

**ENTREPRENEURIAL DETERMINANTS OF OPPORTUNITY RECOGNITION  
AMONG THE DAIRY FARMERS WITHIN MAKUENI COUNTY, KENYA**

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**A Research Project Submitted in Partial Fulfillment for Award of the Degree of Master of  
Science Entrepreneurship and Innovation Management of the University of Nairobi**

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## DECLARATIONS

I, the undersigned, confirm this as my original research work and that it has not been submitted to another institution, or university as a project.

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This research project has been presented for examination with my approval as the appointed supervisor.

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## ABSTRACT

In the process of entrepreneurship, recognition of opportunity being the first stage is an important and unique entrepreneurship element. Although different studies on entrepreneurial opportunity have been done, the dilemma in line with recognition of opportunity is still there and there exists disagreements amongst scholars on how one recognizes an opportunity and converts it into a new business venture thus making the studies inconclusive. The study aimed at establishing the entrepreneurial determinants of opportunity recognition in the dairy sector in Makueni County. The study was grounded on Kirzenian theory and institutional theory. For the research design, a descriptive research design was used. The study population included of all the players in dairy sector in Makueni County. Simple random sampling technique was adopted to sample 100 respondents from the 3000 which was the target population. Primary data was gathered directly from respondents using a questionnaire. The collected data was analyzed using factor analysis. The study found that the data collected can be reduced to four factors. These factors were prior knowledge, entrepreneurial cognition, social networks and entrepreneurial alertness. Out of the factors that were generated from the factor analysis is a factor that represented the dependent variable which was opportunity recognition. The results also showed that all the variables positively correlated with opportunity recognition i.e. prior knowledge positively correlated with opportunity recognition ( $r=0.253$ ), entrepreneurial cognition also positively correlated with opportunity recognition ( $r=0.666$ ). The results also showed that Social networks positively correlated with opportunity recognition ( $r=0.481$ ) and also entrepreneurial alertness correlated positively with opportunity recognition ( $r=0.558$ ). The study concluded that determinants of opportunity recognition in the dairy industry are classified into four factors, entrepreneurial alertness, social networks, entrepreneurial cognition, and prior knowledge and these four factors correlated positively with opportunity recognition. These results agreed with those of Hashemzahi *et al* (2013) who found entrepreneurs social network and alertness and prior knowledge of the entrepreneur to be determinates of opportunity recognition. The results were also line with Greccu (2014) who established networks formed within the entrepreneurs and the entrepreneur themselves were determinants of opportunity recognition. The findings also agreed with Wang, Ellinger and Jim Wu (2013) who identified some determinants of recognizing opportunity as social network and prior knowledge. Lim & Xavier (2015) also found entrepreneurial alertness, social network and prior knowledge and to be determinants of opportunity recognition.

## **CHAPTER ONE: INTRODUCTION**

### **1.1 Background**

Opportunity recognition referred to a process by which individuals come to the conclusion that they have successfully established an opportunity (Baron, 2004). It's taken as the most important part entrepreneurship process. As indicated by researchers, it is the beginning stage of another business and afterward different steps follow. Short, Ketchen, Shook, and Ireland (2010) further supports this and say that, an entrepreneur's effort should have the main focus in opportunity identification without which there is no existence of entrepreneurship.

Institutional as well as Kirzenian theories will guide the study. Kirzenian theory posits that access to relevant information is crucial to finding new business ideas. This implies that market opportunities can only be identified by a few people who have access to information. On the other hand, Institutional theory assumes that deliberate and accidental choices lead institutions to mirror the norms, values and ideologies of organization field.

Kenyan dairy farming sector has tremendously grown. The sector has greatly contributed to growth and employment in the economy and thus it is very important to understand how opportunities are recognized by individuals in the sector. The study majored on factors determining recognition of opportunity by farmers within Makueni County, in Kenya. Makueni County government has started a systematic strategy to commercialize dairy production in the county. Kikima Dairy plant in Mbooni sub-county, was commissioned by the Governor of the county and that made it join the league of other milk processors. This has not been done by any other County government in Kenya and that makes it the only county with its own processing plant. The initiative will boost the economy, open new opportunities for entrepreneurs, create employment and also improve the



wellbeing of the people in the county. The main question in this study was what are the entrepreneurial determinants of opportunity recognition among farmer within Makueni County?

### **1.1.1 Opportunity Recognition**

People are continuously involved in the recognition of opportunities. Though they come across opportunity daily, all of them don't have the capacity to recognize them and convert them into success. Individuals who identify opportunities have greater chances of exploiting the opportunity. Dana (1995) revealed that opportunity identification depends on culture. For example, pigs to one individual is an opportunity to get pork for sell or a meal, while to another individual, like] vegetarians, it may not mean the same. Thus, Dana stressed on the need for context.

OR is experienced by all individuals but an entrepreneur sees it as a venture. Different people will recognize opportunities better than others now that individuals differ on their extent of opportunity recognition abilities. OR isn't just a matter of identifying ideas, it also entails their successful exploitation. OR is a feature for both large entrepreneurs, medium and micro entrepreneurs.

Shane and Venkataraman (2000) characterized recognition of an opportunity as a subject of study requiring unique cognitive skill, of the individuals, to realize it. In order to convert an opportunity to success, various factors are involved which are related to the environment and the individual. OR is classified into steps depending on the context. The steps vary based on the contextual actors. As an example, an actor may be a tutor in a training room, student or financial market investor.

OR involves certain processes which entrepreneurs applies in order to realize success to an enterprise. These steps are recognition of an opportunity, evaluation and finally exploitation of the opportunity. The steps are different amongst entrepreneurs and will differ most between owner-managers and entrepreneurs. These opportunities could be described as new interpretations of the

changes taking place in an environment. Entrepreneurs give them the form of a service or a product (Companys & McMullen, 2007).

Entrepreneurial behaviors are divided into three types: administrators, promoters and trustees. Promoters pursue opportunities regardless of presence of resources, administrators will access environment so as to identify gaps and resources to convert whereas trustees are careful to utilize effectively the resources they possess. The different ways of recognition and exploitation of opportunities arise from the three different types of behaviors. But the basic purpose for an entrepreneurial venture is an opportunity that can be recognized (Stevenson, 2013).

The process of OR it is an iterative process affected by social learning process, having an interplay between behavior, cognition and environment (Dimov, 2010). Opportunities will be recognized only if one has made a decision to pursue entrepreneurship. Nevertheless, due to personal and interpersonal differences, the skill to recognize an opportunity differs among entrepreneurs.

### **1.1.2 Dairy Industry in Makueni County**

Makueni county is semi-arid with a hilly terrain with an altitude of 1000 to 1600 meters above sea level. Contrary to experts 'opinion, in the marginal zones, smallholder exotic dairy cattle have been adopted from the Kenyan high potential zones for the past two decades. Due to slow process of technology diffusion, adoption of dairy in these regions has been done from zones with high potential, with minimal involvement of public service, Kavoi, Hoag and Pritchett (2010) apart from Makueni County government that has been involved directly in the support of the dairy industry which is a new venture offering higher returns, has capacity for growth in future, and is appropriate for small-scale farmers who in the marginal zones, dominate agricultural production (Nicholson, Philip & Mungai, 2004).

Majority of people get employment from agriculture in the marginal areas like in the county of Makueni (Republic of Kenya, 2012). Nevertheless, food security is negatively affected due to low rainfall reliability which results to drought and crop failure, and this worsens the situation (Mbithi and Huylenbroeck, 2009). In the county, there are neither established cash crops nor employments outside the sector, like fishing and tourism in the Kenyan coastal. The region has low household incomes, 60% and above of its population are living below the line of poverty (Republic of Kenya, 2014). Poverty minimization stands as one of the biggest problems and thus, dairy sector significance in the County can never be overlooked.

Dairy production that is market-oriented is partially filling the needs of small-scale farmers in the marginal areas. The dairy sector's revival in Makueni County began with an ambitious artificial insemination program. The idea was to genetically create high yielding breeds adaptable to the local climatic conditions. The county government has also rolled out massive fodder farming promotion, with many farmers now abandoning traditional farming practices for hay farming (Nzioka, 2018). The introduced exotic dairy cattle and Cross-Bred Cows (CBC), the fodders production and commissioning of Kikima milk processing plant, now packaging fresh milk, 'MAKUENI FRESH', in Makueni County, justify the need to recognize the every rising opportunities for both traders and farmers. The players in dairy farming include services and inputs providers; key industry drivers and local and international development partners; and the consumer. At the production sector level, smallholder dairy farmers are the highest in number. Other player in the dairy sector includes, organized cooperative societies, local farmer groups, informal distributors, traders, and retailers, inputs distributors, agricultural service providers, veterinary service workers, advisory service providers etc.

## **1.2 Research Problem**

In the process of entrepreneurship, recognition of opportunity as the first stage is an important and unique entrepreneurship component. Although different studies on entrepreneurial opportunity have been done, the dilemma in line with recognition of opportunity is still there and there exists disagreements amongst scholars on how one recognizes an opportunity and converts it into a new business venture thus making the studies inconclusive. Alvarez and Barney, (2017) said that recognition of opportunity does not get the desired attention, thus it is least researched as far as entrepreneurship is concerned, and therefore researchers ought to endeavor to understand how opportunities of entrepreneurship are discovered.

Makueni County is among the Kenyan semi-arid areas. Due to unpredictable rain patterns, the population hasn't relied on agriculture for commercial purposes. Therefore Makueni county government embarked on an exercise to improve dairy industry by supporting fodder farming, rearing of cattle that are crossbreed, that are both hardy for the semi-arid area and productive. Kikima dairy processing plant was also commissioned. This step will create opportunities to new farmers and entrepreneurs to venture into the dairy sector. Only individuals who will be able to identify opportunities well in the dairy sector, will benefit from successful ventures

Dyer, Gregersen and Christensen, (2008) realized that the three common explanations by majority of entrepreneurs regarding differences in their capacities to recognize opportunities were: cognitive diversities, personality and social network differences. Berglund (2007) citing Hashemzahi and Hashemzeh (2013) found four personal and environmental factors: their social networks, personality trait, prior knowledge and alertness. Grecu (2014) considered external factors for instance, socio-political factors, industry and market features, networks formed and the entrepreneur.

Though many studies on dairy industry have been conducted, they have mainly concentrated on other factors such as financing (Waliula, 2012), innovation (Nthuni, 2014), firm performance (Masese & Munene, 2013) and industry growth (Mwirigi, 2011). None has focused on factors influencing opportunity recognition among the dairy farmers within Makueni County. This proposal posed the question, what are the determinants of opportunity recognition among the dairy farmers within Makueni County, Kenya?

### **1.3 Research Objective**

The research study's main aim was to establish determinants of entrepreneurial opportunity recognition among the dairy farmers in Makueni County, Kenya.

### **1.4 Value of the Study**

Very little is known about the determinants of opportunity recognition among dairy farmers in Kenya and in Makueni region. The findings of this study are aimed at highlighting the degree to which each of the determinants influence opportunity recognition in the dairy sector in Makueni County. The study would be of great interest to scholars, policy makers, farmers and cooperative societies.

The study would influence policies of entrepreneurship in order to inform future policy changes. This information will benefit the government since it will help them formulate critical policies for dairy farming stakeholders, a suitable policy which will aim at developing entrepreneurial capacities which will be beneficial to the economy and community at large.

Further, higher learning institutions will benefit in that they would know the areas to focus on during the implementation of business courses, more so courses on entrepreneurship which aim at inspiring the learners to start their own businesses. Thirdly, this study would benefit the

cooperative societies since they will be informed on factors to use in considering potentially successful dairy farmers prior to giving them funds. Consequently, the problem of bad debts will be curbed.

Lastly, the results of this study would have critical findings for entrepreneurs to boost on their knowledge. The study will enlighten us on how dairy farmers recognize and exploit opportunities hence having viable businesses. Moreover, the study will encourage future scholars to investigate more on recognition of opportunity.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

The chapter considers other scholars work in the field of recognition of opportunity; and a theoretical framework. The literature focuses on factors influencing opportunity recognition among entrepreneurs.

### **2.2 Theoretical Approaches of Opportunity Recognition**

The study examines Kirzenian theory and institutional theory. As per Berglund (2007) there are two main views, that is opportunities being available prior to their discovery and exploitation and secondly opportunities existing due to social processes. Nevertheless, Alvarez and Barney, (2007) posits that, as opposed to the above views, opportunities are not made neither are they found. Klein, (2008) stipulates that opportunities, more often than not, are envisioned and happen in the decision maker's thoughts.

### **2.2 Theoretical Literature**

#### **2.2.1 Institutional Theory**

Scott (2014) asserts that institutional theory is about the in-depth and more resilient features of social organization. This looks at the manner in which structures that includes, routines, norms regulations, schemas, become well known as authoritative guidelines for social behavior. It seeks to look into how these essentials are shaped, dispersed, adopted, and adapted with time; and how they collapse and are neglected.

Institutionalization is the process by which, over space and time, repetitive tasks, managerial structures, or positions acquire surplus sense or value beyond their planned function in recognitions of opportunities. Selznick, (2015) posited that the organization's capability to recognize opportunity comes at the cost of its first purpose. Selznick's study offered two key

insights that form the foundation of the institutional theory. First, he established that administrations become permeated with worth (value and significance) that spreads beyond their basic useful utility by being in a position to recognize new opportunities. Second, he asserted that because of this infusion of worth, there are often unintentional costs to purposive actions. Selznick's study, thus, separated organizational activity into two distinct realms, opportunity recognition, and the symbolic and institutional realm of meaning and value.

The properties of great institutions such as management, religion, language, regulations, and family are so distinct and known that one cannot imagine social inquiry that would not look into them. Thus, the historical thought of institutional theory is as old as the history of social theory. The major systematic attempts to explain whatever institutions are and how they affect action and organizations, however, are documented in the works of two classical researchers: Max Weber and Emile Durkheim. Though Weber did not adopt the word institution, his idea of cultural laws or arrangement is close to the current apprehension of the theory of institution. The interpretive method of Weber painted the idea that actions are social in the logic that the actor ascribes a personal sense to it. So sense always leads to social action. Therefore, the role of traditional systems become perfect: they deliver a set of implications required to understand actions.

According to Meyer and Rowan (1977), the reawakening of the institutional theory in the 1970s started with inquiries into the implications of institutional settings on the arrangements of administrations. Over time, scholars started to theorize the dynamic forces of the institutional context itself. For example, they inspected how social facts can go to the position of institutions, i.e., turn out to be institutionalized. They also looked into many new questions, e.g., how institutions are faced out, how they transform, how they relate to each other, how social players can impact their institutional framework.



Social networks influence opportunity recognition. According to Amber and Styles (2000) entrepreneurship encompasses both working together with people besides selling to them and hence social associates frequently plays a major part in the entrepreneurial tasks. Wilkinson and Young, (2005) posits that the social and business networks assist the individual to acquire facts that could be out of reach to them. The features of the social network inspires recognition of an opportunity, the range of players will assist prevent outdated material, and the solid links will inspire entrepreneur to belief in the exactness of material and facts established. The social networks are the links of distinct relations that entrepreneur's purse and ride on to acquire the assets they need (Johannisson, 1990). They comprise the entrepreneur's acquaintances, for example, households, business associates, friends and colleagues.

Hence, the significance of cultural systems or beliefs is clear: they make available a set of meaning required to interpret actions. This study will consider how institutions like management, religion, language, regulations, and family help determine the rate, perspective and ease of opportunity recognition in the dairy industry in Makueni County, Kenya.

### **2.2.2 Kirzenian Theory**

Kirzner's (1977) theory of entrepreneurship alertness (discovery theory) involves understanding how individuals generate profits dependent on their capacity of knowledge and identification of gaps in information existing due to diversities in knowledge base of individuals in an industry.

Opportunities are seen to originate from external factors that disrupt market equilibrium status.

The theory portrays opportunities as ever present and that they only require to be identified by individuals who are aware about them since they emanate from disruptions in the market equilibrium because of poor decision making frameworks (Alvarez and Barney, 2007).

Shane, (2003) described the deviations necessitating discovery and recognition of opportunity to be political, technological, social and demographic and regulatory. He stipulates that such events could end up discouraging a competitive stability at an industry hence creating opportunities. Few dairy players create totally new products, hence majority can be referred to as as discovery entrepreneurs this is because they transacts goods and services that already existing in the market place and along the value chain. Alvarez and Barney, (2007), stipulated that an entrepreneur able to recognize opportunities is different from others in that he has aptitude to locate opportunities and exploit them. Existing empirical research findings have not yet established if prior to the onset of the entrepreneurial activities, entrepreneurs and those who not entrepreneurs are, differ and weather their differences exit or come along with experiences.

In this theory, an entrepreneur's decision to use an opportunity is deemed to be risky since opportunities are perceived as objective in nature. Alverez and Barney, (2007) nevertheless portray that this theory is majorly concerned with opportunities scouting to create new products at the environment of the entrepreneur. The discovery theory hence concerns itself with both the active and passive search so as to identify an opportunity (Berglund, 2007).

Alertness in an entrepreneur helps determine opportunities in his surrounding. Kirzner, (1997) posits that alertness of an entrepreneur refers to, the discovery of opportunities in the business and utilization of resources in order to convert these opportunities into value. Secondly, Ray and Cardozo, (1996) defined it as a tendency to identify and being alert to information on things around a person and more so pertaining other peoples problems, needs and interests. Ardichvili et al., (2003) argued that entrepreneurial alertness level is high if several variables e.g. prior knowledge, personality and experience come together. They thus concluded that higher alertness boosts chances of an opportunity being identified.

Baumol, (1993) expounded on alertness to include: instincts, innovativeness and personal inspiration. The study will adopt the definition advanced by Baron, (2004) that mental alertness in entrepreneurship includes openness and readiness for opportunities identification and exploitation. In addition, entrepreneurs will also conduct systematic market search where they are informed and knowledgeable, this goes a long way in enabling them further comprehend customer demands and hence opportunity recognition. Baron, (2007) argues that people are different in their vigilance in recognizing opportunities even when they are not actively searching. This stems from the fact that their mental capacities enable them notice upcoming opportunities, pattern recognition, and this consequently plays a great role in entrepreneurial alertness.

Prior knowledge by an individual is an important aspect in recognizing opportunities. As per Shane (2002), prior knowledge will represent an individual's knowledge instrumental to the opportunity identification process. An entrepreneur's prior knowledge will influence his interpretation aptitude, understanding levels and his proper use of new information when a need arises. As per Ronstadt, (1998), it is crucial in recognition of an opportunity since it makes a 'knowledge corridor' that allows for direct ways of conceptualizing, analyzing and utilizing new information. Ronstadt, (1998) coined the "corridor principle", explaining how a person's prior knowledge and experience forms corridors which then become new opportunities (Wang, 2013). In addition, Von Hippel, (1994) recorded that people will enter into business ventures that are directly related to information that they have.

While information is available in the environment, there are those who will discover opportunities and those that will not due to their cognition ability. Mitchell and Smith, (2002) shows entrepreneurial cognition as structures in knowledge which will be used by people to make judgments, decisions or assessments pertaining the evaluation of an opportunity, creation of a

venture and development. Entrepreneurs encounter a lot of information in their daily life, leading to its vagueness, extreme emotions following occurrences in their environments, exhaustions and time pressures that affect their cognition ability hence making new decisions become a routine. The incapacity of people to process information from the external world, their limitedness towards obtaining efficiency, leads them to taking shortcuts by employing limited information levels or depending on recent stories of success.

### **2.3 Empirical Literature**

The study by Saulo (2016) examined the job of earlier information, entrepreneurial cognizance, interpersonal organizations, entrepreneurial sharpness and identity attributes in the effective acknowledgment and misuse of chances among little scale makers in Kariobangi Light Industries. The study set up that that identity qualities, earlier learning, interpersonal organizations, entrepreneurial sharpness and entrepreneurial insight had a huge constructive outcome on effective open door acknowledgment and misuse.

Njogu (2015) assessed the factors dictating the opportunity exploitation by entrepreneurial tree farmers in Lari District of Kiambu County, Kenya. The study adopted survey design and data collected using questionnaire. The findings established that prior knowledge to have significant influence on opportunity recognition.

The study by Greccu, (2014) on factors stimulating entrepreneurial opportunity recognition the process showed three factors influencing the process. The first set of factors had the historical heritage, cultural differences and the socio-political factors. Secondly were the market and industry characteristics. Thirdly were the networks formed within them and finally the entrepreneur themselves.

Wang, Ellinger and Jim (2013) examined the antecedents of entrepreneurial opportunity recognition. The study findings showed a positive effects on entrepreneurial opportunity recognition by social networks, self-efficacy and prior knowledge. Lim and Xavier (2015) proposed a model of the opportunity recognition and identified antecedents of opportunity recognition as alertness, prior knowledge and social network.

As per Berglund (2007) in his research as quoted by (Hashemzahi et al., 2013) revealed four sets of environmental and personal factors influencing recognition of an opportunity. These included: personal characteristics of the entrepreneur for instance his self-confidence and creativity, entrepreneur's social network and alertness and prior knowledge of the entrepreneur.

## **2.4 Research Gap**

We have looked at the theories and empirical studies on the dairy sector in Kenya. Many studies have been done on challenges facing the dairy sector on the diary sector, value chain activities and employment in the sector and factors affecting production of dairy products in Kenya. Nevertheless, there lacks a study on determinants of opportunity recognition among dairy farmers within Makueni County. The current study intended to fill this gap. In addition, there is no clarity on the effect that entrepreneurial cognition, prior knowledge, social networks and entrepreneurial alertness have towards opportunity recognition in dairy industry. An understanding of these elements that are closely related to entrepreneurial thinking and action, would act as a blueprint for influencing the entrepreneurs capabilities even as their entrepreneurial skills get sharpened.

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Introduction**

The section described the conduction of the study through the outlining of the procedures taken for the collection and analyzing of data suitable to address questions of the research. The chapter began by outlining the quantitative research approach and descriptive design that was adopted by the study. The chapter then shed light on the sampling procedure, data generation and analysis methods used.

### **3.2 Research Design**

A descriptive research design was used in this study. The research design effectively described the characteristics of an event, situation, community or population. The research design is best suited because it enables the researcher to describe the situation more completely than is possible without employing this method.

The research study adopted quantitative approaches and cross-sectional survey design. Quantitative research helps generate statistics using large-scale survey research, by use of questionnaires or structured interviews, Dawson (2002). The survey method aids in examining the position of two or even more study variables and is reliable in measuring and analyzing large population features.

The researcher did not only collect data from the respondents, he also measured, classified, analyzed compared, interpreted and summarized the data in a way that will provide designed descriptive information.

### **3.3 Population**

Population data was sourced from the County Government of Makueni publication. The records gave the most recent information on the dairy sector, and it been a government publication, makes

the information gathered credible. According to the Makueni County Integrated Development (2017) records there were 3,000 dairy farmers in Makueni County. The study therefore worked with 3000 farmers as the target population.

### **3.4 Sampling**

The study used simple random sampling, which is a probability sampling technique, to identify participants for the study. Simple random sampling is best suited for the study because the samples yield data that can be generalized to a larger population. The method also provides equal opportunity of selection for each element of the population and therefore gave a true representation of the population (Joan 2009).

The sampling frame for the study included all the farmers in the dairy sector of Makueni County. The sample size which was in line with 10% of the accessible population of 3000 players in the dairy industry is 300 respondents. Due to some constraints like finances, the researcher however used a sample size of 100 respondents which was also in line with the rule of thumb. According to Hogg and Tanis' (2017), in sampling the rule of thumb can be applied as long as sample size is equal or greater than 30 respondents. The sample size was a true representation of the dairy farmers within Makueni County.

### **3.5 Data Collection**

Primary data was gathered directly from respondents. The use of primary data ensured that the data collected is specifically for the purposes of the study in consideration in that the researcher's questions elicited for data that helped them with the study. Researcher used a structured questionnaire captured through a 5-point type Likert scale with close-ended questions. The structured questionnaires reduced any opportunity for biasness and saves on time.

The researcher used a consent letter before the questionnaire was administered to the respondents. The questionnaires were disseminated by assistants of research. The assistants were trained on whom and how to administer questionnaires in selected areas in Makueni County. Trainings majored on; skills of listening, etiquette and expected answers according to the study objectives. Then the researcher made follow ups to check on objectivity. The respondents filled in the questionnaire administered by the researcher or research assistant. The questionnaires for this research had two sections. Section one contained questions on the basic background while section two covered questions on factors determining opportunity recognition among dairy farmers within Makueni County.

### 3.5.1 Response Rate

The researcher distributed 100 questionnaires to the respondents. Table 3.1 shows the response rate for the study.

**Table 3.1: Response Rate**

	Response	% Response
Successful	85	85%
Unsuccessful	15	15%
Total	100	100%

Table 3.1 shows that out of the 100 questionnaires administered, 85 were well filled and returned. Therefore, the response rate was 85%, which is well above Mugenda and Mugenda ( 2003) 50 % threshold, thus its is ideal for data analysis.



### **3.6 Data Analysis**

The data was sorted, coded, edited, and entered. Data gathered from the questionnaires was analyzed by extracting, compiling and modelling raw data to obtain useful information that was used to make inferences regarding the phenomenon under the study. The collected data was analyzed using factor analysis. Factor analysis aims at representing the relationships among sets of variables in the simplest model but with great explanatory power, yet keeping factors meaningful.

Factor analysis reduced the number of variables into fewer components with similar characteristics. It removed redundancy or duplication from a set of correlated variables, if they happen to exist.

Factor analysis involved the following four steps: computation of correlation matrix for all study variables, factor extraction, factor rotation and finally making decisions regarding the number of underlying factors.

#### **1st Step: The Correlation Matrix**

It includes generation of correlation matrix for the study variables and identification of variables not related to others.

Presence of correlation coefficients that go above 0.3 in total values indicates that the correlations are acceptable. The Kaiser-Meyer-Olkin measure of sampling adequacy is performed. The interpretive adjectives for the KMO test: the closer the KMO measure to 1 as sizeable sampling adequacy ,0.8 and higher as great, 0.7 as acceptable, 0.6 as mediocre, less than 0.5 as unacceptable.

## **2nd Step: Factor Extraction**

In this level, factors were determined. Initial decisions were made about number of factors underlying a set of measured variables.

The determination of the number of factors to be used to represent was based upon the use of 2 statistical criteria:

-Eigen Values, and

-The Scree Plot.

To determination the factors Eigen values greater than are considered.

Factors having a variance less than 1 are no better than a single variable, since each variable is expected to have a variance of 1.

## **3rd Step: Factor Rotation**

At this juncture, rotation of factors is done to make them more meaningful and simpler in interpretation (each variable is associated with a minimal number of factors) Factors are rotated using Varimax method. Varimax attempts to minimize number of variables having high loadings on a factor. This thus enhances factors the interpretability. A factor interpretation or naming is done by examining the largest values linking the factor to the measured variables in the rotated factor matrix.

## **4th Step: Final Decisions Making**

Final decision about number of factors to choose is the number of factors for the rotated solution that is most interpretable.

The decision is guided by:

- A priori conceptual belief regarding number of factors from past research or
- theory Eigen values computed in the second step.
- The relative interpretability of rotated solutions derived in the third step.

## CHAPTER FOUR: ANALYSIS, RESULTS AND DISCUSSION

### 4.1 Introduction

This chapter dealt with the analysis of data collected. First the response rate was given followed by the demographic information analysis. Factor analysis results were also presented and finally the discussion.

### 4.2 Demographic Characteristics of Respondents

#### 4.2.1 Gender of Respondents

The respondents were requested to state their gender. This was done in order to determine the ratio of men to women practicing dairy farming in Makueni County, Kenya. The responses given were analyzed to give the frequencies and percentages which was presented in a table. Table 4.1 shows the results for gender.

**Table 4.1: Gender of Respondents**

Gender	Frequency	Percent
Female	32	38
Male	53	62
<b>Total</b>	<b>85</b>	<b>100</b>

The results presented in Table 4.1 shows that majority (62%) of the respondents were male while 38% were female. This indicates that most of the people practicing dairy farming in Makueni were males. According to our study, this implies that more men than women have recognized the dairy farming opportunity in Makueni County.

#### 4.2.2 Level of Education of Respondents

The education level of the respondent was important in the study. This was to understand the literacy level of people practicing dairy farming in Makueni County. The data on respondents level

of education was collected, computed and frequency and percentages of the various levels of education attained by the respondents generated. The results were then presented using a table. Table 4.2 shows the frequencies and the percentages of the level of education as per the responses given.

**Table 4.2: Level of Education of Respondents**

<b>Level of Education</b>	<b>Frequency</b>	<b>Percent</b>
No formal education	1	1
Primary level	4	5
Secondary level	55	65
College level	25	29
Total	85	100

The results as shown on Table 4.2 indicate that most of the respondents (65%) were of secondary level of education. 29% had college level of education while 5% had primary level of education and 1% had not acquired any formal education. This implied that majority of the respondents had obtained the basic education to enable them read, interpret and answer the questions in the questionnaire. This meant that the responses given were valid.

#### **4.2.3 Age of the Respondents**

Data on the age of respondents was collected from the respondents to determine the age bracket of the people practicing dairy farming in Makueni County. This helped to know the age bracket that recognizes opportunities more. The age bracket that had the highest percentage was considered to be more oriented in opportunity recognition. The information obtained from the respondents was captured using frequencies and percentages. This was then presented in tabular form. Table 4.3 shows the results.

**Table 4.3: Age of the Respondents**

<b>Age</b>	<b>Frequency</b>	<b>Percent</b>
21-30 years	14	16
31-40 years	39	46
41-50 years	22	26
51 years and above	10	12
Total	85	100

The results as shown on Table 4.3 reveal that 46% of those interviewed were aged between 31-40 years, 26% were aged between 41-50 years, and 16% had the age of between 21-30 years while only 12% had the age of 51 and above. This indicates that most of the people practicing dairy farming in Makueni are in the youth's age group. As per our study, this implied that more youths than the aged have been able to identify the dairy farming opportunity and to venture into the business.

#### **4.2.4 Dairy Farming Experience**

Research sought to determine the number of years the respondents had practiced dairy farming. This was to enable the researcher to understand the experience the respondents had in dairy farming. The longer one had been in the dairy farming business, the more experienced he was considered to be. This further helped validate the data obtained. The number of years that respondents had on dairy farming was used to capture the data on dairy farming. Frequencies and percentages were generated and results presented using a table. Table 4.4 presents the number of years the respondents had practiced dairy farming.

**Table 4.4: Dairy Farming Experience**

<b>Dairy Farming Experience</b>	<b>Frequency</b>	<b>Percent</b>
Less than 1 year	4	5
2-5 years	22	26
6-10 years	26	31
over 10 years	33	39
Total	85	100

The results in Table 4.4 shows that most (39%) of the respondents had practiced dairy farming for over 10 years, 31% had practiced dairy farming for 6-10 years, 26% had practiced for 2-5 years while only 5% had practiced dairy farming for less than 1 years. This would imply that the respondents had a high experience in dairy farming and therefore gave valid responses on the questions that were asked.

#### **4.2.5 Ownership**

Data was gathered from the respondents on ownership of the dairy farm. This helped to know if the business was owned by one or more individuals. Data gathered from the respondents was computed and frequencies as well as percentages were generated and presented in tabular form.

Table 4.5 shows the results on the ownership of the businesses.

**Table 4.5: Ownership**

<b>Ownership</b>	<b>Frequency</b>	<b>Percent</b>
Sole proprietor	80	94
Partnership	2	2
Corporation/cooperatives	3	4
Total	85	100

Table 4.5 shows that majority of the respondents who were 94% were sole proprietors, 4% owned the business as cooperatives while 2% had partnered in the business. This implied that the dairy farmers in Makueni County practiced the business solely and did most of the work including management. This meant that they had most of the information about their business and therefore the conclusion made was valid.

#### **4.2.6 Number of Employees**

The number of employees in the dairy business was given by the respondents. This would give the size of the business. The more the number of employees, the larger the dairy farming business was considered to be. The results were presented in form of frequencies and percentage in a table. Results were as shown in Table 4.6.

**Table 4.6: Number of Employees**

<b>Number of Employees</b>	<b>Frequency</b>	<b>Percent</b>
1-5	27	32
6-10	7	8
11-15	3	3
0	48	57
Total	85	100

Results on table 4.6 show that 57% of the respondents, who were the majority, had no employees in their farm, 32% had employed 1-5 employees, 8% had 6-10 employees while only 3% had 11-15 employees. This implied that most of the dairy farming businesses in Makueni were small in size.



### 4.3 Determinants of opportunity recognition among dairy farmers

The respondents indicated their extent of agreement with statements on the determinants of opportunity recognition among dairy farmers. The information from the respondents was captured through a 5-point type Likert scale.

Descriptive statistics for the statements under each factor was done where the means and the standard deviations were reported. Descriptive statistics gave summary statistics of each variable to allow the researcher to make sure that the variables specified are the right variables. Mean score of 3 and more gives results of satisfaction on each test variables. Results are presented in tables 4.7 to table 4.11.

**Table 4.7: Prior Knowledge**

<b>Statements</b>	<b>Mean</b>	<b>Std. Dev</b>
I have knowledge of seasonal patterns	3.79	0.90
I ventured in dairy farming because of information I already knew	3.82	0.90
Business ideas emanates from having prior knowledge of the market and as well as that of the clients	3.76	0.88
Previous knowledge on handling the market assists entrepreneurs to evaluate capabilities required to enter the market place	3.73	0.97
I quickly and easily recall information that relates to my field	3.78	0.88
<b>Average</b>	<b>3.78</b>	<b>0.91</b>

Table 4.7 show that the average means score for the statements on prior knowledge was 3.78. This implied that many of the respondents were in agreement to the statements. The average standard deviation was 0.91 indicating that the responses varied but with a low variation.

**Table 4.8: Entrepreneurial Cognition ability**

<b>Statements</b>	<b>Mean</b>	<b>Std. Deviation</b>
I do not need a lot of information to take action.	3.44	0.12
I can control the uncertainties of the future	3.48	0.15
I view risks differently than others	3.53	1.17
I prefer experiments to systematic thinking	3.55	1.18
I must often make quick decisions	4.56	1.21
<b>Average</b>	<b>3.71</b>	<b>0.77</b>

The results in Table 4.8 show that the means score for the statements on entrepreneurial cognition was 3.71. This implied that many of the respondents were in agreement to the statements. The average standard deviation was 0.77 indicating that the responses varied but with a low variation.

**Table 4.9: Social Networks**

<b>Statements</b>	<b>Mean</b>	<b>Std. Dev.</b>
Social and business networks enable me to get information that would have been otherwise out of reach	3.51	0.99
Social and business networks enable me get the assets I require	3.68	0.98
Weak ties linked to partners in business partners and acquaintances have a higher tendency to give me information on new opportunities compared to family member's strong ties.	3.65	1.01
I am innovative and I have the ability to influence the economy instead of just responding to it.	3.65	0.97
My interactions with customers aid opportunity recognition (come up with new business ideas).	3.56	0.98
<b>Average</b>	<b>3.61</b>	<b>0.98</b>

The results in Table 4.9 show that the means score for the statements on social networks was 3.61. This implied that many of the respondents were in agreement to the statements. The average standard deviation was 0.98 indicating that the responses varied but with a low variation.

**Table 4.10: Entrepreneurial Alertness**

<b>Statements</b>	<b>Mean</b>	<b>Std. Dev.</b>
I constantly note when customer needs change.	3.78	0.82
I effortlessly notice gaps that exist in the market place.	3.75	0.84
I occasionally rely on my instincts in generating new business idea.	3.79	0.85
I always carry out systematic search on markets to better understand the needs and demands of the customers	3.78	0.82
I am always open and ready for opportunities	<b>4.34</b>	<b>0.67</b>

The results in Table 4.10 show that the means score for the statements on entrepreneurial alertness was 4.34. This implied that many of the respondents were in agreement to. The average standard deviation was 0.67 indicating that the responses varied but with a low variation.

**Table 4.11: Opportunity Recognition**

<b>Statements</b>	<b>Mean</b>	<b>Std. Dev.</b>
I see opportunities in information where others see hurdles	3.75	0.87
I relate well-known products to the already existing market so as take advantage of an opportunity that is in existence.	3.66	0.89
I exploit a recognized supply and look for unmet demand	3.47	0.88
I am innovative and I have the ability to influence the economy instead of just responding to it.	3.51	0.85
I regularly search for new ideas to develop new goods or services by responding to the clients and market needs	<b>3.60</b>	<b>0.87</b>

The results in Table 4.11 show that the means score for the statements on opportunity recognition was 3.6. This implied that majority of the respondents agreed to the statements. The average standard deviation was 0.87 indicating that the responses varied but with a low variation.

#### **4.4 Factor Analysis**

Factor analysis technique is used to reduce many variables into a few factors. The main believe in factor analysis is that multiple observed variables have same patterns of responses because all of them are linked to a latent variable. For each and every factor analysis, there will be the same number of factors as there will be variables. Each factor will capture a given amount of the total variance in the observed variables. The eigenvalue gives a measure of how much of the variance of the observed variables a given factor will explain. According to the Kaiser Criterion, Eigenvalues greater than one, are considered a factor and Eigenvalues less than one, should not be considered as a factor. Generally, the factors that explain the least amount of variance are discarded.

The relationship of each individual variable to the underlying factor is given by the factor loading which is the correlation coefficient for the variable and factor. There are a number of methods that are used to extract a factor from a data set. They include; principal component analysis, maximum likelihood, image factoring, and alpha factoring. Principal Component method is mostly used by researchers. In order to better understand the outputs, a rotation method is used. Several rotation methods can also be used; no rotation, varimax rotation method, , Direct oblimin rotation method, and Promax rotation method with Varimax being the most commonly used.

Factor analysis was conducted to assess the determinants of opportunity recognition among dairy farmers in Makueni County. Principal Component method was used. The purpose was to reduce the statements in the questionnaire into few factors. Principal Component starts extracting the

maximum variance and puts them into the first factor. After that, it removes that variance explained by the first factors and then starts extracting maximum variance for the second factor. This process goes to the last factor. In order to get a more reliable data, rotation was done using varimax rotation method. Factors with an eigen value greater than 1 were selected whereas the rest were discarded. Factor loadings for each variable were determined and each factor given a name according to the characteristics of variables that loaded heavily on it.

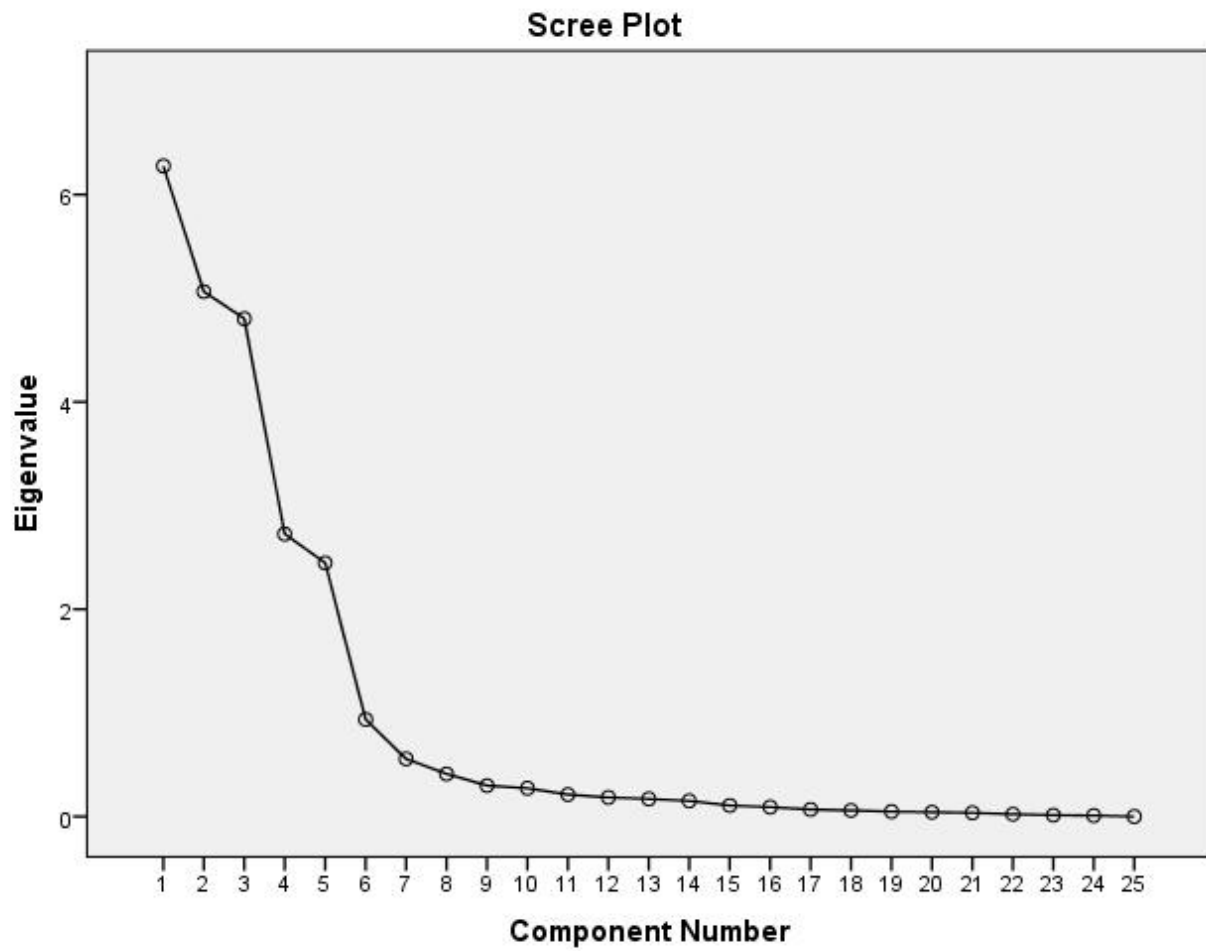
#### **4.4.1 Factor Extraction**

Factor analysis revealed that the statements can be reduced to five factors. The reduction of the statements into five factors followed the Kaiser criterion which asserts that a factor should be selected on the basis of Eigen Values. An Eigen value of 1 or more indicates a factor. The five factors explained a cumulative variance of 85.261 % of the total variance.

**Table 4.12: Eigen values**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.276	25.104	25.104	6.276	25.104	25.104	4.534	18.137	18.137
2	5.064	20.258	45.361	5.064	20.258	45.361	4.421	17.684	35.821
3	4.803	19.211	64.572	4.803	19.211	64.572	4.205	16.819	52.64
4	2.726	10.902	75.474	2.726	10.902	75.474	4.165	16.659	69.299
5	2.447	9.787	85.261	2.447	9.787	85.261	3.99	15.961	85.261
6	0.936	3.746	89.006						
7	0.556	2.223	91.23						
8	0.411	1.644	92.873						
9	0.298	1.194	94.067						
10	0.273	1.092	95.158						
11	0.211	0.845	96.004						
12	0.184	0.736	96.74						
13	0.17	0.679	97.418						
14	0.151	0.602	98.021						
15	0.107	0.427	98.448						
16	0.091	0.365	98.813						
17	0.067	0.27	99.083						
18	0.058	0.233	99.316						
19	0.048	0.192	99.508						
20	0.042	0.168	99.676						
21	0.036	0.142	99.818						
22	0.022	0.09	99.908						
23	0.013	0.054	99.962						
24	0.01	0.038	100						
25	-4.89E-17	-1.96E-16	100						

The scree plot below confirms the results above. It shows that the slope of the plot leveled up after five factors. This indicates that the first five factors account for most of the variability given by the data.



**Figure 4.1: Scree Plot**

#### **4.4.2 Factor Rotation**

Component matrix results showed that the statements were loaded into 5 different factors.

**Table 4.13: Component Matrix**

	Component				
	1	2	3	4	5
I see opportunities in information where others see hurdles	0.971	0.147	0.134	0.018	-0.041
I regularly search for new ideas to develop new goods or services by responding to the clients and market needs	0.964	0.118	0.133	0.038	-0.028
I exploit a recognized supply and look for unmet demand	0.909	0.184	0.122	-0.098	0.015
I am innovative and I have the ability to influence the economy instead of just responding to it.	0.909	0.105	0.033	0.085	-0.023
I relate well-known products to the already existing market so as take advantage of an opportunity that is in existence.	0.901	0.068	0.178	-0.027	-0.034
I do not need a lot of information to take action	0.16	0.953	-0.019	0.001	0.124
I must often make quick decisions	0.082	0.937	-0.03	-0.029	0.065
I can control the uncertainties of the future	0.165	0.933	0.026	-0.009	0.111
I view risks differently than others	0.084	0.929	0.004	0.079	-0.032
I prefer experiments to systematic thinking	0.125	0.856	-0.132	-0.084	0.172
I have knowledge of seasonal patterns	0.138	-0.064	0.951	0.159	-0.018
Previous knowledge on handling market assists entrepreneurs to evaluate capabilities required to enter the market place	0.068	-0.061	0.91	0.13	0.011
I ventured in dairy farming because of information I already knew	0.178	-0.021	0.9	-0.009	0.107
I quickly and easily recall information that relates to my field.	0.169	-0.012	0.897	0.201	-0.032
Business ideas emanates from having prior knowledge of the market and as well as that of the clients	0.042	0.011	0.803	0.117	-0.034
Social and business networks enables me to get information that would have been otherwise out of reach	-0.008	0.01	0.136	0.936	0.178
My position within the network is important because it determines the type of information I will have access to	0.047	0.034	0.085	0.903	0.023
My interactions with customers aid opportunity recognition (come up with new business ideas).	0.005	-0.044	0.197	0.87	0
Weak ties linked to partners in business partners and acquaintances have a higher tendency to give me information on new opportunities compared to family member's strong ties.	-0.021	0.087	0.178	0.835	0.122
Social and business networks enables me get the assets I require	-0.134	0.087	0.103	0.822	0.191
I am always open and ready for opportunities	0.065	-0.117	-0.03	0.385	0.035
I always carry out systematic search on markets to better understand the needs and demands of the customers.	-0.026	0.11	0.024	0.128	0.983
I constantly note when customer needs change.	-0.026	0.11	0.024	0.128	0.983
I effortlessly notice gaps that exist in the market place.	-0.023	0.097	0.013	0.136	0.975
I occasionally rely on my instincts in generating new business idea.	-0.031	0.086	-0.034	0.121	0.971

Extraction Method: Principal Component Analysis.  
 Rotation Method: Varimax with Kaiser Normalization.  
 a Rotation converged in 6 iterations.



The results on factor analysis show that the statements can be reduced to four factors. These factors were given the names prior knowledge, entrepreneurial cognition, social networks and entrepreneurial alertness. Out of the factors that were generated from the factor analysis is a factor that represented the dependent variable. This is because the factor loadings of four statements were aligned to a particular factor. The name given to this factor was opportunity recognition.

#### 4.5 Correlation Analysis of the independent variables and opportunity recognition

Table 4.14 shows how the variables correlate.

**Table 4.14: Correlation Matrix**

		<b>Prior knowledge</b>	<b>Entrepreneurial cognition</b>	<b>Social networks</b>	<b>Entrepreneurial alertness</b>	<b>Opportunity recognition</b>
Prior knowledge	Pearson Correlation Sig. (2-tailed)	1				
Entrepreneurial cognition	Pearson Correlation Sig. (2-tailed)	.263** 0.043	1			
Social networks	Pearson Correlation Sig. (2-tailed)	.455** 0.00	.519**	1		
Entrepreneurial alertness	Pearson Correlation Sig. (2-tailed)	.214* 0.049	.555**	.620** 0	1	
Opportunity recognition	Pearson Correlation Sig. (2-tailed)	.253* 0.02	.666**	.481** 0.00	.558** 0.00	1

\*\* Correlation is significant at the 0.01 level (2-tailed).  
\* Correlation is significant at the 0.05 level (2-tailed).

The results showed that prior knowledge positively correlated with opportunity recognition (r=0.253), entrepreneurial cognition also positively correlated with opportunity recognition (r=0.666). The results also showed that Social networks positively correlated with opportunity

recognition ( $r=0.481$ ) and also entrepreneurial alertness correlated positively with opportunity recognition ( $r=0.558$ ).

A statistically significant relationship between independent variables and opportunity recognition was indicated by the results. That implied that the Correlation did not occur by chance but rather shows that opportunity recognition is determined by entrepreneurial factors including prior knowledge, entrepreneurial cognition. Entrepreneurial alertness and social network.

#### **4.6 Discussion of findings**

The study aimed at establishing entrepreneurial determinants of opportunity recognition among dairy farmers in Makueni County, Kenya. By use of the findings of the research studies that had earlier been conducted in the field the following interpretation was given.

Statements loading heavily on factor 1 were given the name opportunity recognition which was the dependent variable. Majority of the respondents agreed that they see opportunities in information where others see hurdles and that they usually look for ways to come up with new products or services by responding to consumers and market needs. The respondents also agreed that they take advantage of a known supply and look for unidentified demand. They also acknowledged that they are innovative and have a capacity to shift the economy instead of merely responding to it. Finally, majority of the respondents said that they connect known products to the existing demand in order to exploit an existing opportunity. The statements had a mean score of 3.60. This implied that the respondents had the ability to recognize opportunity.

Statements that loaded heavily on factor 2 were named entrepreneurial cognition. The majority of respondents agreed to the statements (Mean=3.71). Entrepreneurial cognition was also found to positively affect opportunity recognition ( $r=0.666$ ). This was in line with the Kirzenian Theory

which asserted that while information is available in the environment, there are those who will discover opportunities and those that will not due to their cognition ability (Kirzner's, 1977). The results also agree with Mitchell and Smith, (2002) who found that entrepreneurial cognition is used by people to make judgments, decisions or assessments pertaining the evaluation of an opportunity, creation of a venture and development.

Prior knowledge was used to describe those statements that loaded heavily on factor 3. The majority of the respondents agreed to the statements on prior knowledge (Mean=3.78). Prior knowledge was also found to correlate positively with opportunity recognition ( $r=0.253$ ). The results concur with the findings of Berglund (2007) who established that prior knowledge influenced recognition of an opportunity. Results also agree with those of Shane (2002); Ronstadt, (1998); Wang, 2013) and Von Hippel, (1994) who found that prior knowledge is instrumental to the opportunity identification process. An entrepreneur's prior knowledge will influence his interpretation aptitude, understanding levels and his proper use of new information when a need arises. Ronstadt, (1998) established that prior knowledge is crucial in recognition of an opportunity since it makes a 'knowledge corridor' that allows for direct ways of conceptualizing, analyzing and utilizing new information which then become new opportunities. Moreover, Von Hippel, (1994) recorded that people will enter into business ventures that are directly related to information that they have.

Further, the statements that loaded heavily on factor 4 were given the name social networks. The majority of the respondents agreed with the statements (Mean=3.61). Social networks was also found to positively correlate with opportunity recognition ( $r=0.481$ ). This concurred with the findings of Berglund (2007) who established that entrepreneur's social network is a factor that influences recognition of an opportunity. The findings also concur with Greccu, (2014) who found

that social networks is a factor stimulating entrepreneurial opportunity recognition. The findings were also in line with the Institutional Theory by Scott (2014) which stated that Social networks influence opportunity recognition. Amber and Styles (2000) also found that entrepreneurship encompasses both working together with people besides selling to them and therefore social associates frequently plays a big part in the entrepreneurial activities. Wilkinson and Young, (2005) posited that the social and business networks assist individuals to acquire facts that could be out of reach to them. Wilkinson and Young, (2005) also established that the features of the social network inspires recognition of an opportunity, the range of players will help avoid outdated information, and the strong links will inspire the entrepreneur to trust the exactness of the information established.

Finally, statements that loaded heavily on factor 5 were given the name entrepreneurial alertness. Majority of the respondents agreed to the statements on entrepreneurial alertness (Mean=4.34). Further, entrepreneurial alertness was found to have a positive correlation with opportunity recognition( $r=0.558$ ). This was consistent with Kirznerian Theory which stated that alertness in an entrepreneur helps determine opportunities in his surrounding (Kirzner, 1997). The findings are also in line with Ardichvili et al., (2003) who concluded that higher alertness boosts chances of an opportunity being identified.

## **CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS**

### **5.1 Introduction**

The chapter addressed the summary of the findings, the conclusions and the recommendations.

### **5.2 Summary of Major Findings**

The study found that most of the people practicing dairy farming in Makueni were males and were in the youth's age group. The study also found that the people practicing dairy farming had a high experience in dairy farming. Further, the results showed that majority of the dairy farmers owned the business solely and that the dairy farming businesses in Makueni were small in size. The study also found that the determinants of opportunity recognition in the dairy industry can be reduced to four factors. These factors were identified as prior knowledge, entrepreneurial cognition, social networks and entrepreneurial alertness.

Majority of the respondents agreed that they see opportunities in information where others see hurdles and that they normally find ways of introducing new products or services by considering consumers and market demands. The respondents also agreed that they use a known supply and look for unrecognized demand. They also acknowledged that they innovate and have the ability to shift the economy instead of merely responding to it. Finally, majority of the respondents said that they connect known products to the existing demand in order to exploit an existing opportunity. The statements had a mean score of 3.60. This implied that the respondents had the ability to recognize opportunity. This was named opportunity recognition which was the dependent variable.

The study found that most of the dairy farmers agreed that they are able to act without a lot of information and that they view risks differently than others. The dairy farmers were able to control

the unpredictable nature of the future and often made quick decisions. They also said that they prefer experiments to systematic thinking. This was found to be entrepreneurial cognition.

Moreover, the study found that social and business networks enabled dairy farmers in Makueni County to get information that would have been otherwise out of reach. Social and business networks also enabled them get the assets they required. The dairy farmers acknowledged that weak ties associated with business partners and acquaintances can easily inform them on an upcoming business opportunities as compared to strong ties of family members. The farmers also valued their position within the network because it determined the type of information they would have access to. The farmers also had discussions with potential and existing customers who helped them come up with new business ideas. The study therefore found that dairy farmers in Makueni County had social networks that helped them recognize opportunities.

In addition, the study found that dairy farmers in Makueni County had the ability to always notice changes in customer needs and to easily notice unmet needs in the market. The farmers would also come up with business ideas through their instincts. Farmers in Makueni County were also found to have potential to carry out systematic search on markets to better understand the needs and demands of the customers and were always ready for opportunities. Hence the study found that the farmers in Makueni County had entrepreneurial alertness that helped determine opportunities in their surroundings.

Finally, the study found that Makueni County dairy farmers had knowledge of seasonal patterns and ventured in dairy farming because of information they already knew. Business ideas originated from having former knowledge of clients and the market. Further, experience in knowledge of how

to handle the markets enabled the farmers to assess competence needed to enter the market. This was seen to be prior knowledge of the business opportunity.

### **5.3 Conclusions of the study**

Based on the findings of the study, it was concluded that dairy farmers in Makueni County depended on various factors to recognize business opportunities. These factors included prior knowledge on the dairy farming, entrepreneurial cognition, social networks and entrepreneurial alertness. All these factors helped the dairy farmers to identify and recognize business opportunities.

Based on the study findings, the study concluded that the determinants of opportunity recognition in the dairy industry are classified into four factors prior knowledge, entrepreneurial cognition, social networks and entrepreneurial alertness. The study further concluded that prior knowledge, entrepreneurial cognition, social networks and entrepreneurial alertness all correlated positively with opportunity recognition.

### **5.4 Limitations of the Study**

The study faced a number of limitations especially during the data collection procedure. One of the limitations was accessing of dairy farmers in the County. Research assistants who were familiar with the particular villages and who would easily identify with the farmers were used to get to the farmer.

Another limitation faced during the study was the inability of some of the respondents to read and understand the questions by themselves and write down the responses. The research assistants came in handy and helped the particular respondents by explaining the questions to them and also in noting down the responses.

In addition to the above some of the respondents were not willing to provide information required by the researcher. This was curbed by explaining and assuring the respondents that the information gathered would not be disclosed to anybody else and that it would be used for academic purposes only. A letter of introduction from the university was also availed to the respondents.

### **5.5 Suggestions for Further Research**

The current study focused on assessing the determinants of opportunity recognition among dairy farmers in Makueni County. This study could be duplicated to other counties so that comparisons can be made. This is because the determinants of opportunity recognition that were identified in the current study may not apply to other Counties. Assessing how dairy farmers in these counties recognized opportunities would help compare and contrast the findings and make recommendations based on the findings.

Future studies could also assess other determinants of opportunity recognition such as mentoring, accidental discovery and see if these were applicable among dairy farmers in Makueni County. Since not all respondents agreed to have recognized the opportunities through the identified factors, future studies could help which other factors such as mentoring and accidental discovery led to opportunity recognition.

The same study could be done in other sectors such as financial services other than the agricultural sector. This is because the determinants of opportunity recognition may vary depending on the sectors. Therefore, future studies done in different sectors will be beneficial in establishing those factors that are common in all sectors and those that apply to individual sectors.



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## APPENDICES

### APPENDIX I: CONSENT LETTER

**Dear Respondent,**

**RE: INFORMED CONSENT**

My name is Jacinta Peter. I am a Masters candidate of Entrepreneurship and Innovation Management, University of Nairobi. I am requesting your participation in a research that will examine the Entrepreneurial determinants of opportunity recognition among dairy farmers in Makeni County, Kenya. You are being asked to participate in this study because you are a dairy farmer. To participate in this study please complete the questionnaires attached.

Kindly, by returning your completed questionnaires you are giving your consent to participate in this study. Your participation is purely voluntary and you may choose not to participate in this study without any adverse consequences. Kindly keep this letter for your own records. Data of any kind will remain confidential. Completed questionnaires and the data associated with them will be kept confidentially until my research project is published. After that time all questionnaires will be destroyed.

There are no known risks associated with being in this research study beyond the possible inconvenience of your time. The benefits of your participation in this study may/ may not be direct to me. If you decide to participate in this study know that you are contributing to an area of study which lacks research and can benefit many from greater understanding and study.

If you wish to participate in this study, please sign the form below. A signature will indicate agreement to participate.

Signature \_\_\_\_\_ (Date) \_\_\_\_\_

Thank you so much for your consideration to participate in the study.

Sincerely,

JACINTA PETER

## APPENDIX II: QUESTIONNAIRE

This questionnaire is divided into two short parts that should take only a few moments of your time to complete. Please respond by ticking the appropriate box or filling in your answers in the blank spaces provided. This is an academic exercise and all information collected from respondents will be treated with at strict confidentiality.

Thank you very much for your cooperation

### PART I: PERSONAL INFORMATION

1. Indicate your gender

- a) Female
- b) Male

2. Highest level of education

- a) No formal education
- b) Primary level
- c) Secondary level
- d) College level

3. Age of respondents

- a) Less than 20 years
- b) 21-30 years
- c) 31-40 years
- d) 41-50 years
- e) 51 years and above

4. Years of dairy farming experience

a) less than 1 year

b) 2 to 5 years

c) 6 to 10 years

d) Over 10 years

**PART 2: PROFILE OF THE DAIRY FARM/ BUSINESS**

5. Indicate current ownership of the farm/ business

a) Sole proprietor

b) Partnership

b) c) Limited liability company

d) Corporation/ Cooperatives

6. What is the number of employees in the business/ farm?

a) 1-5

b) 6-10

c) 11-15

d) any other (indicate number)

7. Describe the role family plays in the business (e.g. management, milking, feeding herd etc.)

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.....  
.....  
.....

8. How many years have you been in dairy business?

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9. Name any products produced in the farm

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.....  
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10. Explain any technology adopted in the firm?

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**PART 3: Determinants of Opportunity Recognition in the Dairy Industry**

Please mark (x) in the box which best describes your agreement or disagreement.

No	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
		1	2	3	4	5
11.	I have knowledge of seasonal patterns					
12.	I ventured in dairy farming because of information I already knew					
13.	Business ideas originate from having previous knowledge of customers and the market					
14.	Prior knowledge of how to handle the markets enables entrepreneurs to assess competence needed to enter the market					
15.	I can bring information relating to my field to mind very quickly and easily.					
16.	I can act without a lot of information.					
17.	Unpredictable nature of the future is under my control					
18.	I view risks differently than others					



No	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
		1	2	3	4	5
19.	I prefer experiments to systematic thinking					
20.	I must often make quick decisions					
21.	Social and business networks enables me to get information that would have been otherwise out of reach					
22.	Social and business networks enables me get the assets I require					
23.	Weak ties associated with business partners and acquaintances are likely to provide me with information on upcoming business opportunities as opposed to strong ties of family members					
24.	My position within the network is important because it determines the type of information I will have access to					
25.	My discussions with potential or existing customers help me recognize opportunities (come up with new business ideas).					
26.	I always notice changes in customer needs.					
27.	I easily notice unmet needs in the market.					
28.	I sometimes depend on my instincts in coming up with a business idea.					
29.	I always carry out systematic search on markets to better understand the needs and demands of the customers					

No	Statement	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
		1	2	3	4	5
30.	I am always open and ready for opportunities					
31.	I see opportunities in information where others see hurdles					
32.	I connect known products to the existing demand in order to exploit an existing opportunity.					
33.	I take advantage of a known supply and look for unidentified demand					
34.	I am innovative and have a capacity to shift the economy instead of merely responding to It.					
35.	I usually look for ways to come up with new products or services by responding to consumers and market needs					