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A Study on the Challenges Faced by Agro-Input Dealers in the Cotton Growing Areas of Middle Gujarat

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Abstract – This study investigates the challenges faced by agro-input dealers in the cotton-growing regions of Middle Gujarat and examines factors influencing their business performance. Primary data were collected from 90 dealers across Vadodara, Panchmahal, and Chhotaudepur using structured questionnaires, supplemented by secondary sources such as CCI reports, ICAR studies, and relevant literature. Findings indicate that most dealers maintain product quality through direct sourcing from manufacturers and customer feedback, while supplier guidance remains key for addressing quality issues. Customer retention is primarily driven by excellent service and quality products, supported by regular follow-ups. Business growth strategies and responsiveness to customer demands significantly influence competitive advantage and sales performance, as shown by chi-square analysis. In contrast, customer relationship management and product quality management do not significantly affect retention or satisfaction, potentially due to farmers' focus on price, limited purchasing power, and low awareness or improper product usage. The study highlights the need for strengthened supplier networks, market responsiveness, and customer engagement to enhance dealer performance and ensure quality input access for cotton farmers.

Keywords - Agro-input dealers, Cotton cultivation, Middle Gujarat, Customer retention, Product quality, Business growth, Market trends, Competitive advantage,.

I. INTRODUCTION

Cotton cultivation holds a vital place in the agricultural landscape of Middle Gujarat, serving as a key source of income and livelihood for a large section of farmers. Within this system, agro-input dealers act as essential intermediaries by providing seeds, fertilizers, pesticides, and other critical inputs required for successful cotton production. Beyond supplying products, many dealers also extend their role by offering technical guidance, advice on pest and disease management, and updates on market conditions, thereby supporting farmers in making informed decisions.

Despite their importance, agro-input dealers encounter several obstacles that limit their efficiency and outreach. These include volatile input prices, restricted access to formal credit, regulatory hurdles, infrastructure shortages, and stiff competition from unorganized markets. Furthermore, issues such as supply chain disruptions, high transportation costs, and farmers' limited purchasing power create additional pressure on their operations.

Recognizing and analyzing these challenges is crucial to strengthening the agro-input delivery system. A deeper understanding will help in designing effective policies and interventions that empower dealers, improve supply chain efficiency, and ultimately ensure that farmers in cotton-growing areas of Middle Gujarat receive timely, affordable, and quality agricultural support.

II. OBJECTIVES OF THE STUDY

- To examine how customer management practices influence customer retention among agro-input dealers.
- To evaluate the role of product quality management in ensuring customer satisfaction and supporting business growth.
- To analyze how business growth strategies contribute to building competitive advantage for agro-input dealers.
- To study the effect of addressing customer demands and adapting to market trends on the sales performance of agro-input dealers.

III. LITERATURE REVIEW

Ghori et al. (2022) evaluated the Better Cotton Initiative in Pakistan and India, noting positive effects on income and input cost reduction but no improvements in labor conditions. Reddy et al. (2022) identified efficiency variations in maize marketing channels, with direct channels offering the lowest costs. Mondal et al. (2020) mapped organic cotton supply chains in Madhya Pradesh, highlighting profitability challenges and the need for interventions. Johnson et al. (2020) stressed recycling waste cotton to create value-added products, while Adhikari et al. (2020) emphasized risk-sharing mechanisms to improve coordination across cotton supply chains.

Kabish et al. (2024) found Ethiopia's cotton sector constrained by high costs, weak technology, and uneven value distribution. Outlined the multi-actor cotton chain in

Telangana, calling for a unified platform to reduce dependence on intermediaries. Arude (2023) reported that limited scientific processing of cottonseed leads to major economic losses, suggesting industrial modernization as a solution. Khumalo et al. (2023) argued that GM cotton adoption in Eswatini could stabilize production and employment. Barrett et al. (2022) underlined the growing role of agri-food value chains in the economic transformation of developing nations.

Murali and Khan (2022) found MSP, irrigation, and Bt cotton adoption as key drivers of cotton acreage in India. Pavithra et al. (2022) reported production gains from hybrid seeds but noted stagnation due to resistance issues. Suman et al. (2022) highlighted volatility in India's cotton exports, while Nikam et al. (2022) stressed farmers' information access as critical for productivity. Sharma et al. (2021) observed medium-level adoption of Bt cotton among Haryana farmers, influenced by socioeconomic factors.

Sale et al. (2024) confirmed that direct marketing channels of Bt cotton in Maharashtra improved efficiency and farmer returns. Shekhaliya and Mishra (2024) found direct farmer-to-retailer papaya channels in Gujarat to be most profitable. Naik and Mohan (2023) highlighted the importance of marketing channels and state procurement in ensuring fair prices. Duarte et al. (2022) showed how collaboration in Brazil's organic cotton sector fosters sustainability and market expansion. Khichadiya and Makadia (2020) emphasized that direct sales to CCI improved farmers' share of consumer rupee in South Gujarat.

IV. RESEARCH METHODOLOGY

This chapter presents the methodological framework used to study the challenges faced by agro-input dealers in the cotton-growing regions of Middle Gujarat. It explains the research design, study area, sampling process, data collection methods, analytical tools, and limitations.
Research Design A descriptive research design was adopted for this study, as the aim was to capture the present situation of agro-input dealers and their business environment. This approach helped in identifying their challenges, opportunities, and practices. Hypotheses were also tested to determine the association between selected variables and business outcomes.

Study Area
The study was conducted in three cotton-producing districts of Middle Gujarat—Vadodara, Panchmahal, and Chhotaudepur. These districts were chosen because they represent a significant part of the cotton belt and consist of a wide network of agro-input dealers catering to farmers of different categories.

Sampling Method and Sample Size
The sampling process involved a combination of cluster and random sampling techniques. First, major towns and market centers were selected as clusters, and from within these, respondents were randomly chosen. A total of 90 agro-input dealers were selected, representing small, medium, and large enterprises engaged in supplying inputs to cotton farmers.

Data Collection
Primary Data: Information was collected through a structured questionnaire designed with closed-ended and multiple-choice questions. The questionnaire covered areas such as product sourcing, financial and supply constraints, customer service practices, regulatory issues, and competitive strategies.

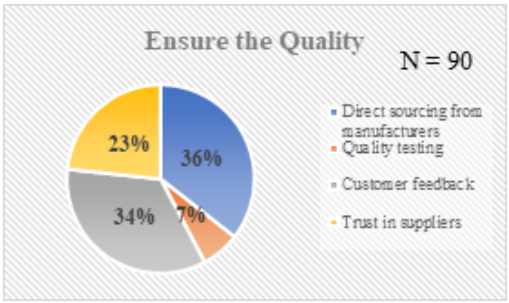
Secondary Data: Supporting information was obtained from published reports of the Cotton Corporation of India (CCI), ICAR studies, government documents, research journals, and other relevant publications.
Data Analysis
The collected data were carefully coded, tabulated, and analyzed using suitable statistical techniques.
Descriptive statistics (frequencies, percentages, and averages) were used to present the characteristics of respondents and summarize their responses.
Chi-square tests were applied to test hypotheses and identify associations between socio-economic/business variables and dealer performance.
Hypothesis Testing
The study tested hypotheses such as:
Hypothesis 1
H_1: Customer management practices have a significant impact on customer retention among agro-input dealers.
H_0: Customer management practices have no significant impact on customer retention among agro-input dealers.
Hypothesis 2
H_1: Product quality management is significantly related to customer satisfaction and business growth of agro-input dealers.
H_0: Product quality management is not significantly related to customer satisfaction and business growth of agro-input dealers.
Hypothesis 3
H_1: Business growth strategies have a significant relationship with the competitive advantage of agro-input dealers.
H_0: Business growth strategies have no significant relationship with the competitive advantage of agro-input dealers.
Hypothesis 4
H_1: Responding to customer demands and market trends has a significant relationship with the sales performance of agro-input dealers.
H_0: Responding to customer demands and market trends has no significant relationship with the sales performance of agro-input dealers.

Limitations of the Study

- The study was restricted to three districts of Middle Gujarat, which may limit the generalization of results to other cotton-growing regions.
- Some respondents were unwilling to share complete financial details, which may have affected the accuracy of findings.
- The sample size was limited to 90 agro-input dealers due to time and resource constraints, though efforts were made to include diverse categories of dealers.

V. DATA ANALYSIS AND INTERPRETATION

Ensure the Quality



Source: Primary data)

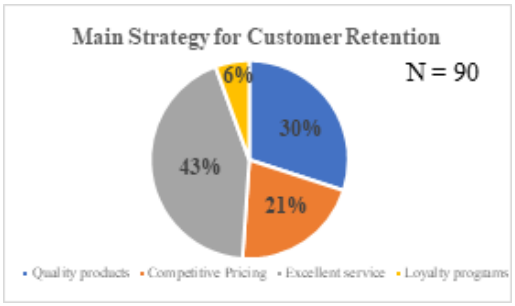
Out of the 90 agro-input dealers surveyed, most ensure product quality through direct sourcing from manufacturers (35.6%) and customer feedback (34.4%), while 23.3% rely on suppliers' credibility and only 6.7% conduct their own testing.

Issue Related to Product Quality

(Source: Primary data)

Among 90 dealers, most handle product quality issues through supplier feedback (70.0%), followed by quality testing (25.6%), while only 4.4% emphasize customer education. This shows heavy reliance on suppliers, with limited focus on direct testing and minimal attention to educating customers.

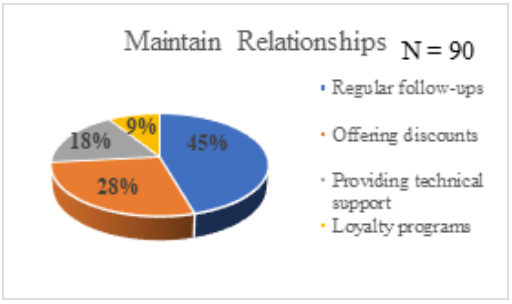
Main Strategy for Customer Retention



(Source: Primary data)

Out of 90 dealers, customer retention is mostly driven by excellent service (43.3%) and quality products (30.0%). Competitive pricing (21.1%) also contributes but to a lesser extent. Loyalty programs (5.6%) remain the least used strategy.

Customer Relationship Management



(Source: Primary data)

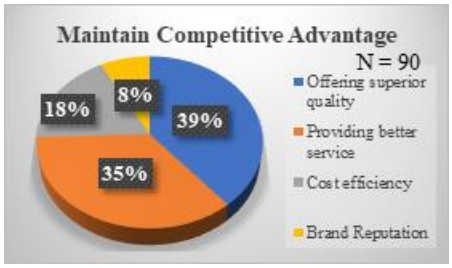
Out of 90 dealers, most maintain customer relationships through regular follow-ups (45.6%), followed by discounts (27.8%) and technical support (17.8%). Loyalty programs (8.9%) are the least used. This indicates that consistent engagement is the primary strategy, with other methods playing a supporting role.

Business Growth

(Source: Primary data)

Out of 90 dealers, most focus on enhancing customer relationships (47.8%) and expanding market reach (41.1%) for business growth. Efficiency improvements (8.9%) and product diversification (2.2%) are less emphasized. This shows that customer engagement and market expansion are the main growth strategies.

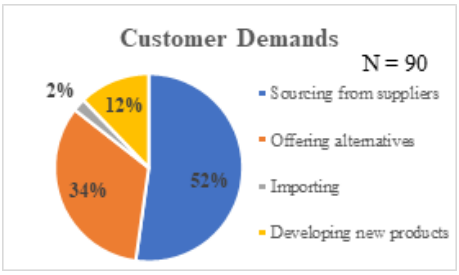
Competitive Advantages



(Source: Primary data)

Out of 90 dealers, most maintain a competitive advantage through superior quality (38.9%) and better service (35.6%). Cost efficiency (17.8%) and brand reputation (7.8%) are less emphasized. Quality and service are the main strategies for staying competitive, with less focus on branding.

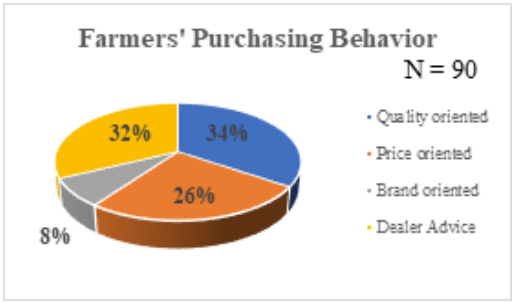
Customer Demands



(Source: Primary data)

Out of 90 dealers, most handle customer demands by sourcing from suppliers (52.2%) or offering alternatives (33.3%). Developing new products (12.2%) and importing (2.2%) are less common. This shows that dealers primarily rely on suppliers and alternatives rather than in-house development or imports.

Farmers' Purchasing Behavior



(Source: Primary data)

Out of 90 dealers, farmers mainly consider quality (34.4%) and dealer advice (32.2%) when purchasing agricultural inputs. Price (25.6%) and brand preference (7.8%) are less influential factors. This shows that product quality and trusted dealer guidance strongly drive most purchasing decisions.

Chi-Square Analysis

Association Between	Chi-Square Value	Df	Sig.	Results
Customer Relationship Management	11.209	9	0.262	The null hypothesis is accepted.
Product Quality Management	10.112	6	0.120	The null hypothesis is accepted.
Business Growth & Strategic Planning	24.204	9	0.004	The null hypothesis is rejected.
Handling Customer Demands & Market Trends	18.746	9	0.027	The null hypothesis is rejected.

(Source: Computed in SPSS by the Author)

Interpretation of Chi-Square Analysis
Customer Relationship Management

The chi-square value is 11.209 with 9 degrees of freedom and a significance level of 0.262. Since the p-value is greater than 0.05, the null hypothesis is accepted,

indicating no significant association between customer management practices and customer retention.

Product Quality Management
With a chi-square value of 10.112, 6 degrees of freedom, and a significance of 0.120, the null hypothesis is accepted. This suggests that product quality management is not significantly associated with customer satisfaction or business growth in this sample.

Business Growth & Strategic Planning
The chi-square value is 24.204 with 9 degrees of freedom and a significance of 0.004. Here, the p-value is less than 0.05, leading to the rejection of the null hypothesis. This indicates a significant relationship between business growth strategies and the competitive advantage of agro-input dealers.

Handling Customer Demands & Market Trends
The chi-square value of 18.746 with 9 degrees of freedom and a significance of 0.027 shows that the null hypothesis is rejected. This implies a significant association between how dealers respond to customer demands/market trends and their sales performance.

VI. FINDINGS

Ensuring Product Quality: Majority of dealers (35.6%) ensure quality by sourcing directly from manufacturers, with customer feedback (34.4%) also being a key method. Handling Product Quality Issues: Most dealers (70%) rely on supplier feedback to manage product quality problems. Customer Retention Strategies: Excellent service (43.3%) and quality products (30%) are the main methods for retaining customers.

Customer Relationship Management: Regular follow-ups (45.6%) are the primary approach for maintaining customer relationships. Business Growth: Enhancing customer relationships (47.8%) and expanding market reach (41.1%) are the main growth strategies. Competitive Advantage: Dealers mostly focus on superior product quality (38.9%) and better service (35.6%) to stay competitive. Responding to Customer Demands: Majority (52.2%) address new product demands by sourcing from suppliers, with 33.3% offering alternatives. Farmers' Purchasing Behavior: Most farmers consider product quality (34.4%) and dealer advice (32.2%) as key factors in purchasing inputs.

Chi-Square Analysis Highlights:
Business Growth & Strategic Planning and Handling Customer Demands & Market Trends show significant associations with competitive advantage and sales performance.

Customer Relationship Management and Product Quality Management do not show significant associations with retention or satisfaction.

Suggestions
Strengthen supplier networks and sourcing strategies to ensure consistent product quality. Focus on enhancing customer service and maintaining strong follow-up systems for better retention. Encourage business expansion through improved market reach and relationship management. Train dealers to respond effectively to customer demands, offering alternatives or new products as needed. Provide guidance to farmers emphasizing product quality and informed decision-making through trusted dealers.

VII. CONCLUSION

The study of agro-input dealers in Middle Gujarat shows that the majority of dealers maintain product quality through direct sourcing and customer feedback, while handling quality issues primarily via supplier guidance. Customer retention is mainly driven by excellent service and quality products, with follow-ups being the dominant relationship management approach.

Chi-square analysis reveals that Business Growth & Strategic Planning and Handling Customer Demands & Market Trends have a significant association with competitive advantage and sales performance, indicating that growth strategies and market responsiveness strongly influence dealer success. In contrast, Customer Relationship Management and Product Quality Management do not show significant associations with retention or satisfaction, possibly because farmers often make purchasing decisions based on price and limited purchasing power rather than service or quality alone. Additionally, limited awareness about products and improper usage may reduce the product's effectiveness and overall results.

Overall, enhancing business growth strategies, market responsiveness, supplier networks, and customer engagement is crucial for improving dealer performance and supporting farmer access to quality agro-inputs in Middle Gujarat.

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