focused group discussions which confirmed that exchange exercises worked as an external catalyst that raises awareness and internal consciousness essential for effective change. The finding further revealed that benchmarking provided complementing knowledge and skills for effectively building of human competency in OVOP projects. The finding was consistent with Schumann (2016) who reported that in Oyama, Yufuin's mayor Iwao had sent three young people to Germany in 1971 to learn in detail about spas and community building and subsequently these lessons were brought back to Yufuin and shared with others.

In fact, the finding by FGDs held with OVOP project members, in the surveyed areas confirmed that learning activities played a foundation of effective process of building human competency as it dealt with creating awareness, inspiring and confidence of a learner. The finding further revealed that learning activities act as an eye opening exercises were critical for physical awareness due to its role in creating excitement or positive attitude for learners. The OVOP

project leaders and key informants further agreed with the finding by revealing that upgrading mechanism of learning activities in village innovation and production centres and enhancement of government supplementary support improves human competency. The finding was consistent with Haraguchi (2008) who reported that Japan prefecture government provided only supplementary support in the form of extension services, learning activities and product promotion, but the success of OVOP project does not depend too much on the institutional arrangement but more on qualitative aspects, such as leadership, commitment of community members and their cooperation.

4.4.2 Training Activities

OVOP project members were asked to indicate the extent training activities contributed to economic growth. The finding in table 4.4.2 was obtained from questionnaires administered to members of OVOP projects in table 4.4.2.

Table 4.4.2 Training Activities

Training Activities Components	Mean	Std. Deviation	N
1. Seminars	2.5139	1.05645	216
2. Workshops	2.6389	1.13677	216
3. Group discussions	2.7222	1.05947	216
Grand mean	2.625		

The finding in table 4.4.2 indicated that training activities contributed to economic growth at a grand mean of 2.625. The result generally showed a mean of (≈ 3) and standard deviation (≈ 1) with

seminars (mean=2.5139, standard deviation=1.05645), workshops (mean=2.6389, standard deviation= 1.13677) and group discussions (mean=2.7222, standard deviation= 1.05947).

The finding found that training activities was related with economic growth in OVOP projects. The finding was in agreement with responses by key informants from ministry of industrialization who confirmed that acquired new skills through training activities improved efficiency and effectiveness hence more productivity and revenues.

The OVOP leaders from all the study areas were in agreement that:

“Short trainings, seminars, workshops and group discussions offered to the project members on marketing, record keeping quality assurance, financial and organizational managements improved workforce capacity hence more productivity”. FGD 14/04/2018

The result in table 4.4.2 indicated that seminars activities were at a mean of 2.5139 on economic growth in OVOP projects. The finding was further supported by narrative responses and focused group discussions which confirmed that seminars activities advanced competencies and efficiencies of workforce hence high productivity. The FGDs in areas of study revealed that frequent informative consulting sessions (day seminars) helped in clarifying business management, financial, marketing, technical, legal and organizational matters in OVOP projects. The finding was in agreement with members of Kionyweni basket weaving project in a FGD who confirmed that the frequently training attendance at Jomo Kenyatta University of Agriculture and Technology improved marketing and product quality skills hence enhanced performance in the project. Another example of was a seminar activities was observed in Watuka

farmers' cooperative society where local financial institution; Taifa Sacco offered financial management training as shown in plate 4.6.



Source: Field data 14/04/2018

Plate 4.6: Training Session for Watuka Farmers' cooperative SocietyMembers

The finding was consistent with JICA (2011) which reported that training in Malawi was done in collaboration with local government (extension agents) and other organizations in Malawi: Each one of extension agents is expected to play the role of promoting the movement in his or her daily activities. Consequently Yamazaki (2010) reported that in Malawi approved OVOP groups receive training on OVOP concepts, management skills, packaging, and food-processing from affiliated organisations such as a university, a financial institution, and JICA.

The result in table 4.4.2 showed that workshop activities were at a mean of 2.6389 on economic growth in OVOP projects. The finding was further supported by narrative responses and focused group discussions which confirmed that workshop activities helped in clarifying issues whereby trainees were equipped with capacity how to develop their own ways of handling issues. More so trainers shared experiences and past successful stories to clarify issues. For example information from a leader of Jitunze trout fish project revealed that frequent consultative meetings held with department of Sagana fisheries research centre boosted the project with technical, operational, farming and marketing skills from the experts. The finding was consistent with Nishikawa (2008) who stated that the basic principle of training is that the trainees are asked to learn from the past trials and errors and experience in Japan, so that they shall be able to approach the issue by encouraging the local inhabitants concerned to make their own choices suited to respective local areas, rather than by imposing products and methods predetermined by a macro policy on the part of the government.

The finding in table 4.4.2 indicated that group/peer discussion was at a mean of 2.7222 on economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that more intense exercises of sharing of experiences among themselves assisted learners by simplify and clarify matters. The finding further revealed that peer discussions were powerful training activities through systematic exchange of information among participants in brainstorming sessions. More so the finding established that participant freely shared their successful stories or areas of challenges. It was indicated from the result that discussion helped participant to improvised own solutions to their

own problems in a reflexive approach. The finding was in agreement with a leader of Rumuruti aloe vera project who confirmed that monthly informative sessions with private aloe vera company provided powerful insight on best practices in the management of aloe vera. The finding was consistent with Schumann (2016) who reported that training in Japan through OVOP leaders involved encouraging connections among different activities, dissemination of information, the provoking of debates, and the management of training programs for the locally created initiatives. Leaders working with local participants managed to have community members overcome their feelings of hopelessness or powerlessness by taking initiative even with limited resources. Group will be more likely to succeed if its group leaders are knowledgeable and skilled in collective enterprise, and motivated and trusted by group members.

The finding was solidified by information obtained from OVOP project members in FGDs and confirmed by key informants who confirmed that embracing of seminars, workshops and group discussions activities built up emotional ability or invoking nervous energies (heart opening) developing desirable behavior and reducing skill gap in a specific area of competency. However the finding recorded minimal success of these activities due to absence of appropriate institutional arrangement for steering systematic training activities in the OVOP projects. Moreover the further revealed that introduction of special village training institutions and upgrading pro-poor training facilities, contents, process and supplementary support enhances human competency in OVOP projects hence more productivity.

4.4.3 Human Development Activities

OVOP project members were required to indicate the extent human development activities contributed to economic growth. The finding in table 4.4.3 was obtained from questionnaires administered to members of OVOP projects.

Table 4.4.3 Human Development Activities

Human Development Activities Components	Mean	Std. Deviation	N
1. On-the job trainings	2.7361	1.20456	216
2. Internship and mentorship programmes	2.6667	1.13301	216
3. Technical/vocational courses	2.7222	1.14797	216
Grand Mean	2.7083		

The finding in table 4.4.3 indicated that human development activities contributed to economic growth at a grand mean of 2.7083. The result generally showed a mean of (≈ 3) and standard deviation (≈ 1) with on-the job trainings (mean=2.7361, standard deviation=1.20456), internship/mentorship programmes (mean=2.6667, standard deviation= 1.13301) and technical/vocational courses (mean=2.7222, standard deviation= 1.14797).

The finding established that human development activities were related with better economic performances in OVOP projects. . The finding was in agreement with responses by key informants from ministry of industrialization, sales agents and OVOP project leaders who

confirmed that development activities such as on the job training, mentorship and technical courses improved workforce competencies hence more productivity. One OVOP project leader interviewed also confirmed this when he stated that,

“Human development activities despite being limited had positive effect on the project performances. I have been sponsored by ministry of industrialization for a production and marketing course in abroad.. The development course improved human and product development especially quality assurance.” 03/05/2018

The result showed that human development activities were critical for better economic performance in OVOP projects. Additionally, one interviewee from the one of OVOP member inFGD reported that:

“The internship programme to OVOP project members by the ministry of industrialization enhanced skilled for our project especially in processing food” (FGD 03/05/2018).

The finding in table 4.4.3 indicated that on-job training activities were at mean of 2.7361 on economic growth. The finding was supported by narrative responses and focused group discussions which confirmed that on-job training was critical in acquiring hand-on practical competency. The finding further revealed that on the job training imparted practical capabilities of individual acquiring full competency required to deliver quality performance hence high productivity in OVOP projects. For example the information from leaders of OVOP project confirmed that on job trainings that offered to Watuka dairy farmers' cooperative society staff

and Jitunze project leaders perfected practical capabilities which also increase their quality service delivery and productivity in their projects. The finding is supported by Yamazaki (2010) who reported that the most prominent activity of Oita's OVOP was a two-year part-time programme, in which participants could learn practical know-how of local development; it also aimed to create a network among local leaders so that they could motivate, learn, and compete with each other even after the programme. OVOP Japan, technical and institutional assistance to producers was the main instrument of the Prefectural government. A food processing technical support department in the agricultural research centre was newly established to provide training and consultation service. Moreover, some more newly founded prefectural technical centres in various fields (cut flowers, seafood processing, mushrooms) were fully utilised to support OVOP activities.

The result in table 4.4.3 showed that mentorship/internship was at a mean of 2.6667 of mentorship/internship programme on economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that mentoring nurtured learners through comprehensive practical support in performing duties. The finding further revealed from study that OVOP projects were provided with mentorship partners by the ministry of industrialization in conjunction with Japanese JICA technical team. The illustration in Plate 4.7 supported the observation that mentorship programme by international technical expert visiting Jitunze trout fish project boosted competency hence efficiency.



Source: Field data 28/01/2018

Plate 4.7: Mentorship Initiative at Jitunze Trout Fish Project

The result concurred with Nishikawa (2007) who reported that in order to enhance the capabilities of local people and community-based organizations; we can provide local talented people with support for study, training and exchange of experiences. This support includes leaders training, technical training, support for organization building and network formation. We can also provide support for dispatching trainees to Oita prefecture (for example, reception into “rural economic promotion (One-Village One-Product) “ in Oita), to Asian countries such as Thailand which have implemented OVOP movement, support for exchange of experiences at home and within Africa, and so on.

The finding in table 4.4.3 showed that technical training was at a mean of 2.7222 one economic growth in OVOP projects. The finding was further supported by narrative responses and focused

group discussions which confirmed that improved technical know-how through attending vocational or short courses heightened long time operation capabilities among OVOP projects. The OVOP project leaders interviewed confirmed that project officials received technical training from ministry of industrialization who then train other members technical skills hence train others. The finding further revealed that skill upgrading in OVOP projects enhanced product development and market accessibility. The finding was consistent with Ndione and Suzuki (2018) who showed that technical capabilities of OVOP entrepreneurs are still low if they plan to compete with industrial products or export their products abroad. The finding was solidified by information obtained from OVOP project members in FGDs and confirmed by key informants who confirmed that human development activities provided practical know-how with full conceptual understanding and creative application of new skills hence high performance.

4.4.4 Education Activities

OVOP project members were required to indicate the extent education activities contribute to economic growth. The finding in table 4.4.4 was obtained from questionnaires administered to members of OVOP projects.

Table 4.4.4 Education Activities

Education Activities Components	Mean	Std. Deviation	N
1. Industrial based curriculum	2.7222	1.05066	216
2. Adult education	2.7917	1.11985	216
3. Career orientation	2.8889	1.16406	216
Grand mean	2.8009		

The finding in table 4.4.4 indicated that education activities contributed to economic growth at a grand mean of 2.8009. The result generally showed a mean of (≈ 3) and standard deviation (≈ 1) with industrial based curriculum (mean=2.7222, standard deviation= 1.05066), adult education (mean=2.7917, standard deviation= 1.11985) and career orientation (mean=2.8889, standard deviation= 1.16406).

The finding found that education activities were closely related with economic growth in OVOP projects. The finding was further supported by the responses from key informants from ministry of industrialization, sales agents and OVOP project leaders who confirmed that industrial based curriculum, adult education and career orientation activities were essential foundation of workforce for rural enterprises. The ministry of industrialization officials and key informants from all the study areas were in agreement that:

“Practical and competency skills in the education system establishes entrepreneurial orientation necessary for a workforce. More so equipping students with entrepreneurial skills in all levels of education system build up workforce competencies hence heightening productivity in small rural firms and projects”. FGD 3/5/2018

This meant that entrepreneurial orientation were crucial skills in education system for an improved competency of workforce in small rural firms. The finding was consistent with Lekhanya (2017), Njoroge and Gathungu (2013) who found that entrepreneurship education and training has been found to be a major determinant in the growth and survival of enterprises. According to human capital theory, investment in knowledge, skills and abilities enhance the

productive capacity of the individual. More so better entrepreneurship education could make a significant contribution to job creation and, ultimately, to poverty alleviation.

The finding in table 4.4.4 showed that industrial-based curriculum was at a mean of 2.7222 on economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that industrial or market based curriculum was essential in nurturing talents, tapping entrepreneurial potentials and orienting students to perfect own skills. The finding further concurred with Republic of Kenya Sessional Paper No 2 (2005) report which advocated the importance of entrepreneurship training and continues to encourage institutions providing tertiary and higher levels of education to develop demand-driven courses on entrepreneurship and business management. Republic of Kenya (2009) survey further stated that there are still deficiencies in Kenya's technical and management skills in the sector. The finding was supported by Gibbs (1998) who stated that for the small and medium enterprise to develop in Kenya, there has to be a change in perception towards the sector as the enterprise culture is an environment that prepares the population as a whole to take advantage of the abundant business opportunities and provides supportive measures for entrepreneurs at all levels. Consequently, Obura (1996) recommended that training curricula of various institutions and individuals offering training should be updated to match training needs. The study observation from field study it was revealed the effort of government changing from old 8-4-4 education system into new 2-6-6-3 (competency based curriculum) system which was more practical and market based.

The result in table 4.4.4 indicated that adult education was at a mean of 2.7917 on economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that adult education was essential for skill upgrading among rural adult entrepreneur without formal education and literate adult without practical skills. More so finding further revealed need for upgrading village polytechnics and establishment of special multi-function at village level such as Village Innovation and Production Centres (VIPCs) for improving adult competency with relevant competency for the market. The finding concurred with Yamazaki (2010) who reported that the most prominent activity of Oita's OVOP was adult education on local development, which was a two-year part-time programme, in which participants could learn practical know-how of local development; it also aimed to create a network among local leaders so that they could motivate, learn, and compete with each other even after the programme.

The result in table 4.4.4 indicated that OVOP projects had a mean of 2.8889 on career orientation to economic growth. The finding was supported by narrative responses and focused group discussions which confirmed that career orientation was crucial in preparing and guiding learners to prioritizing ones effort to the right preferences/ occupation. The finding further revealed that the exercise improved workforce by aligning right talents to the right tasks hence improves performances and productivity. The OVOP project leaders interviewed supported the finding by revealing that nurturing careers or talent academies integrated with local cultural aspiration and events were important for effective competency building or workforce for village organizations. The finding concurred with Oita prefecture OVOP21 Promotion Committee (2001) which reported that the human and social development aspects were especially paid attention

when the Local Development School programme (Toyonokuni zukuri juku [school for creating prosperous land] was launched by the Japan Prefectural government in 1983, advanced programmes and follow-up programmes for alumni were conducted until the 2000s; in total 1,817 people had participated in these programmes until 2000. Matsui (2006) who added that Local Development School in Japan spread out to grassroots and some municipalities and community groups opened similar programmes themselves.

The finding was solidified by information obtained from OVOP project members in FGDs and confirmed by key informants need for a holistic system of building competency with overlapping of physical, emotional mental activities. The finding further revealed that learning activities helped in eye opening by charging learners creating awareness through physical exposure; training activities open heartbecoming emotional in charged developing desirable behaviour; Human development activities develop full conceptual and practical know-how discharging full potential and education activities institutionalize new changes. One of official interviewed from the ministry of industrialization confirmed that systematic overlapping activities on human resource development involved de-institutionalize the helpless attitude among rural dwellers and institutionalize commercial attitudes important for generate wealth. The finding further suggested establishment of village innovation and production centres for continuous building and upgrading human competencies. Consequently, the finding revealed need of setting weekly economic class where village members offered training and economic services and share economic testimonies similar to weekly church services.

The study was consistent with Mehta (2011) in an expanded “Attitude-Behaviour-Competency” (ABC) model that suggested that when organizations are able to harness effectively the talent, energy, and motivation of their employees, they will have an ideal competitive business edge. The finding further concurred with Garavan (1997) who reported that training; development and education are integrated whole with the concept of learning as the glue which holds them together. Training, development and education are essentially concerned with learning. One significant reason for increasing overlap of training, development, education and learning is the speed of change in the modern business world.

4.5 Market Accessibility and Rural Development in the OVOP Projects

The third objective was to determine the relationship between market accessibility and rural development in the OVOP projects. The researcher sought from OVOP project members’ the extent how market information, technology, infrastructure and institutional support components of market accessibility contributed to economic growth. The responses were based on a five-point likert scale: 1- none contribution, 2- slightly contribute, 3- moderately contribute, 4- strongly contribute and 5- very strongly contribute. The general level of acceptance was determined by calculating the means and standard deviation for the various statements as per the responses and tabulated in descending order of means.

4.5.1 Market Information

OVOP project members were required to indicate the extent market information contribute to economic growth. The finding in table 4.5.1 was obtained from questionnaires administered to members of OVOP projects.

Table 4.5.1 Market Information

Market Information Components	Mean	Std. Deviation	N
1. Knowledge on market opportunities	2.3333	1.10811	216
2. Technical Knowledge	2.4491	1.12775	216
3. Knowledge on institutional support	2.4444	1.15201	216
4. Financial Knowledge	2.4352	1.09776	216
Grand mean	2.4155		

The result in table 4.5.1 indicated that market information contributed to economic growth that a grand mean of 2.4155. The finding generally showed a mean of (≈ 2) and standard deviation (≈ 1) with knowledge on market opportunities (mean=2.4491, standard deviation= 1.10811), technical knowledge (mean=2.4491, standard deviation= 1.12775), knowledge on institutional support (means=2.4444, standard deviation=1.15201) and financial knowledge (mean=2.4352, standard deviation= 1.09776).

The finding found that there was a relationship between accessing market information and economic growth of OVOP projects. The finding was further supported by the responses from key informants from ministry of industrialization, sales agents and OVOP project leaders who

confirmed that accessing information about market opportunities, technical institutional and financial support had positive contribution on the performance of OVOP projects.

The finding concurred with the information provided by the ministry of industrialization officials that:

“Access to market information was crucial whereby OVOP projects makes right decision on time about quantity, pricing, quality, market opportunities, customers’ needs and complaints, available technical and financial supports. Access to market information facilitates direct access to customers removing exploitative middle men and improves better relationship with consumers. All these benefits proved to have a positive effect on revenues and profit hence increased economic growth in OVOP projects”. (03/05/2018).

The same opinion was shared in an FGD held with OVOP project members. This was confirmed in the following voice;

...Access to market information provides knowledge about market behaviors, trends, opportunities, incentives and support. Hence these information put the OVOP projects at vantage place over the competitors. FGD 03/05/2018.

The result in table 4.5.1 indicated that gaining knowledge on market opportunities was at a mean of 2.4491 on economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that gaining knowledge about market status helped in making right and informed decision in OVOP projects. The finding further revealed that they accessed market information through word of mouth from peer members and occasionally from radio, mobile phones and television. All OVOP projects interviewees reported

that utilization of on-line marketing platforms like Twitter, Facebook, and other internet applications eased and fasten acquiring of market information hence making right decision on pricing, timing, sourcing right inputs, and right customers' needs. The finding was supported by Mushigwaniet al. (2002) who found that the farmers in Zambia indicated that information needed for decision-making by small scale farmers included; gross margins for a particular farm produce, possible markets, stability of the produce in the market, availability and price of inputs and projected transportation costs for inputs.

The finding in table 4.5.1 indicated that gaining knowledge on technical and institutional support was at a mean of 2.4491 on economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that accessing knowledge on right inputs, raw materials, support services, promotion opportunities, incentives aided in making right decision hence heightened profit. The finding further revealed that heightening of information flow technical and institutional support increased quality connections between producers and consumers, better pricing, quality product, timing production and delivering hence more productivity hence better income. The finding conformed to Omiti *et al.* (2006) who reported that remoteness restricts access to information about new technologies and changing prices, leaving the rural poor unable to respond to changes in market incentives. In fact, this observation was supported by some of the key informants, who reported that lack of capacity to secure modern technological devices constrained on the information was due to their remote locations. More so the finding also revealed lack of relevant skills to utilize available new technologies maximizing production was a major hindrance in all OVOP projects.

The finding in table 4.5.1 showed that gaining knowledge on financial information was at a mean of 2.4352 on economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that heightening capacity on acquisition, interpretation and application of financial information increased finances for market activities. The finding was in agreement with information provided by OVOP projects leaders who confirmed that accessing information on opportunities cheap loan, government financial incentives and tax holidays improved liquidity hence boosting marketing activities in OVOP projects. The finding further stated that modern technology had simplified easy access of financial information enabling right decision on financial investment hence more productivity and profitability in OVOP projects.

The finding was solidified by information obtained from OVOP project members in FGDs and confirmed by key informants who confirmed that market information had an ability to enhance economic growth due to timely acquisition of market opportunities, trends, reliable market, incentives and affordable credit, reliable market among other benefits facilitated making quick and right decision. The finding further revealed that inaccessibility of market information led to lack of reliable market, low sales of product, low income, wastage, high cost of production and transaction. The finding was supported Gatare, *et al.* (2015) who found that produce wastage was due to inaccessibility to market information and lack of perfect knowledge on market trends. When there is access to pricing information and knowledge on fluctuation in market of agricultural produce, the wastage of the produce is unlikely to occur. The finding implied that access of timely and relevant market information helped in reducing wastage, market timing, easy to promote products, direct contact to customers, quick customer responsiveness, cheap

credits and inputs and supplementary support which as a result enhanced growth hence economic growth in OVOP projects. Consequently, OVOP project members and key informants from all the study areas were in agreement that provision of ICT which facilitates easier acquisition, interpretation, utilizing and disseminating information in OVOP projects. The finding further revealed that that ICT technologies' needed being simplified with localized contents, language and application for easier adoption in the OVOP projects. More so the finding suggested that integration and continuously upgrading of ICT in value chain of production.

4.5.2 Market Technology

OVOP project members were asked to indicate the extent market technology contribute to economic growth. The finding in table 4.5.2 was obtained from questionnaires administered to members of OVOP projects.

Table 4.5.2 Market Technology

Market Technology Components	Mean	Std. Deviation	N
1. Production technologies	2.3472	1.00454	216
2. Marketing technologies	2.3889	1.11925	216
3. Informing and Communication technologies	2.4306	1.17920	216
Grand mean	2.3889		

The result in table 4.5.2 indicated that market technology contributed to economic growth at a grand mean of 2.3889. The finding generally showed a mean of (≈ 2) and standard deviation (≈ 1) with production technologies (mean=2.3472, standard deviation= 1.00454), marketing

technologies (mean=2.3889, standard deviation= 1.11925) and informing and communication technologies (mean=2.4306, standard deviation= 1.17920).

The finding in table 4.5.2 established that market technologies were related to economic growth in OVOP projects. The finding was supported by the responses from key informants from ministry of industrialization, sales agents and OVOP project leaders who confirmed that production, marketing, information and communication technologies had positive contribution to economic growth. The finding further found that improved market technologies was linked with better quality of product, before and after sale services and promotion; reduce cost of production and transactions, maintenance good relationship with consumers and timely access to relevant market information hence increased revenue and profit.

OVOP project leaders and ministry of industrialization officials interviewed also confirmed this when they stated that,

“Market technologies contributes to cost reduction, speed up level of transaction, superior quality, increased quantity, direct link with consumers and improving relationship hence high productivity.” 03/05/2018

This showed that heightened market technologies were critical for better economic performance in OVOP projects. Additionally, one interviewee from the one of OVOPproject FGD reported that:

“Since the installation of modern technologies in our project we were able to make more sales online and have direct contact with our customers hence help to boost our good

relation with them. More so upgrading our production technologies by installation of latest milk processing and storage machines heightened milk production and quality of packed milk products hence cost saving and more revenues.” (FGD 03/05/2018).

The finding was consistent with Colombelli *et al.*(2014) who stated that technological capabilities benefit firms in several ways: they enhance firm efficiency, reduce costs, and broaden market share, both locally and globally. Business that adopts greater levels of technological sophistication can be expected to grow more rapidly than a similar firm that don't. Low technological capabilities hinder and discourage firms from fully reaching their potential. In fact, firms with high levels of technological advancement tend to report high levels of corporate performance.

The finding in table 4.5.2 showed that production and marketing technologies was at mean of 2.3472 one economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that advancement modern technologies enhanced product quality and standard, product visibility, perceived advantage. Confirming the contribution of production and marketing technologies on economic growth, one leader from Watuka farmers' cooperative society confirmed that embracing of modern technologies such as cooling, pasteurizing, packaging and processing yoghurt milk in Watuka project heightened product quality, increased demand and more profit. The finding was consistent with Omiti *et al.* (2006) who showed that value addition reduces perishability and increases farm gate prices hence increased commercialization. The finding revealed that with upgrading livestock breed and installation of new cooling and processing machines at Watuka farmers' cooperative society the

society's production capacity was increased hence higher income to the farmers. As observed in plate 4.8 Jitunze project modern breeding troughs assisted in bringing up fingerling with minimal death rate and losses. Field observations indicated that production technology assisted in forecasting future opportunities and threats thereby aiding in making appropriate decision hence production efficiency and effectiveness.



Source: Field data 11/04/2018

Plate 4.8: Showing Jitunze project fingerling breeding troughs

The finding in table 4.5.2 showed that information and communication technology was at a mean of 2.4306 on economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that ICT created positive image on

products. The finding further revealed that ICT quicken and ease acquisition of relevant information on credit, support services, inputs, partnerships, customer contact and responsiveness. The information provided by leaders of Watuka farmers' cooperative society and Jitunze trout fish project confirmed that utilization of computer, mobile phones and other modern ICT devices for marketing transactions improved efficiency and effectiveness hence increased productivity. The finding was supported by Braimok (2017) who reported that ICTs may offer many opportunities, such as help to increase income, reduce transaction costs and new ways of delivering services. The finding further concurred with Overa (2006) study on small traders in Ghana which showed communication technologies may reduce transaction costs and effectively extend geographical thresholds of viable market participation.

The finding was solidified by information obtained from OVOP project members in FGDs and confirmed by key informants who confirmed that heightening ICT helped in fast acquiring of relevant information hence increased wide range of customers, reduced transaction cost; reduce wastage, increased demand, productivity and income. The finding further confirmed that heightening of technologies was linked to better quality of product, before and after sale services and promotion; reduce cost of production and transactions, maintenance good relationship with consumers and timely access to relevant market information achieving differential advantage in OVOP projects. Field observations indicated use of cell phones lower transaction costs: by reducing the number of physical trips necessary to carry out these functions, overall costs are reduced; enhanced communication leads to the potential for more rapid establishment of new trading relationships.

Moreover the information provided by OVOP project members and key informants revealed that limited technological skills, sophisticated ICT context, format, language, and technophobia of user's among the OVOP project members were main hindrance of maximum utilization of innovative marketing technologies. The finding further indicated that upgrading pro-poor technical skills among OVOP project members maximizes utilization of innovative marketing technology. More so the provision of friendlier technologies and devices with more simple language and applications to OVOP project would speed up and motivate adoption of modern technologies. The finding concurred with Braimok (2017) who reported that the context does matter and these technologies cannot just be thrown in a development project and then expected to have positive result. They must firstly be affordable for the population and secondly they must have content, which reflects the need of the farmers, the simple reasoning being that if something is responding to the actual needs of people they will probably adopt it. If not, then it is probably not adopted and used, as with the case of internet. The women did not see how the usage of internet could give them beneficial information nor provide solutions for their problems; therefore they did not want to invest their limited time learning to use it. The step towards learning what the internet has to offer is simply too big to take, which may be due to illiteracy, the older generations technophobia and the opportunity costs associated with the time it takes to learn more about it.

4.5.3 Market Infrastructure

OVOP project members were required to indicate the extent market infrastructure contribute to economic growth. The finding in table 4.5.3 was obtained from questionnaires administered to members of OVOP projects.

Table 4.5.3 Market Infrastructure

Market Infrastructure Components	Mean	Std. Deviation	N
1. Transportation and utilities	2.3287	1.05138	216
2. Regulatory and administrative systems	2.4259	1.19848	216
3. Credit and financial services	2.2593	1.09434	216
4. ICT infrastructures	2.3750	1.16265	216
Grand mean	2.3472		

The result in table 4.5.3 indicated that market infrastructure contributed to economic growth at a grand mean of 2.3472. The finding generally showed a mean of (≈ 2) and standard deviation (≈ 1) with transportation and utilities (mean=2.3287, standard deviation= 1.19848), regulatory and administrative systems (mean=2.4259, standard deviation= 1.12775), credit and financial services (means=2.2593, standard deviation=1.09434) and ICT infrastructures (mean=2.3750, standard deviation= 1.16265).

The finding established that market infrastructures were related with economic growth in OVOP projects. The finding was further supported by the responses from key informants from ministry of industrialization, sales agents and OVOP project leaders who confirmed that better transportation and utilities, regulatory and administrative systems, credit and financial services and ICT infrastructures enhances efficiency and effectiveness of operations in OVOP projects

hence increase productivity. The finding was further solidified by information obtained from the OVOP project members FGDs who observed that:

Both hard and soft infrastructures were critical in facilitating effective operations in OVOP projects. For example accessible road infrastructures lower cost of operations, timely delivery of products, reduces wastages and breakdown of project vehicles. Since the introduction of County government there has been a lot of road tarmacking, rural electrification, mobile phone network connections, water connections, accessible financial services and locally friendly regulatory policies which have impacted our project positively. These initiatives have improved level of performance in our production and operations hence more revenues and profit. FDG 8/05/2018

The result in table 4.5.3 indicated transportation and utilities was at a mean of 2.3287 on economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that improvement of transportation and utilities greatly increased level of productivity in OVOP projects. The finding further revealed that upgrading rural roads, installation of electricity through rural electrification programme and heightening of mobile phone connectivity had saved a lot of transaction cost, improved quality of products and services, reduced wastages, fasten delivery of goods and services. Confirming the contribution of transportation and utilities on economic growth OVOP project leaders from all areas of study confirmed that the good state of the rural road network, storage facilities, electricity, water, cooling facilities, internet, telephone networks land, rent rates etc. facilitated easy and quick movement of goods and services. The finding concurred with OECD (2007) which reported that improved infrastructure, including rural roads, rural electrification, irrigation and storage

facilities links small producers to markets and reduces their risks and transaction costs. Consequently, the finding concurred with Aruwa (2013) who reported that inadequacy of infrastructural components, such as electric power supply, transportation; industrial estates and telecommunications, are major barriers to an effective SMEs' take-off in rural areas.

The result in table 4.5.3 showed that regulatory and administrative system was at a mean of 2.4259 on economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that supportive laws, policies, bylaws and regulations improved conducive environment. Confirming the finding on Rumuruti aloe vera project leader revealed that reformed business regulatory and administrative policies in Laikipia county government made it easier to operate small firms in the county hence better productivity. However another interviewee from Watuka farmers' cooperative society revealed that tough regulatory county policies such as multiple licences, long process in registering and certifying product with KEBs and other regulatory bodies constrained small businesses growing. The finding was consistent with Lekhanya (2016) who reported that survival of rural SMEs study in KwaZulu-Natal that majority of the respondent agreed that tough government regulations and requirements to obtain business licences affect business growth. It was found that environmental regulation requirements, public procurement regulations, tough government regulations and requirements to obtain a business license, strict government policies, as well as bureaucracy, have an impact on the survival and growth of rural SMEs.

The result in table 4.5.3 showed that credit and financial components was at a mean of 2.2593 on economic growth in OVOP projects. The finding was supported by narrative responses and

focused group discussions which confirmed that improvement of financial systems into a more pro-poor lending facilities encouraged more borrowing by OVOP projects due easy accessible of cheap credit. The finding further revealed that provision of special financial kitty, tax incentives, grant reduction and government supplementary heightened financial base for OVOP projects leading to more profits. However one member of Rumuruti aloe vera project revealed that due to limited credit facilities she mainly relied on mobile phone credit facility (Fuliza) getting financial credit the platform was easy and quick despite high interest charges. The finding concurred with Ageya and Omondi (2016) who reported that the unavailability of credit impacts negatively on the producers' ability to participate in the markets hence access to credit has a positive relationship with the level of market participation. Furthermore, credit is also one major constraint limiting market access, participation and the competitiveness of the industry. Credits are expected to enhance producers skills and knowledge, link producers with modern technology through purchase of inputs, pay wages, invest in machinery, or to smooth consumption as well as markets, ease liquidity and input supply constraints, thus are expected to increase agricultural productivity, induce market orientation and participation and thus greater commercialization.

The finding in table 4.5.3 indicated that ICT infrastructure was at a mean of 2.3750 one economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that heightened connections and utilization of ICT in OVOP projects the market accessibility was increased in terms quick respond to customers' needs, faster and ease acquisition of raw materials, inputs hence high productivity. The finding further revealed that heightening of information and communication networks reduced transaction cost and improved visibility of OVOP products hence more profit and income. The finding was

supported by Kiveu and Ofafa (2013) who reported that ICT can improve market access by facilitating communication with customers, competitive positioning, enable information acquisition and production of quality products, generation of market information, reduction in logistic costs, facilitating access to global markets, facilitating market research, networking, market transactions and market identification. More so the use of ICTs, especially the use of the mobile phone and the radio, increased their control and let them decide over their personal time and space. The study reported that the women users become more independent and these ICTs have made it easier to multitask and handle their different roles better, as compared to before when they did not use ICTs, and thus aided them in creating many socio-economic benefits for themselves. For example the information from one leader of Watuka farmers' cooperative society confirmed that online marketing in the society improved product visibility, widening market base and reduced transaction cost.

The finding was solidified by information obtained from OVOP project members in FGDs and confirmed by key informants who confirmed that ICT was a strategic alternative for encountering infrastructural constraints which impacted negatively the productivity in the OVOP projects. The finding further revealed that provision of online marketing tend to remove physical barriers, intermediaries, time and distance challenges hence improving direct communication with consumers, reduction cost and better business performances. The OVOP projects members and key informants from all the study areas were in agreement need for establishing strategic bulking centres centralizing OVOP products gaining economies of scale benefits and for the purpose of grading, branding, packaging, standardization, certification and collective marketing. The finding implied that integration of infrastructural networks with OVOP projects like Japan

Michino Eki, road-side service stations speed up delivery of products, hence direct connection with consumers resulting to reduction of wastages, middlemen, cost, and enhancement of quality. The information from key informants further suggested need of establishing new infrastructural arrangement by with systematic forward and backward connections with OVOP projects.

4.5.4 Market Institutional Support

OVOP project members were required to indicate the extent market institutional supports contribute to economic growth. The finding in table 4.5.4 was obtained from questionnaires administered to members of OVOP projects.

Table 4.5.4 Market Institutional Support

Market Institutional Support Components	Mean	Std. Deviation	N
1. Tax & financial incentives	2.5046	1.24638	216
2. Market regulations	2.5370	1.28986	216
3. Technical supports	2.3889	1.16006	216
4. Marketing incentives	2.3519	1.12737	216
Grand mean	2.4456		

The result in table 4.5.4 indicated that market institutional contributed to economic growth at a grand mean of 2.4456. The finding generally showed a mean of (≈ 2) and standard deviation (≈ 1) with tax & financial incentives (mean=2.5046, standard deviation= 1.24638), market regulations (mean=2.5370, standard deviation= 1.28986), technical supports (means=2.3889, standard deviation=1.16006) and marketing incentives (mean=2.3519, standard deviation= 1.12737).

The finding found that there was a relationship between market institutional support and economic growth in the OVOP projects. The finding was further supported by the responses from key informants from ministry of industrialization, sales agents and OVOP project leaders who confirmed that heightening of tax & financial incentives, market regulations, technical supports and marketing incentives contributed to level of productivity in OVOP projects.

The finding concurred with the information provided by the OVOP project leaders that:

“The supplementary support received from ministry of industrialization boosted productivity in OVOP projects. Since government established market promotion authority, micro and small enterprise development fund and introduction of county government MSEs Development kitty among other policy initiatives for promoting small enterprise, the sector has witnessed growth”.

FGD 14/4/2018.

The finding in table 4.5.4 indicated that tax and financial incentive was at a mean of 2.5046 on economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that introduction of tax subsidies, affordable credit facilities and special kitty benefited OVOP projects with more liquidity hence heightening productivity. The OVOP project leaders and key informants from all the study areas were in agreement that OVOP projects had benefited with financial support and incentives from governments and external donors for operations or acquiring assets. The information provided by leaders of Rumuruti aloe vera project and Watuka Farmers’ cooperative society revealed that

the projects received financial support from government. For example Rumuruti aloe vera project received Ksh. 400,000 shillings from Kenya government for purchasing aloe vera processing plant; while Watuka Farmers' cooperative society supported by Nyeri county and national governments milk cooling and processing facilities. However the information from OVOP projects FGDs members were in agreement that; women and youth lacked mortgages such as title deeds or logbook for loan security thereby hindering those accessing commercial loans. The finding was supported by Ageya and Omondi (2016) which found that the unavailability of credit impacts negatively on the producers' ability to participate in the markets hence access to credit has a positive relationship with the level of market participation. The result concurred with Davidsson (1989) which noted that an unfavourable tax system with complicated rules and regulations can heavily hamper small firms' growth. The finding was consistent with Porter (1985) explanation of institutional factors which included government regulation, tax holidays and other financial incentives, unionization, tariffs and levies, and local content rules, constitute the final major cost driver.

The result in table 4.5.4 showed that market regulation was at a mean of 2.5370 on economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that OVOP projects benefited from new MSEs market promotion and regulations policies such as international trade policies, SMEs market promotion authorities other market supplementary supports in standardization, registration and certification of OVOP products which boosted market accessibility. The finding further revealed that the new market initiatives by government helped in leveraged market with other players hence increased market opportunities and productivity. The finding was supported by Lekhanya (2016) study which

found that there are some environmental regulation requirements that remain a challenge for business growth. The study also reported that environmental regulation requirements, public procurement regulations, tough government regulations and requirements to obtain a business licence, strict government policies, as well as bureaucracy, have an impact on the survival and growth of rural SMEs in the southern region of KwaZulu-Natal. The finding further concurred with Bouazza, *et al.* (2015) who reported that SMEs face serious difficulties in developing administrative and operational procedures to deal with the requirements of government regulations, such as costly and timely procedures to obtain licenses and permits, register property and move collateral. Similarly, the information provided by one of the leader of Rumuruti alo vera project confirmed that cumbersome and red tape process of acquiring standardization and certification hindering the products flourishing in cosmetic industry.

The finding in table 4.5.4 indicated that technical support was at a mean of 2.3889 on economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that advanced technical support on product development, quality and standardization; marketing, human and industrial capacity guaranteed high productivity in OVOP projects. The illustration in plate 4.9 of a cooling machine and storage equipment from Nyeri County government supported that Watuka cooperative society received support to enhance productivity, quality and efficiency. Further information provided by the project leaders confirmed that the project also benefited with financial and training support from ministry of industrialization and a donation of pasturing machines from Njaa Marufuku, a national government foundation. One of Jitunze trout fish projects leader also revealed that the project had received 1.3 million from Arid Lands Resource Management Project (ALRMP) Kieni for

construction fish ponds and 1.2 million from PACT Kenya for construction of modern hatchery. The finding concurred with Sarder (1997) study on 161 small enterprises in Bangladesh which found that firms receiving support services, such as marketing, management education and training, technical, extension and consultancy, information, and common facilities from the public or private agencies experienced a significant increase in sales, employment and productivity.



Source: Field data 24/05/2018

Plate 4.9: Milk Cooling Facility Donated by Ministry of Industrialization to Watuka Farmers' Cooperative Society

The finding in table 4.5.4 indicated that marketing incentives was at a mean of 2.3519 one economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that provision of export promotion, trade fair, exhibitions, product certification and standardization support improved market accessibility in the OVOP projects. The finding further revealed that with more exhibitions and trade fairs

organized by county government, heightened visibility of OVOP products hence more customer base. The information provided by key informants from ministry of industrialization confirmed that had intensifying exhibitions, trade fairs and MSEs' website to promote MSEs economic activities. The finding further revealed that government has also established Export Promotion Council and promoted ICT as a means of enhancing marketing and other aspects of MSEs' activities. Okura (2007) study found that the success of Japan OVOP was due to the continuous support given by local governments. Consequently, according to the information provided by key informants weak and inefficiency marketing institutions created uncertainty, poor market decision, unfair terms of trade, unreliable and expensive credit facilities, losses, high production and transaction cost hence reduced productivity. The finding was solidified by information obtained from OVOP project members in FGDs and confirmed by key informants who confirmed need for establishing centralized bulking centres and joint marketing agencies tasked with grading, branding, packaging, standardization, certification, pricing, promotion distribution and online marketing activities. The finding further suggested institutionalized market supports and regular upgrading functionality.

4.6 Cluster Productive Process and Rural Development in the OVOP Projects

The fourth objective of this study was to establish the relationship between productive process and rural development in the OVOP projects. The researcher sought from OVOP project members' the extent how clustering, specialized industrialization, innovative research and development and culture identity components of cluster productive process components contributed to economic growth. The responses were based on a five-point likert scale: 1- none contribution, 2- slightly contribute, 3- moderately contribute, 4- strongly

contribute and 5- very strongly contribute. The general level of acceptance was determined by calculating the means and standard deviation for the various statements as per the responses and tabulated in descending order of means.

4.6.1 Clustering

OVOP project members were required to indicate the extent clustering activities contributed to economic growth. The finding in table 4.6.1 was obtained from questionnaires administered to members of OVOP projects.

Table 4.6.1 Clustering

Clustering Components	Mean	Std. Deviation	N
1. Grouping of local industries	2.2454	1.21616	216
2. Collective activities among stakeholders	2.2778	1.18387	216
3. Inter-firms' linkages	2.3148	1.24376	216
Grand means	2.2793		

The result in table 4.6.1 indicated that clustering activities contributed to economic growth at a grand mean of 2.2793. The result generally showed a mean of (≈ 2) and standard deviation (≈ 1) with grouping of local industries (mean=2.2454, standard deviation= 1.21616), collective activities among stakeholders (mean=2.2778, standard deviation= 1.18387) and inter-firms' linkages (mean=2.3148, standard deviation= 1.24376).

The findings in table 4.6.1 established that there was a relationship between clustering and economic growth in OVOP projects. The finding was in agreement with responses by key informants from ministry of industrialization, sales agents and OVOP project leaders who revealed that grouping of local industries, collective activities among stakeholders and inter-firms' linkages were clustering activities which resulted into shared value of productivity which

boosting interactive learning hence insulating partnering firms from stiff competition in an industry. The finding further revealed that District OVOP committee (DOC) which was an inter-ministerial organ constituted by over twelve related departments offering of relevant services and coordinating OVOP activities at the grassroots was enhanced in sub-counties hence better performances.

The finding was supported by revelations by one OVOP project FGD member who was in agreement that clustering of OVOP projects helped in collaborating with government institutions and other private stakeholders in a supply value chain. In fact, one OVOP project member had this to say;

“Collaboration of government and other private stakeholders in clustering production process witnessed growth of small firms by accessing market in large supermarkets, public institutions like hospitals and schools and gaining knowledge among other benefits of collective efficiency”.
(FGD 6/03/2018)

Confirming the benefit of clustering was one of Watuka dairy farmers cooperative leader who linked some of economic benefits accrued through into Kieni dairy company which consolidated all nine dairy farmers cooperative unions from Kieni West sub-county thus;

“Watuka dairy farmers cooperative gained economies of scale, penetrations into wider market and insulating from inter-cooperative competitions hence more revenue and profit...” (FGD 14/4/2018)

The finding in table 4.6.1 showed clustering was at a mean of 2.2454 one economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that clustering of OVOP projects initiated by district OVOP committees brought about several projects at district (sub-county) levels sharing experiences and taking advantage of collective productivity. The finding was in agreement with key informants who confirmed that collective activities among OVOP projects insulated them from stiff competition, economies of scale benefits, collective marketing, and interactive learning among other advantages. The information from OVOP project leaders revealed that Jitunze trout fish project had 25 youth members; Watuka farmers' cooperative society had 502 members; Rumuruti aloe vera project 15 members and Kionyweni basket weaving project had 29 women members. The leaders of OVOP projects and key informants from all the study areas were in agreement that clustering of OVOP projects was established by government with an aim of achieving economies of scale and accruing benefit of shared value of production. The finding was consistent with Morris and Robbins (2004) who explained the role of government in fostering clusters formation. The analysis emphasizes the role played by the government at multiple scales and over time in shaping the current state of these clusters. The finding was supported by Sjorslev (2006) who reported that in the new institutional arrangements the most tenable position is to support a mix and balance among sectors with a concern for strengthening local government in conjunction with private-sector and civil-sector institutions. The finding further revealed that OVOP projects were isolated small units of self-functional economic projects or cooperatives rather than being community initiated movements.

The result in table 4.6.1 showed that collective activities among stakeholders were at a mean of 2.2778 on economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that effort of collective activities among stakeholders; however majority of respondents had more benefits such as more bargaining powers, economies of scale cost and risk sharing in OVOP projects. For example the information provided by one of a leader from Watuka farmers' cooperative society that for the purpose of productive efficiency the society joined Kieni Dairy Products Limited (KDPL), a larger processing and marketing company made up seven milk co-operative societies in Kieni West sub-county (Endarasha, Mweiga, Gataragwa, Thuruthuru, Lamuria and Nairutia) specialized in bulking milk products in Kieni West sub County. The finding was supported by McCormick and Oyelaran-Oyeyinka (2007) who reported that clustering policy emphasizes collective efficiency through "joint action" by firms and associations to realize productive efficiency. It emphasizes the networking of individuals, firms and organizations whose interaction fosters the innovative performance of firms. An innovative cluster will be characterized by high levels of collaboration and interaction between and among producers, suppliers, service providers and others within and outside the cluster.

The result in table 4.6.1 indicated that inter-firms' linkages were at a mean of 2.3148 on economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that partnership and collaborative arrangement between OVOP projects and public and private institutions in a shared value of production increased interactive learning hence more productivity. The finding further revealed that inter-firms linkages activities among local institutions boosted interactive learning by complementing on strengths and reduce

unnecessary competition among stakeholders. The finding concurred with the information provided by the OVOP project leaders from Watuka farmers' cooperative society that partnership with Brokeside dairy company and Biashara Sacco provide the society with relevant technical and financial support. Another example was collaboration between Kionyweni and Jomo Kenyatta University of Agriculture and Technology which enhanced project's marketing capabilities through trainings on modern technologies in quality product development branding and online marketing. The finding was consistent with Otigba (Oyelaran-Oyeyinka, 2003) who reported that Uganda fish cluster joint effort it took the form of inter-firm credit facilities, technical support, knowledge sharing and joint warehousing of goods. The relative success of the Uganda fish cluster was attributed to joint efforts for process upgrading, in particular the speed and decisiveness with which business operators and policymakers coordinated their efforts to learn and acquire new knowledge crucial to the upgrading process (Kiggundu). The finding was further supported by (Oyelaran-Oyeyinka *et al.*, 2002) who reported that the success of clustering was related to the availability of skill-upgrading facilities, technology-support institutions and public or private ICT-training institutions within a cluster.

The finding was solidified by information obtained from OVOP project members in FGDs and confirmed by key informants who confirmed clustering through grouping productive units into joint activities improved collective efficiency in OVOP projects. The finding further revealed the role of government in strengthening clustering process by institutionalization of the process. The finding was confirmed by (Huang *et al.*, 2018) who stated that government should strengthen dialogues and consultation with clans by establishing consultation mechanisms between the government and clan gentries or elites and take into account the different characteristics. Clans

and their members, possessing lasting value identification and closeness, usually have a natural dependence on consanguinity and geography. The finding concurred with the information provided by OVOP projects leaders who revealed that there was a need for configuring typical Kenyan village into a new institutional arrangement, whereby existing structures, networks and assets among other social capital aided collective productivity. The finding further proposed village (“*kijiji*”) rather than project being unit of development as it has a strong foundation of common assets and facilities such shopping centres, church, school, networks etc. configures into OVOP concept and maximize differential advantage approach.

4.6.2 Specialized Industrialization

OVOP project members were required to indicate the extent specialized industrialization activities contributed to economic growth. The finding in table 4.3.4.2 was obtained from questionnaires administered to members of OVOP projects.

Table 4.6.2 Specialized Industrialization

Specialized Industrialization Components	Mean	Std. Deviation	N
1. Integrated production process (value chain)	2.2685	1.27302	216
2. Specializing in one stage productive process	2.1713	1.16272	216
3. Coordination of multi-stakeholders production	2.3565	1.32165	216
Grand means	2.3654		

The result in table 4.6.2 indicated that specialized industrialized activities contributed to economic growth at a grand mean of 2.3654. The result showed a mean (≈ 2) and standard deviation (≈ 1) considering Integrated production process (value chain) (mean=2.2685, standard

deviation= 1.27302), specializing in one stage productive process (mean=2.1713, standard deviation= 1.16272) and coordination of multi-stakeholders production (mean=2.3565, standard deviation= 1.32165).

The finding in table 4.6.2 found that specialized industrialization was related with economic growth of OVOP projects. The finding was in agreement with responses by key informants from ministry of industrialization, sales agents and OVOP project leaders who revealed that advancing on integrated production process (value chain), specializing in one stage productive process and coordination of multi-stakeholders production had more economic benefits for OVOP projects. In fact, field observations indicated that, the respondents established that specialized industrialized heightened productivity in OVOP projects, which was further confirmed by FGDs held with OVOP project members, confirmed in the following voice;

.....The integrated process of fish production in Nyeri county where small fish projects were consolidated into a mega supply value chain enhancing quality, accessing a wide market, cheap inputs, credit facilities, technical skills, reduce competition, reduce cost and wastage. Jitunze trout fish accrued a lot these economic benefits when it joined the county fish production agency with main processing plant being at Wamagana fish processing factory... 06/03/2018

The finding in table 4.6.2 showed that integrated production had a mean of 2.2685 on economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that integration production accrued economies of scale benefits, innovative learning, cost and risk sharing among other advantage. For example information from one of a leader of Watuka farmers' cooperative revealed that with integration of the society

into Kieni Dairy Product Limited; a larger unit accrued more benefits like insulation from local competition, lowering costs, easier access to market, high product quality hence increased productivity. The finding was consistent with Morris and Robbins (2004) study which showed that inter-firms cooperation brings about “new sources” of competition which are identified as, firstly, marshaling and capturing advantages enabled by information and communication technologies (from both a process and product perspective); secondly, embracing new approaches to responsiveness to secure time and efficiency advantages; and thirdly, integrating domestic processes in global production value chains to the advantage of “national socio-economic objectives”. The finding was further supported by Oyelaran-Oyeyinka and McCormick, (2007) who found that to improve clustering requires encourage clusters to produce for demanding customers such as supermarkets; hospitals; schools and governments can enhance productive capacity. To achieve this, the clustered enterprises will need the support of government, their own associations, non-government organizations, research institutions and larger private sector actors.

The finding in table 4.6.2 indicated that speciality in one stage productive process was at a mean of 2.1713 on economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that specialization in one stage of product value chain enhanced perfecting in best position in a value chain. The finding further revealed that the advancement on speciality in one stage of value chain accrued a lot of benefits including insulation from completion, interactive learning, minimum wastages, high efficiency and productivity. The finding concurred with Yamazaki (2010) study which reported that specialized industrialization in Japan is that each municipality selected at least one product with consultation

of local stakeholders and the product was registered in the Prefecture. Products were chosen for various reasons such as being promoted by cooperatives, aptitude for local natural conditions, future potential in the market, and past achievements; it seems that not many products were selected just because of availability of local resources (Oita Economic Information Centre, 1982).

The finding in table 4.6.2 indicated that coordination of multi-stakeholders had a mean of 2.3565 on economic growth. The finding supported by narrative responses and focused group discussions which confirmed that coordinated effort for specialized industrialization reduced inter-firms competitions and increased productivity among the OVOP projects. The finding further revealed that District Ovop Committees (DOC) was an inter-ministerial organ constituted by over twelve related department was established to offer relevant services and coordinating OVOP activities at the grassroots. The finding conformed to Department of Trade and Industry (2002) who reported that co-ordinated and concerted actions have to be taken to maximise the potential within our domestic economy, integrate beneficially into the global economy and build competitiveness based on increased knowledge intensity, value addition, wider and more equitable participation in the economy and regional production systems.

Consequently, The OVOP project leaders and key informants from all the study areas were in agreement that there was limited coordination of OVOP project activities due to weak institutional mechanism. The finding concurred with Kinyanjui and McCormick (2001) who reported that most Kenyan clusters remain locked in low-quality, low-income markets. Weak productive capacity revolves around the six variables of infrastructure, skills, intermediate

inputs, technology, joint action and benchmarking. Micro and small enterprise clusters in Kenya lack the productive capacity to take full advantage of the improved market access brought about by liberalization. The finding was consistent with Mitullah (2009) who pointed out the reason of failure of specialty in one stage productive process referring to Lake Victoria fishermen cluster. The study reported that Lake Victoria fishermen cluster that has fairly weak norms of generalized reciprocity, weak horizontal ties both among fishermen and processors, low density of horizontal networks, fishermen's co-operative formed 'from above', *ad hoc* vertical joint action between one successful trader and the Industrial Fish Processor (IFP), and *ad hoc* co-operation among IFPs. McCormick and Winnie Mitullah (2002) study further added that the stickiest of these may be the inequalities of power and economic resources among the different parties who are supposed to cooperate.

The finding was solidified by information obtained from OVOP project members in FGDs and confirmed by key informants who confirmed that clustering of OVOP projects had great potential of generating wealth through utilizing natural endowed specialized on one stage of product by adding value. The finding further revealed that clustering retains control and ownership of primary production such as rural firms/ OVOP projects within value addition. The finding concurred with Sjorslev (2006) who reported that the transfer of value-added out of rural areas can result from location of ownership of factors of production, particularly capital but also often land, in non-rural centers; ownership patterns are, however, only one influence. The partitioning, use and accumulation of value-added is shaped certainly by institutional arrangements and capacities at local levels (combinations or networks). The absence of appropriate institutional

capacities, handling critical and increasing transactional activities, there can be a precipitous collapse of output and incomes..

4.6.3 Innovative Research and Development

OVOP project members were required to indicate the extent OVOP projects innovative research and development activities contributed to economic growth. The finding in table 4.6.3 was obtained from questionnaires administered to members of OVOP projects.

Table 4.6.3 Innovative Research and Development

Innovative Research and Development Components	Mean	Std. Deviation	N
1. Interactive learning among local firms	2.0880	1.17202	216
2. Partnership with learning and research institutions	2.1111	1.17203	216
3. Continuous innovation and learning among stakeholders	2.2083	1.20778	216
Grand means	2.1385		

The result in table 4.6.3 indicated that innovative research and development contributed to economic growth at a grand mean of 2.1385. The result generally showed a mean of (≈ 2) and standard deviation (≈ 1) with interactive learning among local firms (mean=2.0880, standard deviation= 1.17202), partnership with learning and research institutions (mean=2.1111, standard deviation= 1.17203) and continuous innovation & learning among stakeholders (mean= 2.2083, standard deviation= 1.20778).

The finding in table 4.6.3 established that there was a relationship between innovative research and development and economic growth in OVOP projects. The finding was in agreement with responses by key informants from ministry of industrialization, sales agents and OVOP project leaders who confirmed that partnering with public research and learning institutions enhanced technical capacity hence more revenues in OVOP projects.

The OVOP project members and key informants from all the study areas were in agreement that: as captured in women leaders FGDs whose members were in agreement that;

“Partnership between OVOP projects and public research and development institutions boost efficiency and effectiveness hence more productivity”. FGD 3/5/2018

Moreover the result in table 4.6.3 showed that both interactive learning was at a mean of 2.0880 and partnerships with learning and research institutions at a mean of 2.1111 on economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that interactive learning created synergy among local firms enhancing productivity. The finding further revealed that interactive learning increased sharing information, trust cooperation or partnerships among local institutions. The Jitunze trout fish project leaders interviewed also confirmed that frequent informative sessions held with Karatina and Kimathi University’s school of agriculture, department of fisheries boosted production skills. The information provided by members of Kionyweni basket weaving project in FGDs revealed that partnership between the project and Jomo Kenyatta university of Agriculture Science and Technology enhanced the production efficiency and quality of product and services. Majority of respondents The finding was consistent with Freeman (1987) who showed that the usefulness of

the cluster approaches of innovation system as the network of institutions in the public and private sectors whose activities and interactions “initiate, import, modify and diffuse new technologies”. Further observed that despite the important role of innovation system on knowledge flows, interactive learning and the role of institutions, had assumption of homogenized relationships between the different-sized firms in the cluster. This underplays the inevitable confrontation, friction or domination by powerful actors of other firms. The finding further concurred with OECD (2001) which reported that learning milieu requires a broad set of innovation-related regional actors (politicians, policy-makers, chambers of commerce, trade unions, higher education institutes, public research establishments and companies) are strongly, but flexibly connected with each other, and who stick to a certain set of "policy principles". The finding further concurred with Fromhold-Eisebith (2004) who reported that creative-innovative milieu and social capital: should the two concepts be combined in order to improve our understanding of the function of socially embedded inter-organisational relationships for successful innovation-driven regional development.

The finding was solidified by information obtained from OVOP project members in FGDs and confirmed by key informants who confirmed collective spirit amongst stakeholders such as scientists, research and educational institutions, government promotion bodies, manufactures, commercial firms, large supermarkets, international consumers and small producers increased in shared value for productivity. The finding further revealed the need of establishing new institutional setting with appropriate configuration and adjustment for collective efficiency among stakeholders in a shared value of productivity. The finding was in support of Irianto,

(2016) and Horlings, *et al.* (2018) who stated that building mutual trust and common value are the most important aspects for successful collaboration between SME and big companies. The joint reflection, collaborative spirit, increases the range and impact of development initiatives by building collective capacities; public–private alliances and reflexivity embedded in new (institutional) arrangements mutually enforce each other. The study further concurred with Wunsch (1984) who stated that the real failure of rural development strategies hitherto followed is their failure to **believe, organize, energize and institutionalize** the ultimate source of all wealth which is people. It is they who are the real agent of development, and they who must be trusted. Without institutions through which they can establish rules to pursue their common purposes their performance remain passive. Rural dwellers cannot develop without collective action and they cannot act collectively without institutions with which they can define structure and sustain those actions.

4.6.4 Culture Identity

OVOP project members were required to indicate the extent culture identity activities contributed to economic growth. The finding in table 4.6.4 was obtained from questionnaires administered to members of OVOP projects.

Table 4.6.4 Culture Identity

Culture Identity Components	Mean	Std. Deviation	N
1. Identification of local resources	2.1667	1.19300	216
2. Upgrading and promotion local product	2.2222	1.11090	216
3. Integration of local products into a broader value chain	2.2315	1.16624	216
Grand mean	2.2068		

The result in table 4.6.4 indicated that culture identity activities contributed to economic growth at a grand mean of 2.2068. The result generally showed a mean of (≈ 2) and standard deviation (≈ 1) with identification of local resources (mean=2.1667, standard deviation= 1.19300), upgrading and promotion local product (mean=2.2222, standard deviation= 1.11090) and integration of local products into a broader value chain (mean= 2.2315, standard deviation= 1.16624).

The finding in table 4.6.4 found that there was a relationship between culture identity and economic growth in OVOP projects. The finding was supported by responses of key informants from ministry of industrialization and OVOP project members who confirmed that identification of local resources, upgrading and promotion local product and integration of local products into a broader value chain

The OVOP project members from all the study areas were in agreement that: “...*promoting of unique local resources was a major source of competitive advantage in OVOP projects.*”

Ingeneous capturing of uniauelocal resources and proper integration into wide value chain provide vantage position of a product in the market hence more competitive...” (FGD 14/4/2018)

Table 4.6.4 indicated that identification of unique product was at a mean of 2.1667 on economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that advancement in identification of unique product was a source of competitive edge in the OVOP projects. The OVOP project leaders interviewed also confirmed that strong historical identity, unique natural phenomena or value for local resources like rivers or vegetation was great source competitive advantage for OVOP products. For example the information provided by members of Rumuruti aloe vera project and Kionyweni basket weaving project in FGDs revealed that strong historical experiences, medical value for aloe vera or strong attachment on sisal plants was a source of competitive edge. The finding conformed with Fujita (2003) study which reported that OVOP and Michino Eki strategy both in Japan and developing countries as a community-based rural development that successively identifies, cultivates and fully utilizes local resources (including natural, historical, cultural and human resources) for the continual development of an increasingly greater variety of unique local products and services (including local tourism).

The result in table 4.6.4 showed that product upgrading of local resources was at a mean of 2.2222 on economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that advancing in product development; process, functional and chain upgrading improved efficiency, quality, and competitiveness hence more productivity. The finding further revealed need for establishing special centres such as village

innovation and productive centres for the purpose of continuous upgrading of product, process and inter-chain. The finding was supported by McCormick (1999) study which highlighted five sets of institutions believed relevant to cluster upgrading: product markets; firms and firm linkages; laws and contracts; systems of state support; and education, technology and innovation systems – are expected to impact directly on the nature of clustered businesses, their organization, and the way they can compete in the market.

The finding in table 4.6.4 indicated that integration of local products into a broader value chain was at a mean of 2.2315 on economic growth in OVOP projects. The finding was supported by narrative responses and focused group discussions which confirmed that integration of local products into a broad value chain increased productivity in OVOP projects. The finding further revealed that effort of county and national government integrating OVOP projects into a broader value chain improved collective productivity hence economic growth. Morris and Robbins (2004) study found that the South Africa clusters relative succeeded due primarily to government action or are there pre-existing conditions that facilitate and complement government intervention. The institutional measures taken by the South African government included the creation of a new Department of Trade and Industry (DTI) with a mandate to open up the economy to competition and to increase exports to global markets. Consequently, the information from OVOP project members and key informants was in agreement need for a collective productive arrangement where clustered OVOP projects linked with centralized bulking centre and connected to the market in an integrated network of infrastructures. The finding further revealed that while OVOP projects or village innovation and production centres partner with resource or inputs and service providers, research and development institutions; bulking centre partners with experts and

authorities in grading, branding, packaging, standardization, certification, pricing, supermarkets, private institutions and online marketing.

The finding was solidified by information obtained from OVOP project members in FGDs and confirmed by key informants who confirmed systematic upgrading and integrating local product into a broader value chain had a potential generating more wealth in rural areas. The finding further revealed that shared value in productivity increases systematically tap local potential of resources, interactive learning, knowledge flow, insulate firms from competition, more bargaining power, easier penetration of product into a wide market improved quality and efficiency. The finding concurred with the information provided by key informants who stated need for establishing new institutional arrangement with necessary attunement facilitating integration and common utilization of territorial assets like land, common conducts and collective spirits for successful shared value of productivity. The finding further revealed that identification of chain champion in a reflective approach steer collective spirit, inspiration and practices in a new arrangement. The finding was consistent with Wang (2018) who reported that the government might manage to reconstruct the social connections within or across clans through rational arrangement and use of land, which are significant in maintaining villages' sustainable development.

4.7 Correlation and Hypotheses Tests

This study sought to ascertain the relationships between product competitiveness, human resource development, market accessibility and cluster productive process factors of differential advantage approach and rural development in Kenya OVOP projects. Bivariate Pearson

correlation and simple linear regression analysis were used to establish the nature and magnitude of the relationships between the variables of the study and to test the hypothesized relationships.

The test focused on the slope of the regression line

$Y = B_0 + B_1X$ where B_0 is a constant, B_1 is the slope (also called the regression coefficient), X is the value of the independent variable, and Y is the value of the dependent variable.

Since the problem provided a mean, a standard deviation, and a sample size larger than 30, the researcher used the z-test to determine the contribution of differential advantage approach factors on rural development. The researcher therefore compared the mean for independent variables against that of the standardized test. The general critical value for a two-tailed test is **1.96**, which is based on the fact that **95%** of the area of a normal distribution is within 1.96 standard deviations of the mean. The critical value was used to do hypothesis testing by; calculating test statistic; calculating critical values based on significance level alpha and comparing test statistic with critical values. If the test statistic is lower than the critical value, accept the hypothesis or else reject the hypothesis. It meant that if the slope of the regression line is significantly different from zero, therefore it was concluded that there was a significant relationship between the independent and dependent variables. The process involves comparing the P-value to the significance level, and rejecting the null hypothesis when the P-value is less than the significance level.

The tests were done at 5% significance level ($\alpha = 0.05$). The researcher conducted a linear regression z-test to determine whether the slope of the regression line differs significantly from zero. The researcher used a linear regression z-test to determine whether the slope of the regression

line differs significantly from zero. Z test was used to validate a hypothesis that the sample drawn belongs to the same population by comparing a sample to a defined population and dealing with problems relating to large samples ($n > 30$). Z-test was useful when the standard deviation is known and requires data with a normal distribution, which means that the sample (or population) data is distributed evenly around the mean. The null hypothesis and an alternative hypothesis were as follows:

H_0 : The slope of the regression line is equal to zero.

H_a : The slope of the regression line is *not* equal to zero.

If the P-value is less than the significance level (0.05), we cannot accept the null hypothesis.

4.7.1 Correlation of Differential Advantage Approach Factors on Rural Development

The study sought to correlate the relationship between factors of differential advantage approach with rural development in the OVOP projects. The scores for product competitiveness, human resource development, market accessibility, cluster productive process on rural development were subjected to a correlation test and the result were as presented in table 4.7.1 using the formula below. The Pearson correlation coefficient or Pearson R test being statistical formula measures the strength between variables and relationships.

$$r = \frac{N\sum xy - (\sum x)(\sum y)}{\sqrt{[N\sum x^2 - (\sum x)^2][N\sum y^2 - (\sum y)^2]}}$$

Where:

- N = number of pairs of scores
- $\sum xy$ = sum of the products of paired scores
- $\sum x$ = sum of x scores
- $\sum y$ = sum of y scores
- $\sum x^2$ = sum of squared x scores
- $\sum y^2$ = sum of squared y scores

The value of r lies between ± 1 , the closer the value will be to +1 the stronger the congruence.

Table 4.7.1 Correlation of Differential Advantage Factors on Rural Development

Correlations

		RD	PC	HRD	MA	CPP
RD	Pearson	1	.924**	.899**	.921**	.921**
	Correlation					
	Sig. (2-tailed)					
	N					
PC	Pearson	.924**	1	.913**	.986**	.944**
	Correlation					
	Sig. (2-tailed)					
	N					
HRD	Pearson	.899**	.913**	1	.912**	.908**
	Correlation					
	Sig. (2-tailed)					
	N					
MA	Pearson	.921**	.986**	.912**	1	.950**
	Correlation					
	Sig. (2-tailed)					
	N					
CPP	Pearson	.921**	.944**	.908**	.950**	1
	Correlation					
	Sig. (2-tailed)					

N	216	216	216	216	216
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**. Correlation is significant at the 0.01 level (2-tailed).

The result in table 4.7.1 showed a positive and high relationship between factors of differential advantage approach and rural development with; product competitiveness ($R = 0.924$) and $p = 0.00$ meaning statistically significant ($p < 0.05$); human resource development ($R = 0.899$) and $p = 0.00$ meaning statistically significant ($p < 0.05$); market accessibility ($R = 0.921$) and $p = 0.00$ meaning statistically significant ($p < 0.05$) and cluster productive process ($R = 0.921$) and $p = 0.00$ meaning statistically significant ($p < 0.05$). The result established that human resource development, product competitiveness, market accessibility and cluster productive process were significant factors for rural development in the OVOP projects.

4.7.2 Product competitiveness and Rural Development

The first objective of this study was to ascertain the relationship between product competitiveness and rural development in the OVOP projects. This objective informed hypothesis 1:

H01: There is no relationship between product competitiveness and rural development in the OVOP projects

Hypothesis O_1 sought to ascertain the relationship between product competitiveness and rural development. This hypothesis was tested by regressing product competitiveness on rural development guided by the equation $Y = \beta_0 + \beta_1 X + \epsilon$; where X represented product competitiveness, Y denoted rural development, $\beta_0 =$ intercept, $\beta_1 =$ coefficient and $\epsilon =$ Error

term. The beta coefficient(β) is the predictive power of the assumed model variable relationships.

The result of the regression was presented in table 4.7.2 below.

Table 4.7.2 Regression equation for Product competitiveness and Rural Development

Model	Unstandardized		Standardized	T	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
(Constant)	.247	.059		4.220	.000
Product Competitive	.782	.022	.924	35.303	.000

The result in table 4.7.2 showed beta $\beta = 0.924$, $t = 35.303$, $p < 0.05$ indicating that that product competitiveness was significant factor for rural development. The result indicated statistically significant of product competitiveness on rural development because t value was greater than 1.96 and consistent to p-value less than 0.05. The first hypothesis was that product competitiveness was critical factor to rural development in the OVOP projects. The null hypothesis was therefore rejected. The bivariate linear regression model equation fitted using unstandardized coefficients is; $Y = 0.247 + 0.782X_1 + e$ where 0.247 is the constant and X_1 is product competitiveness index. The study finding implied that an increase of one unit of product competitiveness increases rural development by 0.782. The result therefore indicated that product competitiveness was positively associated with rural development.

4.7.3 Human Resource Development and Rural Development

The second objective of this study was to ascertain the relationship between human resource development and rural development in the OVOP projects. This objective informed hypothesis 2:

H02: There is no relationship between human resource development and rural development in the OVOP projects

Hypothesis 0₂ sought to ascertain the relationship between HRD and rural development. This hypothesis was tested by regressing HRD on rural development guided by the equation $Y = \beta_0 + \beta_1 X + \varepsilon$; where X represented HRD, Y denoted rural development, β_0 = intercept, β_1 = coefficient and ε = Error term. The beta coefficient (β) is the predictive power of the assumed model variable relationships. The result of the regression was presented in table 4.7.3 below.

Table 4.7.3 Regression Equation for Human Resource Development and Rural Development

Model	Unstandardized		Standardized T	Sig.	
	Coefficients		Coefficients		
	B	Std. Error	Beta		
(Constant)	.012	.076	.165	.869	
HRD	.770	.026	.899	30.077	.000

The result in table 4.7.3 showed beta $\beta = 0.899$, $t = 30.077$, $p < 0.05$ indicating that there was significant relationship between human resource development and rural development. The result indicated statistically significant of human resource development on rural development because statistic value was greater than 1.96 and consistent to p-value less than 0.05. The second

hypothesis was that Human resource development was factor to rural development in the OVOP projects. The null hypothesis was therefore rejected. The bivariate linear regression model equation fitted using unstandardized coefficients is; $Y = 0.012 + 0.770X_2 + e$ where -0.012 is the constant and X_2 is human resource development index. The study finding implied that an increase of one unit of HRD increases rural development by 0.770. The result therefore showed that there was positive relationship between Human resource development and rural development.

4.7.4 Market Accessibility and Rural Development

The third objective of this study was to ascertain the relationship between market accessibility and rural development in the OVOP projects. This objective informed hypothesis 3:

H03: There is no relationship between market accessibility and rural development in the OVOP projects

Hypothesis H_3 sought to ascertain there was a relationship between market accessibility and rural development in the OVOP projects. This hypothesis was tested by regressing market accessibility on rural development guided by the equation $Y = \beta_0 + \beta_1 X + \epsilon$; where X represented market accessibility, Y denoted rural development, β_0 = intercept, β_1 = coefficient and ϵ = Error term. The beta coefficient (β) is the predictive power of the assumed model variable relationships. The result of the regression was presented in table 4.7.4 below.

Table 4.7.4 Regression Equation for Market Accessibility and Rural Development

Model	Unstandardized		Standardized T	Sig.	
	Coefficients		Coefficients		
	B	Std. Error	Beta		
(Constant)	.232	.060	3.869	.000	
Market Access	.788	.023	.921	34.610	.000

The result in table 4.7.4 showed $\beta = 0.921$, $t = 34.610$, $p < 0.05$ indicating that market accessibility significantly contributed to rural development. The result indicated statistically significant of market accessibility on rural development because statistic value was greater than 1.96 and consistent to p-value which was less than 0.05. The third hypothesis was that there was association of market accessibility and rural development in the OVOP projects. The null hypothesis was therefore rejected. The bivariate linear regression model equation fitted using unstandardized coefficients is; $Y = 0.232 + 0.788X_3 + e$, where 0.232 was constant value and X_3 was market accessibility index. The study finding implied that an increase of one unit of market accessibility increases rural development by 0.788. The result therefore indicated that there was positive relationship between market accessibility and rural development.

4.7.5 Cluster Productive Process and Rural Development

The fourth objective of this study was to ascertain the relationship between cluster productive process and rural development in the OVOP projects. This objective informed hypothesis 4:

H04: There is no relationship between cluster productive process and rural development in the OVOP projects.

Hypothesis 0₄ sought to ascertain the relationship between cluster productive process and rural development in the OVOP projects. This hypothesis was tested by regressing cluster productive

process on rural development guided by the equation $Y = \beta_0 + \beta_1 X + \varepsilon$; where X represented cluster productive process, Y denoted rural development, β_0 = intercept, β_1 = coefficient and ε = Error term. The beta coefficient (β) is the predictive power of the assumed model variable relationships. The result of the regression was presented in table 4.7.5 below.

Table 4.7.5 Regression Equation for Cluster Productive Process and Rural Development

Model	Unstandardized		Standardized	T	Sig.
	Coefficients		Coefficients		
	B	Std. Error	Beta		
(Constant)	.443	.055		8.125	.000
Cluster Productive process	.751	.022	.921	34.649	.000

The result in table 4.7.5 showed beta $\beta = 0.921$, $t = 34.649$, $p < 0.05$, indicating that there was significant relationship between cluster productive process and rural development. The result indicated that cluster productive process was statistically significant to rural development because statistic value was greater than 1.96 and consistent to p-value less than 0.05. The fourth hypothesis was that there was relationship between cluster productive process and rural development in the OVOP projects. The null hypothesis was therefore rejected. The bivariate linear regression model equation fitted using unstandardized coefficients is; $Y = 0.443 + 0.751X_4 + e$ where 0.443 is the constant and X_4 is cluster productive process index. The study finding implied that an increase of one unit of cluster productive process increases rural development by

0.751. The finding therefore showed that there was positive relationship between cluster productive process and rural development.

CHAPTER FIVE

5.0 SUMMARY OF FINDING, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The chapter provides the summary, conclusion, recommendations and suggestion for further studies. The chapter presents a summary of the research finding based on the study objectives, conclusions from the finding and recommendations drawn from the conclusions.

5.2 Summary of Finding

This section provides summary of findings of the study based on the objectives of the study. The first objective of this study was to analyse the relationship between product competitiveness and rural development in OVOP projects. The results indicated a relationship between product competitiveness and rural development at a grand mean of 2.3799. The finding statistically indicated that product competitiveness was significant factor for rural development, where an increase of one unit of product competitiveness increased rural development by 0.782. The finding solidified that upgrading product development technologies guaranteed superior product characteristics, quality, cost efficiency and functionality. The finding was further supported by key informants from all the study areas who were in agreement that continuous capacity upgrading of products, process, and inter-chain coordination with extensive mechanism of government supplementary support ensures product competitiveness in OVOP projects.

The second objective was to find out relationship between human resource development and rural development in the OVOP projects. The results indicated a relationship between human resource development and rural development at grand mean of 2.7141. The finding statistically

indicated that human resource development was significant factor for rural development, where an increase of one unit of human resource development increased rural development by 0.770. The finding solidified that there was need for a holistic system of building competency with overlapping of physical, emotional mental activities. The finding further revealed that learning activities helped in eye opening by charging learners creating awareness through physical exposure; training activities open heart becoming emotional in charged developing desirable behaviour; Human development activities develop full conceptual and practical know-how discharging full potential and education activities institutionalize new changes. One of official interviewed from the ministry of industrialization confirmed that systematic overlapping activities on human resource development involved de-institutionalize the helpless attitude among rural dwellers and institutionalize commercial attitudes important for generate wealth. The finding further suggested establishment of village innovation and production centres for continuous building and upgrading human competencies. Consequently, the finding revealed need of setting weekly economic class where village members offered training and economic services and share economic testimonies similar to weekly church services.

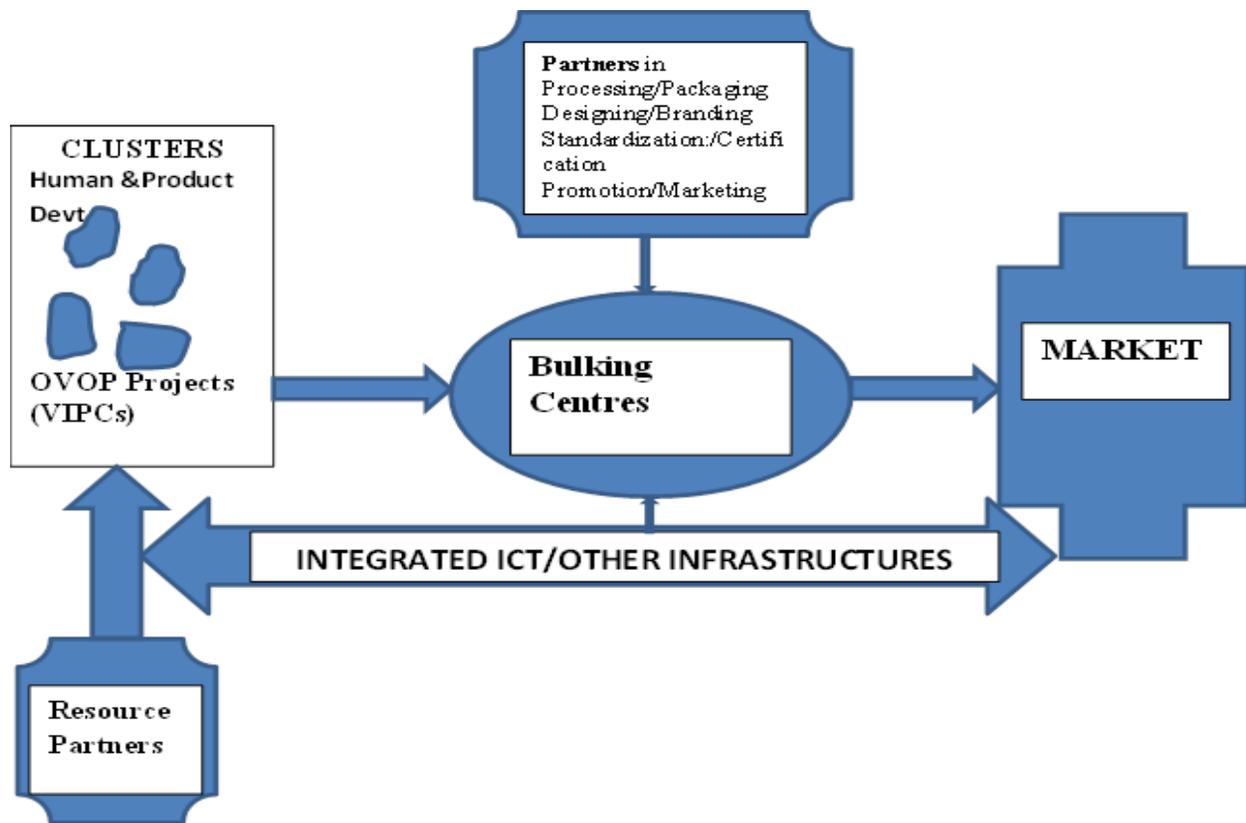
The third objective was to determine the relationship between market accessibility and rural development in the OVOP projects. The results indicated a relationship between market accessibility and rural development at grand mean of 2.3993. The finding statistically indicated that market accessibility was significant factor for rural development, where an increase of one unit of market accessibility increased rural development by 0.788. The finding indicated that market accessibility in term of information, technology, infrastructure and institutional support had ability to improve fast movement of relevant information, inputs and products, remove

barriers and middlemen provide direct connections, reduce of cost and wastages, enhancement of quality and customer responsiveness hence high productivity and profit margin. The finding further indicated that online marketing by use of use ICT devices such as mobile phone, radio and television hastened decision making, increased control and contacts hence improving performances. More so an systematic forward and backward connections through integrated infrastructural network with OVOP projects like Japan *Michino Eki* (roadside stations) speed up delivery of products, direct connection with consumers resulting to reduction of wastages, middlemen, cost, enhancement of quality and customer responsiveness hence high productivity and profit margin. The finding solidified that there was need for establishing centralized bulking centres and joint marketing agencies tasked with grading, branding, packaging, standardization, certification, pricing, promotion distribution and online marketing activities.

The fourth objective was to establish the relationship between cluster productive process and rural development in the OVOP projects. The results indicated a relationship between cluster productive processes and rural development at grand mean of 2.2475. The finding statistically indicated that cluster productive process was significant factor for rural development, where an increase of one unit of cluster productive processes increased rural development by 0.751. The finding solidified that successful productive process required systematic upgrading and integrating OVOP projects into a broader value chain of production. The finding indicated that cluster productive process increased wealth creation, interactive learning, knowledge flow, insulate firms from competition, more bargaining power, easier penetration of product into a wide market. The finding further indicated need for establishing new institutional arrangement with necessary attunement facilitating integration and common utilization of territorial assets like

land, common conducts and collective spirits for successful shared value of productivity. As illustrated in figure 5.5, the finding further revealed that identification of chain champion in a reflective approach steer collective spirit, inspiration and practices in a new arrangement. Consequently, the finding also indicated an integrated productive framework whereby clustered OVOP projects linked with centralized bulking centre and connected to the market in an integrated network of infrastructures. The finding further revealed that while OVOP projects or village innovation and production centres partner with resource or inputs and service providers, research and development institutions; bulking centre partners with experts and authorities in grading, branding, packaging, standardization, certification, pricing, supermarkets, private institutions and online marketing.

Figure 5.5: Institutional Arrangements for implementing OVOP Projects



Source: Author (2019)

5.3 Conclusion

The study concluded that differential advantage approach was a strategy of rural development through human resource development, product competitiveness, market accessibility and cluster productive process factors. The result supported the reality of convergence and social development theories by upgrading differentiating factors revitalize rural enterprises by delivering valuable products or services for the market hence faster income growing. The study

confirmed differential advantage approach as instrumental tool for rural development by focusing on improving economic capabilities of individual businesses. Hodge and Midmore(2008) who stated that local approach respond to sorts of factors by directing resources towards particular problems at the individual business level. Unlike sectoral, multisectoral and territorial approaches for rural development, local approach based on the differentiation between rural areas and the variation in individual circumstances within areas promote a search for actions that recognise the specificity of solutions at most local levels involving a variety of institutional arrangements and networks at the local level. Drawing from the findings, the study concluded the following:

Human Resource Development

This study confirms the direct relationship between human resource and rural development. The study hence brings out increased understanding of human resource development as a factor for rural development. This study contributes to understanding the link between human resource development and rural development, while at the same time confirms the finding of previous studies that have found a significant link between human resource development and rural development. Many researchers believe that human capital is a critical factor for the development and survival of the business, including competitiveness of the venture (Sriyani, 2010, 2012,).The study concurred with Rajamohan and Dhanabalan (2020) human Resource is the most important and vital factor for the economic development or it can be said that humans are the agents of development.Wu (2015)further supported the studyby reporting that rural economic development and human resource development are of dialectical unity relationship.Human resource is a special resource, different from other material resources.Rural human resource development can alter fixed economic growth pattern of rural areas.Thestudy

hence justifies how human resource development facilitates convergence and social development in rural area. Human resource therefore speed catch-up effect by altering poor rural economies and embracing modern and innovative means of production of poor economies harnessing the available social energies, skills and resources for economic growth.

This study also confirms that overlapping process of learning; training; development and education activities effectively develop human competency involving physical, emotional and mental aspects of human being hence institutionalize the change. This study confirms Mehta (2011) in an expanded ABC model that suggested that when organizations are able to harness effectively the talent, energy, and motivation of their employees, they will have an ideal competitive business edge. More so the study hence brings out increased understanding of human resource development by ushering institutionalization as a fourth level in an expanded ABC model. Institutionalization completes the “Attitude - Behaviour – Development” ABC model stages of human resource development by reinforcing commitment to new competencies on economic activities. The study rephrased the stages to “Charge- Incharge – Discharge – Institutionalize” (CIDI). The study further concluded need for weekly economic meetings of reinforcing commitment and sustainability of the change. The study concurred with Wu (2015) who stated that rural human resource development needs to enhance cultural quality, moral quality, professional skills and management skills of rural human resource, meet rural construction need and drive economic development through strengthening technical education, adult education and basic education.

Market Accessibility

This study confirms the link between market accessibility and rural development. The study confirms the finding of previous studies which correlate market accessibility and rural development. Van Schalkwyk, *et al.* (2012) found that markets provide the opportunity to generate income, contributing to a reduction in poverty and hunger in developing countries. Markets also drive production to meet consumer demand in terms of quantity and quality. The study further increased understanding of market accessibility as a factor for rural development through speed deliveries, direct contact with customers; bargaining power; ease access to market information, inputs and other relevant services. The study confirms that upgrading rural marketing system through backward and forward links hastened the catch-up effect by opening up poor economies into active engagement in inclusive businesses. The study further concludes that upgrading marketing process by establishment of bulking centres and joint marketing agency enhances market accessibility through collective grading, branding, packaging, standardization, certification, pricing, promotion distribution and online marketing. The finding concurs with Hayami (2017) who stated that the trust and cooperation mechanisms existing in rural communities in developing economies can be a basis for efficient functioning of markets for channeling global demands to producers in hinterlands. A network of many informal self-employed agents organized in a decentralized hierarchy characteristic of traditional peasant marketing, will be elevated to serve as the effective bridge between global demands and supply potentials in rural hinterlands. Wide-ranging economic activities “economic system” resulting from the integration of rural labor with global demands will exert a strong power to reduce rural poverty.

Product Competitiveness

The study concludes that product competitiveness was related to rural developments. The study contributes to the understanding of the link between product competitiveness and rural development. The study concluded that upgrading product development technologies guaranteed superior product characteristics, quality, cost efficiency and functionality heightening competitiveness and demand. This finding concurs with Porter (1986) product differentiation strategy can be a tool of competitive advantage which is adopted by organizations in order to provide products that satisfies individual customer's needs. The study also confirms that continuous capacity upgrading of products, process, and inter-chain coordination with extensive mechanism of government supplementary support ensures product competitiveness in OVOP projects. This study further increased understanding of product competitiveness as a factor for rural development by illustrating how village cottage industries and village innovation and production centres (VIPC) ensures partitioning; use and accumulation of value-added safeguard rural interests, control and ownership hence fast generation and accumulating more wealth with minimal transactions. More so the study confirms that upgrading of product and human development speed up convergence of poor economies by differentiating product hence becoming competitive in the market growing fast the income. The findings confirms the finding of previous studies by Dirisu *et al.* (2013) who found that product differentiation could be used as a tool for achieving competitive advantage and enhancing greater organizational performance: and Fujita (2006) who further stated that product differentiation plays a critical role in coevolution of local resources and unique local products, leading to the sustained development of rural communities.

Cluster Productive Process

This study establishes a link between cluster productive process and rural development. The study contributes to the link between cluster productive process and rural development. The study establishes that product, process, inter-chain upgrading, integrating rural economic activities and assets in clustering productive process had a potential generating more wealth in rural areas. More so the process increases production quality and efficiency by maximizing potential of local resources, interactive learning, knowledge flow, competition insulation, more bargaining power, easier penetration of product into a wide market hence convergence of poor economies. The study confirms Porte and Stern (2014) that industries participating in a strong cluster register higher employment growth as well as higher growth of wages, number of establishments, and patenting. Industry and cluster level growth also increases with the strength of related clusters in the region and with the strength of similar clusters in adjacent regions. This study further brings out increased understanding of cluster productive process as a factor for rural development by establishing that collective productive arrangement with centralized bulking centre connected with a network of infrastructures enhances economic growth among rural firms. The study further confirms that while OVOP projects or village innovation and production centres partner with resource or inputs and service providers, research and development institutions; bulking centre partners with experts and authorities in grading, branding, packaging, standardization, certification, pricing, supermarkets, private institutions and online marketing. More so the study concludes that collective efficiency in cluster productive process confirmed being critical whereby necessary configuration in a new institutional arrangement is ensured. More so coordination of collective spirit and common conduct was required in utilizing territorial assets such as land and social capitals. The study concurs with Wunsch (1984) who stated that success

of rural development strategies is by poor people believe, organize, energize and institutionalize the ultimate source of all wealth which is people.

5.4 Recommendations

Based on the finding, this study recommends the following;-

i. The government to upgrade village polytechnics and establish village innovation and production centres (VIPCs)

The study recommends establishment of multi-functional village training and production centres engendered with construction rural need and drive economic development and enhancing cultural quality, moral quality, professional skills and management skills of rural human resource. The training centre promote competitive specialized skills in human and product development, quality assurance, cost efficiency, packaging, branding, production, value addition and online marketing. Weekly economic meetings at the VIPCs or common village facilities spearheaded by village entrepreneur champion leader identified and remunerated by county government will be critical for reinforcement and sustainability of the change.

ii. Promotion of product development in the village cottage industries

The study recommends for establishment of a multi-functional agency engendered with establishing and promoting relevant cottage industries. The national and county government should upgrade human and industrial capabilities for product development. There should be a comprehensive partnership arrangement for cottage industries with main resource and service providers, research and development institutions to continuously upgrade product development.

iii. To develop bulking centers and joint village cooperatives

The study recommends for establishment of bulking centres and joint marketing agency mandated with product consolidation and coordinating marketing activities among OVOP projects in a county for the benefit of economies of scale. The bulking centres/marketing cooperatives engendered with storage, grading, branding, packaging, pricing, standardization, certification, pricing, promotion, placing and online marketing.

iv. County governments to develop and promote industrial clusters

The study recommends for an establishment of specialized industrialization with integrated partners, ICT and other infrastructural systems for collective efficiency OVOP projects. The government should provide coordination the collaborative arrangements among learning institutions, research institutes, private firms, supermarkets, public institutions and county special institutions with village innovation & production centres in a shared value of productivity.

v. Government embark on collective economic movement

The study recommends for economic movement with weekly economic meeting whereby members share their economic testimonies in terms of successes and challenges same as regular religious services. The meeting would therefore sustain momentum and institutionalizing new economic practices.

vi. Strengthen the policy on consultative mechanisms for village Land use

For effective land management the county government should establish village consultative land use agency constituting all actors from village or clan elites, religious, political, professionals, youth, women, civil societies, government and private sectors. Since land is a critical asset for cluster production, a joint agency is needed for collectively mobilization of resources, identify unique product and effectively run shared value of productivity.

5.5 Suggestions for Further Study

The finding of the study established other areas for further research. It is recommended that further research be carried out in the following areas:

- i.** This study focused on product competitiveness, human resource development, market accessibility and cluster productive processes factors for differential advantage approach on rural development in Kenya OVOP projects. The study recommends a study on other factors of competitive advantage on rural development.
- ii.** There is need for further studies collective efficiency of industrial clusters for economic growth in rural areas.
- iii.** There is also need to investigate further on the consultative mechanisms of utilizing common assets for economic growth.

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APPENDICES

APPENDIX I: LETTER TO THE RESPONDENTS

Dear Respondents,

Re: The differential advantage approach as a rural development strategy: an assessment of the “one village one product” (OVOP) projects in Kenya

I am a post-graduate student in Maseno University, pursuing Doctor of Philosophy degree in Planning. I am conducting a research under the topic: “The differential advantage approach as a rural development strategy: an assessment of the “one village one product” (OVOP) projects in Kenya.”

You have been selected to take part in this study. I would appreciate if you would assist me by responding to all items in the attached questionnaire. Your response will be treated with utmost confidentiality. The questionnaires are designed for this research only.

Thank you in advance.

Yours faithfully,

.....,

George Kimu Nyamu

PG/PHD/00062/2012

Tel. 0722 432742

kim.nyam@yahoo.com

Cc

The Secretariat

Maseno University Ethics Review Committee

Maseno University

P. O. Box, Private Bag, Maseno, Kenya

Tel: 057-51622, 0722203411, 0721543976, 0733230878;

Email address: muerc-secretariate@maseno.ac.ke; muerc-secretariate@gmail.com.

APPENDIX II: QUESTIONNAIRE, INTERVIEW GUIDE AND FGD PARTICIPANTS

CONSENT FORM

Preamble: The purpose of this form is to seek permission of participants in this study. You have been selected objectively to take part in this study. I would appreciate if you would assist me by responding to all items in the attached questionnaire/interview guides. Your response will be treated with utmost confidentiality. The questionnaires and interview guides are designed for this

research only. Thank you for agreeing to participate. We are very interested to hear your valuable opinion on how implementation of OVOP projects can be improved economic growth.

Investigator(s): The researcher for this study is **George Kimu Nyamu**; PhD student at Maseno University; School of Architecture and Planning. He is working under the supervision of **Dr. G.G Wagah** and **Dr. Luke Obala**

Study topic: “The differential advantage approach as a rural development strategy: an assessment of the “one village one product” (OVOP) projects in Kenya”.

Study location: The study will be conducted in Kionyweni Basket weaving project, Yatta sub-county; Rumuruti aloe vera project in Laikipia West sub-county; Jitunze trout fish project in Kieni East sub-county and Watuka farmers’ cooperative society in Kieni West sub-county.

Purpose of the study: This study aims to probing information requisite condition for successful implementation of OVOP projects in Kenya. The finding of this research will be used for academic purpose.

Description of the research study/project:

1. This study involves approximately 30 minutes answering questionnaires or interview and one hour in focus group discussion. The research has four major themes on the process of

implementation of OVOP projects in terms of: superiority of product competitiveness, Quality of human resource development, Contribution of market accessibility to OVOP projects and productive processes to OVOP projects. The participants are encouraged to answer all questions by ticking, writing or orally give their opinion as guided by the study instruments.

2. All information provided here will be treated with strict confidentiality more so the indent of participant will be protected. No information that reveals identity of any study participant will be released or published without consent. While this survey does involve some professional and emotional risks, you have the right to refuse to answer any of the questions. Should you feel some distress, you are encouraged to speak to the researcher who will direct you to support services.

3. You have the right to end your participation in the survey at any time, for any reason. You can withdraw by exiting the survey at any time before completing it. If you withdraw from the study, all information you provided will be immediately destroyed. (As the survey responses are anonymous, it is not possible to withdraw after the survey is submitted.)

4. All research data will be encrypted and protected. Maseno University will keep a hard copy of the survey. Research data will be accessible by the researcher, the research supervisor and the Maseno University.

5. Once the project is completed, all research data will be kept for five years and potentially used for other research projects on this same topic. At the end of five years, all research data will be deleted.

6. If you would like a copy of the finished research project, you are invited to contact the researcher to request an electronic copy which will be provided to you as long as the safety of all participants will not be comprised by doing so.

7. I accept to participate in this exercise voluntarily:

NameSignature.....Date.....

NB. Annexed: The purpose of recording equipment is to capture extra details in the study like features of OVOP products

Contacts:

- i. For any questions or concerns about a study/project or in the event of a study/project-related injury, contact person is investigator: George Nyamu of contact 0722 432 742 and Physical address 480 Karatina.

- ii. For any questions pertaining to rights as a research participant, contact person is: The Secretary, Maseno University Ethics Review Committee, Private Bag, Maseno; Telephone numbers: 057-51622, 0722203411, 0721543976, 0733230878; Email address: muerc-secretariate@maseno.ac.ke; muerc-secretariate@gmail.com.

APPENDIX III: QUESTIONNAIRES FOR OVOP PROJECT MEMBERS

Preamble: The purposes of these questionnaires are to find out information regarding the differential advantage approach as a rural development strategy: an assessment of the “one village one product” (OVOP) projects in Kenya.

Purpose: The finding of this research will be used for academic purpose.

Confidentiality: All information provided here will be treated with strict confidentiality.

Instructions:

- This questionnaire has introduction and four sections:
- Please tick the correct answers from the given choices.
- Where choices are not given, please write down the answers in the space provided.
- Please kindly complete the questionnaires with accurate information as possible

I. General status of OVOP project

1. How does OVOP concept contributed toeconomic growthon your CBOs since adoption of the concept?

i. None { } ii. Low { } iii.Moderate { } iv. High { } v. Very High { }

1, b. State reason for your answer and suggestion for improvement

.....

.....

II. Factors of Differential advantage approach

1. Product Competitiveness

Indicate the extent product competitiveness activities contribute to economic growth in your project. Where 1- **none** contribution 2- **slightly** contribute; 3- **moderately** contribute; 4- **strongly** contribute; and 5- **very strongly** contribute

Product competitiveness Components	None contribution	Slightly contribute	Moderately contribute	Strongly contribute	Very strongly contribute
1. Product Uniqueness	1	2	3	4	5
i. Product special features					
ii. Product appearance					
iii. Product packaging					
iv. Product flavour or colour					
2. Product Quality					
i. Product conformance					
ii. Product durability					
iii. Product reliability					
iv. Product benefits					

3. Product Cost					
i. Cheapest product					
ii. Cost saving product					
iii. Best-price value product					
iv. Wide range product					
4. Product innovations					
i. Product compatibility					
ii. Relative advantage					
iii. New product usability					
iv. Product visibility					

1a. What is your opinion on the advancement of product competitiveness on economic growth in OVOP projects?

.....

.....

2. Human Resource Development

Indicate the extent human resource development activities contribute to economic growth:

Where: 1- none contribution; 2- slightly contribute; 3- moderately contribute 4- strongly contribute – 5- very strongly contribute

Human Resource Development Components	None	Slight	Moderate	Strong	Very strong
1. Learning Activities	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
i. Educational trips					
ii. Practical demonstrations					
iii. Exchange programmes					
2. Training Activities					
i. Seminars					
ii. Workshops					
iii. Group discussions					
3. Development Activities					
i. On-the job trainings					
ii. Internship & mentorship programmes					
iii. Technical/vocational courses					
4. Education Activities					
i. Industrial based curriculum					
ii. Adult education					
iii. Career orientation					

2a. What is your opinion on the advancement of human resource development on economic growth in OVOP projects?

.....

.....

3. Market Accessibility

Indicate the extent your project has market accessibility contribute to improve economic growth.

Where: 1- **none contribution**; 2- **slightly contribute**; 3- **moderately contribute**4- **strongly contribute** – 5- **very strongly contribute**.

Market Accessibility Components	None	Slight	Moderate	Strong	Very strong
1. Market Information	1	2	3	4	5
i. Information on market opportunities					
ii. Technical information					
iii. institutional support information					
iv. Financial information					
2. Market Technologies					
i. Production technologies					
ii. Marketing technologies					
iii. Communication technologies					
3. Market Infrastructures					

i. Transportation and utilities networks					
ii. Supportive regulatory and administrative systems					
iii. Provision of accessible credit and financial services					
iv. ICT infrastructures					
4. Market Institutional Supports					
i. Tax & financial incentives					
ii. Market regulations					
iii. Technical support					
iv. Marketing supports					

3a. What is your opinion on the advancement of market accessibility on economic growth in OVOP projects?

.....

.....

4. Cluster Productive Process

Indicate the extent OVOP project has cluster productive process contributed economic growth:

Where 1- none contribution; 2- slightly contribute; 3- moderately contribute; 4- strongly contribute; 5- very strongly contribute

Cluster Productive Process Components	None	Slight	Moderate	Strong	Very strong
1. Clustering	1	2	3	4	5
i. Grouping of local industries process					
ii. Collective activities among stakeholders					
iii. Inter-firms' linkages					
2. Specialized Industrialization					
i. Integrated production process (value chain)					
ii. Specializing in one stage productive process					
iii. Coordination of multi-stakeholders production in industrial clustering					
3. Innovative Research and					

Development					
i. Interactive learning among local firms					
ii. Partnership with learning and research institutions					
iii. Continuous innovation and learning among local stakeholders					
4. Culture Economy					
i. Identification of Local resources for potential competitive advantage					
ii. Upgrading and promotion local product					
iii. Integration of local products in OVOP projects into a broader value chain					

4a. What is your opinion on the advancement of cluster productive process on economic growth in OVOP projects?

.....

.....

APPENDIX IV: SWAHILI VERSION OF QUESTIONNAIRES FOR OVOP PROJECT

MEMBERS

Sababuyamaswalihayaniutafitiwa

“Ushunguziwautekelezanjiwanjiayamanufaayautofautikwakuletamaendeleonyanjaninchini

Kenya Kupitiamiradiya OVOP.

**Utafitihuumewaganyishwasehemunnenautashukuwamudamfupikumalizakujibumaswalih
ayo**

Umarikajiwamrandiwa OVOP

1. UmaaminikunamanufaakwakikundichenubaadayakupokeamikakatiyamrandiwaOVOP

i. La{ } ii. Kindogo { }iii.Kiasi{ }iv. Juu { }v. Juu Sana{ }

1, b. Peanasababuyajibunasuluhisho

.....
.....

1.UboleshajiwaBidhaa

Bidhaazakitundichenuzikonausitoganikulinganishanazingineyokuhuzu;

UboleshajiwaBi dhaa	Haijatok elezwa	Kuimalikakia sikindogo	Kuimali kaKiasi	KuimalikaKia sikikubwa	KuimalikaKiasik ubwakabisa
1. Muundo	1	2	3	4	5
i. Muundos					

ipeshli					
ii. Pendeke za					
iii. Mpangili o					
iv. lani/haru fu					
2. hadhi					
i. kumarika					
ii. inamaish a					
iii. aminika					
iv. manufaa					
3. Mbei					
i. Rahisi					
ii. Hifazi					
iii. Nafuu					
iv. viwangot ofauti					
4. Ubinifu					
i. Ustandi					
ii. Faidamp					

ya					
iii. Utumishi bora					
iv. Utokelez ajinafuu					

1b.

Ni

mikakatiganiya uboreshaji wabidha azakikundichenu zinaweza kuboleshwa kwamaendeleo yajani?

.....

.....

2. Uboreshaji wa Maarifa ya Wanachama

Kikundichenu kana uboresha maarifa ya wanachama ajekwa mikakati ifyatayo:

Uboreshaji wa maarifa	Hajato kelezwa	Kuimalikak iasikindogo	Kuimali ka Kiasi	Kuimalika Ki asikikubwa	Kuimalika Kias ikubwakabisa
1. Uzoefunakujifa hamisha	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
i. Matembezi ya asomo					
ii. Maonyeswo					
iii. Kutemeleana					
2. Mikutanoyase					

minanakaraka na					
i. Mikutanoyaufa hamishi					
ii. Karakanayamaa rifa					
iii. Mijadala					
3. Kozizakujijeng akiutalau					
i. Kujifahamishak azi					
ii. Kuonyashwaka zi					
iii. Kujifundishaka zi					
4. Masomoshulen inachuoni					
i. Masomobunifu kwasoko					
ii. Masomoyangu mbaro					
iii. Fahamishozavip					

awa					
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2b, Nimikakatiganiyawezakuboleshamaarifayawanachamawakikundikwamaendeleoyayajani?

.....
.....

3.Upatikanaji i waSoko

Ni kwajinziganikikundichenukinanufaikakwakupitia mambo yafuatayo:

Uboleshajiwasoko	Haijato kelezwa	Kuimalikaki asikindogo	Kuimali kaKiasi	KuimalikaKi asikikubwa	KuimalikaKiasi kubwakabisa
1. Habarinafur sazasoko	1	2	3	4	5
i. Habarizasoko					
ii. Habarizautaal amu					
iii. HabarizaUsai dizi					
iv. Habarizafedh a					
2. Tekinologiaz asoko					
i. Tekinologiaya uzalishaji					
ii. Tekinologiaza soko					
iii. Tekinologiaza unfahamishaji					

3. Miundomsin gi					
i. Miundoyabar abara, simu, maji, stima, renda					
ii. miundo sharia nautaratibu					
iii. miundoyamik oponakodi					
iv. miundoyaufah amishi					
4. Usaidiziwam asoko					
i. Usaidiziwako dinamikopo					
ii. Usaidiziwaulatibuwasoko					
iii. Usaidiziwaulamu					
iv. Usaidiziwasoko					

3b, Kwa maonyako, nimikakatiganiyawezeshakufanikishakitundichenukupatamasokosoko bora kwabidhaazaokwamaendeleoyayajani?

.....

.....

4.MichakatoyaUzalishaji

Ni

jinziganikukundichenukimefaidikanaushirikianowaviwandanyanjanikwakuboleshausalishaji wamaliamakwamvutowadhamanakupitiamikakatiifwuatayo

Michakatoyauzalishaji	Haijat okelez wa	Kuimalika kiasikindo go	Kuima likaKi asi	Kuimalika Kiasikikub wa	KuimalikaKi asikubwakab isa
1. Kuzanyishozavijiji	1	2	3	4	5
i. Kuzanyishozaviwanda					
ii. Ushilikianowauzalishi					
iii. Ushirikianowaviwanda					
2. Uganishowauzalishaji					
i. Kuunganishausalishajik wamvutowadhamana					
ii. Kutekelezasehemumojay amvutowadhamana					
iii. Mpangomaalumuwaushi					

rikianowauzalishaji					
3. Ubinifukwautafitinama endeleo					
i. Ushirikianowaubinifu					
ii. Ushirikianowavyuoza tafiti					
iii. Uwendeshashimberewau bunifukwaushirikiano					
4. KutabuaBidhaazayanj ani					
i. UmuhimunaUwezobidha zayanjanikwaushindanis okoni					
ii. Kuboreshabidhaazanyaja ni					
iii. Ungaanihibidhaazanyaj anikwamvutowauzalijan j ikimataifa					

4b.

Kwa

maonyakonimikakatiganiyamvutowadhamanakwaushirikianowaviwandanavyuovyamasomonau
tafitiyanawezakuboleshwandiozifaidikikundichenukwamaendeleoyayajani?

.....

.....

APPENDIX V: FOCUSED INTERVIEW SCHEDULES FOR OVOP PROJECTS

LEADERS, SALES AGENTS AND MOI OFFICIALS

Please indicate growth or decline experienced by your OVOP projects in the last ten years in, asset growth, productivity growth, number of employees and income growth indicated in the table below after adopting OVOP concept, by taking year 2008 as starting point. Express the growth or decline or decline / improvement or deterioration as percentage of previous years. For example, if the company has experienced growth of 2% in year 2010 compared to year 2009, then write 102% in year 2010. If the decline was 8% for similar period, then write 92% in 2010.

Constructs considered	Annual Economic Growth or Decline as % age										Overall Annual Econ Growth
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
Years	=100%										
Assets	100										
Productivity	100										
No's of employees	100										

Income	100										
Total											

A. Does OVOP concept contribute to economic growth of your CBO or society and what is required to perfect adoption?

I. Product Competitiveness

To what extent the following components contribute to improve economic growth in OVOP projects for the purpose of rural development?

- i. **Product uniqueness:** (special features, appearance, packaging and functionality)
- ii. **Product quality:** (conformance, durability, reliability and benefits):
- iii. **Cost efficiency:** (cheapest product, cost saving product, best price value and wide range product)
- iv. **Product innovation:** (relative advantage, usability, compatibility and visibility).
- v. Compared with other products in the same industry how is level of competitiveness of OVOP products

2. Human Resource Development

To what extent the following components contribute to improve economic growth in the OVOP projects for the purpose of rural development?

- i. **Learning activities:** (educational trips, practical demonstrations and exchange programmes):

- ii. **Training activities:** (public seminars, instruction workshops, group discussion and exercise):
- iii. **Development activities:** (on-the job training, internship and mentorship programmes, vocational and technical courses):
- iv. **Education activities:** (market-based curriculum, specialized trainings and entrepreneurship education).

3. Market Accessibility

To what extent the following components contribute to improve economic growth in OVOP projects for the purpose of rural development?

- i. **Market information:** (knowledge on market opportunities, technical support, inputs & financial information):
- ii. **Market technologies:** (production, marketing and communication):
- iii. **Market infrastructures:** (transportation and utilities networks, regulatory and administrative, credit and finance, and ICT)
- iv. **Market institutional supports:** (tax & financial incentives, marketing & technical support, legal and regulatory supplementary).

4. Cluster Productive Process

To what extent the following components contribute to economic growth in OVOP projects for the purpose of rural development?

- i. **Clustering:** (existence of industrial territories, collective activities, and linkages within and with other stakeholders);

- ii. **Specialized industrialization:** (industry network, stage specialization in value chain and inter-firms' **linkages**);
- iii. **Innovative Research & Development (R&D):** (interactive learning, institutional collaborations, and continuous innovative activities)
- iv. **Culture identity:**(identification of unique product, upgrading and integration into values chain)

APPENDIX VI: INTERVIEW GUIDE FOR KEY INFORMANTS

Preamble: The purposes of these interview guides are to find out information regarding; **“The differential advantage approach as a rural development strategy: an assessment of the “one village one product” (OVOP) projects in Kenya.”**

A. Does OVOP concept contribute to economic growth in your CBOs or society?

1. Product Competitiveness

1. a, How does product competitiveness contribute to economic growth of OVOP projects through;

- a) Superior features (appearances, packaging, style special features)
- b) High quality (conformance, durability, reliability, usability or style)
- c) Cost efficiency (cheapest, cost saving, best price value and wide range product)
- d) Product innovation (relative advantage, usability, compatibility and visibility).

1. b, How should product competitiveness be improved for economic growth in OVOP projects

2. Human Resource Development

2. a, How does human resource development contribute to economic growth in OVOP projects through:

- a) Educational trips, practical demonstrations and exchange programmes
- b) Public seminars, instruction workshops, group discussion and exercise

c) On-the job training, internship and mentorship programmes, vocational and technical courses

d) Market-based curriculum, specialized trainings and entrepreneurship education

2. b, How should human resource development be improved for economic growth in OVOP projects

3. Market Accessibility

3. a., How does marketing accessibility contribute to economic growth in OVOP projects through:

a) Knowledge flow on market opportunities, technical support, inputs & finances

b) Production, marketing and communication technologies

c) Transportation and utilities networks, regulatory & administrative, credit & finance, and ICT infrastructures

d) tax & financial incentives, marketing & technical support, legal and regulatory supports

3. b, How should market accessibility be improved for economic growth in OVOP projects?

4. Cluster Productive Process

4. a, How does cluster productive process contribute to economic growth in OVOP projects through;

a) Existence of industrial territories, collective activities, and linkages within and with other stakeholders

b) Industry network, stage specialization in value chain and inter-firms' linkages

c) Interactive learning, institutional collaborations, and continuous innovative activities

d) Identification of unique product, upgrading and integration into values chain

4. b, How should cluster productive process be improved for the growth in OVOP projects?

APPENDIX VII: OBSERVATION CHECKLIST

1. Nature of OVOP Products

No's	Components	Area/s
1	Unique features	
2	Quality	
3	Innovativeness	
4	Others	

2. Project status

No's	Components	Area/s
1	Facilities	
2	Production process	
3	Infrastructures	
4	Others	

3. Wellbeing of OVOP members

No's	Specific issues	Area/s
1	Houses	
2	Mode of transport	
3	Types of clothing	
4	Types of phones	

4. Attitudes and behaviors

No's	Specific issues	Area/s
1	Level of participation	
2	Expression level	
3	Eloquence	
4	Others	

5. Any other observations

APPENDIX VIII: QUESTIONNAIRES RESULTS

Product competitiveness Questions	HA	A	MA	SA	NB
5. Product Uniqueness	5	4	3	2	1
Product special features	16	25	49	69	57
Product appearance	15	31	44	75	51
Product packaging	21	33	42	58	62
Product flavour or colour	17	19	52	70	58
Total	69	108	187	278	228
Percentage	17.25	27	46.75	69.5	57
	17	27	46	69	57
6. Product Quality					
Product conformance	16	28	40	80	52
Product durability	12	23	51	75	55
Product reliability	21	11	53	70	61
Product benefits (benefits)	11	23	47	87	58
Total	60	85	191	312	216
Percentage	15	21.25	47.75	78	54
	15	21	48	78	54
7. Product Cost Efficiency					
Cheapest Product	9	11	61	88	47
Cost Saving Product	15	23	46	94	38

Best-price value Product	17	19	52	82	46
Wide range product	12	17	52	87	48
Total	53	70	211	351	179
Percentage	13.25	17.5	52.75	87.75	44.75
	13	17	53	88	45
8. Product innovations					
Product compatibility	14	19	51	90	42
Product relative advantage	16	24	36	96	44
New product usability	12	20	44	89	51
Product visibility	11	16	43	87	59
Total	53	79	174	362	196
Percentage	13.25	19.75	43.5	90.5	49
Grand Percentage	13	20	44	90	49
Total PC	14	22	48	81	51

Human Resource Development Questions	HA	A	MA	SA	NB
9. Learning Activities	5	4	3	2	1
Educational trips	15	33	75	57	36
Practical demonstrations	21	44	57	66	28
Exchange programmes/Benchmarking	18	39	69	54	36
Total	54	116	201	177	100

Percentage	18	39	67	59	33
10. Training Activities					
Seminars	9	24	78	63	42
Workshops	15	30	72	60	39
Group discussions	12	36	75	66	27
Total	36	90	225	189	108
Percentage	12	30	75	63	36
11. Development Activities					
On-the job trainings	21	33	69	54	39
Internship and mentorship programmes	15	36	60	72	33
Technical/vocational courses	18	30	78	54	36
Total	54	99	207	180	108
Percentage	18	33	69	60	36
12. Education Activities					
Industrial based curriculum	11	36	79	62	28
Adult education	15	42	72	57	30
Career orientation	24	36	75	54	27
Total	50	114	226	173	85
Percentage	17	38	75	58	28

Grand Total HRD	16	35	75	60	33
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Market Accessibility Questions	H	A	MA	SA	NB
	A				
13. Market Information	5	4	3	2	1
Information on market opportunities	8	24	60	64	60
Technical information	9	35	48	76	48
Information on institutional support	12	28	56	68	52
Financial information	8	32	53	76	47
Total	37	119	217	284	207
Percentage	9.2	29.	54.	71	51.
	5	75	25		75
	9	30	54	71	52
14. Market Technologies	1	2	3	4	5
Production technologies	6	21	60	84	45
Marketing technologies	12	24	50	81	49
Communication technologies	15	27	45	78	51
Total	33	72	155	243	145
Percentage	11	24	51.	81	48.
			7		3
	11	24	52	81	48
15. Market Infrastructures					

Transportation and utilities networks	9	20	52	87	48
Supportive regulatory and administrative systems	12	36	40	72	56
Provision of accessible credit and financial services	8	24	44	80	60
ICT infrastructures	11	29	48	70	58
Total	31	109	184	309	222
Percentage	7.7	27.	46	77.	55.
	5	25		25	5
	8	28	46	78	56
16. Market Institutional Supports					
Tax & financial incentives	20	31	36	80	49
Market regulations	24	28	40	72	52
Technical assistance	16	22	41	88	49
Marketing incentives	12	24	44	84	52
Total	72	105	158	324	202
Percentage	18	26.	39.	81	50.
		25	5		5
Grand Percentage	18	26	40	81	51
	46	108	192	311	207
Grand Total MA	11	27	48	78	52

Cluster Productive Process Questions	HA	A	MA	SA	NB
17. Clustering	5	4	3	2	1

Grouping of local industries	12	27	39	62	76
Collective activities among stakeholders	9	30	45	60	72
Inter-firms' linkages	13	31	40	59	73
Total	34	88	124	181	221
Percentage	11.	29.	41.	60.	73.
	3	3	3	3	67
	11	49	41	81	74
18. Specialized Industrialization					
Integrated production process (value chain)	15	27	40	53	81
Specializing in one stage productive process	9	24	41	63	79
Coordination of multi-stakeholders production in industrial clustering	21	25	39	56	75
Total	45	76	120	172	235
Percentage	15	25.	40	57.	78.
		3		3	3
	15	25	40	57	79
19. Innovative Research and Development					
Interactive learning among local firms	9	21	41	54	91
Partnership with learning and research institutions	11	17	44	57	87
Continuous innovation and learning among local stakeholders	12	24	40	61	79
Total	32	62	125	172	257
Percentage	10.	20.	41.	57.	85.

	7	7	7	3	7
	10	21	42	57	86
20. Culture Identity					
Identification of Local resources for potential competitive advantage	11	22	42	58	83
Upgrading and promotion local product	6	24	54	60	72
Integration of local products in OVOP projects into a broader value chain	9	25	48	59	75
Total	26	71	144	177	230
Percentage	8.7	23.	48	59	76.
		7			7
Grand Total CPP	9	24	48	59	77
	9	28	41	61	77

APPENDIX IX: OVOP PROJECTS ASSETS AND INCOME

I. Joint Annual Economic Growth Rate of OVOP Projects

Constructs considered	Annual Economic Growth or Decline as % age										Overall Annual Growth
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
Years	=100										
	%										
Assets	100	103	102	104	105	108	108	110	112	117	6.5%
Productivity	100	105	105	107	108	109	110	112	116	122	9.3%
No's of employees	100	101	102	102	103	103	103	104	104	105	2.7%
Income	100	102	103	104	106	105	107	111	113	118	7.7%
Total		2.75	3%	4.25	5.5	6.25	7%	9.25	11.2	15.5	
		%		%	%	%		%	5%	%	

II. OVOP projects Assets and Income

(a) Watuka Dairy Farmers Cooperative Society

(i) Operations

- **PRODUCTION:** 4500 to 5000 Litres of Milk Per Day

- **INCOME:** Ksh.3.8 m to Ksh.4 Million Per Month
- **PRICES OF RAW MILK:**Ksh.28 to Ksh.32 per litre
- **PRICES OF YOGHURT:**Ksh.50. per ½ Litres and Ksh.30 per 1/4litre
- **Plastic packaging (Tetra Pack);** Ksh.8 per 500 gram and Ksh.4 per 250 gram plastic container
- **Labels:** 3Ksh per container
- **Additives** (preservations, flavour; straw berry/ vanilla) 2.50Ksh per 500 gram container
- **Labour:** 11 permanent and 9 temporary
- The society has **503** members

(ii) Assets

- Pasteurizer machine @ Ksh.2.2m
- Cooler machine @ Ksh.8M
- Lorry (3) @ Ksh.4 m =12m
- Plot ½ acre @ Ksh.2m
- Buildings @ Ksh.32 m
- Motorbike 3 @ Ksh.100,000 = Ksh.300,000
- Power generator @ Ksh.1.4 m
- Storage tank Ksh.3m
- Milk containers Ksh.1.5m
- Office facilitiesKsh. 4.5m
- Other Accessories Ksh.8.2m

(b)Jitunze Trout Fish Project

(i) Operations

- **PRODUCTION:** 1800 fishes for 4 month = 5400 fishes per year
- **INCOME:** Full grown fish 5400 @ average of Ksh 750 = Ksh 4,050,000 per year
- **PRICES OF Full grown fish:**Ksh 800 to Ksh 1000 per kilo
- **Fingerings 3/4 of all breed sold when young at an average of Ksh30**
- 16,200 @ Ksh 30=Ksh 486,000
- **PRICES of fingerling:** one inch= 15 and Three inch= 45
- **Fish pellets cost:** @ Ksh 100 per kilo
- **One fish consume approximately 1 kilogram of pellets until maturity**
- Plot ½ acre rental fees @ Ksh 50,000 annually
- **1 pond hold 300 fishes feed 4 kg per day @ Ksh 100 per kilo (4 month) (6 ponds annual cost: $6 \times 400 \times 30 \times 4 = 288,000 \times 3 = 864,000$)**
- **Average cost of production and savings cost 55%: The remaining 45% was shared among members {25}**

(ii) Assets

- Hatchery @ Ksh 2.2m
- 4 Fish ponds @ Ksh 150,000
- Slaughter Buildings (incomplete) @ Ksh 2 m
- Power generator @ Ksh 50,000
- Office facilities Ksh 850,000
- Other Accessories Ksh 25,000

(c)Rumuruti Aloe Vera Project

(i) Operations

- **PRODUCTION:** 100 to 150 containers of each 100gram lotion and cream Per month
- **INCOME:** Ksh. 10,000 to Ksh. 15,000 Per Month
- **PRICES OF LOTION:**Ksh. 100 per 100gram
- **PRICES OF CREAM:**Ksh. 100 per 100gram
- **Plastic packaging (Tetra Pack)** Ksh6.50 per 100gm plastic container
- **Labels:** 3Ksh per container
- **Additives** (preservations, scents, colour) Ksh.8 per 100 gram container
- **Extraction of Aloe vera jelly: sourced free from project's or community farm**
- **Labour:** volunteers
- **The project deducted 60% of income {for cost and savings} and share the remaining 40% among 15 members**

(ii) Assets

- Rental room fees @ Ksh. 500 per month
- Mixing container Ksh. 5,000
- Office facilities Ksh. 4,500
- Other Accessories like blender;Ksh. 3,340

Ingredients of making Aloe vera hand and body moisturizer {16 Ounces}

- 1 cup pure aloe vera gel, distilled water, or strong-brewed herbal tea
- ½ cup grated beeswax
- ½ cup sweet almond, grape seed, or jojoba oil
- 1 tea spoon Vitamin E oil
- 15 drops essential oil

(d) Kionyweni Basket Weaving Project

(i) Operations

- **PRICES of Baskets:** @ an average of Ksh.525 per Basket
- **DYE: 100gm tin** @ Ksh.3000 for 100 baskets
- **3 sales order per year:** Selling is done after 3 month with a break of one month
- **Extraction of sisal threads:** sourced free from project's or community farm
- **Labour:** volunteersmembers
- **Project hold 10% of the income and share 90% of income among 29 members**

Basket Packages

- **Set 1:** Size 5; 8 & 12: (250; 350; 800) @Average price of Ksh.467
- **Set 2:** Size 5; 9 & 13: (250; 500; 1000) @Average price of Ksh.583

Prices for Baskets: Size 4= 200/= Ksh; Size 5= 250/=; Size 7= 300/=; Size 8- 350/=; Size 9= 500/=; Size 12= 800/=; Size 13= 1000/=

(ii) Assets

- 2 Tanks @ Ksh.2,500 = 5,000

- Rental room fees @ Ksh.800 monthly
- Office facilities Ksh.1500m
- Other Accessories Ksh.1200
- Savings:Ksh. 30,000