

YANGON UNIVERSITY OF ECONOMICS
DEPARTMENT OF COMMERCE
Ph.D PROGRAMME

INVESTMENT DECISIONS IN MYANMAR COMMODITY MARKET
(A CASE OF BLACK GRAM TRADING)

HLA HLA MON

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(A CASE OF BLACK GRAM TRADING)

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CERTIFICATION

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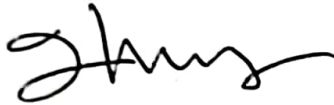
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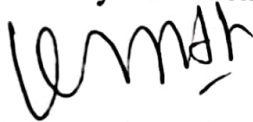
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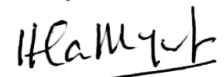
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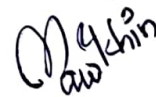
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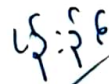
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Chapter One

Introduction

Trading in agricultural products is a risky business. This is because there are several factors that impact on the production and marketing of agricultural products. In Myanmar, trading in agricultural products such as paddy, beans and pulses is to a large extent conditioned by uncertainties and risks. Fluctuation in market potential, volatility of prices, unstable exchange rate, changes in weather conditions, dishonesty of market players and limited information available for making decisions are some of the threats to players in the commodity market.

Making decisions is inevitable for people in doing business. The quality of decisions has major influences on the success or failure of businesses. Some decisions are relatively simple and straightforward but others are quite complex depending on the availability and accuracy of information. Moreover, the conditions under which individuals make decisions are influenced by many factors that affect the final impact of decision.

In this study, how traders in the commodity market made their investment decisions and the factors that influence the investment decisions of those traders are examined. Investment decisions are generally understood as the individual or organizational decisions regarding investment in stocks and bonds. Here, the investment decisions are described as the individual or organizational decisions made by the traders for utilizing their financial resources in purchasing and selling their products for profit.

This study was unable to consider selling, hedging, and commodity futures. Therefore, the investment decision of traders was limited to the purchase decisions which consisted of cash purchase, credit purchase, and purchase with advance payment.

Commodities traders invest their money and bear the risks due to uncertain conditions like declining of bean yield, price changes, exchange rate fluctuations, demand in the markets, and damage by weather. The purchase decisions considered as

investment decisions of the traders are purchase during harvest season, purchase when the yield is expected to decline, purchases when India's yield is expected to decline, purchases when export order are up, purchases when prices are expected to rise, purchases when prices are fall, and purchase according to the leading exporters responses. These investment decisions are made according to the risk taking behavior of decision makers, resource availability of organization, and under the situation faced in the environment.

In the real business environment, risk is usually inevitable in decision making due to the uncertainty caused by limited information. Hence, investment decisions are influenced by the risk taking behavior of decision maker and various risks prevalent in the business environment. The risk taking behavior of the traders was evaluated as three categories; risk takers, risk averter, and risk neutral. The effect of individual demographic factors on the types of risk taking behavior was also identified in the study.

Apart from the risk taking behavior of traders, the organizational and environmental factors of the business were evaluated as influencing factors of the investment decisions in this study. Regarding organizational factors, the availability of financial resources and the availability of storage capacity were selected to examine because these factors were critical for deciding the amount and the duration of investment. The environmental factors are the uncontrollable factors for the traders; however, the effects of these factors are critical. These factors include yield and quality made by production, prices changes in the market, availability of market information, and trade policy.

The research was carried out at Yangon Commodity Exchange Centre in Myanmar. Generally, a commodity market can be defined in a broader range. Algemene Bank Nederland (ABN) and Amsterdamsche Bank and Rotterdamsche Bank (AMRO) divided the world of commodities into six categories: energy such as crude oil, natural gas, gasoline, power; precious metals such as gold, silver, platinum, palladium; base metals such as aluminum, copper, nickel; ferrous metals like steel, iron ore; agricultural products for example wheat, coffee, cocoa, sugar; and livestock such as feeder cattle, live cattle, lean hogs. The commodity market considered in this study is the market where agriculture products, precisely beans and pulse, are bought and sold.

The main export commodities of beans and pulses in Myanmar are Black Gram, Green Gram and Pigeon Pea. The export share of Black Gram is the largest share among other beans and pulses exports. Thus, the traders who trade in Black Gram are the target group of the study.

1.1 Rationale of the Study

Beans and pulses have become one of the major export products of Myanmar in recent years and Black Grams represent the largest share in total export of beans and pulses in terms of both value and volume.

Black Gram traders from the commodity market make their investment decisions based on their intuition, experience, the availability of information on the fluctuating market demand and supply conditions, the state of the economy and the changing government policies and rules, domestic and overseas, which are presumed to be reliable and accurate.

Due to the variety and complexity of the variables, investors behave differently in making estimations of future outcomes. Consequently, investors take steps to limit the impact of uncertainty on their decisions. Rather than optimizing, the investors choose the alternative option to satisfy. Thus investors behave rationally in making their choices among investments with different degrees of uncertainty attached.

Investment options in Myanmar are limited and very traditional. Investors necessarily perform many functions such as purchasing beans and pulses from farmers, then, storing and distributing to the domestic markets as well as exporting to foreign markets. They invest their funds and expect to earn reasonable returns. Due to uncertain conditions and imperfect information, investors are facing uncertainty and risks in the investment process. From the beginning, investors should make the right investment decisions based on information they receive from various sources. Some investors are willing to pursue high-risk options, while some others prefer to avoid risk. Although investors are not able to avoid risks in making their investment decisions, they are persisted in the pursuit of their objectives to maximize their gains or minimize their losses.

Investors encounter different conditions in making decisions. Sometimes they receive almost perfect understanding of the conditions surrounding a decision; while

other occasions they need to make their decisions with little or no information. Thus, they make their decisions under states of certainty, risk or uncertainty. Their decisions also depend on their risk taking behaviors. Therefore, the risk taking behavior of Black Gram traders becomes an interesting area for serious study.

Black Gram traders conduct their businesses through different commodity exchange centers in Myanmar. However, only the operations of Yangon, Mandalay and Monywa commodity exchange centers are shown in this study because a high percentage of the Black Gram trade is conducted in the Yangon, Mandalay and Monywa commodity exchange centers. From the factors cited above, it is assumed that traders in Myanmar commodity market identify their best decision alternative basing on decision making models and their attitude toward risks.

This study is an attempt to examine how Black Gram traders in Myanmar commodity market make their decisions under unpredictable conditions with limited information, the level of risk taken, and the influencing factors in their purchase decision.

1.2 Objectives of the Study

The main objective of the study is to examine the investment decisions made by Black Gram traders in the Myanmar commodity market. Since making decision is dependent on the degree of risk taken by the Black Gram traders, the risk taking behavior of the traders and the influence of demographic factors on their risk taking behavior are evaluated in the study. In addition to the risk taking behavior of the traders, the study focuses on the impact of organizational factors and environmental factors of their businesses in making investment decisions. Therefore, the specific objectives of the study are determined as follows:

1. To identify the risk taking behavior of Black Gram traders in Myanmar commodity market;
2. To examine the effect of demographic factors on the risk taking behaviors of Black Gram traders in Myanmar commodity market; and
3. To analyze the influencing factors on investment decision of Black Gram traders in Myanmar commodity market.

1.3 Scope and Limitation of the Study

Although the study intended to cover the entire commodity market, the research was able to focus on investment decisions of Black Gram trading only because Black Gram is one of the primary export products. Among the commodity exchange centers in Myanmar, this study emphasizes only Yangon Commodity Exchange Center because of the largest center and export through traders in this center.

Several limitations are encountered in this study. Firstly, the members of Yangon Commodity Exchange Centre are not accurate because they cannot update member list yearly. The inactive members are also included in the list. Secondly, the Black Gram traders do not want to pay their attention to fill up the questions. Thirdly, the preceding papers are difficult to find and the nature of the commodity market is different from other oversea countries.

1.4 Method of the Study

Currently, there are 200 beans and pulses traders who are involved in the Yangon Commodity Exchange Center. From these traders, 150 were selected as samples in conducting questionnaire survey. The sample size, 150 traders, was determined by using the formula of Taro Yomane (1973).

This study is a descriptive study based on both qualitative and quantitative methods. It conducted interviews and open discussions to explore the broader picture of the study and a quantitative questionnaire survey to draw the conclusions from statistical analysis.

Secondary data were obtained from text books, previous research papers, and articles. Primary data were collected through descriptive research, which involved questionnaire survey with 150 respondents. The respondents were selected by using simple random sampling. The questionnaire consists of respondents' personal profile, how Black Gram traders make their investment decisions and perform the operations, what factors influence on investment decisions of Black Gram traders. Collected data were analyzed by using chi square test and binary logit regression.

1.5 Organization of the Study

This paper is composed of five chapters. Chapter one presents introduction of the study, the rationale of the study, the objectives of the study, scope and method of the study, and organization of the study.

Chapter two consists of literature reviews including theoretical background of decision making, risk taking behavior of decision makers, classification of risks relating to decision making, and influencing factors on making purchase decisions. Then, the conceptual framework developed for the study was presented.

In chapter three, the nature of beans and pulses market in Myanmar and how to make purchase decision of Black Gram traders are described. It presents beans and pulses market in Myanmar functioned through Myanmar commodity exchange centers, and the pattern of prices and exports of beans and pulses in Myanmar. It also includes the profile of Black Gram traders participated in the study, and the nature of making investment decisions of Black Gram trading.

In chapter four, the analysis and findings of the empirical study were explained. It includes risk taking behavior of traders, the impact of demographic factors on risk taking behavior of traders, the influencing factors on investment decisions of Black Gram traders.

Finally, in chapter five, it was concluded with the research findings, and explained the limitations of the study. It also proposed the suggestions and recommendations for further studies.

Chapter Two

Literature Review

In order to develop the conceptual framework of the study, the literatures relating to investment decisions were reviewed. Literature review was made for defining the terms used in the study, clarifying the concepts, and reviewing the previous studies. It consists of definitions of investment decisions, the nature of decision making and decision making models, various risk taking behavior, the effect of demographic factors of decision makers on their risk taking behavior, the influencing factors on investment decisions.

2.1 Investment Decisions

An investment is the current commitment of money for a period of time in order to derive future payments that will compensate the investor for the time the funds are committed, the expected rate of inflation, and the uncertainty of future payments (Bodie, et al., 2011). An investor is a person who allocates capital with the expectation of a financial return. Different investors have very different investment objectives and strategies. Some investors are very active, buying and selling frequently; while some are relatively inactive, buying and the holding for long periods of time. Some investors are willing to bear substantial risks in seeking out returns; but for others, safety is a primary concern (Charles& Bradford, 2005).

The purpose of investment is to generate income for the investor. Investment decisions are made by investors and the decisions to buy and sell commodities are regarded as one of the most critical and challenging task faced by the investors. Therefore, the investment decision process is considered critical for every investor, in matter when to investment in commodities as the investors involve high risk and the uncertain returns.

The investor can be an individual, a government, a pension fund or a corporation. Hence, this definition includes all types of investments, including

investment by corporations in plant and equipment and investments by individuals in stocks, bond, commodities, or real estate.

Investment decision generally means the determination made by investors as to where, when, how, and how much funds will be invested on various avenues of financial products/instruments with the objective of generating income or appreciation in value.

An investment decision involves a choice on how to commit funds now in anticipation of expected flow of benefits in the future. It is an exchange of current funds for future benefits.

Investment is prevalent in all walks of life, but how investments are made vary from person to person. Some people want to invest their money in the stock market, some in the commodity market, some in gold, some in fixed deposits and some in real estate and so on. All the decisions of investment of investors depend on their needs and time. Rather than using all the available information, people select some important information. Psychological factors influence investment decision so that investors have been found to make irrational decision.

2.2 The Nature of Decision Making

Good decision making is a vital part of good management but decision making is not easy. A decision is a choice made from available alternatives. Decision making is the process of identifying problems and opportunities and then resolving them (Daft, 2010).

In a perfect world, managers would have all the information necessary for making decisions. In reality, however, some things are unknowable; thus, some decisions will fail to solve the problem or attain the desired outcome. Managers try to obtain information about decision alternatives that will reduce decision uncertainty (Daft, 2010).

Although most decision makers perceive themselves as rational decision makers, they are subject to bounded rationality in the reality. Sometimes they do not face with group conflict and power when they make decisions. In this chapter, how traders as decision makers make their decision under uncertain condition.

2.2.1 Decision Making Models

Decisions made by people can be classified into three situations. They are decision making under certainty, decision making under uncertainty and decision making under risk. The word risk connotes taking an action which may lead to loss or profit especially when it relates to investment. Risk refers to the probability of receiving a return on an investment different from expected return. Therefore, risk includes not only negative results, i.e. results that are lower than expected, but also positive results, i.e. returns that are higher than expected. Risk arises out of uncertainty. It can be defined as the effect of uncertain future events on an organization or on the outcomes this organization achieves. One of these outcomes is the organization's profitability, which is the reason why the effect of risk on profit or rates of returns is often assessed (Segal, 2011).

The approach decision makers used to make decisions usually falls into one of three types—classical model, the administrative model, or the political model (Daft, 2010). Rational perspective on decision making rests on the classical model. The model assumes that decision makers have complete information and that they will behave rationally. Behavioral aspect of decision making relies on the administrative model. This model recognizes that decision makers will have incomplete information and they will not always behave rationally. The political model based on political forces (Griffin, 1996).

Table (2.1) Characteristics of Decision Making Models

Classical Model	Administrative Model	Political Model
Clear-cut problem and goal	Vague problem and goal	Pluralistic; Conflicting goal
Condition of certainty	Condition of uncertainty	Condition of uncertainty/ambiguity
Full information about alternatives and the outcomes	Limited information about alternatives and the outcomes	Inconsistent viewpoints; Ambiguous information
Rational choice by individual for maximizing outcomes	Satisfaction choice for resolving problem using intuition	Bargaining and discussion among coalition members

Source: Daft (2010) P-221

(a) Classical Model

The classical model of decision making is based on economic assumptions. Classical decision theory makes the assumption that an individual makes well informed systematic decisions which are in their own self-interest and the decision maker is acting in a world of complete certainty. According to the model, the decision makers make their decisions with complete information and are rational. They have ability to identify the problem and available alternatives and the outcomes associated with alternatives. Then, they make decision to achieve maximized outcome. The value of the classical model has been its ability to help decision makers be more rational.

Towler (2010) discussed that decision makers know their alternatives; they know their outcomes; they know their decision criteria; and they have the ability to make the optimum choice and then to implement it (Towler, 2010, as cited in Lunenburg, 2010). The rational model characterizes decision makers as completely rational - searching through perfect information to make optimal decisions.

(b) Administrative Model

Investors are not completely rational while making investment decisions. Their decision-making process is subject to several cognitive and psychological errors. Investors must try to acquire a clear picture of the cognitive and emotional errors to which they are vulnerable. Therefore, investors make their investment decisions depending on availability of information and individuals' cognitive ability under uncertainty (See section 2.2.2).

Decision makers do not always make rational decisions because of incomplete information and imperfect information. They can make their decisions limited by their ability to process information. Obamuyi (2013) found that the principles of rationality have also been opposed by the behavioral finance theory, which is more concerned about the decision environment and individual differences between decision makers.

Behavioral economics and financial psychology have explored various degrees of rationality and irrational behavior in which individuals and groups may act or behave differently in the real world, departing from the constrained assumptions of rationality supported by the standard finance literature.

The administrative model of decision making describes how decision makers actually make decisions in difficult situations, such as those characterized by non-

programmed decisions, uncertainty, and ambiguity. Knight (1921) was one of the first researchers to point out that risk and uncertainty are different. Many management decisions are not sufficiently programmable to lend themselves to any degree of quantification. Managers are unable to make economically rational decisions even if they want to.

(c) Political Model

The third model of decision making is useful for making non-programmed decisions when conditions are uncertain, information is limited, and there is disagreement among decision makers about what goals to pursue or what course of action to take. Most organizational decisions involve many decision makers who are pursuing different goals, and they have to talk with one another to share information and reach an agreement. Decision makers often engage in coalition building for making complex organizational decisions.

A coalition is an informal alliance among managers who support a specific goal. Coalition building is the process of forming alliances among decision makers. Without a coalition, a powerful individual or group could derail the decision-making process. Coalition building gives several managers an opportunity to contribute to decision making, enhancing their commitment to the alternative that is ultimately adopted.

Administrative and political decision-making procedures and intuition have been associated with high performance in unstable environments in which decisions must be made rapidly and under more difficult conditions.

From the study of Rosa and Eleuterio (2007), it is found that high ambiguity context influences negatively the three phases of the decision making model. The interaction of cognitive profile with context ambiguity and information clarity determines individuals' noticing and sense making, the reliability of the source is the least relevant variable on noticing, cognitive profile interacts with ambiguity, information clarity and reliability of the source to influence investors action and proactivity is the most relevant cognitive characteristic in the action phase, especially when the stimulus has not been noticed.

2.2.2 Bounded Rationality

The administrative model of decision making is based on the work of Herbert A. Simon. The concept of bounded rationality has its roots in Simon's attempt to construct a more realistic theory of human economic decision making. Simon proposed two concepts that were instrumental in shaping the administrative model: bounded rationality and satisfying.

Bounded rationality means that people have limits, or boundaries, on how rational they can be. Models of bounded rationality describe how a judgment or decision is reached rather than merely the outcome of the decision, and they describe the class of environments in which these heuristics will succeed or fail. These models dispense with the fiction of optimization, which in many real-world situations demands unrealistic assumptions about the knowledge, time, attention, and other resources available to humans (Gigerenzer & Selten, 2001).

Decision makers must satisfice, rather than optimize because they do not have the time and ability to process all available information to make an optimal decision. Satisficing means acceptance of solution that are "good enough" (Robbins & Coulter, 2005).

The administrative model is recognized that the human and environmental limitations affect decisions when decision makers are making decisions in complex situations. They regularly use their intuition when they make decisions. Intuition represents a quick apprehension of a decision situation based on past experience but without conscious thought. Intuitive decision making is not arbitrary or irrational, because it is based on years of practice and hands-on experience that enable managers to quickly identify solutions without going through painstaking computations. In today's fast-paced, uncertain business environment, intuition plays an increasingly important role in decision making.

Teal (2011) examined strategic decision making under uncertainty from the perspective of established theories in the creativity, psychology, and management literatures. The field of creativity has emphasized understanding creative individuals and evaluating and classifying the experiences that have led to their creativity, which is reflected in the creativity context of the conceptual framework. The psychology field has focused on prior decisions and the environment of decision, as indicated in the psychological context of the conceptual framework. The creativity and

psychology perspectives include emphasis on prior decisions and events, and the psychological and managerial research both include an emphasis on present conditions and the future outlook.

Chandra (2008) found that unlike the classical finance theory suggests, individual investors do not always act rationally while making investment decisions. Individual investors suffer from several psychological and emotional biases. Their investment decision-making is influenced, to a great extent, by behavioral factors like greed and fear, cognitive dissonance, heuristics, mental accounting, and anchoring. There is suggestive evidence that these emotional and behavioral factors need to be incorporated in the investment strategies formulated for individual investors. Investors while taking investment decisions must consider these biases as risk factor associated with their investment portfolios. These behavioral factors must be taken into account as risk factors while making investment decisions.

Taghavifard et al., (2009) conducted a study of decision making under uncertain and risky situations. It is found that decisions may be made under social pressure or time constraints that interfere with a careful consideration of the options and consequences and also influenced by one's emotional state at the time a decision is made. When people lack adequate information or skills, they may make less than optimal decisions. Even when or if people have time and information, they often do a poor job of understanding the probabilities of consequences. Even when they know the statistics; they are more likely to rely on personal experience than on information about probabilities. The fundamental concerns of decision making are combining information about probability with information about desires and interests.

Simon (1987) believed that investors make irrational decisions and do not behave rationally because of their limitations of capacity to process the information. Riabacke (2012) identified the problems of lack of information and precise objective data, that risk and probability estimations made by the managers are often based on inadequate information and intuition, that no formal analysis is carried out, that no computer based decision tools are used in the decision making processes, and therefore most decisions are based on intuition and gut feeling.

2.2.3 Prospect Theory

Under the assumptions of prospect theory, an investor departs from the notion of rationality espoused by classical decision theory (the standard finance perspective) and instead an individual makes decisions on the basis of bounded rationality advocated by behavioral decision theory (the behavioral finance viewpoint). Kahneman and Tversky's prospect theory is based on the notion that people are loss averse in which they are more concerned with losses than gains (Kahneman & Tversky, as cited in Fred C. Lunenburg, 2010).

Decisions should not be reached without considering situational factors that take into account the environment, the market psychology in other words. Prospect theory by Kahneman and Tversky (1979) is prominent among theories on complex decision making that put into question one of the foundations of the traditional decision making theories, namely rationality.

The Prospect Theory showed how people manage risk and uncertainty. In essence, the theory explains the apparent irregularity in human behavior when assessing risk under uncertainty.

According to the limitation of the expected utility theory as a descriptive model of decision making under risk, Kahneman and Tversky (1979) developed alternative model called prospect theory. This theory has developed two themes: editing operations that consist of a preliminary analysis of the offered prospects and evaluation that includes evaluation of edited prospects and choosing the prospect of highest value. It suggests that people often take more risks to avoid losses than to realize gains. It points out that people tend to under-weigh probable outcomes compared with certain ones and people response differently to the similar situations depending on the context of losses or gains in which they are presented.

Kahneman and Tversky's prospect theory (1979) challenged traditional thinking that all investors make rational decisions. Their research was summarized in the simple statement, '[t]he pain of loss is twice as great as the pleasure of gain'. It means that investors are much more distressed by prospective losses than they are happy about prospective gains. In other words, people tend to be risk averse in the "profitable zone" and risk seeking in the "losing zone"

Prospect theory describes some states of mind affecting an individual's decision-making processes including regret aversion, loss aversion and mental

accounting (Waweru et al., 2008). Prospect theory describes actual behavior while earlier theories characterize rational behavior.

Asab et al., (2014) analyzed the impact of behavioral finance & traditional finance on financial decision making process. They found that behavioral factors undeniably play a vital role in decision making process of traders. Cognitive behavior of investors is critical and human behavior cannot be ignored while making investment decision. Irrationality exists in behavioral finance due to factors of prospect theory and Heuristics.

From a statistical analysis of a study on investors' preference in Indian commodities market conducted by Sivarethinamohan and Aranganathan (2013), it was observed that there was a significant association between the respondents' age and other variables such as terms, conditions & benefits, and ease in making transactions. Other significant associations revealed in this study include the relationships between respondents' profession and their awareness and knowledge, tax exemption, and affordable brokerages.

According to the classical theory, investors as decision makers can make rational decisions to maximize their profit with complete information and under conditions of certainty. Most of their decisions are programmed decisions because they make these decisions normally. Moreover they know their decisions clearly and the way of doing how to implement these decisions.

Based on the political model, investors as decision makers make non-programmed decisions with limited information and condition of uncertainty. In order to reach their purpose, investors have to persuade to other investors through negotiating and bargaining to support their decisions. Actually they cannot make negotiating and bargaining to other investors and dominate the whole market because they have to compete with others to gain their maximization of profit.

Since traders as decision makers are assumed to be rational and risk averse under classical decision making model, they are supposed to choose an investment that minimizes risk. But in actual scenario, things are totally different from those mentioned under the classical decision making model. There are numerous uncertain conditions faced by traders, however they want to avoid risk. For these reasons, the traders cannot make their decisions under certain condition in the real world. They are unable to collect accurate and complete information in the complex environment.

In reality, most decisions which traders make do not fit the assumptions of rationality. Instead, they make decisions using bounded rationality approach because they cannot receive complete information. They also use their intuition when they face with complex environment.

In practice, investors cannot make their decisions with complete information and under certain condition. There are many uncertainties in real world; therefore, investors face with risks such as operational risk, compliance risk and investment risk, when they make decisions. Risk taking behavior of investors becomes one of the consideration factors when they make investment decisions.

2.3 Risk Taking Behaviors

Some individuals are more able to tolerate financial risk than others. Researchers have argued that investment risk tolerance can be broken down into two parts: ability to take risk (or “risk capacity”) and willingness to take risk (or “risk attitude”). An individual’s ability to take risk relates to their financial circumstances and their investment goals. Generally speaking, the higher the individual’s level of wealth and income, relative to any liabilities they have, and the longer their investment horizon, the more able they will be to take investment risk, with the corresponding potential for losses, and the greater their risk capacity.

Risk attitude, on the other hand, has more to do with the individual’s psychology than with their financial circumstances. Some individuals will find the prospect of volatility in their investments and the chance of losses distressing to think about. Others will be more relaxed about those issues. Individuals should also consider their need to take investment risk to meet their financial goals. Investors typically need to take risk to make higher returns. Investment goals may need to be reconsidered if the investor is unable or unwilling to take enough risk to earn the required returns. Three main attitudes toward risk are risk aversion, risk seeking or taking and risk neutral.

The decision making behavior of an investor is affected by their attitude towards risk. At different levels of perception towards risk, the individual investors think differently about their investment and make decisions differently. Investors take risks according to their interpretation and perception which ultimately affect their behavior towards risky investment decisions.

Madhumarathi (1998) carried out a research to find out the preferences of the investors and their perception about the risk in the Indian markets. Three classes of investors had been identified based on their risk perception namely, risk seekers, risk bearers and risk avoiders.

While making investment decisions, the investors make proper tradeoffs between risks and return. A risk averse investor will consider risky investment only if they provide compensation for risk via a risk premium. A risk taker is willing to accept lower expected returns on prospects with a higher amount of risk. A risk neutral investor finds the level of risk irrelevant and considers only the expected return of risk prospects.

Financial risk tolerance depends on many factors, which need to be surveyed separately. Bargh and Chartrand (1999) pointed out that the risk and uncertainty are factored out or taken for granted in a flow of decision-making that has a high degree of automaticity to it. (Bargh & Chartrand, 1999, as cited in Fenton, et al., 2005)

Lodhi (2014) identified that the degree of risk any individual can be classified as either risk taker or risk averter. The study of Chitra and Jayashree (2015) evidenced that the investors are risk averse and rely on past performance. Their experience and knowledge in investment activity helps them to analyze the price variations at regular intervals in commodity market and make rational decision making.

2.4 The Effect of Demographic Factors on Risk Taking Behavior

Different research papers are conducted to identify the factors influencing risk taking behaviors of investors and investment decision. These papers pointed out contradictory results from country to country and area to area. Firstly conceptual frameworks of risk taking behaviors adapted by different researchers are presented and then factors that influenced on risk taking behavior are presented in this section.

O'Donnell (2011) analyzed the determinants of attitudes to risk and their role in pension and investment decisions in Ireland and the UK. This study explored that a high degree of risk aversion is evident in both countries and similar results arise from both surveys. Risk averse depends on ethnic backgrounds while married people, males, and educational attainment seem to have a significant preference for risk.

Parkash et al., (2014) examined that the risk taking behavior considers various socio-economic characteristics like income, age, gender, occupation, education and

marital status. Results reveal that marital status, age, income, education and occupation are significantly associated with risk taking behavior whereas gender has no association with risk taking behavior.

Das and Jain (2014) studied on the influence of demographical variables on the factors of investment- a perspective on the Guwahati region. It can be concluded that demographic variables such as age, gender, education, occupation plays a very important role in investment decision.

Mujahid et al., (2014) examined investor's risk preference and tolerance behaviors about their investment decisions of highly risky investment. Some of the characteristics of the investors explored in research paper that can affect investment decisions and their risk averse and risk seeking behavior depends on that given factors which are age, cultural differences, gender, marital status, employment status, level of education and home ownership.

Islamogluet et al., (2015) investigated the factors that influence individual investor behavior. As a result of the study, it was identified that several factors such as level of income, past investment experiences, expert and other investors' opinions and financial stability influenced individual investor behavior.

Rani (2014) discussed factors affecting investors' decision making behavior in the stock market, were identified by extensive review of literature. It was reviewed that the most general factors that have a significant impact on the investors' behavior are herding, over-reaction, cognitive bias, confidence (over or under), gender, age, income, education, risk factor, dividends, influence of people's opinion (friends or family), past performance of the company, accounting information, ownership structure, expected corporate earnings.

Massol and Molines (2015) studied determinants of risk tolerance and students' investment behavior. The results showed that nationality, gender and religion did not play a role in influencing students' risk tolerance. Field of study and confidence influenced the risk tolerance of the students.

Parimalakanthi and Kumar (2015) analyzed factors affecting the investment decision and to find out the risk tolerance level of individual investors with respect to demographic variables. The factors namely gender and investment ratio in real estate does influence the investment behavior. The study concluded that safety and capital appreciation was also a foremost preferred aspect in long term investment.

Table (2.2) Studies Relating to Demographic Factors Influencing Risk Taking Behaviors

Researchers	Year	Title	Factors
Nuala O'Donnell	2011	Analyzing the Determinants of Attitudes to Risk and Their Role in Pension and Investment Decisions in Ireland and the UK	Ethnic background variables, age, region of residence, marital status, gender, illness, the number of children under 18 years of age and the highest educational attainment of the individual
Rakesh Parkash, Muhammad Awais and Usman Ali Warraich	2014	Do Socio-economic Factors Really Influence Risk Taking Behavior of Individual Investors?	Income, age, gender, occupation, education and marital status
Dr. Mohammad Shafi	2014	Determinants Influencing Individual Investor Behavior in Stock Market: A Cross Country Research Survey	Demographic, economic, social, and psychological
Saugat Das and Ritika Jain	2014	A Study on the Influence of Demographical Variables on the Factors of Investment- A Perspective on the Guwahati Region	Age, gender, education and occupation
Mubeen Mujahid et al.,	2014	Investor's Risk Preference and Tolerance Behaviors about Their Investment Decisions of Highly Risky Investment	Age, cultural differences, gender, marital status, employment status, level of education and home ownership
Mehmet Islamoğlu, Mehmet Apan, and AdemAyvali	2015	Determination of Factors Affecting Individual Investor Behaviors: A Study on Bankers	Religion , society, level of income, past experiences and expert opinion
Reena Rani	2014	Factors Affecting Investors' Decision Making Behavior in the Stock Market: An Analytical Review	Age, race and sex, education level, social and economic background
Yann Massol and Alexis Molines	2015	Determinants of Risk Tolerance and Investment Behavior: A Study of French and Swedish Business School Students	Nationality, religion, gender, field of study
Hemant kumar P, Bulsara Heta A. , and Desai Hela Miniaoui	2015	An Exploratory Study of Consumer Demeanor towards Financial Investment	Age, income, qualification, gender, social class, family income, tax benefits, safety of fund, brand perception, risk appetite, past performance, return on investment
K. Parimalakanthi and Dr. M. Ashok Kumar	2015	A Study Pertaining to Investment Behavior of Individual Investors in Coimbatore City	Gender, age, domicile, marital status, education, occupation, family type and family size
Selim Aren, Sibel Dinç Aydemir	2015	The Factors Influencing Given Investment Choices of Individuals	Gender, age, education and marital status
Mehvish Rubab, Sundas Yaqoob and Saba Rajpoot	2015	Factors Influencing Investors Behavior to Become Overconfident While Stock Confrontation	Age, experience, external information, knowledge, self-indulgence and triumph

Source: Previous researches

It can be manifested that the influences of demographic factors have been investigated on investor risk taking behavior of each investment. Therefore many

empirical studies pointed out these influences. Table (2.2) shows studies relating to demographic factors influencing risk behaviors.

Many previous researchers indicated how the risk taking behaviors is influenced by mainly demographic or personal factors in making investment decision in Table (2.2).

Some empirical studies proved that attitudes to investment risk depend on factors such as personality, circumstances, level of financial knowledge and experience, and extent of financial product holding. Every individual is different from others due to different factors which include demographic factors, age, race and sex, education level, social and economic background. The most important challenge faced by them is the investment decision. Quantitative research carried out in the US identified a similar range of factors, including income, wealth, age, marital status, gender and level of education.

Although there are various factors influencing individual risk taking behavior, this study uses demographic factor because previous risk behavior studies demonstrate the influence of demographic factors on investors' risk behavior. In addition it is generally assumed that Myanmar traders' behavior is significantly influenced by the demographic factors.

2.5 Classification of Risks

Risks are classified according to the sources of uncertainty. There is a long list of sources of uncertainty, so there is a correspondingly long list of risks. Relatively well-defined categories of risk exist, but no standard risk classification system applies to all organizations. This is because risks should be classified in a manner that helps managers make better decisions in the context of their particular organization and its environment.

All organizations face the risk of not being able to operate profitably in a given competitive environment, typically because of a shift in market conditions. This risk is called business risk and is associated with the way an organization conducts business and interacts with its environment.

Senthil (2015) observed investor's awareness and perception about commodity future market. The study concludes that most of the investors are involved in short term trading. It indicates that the investor is ready to take high risk in trading.

Commodity trading involves numerous risks. Risk associated with commodity investing includes uncontrollable factors such as inflation, weather, political unrest, foreign events, new technologies and even rumors can have devastating consequences to the price of a commodity. Investors investing in commodities must be able to bear a total loss of their investment.

There are many types of risk faced by investors depending on investment market. Among them, the operational risk, investment risk such as market risk, credit risk and liquidity risk and risks caused by environment are described in this study.

(a) Operational Risk

Commodity trading firms are subject to a variety of risks that are best characterized as “operational”, in the sense that they result from the failure of some operational process, rather than from variations in prices or quantities. It refers to unexpected changes in elements related to operations such as human resources, technology, processes and disasters.

The risks of losses from human, system, and process failures and from events are beyond the control of the organization but that affect its operations. Typical examples include human errors, internal fraud, system malfunctions, technology failure, and contractual disputes.

(b) Investment Risk

It arises from the fluctuation in the value of investments, is an important risk for investment professional, but less so for support activities. Depending on the type of investment, a variety of other underlying risks can affect the value of this investment. Investment risks can take different forms depending on the organization's investments and operations.

Firms in the investment industry typically experience three broad categories of investment risks: (1) market risk, which arises from price movements in commodity markets, (2) credit risk, when borrowers fail to meet repayment obligations, and (3) liquidity risk, which is associated with changes in market demand for commodities. A common theme for success in all types of investment risk management is the need to understand the risks and price them accurately.

(i) Market Risk

Market risk is the risk caused by changes in market conditions, which affect expected cash flows as well as supply and demand and, therefore, prices. Market risks can be further classified into the risks associated with the underlying market instruments: Equity prices, interest rates (for debt securities), foreign exchange rates, and commodity prices.

Market risk can also be divided into systematic risk, which is related to the overall financial market, and unsystematic risk, which is specific to a particular firm. Modern portfolio theory holds that there are benefits from diversifying investments. As the number of securities in the portfolio increases, the unsystematic risk (also called idiosyncratic) risk or specific risk) decreases, it improves the risk-return profile of the portfolio. This outcome is due to the fact that if securities are not perfectly positively correlated, adding more securities to a portfolio will provide a risk-reduction effect.

Many investment firms are in the business of taking investment risks, and they tend to tolerate market risks. However, like any other organization, they must align their risk profile with their risk tolerance. Market risks that cannot be tolerated must be mitigated, and organizations have different alternatives available (Pike and Neale).

Selvalakshmi et al., (2014) evaluated impact of price level changes in Indian commodity market. They used macroeconomic variables such as storage of stock, supply and demand, economic performance, price of commodities, global trends, substitute commodity prices, savings and investment, agricultural output and monsoon. It revealed that the entire nine macroeconomic variables are equally possessing stationary level with the commodity market.

Chhajed et al., (2013) analyzed the market behavior and price discovery in Indian agriculture commodity markets. The result of the study said that the price discovery mechanism is quite different for different commodities. Most of the commodities showed bi-directional causality between spot and future prices.

(ii) Credit Risk

Traditional commodity merchandising is highly dependent on access to financing. A commodity trading firm deprived of the ability to finance the acquisition

of commodities to transport, store, or process cannot continue to operate. Firms can suffer funding problems due to idiosyncratic factors or market-wide developments due to fears that it may be insolvent.

(iii) Liquidity Risk

Commodity trading frequently requires firms to enter and exit positions quickly. Trading risks are lower, to the extent that it is possible to enter and exit without having a large, adverse impact on prices. That is, trading is less risky, and cheaper, in liquid markets. Liquidity can vary across commodities. Moreover, liquidity can vary randomly—and substantially—over time. Liquidity can decline precipitously, particularly during stressed market periods. Since market stresses can also necessitate firms to change positions (e.g., to sell off inventory), firms can suffer large losses in attempting to implement these changes when markets are illiquid and hence their purchases tend to drive prices up and their sales tend to drive prices down.

Firms in the investment industry face a greater deal of liquidity risk than, say manufacturers. In order to carry on their business profitably, they need markets that can accommodate their trades without significant adverse effects on prices. When markets are illiquid, either temporarily during financial crises or more structurally, such as in some emerging markets, the ability to trade assets is substantially reduced, which has a negative effect on these investment firms.

(c) Risks Caused by Environment

The type of environment in which traders operate can add layers of uncertainty. They can face with political risk, legal risk and currency risk from the environment they operate.

(i) Political Risk

Political risk is inherent in all markets. A change in the ruling political party of a country can lead to changes in policies that can affect taxation, interest rates, investment incentives, public investments, and procurement. Certain industries are heavily influenced by governments that, for example, control natural resources or set prices of raw material inputs or products. In these instances, a change in administration or policies can affect the value of the investment. Even if political risk

is perceived to be relatively remote, it must be considered when planning for business continuity.

Commodities are produced, and to some degree consumed, in countries with political and legal systems characterized by a weak rule of law. Commodity trading firms that operate in these jurisdictions are exposed to various risks. These include the risk of expropriation of assets; the risk of arbitrary changes in contract terms at which the firms have agreed to purchase or sell commodities; and outright bans on exports.

(ii) Legal Risk

Legal risk is the risk that an external party could sue for breach of contract or other violations. Companies and individuals may resort to litigation in disputes, for example, in the form of high-profile class-action lawsuits. An organization should consider how it identifies and conforms to all legal commitments it has undertaken.

The role of in-house legal expert is crucial in controlling legal risk. Most areas of a company have dealings with external parties, such as deal counterparties, business partners, suppliers, and service providers. An important control in managing the legal risk of these business relationships is to have legal experts who consistently review all contracts.

Various aspects of commodity trading give rise to legal and reputational risks for commodity trading firms. Commodities are sometimes the subject of trade sanctions. Since these sanctions create price disparities of the type that commodity firms routinely profit from they create an enticement for trading firms to attempt to evade the sanctions.

(iii) Currency Risk.

Most commodity trading takes place in US dollars, but traders buy and/or sell some commodities in local currency. This exposes them to exchange rate fluctuations.

2.6 Factors Influencing Investment Decision

Making investment decision is even more critical and difficult in a commodity market and such decisions need better insight and understanding. Traditional finance expects investor to be rational but behavioral finance believes that investors act

irrational because of many other factors influencing individual investment decision making.

When an investor prefers less risk to more risk that is known as risk averse investor. According to the portfolio theory that investor will require reward for bearing systematic risk. The antonym of risk aversion is risk seeking (sometimes called risk lover or risk takers). A risk lover investor prefers more risk to less. There are risks that the investor will pay to be allowed to take. Financial theories generally assume investors are not risk seeking. However, risk seeking behavior is observable in actual life. Between risk aversion and risk seeking is a state called risk neutrality. An investor is risk neutral if he is indifferent to risk. Investor will neither pay to avoid it nor to take it. In a nutshell, risk does not affect decisions.

There are many research studies of factors influencing decision making of investors. These factors are grouped into demographic factors, organizational factors, and environmental factors.

(a) Organizational Factors on Investment Decision

Availability of finance and availability of warehousing are considered as organizational factors in this study. Availability of finance is classified into two main sources: owners' capital and borrowing. These can be called equity financing and debt financing. Investors invest their own capital or loan or both when they make investment decisions.

Availability of warehousing is not only crucial for storage of agricultural products, but it also provides an opportunity for investors to get higher price realization (Sinha, 2012). Warehousing is closely linked with trade. Warehousing is used for storage for safe keeping as well as minimizing waste and costs.

(b) Environmental Factors

There are many factors that influence investors' decision; however, only some of them are used as influencing factors in this study. Previous researchers proved influencing factors grouped into social, economic, behavioral and cultural factors. Some researchers said individual characteristics and attitudes influencing on investors' decision as influencing factors. Accounting information and market information are also considered influencing factors by several researchers.

It can be seen that many factors have influence on the investment decisions, but this study intends to explore the relevant driving forces that drive investors such as external and risk taking behaviors on decisions of investors in Myanmar commodity market. Instead of using all external environment factors, the study uses only economic, and market factors because this study concerns these factors as having effect on investors' decision in Myanmar Commodity Market. When considering influencing factors, weather condition also plays the vital role because beans and pulses are one of the agricultural products.

Quality and yields of beans and pulses are changed by unpredictable weather conditions. Organizational capacity is also important because of the time lags between buying and selling beans and pulses. Organizational factors such as sources of finance and storage are considered as organizational capacities in this study for the reason that money tying up in beans and pulses investment and storage capacity of investors play vital role in commodity investment for liquidity.

It can be seen that many empirical studies pointed out organizational and environmental factors influence on investors' investment decisions. Table (2.3) shows studies relating to factors influencing investment decision.

Table (2.3) Studies Relating to Factors Influencing Investment Decision

Researchers	Year	Title	Factors
Waweru et al.,	2008	The Effects of Behavioral Factors in	Price changes, market

		Investment Decision Making: A Survey of Institutional Investors Operating at the Nairobi Stock Exchange	information, past trends of stocks, customer preference, over-reaction to price changes, and fundamentals of underlying stocks
Aregbeyen and Mbadiugha	2011	Factors Influencing Investors Decisions in Shares of Quoted Companies in Nigeria	Social, economic, psychological and cultural factors
Bialowolski and Weziak-Bialowolska	2013	External Factors Affecting Investment Decisions of Companies	Macroeconomic environment or legal environment and the investment reductions
Shafi	2014	Determinants Influencing Individual Investor Behavior in Stock Market: A Cross Country Research Survey	Demographic, economic, social, and psychological factors
Kengatharan and Kengatharan	2014	The Influence of Behavioral Factors in Making Investment Decisions and Performance : Study on Investors of Colombo Stock Exchange, Sri Lanka	Price changes, market information, past trends of stocks, over-reaction to price changes, loss aversion, regret aversion, buying, selling, choice of trading stocks, volume of trading stocks, speed of herding
Fayaz Ahmad Dar and Dr. Iqbal Ahmad Hakeem	2015	The Influence of Behavioral Factors on Investors Investment Decisions: A Conceptual Model	Psychological, perceived risk behavior and market factors

Source: Previous researches

Waweru et al., (2008) identified the factors of market that have impact on investors' decision making: Price changes, market information, past trends of stocks, customer preference, over-reaction to price changes, and fundamentals of underlying stocks. They also identified stock investment decisions that an investor can be impacted by the others: buying, selling, choice of stock, length of time to hold stock, and volume of stock to trade. They concluded that buying and selling decisions of an investor are significantly impacted by others' decisions, and herding behavior helps investors to have a sense of regret aversion for their decisions.

Aregbeyen & Mbadiugha (2011) studied on Nigerian investor say 20 variable grouping under social, economic, psychological and cultural factors influence investment decisions. Social factor was ranked as most influencing factor next to economic factors followed by psychological and cultural factors.

Bialowolski and Weziak-Bialowolska (2013) investigate the importance of certain external factors on the investment decision among Polish companies. They point out that although the problem of payment delays is the most important single reason determining the investment decisions of Polish companies, its importance decreases when analyzed simultaneously with other reasons. Second, there are two driving forces determining the investment decisions of Polish companies, namely macroeconomic factors and law-related factors with the relative importance of the former lower than the latter. Third, there is a positive association between the importance attached to factors influencing investment decisions associated with either macroeconomic environment or legal environment and the investment reductions, meaning that companies facing higher investment reductions are also more prone to notice and value the factors influencing these decisions.

Shafi (2014) reviewed the research studies and literature to gain knowledge about key factors that influence investment behavior in different countries and the ways these factors impact investment risk tolerance and decision making process among men and women and among different age groups. From the review of studies, it can be concluded that there are numerous factors grouping into demographic, economic, social, and psychological in nature that influence the individual investor's behavior in stock market.

Kengatharan and Kengatharan (2014) explored the behavioral factors influencing individual investors' decisions at the Colombo Stock Exchange. Furthermore, the relations between these factors and investment performance are also examined. Behavioral factors influencing the investors' decision-making are divided into four groups: heuristic, prospect, market, and herding effect, which are presented in the conceptual framework

2.7 Conceptual Framework of the Study

The conceptual framework of this study is based on the concepts of decision making theory, various types of risks, and previous research papers. There are many empirical studies about investor's decision making under irrationality and risks, the impact of price volatility in financial market, and the factors that influenced investors' decisions in the financial markets presented by previous researchers.

Although the models of decision making are classified into making decisions under certainty, under uncertainty and under risks or ambiguity; this study focuses on making decisions under risk. The meaning of risk is taking an action which may lead to loss or profit especially when it relates to investment. This means that individuals do not seek the very best outcome but rather they end their searching when they find an outcome that is good enough (satisficing) under complex and uncertain environment.

Investment in commodity market is also complex and uncertainty market due to fluctuation of market and political factors. Hence, in complex environments, investors are boundedly rational as there would be various scenarios when they would just “satisfice” or find “good enough” solutions rather than the “best solution”.

Investor behavior is the process by which the investor tends to satisfy needs by showing choices. The behavior of the individual investor can be affected by both the internal and external environment. Demographic or personal factors such as gender, age, and marital status, education, working experience, income level and family members also play critical roles in determining the investor’s risk behavior.

Some studies also assumed that personal, societal and cultural factors shape the strength of risk propensity or aversion in various contexts. A review of current literature discovered that there are many factors influencing the investor’s decision and risk behavior. In this study, demographic or personal factors, economic factors, and market factors, unpredictable weather conditions and organizational factors are considered to be the factors that are influencing on investor’s decision and then risk behavior.

While making decisions the investor will identify the factors that most significantly influence their decisions regarding the potential risks. Investing is clearly risky and investors routinely have to make decisions under uncertainty due to incomplete information.

Although investors can face with many types of risk, the impact of market risk and political risk are identified in this study. Market risk can occur the factors of market that influence on investors’ decision making: price of beans and pulses, changes in market prices of beans and pulses, and market information relating to commodities. Normally changes in market information and commodity price can cause market risk classifying into foreign exchange rate and commodity prices.

Political risk can be faced by commodity investors due to unstable political situation and change in trade policy.

In this study, investors invest one of the agricultural products beans and pulses, therefore decisions depend on unpredictable weather condition. Impact of weather condition can cause variation in the yield as well as quality of beans and pulses. In addition to aware of weather condition in Myanmar, neighboring beans and pulses export countries' weather condition is also important for investors of beans and pulses for the reason that this can affect export price of beans and pulses. According to weather condition investors can face with market risk.

An investor involved in beans and pulses need also to consider other organizational factors such as sources of finance and storage capacity. These are vital factors that could lead to potential risk in the investors' operation.

Though investors can face with various risks while making investment decisions these risks depend on their risk attitude. Risk attitude is defined as a general behavioral tendency to take or avoid risk in a specific domain. Investors differ considerably in their attitude towards risks depending on their demographic or personal factors. Among various demographic or personal factors, gender, age, education, and trading experiences are used as influencing factors in this study.

There are many research papers shown in the impact of gender differences on the decision making. Women are more concerned with uncertainty in the decision. They are more concerned about the consequences that may derive from the decision. Women are less likely to invest in risky financial assets (Badunenko et al., 2009). Women inclined to safer options in financial decisions (Brokešová, 2013). Conversely, men assign more importance to the analysis of the information required to carry out the decision (Sanzetet et al., 2005).

Gnani et al., (2012) found that the majority of the investors (90%) are male and there is no significant relationship between attitude towards risk and gender of the investor. No relationship between the investors' gender and the level of risk taking is investigated by Jain and Mandot (2012). Male's investors are more confident in their investment decisions, they have more financial knowledge and wealth and ability to take risks (Barber & Odean, 2001). Grable and Joo (1999) had found an insignificant relationship between gender and risk tolerance.

With regard to age, Gnani et al., (2012) found that there is a relation between the investors' age and the level of risk taking. Aged investors take less risk in

investment decision. Investors tend to prefer low-risk investments as they get older (Islamoglu et al., 2015). Old people gain investment knowledge and experience, and make better investment Choices (Kumar & Korniotis, 2011). Further some researchers explored that investors age and financial risk tolerance have no significant relationship (Al-Ajmi, 2008) (Anbar & Eker, 2010) (Gumede, 2009).

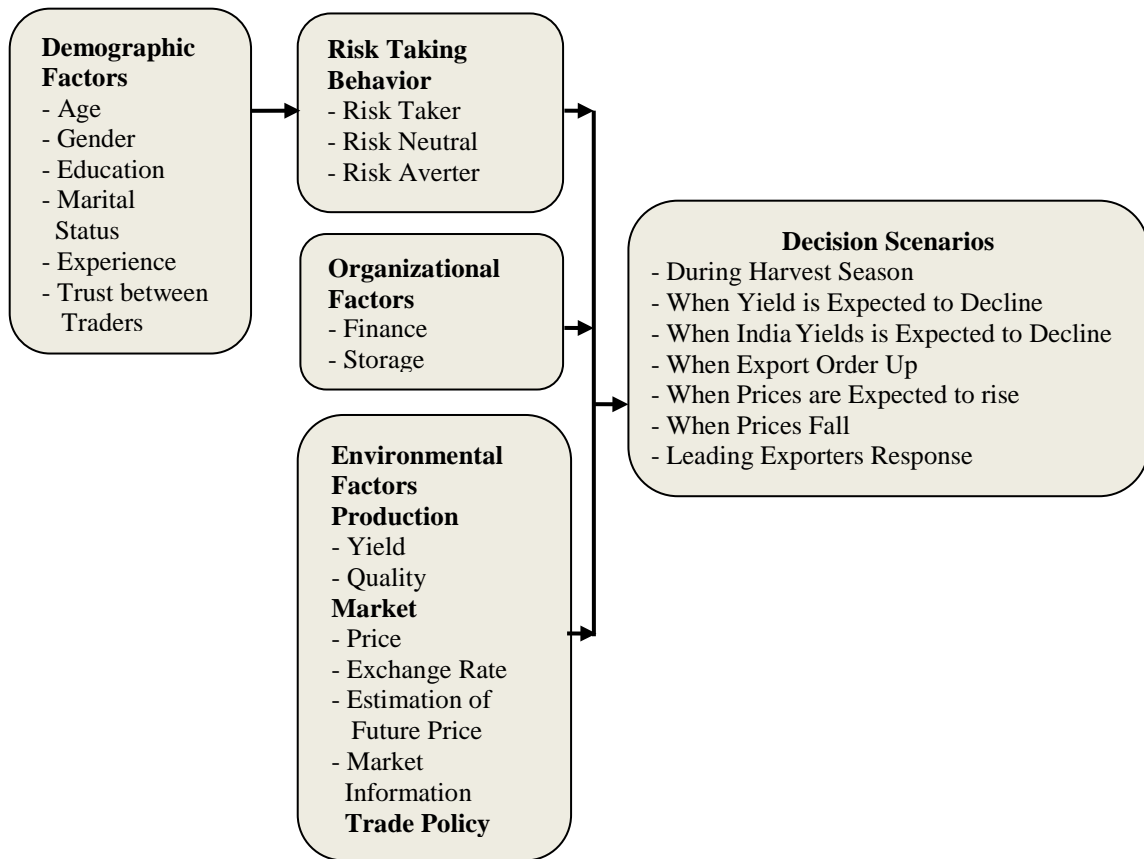
Investment decision of investors is also based on education level. Education level has positively effect on the behavior of investors (Sadiq & Ishaq, 2014). The investors who are at a higher education level tend to take risks and their risk tolerance degree is quite high as compared to the investors having low level of education (Mujahid et al., 2014). Contradictory results are also shown by some researchers, which are exploring that no significant relationship is existed between education and risk tolerance (Strydom et al., 2009) (Gumede, 2009).

Experiences of respondents have also effect on risk behaviors. Sadiq and Ishaq (2014) found that an increase in investment experience caused a positive effect on investor's ability of financial risk tolerance. While there was no significant difference among the investors with different years of experience, there was significant difference among the investors with different levels of investment knowledge (Bharathanet et al., 2016).

Organizational factors in this study consist of sources of finance and storage. Whilst storage is seen as a source of spot and futures price stabilization, it is also considered as a main source of variability for planned production levels through the responsive supply mechanism (Nijssse, 2001).

After consideration of the above theoretical backgrounds and previous research papers, the conceptual framework explored for this study is shown in Figure (2.1). According to the conceptual framework in Figure (2.1), this study focuses on purchase decision of Black Gram traders. Purchase decisions are categorized according to their time and condition of purchase.

Figure (2.1) Conceptual Framework of the Study



Source: Own Compilation based on Previous Studies

The purchase decisions of Black Gram traders are influenced by many factors such as risk taking behaviors of Black Gram traders, organizational factors and environment factors. Environment factors composed of economic factors, market factors and weather condition.

Investors' risk taking behaviors can be classified into risk averter, risk taker and risk neutral. Demographic or personal factors can positively or negatively correlate with investors' risk behavior. Demographic or personal factors are considered influencing factors on risk taking behaviors of Black Gram traders.

Investors decide Black Gram purchase decisions considering various factors including demographic and external environment factors as well as available information. However, many uncertain situation and incomplete information can hinder their decisions. It can be assumed that beans and pulses traders in Myanmar commodity market can face with risk due to uncertain situation and receiving limited information. When they face with these situations, they make decisions under difficult situation.

Therefore, this study explores and analyzes the risk taking behavior of Black Gram traders, the effect of demographic factors on risk taking behaviors of Black Gram traders and the factors influenced on purchase decision of Black Gram traders in Myanmar commodity market.

Chapter Three

Overview of Black Gram Market: Players and Investment Decisions

In this chapter, a brief description of beans and pulses market is presented in order to see the background picture of the study. Since the investment decisions of trading Black Gram are much influenced by the international market situation, this chapter also covers the trade policies of beans and pulses and conditions of beans and pulses exports in Myanmar.

Then, the way Black Gram traders make their investment decisions and carry out their operations are explained. This part also includes the factors influencing investment decision of Black Gram traders. These factors comprise of organizational factors and environment factors.

3.1 Beans and Pulses Market in Myanmar

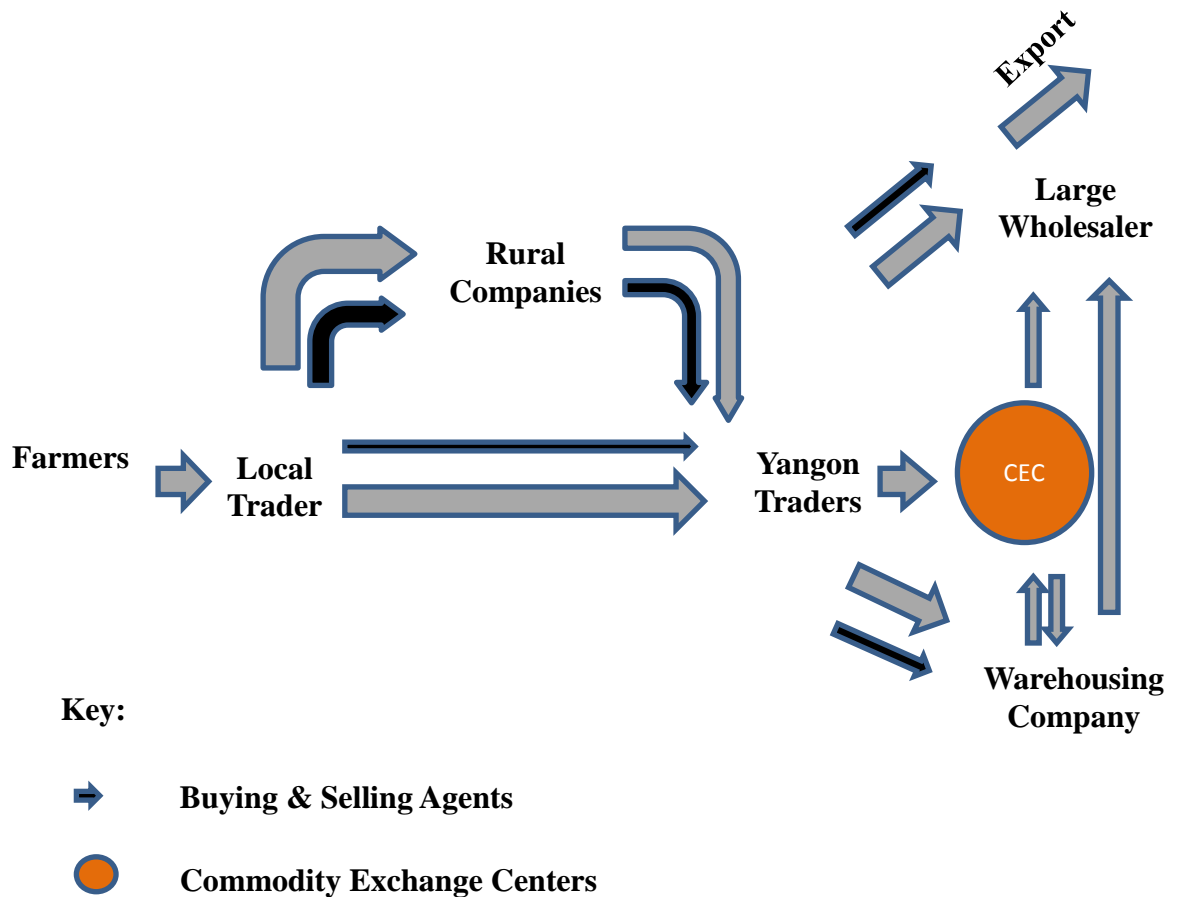
Agriculture is the stronghold of the country with 70% of its population dependent on it for survival. Agricultural exports are important for Myanmar's economy and can prove to be one of the high growth areas due to the country's location advantage, favorable climatic conditions and fertile soil.

Beans and pulses are sown in different regions in Myanmar but the largest producing area is dry zone region in upper Myanmar followed by delta region in lower Myanmar. Beans and pulse are cultivated from November to March.

During the harvest season, local traders who live in villages buy beans and pulse from farmers and sell to urban traders. Beans and pulses are mainly traded through regional commodity exchange centers. Beans and pulse trading throughout Myanmar is gathered around to the Yangon Commodity Exchange Centre for the purpose of export.

Supply chain of beans and pulses market starts from farmers to local traders, then to rural companies, and finally to the traders at Yangon. Some of leading Myanmar beans and pulses traders and big export companies have their own brokers who could buy beans and pulses on behalf of them. They appoint their brokers in different regions where beans and pulses are produced. The brokers purchase beans and pulses from farmers and district traders. Some brokers conduct the logistic process such as cleaning, storing and shipping beans and pulses for their traders.

Fig 3.1 Supply Chain in Beans and Pulses Market



Source: Thura Swiss Report, 2013

3.1.1 Myanmar Commodity Exchange Centers

There are total of 44 commodity exchange centers throughout Myanmar. Among those centers Yangon Commodity Exchange Centre is the largest center followed by Mandalay Commodity Exchange Centre and Monywa Commodity Exchange Centre.

(a) Yangon Commodity Exchange Centre

Since 2009, it has been legally permitted wholesale center of beans and pulses in Myanmar at Northwestern Yangon. It is also called Bayinnaung Market or Bayinnaung Commodity Exchange Centre. Bayintnaung Market is the country's main agricultural commodity trading center. The Centre always opens from Monday to

Friday, except gazetted holiday. Every day the Centre opens from 10:00 am to 2:00 pm. Export market opens at 12:00 pm and closes at 2:00 pm.

Membership of Exchange Centre is strictly required to the allowance of conducting business transactions at the Centre. There are 226 members at Yangon Commodity Exchange Centre. They are the member of Myanmar Pulses, Beans and Sesame Seed Merchants' Association. Myanmar Beans and Pulses exporters, who are the members of Yangon Region Chamber of Commerce and Industry and overseas companies including Singapore Companies based at Yangon can also carry out trading of beans and pulses in this market.

Beans and pulses from different Commodity Exchange Centers such as, Mandalay, Monywa, Pyay, and Hinthada are traded at Bayintnaung Commodity Exchange Center. The major products traded at the Bayintnaung Commodity Exchange Center are Black Gram, Green Gram, Mung Bean, Pigeon Pea, Chick Pea, Black Eyed Bean, Soy Bean, Butteer Bean, Kidney Bean, Bamboo Bean, Sultani, and Brown Bean. Various types of beans and pulse traded at Yangon Commodity Exchange Centre are delivered mainly from Mandalay, Monywa, Pakokku, Pyay, Hinthada, Magwe regions.

(b) Mandalay Commodity Exchange Centre

Since 1935, Mandalay Commodity Exchange Centre has been established as Brokers, Traders, and Millers' Mahakahtaingtaw Association in Mandalay. In 1945, this association was established by the name of the Bean Brokers and Traders Association. In 2008 the name of the association was changed into the Brokers, Traders and Millers Kahtaintaw Association. The Centre opens every day except Sabbath days of Buddhist Calendar. The opening hour is from 10:00 am to 2:00 pm.

Local brokers, agents, and merchants are the key participants in Mandalay Commodity Exchange Centre. There are 2000 members who are doing their trade at the Exchange Centre. The number of members is larger than Yangon Commodity Exchange Centre because the membership for this Centre accepts not only beans and pulse traders but also millers and traders of other crops. At this Centre, beans and pulse, sesame, wheat, maize, edible oil crops are traded.

After harvesting beans and pulses, farmers sell their products to either the assemblers or village traders or brokers in their villages. Historically, the assemblers depended on urban brokers who have information, experience and credibility. At present, the assemblers can get the information by themselves because of advances in communication technology. Therefore, sometimes, the assemblers become the rival of urban brokers. The assemblers can make inquiries about the price information based on daily supply and demand condition.

The members of Mandalay Commodity Exchange Centre do not carry out the export of beans and pulses. They are the suppliers of the traders at Yangon Commodity Exchange Centre. They collect beans and pulses for larger traders with a commission fee of 0.50 MMK per 100 MMK value of beans and pulses.

(c) Monywa Commodity Exchange Centre

In 1958, Monywa Wholesale Centre (MWC) was founded for beans and pulses trading and distribution channel by brokers, traders and millers. In 1993-94, brokers and traders carried out for reforming by the name of "Kathina Association of Brokers and Traders. The Centre opens every day except Sabbath days of Buddhist Calendar. The opening hour is from 10:00 am to 12:00 pm. There are 586 members registered in this Centre; however, about 200 members are actively traded in the market. The membership for this Centre also accepts beans and pulse traders, millers, and traders of other crops. At this Centre, beans and pulse, wheat, edible oil crops are traded. Black Gram, Pigeon Pea, Chick Pea are major crops traded at this Centre. Black Gram and Pigeon Pea are traded for export through agents but about fifty percent of Chick Peas production is used as raw materials for local vermicelli factories.

3.1.2 Myanmar Beans and Pulses Export

The principal export products of Myanmar are rice, beans and pulses, marine products, minerals, timber, gems and natural gas. Myanmar produces more than 20 kinds of beans and pulses. Because of relatively low national consumption, majority of beans and pulses production is for export purposes. The main exports of Beans and Pulses from Myanmar include Black Gram, Green Gram, Pigeon Pea, Mung Beans,

Chick Peas, Black Eye Beans, Butter Beans, Red Beans, Kidney Beans and Lab Beans.

Myanmar is one of the leading exporters of beans and pulses among other 52 exporting countries. Myanmar achieves second position among world beans and pulses export countries and the top position among ASEAN countries. It retains its position as one of the world's top five producers of bean and pulses, which include Canada, India, Australia and Tanzania.

The trading partners of Myanmar beans and pulses exports are India, Singapore, Thailand, China, Hong Kong, Malaysia, Japan, and Indonesia. India market is the largest market for Myanmar. There has been strong trade relationship between India and Myanmar since British colonial period. At that time, the British brought beans and pulses growers from India, cultivated beans and pulses in Myanmar, and exported back to India.

Although the markets of Myanmar beans and pulses are based on quality and EU's General System of Preferences (GSP), some kinds of beans and pulses especially black gram are traded on demand of Asian and ASEAN regions. The major markets for Black Gram are India, Pakistan, U.A.E, Malaysia, Japan, and Sri Lanka. The markets can be divided into premium market which has strict restrictions on quality specifications and India market which does not regard on quality so much. There are regular demands for traders in premium market but demand in India market characterized fluctuation.

Most of the price changes in local market are influenced by demand of India market because 70% of the beans and pulses export goes to India market. The prices of beans and pulses in premium market are stable to compare with the prices in India market. The motive of purchasing Myanmar beans and pulses in India market are the ease of procurement, short delivery time and low quality level acceptance of beans and pulses.

Importers from EU and other countries evaluate Myanmar beans and pulses quality during harvest season. Then, they decide to purchase if the quality of beans and pulses meet their quality standards. At present, importers from Taiwan do not purchase Myanmar beans and pulses because Myanmar beans and pulses do not meet their quality standards. However, most importers still purchase Myanmar beans and pulses.

The payment system of international trade of beans and pulses is telegraph transfer. Some beans and pulses exporters receive their cash in advance.

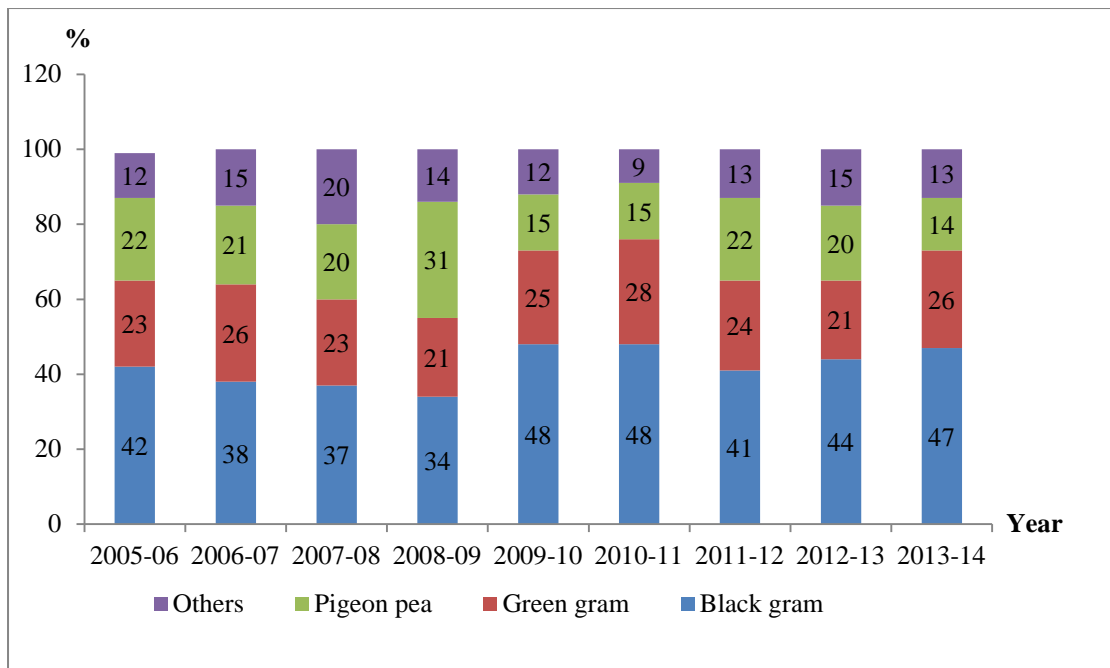
(a) Trade Policies for Exporting Beans and Pulses in Myanmar

Myanmar has been long reliant on beans and pulses exports for its economic growth. In 1962, because of nationalization and practicing the centralized economy in Myanmar, the exports of agricultural products suffered due to reduction of production. From 1964 to 1988, exported grains, beans and other crops from agriculture sector were nominated as limited crops for export in Myanmar. At that time, beans and pulses export is monopolized by State Owned Enterprises under the Myanmar Agriculture Produce Trading. The economic system is changed to market oriented economic system in 1988. Under this system, beans and pulses export was allowed to private sector along with the trade liberalization. The exporters needed to apply the export permit for exporting products. They had to pay ten percent export tax on value of export goods to the Customs Department. Liberalization was made for the exporters, so that requirement of export license was abolished for exporting beans and pulses in 2013. The tax rate for exports was reduced from ten percent to two percent in 2013. This tax is imposed by Internal Revenue Department.

(b) Export Volume of Myanmar Beans and Pulses

Depending on the demand from foreign market, the exports of beans and pulses indicate increasing trend. Figure (3.2) shows the volume of beans and pulses export from 2005-06 to 2013-14. Other categories include Kidney Beans, Bamboo, Sultani/ Sultapya, Brown Beans and other various beans.

Figure (3.2) Export Volume of Beans and Pulses in Myanmar (000'MT)



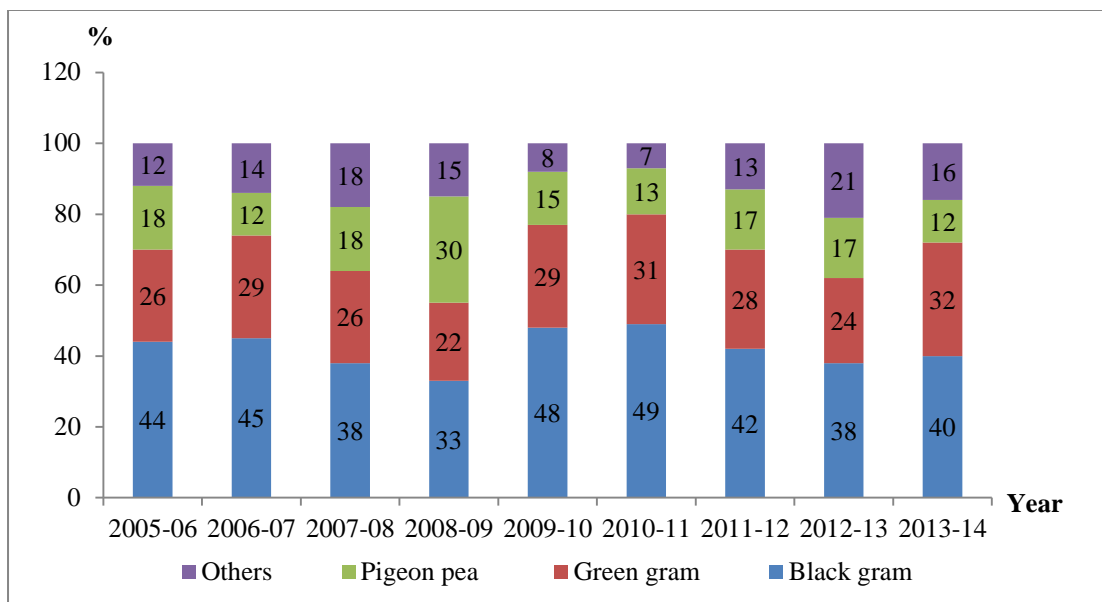
Source: UMFCCL, 2015 (Appendix A)

According to the Figure (3.2), the volume of Black Gram is the highest contribution of total beans and pulses export. The second largest contribution is Green Gram exports and the third largest contribution is Pigeon Pea exports. Export volume of Black Gram has increased substantially except in 2010-11. The decrease in export value of Black Gram in 2010-2011 was due to decreased supplies affected by the bad weather conditions. The export volume of Black Gram is approximately 47 percent of total beans and pulses export in 2013-14.

(c) Export Value of Myanmar Beans and Pulses

The export value of Myanmar beans pulses is shown in Figure (3.3). According to Figure (3.3), the export value of black gram is the highest contribution of total value of beans and pulses export.

Figure (3.3) Export Value of Beans and Pulses in Myanmar (\$m)



Source: UMFCCL, 2015 (Appendix A)

In 2005-06, the black gram export value was \$m 340,000 and it was reached to \$m 949,000 in 2013-14 (See Appendix A). The export value of black gram contributes to about 40 percent of the total export value of beans and pulses. The value of Black Gram depends on the changes in market price of Black Gram.

(d) FOB Prices of Black Gram

The FOB prices of Black Gram are determined based on the quality of product. There are two types of Black Gram quality: Fair Average Quality (FAQ) and Special quality (SQ). The prices of Black Gram can be different according to the year of production and market demand. The prices of Black Gram can also be different according to the stock from the previous year and present year.

Table (3.1) FOB Prices of Black Gram

No.	Year	Year of Production	Average Price per Ton (\$)	
			FAQ	SQ
1	2011	2011	694	770
2	2012	2011	535	574
		2012	574	631
3	2013	2012	554	609
		2013	565	624
4	2014	2013	633	692
		2014	779	884

Source: UMFCCI, 2014

According to the Table (3.1), the price difference of Black Gram according to quality level is between \$40 per ton to \$70 per ton. Prices for Black Gram have risen significantly in 2014 because of declining Myanmar currency rate against hard currency, as well as higher demand of foreign markets where crops were devastated amidst natural disasters such as floods and heavy rains.

3.2 Personal Profile of Respondents

As mentioned in the chapter one, the study targets the traders who make the investment decisions for Black Gram trading. Therefore, respondents were selected for conducting the questionnaire survey for the study. They are members of Yangon Commodity Exchange Centre.

The personal profile of the respondents in the study is shown in Table (3.2). There are more male participates than female in the beans and pulses trading. Age distribution reveals that most of the traders are mature and energetic age to conduct their trading activities. Most of the respondents attain graduate level of education. It shows that they can manage and solve the problems regarding trading with specific knowledge and they can cope with the current economic trends.

Table (3.2) Profile of Respondents

Particulars	No. of respondents	Percent
Gender		
Male	133	88.67
Female	17	11.33
Total	150	100.00
Age Group (Years)		
21 to 30	14	9.33
31 to 40	34	22.67
41 to 50	53	35.33
51 to 60	44	29.33
61 to 70	5	3.34
Total	150	100.00
Education level		
Basic Education	25	16.67
Graduate	112	74.67
Post-graduate	13	8.66
Total	150	100.00
Marital Status		
Single	20	13.33
Married	130	86.67
Total	150	100.00
Trading Experience (Years)		
1 to 10	80	53.33
11 to 20	51	34.00
21 to 30	13	8.67
31 to 40	6	4.00
Total	150	100.00

Source: Survey Data, 2016

Majority of respondents are married. It was found that more than half of the traders have long term experiences in their business area. After exploring personal profiles of Black Gram traders, the practices of traders are examined to identify how they do their trading subject to different purchase decisions.

3.3 Black Gram Trading

The data concerning the Black Gram traders' trading arrangements is collected from respondents using questionnaire. In order to understand that trading performance of Black Gram traders, the objectives of carrying out their operations, the way they collect cash for their trading, and profit margin are described.

Table (3.3) Type of Black Gram Traders

Type of Traders	No. of respondents	Percent
Exporter	37	24.67
Local Dealer	30	20.00
Both	83	55.33
Total	150	100.00

Survey Data, 2016

Most of the respondents carry out trading Black Gram both in local and international market. However, some of the respondents specialize only in international market and some in local market.

(a) Objectives of Black Gram Trading Business

Even though it always says that the objective of the business is profit maximization, a number of other objectives are mentioned by the respondents in this study. Apart from profitability, traders do their businesses to achieve export potential, short term profit, long term benefits, and due to heritage of family business.

Table (3.4) Objectives of Black Gram Trading Business

No.	Objective	Yes		No	
		No. of respondents	Percent	No. of respondents	Percent
1	Profitability	93	62.0	57	38.0
2	Export potential	23	15.3	127	84.7
3	Short term profit	24	16.0	126	84.0
4	Long term benefits	60	40.0	90	60.0
5	Family business	45	30.0	105	70.0

Source: Survey Data, 2016

It can be seen that although there are many objectives for Black Gram traders, the objective of majority traders is profitability from the product. The respondents also consider long term benefits for their survival.

(b) Cash Collection Period

A credit sale is inevitable for Black Gram traders. The collection period for their credit sales usually takes less than one month. Only a few cases take more than one month to six months for collecting the debts.

Table (3.5) Cash Collection Period

Cash Collection Period	No. of respondents	Percent
Less than 1 month	134	89.34
1 to 2 months	9	6.00
3 to 4 months	5	3.33
5 to 6 months	2	1.33
Total	150	100.00

Source: Survey Data, 2016

Although Black Gram trade involves exporting, cash collection period from foreign customers is not too long. Exporter can receive their cash through telegraph transfer. As their trading investment is high, sometimes they receive partial amount of cash in advance for their credit sales which support liquidity.

(c) Profit Margin of Trade

The main objective of Black Gram traders is earning maximum profit. The study shows that different traders make their selling at different margins. They can bargain the profit margin of Black Gram depending on demand and supply in the market.

Table (3.6) Profit Margin of Trade

Profit Margin	No. of respondents	Percent
Break-even	9	6.00
Below 2%	44	29.33
2 % to 3%	44	29.33
3% to 5%	53	35.34
Total	150	100.00

Source: Survey Data, 2016

Most of the traders trading in India market can anticipate 3% to 5% profit margin. Only the traders who target the premium market can expect 3% to 5% profit margin. Sometimes, when the traders need money urgently when there is not demand for their product have to sell at no profit margin or even at loss.

3.4 Decisions Scenarios of Black Gram Traders

Based on the nature of business, traders are required to make their purchase decisions in certain periods of time and situations. Whether Black Gram will be bought during the harvest season is one of the investment decisions that the traders make. Traders also consider buying Black Gram when prices are rising, when prices are falling, when they have orders from foreign customers, when the expected yield of Black Gram will be decreased, and when the expected yield of India beans and pulses will be decreased. They also take into account other exporters' activities in making purchase decisions of Black Gram.

Table (3.7) illustrates that 52% of respondents buy Black Gram in harvest season. It is possible that traders, who pay the agricultural loans in advanced and buy back the Black Gram as repayments from farmers, are included in this category.

There is a presumption that if the traders expect that the yield of Black Gram will be decreased many of them may buy in advance in order to prevent the shortage of product in the market. Nevertheless, it was found out that only 17% of the traders decided to buy Black Gram when the yield of Black Gram was expected to fall. It can be explained that traders wanted to avoid potential losses if they bought at higher prices caused by limited supply in the market.

Table (3.7) Decisions Scenarios

Sr. No.	Decision Scenarios	Yes		No	
		No. of respondents	Percent	No. of respondents	Percent
1	Purchase at harvest season	78	52.00	72	48.00
2	Purchase when yield of Black Gram is expected to decrease	26	17.33	124	82.67
3	Purchase when India's Black Gram yield is expected to decline	55	36.67	95	63.33
4	Purchase on receipt of export order	34	22.67	116	77.33
5	Purchase when prices are expected to rise	86	57.33	64	42.67
6	Purchase when prices are falling	78	52.00	72	48.00
7	Purchase according to leading exporters responses	56	37.33	94	62.67

Source: Survey Data, 2016

Since Black Gram is an export product, it was assumed that most of the traders would buy Black Gram as they see opportunity for elevation of exports when the expected yield of Black Gram in India would be decreased. However, it shows that only 37% of traders bought when the expected yield of Black Gram in India would be decreased. It indicates that traders in Myanmar do not much consider the information of the Indian market because some exporters export Black Gram to other ASEAN and European countries. Some of the traders, 23% of respondents, bought Black Gram regularly whether they could confirm the orders from the foreign buyers or not.

The price increases and decreases of Black Gram did not reflect on the purchase decisions of traders. Most of the buyers bought Black Gram in both situation. Some traders observed and followed how leading traders response to the market situations.

(a) Sources of Purchase

Traders purchase Black Gram from various sources. In this study, five sources of purchase are found out: direct from farmers, from rural collectors, from commodity exchange centers (regional), from Yangon Commodity Exchange Centre, and from other businesses.

Table (3.8) Sources of Purchase

Sources of Purchase	Yes		No	
	No. of respondents	Percent	No. of respondents	Percent
Direct from farmers	30	20.00	120	80.00
Rural collectors	58	38.67	92	61.33
Commodity exchange centers (regional)	42	28.00	108	72.00
Yangon Commodity Exchange Centre	106	70.67	44	29.33
Other business	54	36.00	96	64.00

Source: Survey Data, 2016

According to Table (3.8), it can be seen that more than two-thirds of respondents purchase Black Gram from Yangon Commodity Exchange Centre. One reason is because the respondents are the members of Yangon Commodity Exchange Centre and the other reason is that the Yangon Commodity Exchange Centre holds the largest transactions of beans and pulses trading. But the traders also used other sources for fulfilling the demand of Black Gram in the market.

(b) Purchase Arrangement

Black Gram traders arrange their purchase through contracts and spot purchases. The contracts were made with farmers through rural and urban collectors, and with other trading companies at commodity exchange centers.

Table (3.9) Purchase Arrangement

Purchase arrangement	Yes		No	
	No. of respondents	Percent	No. of respondents	Percent
Through Contract	86	57.33	64	42.67
Spot purchase	148	98.67	2	1.33

Source: Survey Data, 2016

As shown in Table (3.9), traders mostly conduct spot purchase. Traditional way of trading still reflects on the arrangement in purchase of Black Gram till at present. As competition in purchase of Black Gram becomes increased because of the elevation of Black Gram exports, the traders require making the commitment of their

suppliers for the assurance of product availability. The nature of product can be other possible reason. Because Black Gram is one of the seasonal agricultural products, the traders prefer to purchase in advanced since the Black Gram is sown. Thus, the contractual agreement is required to make sure the products will be delivered to the traders in the future.

(c) Number of Purchases

During a year, traders make their purchases several times. Their purchases start in the harvest season. Number of purchase per year is divided into four groups: 1 to 5 times, 6 to 10 times, 11 to 15 times and more than 15 times.

Table (3.10) Number of Purchase (per year)

No. of Purchases	No. of respondents	Percent
1 to 5	52	34.67
6 to 10	39	26.00
11 to 15	22	14.67
More than 15	37	24.66
Total	150	100.00

Source: Survey Data, 2016

Some traders purchase several times while others purchase a few times within a year. Traders who export Black Gram purchase the products frequently because they have to sell whenever there is a demand from their foreign buyers. Traders purchase Black Gram from less than 5 times within a year because they purchase and store large volume of Black Gram since harvest season.

(d) Types of Payment

Like other businesses, Black Gram traders settle their purchase in cash, on credit, and pay in advanced. Most of the traders purchase Black Gram in cash because they want to attract the sellers of Black Gram. Depending on the extent of relationship between buyers and sellers, traders can purchase Black Gram on credit.

Table (3.11) Types of Payment

Types	Yes		No	
	No. of respondents	Percent	No. of respondents	Percent
Cash	107	71.33	43	28.67
Credit	46	30.67	104	69.33
Advance payment	40	26.67	110	73.33

Source: Survey Data, 2016

Credit purchase can provide some risk for the sellers because there are precedents of fraud. Black Gram price in market was distorted in 2008 and 2011 because of serious fraud in Black Gram trading.

3.5 Organizational Factors in Investment Decisions

Organizational factors consist of resources availability for Black Gram traders. Resources availability is a vital role of every business. Amongst various resources required for the business operations, the study emphasized on availability of financial resources and availability of storage facilities which are important for making investment decisions on Black Gram trading.

Organizational factors influence on investment decisions are measured by using five-point Likert Scale. The scales are classified into 5 groups: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree and 5 = strongly agree. Findings are explained with the mean values calculated from responses.

(a) Availability of Financial Resources

Financial sources for the traders are either equity financing or debt financing. Debt financing are borrowings from friends, relatives, and banks.

Table (3.12) Availability of Financial Resources

No	Factors	Mean
1	Equity financing	4.35
2	Debt financing	3.27
3	Mixed financing	2.91
4	Overall mean	3.51

Source: Survey Data, 2016

Based on the responses, instead of using borrowing funds traders wanted to rely on their own capital as much as they can. Although they do not want to take loan burden, they cannot avoid debt financing.

(b) Availability of Storage Facilities

Availability of storage facilities is also important for Black Gram traders because there is a time interval between buying and selling of commodity. Availability of storage facilities can provide the opportunity for traders to keep their commodities till they can get the higher price. Lack of adequate storage facilities forces traders to sell at low prices.

Table (3.13) Availability of Storage Facilities

Warehouse	No. of respondents	Percent
Own	85	56.67
Rental	40	26.67
Both	25	16.66
Total	150	100.00

Source: Survey Data, 2016

Storage capacity is also one of the influencing factors for Black Gram traders because of product nature. Since Black Gram is one of the agriculture products for export and traders purchase the Black Grams during harvest season, the storage of Black Gram is needed before shipping the Black Gram to foreign countries.

When the influence of storage facilities on making investment decisions was examined, perceptions of respondents on eight factors were considered. These factors

are relating to availability of warehouse whether possessed one or rental, warehouse facilities requirement when the yield of Black Gram is low, warehouse facilities requirements at different locations, cost of warehouse, storage capacity of warehouse.

Table (3.14) Influences of Storage Availability

No	Factors	Mean
1	Need warehouse when beans yield is decreasing	2.74
2	Need of own warehouse	3.08
3	Need for warehouse rental	3.41
4	Need warehouse at the respective harvest location	2.82
5	Need warehouse for processing to prepare beans for export	3.71
6	Need warehouse at export location	3.43
7	Cost of warehouse rent	3.60
8	Availability of storage capacity	3.52
	Overall Mean	3.29

Source: Survey Data, 2016

Table (3.14) shows that availability of storage facilities is one of the influencing factors for purchase decisions of Black Gram trader. Especially, storage facilities required for collecting Black Gram for exports and storage facilities required for processing of Black Gram exports are essential influential factors for the exporters. The cost of warehousing is also concerned for traders in making purchase decision because it will add up to the operating expenses; so that it will affect on the profitability of business.

For the availability of storage facility, traders acquired their own warehouses or rent the warehouse as they required. It is also possible that traders use their own warehouse as well as rental warehouse depending on the needs for storage capacity.

The storage facility near harvest location is of less importance at the later part of supply chain, specifically for exporters. Thus, it can be concluded that the storage facilities are mostly required for exporters. Traders do not concern so much on storing Black Gram when its yield is decreasing.

3.6 Environmental Factors in Investment Decision

Investment decisions of Black Gram traders are also influenced by environmental factors. Environmental factors take into account in the study are production factors, economic factors, and market factors. Black Gram traders always consider the production of Black Gram because it depends on various unpredictable factors like whether changes, attack of insects, etc.

Economic factors include changes in exchange rate and trade policies. Market factors are price, price changes, and market information. The relationship between traders was also evaluated in the study. The influence of environmental factors is measured by five-point Likert Scale and the results are explained with mean values.

3.6.1 Influence of Production

As the Black Gram is one of the agricultural products, the yields and quality of Black Gram fluctuate with weather and insect. When traders make purchase decision, they also concern the yields and quality of Black Gram.

(a) Black Gram Yields

Yield and quality of Black Gram depend on weather conditions and it influences on the purchase decision of traders. The variation of black gram yield can change the purchase decision of traders. Black Gram are purchased in large quantities when yield is high, purchasing in small quantities when yield is high or low, and the yield of beans production in India and other neighboring countries were examined as the influence of Black Gram yield on investment decisions of traders.

Table (3.15) Influence of Black Gram Yields

No	Factors	Mean
1	Purchasing in large quantities when yield is high	2.65
2	Purchasing in small quantities when yield is high	3.07
3	Purchasing in small quantities when yield is low	2.61
4	Considering the yield of beans production in India and other neighboring countries	3.80
	Overall Mean	3.03

Source: Survey Data, 2016

As shown in Table (3.15), the yield of beans production in India and other neighboring countries is the most influencing factor on investment decisions. It is found that respondents agree this factor as the most influencing factors on buying decision of traders because about 70% of Black Gram exports rely on India market. If the yield of Black Gram production in India and other neighboring countries is low for the year, the demand of Myanmar Black Gram is raised in India market.

Respondents perceived that local Black Gram yields have less influence on their purchase decisions. Whether the local yield of Black Gram is low or high, traders have to buy products if there is market for exports. Therefore, they perceived the local yield of Black Gram is not a strong influential factor for their decisions. However, the low local yield or high local yield of Black Gram will directly impact on the prices of the Black Gram in the market, which is perceived as important influential factors for the traders' purchase decisions.

Traders perceived increases and decreases of Black Gram production in other countries as their market opportunities; they take into account this factor as important for their purchase decisions. They do not perceive the variations in local Black Gram yield is so much important for their decisions because they assumed that it is not directly affected on their decisions. Nevertheless, it can be seen that they consider changes in prices as important influencing factor which is caused by the yields of Black Gram.

(b) Quality of Black Gram

Quality of beans is also important for making purchase decision of traders. Traders make their purchase decisions concerning the quality of Black Gram to meet the quality standards of foreign buyers. Meeting the quality standard is very important because low quality of Black Gram can lead to the loss of market share or reducing selling prices. Today, traders of Black Gram in Myanmar lost Hong Kong's market due to lack of quality standard. In order to evaluate the influence of quality on investment decisions of traders factors mentioned in Table (3.16) are taken into account.

Table (3.16) Influence of Beans Quality

No.	Factors	Mean
1	The standard quality for exports in Myanmar	4.01
2	The standard quality of foreign buyers	4.11
3	The standard quality of the importing countries	3.99
4	The quality specifications of importers	4.03
5	Lower than quality standard	2.93
6	Meet quality standard	4.16
	Overall Mean	3.87

Source: Survey Data, 2016

Respondents agree upon beans quality is important influencing factor on purchase decision based on findings in Table (3.16). The mean score shows that traders perceived quality standard of Black Gram is important for their decisions. Therefore, the traders are more concerned about Black Gram buying to meet quality standard, to meet standard quality of foreign importers, and quality check done by importers than other influencing factors. The foreign importers come and make the quality inspection at harvest season and then they decide to buy when they are satisfied with the quality of Black Gram.

Respondents do not agree to make purchase if the quality does not meet the accepted standard. Although the exports of Black Gram vary with the demand of foreign importers, most of the traders concern the quality of Black Gram. Black Gram demand varies according to different usage of Black Gram. The usage of Black Gram includes consumptions and offerings at religious occasions particularly in India.

3.6.2 Influence of Price

Price is one of the attention factors for trading. Exchange rate is also considered as influencing factor because Black Gram is one of the export products. Therefore, the purchase decisions of Black Gram are influenced by current market price, stability of exchange rate and estimation on future price.

(a) Price

Price is an agreement values that buyer and seller willing to trade. Price factors are local market price, international market price, prices offered by competitors, prices quoted in online sources, the prices paid on emergency purchase, higher than competitors price, the prices of previous purchases, the profit margin, the bargain price when yield increase and decrease, and the different areas of beans production.

Respondents perceived the price of Black Gram is one of the most influencing factors according to the overall mean score of price. The most influencing factor of price is international market price of Black Gram.

Table (3.17) Influence of Price

No.	Factors	Mean
1	Local market price	4.06
2	International market price	4.28
3	Prices offered by competitors	4.08
4	Prices quoted in online sources	3.93
5	The prices paid for emergency purchase	4.23
6	Higher than competitors price	3.21
7	Prices of previous purchases	3.69
8	Profit margin	3.95
9	Bargain price when yield decrease	3.89
10	Bargain price when yield increase	3.81
11	Different areas of beans production	4.09
	Overall mean	3.93

Source: Survey Data, 2016

Moreover, the mean value of the prices paid on emergency purchase, the different areas of beans production, prices paid by competitors and local market price are higher than other price factors. The mean values of those factors are greater than average mean value. It can be concluded that respondents seriously concern the price to make buying decision of Black Gram because the price of Black Gram affects the financial results of traders.

(b) Exchange Rate

In making purchase decision of Black Gram, traders consider fluctuation in exchange rate because exchange rate is very important factor for conducting export transactions. Influencing factors of exchange rate are classified into decline and rises in exchange rate, and stability of exchange rate.

Table (3.18) Influence of Exchange Rate

No.	Factors	Mean
1	Decline in exchange rate	3.45
2	Increase in exchange rate	3.43
3	Stability of exchange rate	3.45
	Overall mean	3.44

Source: Survey Data, 2016

Based on discussion with respondents the payment system used is found to be telegraph transfer in advanced payment. This system is more relaxed than before. In the past, the payment between exporters and importers were not able to make direct payments to Myanmar banks because of sanctions imposed against local banks. Therefore they made the payment through third party companies, mostly Singaporean firms. At that time, the exporters paid transaction costs like commission fees. Telegraph transfer system of payment is highly favorable for Myanmar exporters because they do not face default risk. Exporters are able to ensure that their payments are in place and once the commodities have been shipped, they need not retain any responsibility for what happens to the stocks thereafter.

The highest scores are at decline in exchange rate and stability followed by increase in exchange rate. The volatility of exchange rate is influenced on purchase decision of beans and pulses traders. The exchange rate fluctuation can adversely influence on the purchase decision of beans and pulses traders. The time lag between buying and selling is not the same for all trading. At this point, the longer the time lag, the more effect on the results of purchase decision. Beans and pulses traders can face with the huge losses due to the volatility of exchange rate.

These three factors show that exchange rate is considered as one of the influencing factors of purchase decision of traders. Moreover, the exchange rate overvaluation today jeopardizes the incomes of beans and pulses traders

(c) Estimation of Future Price

The changes of price in the Black Gram market are not surprise for traders to make purchase decision. Moreover the Black Gram price is very sensitive and dynamic in market. The influencing factors of price changes are classified into twelve factors. These are the potential for decline and increase in purchase price, the potential for decline and increase in selling price, the potential for changing trend of buying and selling price, the stability in the purchase price and the selling price at the time of purchase,.

The price changes in the market are one of the factors that cannot be avoided by every trader. Therefore, Black Gram traders always face with the changes of Black Gram price in every day. Respondents agree that the price change is one of the important influencing factors to make purchase decision. The potential for decline in selling price shows that respondents consider this factor as the most influencing factors to make purchase decision because of loss in their trading. Moreover, the control of Black Gram selling price is beyond their control. It relies on the market price of Black Gram imported countries.

Table (3.19) Influence of Estimation of Future Price

No.	Factors	Mean
1	Potential to purchase price decline	3.76
2	Potential to purchase price increase	3.98
3	Potential to selling price decline	4.15
4	Potential to selling price increase	4.06
5	Potential to changes in trend of buying price	3.69
6	Potential to changes in trend of selling price	3.84
7	Stability of purchase price at the time of purchase	4.01
8	Stability of selling price at the time of purchase	3.71
	Overall mean	3.90

Source: Survey Data, 2016

The stability in the purchase price at the time of purchase shows that respondents make their purchase decision when Black Gram price is stable. In making decisions for purchase of beans respondents consider the availability of Black Gram order from imported countries. According to the interview with some Black Gram traders, when they make purchase decision they have to concern the selling price of Black Gram and the price stability of Black Gram.

3.6.3 Influence of Market Information

Market information is very critical for every player in the market. Accurate and timely information supports traders to make the right decision. Like other market players, traders gather the information relating to market price of Black Gram, the prices paid by other rival companies, and the current prices and demand in India beans market from various sources.

Table (3.20) Influence of Market Information

No.	Factors	Mean
1	Accurate market information	4.20
2	Timely market information	4.05
3	Accurate information on prices	4.07
4	Rumor or speculative information	3.63
5	On-line price information	3.41
6	Prices information of rival companies	3.93
7	Prices information of India beans market	3.82
8	Information regarding demand in India bean market	4.01
	Overall Mean	3.89

Source: Survey Data, 2016

The overall mean value on influencing factors of market information shows that market information is essential for respondents. Among the influencing factors of market information, respondents agree that the possibility of accurate and timely market information is important for making Black Gram purchase decision. They rely on other information sources than on-line and internet sources. Based on the results of

interview with traders, they make purchase decision after collecting information on price and demand of Indian markets and other competitors.

3.6.4 Influence of Trade policy

Traders also consider not only trade policy of home country but also trade policy of foreign countries because trade policies between two countries can impact on their exports. Factors of trade policy consist of home country export policy, foreign countries' import policies, stability of home country export policy, potential for changes in home country export policy, changes in foreign countries' import policies, potential for changes in foreign countries' import policies and possibility of trade barriers.

Based on Table (3.21), the mean value of foreign countries' import policies is above neutral level therefore traders consider factor of foreign countries import policies is the most important factor to make purchase decision. Most of the Myanmar traders export Black Gram to India. If the import policy of India is suddenly changed it will affect the purchase decision of traders. The lowest mean value denotes potential for changes in home country export policy because respondents do not expect the changes in trade policy. Moreover, there is no need for export license for beans and pulses export.

Table (3.21) Influence of Trade Policy

No.	Factors	Mean
1	Home country export policy	3.13
2	Foreign countries import policies	3.55
3	Stability of home country export policy	3.16
4	Potential of changes in home country export policy	3.01
5	Stability in foreign countries import policies	3.19
6	Potential of changes in foreign countries import policies	3.32
7	Possibility of trade barriers	3.52
	Overall mean	3.27

Source: Survey Data, 2016

Respondents agree trade policy as influencing factor on purchase decision due to the overall mean score. This score shows that respondents acknowledge the changes of import policy and tariff on black gram influence on both Myanmar and India beans and pulses market.

3.6.5 Influences of Trust between Traders

In doing trading transactions, traders need to have interpersonal skills as well as accessibility of resources including financial resources and information. The influencing factors of trust between traders include cooperation among traders, honest among traders, ethics among traders and buying experience.

Trust among traders is one of the critical factors in the Black Gram market like other commodity market. Traders' relationship is very important in commodity market because they exchange market information among themselves.

Table (3.22) Influences of Trust between Traders

No.	Factors	Mean
1	Cooperation among traders	4.07
2	Trust worthiness of traders	4.45
3	Traders ethics	4.46
4	Buying experience	4.41
	Overall Mean	4.35

Source: Survey Data, 2016

Respondents strongly agree the influencing factors of trust among traders as the influencing factors on purchase decision of traders because of the overall mean score. The ethics among traders is the most influencing factors followed by trust worthiness of traders, and buying experience.

Based on the interview, it was found that according to the nature of trading transactions, the traders faced with speculation and broken promise. The buying experience of traders influences in making purchase decision of traders. Since they have practical experiences they can decide whether or not to purchase beans and pulses and fixing the price of Black Gram.

3.6.6 Summary of Overall Mean of Influencing Factors

In the face of many factors influenced on purchase decision, the following factors are considered as influencing factors on purchase decision of Black Gram traders according to the present study. In making purchase decision, Black Gram traders must understand the effect of these factors to operate their business smoothly.

As shown in Table (3.23), among the ten factors, the trust between traders is the most influencing factor, followed by price, estimation of future price, market information, quality of Black Gram, the availability of financial resources, exchange rate, the availability of storage facilities, trade policy and Black Gram yields. Along with the long chain process, the cooperation, honesty, and ethics of traders are more import to trade smoothly. Price can affect the adverse results on purchase decision so that price also is one of the influencing factors on purchase decision. The price of is Black Gram closely linked to Myanmar Black Gram price in India. Moreover, Black Gram traders made arbitrage decision depending on an increase or decrease in price in India.

Table (3.23) Summary of Overall Mean

No.	Factors	Mean
1	Availability of Financial Resources	3.51
2	Availability of Storage Facilities	3.29
3	Black Gram Yields	3.03
4	Black Gram Quality	3.87
5	Price	3.93
6	Exchange Rate	3.44
7	Estimation of Future Price	3.90
8	Market Information	3.89
9	Trade Policy	3.27
10	Trust between Traders	4.35

Source: Survey Data, 2016

Black Gram traders collect the possibility of accurate and timely information to make purchase decision. Often they make purchase decision after receipt of accurate information on price. They also consider the market demand of Black Gram

before making purchase decision. Based on interview results, if the buyers from India purchase are stagnate, the price of Black Gram will decrease. Therefore, Black Gram traders collect the market information from various sources like on-line, internet, and journal to make purchase decision. The sharing of information is little because of the nature of trading. Markedly price movement of Myanmar Black Gram price in India was the same as Black Gram price in Myanmar. (Kyaw Myint, 2013)

The quality of Black Gram is also important for both buyers and sellers. If the quality of Black Gram cannot meet the export quality, the demand for Black Gram will decrease. According to the interview with beans and pulses traders, buyers from Europe and Japan concern the quality of Black Gram when they make purchase decision.

The fluctuation of Black Gram price hinders the decision of Black Gram traders. The traders face with price competition from foreign firms because buyers of foreign countries import the Black Gram not only from Myanmar but also from other countries.

Chapter Four

Analysis on Investment Decision in Myanmar Commodity Market

An analysis was conducted in order to find out the risk taking behavior of Black Gram traders in Myanmar commodity market, the effect of demographic factors on risk behaviors of Black Gram traders and the factors that influence on the purchase decision of Black Gram in Myanmar commodity market. To explore and examine these objectives, binary logit model and Chi Square test are used in this study.

The study involved surveying the Black Gram traders in Yangon Commodity Exchange Centre. There are about 200 members in this exchange center. The survey was carried out with structured questionnaire to collect data from 150 Black Gram traders. To determine the size of samples, the formula of Taro Yomane (1973) is used¹.

The questionnaire was designed in three sections. The first section consists of enquiring respondent's personal factors, while the second part consists of the influencing factors on purchase decisions and finally factors on risk taking behaviors. In the first section of the questionnaire is constructed with 13 questions to have general information about the respondents - including questions with respect to background of personal profile: gender, age, education and how to make investment decisions. The activities of buying and selling conducted by Black Gram traders are asked in the second section of the questionnaire. The last part of the questionnaire is the factors that influence purchase decision and risk taking behaviors of the respondents. The opinion of Black Gram traders is asked by using 5-point Likert Scales.

A 5-point Likert Scale, a rating scale is used for asking respondents' opinions and attitudes of individual investors to evaluate the degrees of their agreement with the impacts of influencing factors on their investment decision. The 5 points in the

$$^1 n = \frac{N}{(1+Ne^2)}$$

Where, n = sample size

N= population size

e = the level of precision (A 95% confidence level or 5% level of precision, was assumed)

$$n=200/((1+200*0.05*0.05))= 133.33$$

scale are respectively from 1 to 5: strongly disagree, disagree, neutral, agree, and strongly agree.

Before the final questionnaire is prepared, preliminary survey and in-depth interviews were made with five traders and pilot survey with twenty traders. Based on these results, the final questionnaire is prepared. The data from more than half of sample size is collected from traders at Yangon Commodity Exchange Centre and data from the remaining sample size is collected from traders at their companies.

4.1 Research Methodology

Data are analyzed by using the statistical package for social sciences SPSS 20 software package. The data is coded to enable the responses to be grouped into various categories. Descriptive statistics is used to summarize the data. Tables are used to present the data. Internal consistency of the multi-item scales is tested using Cronbach's alpha.

Chi square test is used to examine the effect of demographic factors on risk taking behaviors of Black Gram traders in Myanmar commodity market. Binary logistic regression model is used to analyze the influencing factors on purchase decision of Black Gram traders in Myanmar commodity market.

According to Neuman and Kreuger (2003), "Reliability and validity are central issues in all measurements. Both concerns how concrete measures are connected to constructs. Reliability and validity are salient because constructs in social theory are often ambiguous, diffuse, and not directly observable. Perfect reliability and validity are virtually impossible to achieve. Rather, they are ideals researchers strive for".

Reliability means dependability or consistency, and validity means truthfulness. It refers to the bridge between the construct and the data (Neuman & Kreuger, 2003). When an interview is conceived as an opportunity for construction of meaning, one "cannot expect a replication of answers because they emerge from different circumstances of production"(Holstein & Gubrun, 1995). Thus, the trustworthiness of the data can only be evaluated by the participants themselves.

Cronbach's alpha (α) is a coefficient of reliability. It was first named alpha by Lee Cronbach in 1951. It is commonly used as a measure of internal consistency or reliability of measurements, which are in formats of continuous variables (for

example, 5-point Likert measurements). It includes a statistical summary that describes the consistency of a specific sample of respondents across a set of questions or variables that are it helps to estimate the reliability of participants' responses to the measurements (Helms et al, 2006). Cronbach's alpha is usually used in social and behavioral researches as an indicator of reliability (Liu, Wu & Zumbo, 2010).

A commonly accepted value of Cronbach's alpha is 0.6 as the minimum and higher more than 0.7 are more desirable. Cronbach's alpha will generally increase as the inter-correlations among test items increase, and is thus known as an internal consistency estimate of reliability of test scores. To assess the reliability of the constructs developed, the Cronbach's alpha coefficients for 11 questions are calculated.

(b) Descriptive Statistics and Reliability of the Variables

Descriptive statistics is used in this study not only to express the personal profile such as age, gender, educational levels, etc. but also to describe the mean values and standard deviation of the observed variables. According to the mean values of the items, the respondents generally agree the organizational and environmental factors of purchasing decision (mean values more than 3: Neither agree nor disagree).

As shown in Table (4.1), the availability of finance (making decision for purchase of beans I consider) scale includes 3 items, the storage availability (making decision for purchase of beans I consider) scale includes 8 items, exchange rate (making decision for purchase of beans I consider) scale includes 3 items, trade policy (making decision for purchase of beans I consider) scale includes 7 items, price (making decision for purchase of beans I consider) scale includes 11 items, estimation of future price (making decision for purchase of beans I consider) scale includes 8 items, market information (making decision for purchase of beans I consider) scale includes 8 items, Black Gram yield (making decision for purchase of beans I consider) scale includes 4 items, quality of Black Gram (making decision for purchase of beans I consider) scale includes 6 items, and relationship between traders includes 4 items. Risk behaviors scale includes 20 items.

Whenever a scale consists of more than one item, it is important to measure how much they are internally consistent. Testing of the reliability of the scale is very much important as it shows the extent to which a scale produces consistent result if

measurements were made repeatedly and Cronbach's alpha is the most widely used method (Absar et al., 2010). Based on the survey data, the reliability or the internal consistency among the variables is checked with the Cronbach's alpha. Cronbach's alpha values near to zero indicate low reliability while the values close to one indicate high reliability.

Table (4.1) Reliability of Factors and Risks Influencing Purchase Decisions

Factor	Mean	Standard Deviation	No. of Items	Cronbach's Alpha
Availability of Finance	3.51	0.3036	3	0.602
Storage Availability	3.29	1.1601	8	0.858
Exchange Rate	3.44	0.0115	3	0.721
Trade policy	3.27	1.0937	7	0.900
Price	3.93	0.9568	11	0.806
Price change	3.90	0.1732	8	0.669
Market information	3.89	0.2599	8	0.767
Black Gram Yield	3.03	0.5524	4	0.615
Black Gram Quality	3.87	0.4974	6	0.745
Trust between traders	4.35	0.1863	4	0.717
Risks	3.13	1.1679	20	0.839

Source: SPSS Outputs (Appendix B)

Table (4.1) presents results of reliability test for each factor. It could be observed the alpha values of most factors are more than 0.7. According to Table (4.1), alpha value for trade policy is 0.900 which is the highest alpha value among factors. Computed alpha values greater or equal 0.6 for all factors². Therefore, internal consistency of items to the concepts is good and acceptable.

4.2 Risk Taking Behavior of Black Gram Traders

Every investor cannot avoid risk in making investment decision. Attitude towards risk of individual affect risk taking behaviors. When individual investors are taking a decision on investment they must take different risks. According to their attitude towards risk, investors are divided into three types: risk lover, risk-neutral investor and risk-averse investor. To explore the risk behaviors of respondents, 5-

² Vijaya and Sumeet (2015) provide; “ $\alpha = 0.9$ is excellent, $0.7 = \alpha < 0.9$ is good, $0.6 = \alpha < 0.7$ is acceptable, $0.5 = \alpha < 0.6$ is poor, and $\alpha < 0.5$ is unacceptable” (p.117).

point Likert Scale are used to measure. According to Best (1977), the mean values of five-point Likert scale items were interpreted as follows: The score among 1.00 – 2.33 means risk averter; The score among 2.34 – 3.67 means risk neutral and The score among 3.68 – 5.00 means risk taker.³The following Table shows three types of respondents by risk taking behavior.

Table (4.2) Risk Taking Behavior of Beans and Pulses Traders

Risk Taking Behavior	No. of respondents	Percent
Risk Averter	10	6.67
Risk Neutral	134	89.33
Risk Taker	6	4.00
Total	150	100.00

Source: Survey Data, 2016

The results illustrate that most of respondents are risk neutral traders. Between risk aversion and risk seeking is a state called risk neutrality. An investor is risk neutral if investor is indifferent to risk. Investor will neither pay to avoid it nor to take it. Risk neutral traders take investment decisions based on return expectations.

It can be seen that Black Gram traders in Myanmar commodity market do not want to take risk and they avoid taking risk. They do not consider risk seriously when they make investment decision like purchase decision. Although the nature of commodity market is very risky, traders cannot control the condition of market. They cannot demand risk premium for risky investments. They are afraid of a huge loss of investment therefore they do not take risky investment however the return is higher than other situations. From these factors, most of the Black Gram traders in Myanmar are risk neutral traders.

³Oxford Risk Research & Analysis Ltd assesses risk score of investors by using risk assessment questions. The rating scale is divided into five: (42-50) would put in the higher risk category; (34-41) would put in the medium to higher risk category; (26-33) would put in medium risk category; (18-25) would put in the lower to medium risk category; (10-17) would put in the lower risk category.

4.3 The Effect of Demographic Factors on Risk Taking Behaviors of Black Gram Traders

Demographic factors like gender, age, education, marital status, and trading experiences can drive investors risk attitudes. To examine the effect of demographic factors on risk taking behaviors of Black Gram traders, chi square test is applied in this study.

Respondents are classified by gender and by risk taking behaviors: risk averter, risk neutral and risk takers. Results are shown in the following Table (4.3).

Table (4.3) Gender and Risk Taking Behavior

Gender	Risk Taking Behavior						Total	
	Risk Averter		Risk Neutral		Risk Taker		No. of respondents	Percent
	No. of respondents	Percent	No. of respondents	Percent	No. of respondents	Percent		
Male	8	6.02	119	89.47	6	4.51	133	100.00
Female	2	11.76	15	88.24	0	0.00	17	100.00
Total	10	6.67	134	89.33	6	4.00	150	100.00

Source: SPSS Outputs (Appendix C)

Although the majority of male and female are risk neutral traders, females do not make risky decision in their investments as compared to male. It also found that some male Black Gram traders are risk averter and risk taker. It is evident that female black gram traders do not incline to take risks.

Age is divided into five groups in this study. Age differences have impact on their risk taking behaviors. Among 150 respondents, most Black Gram traders are age between 31 to 60 years.

Table (4.4) Age Group and Risk Taking Behavior

Age Group (Years)	Risk Taking Behavior						Total	
	Risk Averter		Risk Neutral		Risk Taker		No. of respondents	Percent
	No. of respondents	Percent	No. of respondents	Percent	No. of respondents	Percent		
21 to 30	1	7.14	13	92.86	0	0.00	14	100.00
31 to 40	3	8.82	29	85.30	2	5.88	34	100.00
41 to 50	6	11.32	46	86.79	1	1.89	53	100.00
51 to 60	0	0.00	41	93.18	3	6.82	44	100.00
61 to 70	0	0.00	5	100.00	0	0.00	5	100.00
Total	10	6.67	134	89.33	6	4.00	150	100.00

Source: SPSS Outputs (Appendix C)

The vast majority of age groups are found as risk neutral. Black Gram traders with age between 21 to 30 years and 61 to 70 years are not willing to take risk. They are cautious to take risks. Apart from these age groups, all age groups have risk

taking behaviors. Black gram traders with age between 51 to 60 years and 61 to 70 years are not risk averter. From these findings, it can be concluded that most of Black Gram traders do not want to make the risky decisions in uncertain market.

Table (4.5) Education Level and Risk Taking Behavior

Education Level	Risk Taking Behavior						Total	
	Risk Averter		Risk Neutral		Risk Taker		No. of respondents	Percent
	No. of respondents	Percent	No. of respondents	Percent	No. of respondents	Percent		
Basic Education	0	0.00	25	100.00	0	0.00	25	100.00
Graduate	10	8.93	96	85.71	6	5.36	112	100.00
Post-Graduate	0	0.00	13	100.0	0	0.00	13	100.00
Total	10	6.67	134	89.33	6	4.00	150	100.00

Source: SPSS Outputs (Appendix C)

Based on education level, it is found that apart from graduate level, all Black Gram traders with basic education level and post-graduate level are risk neutral Black Gram traders. The results show that almost every Black Gram traders do not want to take risks and they also want to avoid risk as much as they can.

Table (4.6) Marital Status and Risk Taking Behavior

Marital Status	Risk Taking Behavior						Total	
	Risk Averter		Risk Neutral		Risk Taker		No. of respondents	Percent
	No. of respondents	Percent	No. of respondents	Percent	No. of respondents	Percent		
Single	0	0.00	20	100.00	0	0.00	20	100.00
Married	10	7.69	114	87.69	6	4.62	130	100.00
Total	10	6.67	134	89.33	6	4.00	150	100.00

Source: SPSS Outputs (Appendix C)

According to the results all single Black Gram traders are risk neutral traders and the majority of married Black Gram traders are also risk neutral traders. They are unlikely to take risks. It can be seen that single Black Gram traders are more conservative than married Black Gram traders. Black Gram traders are uncertain about the future market conditions. Therefore, they feel reluctant to take risk.

Trading experience is one of the impact factors for taking risks. Trading experience is divided into four groups in this study. They are 1 to 10 years, 11 to 20 years, 21 to 30 years and 31 to 40 years.

Table (4.7) Trading Experience and Risk Taking Behavior

Trading Experience (Years)	Risk Taking Behavior						Total	
	Risk Averter		Risk Neutral		Risk Taker		No. of respondents	Percent
	No. of respondents	Percent	No. of respondents	Percent	No. of respondents	Percent		
1 to 10	6	7.50	73	91.25	1	1.25	80	100.00
11 to 20	4	7.84	43	84.32	4	7.84	51	100.00
21 to 30	0	0.00	12	92.31	1	7.69	13	100.00
31 to 40	0	0.00	6	100.00	0	0.00	6	100.00
Total	10	6.67	134	89.33	6	4.00	150	100.00

Source: SPSS Outputs (Appendix C)

Based on trading experience, the higher the trading experience of Black Gram traders, the more they become risk neutral traders. It can be concluded that they make their decisions carefully when they face with risky Black Gram market situation. They are unwilling to take risky decisions in turbulent market.

The relationship between demographic factors and risk taken behavior are analyzed by using chi square test. The chi square test statistics and the significance p value are calculated. For this analysis, the significance level is 0.05 (5% level of significance). If the significance p value is less than 0.05, the null hypothesis will be rejected. If the significance p value is greater than 0.05 (5% level of significance), the null hypothesis will be accepted. The calculated chi square test statistics and the significance p value are presented in the following Table.

Table (4.8) Chi Square Test Values of Demographic Factors and Risk Taking Behavior

Demographic Factor	Pearson Chi Square Value	P Value
Gender	1.52	0.47
Age Group	8.04	0.43
Education Level	6.08	0.19
Marital Status	2.76	0.25
Trading Experience	5.80	0.45

Source: SPSS Outputs (Appendix C)

According to Table (4.8), the results of chi square test to determine the relationship between demographic factors and risk taking behaviors indicate that demographic factors such as gender, age, educational level, marital status and trading

experience are no relationship with risk taking behavior of Black Gram traders. Therefore, the null hypothesis cannot be rejected.

From Table (4.8), the chi square test statistics is 1.52 and significance p value is 0.47. The significance p value is greater than 0.05, the null hypothesis cannot be rejected. There is sufficient evidence from the results to conclude that there is no relationship between gender and risk taking behavior.

The chi square test statistics is 8.04 and significance p value is 0.43. The significance p value is greater than 0.05, the null hypothesis cannot be rejected. There is sufficient evidence from the results to conclude that there is no relationship between age group and risk taking behavior.

Based on Table (4.8), the chi square test statistics is 6.08 and significance p value is 0.19. The significance p value is greater than 0.05, the null hypothesis cannot be rejected. There is sufficient evidence from the results to conclude that there is no relationship between educational level and risk taking behavior.

The chi square test statistics is 2.76 and significance p value is 0.25. The significance p value is greater than 0.05, the null hypothesis cannot be rejected. There is sufficient evidence from the results to conclude that there is no relationship between marital status and risk taking behavior.

From Table (4.8), the chi square test statistics is 5.80 and significance p value is 0.45. The significance p value is greater than 0.05, the null hypothesis cannot be rejected. There is sufficient evidence from the results to conclude that there is no relationship between trading experience and risk taking behavior.

This study points out that there is no relationship between gender and risk taking behavior of Black Gram traders. This result is in line with previous findings of Parkash et al ., (2014), Sadiq & Ishaq (2014) and Subramaniam & Athiyaman (2016).

In this study, it can be concluded that there is no relationship between age and risk taking behavior of Black Gram traders. Some researchers also observed that investors age and financial risk tolerance have no significant relationship (Al-Ajmi, 2008) (Anbar and Eker, 2010) Gumede (2009).

The results are also shown by some researchers, which are exploring that no significant relationship is existed between education and risk tolerance. (Strydom et al .,2009),(Gumede ,2009). These are consistent with this study.

Marital status of Black Gram traders has no effect on their risk taking behaviors. This results is in agreement with McInish, (1982), (Metherrel, 2011, and Van Schalkwyk , 2012, as cited in Mabalane,2015).

It can be seen that demographic factors have no effect on risk taking behaviors of Black Gram traders in this study. Black Gram traders have same response to risks of their decisions not regarding their demographic factors.

4.4 Analysis on the Influencing Factors of Black Gram Purchase Decision

Logistic regression analysis is applied to investigate the factors of purchasing decisions of Black Gram traders.⁴ To develop the binary logistic regression model, the trader, designated by 1 if purchasing decisions is yes is used as dependent variable and risk averter, risk neutral and risk taker, availability of financial resources, availability of storage facilities, Black Gram yields, quality of Black Grams, price, exchange rate, estimation of future price, market information, trade policy, and trust between traders are used as independent variables.

The probability that the purchasing decision is yes,

$$\text{The purchasing decision line} = P(Y_i = 1 / X_i) = \frac{e^{X_i \beta_j}}{1 + e^{X_i \beta_j}}$$

In constructing the model, the variables are noted as:

Y_i = 1 if purchasing decision for i^{th} respondent is yes

= 0 otherwise

= Vector of independent variables

Vector of independent variables = $[X_{1i} \ X_{2i} \]$

X_{1i} = Age of i^{th} respondent

X_{2i} = 1 if i^{th} respondent is male

= 0 otherwise

X_{3i} = 1 if i^{th} respondent is married

= 0 otherwise

X_{4i} = 1 if i^{th} respondent is High school

= 2 if i^{th} respondent is Graduate

= 3 if i^{th} respondent is postgraduate

⁴ It is assumed that logistic regression is the more flexible and more robust method in case of violations of these assumptions. (Pohar et al., 2004)

- X_{4i} = 4 if i^{th} respondent is PhD
- X_{5i} = experience of i^{th} respondent
- X_{6i} = 1 if i^{th} respondent is Own fund (Sources of finance),
= 2 if i^{th} respondent is Borrowing (Sources of finance),
= 3 if i^{th} respondent is Both (Sources of finance)
- X_{7i} = Mean of sources of financing for i^{th} respondent
- X_{8i} = Mean of storages capacity for i^{th} respondent
- X_{9i} = Mean of exchange rate for i^{th} respondent
- X_{10i} = Mean of trade policy for i^{th} respondent
- X_{11i} = Mean of price for i^{th} respondent
- X_{12i} = Mean of price change for i^{th} respondent
- X_{13i} = Mean of market information for i^{th} respondent
- X_{14i} = Mean of yield for i^{th} respondent
- X_{15i} = Mean of quality for i^{th} respondent
- X_{16i} = Risk averter for i^{th} respondent
- X_{17i} = Risk neutral for i^{th} respondent
- X_{18i} = Risk taker for i^{th} respondent

4.4.1 Purchase During Harvest Season

To determine the adequacy of the estimated model, classification, the likelihood ratio (LR) test and chi square (χ^2) are used. The value of classification is 72.7%. The overall prediction is 72.7% correct. The value of calculated chi square (χ^2) is 42.763 and its significant p-value is 0.000, the model is significant at 1% level. Therefore, it can be concluded that not all the slope coefficients are simultaneously equal to zero. Cox & Snell R Square and Nagelkerke R Square are 0.248 and 0.331. The two types of R square reveal 24.8% and 33.1% of total variance in purchase during harvest season are explained by influencing factors.

According to the results in Table (4.9), availability of financial resources is significant at 1% level. Estimation of future price and trade policy are significant at 5% level. Availability of storage facilities and exchange rate are significant at 10% level.

Table (4.9) Influencing Factors on Purchase During Harvest Season

Dependent variable (Purchase during harvest season)	B	S.E.	Wald	Sig.	Exp(B)
Constant	-5.249***	1.176	19.933	0.000	0.005
Availability of financial resources	0.597***	0.157	14.387	0.000	1.816
Availability of storage facilities	0.411	0.251	2.680	0.102	1.508
Exchange rate	0.614 *	0.338	3.305	0.069	1.848
Estimation of future price	0.563 **	0.274	4.230	0.040	1.757
Trade policy	-0.611 **	0.303	4.056	0.044	0.543
Classification	72.7%				
Chi-square	42.763***			0.000	
Cox & Snell R Square	0.248				
Nagelkerke R Square	0.331				
n	150				

Source: SPSS Outputs (Appendix D)

***, **, *: Indicate statistical significance at the 1% level, 5% level and 10% level

The strongest predictor of purchase during harvest season is exchange rate with an odd ratio of 1.848. This indicates that for every additional score in exchange rate is 1.8 times more likely to purchase during harvest season, other things remain unchanged. The second one is availability of financial resources, with an odd ratio of 1.816. It means that for every additional score in availability of financial resources is nearly 1.8 times more likely to purchase during harvest season, other things remain unchanged. The odd ratio of 1.757 for estimation of future price indicates that for every additional score in estimation of future price is nearly 1.8 times more likely to purchase during harvest season, other things remain unchanged. The odd ratio of 1.508 for availability of storage facilities indicates that for every additional score in availability of storage facilities increased 1.5 times more likely to purchase during harvest season, other things remain unchanged. The last one is trade policy, with an odd ratio of 0.543. It means that for every additional score in trade policy more likely to purchase during harvest season is decreased by 0.5 time other things remain unchanged.

Based on these finding, Black Gram traders consider exchange rate when they decide to purchase Black Gram during harvest season. They may face with loss in

their business due to uncertainty of exchange rate. Black Gram traders will purchase at Black Gram during harvest season more if they have sufficient capital. It means that they have invested their money since harvest period and tie their money to some extent.

Traders will purchase Black Gram during harvest season if they can estimate the changes of prices. It points out that if they have accurate and complete information for potential to price change they will purchase more during harvest season. Black Gram traders purchase Black Gram during harvest season more when they have storage availability. They can store beans and pulses keep safely for a long period due to availability of storage facilities.

However, traders are reluctant to purchase Black Gram when they consider trade policy because they cannot control the changes of trade policy. They have to store the Black Gram for a long period when the traders consider purchasing Black Gram during the harvest season. The trade policies of both export and import countries can be changed during the period of storage.

4.4.2 Purchase When Yield is Expected to Decline

To determine the adequacy of the estimated model, classification, the likelihood ratio (LR) test and chi square (χ^2) are used. The value of classification is 83.3%. The overall prediction is 83.3% correct. The value of calculated chi square (χ^2) is 7.454 and its significant p-value is 0.024, the model is significant at 5% level. Therefore, it can be concluded that not all the slope coefficients are simultaneously equal to zero. Cox & Snell R Square and Nagelkerke R Square are 0.048 and 0.800. The two types of R square reveal 4.8% and 8.0% of total variance in purchase decision when yield is expected to decline are explained by influencing factors.

According to the results in Table (4.10), availability of storage facilities is significant at 5% level, and risk neutral is significant at 10% level.

Table (4.10) Influencing Factors on Purchase When Yield is Expected to Decline

Dependent variable (Purchase when yield is expected to decline)	B	S.E.	Wald	Sig.	Exp(B)
Constant	-3.770 ***	1.028	13.458	0.000	0.023
Risk neutral	1.090 *	0.615	3.142	0.076	2.975
Availability of storage facilities	0.612 **	0.280	4.763	0.029	1.843
Classification	83.3 %				
Chi-square	7.454 **			0.024	
Cox & Snell R Square	0.048				
Nagelkerke R Square	0.800				
n	150				

Source: SPSS Outputs (Appendix D)

***,**,*: Indicate statistical significance at the 1% level, 5% level and 10% level

The most influential predictor of purchase when yield is expected to decline is risk neutral with an odd ratio of 2.975. It points out that for every additional score in risk neutral is about 3 times more likely to purchase when yield is expected to decline, other things remain unchanged. Another predictor is availability of storage facilities with an odd ratio of 1.843. This reveals that for every additional score in availability of storage facilities is about 1.8 times more likely to purchase when yield is expected to decline, other things remain unchanged.

Being risk neutral and availability of storage facilities are the factors which influence the traders to purchase when yield is expected to decline. They make the decisions with the expectation of profit maximization to be obtained by purchasing and storing Black Gram.

Availability of storage facilities is one of the influencing factors when traders make purchase decision when yield is expected to decline because they want to purchase and store Black Gram expecting profit. They can make the decision to purchase due to the availability of warehouse for storage of a large quantity of Black Gram. It will save them from the lost due to the price difference between purchasing and selling Black Gram.

4.4.3 Purchase When India Yield is Expected to Decline

To determine the adequacy of the estimated model, classification, the likelihood ratio (LR) test and chi square (χ^2) are used. The value of classification is 73.3%. The overall prediction is 73.3% correct. The value of calculated chi square (χ^2) is 21.791 and its significant p-value is 0.000, the model is significant at 1% level. Therefore, it can be concluded that not all the slope coefficients are simultaneously equal to zero. Cox & Snell R Square and Nagelkerke R Square are 0.135 and 0.185. The two types of R square reveal 13.5% and 18.5% of total variance in purchase when India yield is expected to decline are explained by influencing factors.

Table (4.11) Influencing Factors on Purchase When India Yield is Expected to Decline

Dependent variable (Purchase when India yield is expected to decline)	B	S.E.	Wald	Sig.	Exp(B)
Constant	-5.801***	1.655	12.292	0.000	0.003
Risk Neutral	1.255 **	0.621	4.082	0.043	3.507
Market information	0.760 *	0.477	2.537	0.111	2.139
Trade policy	0.810**	0.245	10.938	0.001	2.248
Classification	73.3%				
Chi-square	21.791***			0.000	
Cox & Snell R Square	0.135				
Nagelkerke R Square	0.185				
n	150				

Source: SPSS Outputs (Appendix D)

***, **, *: Indicate statistical significance at the 1% level, 5% level and 10% level

According to the results in Table (4.11), and risk neutral and trade policy are significant at 5% level. Market information is significant at 10% level.

The most influential predictor of purchase when India yield is expected to decline is risk neutral with an odd ratio of 3.507. It points out that for every additional score in risk neutral is about 3.5 times more likely to purchase when India yield is expected to decline, other things remain unchanged. The second one is trade policy with an odd ratio of 2.248. This reveals that for every additional score in trade policy

is about 2.2 times more likely to purchase when India yield is expected to decline, other things remain unchanged. The odd ratio of 2.139 for market information point out that for every additional score in market information is about 2.1 times more likely to purchase when India yield is expected to decline, other things remain unchanged.

Base on the results, the factors which influence purchase when India yield is expected to decline are being risk neutral, availability of market information and trade policy situation. Risk neutral traders expect more import from Indian traders due to decline of India Black Gram yield.

Black Gram traders concern the own country export trade policy as well as foreign countries import policy and the potential change in both trade policies. They are concerned about the trade policy because the gain or loss of trading and demand of Black Gram are influenced by trade policy. According to the knowledge gained from open discussion with traders, it pointed out that they expected that the trade policy of India may not be changed for purchase when India Black Gram yield declines.

The decision to purchase when India Black Gram yield declines is also influenced by the availability of market information. The traders will purchase Black Gram more if they can collect accurate and complete market information about market price as well as price information of India beans market and rival companies.

4.4.4 Purchase When Export Order Up

To determine the adequacy of the estimated model, classification, the likelihood ratio (LR) test and chi square (χ^2) are used. The value of classification is 78.7%. The overall prediction is 78.7% correct. The value of calculated chi square (χ^2) is 31.453 and its significant p-value is 0.000, the model is significant at 1% level. Therefore, it can be concluded that not all the slope coefficients are simultaneously equal to zero. Cox & Snell R Square and Nagelkerke R Square are 0.189 and 0.288. The two types of R square reveal 18.9% and 28.8% of total variance in purchase when export order up is explained by influencing factors.

Table (4.12) Influencing Factors on Purchase When Export Order Up

Dependent variable (Purchase when export order up)	B	S.E.	Wald	Sig.	Exp(B)
Constant	-3.733**	1.592	5.500	0.019	0.024
Availability of financial resources	0.325 *	0.185	3.082	0.079	1.384
Price	-0.787 **	0.401	3.854	0.050	0.455
Exchange rate	0.780 **	0.339	5.290	0.021	2.181
Estimation of future price	1.140 **	0.411	7.682	0.006	3.128
Trade policy	-0.757 **	0.327	5.373	0.020	0.469
Classification	78.7 %				
Chi-square	31.453***			0.000	
Cox & Snell R Square	0.189				
Nagelkerke R Square	0.288				
n	150				

Source: SPSS Outputs (Appendix D)

***, **, *: Indicate statistical significance at the 1% level, 5% level and 10% level

According to the results in Table (4.12), price, exchange rate, estimation of future price and trade policy are significant at 5% level. Availability of finance is significant at 10% level.

The most influential predictor of purchase on export order up is the estimation of future price with an odd ratio of 3.128. This reveals that for every additional score in estimation of future price is about 3.1 times more likely to purchase when export order up, other things remain unchanged. The next one is exchange rate with an odd ratio of 2.181 indicating that for every additional score in exchange rate is nearly 2.2 times more likely to purchase when export order up, other things remain unchanged.

In addition, another predictor is availability of financial resources with an odd ratio of 1.384. It points out that for every additional score in availability of financial resources is about 1.4 times more likely to purchase when export order up, other things remain unchanged. The odd ratio of 0.455 for describes that for every additional score in price, the purchase is decreased by about 0.46 more likely to purchase on when export order up, other things remain unchanged.

Black Gram traders make decision to purchase Black Gram to a greater extent when they can estimate future price concerning potential for buying and selling price changes and demand for export. Black Gram traders concern the potential price changes when they make decision to purchase when export order up because they adjust the potential price changes and purchase Black Gram. With the long-term experience in dealing with their counterpart, they can negotiate with them on the price changes easily.

The traders will purchase more when they expect the exchange rate is stable as they have already received the export order. They will earn profit from their export due to the stability of exchange rate. The traders make decision to purchase Black Gram because of the order up and availability of the required financial resources.

However, Black Gram traders are unwilling to purchase Black Gram even when export order up when they are concerned about price of Black Gram. The reason is because of the competition in the market, the price is increasing.

In the same way, purchase of Black Gram is decreased even receipt of export order up due to concern of the potential for changes in export and import trade policies. The trade policies may change during the period of order up and export. Therefore, they are reluctant to purchase because they cannot handle the policy changes.

4.4.5 Purchase Decision When Prices are Expected to Rise

To determine the adequacy of the estimated model, classification, the likelihood ratio (LR) test and chi square (χ^2) are used. The value of classification is 67.3%. The overall prediction is 67.3% correct. The value of calculated chi square (χ^2) is 25.839 and its significant p-value is 0.000, the model is significant at 1% level. Therefore, it can be concluded that not all the slope coefficients are simultaneously equal to zero. Cox & Snell R Square and Nagelkerke R Square are 0.158 and 0.213. The two types of R square reveal 15.8% and 21.3% of total variance in purchase when prices are expected to rise are explained by influencing factors.

Table (4.13) Influencing Factors on Purchase When Prices are Expect to Rise

Dependent variable (Purchase when prices are expected to rise)	B	S.E.	Wald	Sig.	Exp(B)
Constant	0.407	1.468	0.077	0.782	1.502
Availability of storage facilities	0.538**	0.230	5.487	0.019	1.712
Black Gram yields	-0.576**	0.277	4.310	0.038	0.562
Quality of Black Gram	-0.807**	0.339	5.656	0.017	0.446
Estimation of future price	0.852**	0.265	10.324	0.001	2.345
Classification	67.3%				
Chi-square	25.839***			0.000	
Cox & Snell R Square	0.158				
Nagelkerke R Square	0.213				
n	150				

Source: SPSS Outputs (Appendix D)

***,**,*: Indicate statistical significance at the 1% level, 5% level and 10% level

According to the results in Table (4.13), the availability storage facilities, the estimation on future price, quality of Black Gram and Black Gram yields are significant at 5% level.

The most powerful indicator of purchase when prices are expected to rise is estimation of future price with an odd ratio of 2.345. This reveals that for every additional score in estimation of future price are about 2.3 times more likely to purchase when prices are expected to rise, other things remain unchanged. The following one is availability of storage facilities with an odd ratio of 1.712 indicating that for every additional score in availability of storage facilities is about 1.7 times more likely to purchase when prices are expected to rise, other things remain unchanged.

In addition, another predictor is Black Gram yield with an odd ratio of 0.562. It points out that for every additional score in Black Gram yield is more likely to purchase when prices are expected to rise decreased by 0.5, other things remain unchanged. The odd ratio of 0.446 for Black Gram quality indicates that for every additional score in Black Gram quality is more likely to purchase when prices are expected to rise decreased by nearly 0.45 time other things remain unchanged.

It can be concluded that Black Gram traders purchase Black Gram more on price being expected to rise when they can estimate future price. The factors of storage consist of having own or rental warehouse in the respective harvest location, storage capacity, proximity to export location and cost of warehouse. They make decision to purchase more and more due to having storage availability.

In this case, as the India Black Gram market is the largest the traders' decision to purchase considering the yield is mostly influenced by the yield of neighboring countries. Therefore, they are reluctant to purchase although the price is expected to rise.

They concern less about the Black Gram quality. It can be seen that although the quality of Black Gram is good, they will be reluctant to purchase at price being expected to rise due to worry about uncertain export demand.

4.4.6 Purchase When Prices Fall

To determine the adequacy of the estimated model, classification, the likelihood ratio (LR) test and chi square (χ^2) are used. The value of classification is 71.3%. The overall prediction is 71.3% correct. The value of calculated chi square (χ^2) is 30.034 and its significant p-value is 0.000, the model is significant at 1% level. Therefore, it can be concluded that not all the slope coefficients are simultaneously equal to zero. Cox & Snell R Square and Nagelkerke R Square are 0.181 and 0.242. The two types of R square reveal 18.1% and 24.2% of total variance in purchase when prices are expected to fall are explained by influencing factors.

According to the results in Table (4.14), exchange rate and Black Gram Yield are significant at 5% level. Estimation of future price and trade policy are significant at 10% level.

Table (4.14) Influencing Factors on Purchase When Prices Fall

Dependent variable (Purchase when prices fall)	B	S.E.	Wald	Sig.	Exp(B)
Constant	-3.791**	1.211	9.805	0.002	0.023
Black Gram Yield	-0.592 **	0.278	4.529	0.033	0.553
Exchange Rate	0.728 **	0.296	6.058	0.014	2.071
Estimation of future price	0.481 *	0.252	3.644	0.056	1.618
Trade policy	0.455 *	0.273	2.775	0.096	1.576
Classification	71.3%				
Chi-square	30.034***			0.000	
Cox & Snell R Square	0.181				
Nagelkerke R Square	0.242				
n	150				

Source: SPSS Outputs (Appendix D)

***, **, *: Indicate statistical significance at the 1% level, 5% level and 10% level

The most influential predictor of purchase when prices fall is exchange rate with an odd ratio of 2.071. This reveals that for every additional score in exchange rate is about 2.1 times more likely to purchase when prices fall, other things remain unchanged. The second one is estimation of future price with an odd ratio of 1.618. It is point out that for every additional score in estimation on future price is about 1.6 times more likely to purchase when prices fall, other things remain unchanged.

The trade policy with an odd ratio of 1.576 indicates that for every additional score in trade policy is more likely to purchase when prices fall, it decreased by 1.6 times, other things remain unchanged. In addition, another predictor is Black Gram yield with an odd ratio of 0.553. It points out that for every additional score in Black Gram yield is more likely to purchase when prices fall decreased by 0.6 time other things remain unchanged.

The results indicate that if the exchange rate for Myanmar Kyat is stable, the Black Gram traders will purchase more. They think that they will earn the profit when the Black Gram prices fall.

Black Gram traders also consider estimation of future price. If they can estimate potential price changes, they will purchase Black Gram more when prices fall. Trade policy is also considered at the time when prices fall. Black Gram traders

make their purchase decision carefully as the instability of trade policy can hinder their decision.

Traders are reluctant to purchase Black Gram when prices fall for the reason that the purchase price may fall due to yield increased. The reason can be because of being the supply more than demand due to yield increased.

4.4.7 Purchase When Leading Exporters Respond

To determine the adequacy of the estimated model, classification, the likelihood ratio (LR) test and chi square (χ^2) are used. The value of classification is 72.0%. The overall prediction is 72.0% correct.

Table (4.15) Influencing Factors on Purchase When Leading Exporters Respond

Dependent variable (Purchase when leading exporters respond)	B	S.E.	Wald	Sig.	Exp(B)
Constant	-4.626***	1.707	7.345	0.007	0.010
Availability of storage facilities	-0.471 **	0.222	4.526	0.033	.624
Market information	1.351 **	0.499	7.318	0.007	3.861
Trade policy	0.418 *	0.228	3.351	0.067	1.519
Classification	72%				
Chi-square	18.069***			0.000	
Cox & Snell R Square	0.113				
Nagelkerke R Square	0.155				
n	150				

Source: SPSS Outputs (Appendix D)

***, **, *: Indicate statistical significance at the 1% level, 5% level and 10% level

The value of calculated chi square (χ^2) is 18.069 and its significant p-value is 0.000, the model is significant at 1% level. Therefore, it can be concluded that not all the slope coefficients are simultaneously equal to zero. Cox & Snell R Square and Nagelkerke R Square are 0.113 and 0.155. The two types of R square reveal 11.3% and 15.5% of total variance in purchase decision according to leading exporters activities are explained by influencing factors.

According to the results in Table (4.15), the availability of storage facilities and market information are significant at 5% level. Trade policy is significant at 10% level.

The most powerful indicator of purchase when leading exporters' response is market information with an odd ratio of 3.861. This reveals that for every additional score in market information are about 3.9 times more likely to purchase when leading exporters respond, other things remain unchanged.

The trade policy with an odd ratio of 1.519 indicates that for every additional score in trade policy, it is approximately 1.5 times more likely to purchase when leading exporters' response, other things remain unchanged. It points out that for every additional score in trade policy, it is almost 1.5 times more likely to purchase when leading exporters' response, other things remain unchanged. The odd ratio of 0.503 for the availability storage facilities indicates that for every additional score in the availability of storage facilities, it is decreased by 0.5 time to purchase when leading exporters respond, other things remain unchanged.

It is found that market information, trade policy and storage factor are considered when Black Gram traders make purchase when leading exporters respond. Market information is one of the influencing factors making purchase when leading exporters response because traders pay attention to market information relating to leading exporters activities. This information include purchase price set by leading exporters, volume of export, FOB price and receipt of export order.

Trade policy is one of the influencing factors on purchase when leading exporters respond. Changes in trade policy can hinder their decision because traders can face with a huge loss. Importers are stagnant to purchase when they expect trade policy changes. The availability of storage facilities inversely influences the purchase decision. Traders in this study are reluctant to purchase Black Gram even though leading exporters purchase Black Gram because they are afraid of risk and limited storage capacity.

4.4.8 Summary of Results

The following Table (4.16) shows the summary of results on factors influencing purchase decision of beans and pulses traders.

The binary logit results show that the availability of financial resources has a somewhat significant impact on purchase during harvest season. In regard to the availability of storage facilities, it shows a positive and significant impact on purchase during harvest season. This model results point out that exchange rate has a significant positive effect on purchase during harvest season. Estimation of future price also has a somewhat significant impact on purchase during harvest season. However, trade policy has a significant negative impact on purchase during harvest season.

According to the model results, risk neutral has a significant positive impact on purchase when yield is expected to decline but the availability of storage facilities has a somewhat significant impact on purchase when yield is expected to decline.

The binary logit result points out that risk neutral and trade policy have somewhat significant impact on purchase when India yield is expected to decline. Market information has a significant positive impact on purchase when India yield is expected to decline.

Binary logit results in regard to the availability of financial resources, it has a significant impact on purchase when export order up. The exchange rate and estimation on future price have somewhat significant impact on purchase when export order up. The results show that price and trade policy have significant negative impact on purchase when export order up.

The binary logit result points out that availability of storage facilities and estimation of future price show somewhat significant impact on purchase when prices are expected to rise. Black Gram yields and quality of Black Gram are showing a significant negative impact on purchase when prices are expected to rise.

The binary logit results point out that Black Gram yield has a significant negative impact on purchase when prices fall. Exchange rate has a somewhat significant impact on purchase when prices fall. The estimation of future price and trade policy have significant positive impact on purchase when prices fall.

In regard to the availability of storage facilities, it shows a significant negative impact on purchase when leading exporters' respond. However, market information and trade policy show a significant positive impact on purchase when leading exporters' respond.

Table (4.16) Summary of Results

Decision Scenarios / Influencing Factors	Purchase During Harvest Season	Purchase When Yield is Expected to Decline	Purchase When India Yield is Expected to Decline	Purchase When Export Order Up	Purchase When Prices are Expected to Rise	Purchase When Prices are Falling	Purchase when Leading Exporters Respond
Risk neutral		1.090*	1.255**				
Availability of financial resources	0.597***			0.325*			
Availability of storage facilities	0.411*	0.612**			0.538**		-0.471**
Black Gram yield					-0.576**	-0.592 **	
Quality of Black Gram					-0.807**		
Price				-0.787**			
Exchange Rate	0.614*			0.780**		0.728**	
Estimation of future Price	0.563**			1.140**	0.852**	0.481*	
Market Information			0.760*				1.351**
Trade policy	-0.611**		0.810**	-0.757**		0.455*	0.418*

Source: SPSS Outputs (Appendix D)

***, **, *: Indicate statistical significance at the 1% level, 5% level and 10% level

The factors such as risk taking behaviors, organizational factors and environment factors influence purchase decisions of Black Gram traders. According to the results from Table (4.16), risk neutral, availability of financial resources, availability of storage facilities, Black Gram yields, quality of Black Gram, price, exchange rate, estimation of future price, market information, and trade policy are the influencing factors when Black Gram traders make decisions to purchase Black Gram.

Among them, the most influencing factor is estimation of future price, followed by the availability of storage facilities, trade policy, and exchange rate. Risk neutral, the availability of financial resources, Black Gram yield and market

information are also the influencing factors on purchase decisions of Black Gram traders.

From the above findings, Black Gram traders concern the availability of financial resources and the availability of storage facilities when they purchase during harvest season. They will invest their money since the harvest season if they have sufficient capital. Moreover, they need the storage facilities for the Black Gram purchased during harvest season safely. They also consider the exchange rate and estimation of future price because the fluctuation of exchange rate and the potential price changes hinder their decisions. The time between purchasing and selling Black Gram is a long time. During this time, the exchange rate can be fluctuated. As traders cannot control the exchange rate, they are concerned about the exchange rate when they purchase Black Gram during harvest season. The potential for price changes can happen during the period of investing. They are less concerned about the trade policies because they have to purchase Black Gram whatever the trade policy may be.

Risk neutral traders purchase and store Black Gram when yield is expected to decline. Risk neutral traders want to profit from investing Black Gram. They want to purchase and store because the high price of Black Gram can lessen their profit.

Risk neutral traders purchase Black Gram when India yield is expected to decline. They also consider market information and trade policy when they make purchase decisions. Traders give attention to accurate and complete market information about the price and demand of Indian Black Gram importers. They always try to collect market information but they can collect a limited information because of competitors and rumor information. They consider that the trade policies of India, changes of trade policies of India can prevent their purchase decisions.

Traders consider the availability of financial resources, price, exchange rate, estimation of future price and trade policy while they purchase when export order up. They purchase Black Gram using their financial resources such as equity or debt. The exchange rate can affect their purchase decision because the investment period is a lengthy period. During this time, the exchange rate fluctuation can make the traders face with the uncertain earning.

Traders attempt to purchase and store Black Gram when prices are expected to rise. They have to use their storage availability. Even if they do not possess own warehouse, they rent warehouse to store Black Gram. They consider how the future price can change because they are afraid that they make the wrong decisions. As they

expect the price of Black Gram rise, they have to purchase the Black Gram whether the quality is good or bad.

Traders consider the Black Gram yield, exchange rate, estimation of future price and trade policy as the influencing factors while they purchase when prices fall. They think that the stability of exchange rate and the potential for future price change are more important when prices fall.

The availability of storage facilities, market information and trade policy are the influencing factors on purchase decision when leading exporters' response. Black Gram traders take action according to the leading exporters' responses relating their purchase, their export, and their purchase price of Black Gram.

Based on the summary of findings the next chapter will present the conclusion of the paper.

Chapter Five

Conclusion

This chapter highlights the findings and discussions of how Black Gram traders make their purchase decisions, what factors influence their purchase decision, how they are related and their attitude toward risks and how the demographic factors affect the risk behavior of Black Gram traders. The suggestions from these findings are presented in this chapter. The needs of further research studies are also recommended. Finally, the constraints and limitation of the study are presented.

5.1 Findings and Discussion

The objectives of the study are to identify the risk behavior of Black Gram traders in Myanmar commodity market; examine the effect of demographic factors on risk taking behaviors of Black gram traders and analyze the factors that influence on the purchase decision of Black Gram traders in Myanmar commodity market.

The study presents the current situation of Myanmar beans and pulses export, investment decision in purchase of Black Gram including influencing factors and trading arrangement of Black Gram traders in chapter 3. Among the beans and pulses export, the Black Gram is the dominant export items in beans and pulses in terms of volume and value.

The personal factors of respondents show that the majority of respondents are adult males, reasonably educated with the experience and capability to make decisions regarding to purchase.

The practices of traders purchase decisions are classified into purchases during harvest season, purchases when the yield is expected to decline, purchases when India's yield is expected to decline, purchases when export order are up, purchases when prices are expected to rise, purchases when prices fall, and purchases according to the leading exporters' responses. Among them, the majority of respondents make

decision to purchase when prices are expected to rise followed by purchase during harvest season and purchase when prices fall.

The availability of financial resources and storage facilities are essential for agriculture product investors. The results pointed out that equity financing is employed by about half of the traders while others resort to mixed financing. In addition, it was also shown that more than half of the traders possess their own warehouse to store their purchases.

Based on mean scores of environmental factors, the trust between traders are the most influencing factors and followed by price, estimation of future price, market information and quality of Black Gram.

Among five objectives of Black Gram trading business, it can be seen that the objective of majority trader is profitability. Apart from this, nearly half of respondents say that they do their businesses because of long term benefit and one-third of respondents do their businesses as family business.

It is found that more than two-thirds of respondents purchase Black Gram from Yangon Commodity Exchange Center. Although traders mostly conduct spot purchase, the contractual agreement is required to make sure the products will be delivered to the traders in the future. It can be seen that traders purchase Black Gram from less than five times within a year because they purchase and store vast amount of Black Gram since harvest season. Most of the traders purchase Black Gram in cash because they want to attract the sellers of Black Gram. The traders also purchase Black gram on credit as well as advance payment depending on the extent of their relationship.

Concerning with the first objective, after identifying the risk taking behaviors of Black Gram traders in Myanmar commodity market, the study shows that most of the respondents are risk neutral Black Gram traders based on risk assessing scores.

Regarding with the second objective, the demographic factors have no effect on the risk taking behaviors of respondents. It can be concluded that Black Gram traders have same response to risks of their decisions not regarding their demographic factors.

To analyze the influencing factors on purchase decision of beans and pulses traders in Myanmar commodity market, the binary logit model is used in this study. The findings point out that risk neutral, availability of financial resources, availability of storage facilities, Black Gram yields, quality of Black Gram, price, exchange rate,

estimation of future price, market information, and trade policy are the influencing factors.

Although there are approximately fifty major commodity markets globally that facilitate investment trade in almost 100 primary commodities, a few commodities such as beans and pulses, sesame, wheat, maize and edible oil crops are traded in Myanmar Commodity Exchange Centre. The nature of Commodity Exchange Centers in Myanmar and other countries are quite different. Commodity futures are widely used in commodity exchange centers of other countries. In Myanmar, the majority of trade is based on cash purchase.

The investors in other countries receive gains or losses from their accounts daily and only a small percentage of contracts result in physical delivery. However, investors in Myanmar commodity market purchase and deliver physical goods. Trading value in Myanmar commodity comparing trading value in other countries is very small size trading. The study also mentioned the importance of the awareness for changes in the business environments of the importing countries.

5.2 Suggestions and Recommendations

Making decisions is the complex task for every trader involved with investing in Black Gram within the commodity market. Therefore, Black Gram traders need to consider many factors when they make purchasing decision. Although there are many influencing factors, personal profile, organizational factors, and environment factors are considered as influencing factors in this study. Traders' attitude towards risk is also considered as one of the influencing factors of purchase decision.

Purchase decision for Black Gram is one of the short-term investment decisions. Black Gram traders need the availability of financial resources. Investors are willing to use debt financing to run their businesses smoothly and efficiently. The responsible person should consider the means for raising their debt financing. The traders should try to get loan from the banks and need the knowledge of doing so.

Since the Black Gram is an agriculture as well as seasonal product, it needs to store black gram in the warehouse before selling to the local market and export market. It needs for warehouse in the respective harvest location. As a result, the warehouse in the respective harvest location should establish to reduce damage problems due to weather conditions.

Moreover, the warehouse should be located near the harbor. Sometimes, the importers want to export immediately and at that time, the Black Gram traders have to export without delay.

The Black Gram Yield is also important for Black Gram exporters. The volatility of yield can affect their purchase decisions. However, the Black Gram Yield depends on many factors such as weather condition, uses of insecticide and quality of seeds. Although the Black Gram traders cannot control the damage of weather conditions, they can control the uses of insecticide and the quality of seeds. They should advice farmers to use the good quality of seeds and to use insecticide.

Export of agriculture products is one of the huge sources of income to earn foreign exchange in Myanmar. Beans and pulses become the major export agriculture products. Among them, black gram is the main export beans for Myanmar. However, the quality of black gram should be considered to meet the standard of black gram imported countries. Lack of quality standard for black gram hinders the export earning of Black Gram traders. Therefore, the quality of black gram should be paid more attention to maintain and extend market.

Exporters of Black Gram in Myanmar heavily rely on India Black Gram market because of strong demand for consumers in India. The pressures of Indian importers are the most consideration factors for Myanmar Black Gram traders. They can control Black gram price and manipulate prices of black gram. Myanmar Black Gram traders should try to find the premium export market especially European market by producing premium quality of Black Gram.

In considering influence of exchange rate, payment system adopted by foreign banks is the lowest score among other factors. Although the private banks are allowed to establish connections overseas, the majority of Myanmar traders still use Singapore banks because of the long history of reliance on Singapore banks. Payment system makes through third parties banks, mostly Singapore banks; hence the exporters cannot receive the full amount of the payment. Therefore, Black Gram traders should rely on Myanmar banks to reduce time cost.

Trade policy is one of the influencing factors to make purchase decisions. Nowadays, Myanmar trade policy for export products is relaxed. Traders can export Black Gram regardless of trade policy. However, the trade policy of importing countries can change depending on their import policies. For that reason, the traders should concern the pressure of changes in the trade policy of importing countries.

The findings in this paper would help potential traders in commodity market in assisting them to understand the influencing factors on their decision making. Moreover, this study would contribute to understanding of how the Black Gram traders behave in Myanmar commodity market. The responsible person would also recognize the importance of export earnings from Black Gram trading and the factors that influence Black Gram traders' investment decision in Myanmar commodity market.

5.3 Need for Further Study

This study focuses on investment decisions in Myanmar commodity market. This study explores the risk behaviors of Black Gram traders, the effect of demographic factors on risk behaviors of Black Gram traders and the influencing factors of Black Gram traders' purchase decision. These traders are members from Yangon Commodity Exchange Centre. Further research should attempt to study influencing factors of beans and pulses traders' purchase decision, the decision making behavior, and the risk behaviors of beans and pulse traders from other commodity exchange centers.

This study emphasizes only Black Gram traders among export of beans. Further research should try to study not only Black Gram traders but also other beans traders. Purchase decisions of other agricultural commodities should be studied. Comparative study of agriculture export products should also be conducted. Among the commodities, there are other commodities markets other than agricultural products; these commodities can also be studied.

ABSTRACT

This study is an attempt to examine the behavior of traders in the commodity market regarding their decisions to invest in the purchase of Black Gram. The objectives of the study are to identify their risk taking behaviors, to examine the demographic factors that impact on their behaviors and analyze the organizational and environmental factors and the risk taking behaviors of traders to determine the pattern of investment decisions taken by the Black Gram traders. The study used the descriptive research method and conducted a questionnaire survey on a sample of 150 selected Black gram traders. The study found that most of the respondents are risk neutral. The demographic factors had no effect on the risk taking behaviors of respondents. With respect to organizational factors, most respondents had their own warehouse and that about fifty percent of the traders resort to equity financing to fund the purchases. Environmental factors that most influenced the investment decisions were dynamics of the commodity market, the reliability and accuracy of market information on the movement of prices and the quality and yield of Black Gram crops. The study had suggested that Black Gram traders should make greater use of bank financing to supplement their limited available funds and that they should locate their warehouse in close proximity to the harvest location to reduce crop damage due to weather variations. Warehouses could also be placed near harbor ports to facilitate the shipping processes for export purposes. The study also makes suggestions to the Black Gram farmers the use of good quality seeds and insecticides to maintain export quality products for extension to global markets.

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List of Abbreviation

ASE	Athens Stock Exchange
ASEAN	Association of Southeast Asian Nations
EU	European Union
Exp (B)	The Expectation of the B Coefficient
FAQ	Fair Average Quality
FOB	Free on Board
GSP	Generalized System of Preferences
LR	Likelihood Ratio
MMK	Myanmar Kyat
MT	Metric Ton
S & P	Standard and Poor
SQ	Special Quality
US	United States

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Appendix A

Export Volume of Beans and Pulses in Myanmar (000'MT)

Beans	2005-06	%	2006-07	%	2007-08	%	2008-09	%	2009-10	%	2010-11	%	2011-12	%	2012-13	%	2013-14	%
Black gram	386	42	490	38	509	37	531	34	619	48	464	48	599	41	658	44	646	47
Green gram	206	23	328	26	315	23	317	21	326	25	268	28	355	24	302	21	357	26
Pigeon pea	203	22	266	21	269	20	472	31	194	15	146	15	320	22	296	20	188	14
Chickpea							86	6	46	4	8	1	79	6	65	4	4	
Black eyed bean							14	1	9	1	6		35	2	42	3	36	3
Soy bean							7		7		2		3		5		8	1
Butter bean											14	2	11	1	16	1	13	1
Others	118	13	188	15	274	20	119	7	87	7	61	6	53	4	99	7	117	8
Total	913	100	1,272	100	1,367	100	1,544	100	1,288	100	956	100	1,455	100	1,483	100	1,369	100

Sources: UMFCCL, 2015

Note: Calculation is nearest whole number.

Export Value of Beans and Pulses in Myanmar (\$m)

Beans	2005	%	2006	%	2007	%	2008	%	2009	%	2010	%	2011	%	2012	%	2013	%
	-06		-07		-08		-09		-10		-11		-12		-13		-14	
Black gram	148	44	306	45	282	38	264	33	464	48	458	49	473	42	382	38	376	40
Green gram	90	26	199	29	195	26	173	22	287	29	300	31	316	28	240	24	307	32
Pigeon pea	61	18	82	12	137	18	240	30	142	15	122	13	191	17	170	17	115	12
Chick-pea							49	6	25	3	7	1	65	6	34	3	3	
Black eyed bean							7	1	6	1	5	1	30	3	37	4	22	2
Soy bean							4		4		1		2		4		5	1
Butter bean							-				1		12	1	12	1	16	2
Others	41	12	94	14	133	18	60	8	47	4	46	5	35	3	127	13	104	11
Total	340	100	681	100	747	100	797	100	973	100	938	100	1,123	100	1,007	100	949	100

Sources: UMFCCI, 2015

Note: Calculation is nearest whole number.

Mean Finance

Descriptive Statistics			
	N	Mean	Std. Deviation
Borrowing	150	3.2667	1.27267
Own	150	4.3467	.84334
Both	150	2.9133	1.51031
Mean Fiance	150	3.5089	0.303578
Valid N (listwise)	150		

Finance**Reliability Statistics**

Cronbach's Alpha	N of Items
.602	3

Exchange rate**Descriptive Statistics**

	N	Mean	Std. Deviation
In making purchasing decision of beans I consider fluctuation in exchange rate, when exchange rate rises.	150	3.45	1.034
In making purchasing decision of beans I consider fluctuation in exchange rate, when exchange rate decline.	150	3.43	1.064
In making purchasing decision of beans I consider fluctuation in exchange rate, when exchange rate stable.	150	3.45	1.126
exchange rate	150	3.4433	0.0115

Exchange rate**Reliability Statistics**

Cronbach's Alpha	N of Items
.721	3

Yield

Descriptive Statistics

	N	Mean	Std. Deviation
Yield purchase decision for beans I purchase in large quantities when yield is high.	150	2.65	1.018
Yield purchase decision for beans I purchase in small quantities when yield is high.	150	3.07	.974
Yield purchase decision for beans I purchase in small quantities when yield is low.	150	2.61	1.048
Yield purchase decision for beans I consider the yield of bean production in India and other neighboring countries.	150	3.80	1.068
Yield	150	3.03	0.5524

Yield

Reliability Statistics

Cronbach's Alpha	N of Items
.615	4

Quality

Descriptive Statistics

	N	Mean	Std. Deviation
Quantity in making decisions for purchase of beans I consider the standard quality of export.	150	4.01	.934
Quantity in making decisions for purchase of beans I consider the standard quality for foreign importers.	150	4.11	.891
Quantity in making decisions for purchase of beans I consider the standard quality of the importing countries.	150	3.99	.886
Quantity in making decisions for purchase of beans I consider the quality checked done by importers.	150	4.03	.882
Quantity in making decisions for purchase of beans I consider even if the quality do not meet the accepted standard.	150	2.93	1.115
. Quality	150	3.8738	0.4974

. Quality

Reliability Statistics

Cronbach's Alpha	N of Items
.745	6

Trust between traders

Descriptive Statistics

	N	Mean	Std. Deviation
Trust between traders cooperation among traders.	150	4.07	.748
Trust between traders honest among traders	150	4.45	.630
Trust between traders ethics among traders	150	4.46	.620
Trust between traders buying experience	150	4.41	.677
Trust between traders	150	4.3475	0.1863

Trust between traders

Reliability Statistics

Cronbach's Alpha	N of Items
.717	4

Prices change

Descriptive Statistics

	N	Mean	Std. Deviation
Prices change in making decisions for purchase of beans I consider the potential for decline in purchase price.	150	3.76	.925
Prices change in making decisions for purchase of beans I consider the potential for increase in purchase price.	150	3.98	.863
Prices change in making decisions for purchase of beans I consider the potential for decline in selling price.	150	4.15	.862
Prices change in making decisions for purchase of beans I consider the potential for increase in selling price.	150	4.06	.892
Prices change in making decisions for purchase of beans I consider the potential for changing trend of buying price.	150	3.69	.976
Prices change in making decisions for purchase of beans I consider the potential for changing trend of selling price.	150	3.84	.920
Prices change in making decisions for purchase of beans I consider the stability in the purchase price at the time of purchase.	150	4.01	3.330
Prices change in making decisions for purchase of beans I consider the stability in the selling price at the time of purchase.	150	3.71	.915
Prices change	150	3.9	0.1732

Prices change**Reliability Statistics**

Cronbach's Alpha	N of Items
.669	8

Market information**Descriptive Statistics**

	N	Mean	Std. Deviation
Market information in making decisions for purchase of beans I consider the possibility of accurate market information.	150	4.20	.724
Market information in making decisions for purchase of beans I consider the possibility of timely market information.	150	4.05	.780
Market information in making decisions for purchase of beans I consider only after receipt of accurate information on prices.	150	4.07	.910
Market information in making decisions for purchase of beans I consider only on receipt of on-line price information.	150	3.41	1.130
Market information in making decisions for purchase of beans I consider after investigating the prices paid by other rival companies.	150	3.93	1.056
Market information in making decisions for purchase of beans I consider after investigating the current prices in India bean market.	150	3.82	.920
Market information in making decisions for purchase of beans I consider after investigating the demand for bean in India bean market.	150	4.01	.969
Relationship between traders rumor or speculative information	150	3.63	.862
Market information	150	3.89	0.2599

Market information**Reliability Statistics**

Cronbach's Alpha	N of Items
.767	8

Descriptive Statistics

Storage	N	Mean	Std. Deviation
Storage is more important when beans yield is decreasing	150	2.74	1.282
Need of own warehouse for storage	150	3.08	1.383
Need for warehouse in the respective harvest location	150	2.82	1.331
Need for rental of warehouse	150	3.41	1.081
Required storage capacity	150	3.52	1.145
Proximity to export location	150	3.43	1.217
Cost of warehousing	150	3.60	.912
Need for a processing plant to prepare beans for export	150	3.71	.931
Valid N (listwise)	150		

Descriptive Statistics

Trade policy	N	Mean	Std. Deviation
Trade policy in making decisions for purchase of beans I consider the home country export policy.	150	3.13	1.113
Trade policy in making decisions for purchase of beans I consider the foreign country import policy.	150	3.55	1.053
Trade policy in making decisions for purchase of beans I consider the stability of the home country export policy.	150	3.16	1.069
Trade policy in making decisions for purchase of beans I consider the potential for changes the home country export policy.	150	3.01	1.173
Trade policy in making decisions for purchase of beans I consider the stability of the foreign country import policy.	150	3.19	1.143
Trade policy in making decisions for purchase of beans I consider the potential for changes the foreign country import policy.	150	3.32	1.051
Trade policy in making decisions for purchase of beans I consider the possibilities of trade barriers.	150	3.52	1.054
Valid N (listwise)	150		

Descriptive Statistics

Risks	N	Mean	Std. Deviation
Price in making decisions for purchase of beans I consider the local market price.	150	4.06	.884
Price in making decisions for purchase of beans I consider the oversea market price.	150	4.28	.812
Price in making decisions for purchase of beans I consider the price paid by competitors.	150	4.08	.993

Price in making decisions for purchase of beans I consider the prices quoted in on line sources.	150	3.93	.935
Price in making decisions for purchase of beans I consider the price paid on emergency purchase.	150	4.23	.944
Price in making decisions for purchase of beans I consider the competitive prices to out pay competitors.	150	3.21	1.119
Price in making decisions for purchase of beans I consider the prices based on prices paid for previous purchase .	150	3.69	.998
Price in making decisions for purchase of beans I consider the profit margin.	150	3.95	.885
Price in making decisions for purchase of beans I consider the adjusted price based on lessening yield of purchase.	150	3.89	1.027
Price in making decisions for purchase of beans I consider the adjusted price based on increase yield of purchase.	150	3.81	1.021
Price in making decisions for purchase of beans I consider the different area of bean production.	150	4.09	.907
Valid N (listwise)	150		

Appendix C

Risk_T * Gender Crosstabulation

Count

		Gender		Total
		Female	Male	
Risk_T	1	2	8	10
	2	15	119	134
	3	0	6	6
Total		17	133	150

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.517 ^a	2	.468
Likelihood Ratio	2.072	2	.355
Linear-by-Linear Association	1.488	1	.223
N of Valid Cases	150		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is .68.

Age * Risk_T Crosstabulation

Count

		Risk_T			Total
		1	2	3	
Age	1	1	13	0	14
	2	3	29	2	34
	3	6	46	1	53
	4	0	41	3	44
	5	0	5	0	5
Total		10	134	6	150

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.014 ^a	8	.432
Likelihood Ratio	11.668	8	.167
Linear-by-Linear Association	2.044	1	.153
N of Valid Cases	150		

a. 11 cells (73.3%) have expected count less than 5. The minimum expected count is .20.

EDU * Risk_T

Count

		Risk_T			Total
		1	2	3	
EDU	1	0	25	0	25
	2	10	96	6	112
	3	0	13	0	13
Total		10	134	6	150

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.077 ^a	4	.193
Likelihood Ratio	9.981	4	.041
Linear-by-Linear Association	.026	1	.872
N of Valid Cases	150		

a. 5 cells (55.6%) have expected count less than 5. The minimum expected count is .52.

Risk_T * MS Crosstabulation

Count

		MS		Total
		0	1	
Risk_T	1	0	10	10
	2	20	114	134
	3	0	6	6
Total		20	130	150

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.755 ^a	2	.252
Likelihood Ratio	4.864	2	.088
Linear-by-Linear Association	.154	1	.695
N of Valid Cases	150		

a. 2 cells (33.3%) have expected count less than 5. The minimum expected count is .80.

Texp * Risk_T

Crosstab

Count

		Risk_T			Total
		1	2	3	
Texp	1	6	73	1	80
	2	4	43	4	51
	3	0	12	1	13
	4	0	6	0	6
Total		10	134	6	150

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.801 ^a	6	.446
Likelihood Ratio	7.347	6	.290
Linear-by-Linear Association	1.990	1	.158
N of Valid Cases	150		

a. 7 cells (58.3%) have expected count less than 5. The minimum expected count is .24.

Appendix (D)

LOGISTIC REGRESSION VARIABLES Q9.1

/METHOD=ENTER RA RN RT MFinance MStorage Myeild Mquality Mprice Mexchanger Mpricech MMinf Mtp
MRel

/CONTRAST (RA)=Indicator

/CONTRAST (RN)=Indicator

/CONTRAST (RT)=Indicator

/CLASSPLOT

/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).

Block 1: Method = Backward Stepwise (Conditional)

Omnibus Tests of Model Coefficients

Step 8 ^a	Step	-1.551	1	.213
	Block	42.763	5	.000
	Model	42.763	5	.000

a. A negative Chi-squares value indicates that the Chi-squares value has decreased from the previous step.

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
8	164.941 ^a	.248	.331

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

Classification Table^a

		Predicted			
		When to purchase decision (Purchase during harvest season)		Percentage Correct	
Observed		No	Yes		
Step 8	When to purchase decision (Purchase during harvest season)	No	52	20	72.2
		Yes	21	57	73.1
	Overall Percentage				72.7

a. The cut value is .500

Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 8 ^a MFinance	.597	.157	14.387	1	.000	1.816
MStorage	.411	.251	2.680	1	.102	1.508
Mexchanger	.614	.338	3.305	1	.069	1.848
Mpricech	.563	.274	4.230	1	.040	1.757
Mtp	-.611	.303	4.056	1	.044	.543
Constant	-5.249	1.176	19.933	1	.000	.005

a. Variable(s) entered on step 1: RA, RN, MFinance, MStorage, Myeild, Mquality, Mprice, Mexchanger, Mpricech, MMinf, Mtp, MRel.

Model if Term Removed^a

Variable	Model Log Likelihood	Change in -2 Log Likelihood	df	Sig. of the Change
Step 8 MFinance	-90.317	15.692	1	.000
MStorage	-83.843	2.744	1	.098
Mexchanger	-84.216	3.491	1	.062
Mpricech	-84.719	4.497	1	.034
Mtp	-84.670	4.399	1	.036

a. Based on conditional parameter estimates

LOGISTIC REGRESSION VARIABLES Q9.2

/METHOD=ENTER RA RN RT MFinance MStorage Myeild Mquality Mprice Mexchanger
Mpricech MMinf Mtp MRel

/CONTRAST (RA)=Indicator

/CONTRAST (RN)=Indicator

/CONTRAST (RT)=Indicator

/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).

Block 1: Method = Backward Stepwise (Conditional)

Omnibus Tests of Model Coefficients

	Chi-square	df	Sig.
Step 9 ^a Step	-2.485	1	.115
Block	25.839	4	.000
Model	25.839	4	.000

a. A negative Chi-squares value indicates that the Chi-squares value has decreased from the previous step.

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
9	178.866 ^a	.158	.213

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

Classification Table^a

		Predicted		
		When to purchase decision (Purchase when prices are expected to rise)		Percentage Correct
Observed		No	Yes	
Step 9	When to purchase decision No	31	33	48.4
	(Purchase when prices are expected to rise) Yes	16	70	81.4
Overall Percentage				67.3

a. The cut value is .500

Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 9 ^a MStorage	.538	.230	5.487	1	.019	1.712
Myeild	-.576	.277	4.310	1	.038	.562
Mquality	-.807	.339	5.656	1	.017	.446
Mpricech	.852	.265	10.324	1	.001	2.345
Constant	.407	1.468	.077	1	.782	1.502

a. Variable(s) entered on step 1: RA, RN, MFinance, MStorage, Myeild, Mquality, Mprice, Mexchanger, Mpricech, MMinf, Mtp, MRel.

Model if Term Removed^a

Variable	Model Log Likelihood	Change in -2 Log Likelihood	df	Sig. of the Change
Step 9 MStorage	-92.342	5.817	1	.016
Myeild	-91.765	4.665	1	.031
Mquality	-92.502	6.138	1	.013
Mpricech	-95.261	11.655	1	.001

a. Based on conditional parameter estimates

LOGISTIC REGRESSION VARIABLES Q9.3

```

/METHOD=ENTER RA RN RT MFinance MStorage Myeild Mquality Mprice Mexchanger
Mpricech MMinf Mtp MRel
/CONTRAST (RA)=Indicator
/CONTRAST (RN)=Indicator
/CONTRAST (RT)=Indicator
/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).

```

Block 1: Method = Backward Stepwise (Conditional)

Omnibus Tests of Model Coefficients

	Chi-square	df	Sig.
Step 9 ^a Step	-1.758	1	.185
Block	30.034	4	.000
Model	30.034	4	.000

a. A negative Chi-squares value indicates that the Chi-squares value has decreased from the previous step.

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
9	177.670 ^b	.181	.242

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

b. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

Classification Table^a

			Predicted		
			When to purchase decision (Purchase when prices are falling)		Percentage Correct
Observed			No	Yes	
Step 9	When to purchase decision (Purchase when prices are falling)	No	50	22	69.4
		Yes	21	57	73.1
Overall Percentage					71.3

a. The cut value is .500

Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 9 ^a Myeild	-.592	.278	4.529	1	.033	.553
Mexchanger	.728	.296	6.058	1	.014	2.071
Mpricech	.481	.252	3.644	1	.056	1.618
Mtp	.455	.273	2.775	1	.096	1.576
Constant	-3.791	1.211	9.805	1	.002	.023

a. Variable(s) entered on step 1: RA, RN, MFinance, MStorage, Myeild, Mquality, Mprice, Mexchanger, Mpricech, MMinf, Mtp, MRel.

Model if Term Removed^a

Variable	Model Log Likelihood	Change in -2 Log Likelihood	df	Sig. of the Change
Step 9 Myeild	-91.220	4.769	1	.029
Mexchanger	-92.036	6.401	1	.011
Mpricech	-90.689	3.707	1	.054
Mtp	-90.268	2.866	1	.090

a. Based on conditional parameter estimates

LOGISTIC REGRESSION VARIABLES Q9.4

```

/METHOD=ENTER RA RN RT MFinance MStorage Myeild Mquality Mprice Mexchanger
Mpricech MMinf Mtp MRel
/CONTRAST (RA)=Indicator
/CONTRAST (RN)=Indicator
/CONTRAST (RT)=Indicator
/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).

```

Block 1: Method = Backward Stepwise (Conditional)

Omnibus Tests of Model Coefficients

	Chi-square	df	Sig.
Step 7 ^a Step	-.474	1	.491
Block	31.453	6	.000
Model	31.453	6	.000

a. A negative Chi-squares value indicates that the Chi-squares value has decreased from the previous step.

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
7	129.113 ^a	.189	.288

a. Estimation terminated at iteration number 20 because maximum iterations has been reached. Final solution cannot be found.

Classification Table^a

		Predicted		
		When to purchase decision (Purchase when export order up)		Percentage Correct
Observed		No	Yes	
Step 7	When to purchase decision No	111	5	95.7
	(Purchase when export order up) Yes	27	7	20.6
Overall Percentage				78.7

a. The cut value is .500

Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)
Step 7 ^a MFinance	.325	.185	3.082	1	.079	1.384
Mprice	-.787	.401	3.854	1	.050	.455
Mexchanger	.780	.339	5.290	1	.021	2.181
Mpricech	1.140	.411	7.682	1	.006	3.128
Mtp	-.757	.327	5.373	1	.020	.469
Constant	-3.733**	1.592	5.500	1	.998	.000

a. Variable(s) entered on step 1: RA, RN, MFinance, MStorage, Myeild, Mquality, Mprice, Mexchanger, Mpricech, MMinf, Mtp, MRel.

Model if Term Removed^a

Variable	Model Log Likelihood	Change in -2 Log Likelihood	df	Sig. of the Change
Step 7 MFinance	-66.186	3.259	1	.071
Mprice	-66.638	4.164	1	.041
Mexchanger	-67.451	5.790	1	.016
Mpricech	-69.496	9.879	1	.002
Mtp	-67.469	5.825	1	.016

a. Based on conditional parameter estimates

METHOD=ENTER RA RN RT MFinance MStorage Myeild Mquality Mprice Mexchanger
Mpricech MMinf Mtp MRel

/CONTRAST (RA)=Indicator

/CONTRAST (RN)=Indicator

/CONTRAST (RT)=Indicator

/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).

Block 1: Method = Backward Stepwise (Conditional)

Omnibus Tests of Model Coefficients

	Chi-square	df	Sig.
Step 11 ^a Step	-2.085	1	.149
Block	7.454	2	.024
Model	7.454	2	.024

a. A negative Chi-squares value indicates that the Chi-squares value has decreased from the previous step.

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
11	130.885 ^b	.048	.080

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

b. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

Classification Table^a

		Predicted		
		When to purchase decision (Purchase when yield is expected to decline)		Percentage Correct
		No	Yes	
Observed				
Overall Percentage				83.3
Step 11	When to purchase decision No	124	0	100.0
	(Purchase when yield is expected to decline) Yes	25	1	3.8
Overall Percentage				83.3

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 11 ^a	RN(1)	1.090	.615	3.142	1	.076	2.975
	MStorage	.612	.280	4.763	1	.029	1.843
	Constant	-3.770	1.028	13.458	1	.000	.023

a. Variable(s) entered on step 1: RA, RN, MFinance, MStorage, Myeild, Mquality, Mprice, Mexchanger, Mpricech, MMinf, Mtp, MRel.

Model if Term Removed^a

Variable		Model Log Likelihood	Change in -2 Log Likelihood	df	Sig. of the Change
Step 11	RN	-66.900	2.915	1	.088
	MStorage	-68.198	5.510	1	.019

a. Based on conditional parameter estimates

LOGISTIC REGRESSION VARIABLES Q9.6

/METHOD=BSTEP(COND) RA RN RT MFinance MStorage Myeild Mquality Mprice
Mexchanger Mpricech MMinf Mtp MRel

/CONTRAST (RA)=Indicator

/CONTRAST (RN)=Indicator

/CONTRAST (RT)=Indicator

/CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).

Block 1: Method = Backward Stepwise (Conditional)

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 10 ^a	Step	-2.283	1	.131
	Block	18.069	3	.000
	Model	18.069	3	.000

a. A negative Chi-squares value indicates that the Chi-squares value has decreased from the previous step.

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
10	180.143 ^b	.113	.155

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

b. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.

Classification Table^a

		Predicted		
		When to purchase decision (Purchase when leading exporters response)		Percentage Correct
Observed		No	Yes	
Step 10	When to purchase decision No	83	11	88.3
	(Purchase when leading exporters response) Yes	31	25	44.6
Overall Percentage				72.0

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 10 ^a	MStorage	-.471	.222	4.526	1	.033	.624
	MMinf	1.351	.499	7.318	1	.007	3.861
	Mtp	.418	.228	3.351	1	.067	1.519
	Constant	-4.626	1.707	7.345	1	.007	.010

a. Variable(s) entered on step 1: RA, RN, MFinance, MStorage, Myeild, Mquality, Mprice, Mexchanger, Mpricech, MMinf, Mtp, MRel.

Model if Term Removed^a

Variable	Model Log Likelihood	Change in -2 Log Likelihood	df	Sig. of the Change
Step 10 MStorage	-92.413	4.682	1	.030
MMinf	-94.402	8.660	1	.003
Mtp	-91.825	3.507	1	.061

a. Based on conditional parameter estimates

LOGISTIC REGRESSION VARIABLES Q9.7

/METHOD=BSTEP(COND) RA RN RT MFinance MStorage Myeild Mquality Mprice Mexchanger Mpricech MMinf Mtp MRel
 /CONTRAST (RA)=Indicator
 /CONTRAST (RN)=Indicator
 /CONTRAST (RT)=Indicator
 /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).

Block 1: Method = Backward Stepwise (Conditional)

Omnibus Tests of Model Coefficients

	Chi-square	df	Sig.
10	175.356 ^a	.135	.185

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

Classification Table^a

		Predicted		
		When to purchase decision (Purchase when India's yield is expected to decline)		Percentage Correct
		No	Yes	
	Observed			
Step 10	When to purchase decision No	90	5	94.7
	(Purchase when India yield is expected to decline) Yes	35	20	36.4
Overall Percentage				73.3

a. The cut value is .500

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 10 ^a	RN(1)	1.255	.621	4.082	1	.043	3.507
	MMinf	.760	.477	2.537	1	.111	2.139
	Mtp	.810	.245	10.938	1	.001	2.248
	Constant	-5.801	1.655	12.292	1	.000	.003

a. Variable(s) entered on step 1: RA, RN, MFinance, MStorage, Myield, Mquality, Mprice, Mexchanger, Mpricech, MMinf, Mtp, MRel.

Model if Term Removed^a

Variable		Model Log Likelihood	Change in -2 Log Likelihood	df	Sig. of the Change
Step 10	RN	-89.809	4.261	1	.039
	MMinf	-89.051	2.746	1	.098
	Mtp	-94.352	13.347	1	.000

a. Based on conditional parameter estimates

Questionnaire

Section A: Background of Respondent's Personal Profile

1. Gender : Male Female
2. Age :----- Years
3. Education :
 - (a) High school
 - (b) Graduate
 - (c) Postgraduate
 - (d) PhD
 - (e) Others (specify) -----
4. Marital Status: (a) Single (b)Married
5. Type of business
 - (a) Exporter
 - (b) Local dealer
 - (c) Both
6. Designation
 - (a) Owner
 - (b) Employee
 - (c) Broker
7. Trading experience with dealings in beans and pulses ----- years
8. Decision maker for buying beans and pulses -----
9. When to purchase decisions
 - (a) Purchase during harvest season
 - (b) Purchase when yield is expected to decline
 - (c) Purchase when India yield is expected to decline
 - (d) Purchase when export order up
 - (e) Purchase at expectation of price rise
 - (f) Purchase when prices fall
 - (g) Purchase according to leading exporters response
 - (h) Others (specify) -----

10. Objectives for doing beans business

- (a) Profitability from the products
- (b) Export potential for long-term storage
- (c) For short-term profit
- (d) Family business
- (e) Popular attraction for beans business
- (f) Long-term benefits
- (g) Others (specify) -----

11. Financing sources

- (a) Own funds
- (b) Borrowing
- (c) Both

12. Storage Facilities

- (a) Own warehouse
- (b) Rental warehouse
- (c) Both

13. Trading beans than black gram

- (a) Yes
- (b) No

If Yes, list the kinds of beans

1.----- 2. ----- 3. ----- 4. ----- 5. -----

14. Prioritize the kinds of beans that you buy

1.----- 2. ----- 3. ----- 4. ----- 5. -----

Section B: Purchasing Activities

1. Type of Purchase Arrangements

- (a) Through contract
- (b) Spot purchases

2. Contracting activities (If more than one please tick the relevant item)

- (a) With farmer
- (b) Through rural collector
- (c) Through urban collector

- (d) Through commodity exchange centre (district)
- (e) With commodity exchange centre (Yangon)
- (f) With Similar business
- (g) With competitor company
- (h) Others (specify) -----
3. Is necessary materials aids given to farmers?
- (a) Yes
- (b) No
4. If yes, specify how -----
5. Do you have your own broker
- (a) Yes
- (b) No
6. If not, specify how buying is done -----
7. Location and type of last year purchase
- (a) Direct from farmer
- (b) From rural collector
- (c) From urban collector
- (d) From commodity exchange centre (district)
- (e) From commodity exchange centre (Yangon)
- (f) From similar business
- (g) From competitor company
- (h) Others (specify) -----
8. Purchase volume (per year)
- (a) Black gram ----- MT
- (b) Green gram ----- MT
9. Average market price (per year)
- (a) Black gram ----- MMK/MT
- (b) Green gram ----- MMK/MT
10. Number of purchases made per year
- (a) 1 to 5
- (b) 6 to 10
- (c) 11 to 15
- (d) More than 15

11. Length of time taken to make purchases

(a) In district -----

(b) In Yangon -----

12. Terms of payment

(a) Cash

(b) Credit

(c) Both

(d) Advance payment

(e) Others (specify) -----

13. Length of period needed for investment

(a) One month

(b) Two months

(c) Three months

(d) Others (specify) -----

14. Investment amount ----- MMK/\$

15. Does any occurrence of price change after the price of beans have been determined?

(a) Yes

(b) No

If yes, how often

(a) Always

(b) Often

16. When are purchases made (Yangon CEC)

(a) Monthly

(b) On receiving orders

(c) Suitable price available

(d) Harvesting time

(e) Others (specify) -----

17. Access to price information

(a) Yes

(b) No

Information source-----

18. What factors do you think determine the price of beans?

- (a) Last year's bean price
- (b) International bean price
- (c) No of export orders received
- (d) Bean yield according to climate
- (e) Exchange rate fluctuations
- (f) Quality of beans

Selling Activities

1. Types of market engage in

- (a) Domestic
- (b) Export
- (c) Both
- (d) Others (specify) -----

2. Distribution of sales

- (a) Domestic ----- %
- (b) Export ----- %

3. Countries export to (Rank from the highest to the lowest by volume)

- (a) -----
- (b) -----
- (c) -----
- (d) -----
- (e) -----

4. Last year's sales ----- MT

5. Time interval between buying and selling ----- month

6. Decisions regarding the time for selling

- (a) When expenses are covered
- (b) Sell when profit is less than 2%
- (c) Sell when profit is from 2% to 3%
- (d) Sell when profit is from 3% to 5%
- (e) Others (specify) -----

7. Time interval between the sale to receipt of cash ----- week/month

8. Payment term for sales

- (a) Cash down
- (b) Credit
- (c) Both
- (d) Advanced receipt

Section C. Please give your opinions on the statements given below.

Please read each statement carefully and rate each statement in accordance with the scale given below to indicate the strength of your opinion.

Strongly Disagree=1; Disagree = 2; Neutral =3; Agree = 4 and Strongly Agree = 5

(1) Exchange rate

In making purchasing decision of beans I consider fluctuation in exchange rate,

- (a) When exchange rate declines
- (b) When exchange rate rises
- (c) When exchange rate stable

(2) Trade policy

In making decisions for purchase of beans I consider

- (a) The home country export policy
- (b) The foreign countries import policies
- (c) The stability of home country export policy
- (d) The potential for changes in home country export policy
- (e) The stability of foreign countries import policies
- (f) The potential for changes in foreign countries import policies
- (g) The possibility of trade barriers

(3) Price

In making decisions for purchase of beans I consider

- (a) The local market price
- (b) The overseas market price
- (c) The prices paid by competitors
- (d) The prices quoted in on-line sources
- (e) The prices paid on emergency purchase
- (f) Competitive prices to out pay competitors
- (g) The prices based on prices paid for previous purchases
- (h) The profit margin
- (i) The adjusted price based on lessening yield of purchase
- (j) The adjusted price based on increase yield of purchase
- (k) The different areas of beans production

(4) Estimation of Future Price

In making decisions for purchase of beans I consider

- (a) The potential for decline in purchase price
- (b) The potential for increase in purchase price
- (c) The potential for decline in selling price
- (d) The potential for increase of selling price
- (e) The potential for changing trend of buying price
- (f) The potential for changing trend of selling price
- (g) The stability in the purchase price at the time of purchase
- (h) The stability in the selling price at the time of purchase

(5) Market information

In making decisions for purchase of beans I consider

- (a) The possibility of accurate market information
- (b) The possibility of timely market information
- (c) Only after receipt of accurate information on prices
- (d) Only on receipt of on-line price information
- (e) After investigating the prices paid by other rival companies
- (f) Only on receipt of internet price information
- (g) After investigating the current prices in India beans market
- (h) After investigating the demand for beans in India bean market

(6) Beans Yield

Purchase decision for beans

- (a) I purchase in large quantities when yield is high
- (b) I purchase in small quantities when yield is high
- (c) I purchase in small quantities when yield is low
- (d) I consider the yield of beans production in India and other neighboring countries

(7) Quality

In making decisions for purchase of beans I consider

- (a) The standard quality for exports
- (b) The standard quality of foreign buyers
- (c) The standard quality of the importing countries
- (d) The quality specifications for importers
- (e) Even if the quality do not meet the accepted standard
- (f) Meet quality standard

- (8) Storage availability
- (a) Storage is more important when beans yield is decreasing
 - (b) Need of own warehouse for storage
 - (c) Need for warehouse in the respective harvest location
 - (d) Need for rental of warehouse
 - (e) Required storage capacity
 - (f) Proximity to export location
 - (g) Cost of warehouse rent
 - (h) Need warehouse for a processing plant to prepare beans for export
- (9) Relationship between traders
- (a) Cooperation among traders.
 - (b) Honest among traders
 - (c) Ethics among traders
 - (d) Buying experience
- (10) Financing
- (a) Availability of equity
 - (b) Accessibility to bank loans
 - (c) Mixed financing

C. Risks

- (a) The possibility of beans price during the harvesting period is higher than that of last year
- (b) The option to purchase while competitors wait
- (c) The option to purchase even without export order
- (d) The option to purchase even with last year loss
- (e) The option to purchase ignore last year loss
- (f) The option to purchase ignore the unstable exchange rate
- (g) The option to purchase ignore the unstable price
- (h) The option to purchase do not pay attention to quality of beans
- (i) The option to purchase not having enough fund to make purchase
- (j) The options to purchase do not consider market information
- (k) Do not consider storage issues even when yield from harvest is largely increased
- (l) I make decisions to sell as soon as beans price shows decrease
- (m) I make decisions to sell when the price of beans reaches my target price

- (n) I buy on agents advice
- (o) Export order is accept or receipt
- (p) When other companies buy beans
- (q) I don't purchase when price is stagnant
- (r) When assured visually
- (s) When I know with knowledge of potential change in policy
- (t) When prices are expected to rise in the future