A STUDY ON FARMERS BUYING BEHAVIOR FOR TRACTORS IN JASHPUR DISTRICT OF CHHATTISGARH

M.B.A. (ABM) PROJECT REPORT

by

Garima Agrawal

DEPARTMENT OF AGRI-BUSINESS AND RURAL MANAGEMENT

COLLEGE OF AGRICULTURE

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A STUDY ON FARMERS BUYING BEHAVIOR FOR TRACTORS IN JASHPUR DISTRICT OF CHHATTISGARH

Project Report

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by

Garima Agrawal

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CERTIFICATE - I

This is to certify that the project entitled "**A study on farmers buying behavior for tractors in Jashpur district of Chhattisgarh**" submitted in partial fulfilment of the requirements for the degree of **Master of Business Administration (Agri-Business Management)** of the Indira Gandhi Krishi Vishwavidyalaya, Raipur, is a record of the bonafide research work carried out by **Garima Agrawal** under my/our guidance and supervision. The subject of the thesis has been approved by the Student's Advisory Committee and the Director of Instructions.

No part of the project has been submitted for any other degree or diploma or has been published/published part has been fully acknowledged. All the assistance and help received during the course of the investigations have been duly acknowledged by her.

Agaaha 21.7.16

Chairman

Date: 21/07/2016

PROJECT APPROVED BY THE STUDENT'S ADVISORY COMMITTEE

Chairman (Dr. A. K. Gauraha) ..... Agaaha 21.7.16

Member (Dr. H. Pathak) .....

Member (Dr. A. K. Dave) .....

Member (Dr. Smt. G. Chandrakar) ..... G chandraka

CERTIFICATE - II

This is to certify that the project entitled "**A study on farmers buying behavior for tractors in Jashpur district of Chhattisgarh**" submitted by **Garima Agrawal** to the Indira Gandhi Krishi Vishwavidyalaya, Raipur, in partial fulfilment of the requirements for the degree of Master of Business Administration (Agri-Business Management) in the Department of Agri-Business and Rural Management has been approved by the external examiner and Student's Advisory Committee after oral examination.

Signature External Examiner

(Name...Dr. A.K. Sarawgi)

Date : 03/09/2016

Major Advisor .....

Head of the Department .....

Faculty Dean .....

Approved/Not approved

Director of Instructions .....

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"You will meet more angels on a winding path than on a straight one"

To everyone who helped me complete my thesis work, thank you. Here's the acknowledgement I wrote in my thesis for all my angels.

I start with the name of **MY PRECPTOR "SHYAMBABA"** which is most kind and merciful to me. With his blessings and miracle words "Faith and Perseverance" towards the work will always provide me a path to get my goals.

With a sense of high resolve and reverence, I would like to express my sincerest thanks to Chairman of my Advisory Committee, **Dr. A. K. Gauraha**, Professor and Head, Department of Agri-Business and Rural Management for his co-operation, motivation, expensive suggestions in completing my thesis work.

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Finally, I would like to dedicate this work to Dadi ji Kamala Agrawal and Dadaji Amar Chand Agrawal. I hope that this work makes them proud.

Whenever I will open my thesis, each page of this manuscript will tell story of contribution of my friends, batch mates and well-wishers. It will be untold story and never be expressed in words.

Finally, I frankly admit that it is not possible to remember all the faces that stood behind the facade at this juncture and omission of any names does not mean lack of gratitudeness. Now as I carry this thesis in my hand. I carry memories with me that will enrich my nostalgia. I have taken literary license but any factorial errors are my responsibility alone.

Last but not least my sincere most thanks are extended to all the selected farmers of the district to provide necessary information for this study and to all those who have helped me directly or indirectly and whose name I forget to mention in this endeavor.

GARIMA AGRAWAL

Department of Agri-Business
and Rural Management
College of Agriculture, Raipur (C.G.)
Date:-

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hp	Horse power
ha	Hectare
%	Percent
Sq. km	Square kilometer
No.	Number
n	Number of respondents

PROJECT REPORT ABSTRACT

a)	Title of the Project work :	A Study on Farmers Buying Behavior for Tractors in Jashpur District of Chhattisgarh
b)	Full Name of the student :	Garima Agrawal
c)	Major Subject :	Agri-Business and Rural Management
d)	Name and Address of the Major Advisor :	Dr. A. K. Gauraha, Professor and Head, Department of Agri-Business and Rural Management, College of Agriculture, IGKV, Raipur, Chhattisgarh
e)	Degree to be awarded :	Master of Business Administration (Agri-Business Management)

Signature of the Student

Signature of Major Advisor

Date : 21/07/2016

Signature of Head of the Department

ABSTRACT

An evaluation is presented of a study on farmers buying behaviour for tractors in Jashpur district of Chhattisgarh. The specific objectives of the study were (i) To study the factors influencing buying decision of farmers for tractors. (ii)To know the farmer perception about various features of tractors.(iii)To study the influence of perceived quality associated with the brand on the buying behaviour for tractors. (iv)To know the consumer satisfaction level and provide suggestion for improving sales and profitability. The present study was conducted in Jashpur district of Chhattisgarh. In Jashpur district Pharsabahar and Pathalgaon block were selected purposively. From each block 10 villages

and from each village 5 farmers were selected who had tractors. The data relate to year 2015-16.

The findings of the study reveal that the overall average size of holding of the selected household was 7.73 ha. , Mainly mono-cropping was used in 80% of area and 20% area of double cropping. Higher secondary educated respondents' ratio was more. 25-35 hp range tractors were more preferred by 50,000- 1 lakh income group. Respondents had maximum number of Massy Ferguson (TAFE) tractors (34%) in the study area. Most considered brand was Tafe (41%) while purchasing tractors. Product feature (99%) was one of the most considered attribute following by purpose (96%). Advertisement awareness of the study area was mostly by farmer fair (41%). 46 percent of the respondent perceived engine as most preferred feature.

Rate of the performance was less than its perceived value for attribute leakage in transmission, this was the feature which had significant gap. Similarly there were significant differences in importance and performance of the attribute fuel consumption hours and which contributed to running cost of tractor. Mileage expectations were not at par with the perceived value for any of the tractor brands. It was found by comparing Mahindra with other brands based on different variables, transmission was the variable in which 74 percent respondent liked their owned brand and in Mahindra its engine (27%) was liked. A perceptual map was formed using discriminant analysis for attributes responsible for buying tractor and we could find that the Tafe is the brand which is perceived for colour, after sales and price for these attributes. This means it performed better than Mahindra and Eicher. Mahindra and Eicher were not near to any features on their dimensions.

Dealer services were not preferred by 2 percent respondent, average 91.23 percent respondent liked the different services of dealer, and average 6.54 percent respondent did not liked the dealer services. It was found about the performance of tractors, leakages in engine was the factor which had the significant difference in its performance than perceived value after that it was engine's working and consistence performance which had significant difference between performance and importance. About the Mahindra's cost medium (48%), high (19%) and low (7%). Comparing Mahindra with other brands medium (41%), high (27%) and low (7%) respondent thought. Fourtyeight percent respondent wanted storage space for nik nak as a first priority and 37 percent wanted seat as significant changes in tractor according to them.

It was suggested that the brands should work on its improvements, maintenance cost should be minimized by improving dealer services. Leakage in transmission and fuel consumption were the feature in which performance should be improved. As seen about Mahindra's improvement it

should work on oil use, efficiency and transmission to get better result in market. Promotional strategies are needed to be worked out in referred manner. Performance of tractor engines such as sound, consistent performance and engine working should be improved. Significant changes to improve tractors can be done by providing storage space for nik nak and seat should be a bit more comfortable.

परियोजना प्रतिवेदन् सारांश

(अ) परियोजना कार्य का सारांषः	छत्तीसगढ़ के जषपुर जिले में किसानों द्वारा कय किये गये ट्रेक्टरों में व्यवहार का अध्ययन
(ब) छात्रा का पूर्ण नाम	गरिमा अग्रवाल
(स) मुख्य विषय	कृषि व्यवसाय एवं ग्रामीण प्रबंधन
(द) मुख्य सलाहकार का नाम और पता	डॉ. ए.के. गौराहा, प्राध्यापक एवं विभागाध्यक्ष, कृषि व्यवसाय एवं ग्रामीण प्रबंधन विभाग, कृषि महाविद्यालय, इं.गां.कृ.वि.वि., रायपुर।
(इ) प्रदान की जाने वाली उपाधि	कृषि में एम.बी.ए. (कृषि व्यवसाय प्रबंधन)

छात्रा के हस्ताक्षर

मुख्य सलाहकार के हस्ताक्षर

दिनांकः 21/07/2016

विभागाध्यक्ष के हस्ताक्षर

सारांश

प्रस्तुत अध्ययन में छत्तीसगढ़ के जषपुर जिले में किसानो द्वारा कय किये गये ट्रेक्टरों में व्यवहार का मूल्यांकन किया गया, जिसके विषिष्ट उद्देष्य हैं ट्रेक्टर खरीदी में किसानों के निर्णयों को प्रभावित करने वाल कारकों का अध्ययन, ट्रेक्टर के विभिन्न पहलुओं के सम्बन्ध में किसानों की अवधारणा ज्ञात करना, किसानों द्वारा कया किये गये ट्रेक्टरों के ब्राण्ड और उनका गुणवत्ता पर प्रभाव का अध्ययन करना, विक्री और लाभदायिकता बढ़ाने के लिए उपभोक्ताओं की संतुष्टी स्तर को जानना।वर्तमान अध्ययन छत्तीसगढ़ राज्य के जषपुर जिले में किया गया, जहां फसाबहार व पत्थलगांव विकास खण्ड को उद्देष्यपूर्वक चयनित किया गया । प्रत्येक विकासखण्ड से 10 गांव और प्रत्येक गांव से 5 किसानों का चयन किया गया। जिसमें वर्ष 2015–16 के आंकड़े एकत्र किये गये।निष्कर्षानुसार ज्ञात होता है, कि अध्ययन क्षेत्र की संपूर्ण औसत भूमि जोत 7.73 हेक्टेयर था प्रमुखतः एक फसली क्षेत्र (80 %) और द्विफसली क्षेत्र (20 %) है।

उच्चतर माध्यमिक षिक्षितों की संख्या सर्वाधिक पायी गई। 50 हजार रूपये से एक लाख रूपये आय वर्ग वाले किसानो द्वारा 25–35 अष्व शक्ति (एचपी) के ट्रेक्टर्स अधिकतर अधिक पसंद किये गये है। सबसे अधिक खरीदे गये ट्रेक्टर्स मैसी फर्गुसन (34%) के है। सबसे ज्यादा कय किया गया ब्राण्ड टेफे का (41%) है। सबसे अधिक मानक गुण उत्पाद विषेषता (99%) उसके बाद उत्पाद उददेष्य (96%) है। अध्ययन क्षेत्र में विज्ञापन की जागरूकता विषेषकर किसान मेला (41%) पायी गई, जबकि विभिन्न पसंदीदा विषेषताओं में 46% किसानों ने इंजिन को प्रमुखता से पसंद किया है।

हस्तांतरण की विषेषताओं में आंकलन की दर का योगदान कम आंका गया है। जो कि विषेष रूप से प्रभावी अंतराल परिलक्षित होता है। इसी प्रकार ईंधन खपत घंटों और ट्रेक्टर की कार्यषील लागत का विषेष प्रभाव देखा गया है। ट्रेक्टर के ब्राण्ड को देखते हुये उसकी तुलना में उसके द्वारा तय की जाने वाली दूरी को कम आंका गया है। विभिन्न प्रकार की विभिन्नताओं को देखते हुए अन्य ब्राण्डों की तुलना में महेन्द्रा ब्राण्ड पसंद किया गया है। हस्तांतरण

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डीलर की सुविधाओं को 2 प्रतिषत किसानों ने प्राथमिकता नहीं दी है। औसतन 91.23 प्रतिषत किसान डीलर की विभिन्न सेवाओं से जुड़े है। औसतन 6.54 प्रतिषत किसान डीलर की सेवाओं से नहीं जुड़े हैं, निष्कर्षो से ज्ञात होता है कि ट्रेक्टर के आंकलन के बारे में इंजन की भूमिका महत्वपूर्ण होती है, जो कि मूल्य और इंजन की कार्य प्रणाली पर केंद्रित होती है। प्रभावी आंकलन और महत्व का अंतराल देखने पर महिन्द्रा की लागत को 48 प्रतिषत मध्यम, 19 प्रतिषत उच्च और 7 प्रतिषत निम्न पाया गया है। महिन्द्रा को अन्य ब्राण्डों के साथ तुलना करने पर किसानों ने 41 प्रतिषत मध्यम 27 प्रतिषत उच्च और 7 प्रतिषत निम्न बताया है, 48 प्रतिषत किसानों ने निक नेक के लिए भण्डारण स्थल को प्रमुख प्राथमिकता बताया है और 37 प्रतिषत किसानों ने अपनी जरूरत के अनुसार सीट में परिवर्तन को जरूरी बताया है।

सुझाओं में पाया गया है कि ब्राण्डों में उन्नयन किया जाये, प्रबंधन लागत को डीलर की सेवाओं में संधारित किया जाये। आवागमन में रिसाव और ईंधन खपत को ध्यान में रखते हुए सुधार किया जाये। महिन्द्रा में उन्नयन के लिए ईंधन की उपयोगिता, दक्षता और आवागमन से श्रेष्ठ परिणाम प्राप्त होंगे। इनकी उपयोगिता को बढ़ावा देना होगा। ट्रेक्टर के इंजन की दक्षता बढ़ाने में उसकी आवाज, कार्य प्रणाली पर ध्यान देना होगा, निक नेक के लिए भंडारण सुविधा और जरूरत के अनुसार सीट बनाना उपयुक्त बताया गया।

CHAPTER - I
INTRODUCTION

"Consumer behavior refers to the mental and emotional processes and the observable behavior of consumers during searching, purchasing, and post consumption of a product or service."

- Satish K. Batra and S. H. H. Kazmi

The term consumer behavior refers to the behavior that consumers display in searching for, purchasing, using, evaluating, and disposing of products and services that they will satisfy their needs and the study of consumer behavior is the study of how individuals make decisions to spend their available resources – like time, money, effort on consumption related items. All business operations revolve around understanding consumer needs, desires, likes, dislikes and preferences and offering products and services that will give the desired satisfaction to the consumers.

Consumer Buying Decision Process

It is necessary for the marketers to understand as to how the rural consumer makes his buying decisions, which makes the buying decisions, the type of decisions involved and the steps in the buying process. A rural buyer has free time and therefore he spends lot of time before making purchases. He cannot be easily coaxed to buy a new product. Rural consumers buy durables during postharvest season and festivals. The buying decision process follows a logical sequence of five steps:

- **Need recognition**: When the buyer recognizes a gap between his desired state and the actual state, buying process starts. Such recognition may be caused by stimuli either internal (self) or external (by environment or marketer). At this stage, marketer should help consumers identify their current and future problems and felt or latent needs. To do this, marketers have to research on consumer problems and needs.

- **Information search**: Generally, consumers try to find information pertaining to their want satisfying products to make the right choices. The amount of information required depends upon:
  1. Type of the product– Convenience, shopping or specialty goods.
  2. Nature of the product – Complex, high-tech or simple and easy to distinguish.
  3. Availability of sources – The consumer may obtain information from one or more of the following sources.
  4. Personal – Family, friends, neighbours
  5. Commercial – Advertising, sales people, displays
  6. Public – TV, radio, internet and print media etc.
  7. Experiential – Handling, examining, using the product.

Search expands with the availability of time. Marketers have to take into cognizance this aspect and design offers to induce immediate buying. Keeping in mind the information needs of consumers, marketers should design communication programmes to reach the consumers and provide adequate and relevant information.

In view of the low literacy level, audio-visual media becomes important in rural marketing. TV has been the biggest contributor to bring consumer awareness in rural India. It is, of course, the traditional marketing methods-demonstrations, displays at fairs and festivals, mobile video vans – which continue to be marketing man's support system in rural communication strategy.

- **Evaluation of alternatives**: How do consumers evaluate the brands, which they have come to know and like to consider? The evaluation process may be done more carefully and logically in some cases, for example, consumer durables. In case of convenience goods, which are purchased for one-shot consumption, the evaluation may be very less. Occasionally, it may be impulse buying too. Evaluation requires designing and application of suitable criteria. Evaluation methods include Expectancy value model, Lexicographic model, Conjunctive model and Disjunctive model.
- **Purchase decision**: All the existing brands in the market make a total set.Through information search consumer will become aware of some brands in the total set. Awareness set consists of brands which the consumer is aware

of the brands, which meet initial, buying criteria, will be considered for further evaluation. The choice is dependent upon factors influencing the mind of consumer at this final stage. For example, a person is interested in buying cement for construction of his house. The marketer should be aware of the place his brand has in the mind of the prospect through the buying process.

- **Post-purchase behavior**: Marketers should know the answers to feelings of the buyer after buying and using the product, his reactions, when satisfied, when dissatisfied and how does he dispose of the product after use.

Consumers make purchase decisions in each and every aspect of their life. Thus studying consumer behaviour becomes more vital. All marketing decisions & activities are based on assumptions about consumer behaviour. Consumer behaviour deals with the behaviour that consumer displays in the consumption of goods right from purchasing, using, evaluating & disposing them. In other way, it deals with what they buy, how often they use it when they buy it, why they buy it where they buy and how they evaluate it after purchase. Understanding the consumer purchase process is critical to a marketer so as to design the marketing activities effectively.

Each step in the consumer decision making process is highly influenced by both internal and external factors. The internal factors include the individual's own motivation personality, perception, learning attitude and his own past experience in addition to the internal influencing factors, the external factors like the company's marketing efforts, ideas/opinions of friends, relations, family members and reference group members also have profound impact on the purchase decision of individuals.

The study of consumer is the study of how individuals make decisions to spend their available resources (time, money, effort) on consumption - related items. It includes the study of what they buy, why they buy it, when they buy it, where they buy it and how often they use it, how they evaluate after the purchase and the impact of such evaluations on future purchases and how they dispose of it. Consumer behaviour is concerned with the study of factors that influence people’s behaviour in a buying situation. Marketers can make better marketing decisions only when they know why and how individuals make their consumption decision.

Hence, above points in the mind present research Entitled **"A Study on Farmers Buying Behavior for Tractors in Jashpur District of Chhattisgarh"** has been undertaken with the following objectives:

1. To study the factors influencing buying decision of farmers for tractors.
2. To know the farmer perception about various features of tractors.
3. To study the influence of perceived quality associated with the brand on the buying behavior for tractors.
4. To know the consumer satisfaction level and provide suggestion for improving sales and profitability.

Limitations of the study:

Like any other social research, this research also has the following inherent limitations:

1. This study is confined only to the agricultural tractor owners alone. They may not be generalized to other type of tractor consumers.
2. Due to lack of relevant studies in the region, no comparative data/information is available, so it was difficult to compare the study.
3. Secondly, due to financial constraint and time limitation, this study is confined only to Jashpur district of Chhattisgarh region. The study is based mainly on individual information, which would be subjective, thus the results could not be the ultimate fact.

CHAPTER – II

REVIEW OF LITERATURE

The review provides the basic background for formulation of the objectives and selection of appropriate analytical tools for the achievement of the same. A brief review of the research work is presented in this chapter.

The American Marketing Association has defined consumer behaviour as, "The dynamic interaction of affect and cognition, behaviour, and the environment by which human beings conduct the exchange aspects of their lives."

Peter D. Bennett, ed. Dictionary of Marketing Terms, 2nd ed. 1995.

"Consumer behaviour refers to the actions and decision processes of people who purchase goods and services for personal consumption."

Disciplines involved in the study of consumer behaviour

Consumer behaviour was a relatively new field of study during the second half of the 1960s without a history or research of its own. It is in fact a subset of human behaviour and it is often difficult to draw a distinct line between consumer-related behaviour and other aspects of human behaviour.

The discipline of consumer behaviour has borrowed heavily from concepts developed in other disciplines of study such as psychology, sociology, social psychology, cultural anthropology and economics.

Psychology is the study of the individual, which includes motivation, perception, attitudes, personality and learning theories. All these factors are critical to an understanding of consumer behaviour and help us to comprehend consumption related needs of individuals, their actions and responses to different promotional messages and products and the way their experiences and personality characteristics influence product choices.

Sociology is the study of groups. When individuals form groups, their actions are sometimes quite different from the actions of those very individuals when they are operating alone. The influences of group memberships, family and

social class oh consumer behaviour are important" for the study of consumer behaviour.

Social psychology is a combination of sociology and psychology and studies how an individual operates in a group. It also studies how those whose opinions they respect such as peers, reference groups, their families and opinion leaders influence individuals in their consumption behaviour.

Cultural anthropology is the study of human beings in society. It explores the development of core beliefs, values and customs that individuals inherit from their parents and grandparents, which influence their purchase and consumption behaviour. It also studies sub-cultures and helps compare consumers of different nationalities and cultures.

Economics*:* An important aspect of the study of economics is the study of how consumers spend their funds, how they evaluate alternatives and how they make decisions to get maximum satisfaction from their purchases.

Despite the fact' that consumer behaviour as a field of study is relatively of recent origin, it has grown enormously, has become a full-blown discipline of its own and is used in the study of most programmes of marketing study.

Mooij (2000) discussed that the globalisation of markets and questions the assumption that economic development would result in the converging needs of consumers and standardisation of marketing and advertising. Also claims that consumers' values are strongly rooted in history and tradition and that with the convergence of incomes, people have more freedom to express themselves and this is done through their own specific value patterns as well as outlines Hofstede's five dimensions of national culture. Also investigates consumer behaviour across different nationalities for a sample of products and services.

Pachauri (2002) revealed that the study consumer behaviour it is helpful to begin by considering the evolution of the field of consumer research and the different paradigms of thought that have influenced the discipline. It is argued that consumer behaviour itself emerged as a distinct field of study during the 1960s; and is characterized by two broad paradigms, the positivist and the non-positivist. The positivist paradigm encompasses the economic, behavioural, cognitive,

motivational/trait/attitudinal, and situational perspectives; these perspectives are referred to as the traditional perspectives as they pre-date the development of the non-positivist paradigm. The opposing, non-positivist paradigm, envelops the interpretive and postmodern perspectives, which have emerged more recently during the period post-1980 to date. The proponents of this emerging perspective argue that positivism overemphasizes the rational view and the ideology of a homogenous social culture and thereby denies the complex social and cultural world in which consumers live.

Unsurprisingly, the two paradigms differ in their views on the benefits derived from consumption and the objectives that underscore consumer research. The traditional, positivist perspective takes a very utilitarian approach to the benefits from consumption. While the non-positivist perspectives place much greater emphasis on the symbolic dimensions of choice. The objective of non-positivist research endeavour is to achieve a better understanding of consumer behaviour with no specific intent to influence consumer processes.

Conversely, outcomes of positivist research are directed toward advancing the goals of marketing practice. By identifying the paradigmatic shifts within the field, this article aims to identify different streams of thought that could guide future consumer research.

Nagaraja (2004) identified the important factors influencing the purchasing of the goods among the rural consumers. They are quality, price, easy availability, advertising, use by the neighbour consumers and experience of the own family members. In the rural areas, cinema dialogues, pictures and names of famous heroes and heroines, flowers, symbols, entertainments, quickies, short theatre commercials, TV spots, cricket themes, road shows, vow programmes are used extensively to influence the consumer behaviour. He also found that the rural consumer is very much attached to and influenced by ‘touch and feel’ aspect of any promotional activity.

Schiffman and Kanuk (2004) has used intelligent agents to locate the best prices for the products or services, bid on various marketing offerings, bypass distribution outlets and middlemen, and shop for goods around the globe and around the clock from the convenience of their homes.

Sanz (2005) reported that technological progress in the sphere of information and communication is encouraging the use and development of new shopping methods, leading to a rapid growth in non-store shopping as the individual can buy products/services without having to travel to retail outlets. Despite its growing significance, there is still a lack of research work in many countries in this field. This study aims to make an approximation of the M-shopper profile and identify the variables influencing purchase behaviour. The methodology used to achieve these objectives is based on 7 focus groups and the analytical techniques of Chi-Square and logistic regression. Analysis of the results obtained from a representative sample of 2,104 Spanish Internet users shows that the M-commerce decision can be predicted according to consumer age, social class and behaviour patterns as user of non-store shopping channels. In general, the different methods of direct shopping are still expected to grow but whereas some of the methods are showing rather low levels of growth, stagnation and even decline, in others the predicted growth rate is picking up speed. The most innovative methods maintain significant rates of growth.

Hingley (2007) reported that the brands being an important source of competitive advantage, knowledge of branding is needed to inform their management. After reviewing the literature, the article aims to report the findings of a case study that investigated the role of branding in the industrial purchase of agricultural tractors in the UK. The study's overall conclusion is that branding can play an important role in industrial purchase decisions, brand name, price, dealer proximity, quality of dealer's service, and buyer's experience of the dealer. The conjoint analysis revealed that brand accounts for 38.95 per cent of the purchase decision, ahead of price (25.98 per cent) and service (14.90 per cent). The importance of brand varies according to the tractor brand. Also, the overall utility varies, with John Deere and New Holland brand names appearing as marketing

assets and Valtra, Massey Ferguson, and Case IH as marketing liabilities. Among the studies other findings are that UK tractor buyers are brand loyal. The study focuses on tractors in the UK, so while it provides an insight into the role of branding in an industrial purchase situation, further research is required in other product categories before the findings can be generalised.

Ademola (2009) stated that mood is the knowledge of particular relevance for the understanding of consumer behaviour. This study is essentially using two scales that is attitude towards using advertised products and intention to try advertised products were employed to measure advertising effectiveness by adopting the experimental study where a between subject design was employed. The result revealed that subjects in the induced positive mood group have a more positive attitude and greater intention to try advertised products when compared with subjects in the induced negative mood group. This attempt can be made in finding the effect of consumer's mood on advertising effectiveness on TV ad in case of consumers purchase decision.

Loganathan (2011) reported that group pressure to conform is referred to in the consumer and social psychology literature as social influence or interpersonal influence, which has an impact on consumer product and brand preferences, on evaluations of product quality and also on buying decisions. Market researchers have long strived to understand the effects of social influence on consumer attitudes and behaviors. That is, how, why, and when do consumers conform to social norms. Researchers around the world have tried to study how people behave in a particular situation and why do they behave like that? The results however have not been commensurate with the efforts made, primarily due to the diversity that people exhibit in their behavior. Thus, it is imperative for marketers to keep track of their customers by undertaking researches on the various facets of consumer behavior on a regular basis.

Guo (2011) revealed that study based on theoretical studies of domestic and foreign scholars on influencing factor of online consumer purchasing behaviour. He performs an empirical analysis of the hierarchy model of influencing factors of online shopping which is built by domestic scholars, and gets the relative

importance of this influencing factor. Outcome of study is that security of online shopping, prices and commercial credit are primary factors influencing consumers' purchasing behavior while genders education levels of consumers and designs of store are the secondary ones.

Srivastava and Kumar (2011) studied that consumer behavior in the rural market is even more perplexing because of a singular lack of consistency in groups which are homogeneous in parameters of demographics- Age, occupation, education and income. Most marketers realize that India is on the cusp of momentous change. The economy is vibrant, incomes are rising & the habits, preferences & attitude are changing rapidly. But nowhere is it more evident than in rural India. There is, thus an emerging need to build expertise in rural marketing. The study of consumer behavior implies how & why a particular consumer reacts to the decisions of producers. The study of consumer behavior is the study of how individual make decision to spend their available resources (time, money, effort) on consumption related items. It includes the study of why they buy it, when they buy it, where they buy it, how often they buy it & how often they use it.

Abdul and Velayutham (2013) studied that Consumer Behavior had an essential criteria in Present Marketing Scenario. Consumers are the kings of markets. Without consumers no business organization can run. All the activities of the business concerns end with consumers and consumer satisfaction. They analyse that Customer behavior study is based on consumer buying behavior, with the customer playing the three distinct roles of user, payer and buyer. Consumer buying behaviour has become an integral part of strategic market planning. In order to develop a framework for the study consumer behaviour it is helpful to begin by considering the evolution of the field of consumer research and the different paradigms of thought that have influenced the discipline.

Dharmraj *et al.* (2013) studied to identify the factors that affect consumers purchasing behavior towards agriculture inputs like fertilizer, seeds, agrochemicals, oils and lubricants etc. Buying behavior refers to the act of consumers obtaining and using goods and services and the decision process that determines these acts. Buying decision is a set of many decisions which may

involve a product, brand, style, quality, dealer, time, price and mode of payment. Price is the most important consideration at the time of purchasing agriculture inputs followed by packaging and branding, fair billing and home delivery are considered relatively less important. It can be concluded from the result that the respondents were mainly purchasing the agri-inputs from the cooperative societies of their area. Major reasons for purchasing from cooperative societies included fairness in billing and credit facilities given to the farmers. From the above results, it can be stated that agri-inputs remain a price-sensitive market as factors like quality, brand and packaging.

Farkade (2014) revealed that consumers buying motives becomes more important because they make their buying decisions in each and every aspects of life. All promotional activities are basically dependent on consumption pattern of the consumers which is directly or indirectly affects the sales of the products and services. The framed objectives of the paper, to study buying motives of agricultural equipments and to evaluate the most important factors like products brand, availability of products, financial subsidy, product capacity, after sales services etc considered for the buying of any agricultural equipments. All promotional activities are basically dependent on consumption pattern of the consumers which is directly or indirectly affects the sales of the products and services. Traditional consumer behaviour shopping has its own model, which the buying process starts from the problem recognition, information search, evaluation of alternatives, then purchase, and at last post-purchase behaviour. During these serials actions, the perspectives on consumer behaviour could be divided into two parts: Macro perspective and Micro perspective.

Sivakumar (2014) reported that consumers make purchase decisions in each and every aspect of their life. Thus studying consumer behaviour becomes more vital. All marketing decisions & activities are based on assumptions about consumer behavior. To study the factors influencing the purchase of agricultural tractors and to evaluate the most important factors like brand name, subsidy, horsepower, maintenance etc considered for the purchase of agricultural tractors. The study was carried out in Sivaganga district of Tamil Nadu state. The

researcher has used both primary and secondary data for his research. The researcher has collected primary data from the tractor owners who had bought their tractor for service to the dealer point during the study period in Sivaganga district. It is found as per the ranking given by the respondents subsidy is ranked first and followed by sources consulted, horse power, after sales service, price and brand name respectively are considered for purchase of tractors.

Rani (2014) studied the consumer buying behavior, which refers to the buying behaviour of the ultimate consumer. Many factors, specificities and characteristics influence the individual in what he is and the consumer in his decision making process, shopping habits, purchasing behavior, the brands he buys or the retailers he goes. A purchase decision is the result of each and every one of these factors. An individual and a consumer is led by his culture, his subculture, his social class, his membership groups, his family, his personality, his psychological factors, etc. For a successful consumer oriented market service provider should work as psychologist to procure consumers. By keeping in mind affecting factors things can be made favorable and goal of consumer satisfaction can be achieved. Study of consumer buying behaviour is gate way to success in market.

Sivakumar and Kaliyamoorthy (2014) revealed that consumers make purchase decisions in each and every aspect of their life. Thus studying consumer behaviour becomes more vital. All marketing decisions & activities are based on assumptions about consumer behavior. Consumer behaviour deals with the behaviour that consumer displays in the consumption of goods right from purchasing, using, evaluating & disposing them. In other way, it deals with what they buy, how often they use it when they buy it, why they buy it where they buy and how they evaluate it after purchase. Understanding the consumer purchase process is critical to a marketer so as to design the marketing activities effectively. It is found as per the ranking given by the respondents subsidy is ranked first and followed by sources consulted, horse power, after sales service, price and brand name respectively are considered for purchase of tractors.

Nisar (2014) reported that the purpose of the study was to explore the relationship between consumer behaviour and beverage brand (coca cola and pepsi cola). Frequency and regression analysis used in study. He found from the study that the majority of the Pakistani prefers coca cola and results further suggested that the consumer behaviour can significantly influence the beverage brand of Pakistan. It also said that beverage industry of Pakistan put their focus upon the consumer behaviour and produce their products according to their consumer demand and satisfy the consumers.

CHAPTER – III
MATERIALS AND METHODS

This chapter deals with the research methodology adopted for the present study with respect to the selection of study area, selection of respondents, collection of data and analytical techniques. This chapter presents the statistics of different aspects in order to have the knowledge of the study area. The present chapter consists of the geographical location, size and number of land holding including farm machineries (Tractors) and different socio-economic indicators of the study area. The details of the method and techniques adopted for the present study are describes as below:

3.1Selection of Study Area

Chhattisgarh is the 26th state of Indian Union, situated at Central India.It is the 10th largest state in India, with an area of 135,194 KM^2 (52,199 sq m). With a population of 25.5 million, Chhattisgarh is the 16th most-populated state of the nation. Currently, the state comprises 27 districts.Out of 27 district of Chhattisgarh, Jashpur district will be selected purposely for the study. Jashpur district having 8 blocks*viz.*Patthalgaon, Pharsabahar, Bagicha, Duldula, Jashpur, Kunkuri, Manora and Kansabel. Out of 8 blocks of Jashpurdistrict,2blocks namely Pharsabhar and Pathalgaon were selected purposively.(Fig. 3.1 and 3.2).

3.2 Selection of Villages

The Pharsabharand Pathalgaon block consists of 99 and 109 villages respectively. Out of these villages, 10 villages are considered from each of the selected blocksand 5 farmers fromeach village from the selected villages 50 farmers were considered from each block for the present study.

3.3 Selection of Respondents

A sample of the 100 respondents or tractor owner/ farmer was selected purposively for the Study.

3.4 Methods of inquiry and data collection

The study requires primary as well as secondary data; primary data from the respondents was collected through personal interview method with the help of well-preparedquestionnaire (Appendix A and B). The data includes information

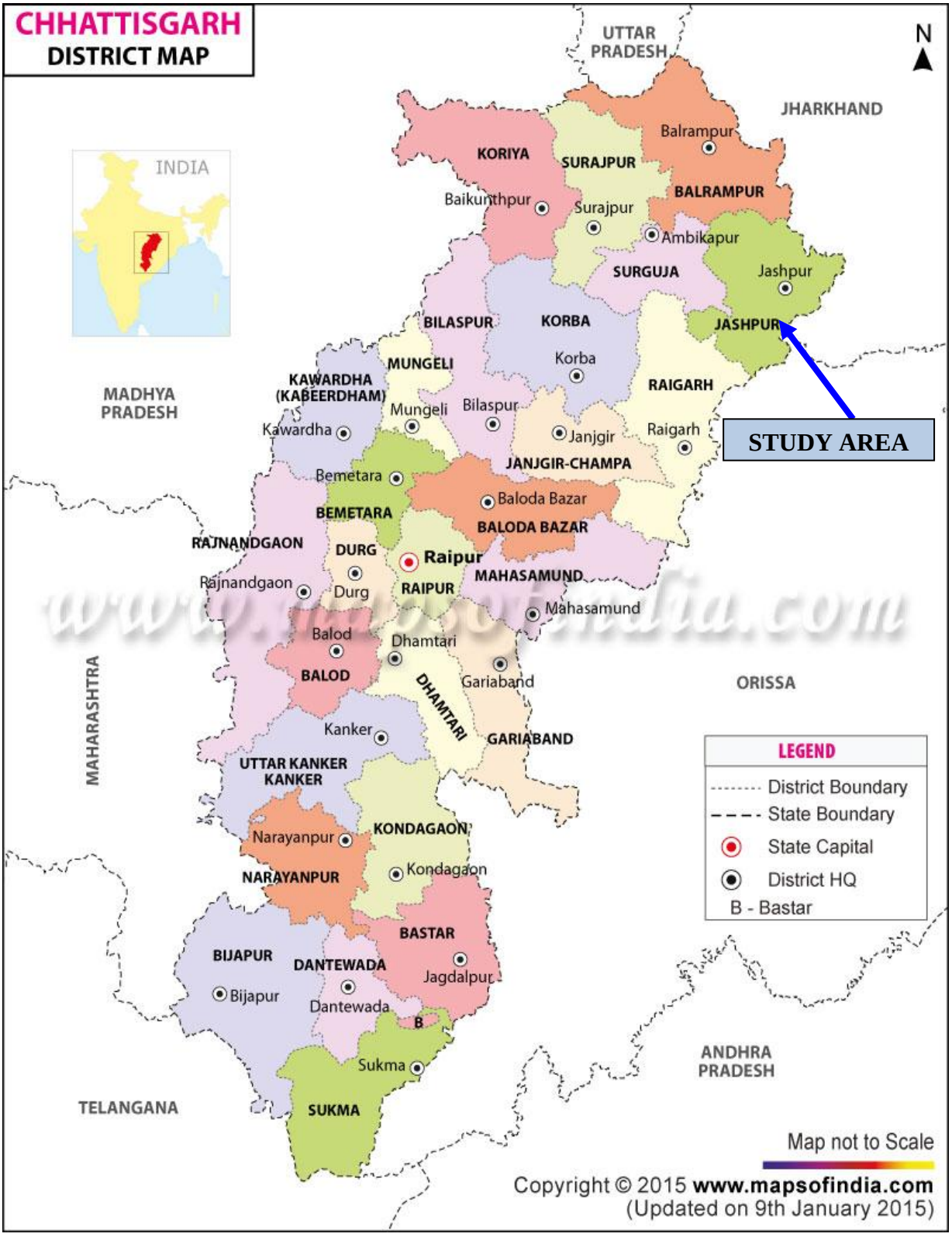

Fig. 3.1 Map of the study area in Chhattisgarh

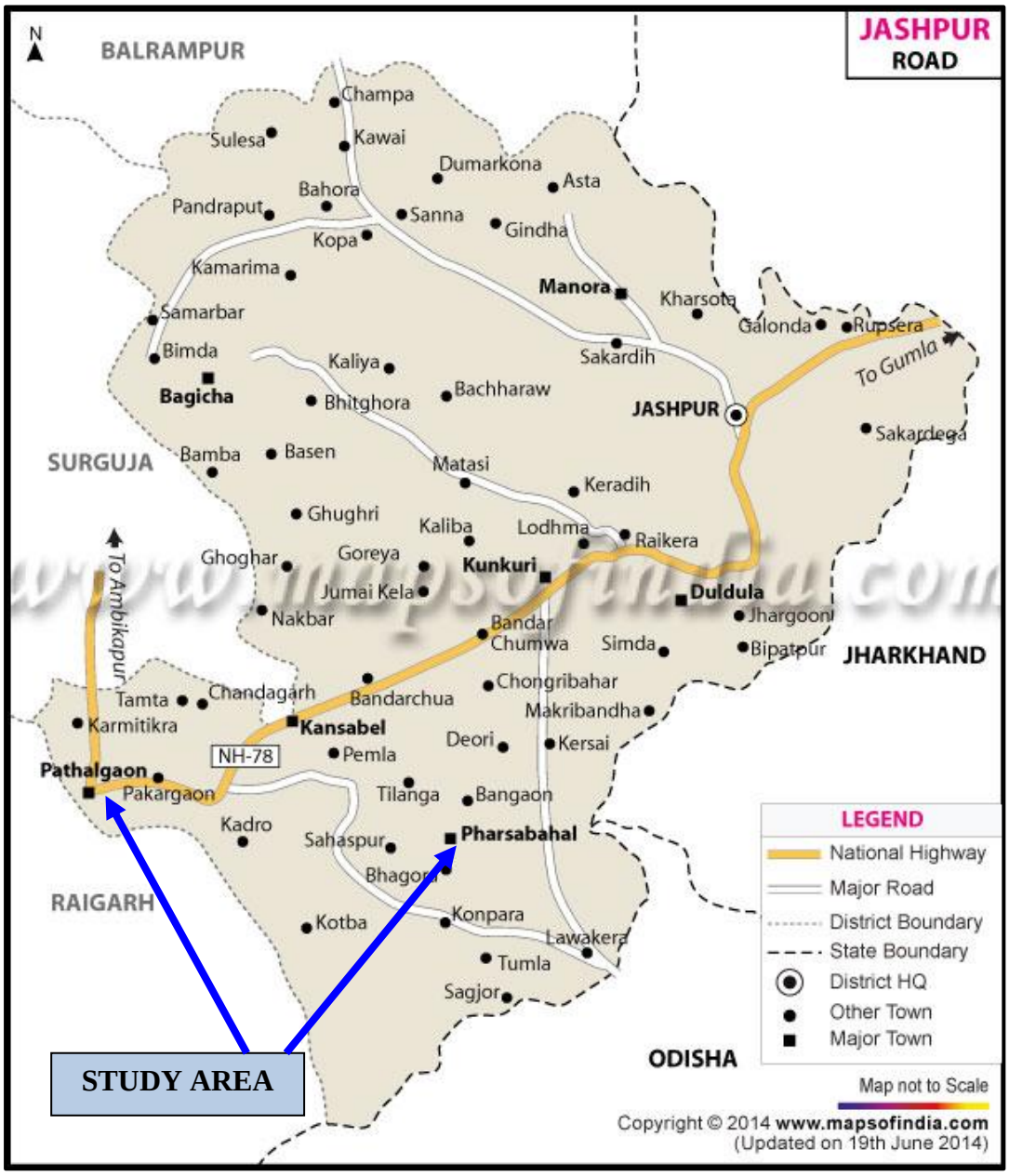

Fig. 3.2: Map of the study area (Blocks)

about tractor brand owned by respondents. Their behaviour towards their tractor's functioning, factors for buying that particular brand their thinking about own and different brands. The secondary data related to Chhattisgarh state which was collected from the Directorate of Agriculture, Raipur, District Planning and Statistics Department, Raipur, Chhattisgarhand Department of Agriculture, Jashpur, Chhatishgarh.

3.5 Period of inquiry

The detail inquiry was done for the year 2015-16.

3.6 Household information

1. Total land holding.
2. Income (annual)
3. Cropping system
4. Tractor brand
5. Other agriculture related machinery
6. Tractor owned/finance

3.7Analytical framework

The collected data were compiled and tabular analysis is made to work out thedifferent parameters, such as, scaling technique, gap analysis to know the gap between perceived quality and obtained quality, discriminant analysis using SPSS.

3.8 Brief profile of the study area

A brief description of various geographical and agriculture features of the study area, *i.e.*Jashpurdistrict in Chhattisgarh state is being given in this section.

3.8.1Description of Jashpurdistrict

The study was conducted in Jashpur district of Chhattisgarh state duringthe year 2015-16. Jashpurdistrict is situated in the Northern hill region of the Chhattisgarh state.Jashpur District lies in the north-eastern corner of the state of Chhattisgarh in India adjoining the border of Jharkhand and Odisha.The north-

south length of this district is about 150 km, and its east-west breadth is about 85 km. Its total area is 6,205 km². It is between 22° 17′ and 23° 15′ North latitude and 83° 30′ and 84° 24′ East longitude.The total area of the state is 285481 hectare and the district's total area is 645741hectare.

Chhattisgarh is rich in forest resources about 44 percent of the total area of the state is under forest cover. Detailed information about the geographical area of Raipur district is given in (table no 3.5)**.** Chhattisgarh is famous in the entire country for its Sal forest. In addition teak, bamboo, saja, sarai, haldietc are also found in large number tendu leaf which is used in beedi making, is the principal forest of the state. Chhattisgarh produce a large number of minor forest product as well. The climate of Chhattisgarh is mainly of minor tropical, humid and sub-humid. The climate is hot because of its positioning on the Tropic of Cancer. May is the hottest month and the December – January is the coldest month. The state is completely dependent on monsoon for rains. The average annual rainfall of Jashpur district is1000 mm.

3.8.2Demographic features ofJashpurdistrict

As per the survey of census during 2011 by Indian Government, Jashpur district has a population of 851,669 of which male and female were 424,747 and 426,922 respectively. The district has a population density of 146 inhabitants per square kilometre.

Out of which 91.08percent is rural and 8.92percent is urban population. The literacy rate in the district is 67.92percent(Table: 3.1).

Table 3.1. Demographic features of Jashpur District, Pharsabahar and Pathalgaon block (2011)

S.No.	Particulars	Number		
		District	**Pharsabahar**	**Pathalgaon**
1.	Area (in hectare)	**645741**	**79650**	**79200**
2.	Total Population (Census 2011)	**851669**	**108498**	**191530**
	Male	424747	53496	95480
	Female	426922	55002	96050
3.	Total Population (Census2011)	**851669**	**108498**	**191530**
	Rural	775677	108498	168112
	Urban	75992		23418
4.	Percentage of rural population to total Population (Percent)	91.08	100	87.77
5.	Number of females per '000 males	1004	1028	1006
6.	Population density per square KM	146	136	242
7.	Literacy Rate (Percent)	67.92	66.36	63.33
8.	Schedule Caste population as percentageto total population (Percent)	5.74	3.31	9.48
9.	Schedule Tribe population as percentage to total population (Percent)	62.28	59.57	63.28

Source: District statistical booklet, Census of India 2011.

3.8.3 Land use pattern:

Jashpur district has total geographical area of 64574 hectare. The forest area is 2752.285 (sq km), total cropped area 251087 ha and 242720ha net cropped area from the total geographical area, the cropping intensity was 122 percent. Double cropped area is 13760 ha.Pathalgaon block has total geographical area of 79200 hectare and Pharsabahar block has total geographical area of 79650 hactare (Table 3.2).

Table 3.2: Land utilization pattern at Jashpur district (in hectare):

S.NO.	Particulars	Jashpur District	
		Pathalgaon	Pharsabahar
1	Geographical area	79200	79650
2	Net cropped area	46214	28325
3	Doubled cropped area	3931	1032
4	Area under *kharif*	49742	28868
5	Area under *rabi*	4039	1069
6	Net irrigation area	115	96
7	Total cropped area	53781	29937

Source: District Department of Land Records

3.8.4 Distribution of land holding

The distribution of land holding according to size and the total cultivated area ineach category are in the given Table 3.3. The largest number of land holding falls undermarginal category. It is clear from this table that concentration of marginal farmers wasmore as compare to small, medium and large group, implying that the majority of landowner were in marginal categories in the study area. The largest number of land holdingfalls under marginal farm size category. However, farmers in the category owned only asmall proportion of the cultivated land.

Table 3.3: Distribution of land holding of Jashpur District, Pharsabahar and Pathalgaon block

S. No	Size of holding	Number ofholding			Area(ha)		
		Jashpur District	Pharsabahar Block	Pathalgaon Block	Jashpur District	Pharsabahar Block	Pathalgaon Block
1	Marginal (up to 1.00 ha.)	47537	7676	11488	23034.82	3648.049	5578.537
2	Small (up to 1.01 to 2.00 ha.)	29010	3978	6105	41657.7	5565.51	8823.07
3	Medium (up to 2.01 to 4 ha.)	283331	3728	4933	77132.04	9972.03	13821.25
4	Above 4.00 ha.)	17120	1775	2892	99929.3	10373.46	16868.72
	Total	376998					

Source: District land record, ADA, Jashpur

3.8.5. Cropping pattern of the study area:

Being a mono cropped region, paddy is the main cereal crop in the *Kharif* season in the study area. Though most of the area is covered by this crop, several others crops are now being grown in *Kharif* as well as *Rabi* season in this region. The existing crop area distribution in the district is shown in the Table: 3.4.

Table 3.4 Area of different crops grown in Jashpur District:

S.No.	Crops	Area (hectare)
A	**Cereals**	
1	Paddy	180700
2	Wheat	1155
3	Maize	5630
4	Kodo - Kutki	2352
5	Other	969
	Total cereals	**190536**
B	**Pulses**	
1	Gram	1116
2	Urd	11489
3	Lathyrus	4905
4	Other	433
	Total pulses	**17943**
C	**Oil seed**	
1	Til	242
2	Groundnut	4181
3	Rai / sarson	4614
	Total oil seed	**9131**
D	**Fruits**	
1	Mango	730
2	Banana	**29**
3	Papaya	2
	Total fruits	761

Source: District statistical booklet

3.8.6 Irrigation

The different sources of irrigation in the Jashpur district are shown in Table: 3.5. The table 3.5 clearly point out that the maximum area is irrigated by canals (4731 ha) which are 49.29percent of the total irrigation in the Jashpur district followed by wells (1955).Nallah, stop dam, wells and other sources of irrigation are also prevailing in the Jashpur district.

Table 3.5 Source wise irrigation area of Jashpur district:

S.No.	Source of irrigation	Irrigated area (ha)	Percent
1	Canals	4731	49.29
2	Ponds	199	2.07
3	Tube-wells	151	1.57
4	Wells	1955	20.37
5	Irrigated area from other sources	2560	26.66
	Total	**9599**	**100**

Source: District statistical booklet

3.8.7Administrative units

Chhattisgarh state is administrative divided into 27 districts and 360 blocks. Out of these, 85 blocks are tribal block. The state consist of 20308 villages. Jashpur district is administrative divided into 8 tehsil, 8 block *i.e.*Patthalgaon, Pharsabahar, Bagicha, Duldula, Jashpur, Kunkuri, Manora, Kansabel. Jashpur district having 766 villages, in which 4 Nagar panchayat, 417 Gram panchayat and 8 Janpadpancahyat (Table: 3.6).

Table 3.6 Administrative of the Jashpur district

S.No.	Particulars	Jashpur District
1	Geographical area (hac)	645741
2	total villages	755
3	Gram panchayat	417
4	Janpadpanchayat	8
5	Nagar nigam	0
6	Nagar palika	1
7	Nagar panchayat	1
8	Revenue inspector circle	10
9	Police station	11
10	Electricity village	737
11	Drinking water village	85

Source: District statistical booklet

3.8.8Farm machineries (Tractors)

In the study area many farm machinery buyedbtfaemers, there is 1325 tractors buyed in Jashpur district, 255 tractors in Pharsabahar block and 449 tractors in Pathalgaon block, (Table 3.7).

Table 3.7Farm machineries(Tractors)of the Jashpur district, Pharsabahar block and Pathalgaon block

S.No.	Name of area	No. of tractors
1	Jashpur	1544
2	Pharsabahar	255
3	Pathalgaon	449

Source: District statistical booklet

3.9Analytical tools

To work out the analysis different tools of statistics used to fulfil the objectives of the study.

3.9.1 Discriminant analysis

Discriminant function analysis is a statistical analysis to predict a categorical dependent variable (called a grouping variable) by one or more continuous or binary independent variables (called predictor variables).

Discriminant analysis is used when groups are known a priori (unlike in cluster analysis). Each case must have a score on one or more quantitative predictor measures, and a score on a group measure. In simple terms, discriminant function analysis is classification - the act of distributing things into groups, classes or categories of the same type.Discriminant function analysis is useful in determining whether a set of variables is effective in predicting category membership.

There are two ways to drawthese attributes based perceptual maps. One uses factor analysis and the other uses discriminant analysis. In this analysis two groups formed, and as many as brands in this case there is more than one discriminant function. The discriminant analysis output gives us Eigen value of each function and amount of variance it explains from the various data. The percent of variance explained by discriminant functions can be used to decide how many discriminant functions we want to use. There is also a significance test available that can tell us if the given function significantly discriminats between the groups (brands). This can also be used to decide how many of the functions to use. Suppose we decide to use two discriminant function. These than form the two axes of the perceptual map.

Most important in that discriminant function represent the axes on which the brands are first located, and then, the attributes are also located.

3.9.2 Gap analysis

In management literature, gap analysis involves the comparison of actual performance with potential or desired performance. If an organization does not make the best use of current resources, or forgoes investment in capital or technology, it may produce or perform below its potential. If an organization does not make the best use of current resources, or forgoes investment in capital or technology, it may produce or perform below its potential. This concept is similar to an economy's being below the production possibilities frontier.

"GAP analysis" has also been used as a means of classifying how well a product or solution meets a targeted need or set of requirements. In this case, "GAP" can be used as a ranking of "Good", "Average" or "Poor".

3.9.3 Customer Perceived Quality

The second construct in the study is Customer Perceived Quality (CPQ) consisting of two dimensions. The dimensions of quality customers perceive typically differ from industry to industry and depending on what strategy a firm uses.

3.9.4 Scaling

The aim of scaling is to reduce the number of parameters in a given model. So, a prerequisite of the technique of scaling is knowledge of the equations governing the system. Scaling does not necessarily yield dimensionless quantities.

There are four levels of measurements: nominal, ordinal, interval, and ratio. The measurement scales, commonly used in marketing research, can be divided into two types; comparative and non-comparative scales. A number of scaling techniques are available for measurement of attitudes.

Scaling is the branch of measurement that involves the construction of an instrument that associates qualitative constructs with quantitative metric units. Scaling evolved out of efforts in psychology and education to measure "unmeasurable" constructs like authoritarianism and self esteem. In many ways, scaling remains one of the most arcane and misunderstood aspects of social

research measurement. And, it attempts to do one of the most difficult of research tasks measure abstract concepts.

3.9.5 Weighted average

Weighted average is an average in which each quantity to be averaged is assign a weight. These weightings determine the relative importance of each quantity of the average. Weightings are the equivalent of having that many like items with the same value involved in the average.

3.10 Company Profile

Mahindra and Mahindra Limited were incorporated on October 2, March 1945 as a private limited company under the Indian Companies Act of l9l3 by two brothers, Mr. J.C. Mahindra and Mr. K.C.Mahindra.It was converted into a public limited company in June 15, 1955 Mahindra&Mahindra Ltd, one of the largest privatesector company in India, is the flagship company of the Mahindra Group. The company commenced operations in1945 to manufacture General purpose utility vehicles and later on entered into manufacturing of Tractors and Light commercial vehicles. Over the years, the company has expanded its operations from automobiles and tractors to steel, trading and manufacturing of ash handling plants & traveling water screens. The company is focused to become a world giant in the tractor business. It has already made its presence felt in countries in Europe, Latin America, Africa and UnitedStates of America.

Mahindra Tractors is number one in sales in India – the largest tractor market in the world. And it has been the market leader since 1983. Its sales are predominantly in the states of Gujarat, Haryana, Punjab, Maharashtra and the southern states . Its sales in Gujarat are under the label MAHINDRA GUJRAT and its sales in Punjab are under the label Sawarj. In 1999, Mahindra purchased 100% of Gujrat Tractor from the Government of Gujarat and Mahindra purchased a 64.6& stake in Swaraj in 2004.

Farm Equipment Sector is the no. 1 tractor brand in India, since 1983. Mahindra brand sellsrange of tractors that include Bhoomiputra, SarpanchandArjun Ultra-1, with each having range of variants based on the horse power (HP) power and other attributes. Mahindra tractors are known for high fuel

efficiency and reliability. FES sells its 15 HP TO 75 HP category tractors in the domestics market.

For the second consecutive year, the company was the single largest tractors company in the world, by volume, with sales of 214325 tractors against 175196 tractors sold last year - a growth of 22.3%. This includes domestic sales of 202513 tractors against 166359 tractors sold last year. With 42.0% market share in the domestic tractor market, the company celebrated its 28th consecutive year of domestic market leadership. Also the company's exports during the year grew by 33.7% to 11812 tractors as compared to 8837 tractors exported in the previous year.

The market segments have a huge range of tractors starting from 20 hp to 50+ hp in which larger segment comes under 31-40 hp followed by 41-50 hp, 50+ hp, 21-30 hp and 20 hp.

CHAPTER-IV
RESULTS AND DISCUSSION

This chapter includes the buying behavior of respondent factor influencing their decision making about particular brand, their likes dislikes about their owned brand, their perception about features of tractors, perceived quality, dealer services. The outcome of this study yielded many useful findings regarding perception, awareness of brand factors which influenced the most to buy that particular brand and what changes whatsoever should be there in tractor according to them, the present chapter had been broadly discussed under the following sub heads:

4.1 Socio-economic profile of respondents

4.2 Factor influencing buying decision of farmers for tractors.

4.3 Farmer perception about various features of tractors

4.4 Influence of perceived quality associated with the brand on the buying behavior for tractors

4.5 Consumer satisfaction level and provide suggestion for improving sales and profitability

4.1 Socio-economic profile of respondents

Age, education, land holding, annual income, cropping pattern consider as socio-economic profile of respondents.

4.1.1 Age of the respondents

The findings on age of the respondents are presented in Table 4.1. The data revealed that majority (30%) of the respondents belonged to the middle age group (between 40 to 50 years). However, 27 % of the respondents were of old age group (50 to 60 years) and only 25 % respondents belonged to medium age group (30 to 40years) and 12 % were of older age group (Above 60 years) and 6 % of young age group (Less than 30 years).

The findings indicated that the majority of the respondent in the study area belonged to the middle age groups, followed by older age group and young age group. This reflected that young and old people were not owner of the tractor and their buying behavior is less towards buying a tractor.

4.1.2. Education of the respondents

About education, the data revealed (Table 4.1) that about 59 % of respondent were higher secondary passed which is maximum range from all respondent and 18 % primary educated and 16 % are under-graduate and 7 % were of post graduate respondent.

4.1.3 Land holding

The data incorporated in Table 4.1 shows that out of 100 respondents, about 79 % were having large land holding (above 4 ha.), followed by about 10 % respondents were small land holders (up to 2ha.), 8 % respondents were medium land holding (2 to 4 ha.) and only 3 % of them were comes marginal large farmer having less than 1 ha land. Overall an average land holding of the respondents of the study area was 7.73 ha.

4.1.4 Annual income

The data compiled in Table 4.1 shows the annual income received by the respondents from different sources. It is evident from the table that, cent % respondents received annual income from agriculture, out of which 43 % respondents had income between Rs. 1to Rs. 2 lakh. About 17 % respondents obtained Rs. 2 to 3 lakh and up to 50,000. 12 % respondents gained income up to Rs. 3 to 5 lakh and 9 % respondents received income Rs. 50,000- 1 lakh and only 2 % of respondent gained annual income more than Rs. Above 5 lakh from agriculture as occupation.

4.1.5 Cropping pattern

Mono-cropping and double-cropping were practiced in study area in which mono-cropping covered 80 % area and while double-cropping were covered 20 % area. Major crop in both cropping pattern is paddy, pulses and vegetables were grown in small area along with paddy.

Table 4.1 Socio –economic status of respondents

n=100

S. No	Particulars	Categories	No. of respondent
1.	Age	Less than 30 years	6
		30-40 years	25
		40-50 years	30
		50-60 years	27
		Above 60 years	12
2.	Education	Primary educated	18
		Higher secondary 06- 12	59
		Under graduate	16
		Post graduate	7
3.	Annual income	Up to 50,000	17
		50,000-1lakh	9
		1-2 lakh	43
		2 - 3 lakh	17
		3-5 lakh	12
		Above 5 lakh	2
4.	Land	Less than 1 ha	3
		Up to 2 ha	10
		More than 2-4 ha	8
		Above 4 ha	79
5.	Cropping pattern	Mono-cropping	80
		Double-cropping	20

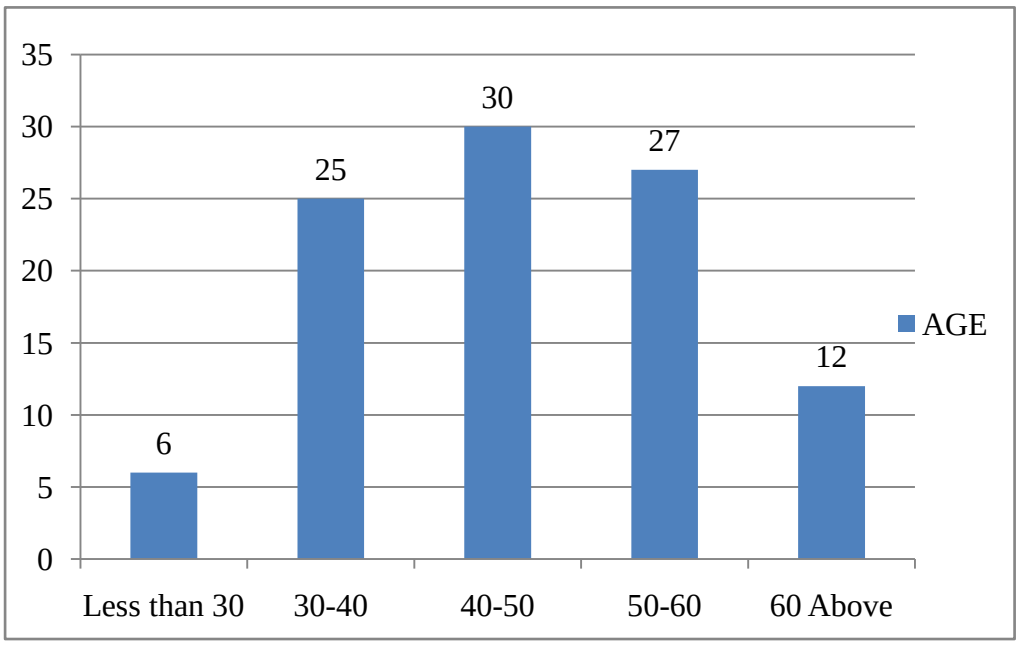

Figure 4.1 Age of respondents

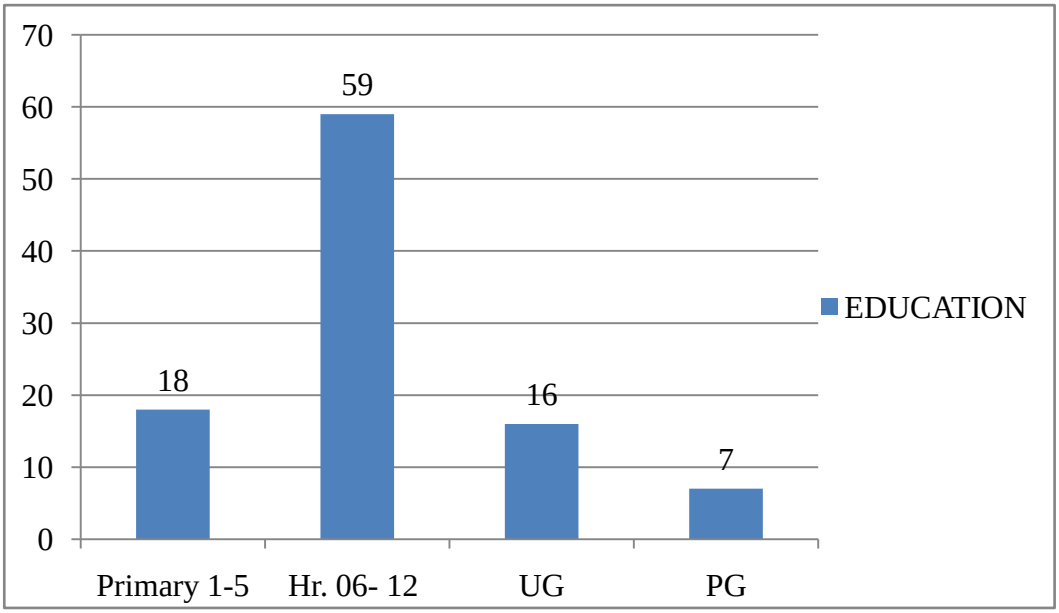

Figure 4.2 Education levels of respondents

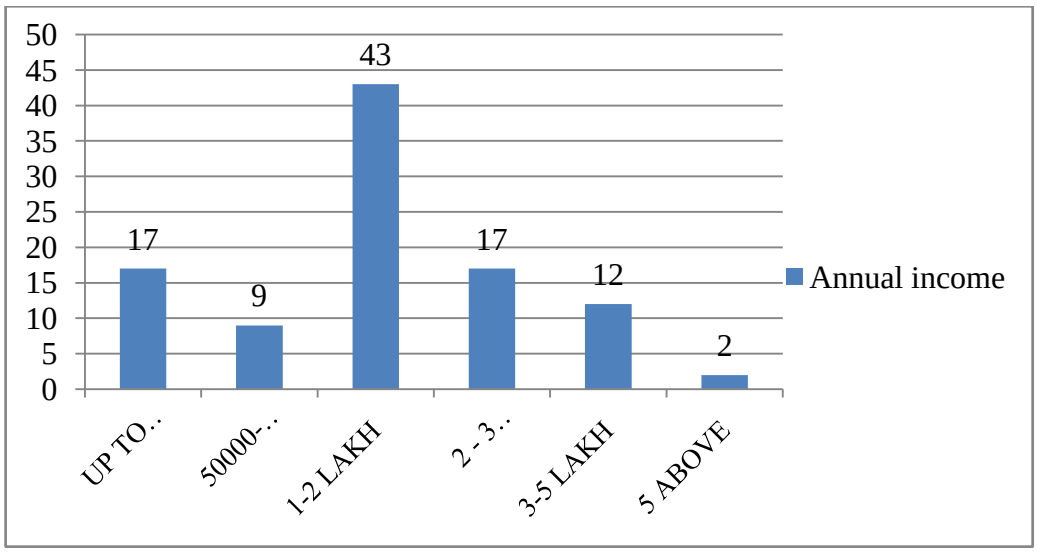

Figure 4.3 Annual income status of respondent

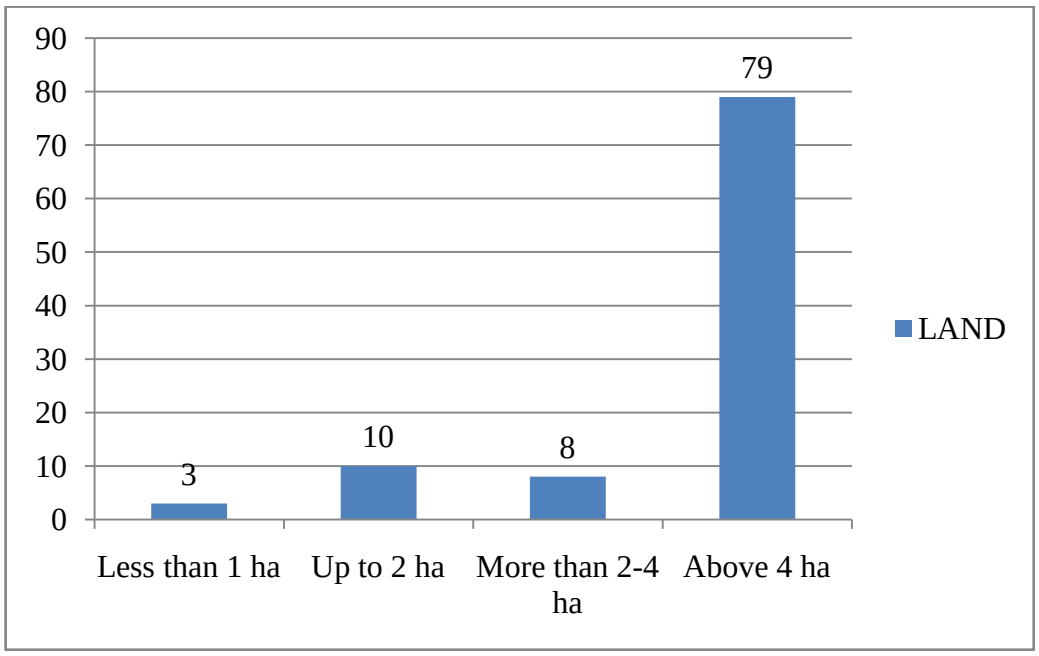

Figure 4.4 Land holding of respondents

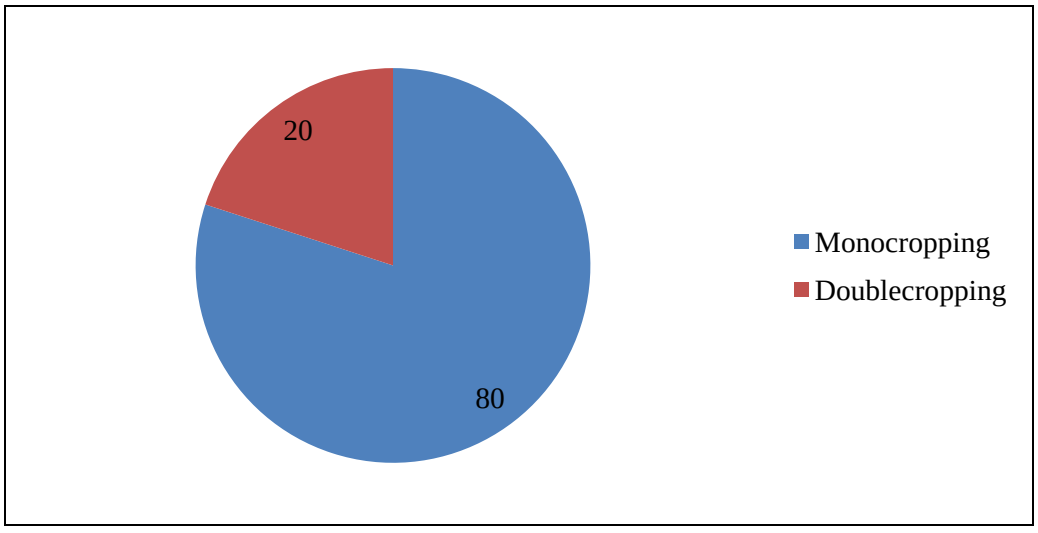

Figure 4.5 Status of cropping pattern

4.2 Factor influencing buying decision of farmers for tractors

4.2.1 Relationship between owned tractor and income group of respondents

Out of 100 selected respondents, 43 respondents came under income group of 1 to 2 lakh in study area who bought second largest number of tractors from the group of 25-35 hp which is 16 while in 36-45 hp range 13 tractor were and no tractor in above 46 hp. 17 respondents each from income groups, 2 to 3 lakh and 10,000-50,000 bought 3 tractors and 7 tractors from range of 25-35 hp respectively While, 2 and 9 tractors from range of 36-45hp, respectively and 1 tractor from range above 46 hp in 2 to 3 lakh income group. 9 respondents from income group of 50,000 to 1 lakh, bought 22 tractor from 25-35 hp range while 14 tractors from 36-45 hp range.8 respondents from income group 3 to 4 lakh bought only one tractor from range of 25-35 hp and 2 tractors in 36-45hp range. 4 respondents from income group 4 to 5 lakh bought 3 tractors from 36-45 hp range and 1tractor in above 46hp range. Two respondents form income group 5 to 10 lakh, bought 2 tractors from 36-45hp range.

It was found that the overall most preferred range of tractor 25-35hp followed by 36-45hp.

Table 4.2 Income group with respect to hp of tractor

S. No.	Income	No. of respondents	25-35 hp	36-45 hp	Above 46 hp
1	10-50,000	17	7	9	-
2	50000- 1 LAKH	9	22	14	-
3	1-2 LAKH	43	16	13	-
4	2-3 LAKH	17	3	2	1
5	3-4 LAKH	8	1	2	-
6	4-5 LAKH	4	-	3	1
7	5-10 LAKH	2	-	2	-

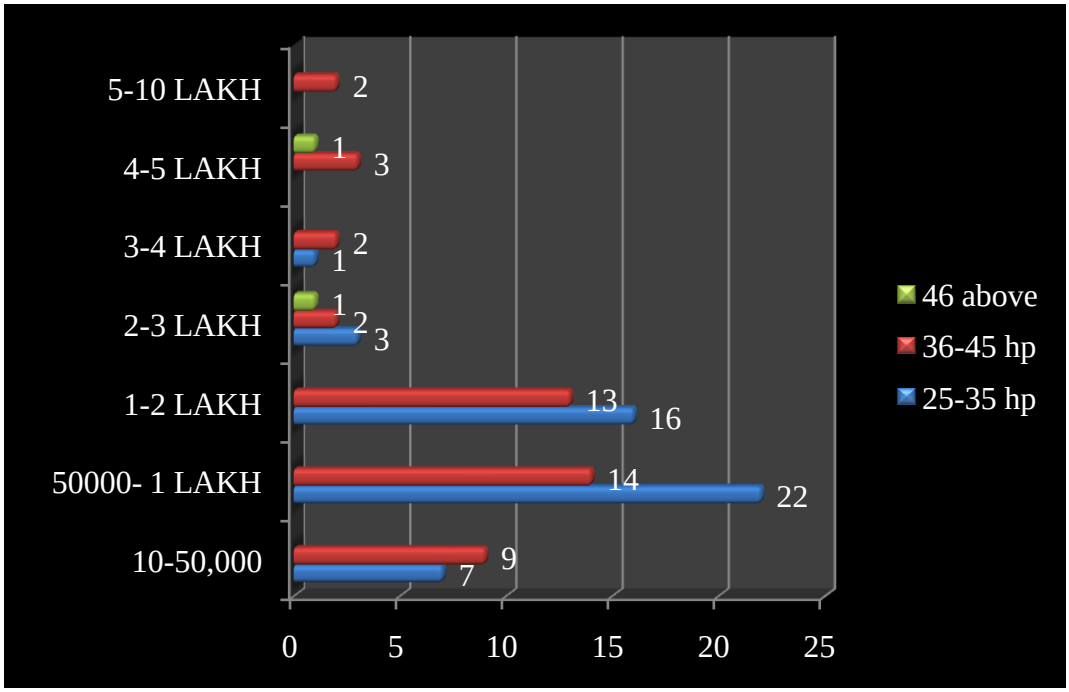

Figure 4.6 Income group with respect to hp of tractor

4.2.2 Brand of tractors owned by respondents

Out of 100 respondents, maximum number of tractors owned by farmers was of Tafe (34%), followed by Mahindra (26%), Swaraj (12%) and Sonalika (11%). Study area covered respondents who owned mostly Tafe, Mahindra, Swaraj, and Sonalika.

Table 4.3 Number of tractor of different brand

S.No.	Brand	No. of respondents
1	Eicher	2
2	Mahindra	26
3	Swaraj	12
4	Tafe	34
5	John deere	8
6	Sonalika	11
7	Others	7

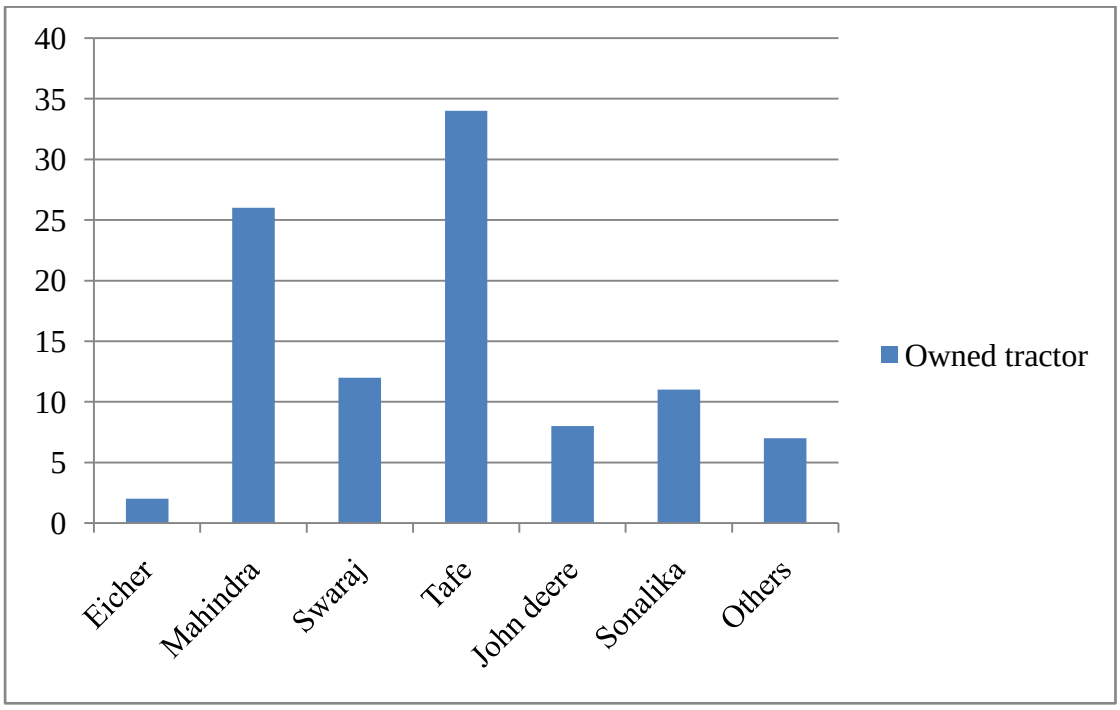

Figure 4.7: Number of tractors of different brands

4.2.3 Brand Considered by respondents

Out of 100 respondent of the study area, it was found that the respondent considered maximum Tafe tractor (41 %), followed by Mahindra (38 %), Eicher (14 %), Swaraj (5 %) and John deer (2 %). Tafe was most bought and considered by respondent.

Table 4.4 Considered brands by respondents

S.No.	**Brand**	**No. of respondents**
1	Eicher	14
2	Mahindra	38
3	Swaraj	5
4	Tafe	41
5	John deere	2
6	Sonalika	-
7	Others	-

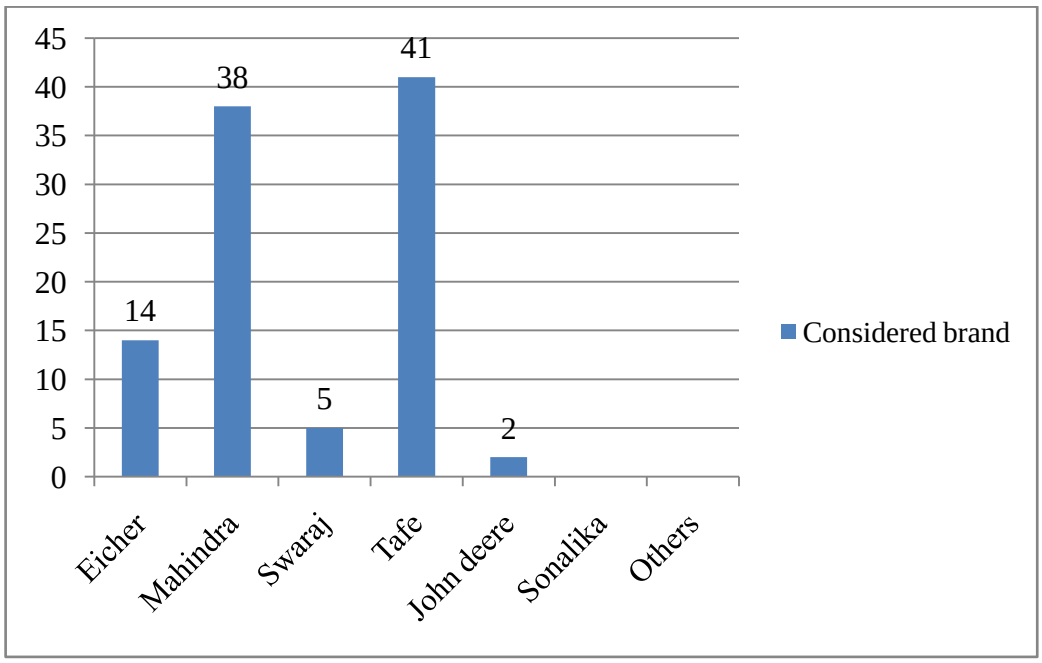

Figure 4.8: Brand consider by respondents

4.2.4 Factors responsible for purchasing specific brand

On the basis of different variable most liked variable was product feature (99%) by respondent, followed by purpose (96%), maintenance cost (89%) after sales process (81%) which was more important to respondent. In the category of moderate distribution (67%), followed by price (65%), finance option (63%) and for color (62%).

Table 4.5 Important factors for choosing specific brand (n=100)

S. No.	Particulars	1	2	3	Score	Rank
1	Price	26	65	9	2.17	IX
2	Product Features	99	1	-	2.99	I
3	Finance Option	23	63	14	2.09	X
4	Purpose	96	3	1	2.95	II
5	Looks	42	53	5	2.37	V
6	Color	33	62	5	2.28	VII
7	Distribution	28	67	5	2.23	VIII
8	After Sales Process	81	16	3	2.78	IV
9	Advertising And Promotion	41	51	8	2.33	VI
10	Maintenance Cost	89	11	-	2.89	III

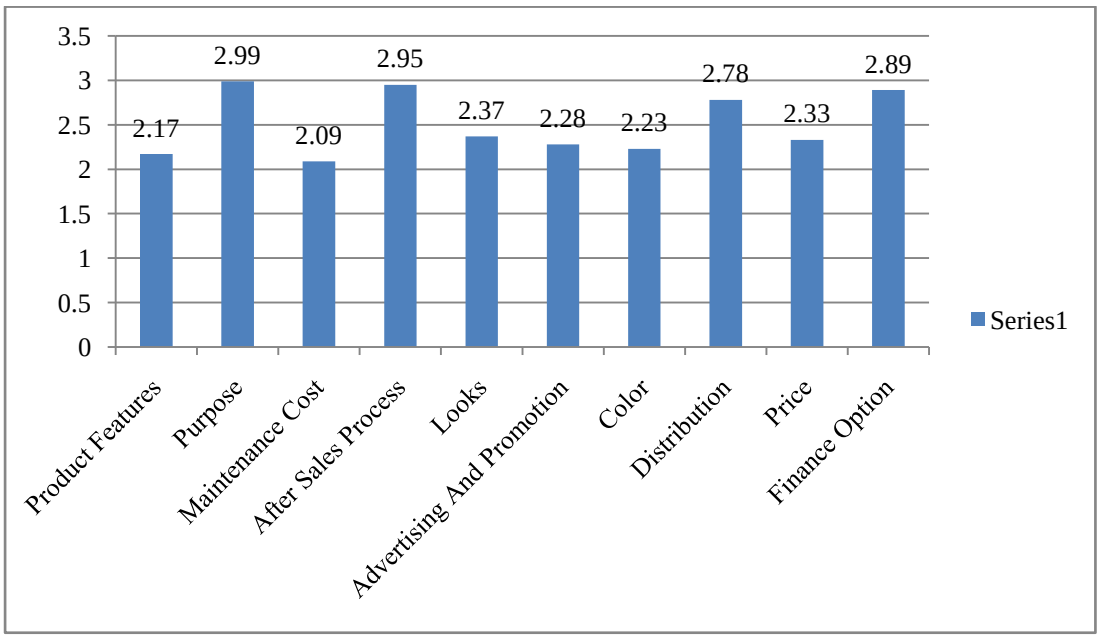

Figure 4.9 Factor with their importance

4.2.5 Most striking method to promote tractors

According to the respondent of the study area it found that farmer fair was most striking method (41 %) followed by each of TV as well as demonstration (21 %) and other method (16 %) was the striking methods to promote tractors.

Table 4.6 Method to promote tractors

S. No.	Particulars	No. of respondents
1	Newspaper	-
2	TV	21
3	Radio	1
4	Demonstration	21
5	Farmer fair	41
6	Others	16

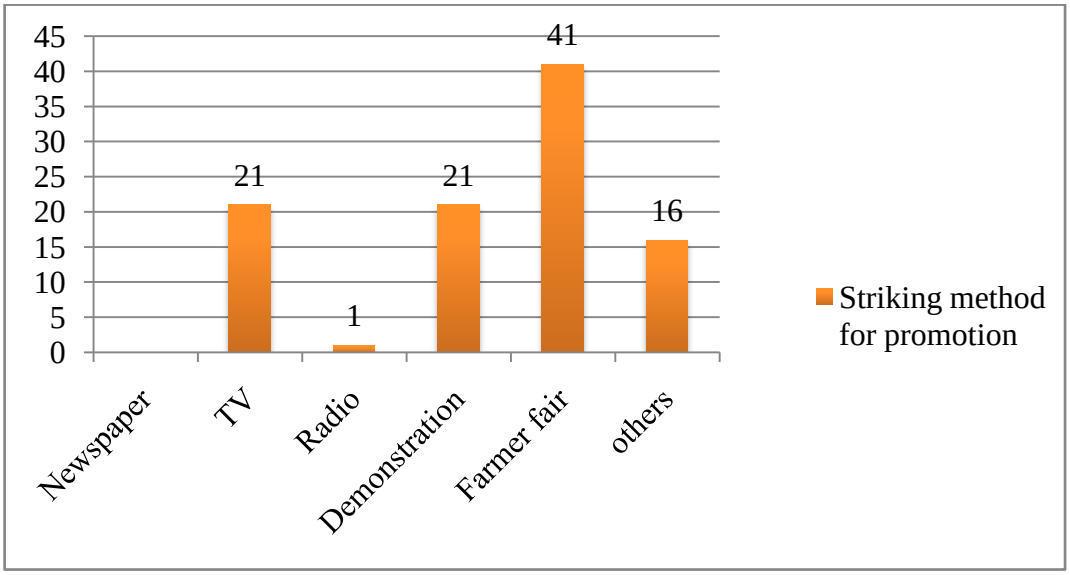

Figure 4.10 Striking method for promotion

4.2.6 Awareness about punch line of tractor brand

This table shows that the 95 % respondent of the study area were unaware about the punch line of the tractor brand they had only 5 % of the respondent were aware of the punch line of their brand.

Table 4.7 Awareness about punch line of their brand

S. No	Particulars	No. of respondents
1	Unaware	95
2	Aware	5

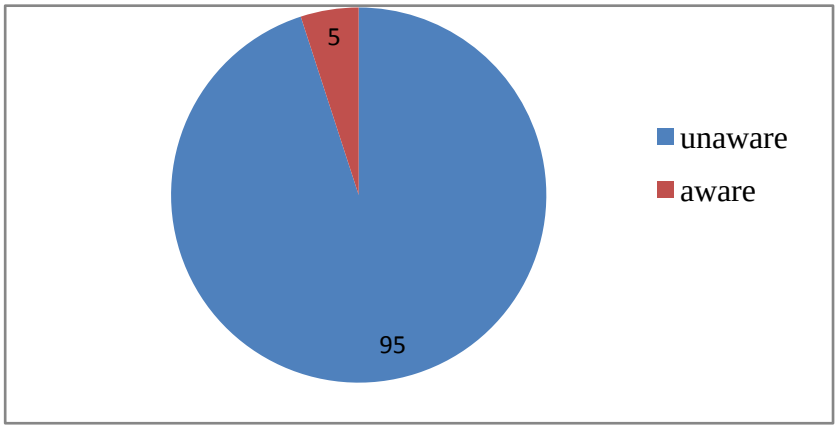

Figure 4.11 Brand awareness

4.2.7 Knowledge about particular brand

Out of 100 respondent of the study area, it was found that respondent got knowledge about particular brand from friends (42%) followed by family (41%) and company representative / sales person (15 %).

Table 4.8 Knowledge about particular brand

S. No.	Particulars	No. of respondents
1	Newspaper	-
2	Radio	-
3	TV	-
4	Family	41
5	Friends	42
6	Company Representative / Sales Person	15
7	Others	2

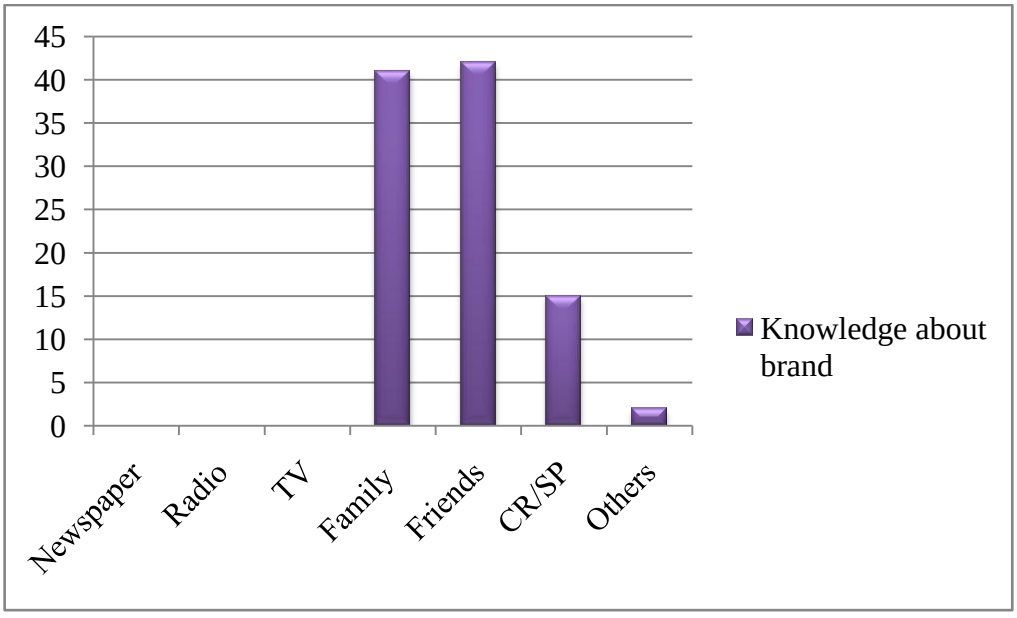

Figure 4.12 Different media for brand awareness

4.2.8 Perception about the brand

Out of 100 respondent of the study area, it was found that the respondent had perception about the brand from engine (46 %) followed by power (21 %), mileage (12 %), efficiency (8 %), handling & operation (7 %), maintenance cost (4%) and others (2%).

Table 4.9 Perception about the brand

S. No.	Particulars	No. of respondents
1	Engine	46
2	Efficiency	8
3	Mileage	12
4	Power	21
5	Handling & operation	7
6	Maintenance cost	4
7	Others	2

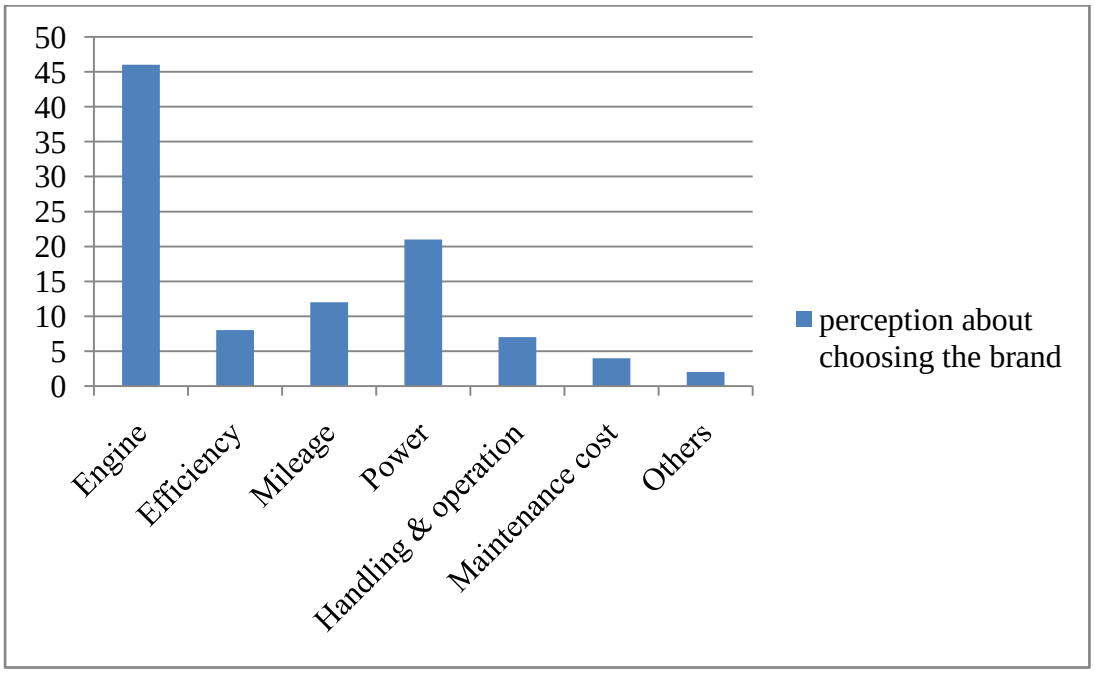

Figure 4.13 Perception about the brand

4.3 Farmer perception about various features of tractors

4.3.1 Promotion of the brand

Out of 100 respondents, 82 % respondent feels satisfactory while, 18 % respondent feels unsatisfactory about advertisement of their owned brand.

Table 4.10 Promotion of the brand

S. No.	Particulars	No. of respondents
1	Impressive	18
2	Satisfactory	82
3	Unsatisfactory	-

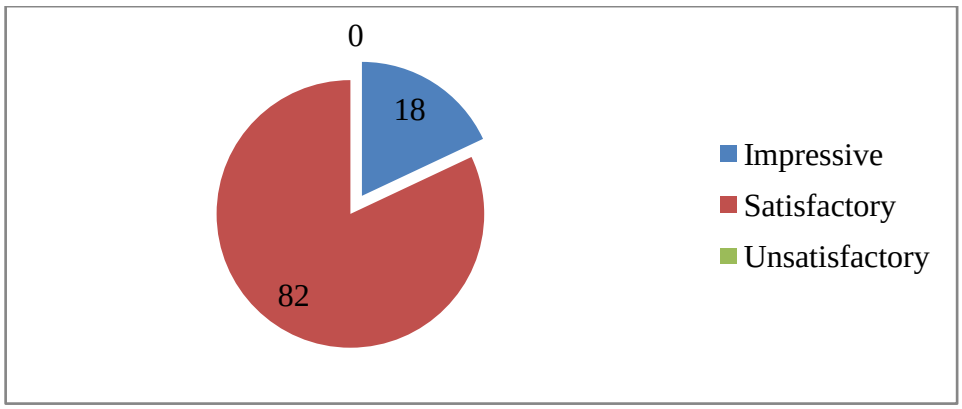

Figure 4.14 Promotion of the brand

4.3.2 Like the advertisement

Out of 100 respondents, maximum number of respondent liked the presentation (54 %) followed by demonstration (24 %), slogan (15%) and model (3%) in tractor advertisement.

Table 4.11 Like the advertisement

S. No.	Particulars	No. of respondents
1	Model	3
2	Celebrity	2
3	Presentation	54
4	Slogan	15
5	Demonstration	24
6	Others	2

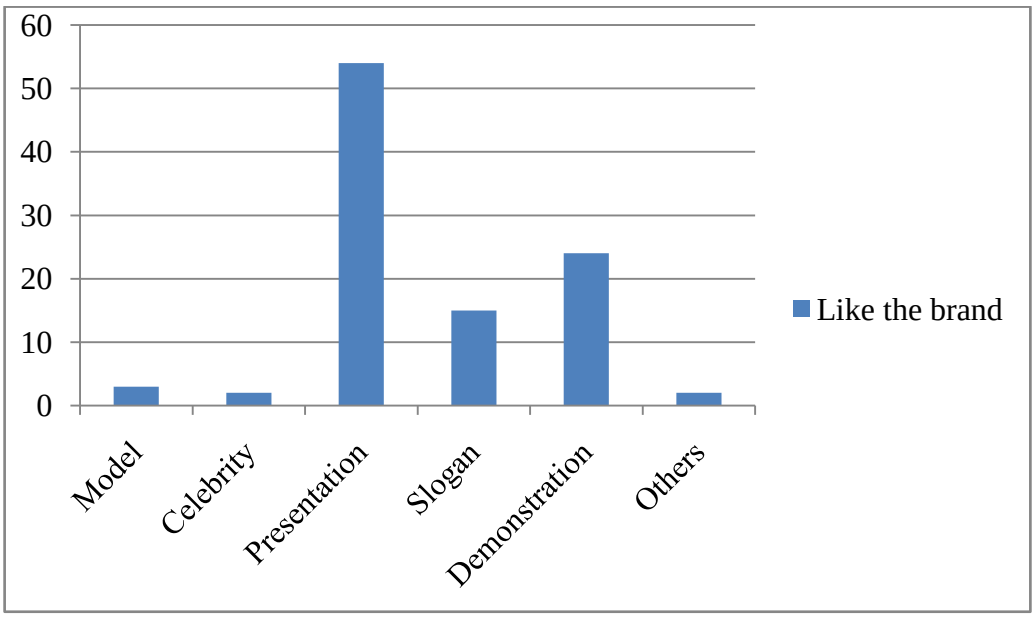

Figure 4.15 Like the advertisement

4.3.3 Rate of performance

In the study area respondent were given some variables to rank them according to their importance and performance for each variable. Data thus obtained was presented in table after scoring of given values by respondent. Every variable accept efforts to operate was very important to every respondent. Performance of every variable was less than their perceived importance.

In the study area it was found that the leakage in transmission was the factor in which respondents' perception and performance has shown significant gap and brand of tractors therefore should work on that aspect of product. Perceived value was less for this feature but the performance is also less.

Table 4.12 Rate of performance

S. No.	Particulars	Importance	Performance
1	Ease of shifting gears	500	471
2	Clutch life	500	482
3	Efforts to operate	498	476
4	Availability of suitable speeds	500	496
5	Noise in transmission	500	487
6	Leakage in transmission	200	103

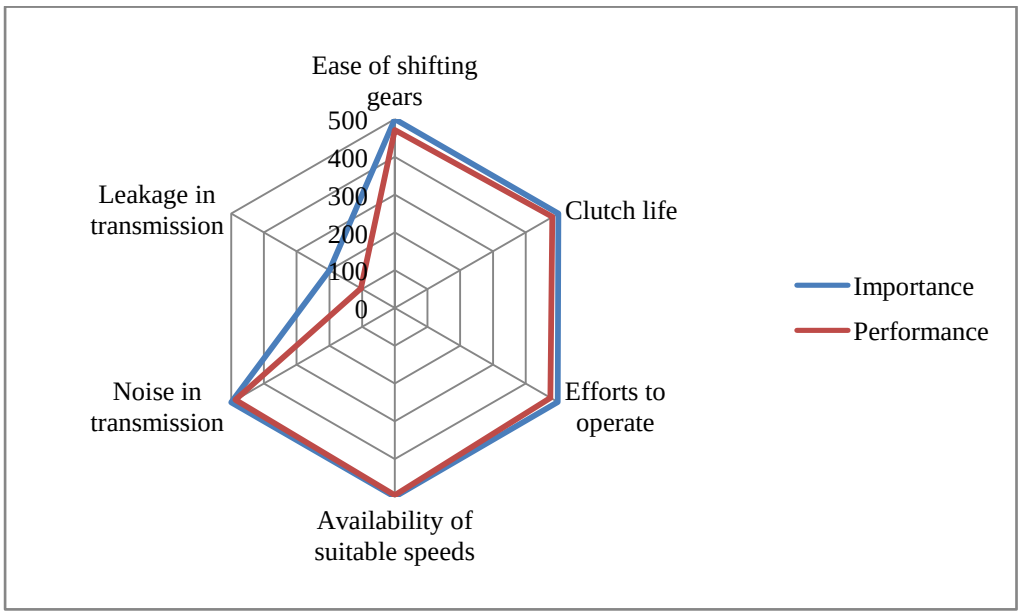

Figure 4.16 Rate of performance

4.3.4 Running cost of tractor

In the study area respondent had given some variable to rank them according to their importance and performance for each variable presented data which is shown in table is after scoring of given value by respondent, every variable was important to them but cost incurred on repairs and over hauling had maximum performance than every variables perceived value. Cost incurred for filters and other items was also important to them but perceived value was less.

In the study area it was found that the fuel consumption hours was the factor in which respondents' perception and performance has shown significant gap and brand of tractors therefore should work on that aspect of product.

Table 4.13 Running cost of tractor

S. No.	Particulars	Importance	Performance
1	Fuel consumption hours	499	484
2	Cost incurred on engine oil change	499	492
3	Cost incurred for filters and other items	500	496
4	Cost incurred on repairs and over hauling	499	496
5	Cost incurred on hydraulic oil	496	492

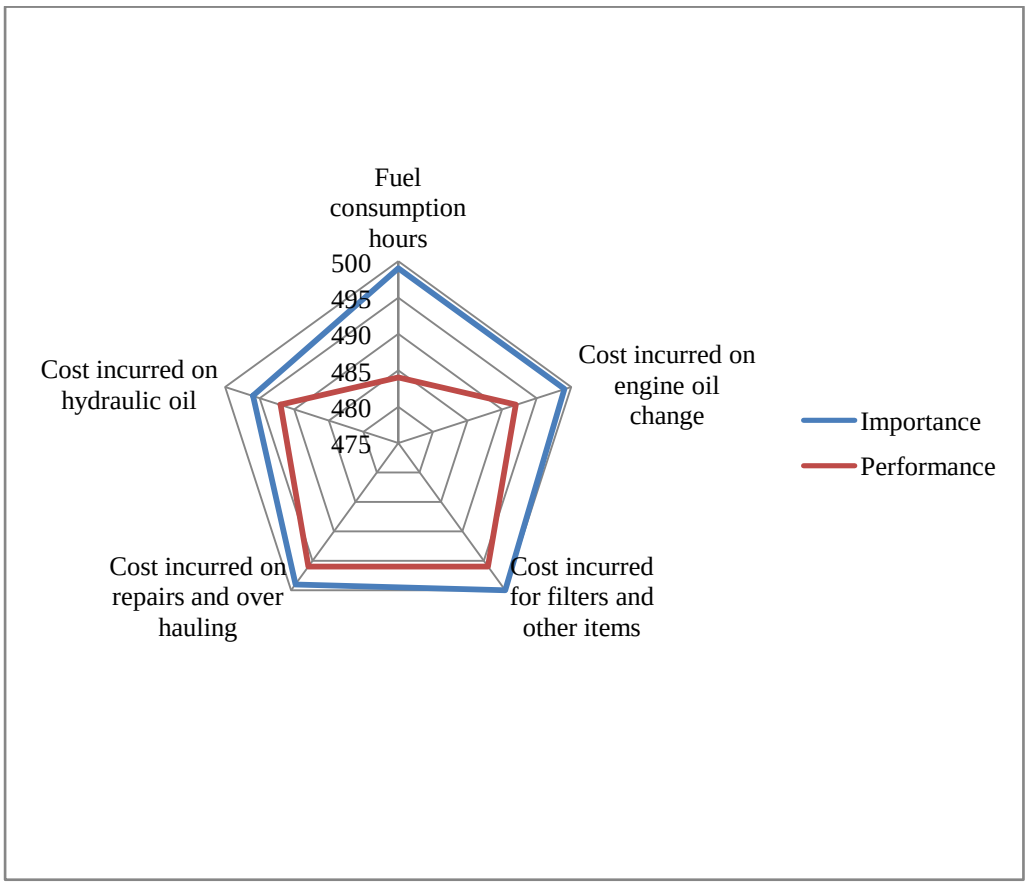

Figure 4.17 Running cost of tractor

4.3.5Comparison of own brand with Mahindra

Out of 100 respondents after leaving 26 respondents of Mahindra tractor, on different variable of tractor features it was found that the which tractor they think was better *viz.* their own tractor, Mahindra and both are equal what they think about their owned brand. About owned brand Maximum transmission (74%), each for efficiency and oil use (68%), each for pulling power and engine`s life (49%) and engine (46%), in equal ranking respondents' selected Picking capacity and twist/turn (40%) and hydraulic (39%). Mahindra's engine (27%), engine`s life (26%) and pulling power (24%) was selected by the respondents'.

Table 4.14 Comparison of own brand with Mahindra (no. of respondent)

S. No.	Particular	Equal	Mine	Mahindra
1	Engine	2	46	27
2	Efficiency	-	68	7
3	Oil use	-	68	7
4	Pulling power	2	49	24
5	Engine's life	-	49	26
6	Hydraulic	39	13	23
7	Twist/turn	40	12	12
8	Picking capacity	40	12	23
9	Transmission	-	74	1

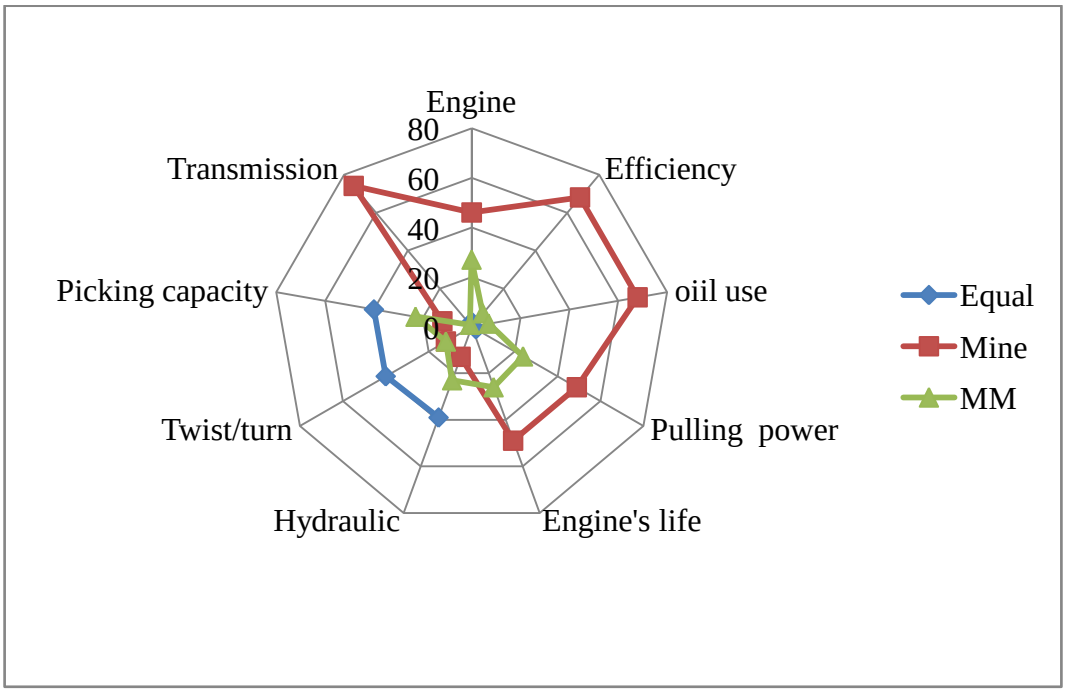

Figure 4.18 Comparison of own brand with Mahindra

4.3.6 Perceptual map of tractors brands

In order to identify perceptual positioning of different attributes, perceptual mapping using Discriminant analysis was used with the help of SPSS version 16. Output values of Standardized canonical discriminant function coefficients (table 4.15) and Functions at Group Centroids (table 4.16) were plotted on the same plot using MS-excel.

As seen from the perceptual map figure 4.20 Tafe, Mahindra and Eicher, the three tractor brands have their unique positioning on the map. In addition on the same map canonical discriminant function coefficient values of the attributes were plotted on the two dimensions (each discriminant function representing a dimension) from the table 4.15(Standardized canonical discriminant function coefficients) and 4.16 (Functions at Group Centroids). As can be seen Dimension 2 seems to comprise of after sales, price and color as their values are closer to the Y axis.. This is also evident from the Standardized discriminant coefficients for after sales (.232), price (.368) and colour (.012) on Dimension 2 from Table 4.15.

Dimension 1 seems to comprise of vector, purpose which is closest to the horizontal axis. This was also evident from the Standardized coefficients of (.527). Looks and distribution are not useful in defining any of the two dimensions, as their arrows are not closer to either of the two dimensions. The figure 4.18 (Canonical discriminnat functions) shows different brand positioning by different variables.

Dimension 2 seems to comprise of after sales, price and color as the vector of three attributes are closest to vertical axis. This is also evident from its standardized coefficient on dimension 2 from the same table. Dimension 1 seems to comprise purpose, looks and distribution on horizontal axis. While Tafe seems to be stronger on dimension 2 (after sales, price and color), none of the brands Eicher, Mahindra seem to be positioning on dimension as none of the vectors of dimension 1 are closest to their positions. Hence it is evident that in perceptual map thus created Eicher is being perceived attributes purpose, whereas none of the brands seen to be perceived for promotion & maintenance attributes.

Table 4.15 Standardized canonical discriminant function coefficients

Standardized canonical discriminant function coefficients		
	Function	
	1	2
Price	-0.36862	0.305807
Product features	-0.07651	0.077275
Finance options	-0.50111	0.277705
Purpose	0.527352	0.023147
Looks	0.31036	-0.2932
Color	0.0126	0.585431
Distribution	0.782835	-0.42646
After sales	-0.23226	0.433214
Ads and promotion	0.71168	0.351579
Maintenance	0.24935	0.321059

Table 4.16 Functions at Group Centroids

Functions at Group Centroids		
Brand	Function	
	1	2
Eicher	7.688849	0.08187
Mahindra	-0.43544	-0.76369
Tafe	-0.57159	0.57437

Unstandardlized Canonical Discriminant Functions Evaluated At Group Means

The eigen value table outputs the eigen values of the discriminant functions, it is also reveal the canonical correlation for the discriminant function. The larger the eigen value is, the more amount of variance shared the linear combination of variables the eigen values are shorted in the descending order of importance so the first one always explains the majority of variance in the relationship.

Table 4.17 Eigenvalues

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	4.140[a]	90.5	90.5	.897
2	.433[a]	9.5	100.0	.550

First 2 canonical discriminant functions were used in the analysis

Wilks' lambda test is to test which variable contribute significance in discriminant function. The closer Wilks' lambda is to 0, the more the variable contributes to discriminant function. The table also provides a chi–square statistic to test the significance of Wilks' lambda. If the p-value is less than 0.05 we can conclude that the corresponding function explain the group membership well.

Table 4.18 Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1 through 2	.136	112.812	20	.000
2	.698	20.323	9	.016

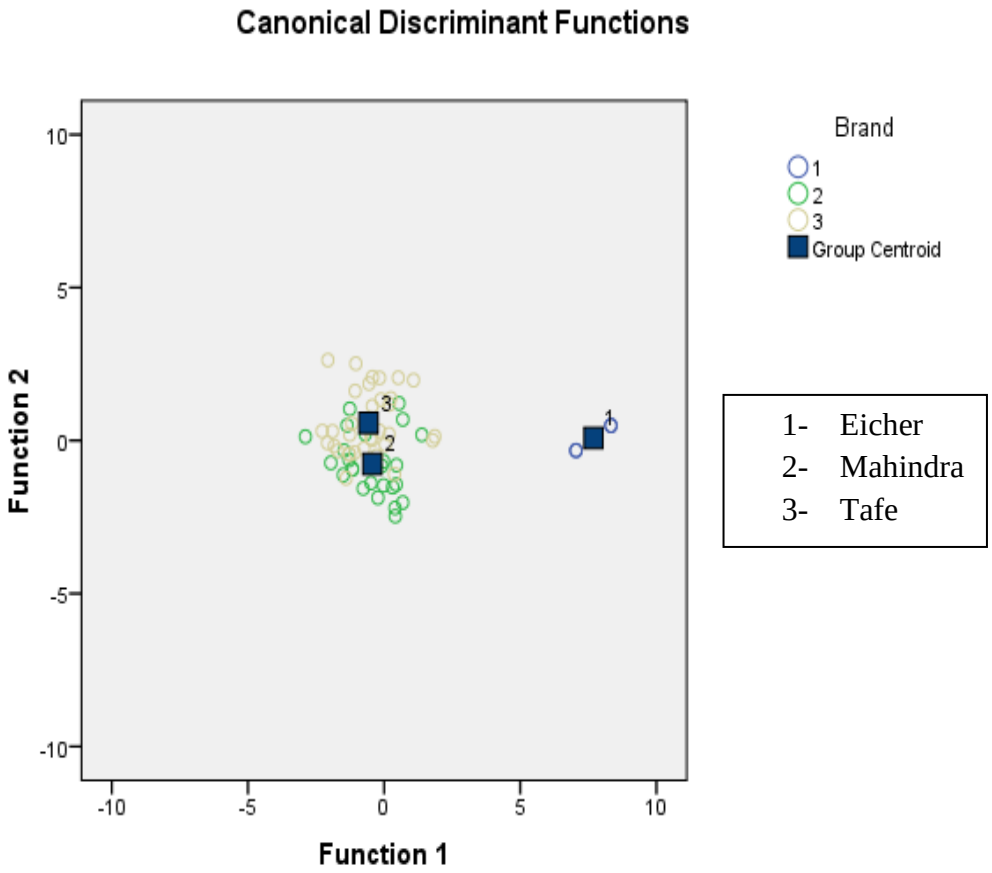

Figure 4.19 Canonical discriminnat functions

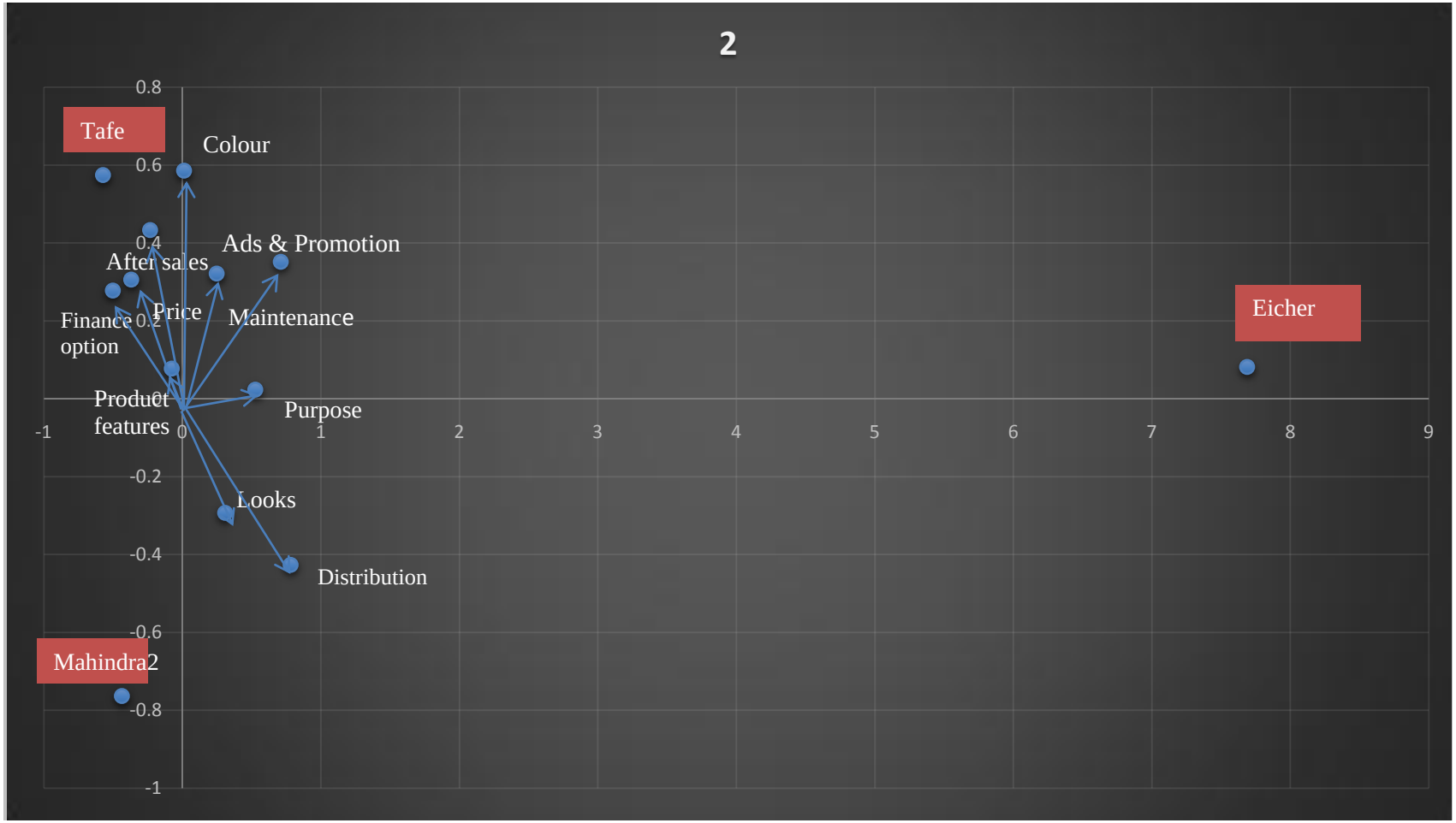

Figure 4.20 perceptual map using SPSS output

4.3.7 Reasons of choosing specific dealer

On the basis of these variable 100 respondents of the study area gave rank to the specific dealer. Two % of the respondents not preferred the dealer service, for each attributes overall past experience with dealer, speedy service, convenient location /proximity, genuine spare parts and locality and relationship with dealer (98%), for each attributes quality of service, good and experienced mechanics and bought the tractor from the dealer (97%), for each attributes only company dealer in the area of warranty services and open on convenient days and hours (95%), reasonable charges (94%), provides service facility at home (78%) and recommendations from friends/relatives(43%).

Not considered from these recommendations from friends/relatives (55%) and not provides service facility at home (19%).

Table 4.19Reason of choosing specific dealer (no. of respondent)

S. No.	Particulars	0	1	2
1	Quality of service	2	97	1
2	Overall past experience with dealer	2	98	-
3	Good and experienced mechanics	2	97	1
4	Bought the tractor From the dealer	2	97	1
5	Provides service facility at home	2	78	19
6	Speedy service	2	98	-
7	Recommendations from friends/relatives	2	43	55
8	Convenient location /proximity	2	98	-
9	Genuine spare parts and locality	2	98	-
10	Reasonable charges	2	94	2
11	Only company dealer in the area of warranty services	2	95	3
12	Open on convenient days and hours	2	95	3
13	And Relationship with dealer	2	98	-

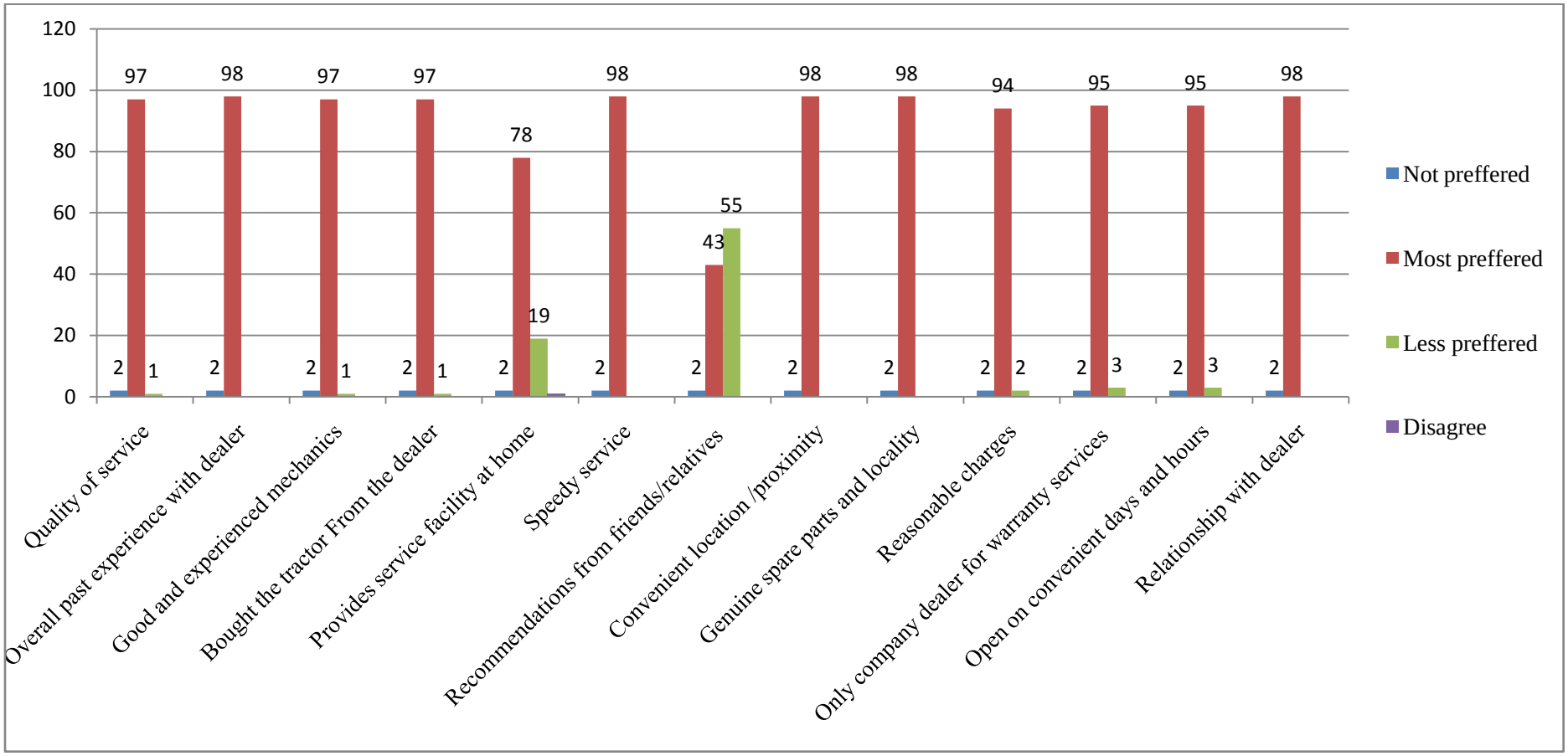

Figure 4.21 Reason of choosing specific dealer

4.4 Influence of perceived quality associated with the brand on the buying behavior for tractors

4.4.1 Evaluation of tractor

Out of 100 respondent, 96 % respondent evaluate as very good on different aspect, 3 % considered it as good and 1 % said that their tractor was average.

Table 4.20 Evaluation of tractor

S. No.	Particulars	No. of respondents
1	Very Good	96
2	Good	3
3	Average	1
4	Bad	-
5	Very Bad	-

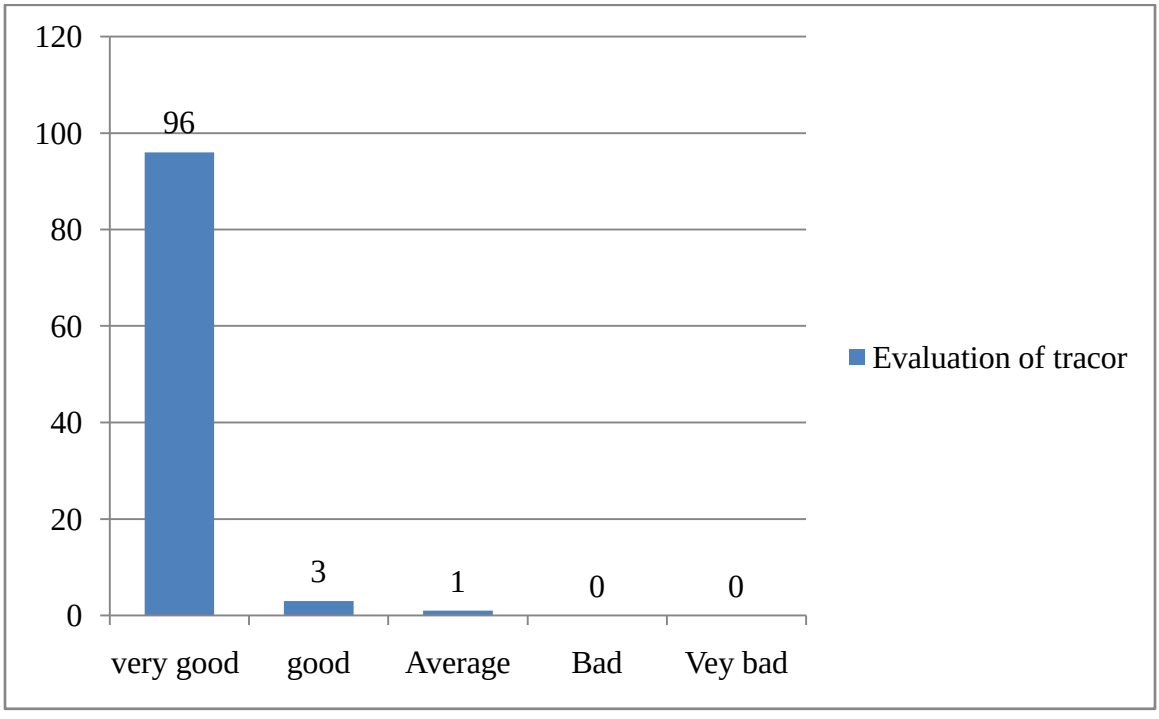

Figure 4.22 Evaluation of tractor

4.4.2 Performance of tractor

Out of 100 respondent of the study area and performance of their tractor was very good (75 %), excellent (21 %) and good (4 %) considered respondent.

Table 4.21 Performance of tractor

S. No.	Particulars	No. of respondents
1	Excellent	21
2	Very Good	75
3	Good	4
4	Average	-
5	Bad	-

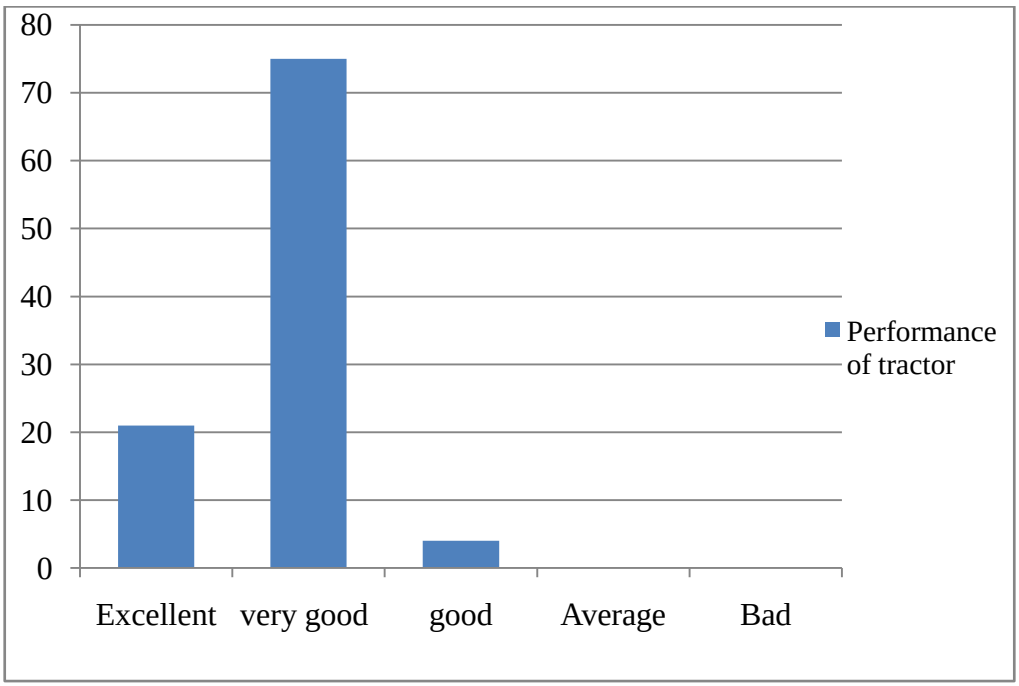

Figure 4.23 Performance of tractor

4.4.3 Advantage from owned brand

Out of 100 respondents' who got some advantage (73 %), 17 % respondent got a lot of advantage, a little advantage (9%) respondent and only not much advantage (1 %) respondent got.

Table 4.22 Advantage from owned brand

S. No.	Particulars	No. of respondents
1	A Lot Of	17
2	Some	73
3	A Little	9
4	Not Much	1
5	No advantage	-

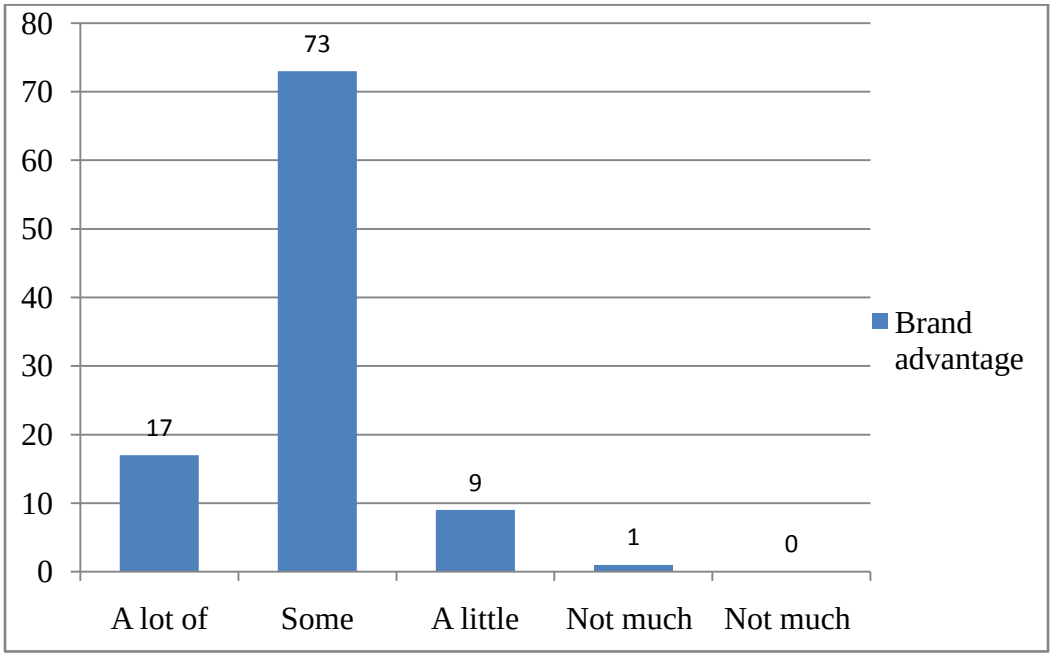

Figure 4.24 Advantage from owned brand

4.4.4 Performance of dealer service

Out of 100 respondents' got good (72%) dealer service advantage, very good (16%), fair (8%), for each excellent and poor (2 %) respondent were got dealer service advantage.

Table 4.23 Performance of dealer service

S. No.	Particulars	No. of respondents
1	Excellent	2
2	Very Good	16
3	Good	72
4	Fair	8
5	Poor	2

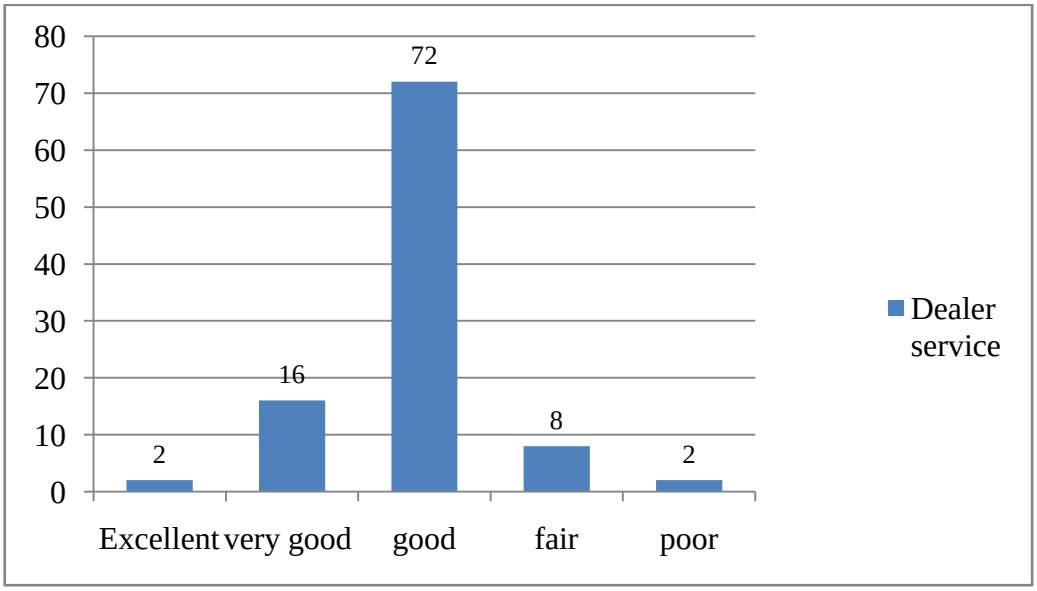

Figure 4.25 Performance of dealer service

4.4.5 Prefer same dealer for service

Out of 100 respondents' who prefer same dealer for services, probably will not (63%), probably (20%), definitely will not (9%), definitely (6%) and most probably (2%).

Table 4.24 Prefer same dealer for service

S. No.	Particulars	No. of respondents
1	Definitely	6
2	Most Probably	2
3	Probably	20
4	Probably Will Not	63
5	Definitely Will Not	9

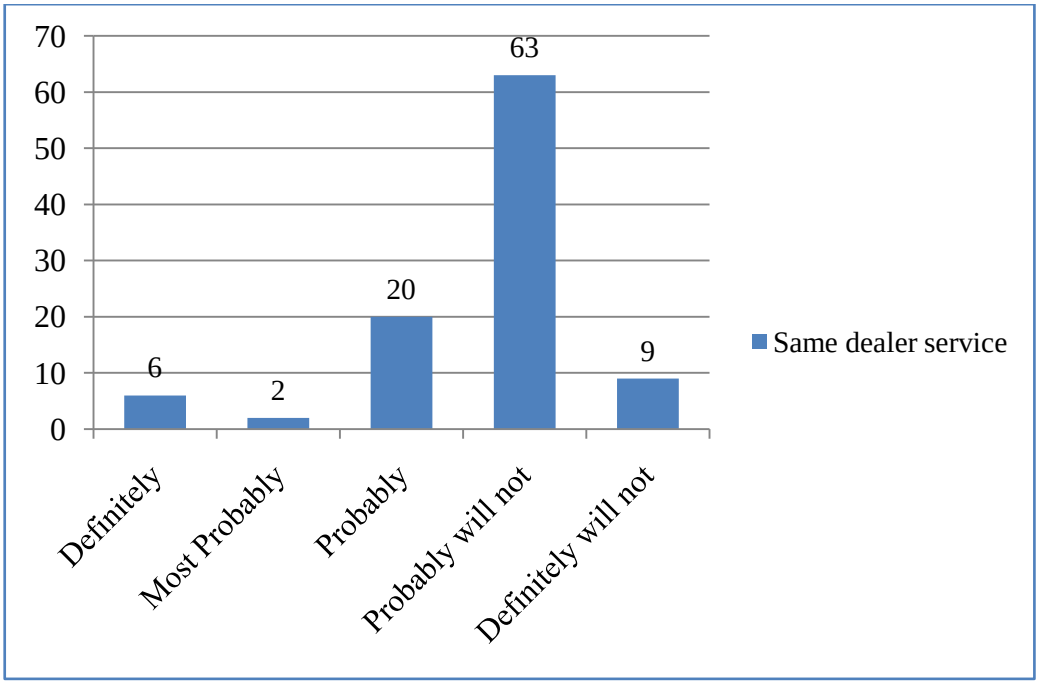

Figure 4.26 Prefer same dealer for service

4.4.6 Advantage from dealer services

In the study area out of 100 respondents' who got advantage of tractor repair from dealer, not much advantage (51%), a little advantage (35%), some advantage (12%) and not much advantage (2%).

Table 4.25 Advantage from dealer services

S. No.	Particulars	No. of respondents
1	A Lot Of	-
2	Some	12
3	A Little	35
4	Not Much	51
5	Not Much	2

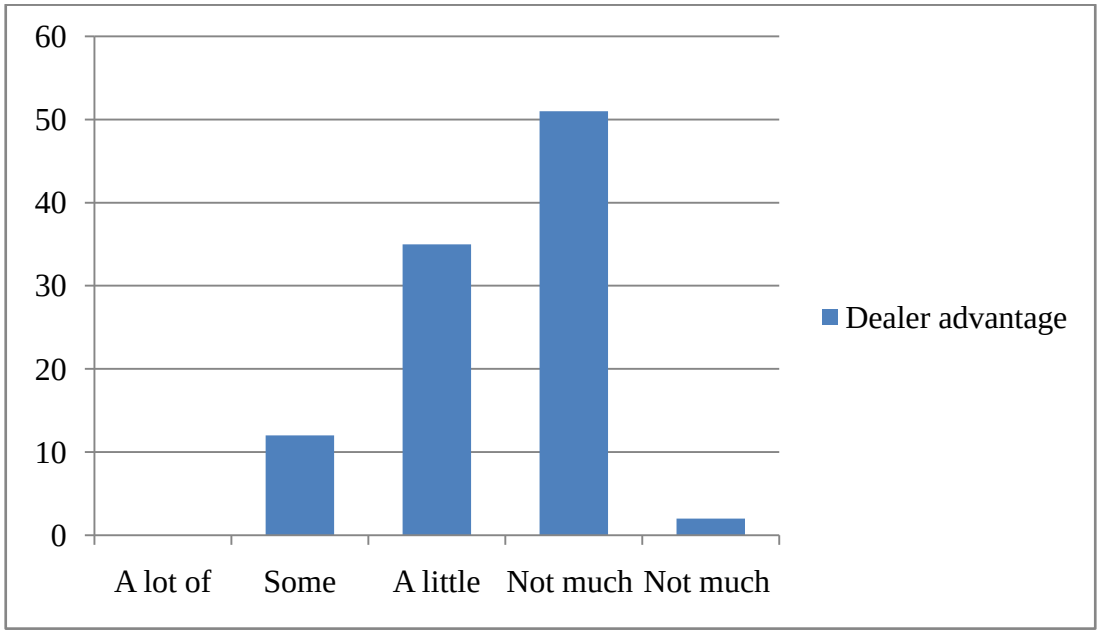

Figure 4.27Advantage from dealer services

4.4.7 Performance of tractor

In the study area respondent had given some variable to rank them according to their importance and performance for each variable presented data which is shown in table is after scaling of given value by respondent. Every variable accept leakages in engine was very important to every respondent. Performance of every variable was less than their perceived importance.

In the study area it was found that the leakage in engine was the factor in which respondents' perception and performance has shown significant gap and brand of tractors therefore should work on that aspect of product. Perceived value was less for this feature but the performance is also less.

Table 4.26 Performance of tractor

S. No.	Particulars	Importance	Performance
1	Engine's sound	450	398
2	Pulling power	481	456
3	Engie life	489	458
4	Leakages in engine	103	102
5	Engine working	456	409
6	Cosistant performance	453	404

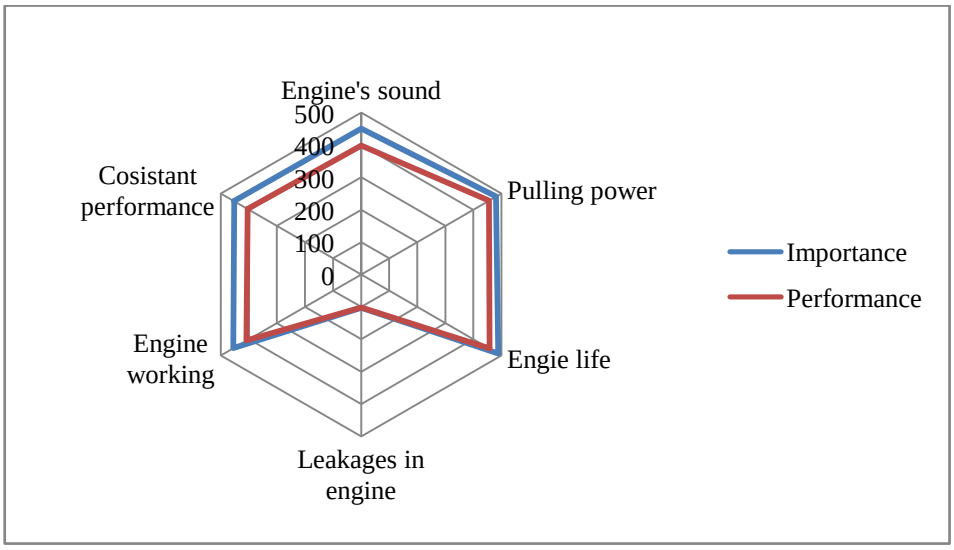

Figure 4.28 Performance of tractor

4.4.8 Comparative study with Mahindra

In this study data represent that the comparison of Mahindra tractor with the owned tractors of respondents on different heads, in high cost (19%), medium (48%) and low cost by (7%). Features in comparison with Mahindra, medium (41%), high (26%) and low (7%).

Table 4.27 Comparative study with Mahindra

S. No.	particulars	Frequency	No. of respondent
1	COST	HIGH	19
		MEDIUM	48
		LOW	7
2	COMPARE	HIGH	26
		MEDIUM	41
		LOW	7
3	FINANCE	YES	76
		NO	24
4	CONDITION	FINANCE	99
		CASH	1

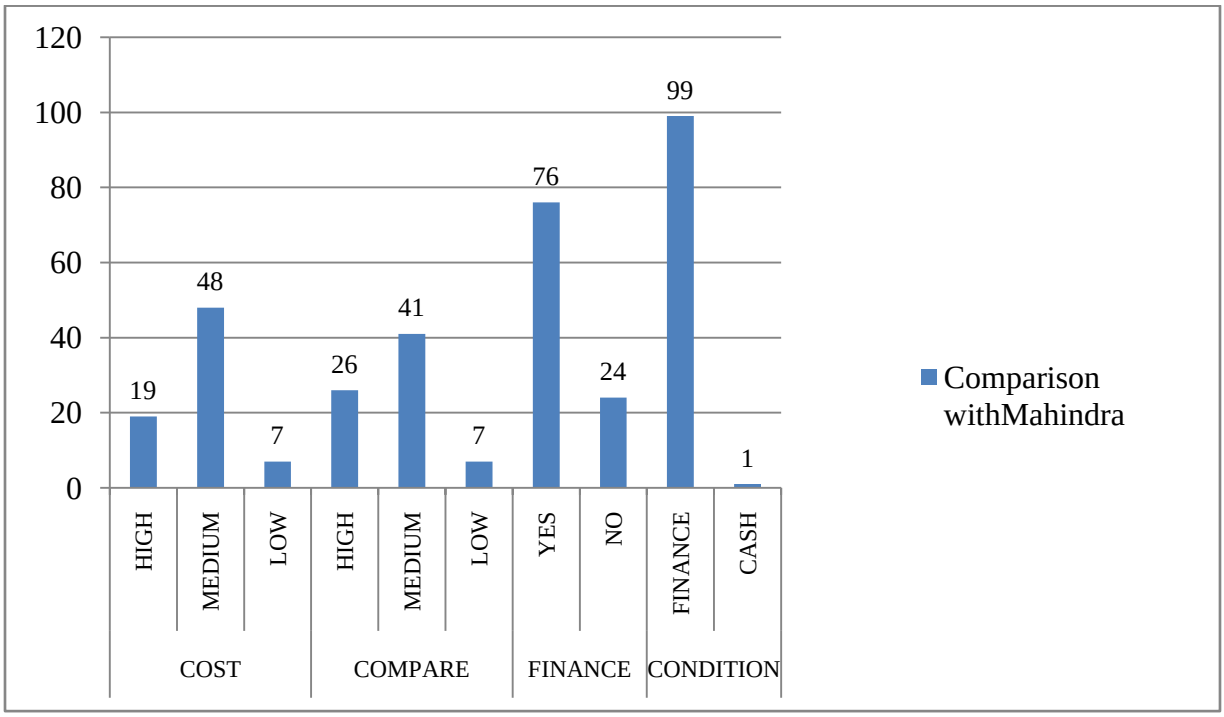

Figure 4.29 Comparative study with Mahindra

4.5 Consumer satisfaction level and provide suggestion for improving sales and profitability

4.5.1 Degree of satisfaction

Out of 100 respondents' who were satisfied (92%), very good (7%) and average (1%) respondents from their tractors.

Table 4.28 Degree of satisfaction

S. No.	Particulars	No. of respondents
1	Very Good	7
2	Satisfied	92
3	Average	1
4	Unsatisfied	-
5	Very Unsatisfied	-

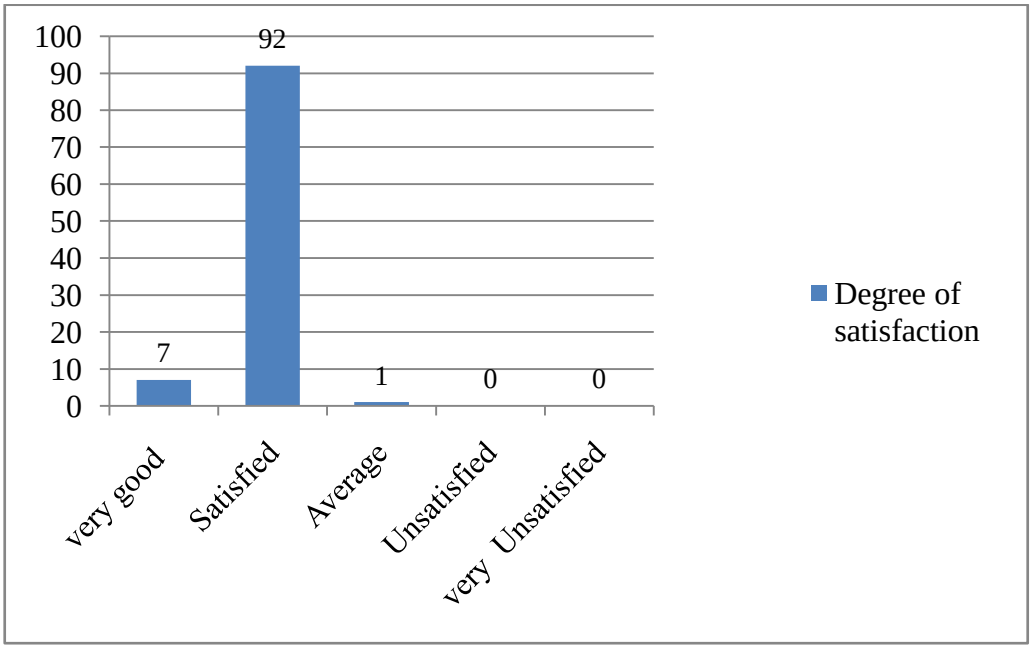

Figure 4.30 Degree of satisfaction

4.5.2 Satisfying feature for respondent

In the study area out of 100 respondents' which was the most satisfying feature for them, engine (55%), other features (19%), mileage (14%) and efficiency (12%).

Table 4.29 Satisfying feature for respondent

S. No.	Particulars	No. of respondent
1	EFFICIENCY	12
2	MILEAGE	14
3	ENGINE	55
4	OTHERS	19

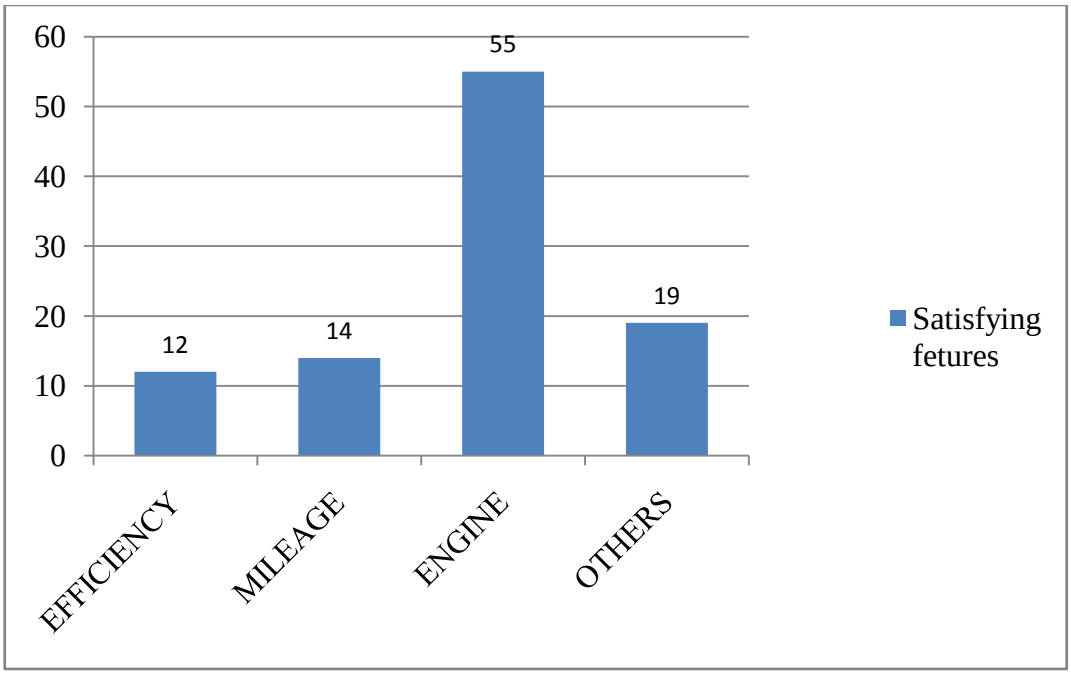

Figure 4.31 Satisfying feature for respondent

4.5.3 Possibility to buy Mahindra in future

Out of 100 respondents' of the study area who could bought Mahindra tractor or not, may be (48%), definitely yes (29%), will not buy (20%), yes (2%) and definitely no (1%).

Table 4.30 Possibility to buy Mahindra in future

S. No.	Particulars	No. of respondent
1	DEFINITELY YES	29
2	YES	2
3	MAY BE	48
4	NO	20
5	DEFINITELY NO	1

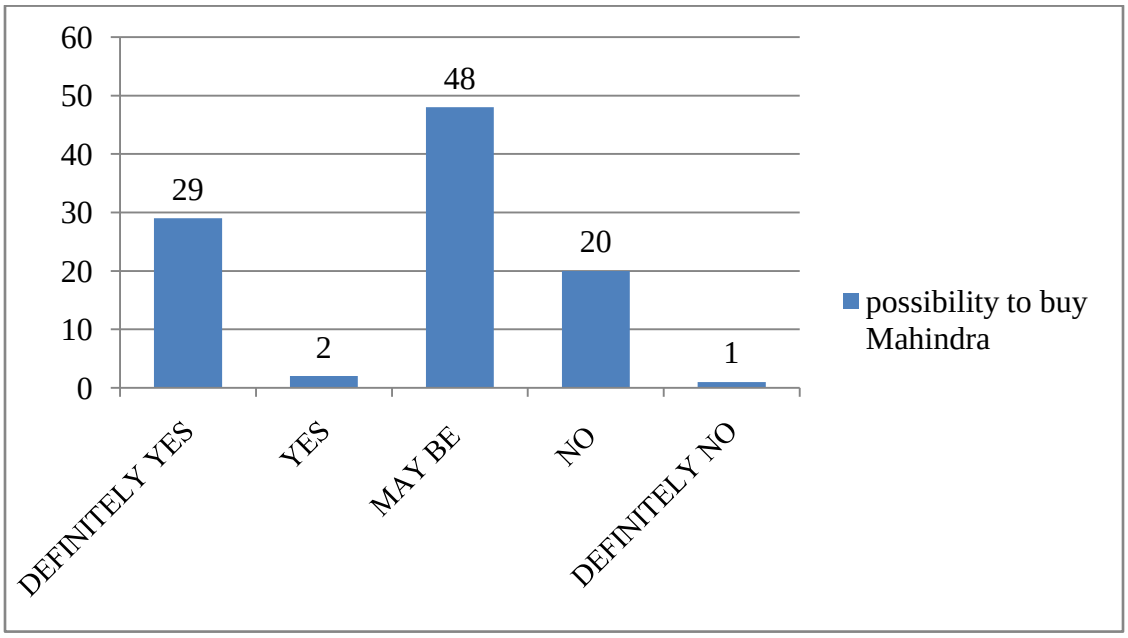

Figure 4.32 Possibility to buy Mahindra in future

4.5.4 Recommendation of own brand to others

Out of 100 respondents' of the study area who would recommended their owned brand to others, definitely (96%), each most probably and probably (2%).

Table 4.31 Recommendation of own brand to others

S. No.	Particulars	No. of respondents
1	DEFINITELY	96
2	MOST PROBABLY	2
3	PROBABLY	2
4	PROBABLY WIL NOT	-
5	DEFINITELY WILL NOT	-

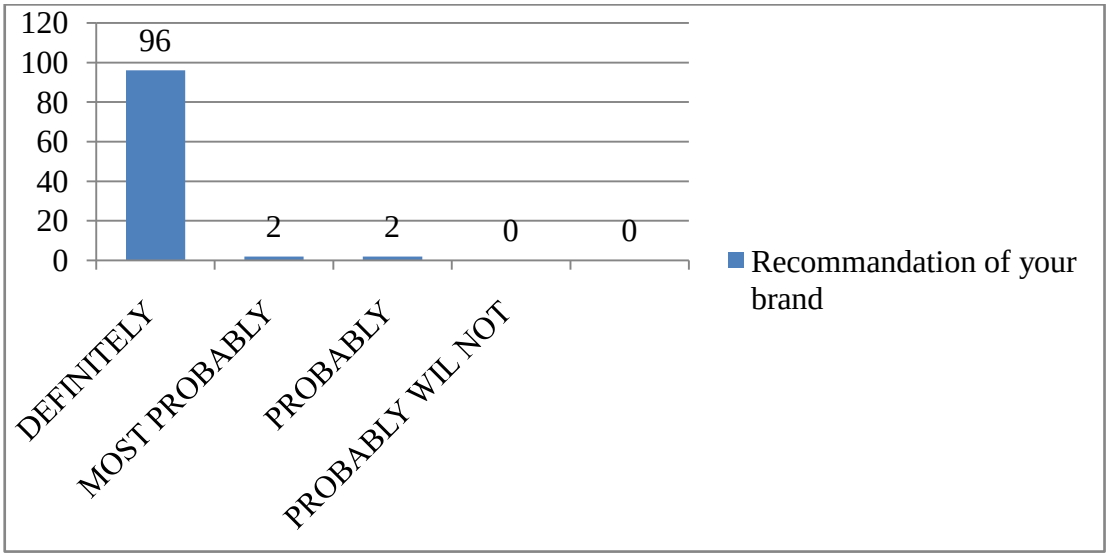

Figure 4.33 Recommendation of own brand to others

4.5.5 Preferring same brand for future

Out of 100 respondents' of the study area who had preferred same brand for future, definitely (58%), probably (22%), most probably (18%) and definitely will not (2%).

Table 4.32 Preferring same brand for future

S. No.	Particulars	No. of respondents
1	DEFINITELY	58
2	MOST PROBABLY	18
3	PROBABLY	22
4	PROBABLY WIL NOT	
5	DEFINITELY WILL NOT	2

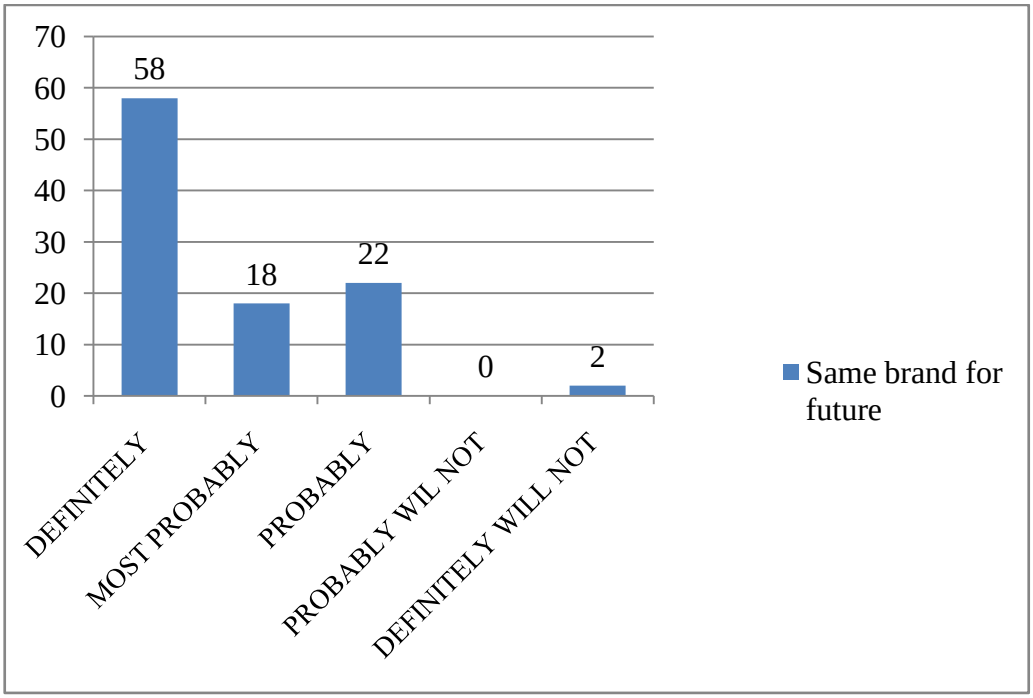

Figure 4.34 Preferring same brand for future

4.5.6 Significant changes according to respondent

In the study area it was found about 11 variables which are the most desired features they want in their tractor or it should be improved, in these variables storage space for nik nak is the feature which was given 1st rank by 48 % respondent, after that seat is the factor which was the 2nd most liked feature by 37 % respondent in category of one rank, and for the second rank seat was in 1st division given by 42 % respondent and storage space for nik nak was 2nd with 26 % respondents.

Table 4.33 Significant changes according to respondent

S.No.	Particulars									
1	Improved cabin	4	5	10	3	2	1		2	
2	AC									
3	Strage space nik nak	48	26	9	3	1		1	1	
4	Road side assistance	4	2	9	19	7	5	1	1	
5	Crop improvement package	5	6	30	16	8	3	1		
6	Market assistance		2	5	12	16	3	1	1	
7	Power steering		10	12	3	1	5			
8	Safety measures	2		9	16	12	6	2		
9	Shocker flexibility		5	7	16	18	8	2		
10	Seat	37	42	5	1	1			1	
11	Others	1		1						1

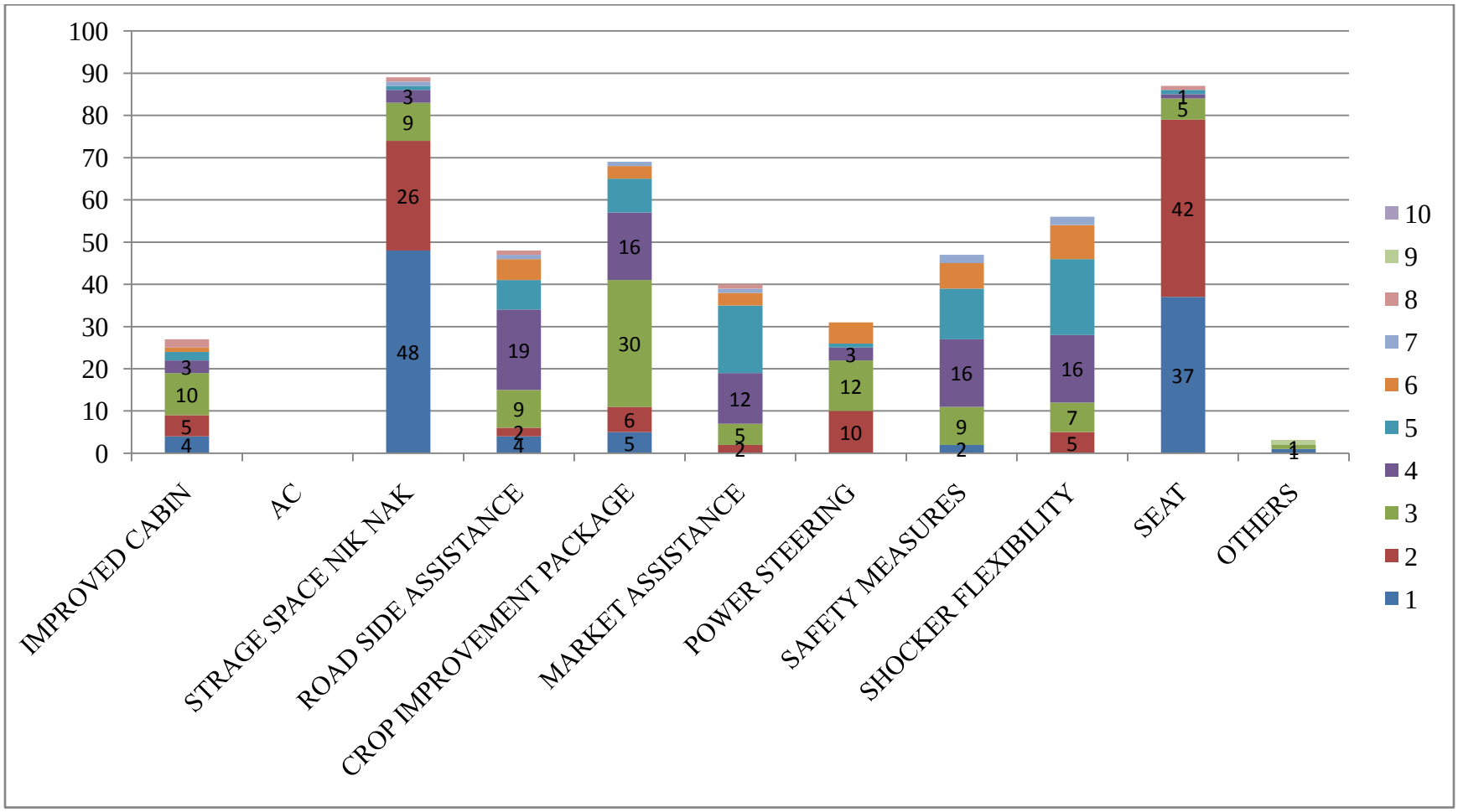

Figure 4.35 Significant changes according to respondent

CHAPTER-V

SUMMARY AND CONCLUSIONS

5.1 SUMMARY

The term consumer behavior refers to the behavior that consumers display in searching for, purchasing, using, evaluating, and disposing of products and services that they will satisfy their needs and the study of consumer behavior is the study of how individuals make decisions to spend their available resources – like time, money, effort on consumption related items.

The Jashpur district has suitable agro climatic conditions for high productivity and production of rice, black gram, mustard and forest produce. The prime causes of low productivity in Jashpur district were inappropriate adoption of agronomical practices, machinery, implements, limited irrigation facility, lack of improved varieties suitable to prevailing ecosystems and poor mechanization.

So it is required to study consumer buying behavior of tractor, the factors which affecting their perception about the product and perceived quality, different brands and their features, like or dislike by consumers. There are many brands which working on study area provides facility of their brand and have specific features and different category. So keeping this in view, investigation entitled, **"A Study on Farmers Buying Behavior for Tractors in Jashpur District of Chhattisgarh"** was undertaken during 2015 – 16 with the following objectives:

5. To study the factors influencing buying decision of farmers for tractors.
6. To know the farmer perception about various features of tractors.
7. To study the influence of perceived quality associated with the brand on the buying behavior for tractors.
8. To know the consumer satisfaction level and provide suggestion for improving sales and profitability.

The study was conducted during the year 2015-16 in Jashpur district of Chhattisgarh state. The Chhattisgarh state consists of 27 districts, out of which Jashpur district was selected purposively because it is tribal dominated and enough area under rice, black gram, mustard and forest produce. Out of total 8 blocks, 25

percent blocks (2 blocks) namely; Pharsabahar and Patahlgaon were selected purposively because of more number of tractor holding farmers. From each selected block, 10 villages are considered from each of the selected blocks 5 farmers were selected as (10×5) respondents from each block. Out of these villages 50 farmers are considered from each block for the present study.

The data were collected with the help of well structured pre-tested interview schedule through personal interview. Collected data used to estimate or analyze consumer behavior. Secondary data regarding the study area were collected from Agriculture statistics and Directorate of Agriculture Government of Chhattisgarh (2014-15). The collected data were compiled and tabular analysis is made to work out the different parameters, such as, scaling technique, gap analysis to know the gap between perceived quality and obtained quality, discriminant analysis using SPSS.

5.2 CONCLUSIONS

1. The total cropped area was observed to be 2 hectare, 4.4 hectare, 7.88 hectare and 22.74 at marginal, small, medium and large farmers respectively along with an overall land holding of the study area was 7.73 ha.
2. Mainly mono-cropping was used in 80% of area and 20% area of double cropping.
3. Literacy percent in study area was 18 percent of primary education, 59 percent higher secondary education, 16 percent undergraduate and 7 percent post graduate.
4. It was found that the different income group farmers were used different hp's of tractor, maximum no of tractor bought from tractor group 25-35 hp range tractors were more liked by 50,000- 1 lakh income group.
5. In the study area by 100 respondents had maximum number of Massy Ferguson (TAFE) tractor (34%), Mahindra (26%), Swaraj (12%), Sonalika (11%), John Deere (8%), Others (7 %)and Eicher (2%).
6. About the consideration of the brand most considered Tafe (41%), Mahindra (38%), Eicher (14%), Swaraj (5%) and John Deere (2%) considered by respondent.

7. In study area it was found that the consumer consider many factors while purchasing tractor, product feature was the one of the most considered feature and 99 percent of the respondent gave it first ranking, 96 percent respondent preferred purpose of the tractor and 89 percent considered maintenance cost as factor.
8. As per the result found related to advertisement awareness of the study area 41 percent respondents preferred farmer fair the most striking method to promote a tractor. 21 percent through TV and demonstration other methods are considered only 16 percent

And radio is only 1 percent.

9. Punch line of the tractor was the factor which was not known to the 95 percent respondent only 5 percent were aware of it.
10. To buy that particular brand respondents get knowledge of it from different sources 42 percent were get aware through friends, 41 percent from family, Company Representative / Sales Person 15 percent attached to respondent and only 2 percent were get knowledge through sources.
11. Engine was the feature which perception was highest 46 percent, power was second 21 percent, mileage was 12 percent, and Efficiency 8 percent, Handling & operation 7 percent, Maintenance cost 4 percent and other were only 2 percent.
12. Rate the performance, in this it was found that the leakage in transmission had that significant gap in his perceived value and performance, and ease of shifting gear had too difference in his perceived value and performance both had maximum difference.
13. Running cost of tractor, in fuel consumption hours there were a significant difference between its importance and performance, consumer wanted a less consumption tractor but no brand perform as their desire cost incurred on engine oil change was also a factor which had less performance.
14. It was found by comparing Mahindra with other brands different variables, transmission was the variable in which 74 percent respondent liked owned brand and in Mahindra it was only 1 percent, efficiency and oil use was the was the

factor in which 68 percent respondents for each liked their owned brand and for this features 7 percent respondents for each liked Mahindra, in pulling power and engine's life 49 percent respondent for each factor had said their brand was better and 24, 26 percent liked Mahindra respectively. For twist/ turn and picking capacity 40 percent respondent for each factor said equal. 27 percent respondent liked Mahindra's engine and 46 percent their owned tractor.

15. By using standardized canonical discriminant function coefficients and functions at group centroids were used to make perceptual map by which we could find that the Tafe is the brand which is perceived for colour, after sales and price for these attributes. Which means it performed better than Mahindra and Eicher. Mahindra and Eicher were not near to any features on their dimensions.
16. It is found that the 2 percent respondent were not prefer dealer services, average 91.23 percent respondent liked the different services of dealer, and average 6.54 percent respondent did not liked the dealer services.
17. It was found about the performance of tractors, leakages in engine was the factor which had the significant difference in its performance than perceived value after that it was engine's working and consistence performance which had significant difference between performance & importance.
18. About the Mahindra's cost 48 percent respondent thought medium, 19 percent respondent high and 7 percent respondent low. Comparing Mahindra with other brands 41 percent medium, 27 percent high and 7 percent respondent thought low.
19. 48 percent respondent wanted storage space for nik nak as a first priority and 37 percent wanted seat as significant changes according to them.
20. It is found that the tafe is the brand which preferences meet the performance on different attributes *viz.* after sales price and colour. While in price and colour perception is low but brand is performing well.

5.3 SUGGESTIONS FOR FUTURE RESEARCH WORK

1. Other brands can go to this area because only Tafe was the brand with large market share (34%), other brands available but not that much.
2. Brands had to work on different aspect finance option, advertisement & promotion and distribution to enhance their profit & share with other brands.
3. Use farmer fair to promote and create awareness among farmers' about their brand and new features.
4. Maintenance cost was the factor which affected operational cost of tractor and influenced the total budget of farmer. Therefore by providing better service. Facility particularly for oil leakage (2%), handling & operation (7%) overall cost of operation can be minimized for farmer & thus loyalty can be maintained.
5. Leakage in transmission was one of the most important features and no brand was performing well in this category.
6. Fuel consumption is the area which needs to be worked upon to improve the perception of the brand with respect to other brands.
7. As seen about Mahindra's improvement it should work on oil use, efficiency and transmission to get better result in market.
8. It was found that the only Tafe was being perceived as a brand for attributes like colour, price & after sales services whereas there were attributes which were quite important *e.g.* advertising and promotion, maintenance cost, but none of the three brands was perceived on the three aspects. Therefore promotional strategies are needed to be worked out in referred manner.
9. There is finance option and purpose and no brand is performing as perception.
10. Dealers should improve their facility to provide service at home.
11. In performance of tractor engines such as sound, consistent performance and engine working.
12. Some significant changes to improve tractors can be done by providing storage space for nik nak and made the seat more comfortable.

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APPENDIX - A

Question schedule

DEPARTMENT OF AGRI BUSINESS AND RURAL MANAGEMENT

INDIRA GANDHI KRISHI VISHWAVIDYALAYA, RAIPUR (C.G.)

"A STUDY ON FARMERS BUYING BEHAVIOR FOR TRACTORS IN JASHPUR DISTRICT OF CHHATTISGARH"

GENERAL INFORMATION:-

1. Name of farmer……2. Age……
3. Education……
4.Caste(gen/st/sc/obc)……
5.village……6.Post……
7.Tehsil…… 8.District…….
9.State……
10. Distance from market(km)…… 11. Distance from pakka road……12. Cropping pattern……..
13. Machine/tools they have……
14. Implements……
15. Company…… 16. Price ……..
17. Income…….. 18. Land acreage……..
19. Tractor is owned/ on finance……
20. Date of interview……

OBJECTIVE 1-: TO STUDY THE FACTOR INFLUENCING BUYING DECISION OF FARMERS FOR TRACTORS.

Factors which affecting buying behavior of farmers-

1. Which tractor brand do you have

SN	BRAND	VERSION	HP(horsepower)
1	Eicher		
2	Mahindra		
3	Swaraj		
4	Massey Ferguson		
5	John deere		
6	Sonalika		
7	Other		

2. Which were the Other tractors that is considered before buying your tractor

SN	BRANDS	FREQUENCY	PERCENTAGE (%)
1	Eicher		
2	Mahindra		
3	Swaraj		
4	Massey Ferguson		
5	John deere		
6	Sonalika		
7	Other		

3. Which is the most important factor in purchase of these particular tractor

SN	VARIABLE	I	II	III
1	Price			
2	Product features			
3	Finance option			
4	Purpose			
5	Looks			
6	Colour			
7	Distribution			
8	After sales process			
9	Advertising and promotion			
10	Maintenance cost			
11	If any other please specify			

I= more important, II= moderate, III= least important

4. Which of the following do you think would be most striking method to promote or advertise a tractor

SN	VARIABLE	FREQUENCY	PERCENTAGE
1	Newspaper		
2	TV		
3	Radio		
4	Demonstration at dealer's shop		
5	Launching at farmer fair		
6	Others		

5. Do the various scheme or promotional activities affect your purchase plan

YES	
NO	

6. Are you aware of the punch line of the tractor you own

BRAND	MODEL	PUNCHLINE	AWARE	UNAWARE

7. Do you agree/ disagree with the punch line of your tractor brand

AGREE	
DISAGREE	

8. How you know about that particular brand
    - News paper
    - Radio
    - Tv
    - Family
    - Friends
    - Company representative / sales person

9. Do you think your tractor brand is a successful tractor brand

YES	
NO	

10. Why do you think this is a successful/ unsuccessful brand

SN	FEATURES	FREQUENCY	PERCENTAGE
1	Engine		
2	Efficiency		
3	Mileage		
4	Power		
5	Handling & operation		
6	Maintenance cost		
7	Other		

11. Based on the price what impression do you carry about your tractor

ECONOMICAL	
COSTLY	

OBJECTIVE 2;-TO KNOW THE FARMER PERCEPTION ABOUT VARIOUS FEATURES OF TRACTORS.

12. What do you think about the promotions of tractor brand you own

SN	VARIABLE	FREQUENCY	PERCENTAGE
1	Impressive		
2	Satisfactory		
3	Unsatisfactory		

13. You like/dislike the advertisement/ promotion because of

SN	VARIABLE	FREQUENCY	PERCENTAGE
1	Model		
2	Celebrity		
3	Presentation		
4	Slogan		
5	Demonstration		

14. Now rate the performance on this aspect?

Now we will talk about transmission

IMPORTANCE					TRANSMISSION	PERFORMANCE				
1	2	3	4	5	Ease of shifting gears	1	2	3	4	5
1	2	3	4	5	Clutch life	1	2	3	4	5
1	2	3	4	5	Efforts to operate	1	2	3	4	5
1	2	3	4	5	Availability of suitable speeds for operation	1	2	3	4	5
1	2	3	4	5	Noise in transmission	1	2	3	4	5
1	2	3	4		Leakage in transmission	1	2	3	4	5

15. Now we will talk about running cost of tractor?

IMPORTANCE					RUNNING COST OF TRACTOR	PERFORMANCE				
1	2	3	4	5	Fuel consumption hours	1	2	3	4	5
1	2	3	4	5	Cost incurred on the basis of frequency of engine oil change frequency	1	2	3	4	5
1	2	3	4	5	Cost incurred for filters and other item of schedule maintenance	1	2	3	4	5
1	2	3	4	5	Cost incurred on repairs and over hauling	1	2	3	4	5
1	2	3	4	5	Cost incurred on hydraulic oil	1	2	3	4	5

16. On the basis of which factor you can compare your tractor with Mahindra

SN	FACTOR	EQUAL	MINE IS BETTER	M.M. IS BETTER

F1	ENGINE			
1	Engine fuel efficiency			
2	Oil use			
3	Pulling power			
4	Engine's life			
5	Other			
F2	HYDRAULICS			
1	Twist /turn			
2	Picking capacity			
F3	TRANSMISSION			
	Easy to operate			

17. Where do you rank the following tractor in terms of

SN	VARIABLE	BRAND	EICHER	MAHINDRA	SWARAJ	TAFE	SONALIKA	JOHN DEERE	OTHER
1	Price								
2	Product features								
3	Finance option								
4	Purpose								
5	Looks								
6	Colour								
7	Distribution								
8	After sales process								
9	Advertising and promotion								
10	Maintenance cost								
11	If any other please specify								

18. Reason of choosing specific dealer

SN	VARIABLES	FREQUENCY
1	Quality of service	
2	Overall past experience with dealer	
3	Good and experienced mechanics	
4	Bought the tractor From the dealer	
5	Provides service facility at home	

6	Speedy service	
7	Recommendations from friends/relatives	
8	Convenient location /proximity	
9	Genuine spare parts and locality	
10	Reasonable charges	
11	Only company dealer in the area of warranty services	
12	Open on convenient days and hours	
13	Relationship with dealer	

OBJECTIVE 3:-TO STUDY THE INFLUENCE OF PERCEIVED QUALITY ASSOCIATED WITH BRAND ON THE BUYING BEHAVIOR FOR TRACTORS.

19. How do you evaluate tractor
    - Very good
    - Good
    - Average
    - Bad
    - Very bad
20. What specification/ features do you feel really great in your tractor
    -
    -
    -
21. What do you think of the performance of your tractor in its quality according to your experience?
    - Excellent
    - Very good
    - Good
    - Average
    - Bad
22. Defects which you think it is in your tractor

I

II

III

IV

23. To what extent do you see personal advantage to you in buying a tractor of ……. Company rather than any other brand

A lot of advantage	Some advantage	A little advantage	Not much advantage	No advantage at all
5	4	3	2	1

24. Based on your last service (dealers name)……., how you rate performance of service/ repair,

Excellent	Very good	Good	fair	Poor
5	4	3	2	1

25. Based on overall experiences with ……., how likely are you to go to same dealer for tractor maintenance

Definitely	Most probably	Probably	Probably will not	Definitely will not
5	4	3	2	1

26. To what extent do you see distinct advantage of your tractor repair from……

A lot of advantage	Some advantage	A little advantage	Not much advantage	No advantage at all
5	4	3	2	1

27. How will you rate the performance of ……. On this aspect How we will talk about engine……..

Not important	Less important	Important	Very important	Extremely important		Poor	Fair	Good	Very good	Excellance
IMPORTANCE					ENGINE	PERFORMANCE				
1	2	3	4	5	Sound of the engine	1	2	3	4	5
1	2	3	4	5	Puling power	1	2	3	4	5
1	2	3	4	5	Engine life	1	2	3	4	5
1	2	3	4	5	Leakages in engine	1	2	3	4	5
1	2	3	4	5	Engine working for long hours without over heating	1	2	3	4	5
1	2	3	4	5	Engine working for long hours with consistent performance	1	2	3	4	5

28. On commercial aspects

SN	Factor	High	Medium	Low
1	Cost of MM tractor			
2	How you compare Mahindra with your on tractor			
3	Do you know that Mahindra provides funds by Mahindra financial services limited	yes	No	
4	What are the conditions of payment for your tractor			

OBJECTIVE 4:-

TO KNOW THE CONSUMER SATISFACTION LEVEL AND PROVIDE SUGGESTION FOR IMPROVING SALES AND PROFITABILITY.

29. Are you satisfy with your tractor
    - Yes, why
    - No, why
30. What do you think of the degree of satisfaction of your tractor
    - Very good
    - Satisfied
    - Average

- Unsatisfied
- Very unsatisfied

31. Which feature make you more satisfied
    - Efficiency
    - Mileage
    - Engine
32. What are the defects to Mahindra tractor according to your point of view
    - Bad looking
    - Hard to control
    - Bad quality
    - Obscure brand
    - High oil consumption
    - High price
    - Poor technology
    - Poor service
    - Others
33. If you have contacted Mahindra for service, were all problems resolved to your complete satisfaction
    - Yes
    - No

34. What do you think of the degree of satisfaction of Mahindra tractor
    - Very good
    - Satisfied
    - Average
    - Unsatisfied
    - very unsatisfied

35. To what extent is your possibility to buy a Mahindra when you want to buy in future
    - Definitely yes
    - Yes
    - May be
    - No
    - Definitely no

36. How likely are you to recommended your tractor company or brand to other farmers and associates who may be planning to buy a tractor

Will definitely	Will most	Probably will	Probably will	Definitely will

recommended	probably recommended	recommended	not recommended	not recommended
5	4	3	2	1

37. Assuming , you are buying a tractor today, how likely are you to buy the same tractor brand/ model tractor

Definitely will buy	Most probably will buy	Probably will buy	Probably will not buy	Definitely will not buy
5	4	3	2	1

38. Are you satisfied with the dealers incentives schemes provided to you

YES	
NO	

39. Do you think the technological changes will help boost tractor sales

YES	
NO	

40. If yes, please rate following changes according to their significance and importance or according to you company should definitely include these features in coming tractor brands

SN	VARIABLE	RANKING
1	Improved cabin	
2	AC	
3	Storage space to store nik nak	
4	Road side assistance	
5	Crop improvement package	
6	Market assistance for crop produce	
7	Power steering	
8	Safety measures	
9	Shocker flexibility	
10	Seat	
11	Any other	

APPENDIX - B
List of name of sampled farmer

Sl. No.	Farmers Name	Sl. No.	Farmers Name
1.	Lalit babdek	26.	Jogan Painkra
2.	Manoj pandey	27.	Lohar Sai
3.	Devmani pandey	28.	Ravi Painkra
4.	Sahdev patel	29.	Govind singh
5.	surendra sahu	30.	Mangal yadav
6.	Satwan pandey	31.	Sameer k.Tirkey
7.	Shivkumar bada	32.	Vijay K. Painkra
8.	Raju singh	33.	Shiv prasad Sai
9.	Bhawan yadav	34.	Mahesh sai Painkra
10.	Vinod sahu	35.	chandrashekhar painkra
11.	Ganesh yadav	36.	Nirakar Yadav
12.	Rohit Yadav	37.	Jitendra singh
13.	Ishwarchandra yadav	38.	Tapeshwar painkra
14.	Ghanshyam Yadav	39.	Rajendra sao
15.	Lalit Kalo	40.	Jayaprakash Yadav
16.	Vinay Sharma	41.	Harishankar Yadav
17.	Dharmendra Patel	42.	Madan mohan Painkra
18.	Rajkumar Bhuiya	43.	Khirodhar singh
19.	J P Tirkey	44.	Jaykumar Singh
20.	Niranjan Minj	45.	Mukta Chauhan
21.	Manbhawan Minj	46.	Paituram Bhagat
22.	Raju Chauhan	47.	Virendra singh
23.	Lalit Yadav	48.	Bhuran Sai
24.	Bhade Minj	49.	Kajal Singh
25.	Virendra Painkra	50.	Mithlesh Painkra

51.	Shyam Painkra	76.	Lalsingh Painkra
52.	Krishan Painkra	77.	Rajkumar Chakraborty
53.	Vikas K. Painkra	78.	Mahesh Painkra
54.	Arjun painkra	79.	Prakash Yadav
55.	Rajesh painkra	80.	Poonamnath Painkra
56.	Basant kumar Sai	81.	Laleet Sahu
57.	Gaurishankar Bhagat	82.	Maniram Painkra
58.	Tepsingh Painkra	83.	Ishwar Sidar
59.	Amar sai Painkra	84.	Ganesh Chaudhary
60.	Salikram Banjara	85.	Nilambar Chaudhary
61.	Rameshar Yadav	86.	Gaurishankar Chaudhary
62.	Jaylal Patel	87.	Khushiram Sharma
63.	Sagad Sai	88.	Parmanand Chaudhary
64.	Shyamlal Sidar	89.	Dharm Sahu
65.	Baneshar Yadav	90.	Purushottam Sahu
66.	Dular sai Painkra	91.	Madan lal Sahu
67.	Bachan sai Painkra	92.	Jaishankar Jhanp
68.	Vijay Singh	93.	Gulab Sai
69.	Dular singh Chaudhary	94.	Mirkavan Yadav
70.	Chhotelal Sahu	95.	Hemlal Yadav
71.	Gond Sai	96.	Ramesh Yadav
72.	Chhabil Sahu	97.	Vishwanath Painkra
73.	Madhur nath Painkra	98.	Jaitram Sahu
74.	Jaynarayan Sidar	99.	Damrudhat Yadav
75.	Ashok Painkra	100.	BhuneshwarYadav

VITA

Name : Garima Agrawal
Date of Birth : 20/05/1992
Present Address : Shree Shyam Hardware, Near Bus Stand, Village-Kotba, Block-Pathalgaon , Post-Kotba, Distt.-Jashpur Chhattisgarh Pin code – 496 220
Phone No. 9770047891
E. mail agrawalgarima313@gmail.com
Permanent address : Shree Shyam Hardware, Near Bus Stand, Village-Kotba, Block-Pathalgaon , Post-Kotba, Distt.-Jashpur Chhattisgarh. Pin code – 496 220

Academic Qualification :

Degree	Year	University/Institute
High School	2007	Chhattisgarh Board of Secondary Education, Raipur
Higher Secondary	2009	Chhattisgarh Board of Secondary Education, Raipur
B.Sc. (Ag.)	2013	Indira Gandhi Krishi Vishwavidyalaya, Raipur
MBA (AB&RM)	2014-Continued	Indira Gandhi Krishi Vishwavidyalaya, Raipur

Professional Experience:

- Rural Agricultural Work Experience (RAWE)
- Summer Internship at AMUL, Raipur, C.G.

Membership of Professional Societies: -

Awards / Recognitions: -

Publications: -

Signature