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Study of Marketing Strategies for Hybrid Maize Seed in Samastipur District Bihar.

ITM UNIVERSITY, GWALIOR

SYNOPSIS

On

Towards Completing Some of the Requirements for the
Master of Business Administration Degree

SUBMITTED TO

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Designation

SUBMITTED BY

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MBA(Agribusiness)

CHAPTER - 1 INTRODUCTION

Zea maize Originally a wild plant, maize, often known as corn, was initially introduced to central Mexico 7,000 years ago. South America, China, and Brazil are the top three producers of maize. 68% of the 1098 million metric tons that will be produced in 2022 will come from this nation. A wide range of food items, industrial products, ethanol, and industrial fuel can be made from maize. India ranks third in terms of crop output gains. Present consumption patterns of maize include 52% for chickens, pigs, and fish feed; 24% for human use; 11% for cattle feed; and 1% for industrial.

One of the main crops farmed in the Samastipur district of Bihar, India, is maize. The area is well-known for its agricultural operations. The agricultural landscape of the district has seen a dramatic transformation with the introduction of hybrid maize seeds. Because hybrid maize seeds are more productive, more resistant to disease, and of higher quality than traditional kinds, farmers are using them more and more.

These districts, which are located north of the Ganges and include a number of seasonal river tributaries, have historically been flood-prone locations during the rainy season. Approximately half of the state's entire corn acreage is found in just seven districts: Begusarai, Khagaria, East Champaran, Bhagalpur, Madhapura, Saharsa, and Samastipur.

Each block in the research areas of Sarairanjan and Ujiyarpur has over 3200 hectares of gross cropped land, all of which are planted to maize. More land was covered during the rabi season (44%) than by the summer (15%) and kharif (48%) seasons combined. Rabi maize accounts for 69% of the production, with kharif (15%) and summer (14%), following in order of sharing the share.

The block sample utilized hang pumps and wells for irrigation, but the primary sources of water were private tube

wells and diesel pump sets. A huge population that depends on agricultural land that is submerged in water for more than half the year, from August to January, characterizes the study area. It is also prone to flooding. Low production in this season can be attributed to risk constraints in input usage. Pioneer, Buyer, Paragon, Proagro, Prabhat Seed, Bio Seed, and Local Variety are the common varieties used by farmers.

A significant amount of agricultural land was submerged in water for over six months in a row from August to January, making the studied regions prone to flooding. Low productivity during this season can be attributed to risk constraints on input utilization.

1.1 Conceptual Framework

A number of important variables that make up the conceptual framework for comprehending the dynamics of marketing have an impact on the marketing of hybrid maize seeds in the Samastipurdistrict of Bihar, India.

Agricultural Context: The demand for hybrid maize seeds is greatly influenced by the cropping patterns, agricultural techniques, and climate of the Samastipur district. The adoption of hybrid seeds by farmers is influenced by various factors, including soil fertility, pest prevalence, and water availability.

Seed Companies: The district of Samastipur's seed companies' existence and operations are essential to the sale of hybrid maize seeds. To draw in farmers and increase their market share, businesses use distribution, pricing, promotion, and product development tactics.

Law: Laws governing agriculture, seed production, and marketing have a direct bearing on the sale of hybrid maize seeds. Policies, regulations, and subsidies impact the price, accessibility, and uptake of seeds.

farmers having a thorough understanding of hybrid maize seeds, their advantages, and appropriate agronomic techniques. Farmer education is greatly aided by training initiatives, farmer demonstrations, and extension services.

Market dynamics: A number of factors, including competition, pricing trends, demand-supply dynamics, and consumer preferences, influence the marketing techniques that seed firms employ.Knowing the dynamics of the market enables businesses to adjust their tactics to suit consumer demands.

Infrastructure and LogisticsThe availability of infrastructure, particularly marketplaces, affects the marketing and distribution of hybrid maize seeds. storage facilities, and roadways. The timely distribution of seeds to farmers is ensured by effective logistics.

Dependent variable – Market share of hybrid maize seed
Independent variable- 1. Price of hybrid maize seed
2. Promotion strategies
3. Distribution channels

1.1 Literature Review

Harvesting maize seed at physiological maturity, shelling (thrested), and mechanically cleaning it with an air-screen cleaner before using a gravity separator increased field emergence and laboratory germination (Asiedu et al. 2003). As a result, there was a notable rise in maize's field emergence, pure seed, laboratory germination, and 1000-seed weight.

Kolasinska et al. (2000); Naylor, 1981). Seed sugar content, in particular the ratio of oligosaccharides to sucrose, may be utilized as a predictor of seed storability, according to Bernal-Lugo & Leopold (1995). A ratio greater than 0.2 in maize, for instance, indicates good seed storability. By raising cytoplasmic viscosity and the glass-to-liquid transition temperature, oligosaccharides may help stabilize intracellular glasses and mitigate the effects of aging (Bernal-Lugo & Leopold, 1995).

When it comes to seedling germination and establishment, temperature is crucial. Studies indicate that an increase in temperature causes a rise in the rate of hypocotyl elongation. Hatfield & Egli (1974) discovered that the rate of hypocotyl elongation in soybeans (Glycine max L.) peaked at 30°C and was incredibly slow at 10°C. According to Alm et al. (1993), the pace at which maize and soybean seedlings elongated rose as the temperature rose from 10 to 25°C.

Stressful environmental conditions during seed production can result in decreased vigor and germination, which drives up seed prices and restricts the amount of premium seed available to growers. According to Spears et al. (1997), moisture stress and high or low temperature stress are common environmental factors that affect seed growth and maturation.

The main biological function of seeds, according to Ellis et al. (1993), is to reproduce the species by effectively completing germination and restarting plant growth. Native species have built-in mechanisms that control when they can germinate; these mechanisms frequently postpone or time germination to occur when growth circumstances are ideal. Certain mechanisms have been lost in domesticated crops, but not all of them, and crop seed germination has typically been strongly selected for quickly and uniformly. They added that although both biological and environmental variables might lower seed quality, high-quality planting seed is essential for effective crop production.

1.1 Rationale of the Study

There are various reasons why the marketing of hybrid maize seeds in the Samastipur area of Bihar, India, warrants investigation.

Contribution to Agricultural Development: A major factor in raising farmer incomes and agricultural production in Bihar is the use of hybrid seeds for maize ,as the crop is a mainstay there. In order to encourage hybrid maize seed acceptance and support regional agricultural growth, it is imperative to comprehend the marketing dynamics of these seeds.

Economic Impact: Farmers, seed firms, and the whole economy are all affected financially by theselling of hybrid maize seeds. An understanding of the financial advantages and difficulties related to the manufacturing and using hybrid corn seeds can be gained by examining the marketing tactics and their effects.

Policy Implications: The commercial environment for hybrid maize seeds is greatly influenced by government policy. Policymakers can learn about the efficacy of current policies and assist increating new ones to encourage the adoption of hybrid seeds by researching the marketing of hybrid Maize Seeds.

Market Dynamics: The demand-supply dynamics, pricing trends, and competition all have animpact on marketing tactics in the dynamic market for hybrid maize seeds. Researching thesefactors can give seed firms important information for creating winning marketing campaigns.

Farmer Welfare: A major player in the hybrid maize seed business is the farmer. Seed firms maybetter serve farmers and enhance their livelihoods by understanding their requirements.

Knowledge Gap: Although hybrid maize seeds are crucial to Bihar's agriculture, thorough research on the marketing aspects of these seeds in the Samastipur district is lacking. This study aims to bridge this knowledge gap and provide useful information to scholars, practitioners, and policymakers.

1.1 The study's objectives

To know the relationship between rate of adoption of hybrid maize seeds and the degree offarmer awareness of their advantages.

To know the effect of market elements influencing farmers' decisions to embrace hybrid maize seeds

To know the effect of marketing techniques used by seed companies. On The acceptance ofhybrid maize seeds

1.2 Hypothesis of the Study

There is a significant correlation between The adoption rate of hybrid seed corn and thedegree of farmer awareness of their advantages.

farmers' decisions to embrace hybrid maize seeds are influenced by market factors such as pricing tactics, competition, and availability of the seeds.

The acceptance of hybrid maize seeds is influenced by the success of the marketing techniquesused by seed companies.

Chapter - 2 RESEARCHMETHODOLOGY

2.1 The Study. The study adopts Quantitative approach.

2.2 The Sample Design.

2.2.1 Population. Farmers of Samastipur district in Bihar

2.2.2 Sample Size. 220 Farmer

2.2.3 Sample Frame. All the farmers who are involved in various maize crops in theUjiyarpur and Sarairanjan Block region.

2.2.4 Sampling Technique. Quantitative

3 Gathering Data: The main approach to gathering data will be adopted by the richer. Printed copy of questionnaire will be distributed among the respondents. Four-point Likert scale will be used to collect the responses.

3.1 Tool Use for Data Analysis

I will use the following tool for Data Analysis

- Reliability test
- Regression
- ANOVA Test
- Coefficient Test
- Correlation

Chapter 3 – Result & Discussion

Results

Reliability Test

Reliability test

Independent variable 1

Reliability Statistics	
Cronbach's Alpha	N of Items
672	

Independent variable 2

Reliability Statistics	
Cronbach's Alpha	N of Items
743	

Independent variable 3

Reliability Statistics	
Cronbach's Alpha	N of Items
734	

Dependent variable

Reliability Statistics	
Cronbach's Alpha	N of Items
742	

- **Independent Variables:** The Cronbach's ,Alpha coefficient values for all independent the variables are up above
- .7, indicating good reliability:
  - Independent variable 1: .672 (2 items)
  - Independent variable 2: .743 (2 items)
  - Independent variable 3: .734 (2 items)
- **Dependent Variable:** The Cronbach's Alpha for the dependent variable (Market share of Hybrid Maize Seed) is .742, indicating good reliability across the two item

Regression

Variables Entered/Removed

Model	Variables Entered	Variables Removed	Method
	Distribution Channel, Price of Hybrid maize seed, Promotion Strategies		Enter

. Dependent Variable: Market share of Hybrid Maize Seed
. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	750	562	556	3994

. Predictors: (Constant), Distribution Channel, Price of Hybrid Maize eed, Promotion Strategies

Model Summary:

- The model explains approximately 56.2% of the variance in Market Share of Hybrid Maize Seed with an R-squared value of .562.

The adjusted R-squared value is .562, suggesting that the model is a good fit for the data

Anova test

Model		um of Squares	OF	Mean Square		ig.
	Regression	24.622		4.874	2.566	000[b]
	Residual	74.717	16	309		
	Total	99.340	19			

. Dependent Variable: Market Share of Hybrid Maize Seed

. Predictors: (Constant), Distribution Channel, Price of Hybrid Maize seed, Promotion trategies.The F-value of 92.566 with a significance level of .000 indicates that the egression model is statistically significant.

Coefficient test

Model		Unstandardized Coefficients		tandardized Coefficients		
		3	td. Error	Beta		ig.
	Constant)	398	163		.437	016
	rice of Hybrid Maize Seed	212	070	202	.053	003
	romotion Strategies	174	073	164	.377	018
	istribution Channel	498	063	480	.877	000

. Dependent Variable: Market Share of Hybrid Maize Seed

- **Distribution Channel:** This variable has the highest standardized coefficient (Beta = .480) and is statistically significant (Sig. = .000), indicating that Distribution Channel significantly influences Market Share of Hybrid Maize Seed
- **Price of Hybrid Maize Seed:** This variable also has a significant positive effect on Market Share of Hybrid Maize Seed (Beta = .202, Sig. = .003).

- **Promotion Strategies:** This variable has a positive effect on Market Share of Hybrid Maize Seed (Beta = .164, Sig. = .018) but to a lesser extent compared to Distribution Channel and Price of Hybrid Maize Seed.

Correlation

		rice of Hybrid Maize eed	romotion Strategies	istribution Channe	Market Share of ybrid Maize See
rice of Hybrid Maize Seed	earson Correlation		708**	502**	507**
	ig. (2-tailed)		000	000	000
		20	20	20	20
romotion trategies	earson Correlation	708**		540**	514**
	ig. (2-tailed)	000		000	000
		20	20	20	20
istribution hannel	earson Correlation	502**	540**		706**
	ig. (2-tailed)	000	000		000
		20	20	20	20
Market Share of ybrid Maize See	earson Correlation	507**	514**	706**	
	ig. (2-tailed)	000	000	000	
		20	20	20	20

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

- All independent variables (Price of Hybrid Maize Seed, Promotion Strategies, Distribution Channel) show strong positive correlations with each other and with Market Share of Hybrid Maize Seed.
- The highest correlation is observed between Distribution Channel, and Market Share of Hybrid Maize Seed (r = .706, Sig. = .000).

Discussion

❖ **Price of hybrid maize seed:**

- **Market Analysis**: Understand the current market price of hybrid maize seeds in the region. Research competitors' prices and identify the average price range.
- **Value Proposition**: Highlight the unique features and benefits of your hybrid maize seeds that justify their price, such as higher yield, disease resistance, or better quality.
- **Segmentation**: Consider segmenting the market based on farm sizes or farmer categories to offer different pricing tiers.
- **Promotions**: Offer seasonal discounts, bulk purchase discounts, or loyalty programs to attract and retain customers.

❖ **Promotion strategies**:

- **Digital Marketing**: Utilize social media, websites, and targeted online ads to reach farmers and agricultural

stakeholders.

- **Demonstrations and Field Days**: Organize events showcasing the benefits of your hybrid maize seeds, with live demonstrations and expert talks.
- **Partnerships**: Collaborate with agricultural extension services, universities, or government agencies to promote your seeds through workshops, training programs, or demonstration plots.
- **Branding**: Develop a strong brand identity and messaging that resonates with farmers, highlighting the reliability and performance of your hybrid seeds.

❖ **Distribution channels:**

- **Retailers and Agri-input Dealers**: Establish partnerships with local retailers and agri-input dealers in Samastipur District to ensure widespread availability of your seeds.
- **Direct Sales**: Explore the option of selling directly to farmers through your sales team or online platforms, offering convenience and personalized support.
- **Cooperatives and Farmer Groups**: Collaborate with farmer cooperatives or groups to distribute seeds and provide technical assistance, leveraging their network and trust within the farming community.

❖ **Challenges.**

- **Awareness and Education**: Farmers may be accustomed to traditional seeds or unaware of the benefits of hybrid varieties. Invest in education and awareness campaigns to showcase the advantages.
- **Infrastructure**: Address logistical challenges such as transportation and storage to ensure timely and efficient delivery of seeds to rural areas.
- **Competition**: Competing with established seed brands requires differentiation through superior quality, agronomic support, and targeted marketing efforts.
- **Regulatory Compliance**: Ensure compliance with seed certification and quality standards mandated by government agencies to build trust and credibility among farmers.
- By addressing these aspects strategically, you can develop a robust marketing plan tailored to the specific needs and dynamics of the hybrid maize seed market in Samastipur District, Bihar.

Chapter 4 – Implication & Limitation

IMPLICATIONS

The study of marketing strategies for hybrid maize seed in Samastipur District, Bihar, carries several implications for both agricultural stakeholders and the local economy. Firstly, a focus on hybrid maize seed marketing suggests a shift towards modern agricultural practices, potentially leading to improved crop yields and farmers' incomes. This could contribute to food security and economic stability in the region.

Effective marketing strategies can also promote awareness and adoption of hybrid seeds among farmers, encouraging them to invest in better-quality inputs. This shift may necessitate educational campaigns and support systems to ensure farmers understand the benefits and techniques associated with hybrid seed cultivation.

From a broader perspective, successful marketing of hybrid maize seeds in Samastipur District can serve as a model for other regions, fostering agricultural development and sustainability across Bihar and beyond. Overall, the implications extend beyond mere marketing to encompass agricultural productivity, economic growth, and food system resilience.

LIMITATIONS

When delving into the study of marketing strategies for hybrid maize seeds in Samastipur District, Bihar, several limitations might be encountered. One major limitation could be the lack of historical data or comprehensive market research specific to this region. Without a solid foundation of past trends and consumer behaviors, it becomes challenging to accurately forecast demand or assess the effectiveness of different marketing approaches.

Another significant limitation could be the limited reach of modern communication channels in rural areas of Bihar. While digital marketing and online platforms can be powerful tools, their impact might be limited in areas with poor internet connectivity or low digital literacy rates. This can hinder efforts to effectively promote hybrid maize seeds and engage with potential customers.

The socio-economic diversity within the district can also pose challenges. Different segments of the population may have

varying levels of awareness about hybrid seeds, agricultural practices, and purchasing power. Tailoring marketing strategies to effectively target and resonate with each segment requires in-depth market segmentation and customized approaches, which can be resource-intensive and time-consuming.

Logistical challenges such as transportation infrastructure and distribution networks can also impact marketing strategies. Ensuring timely availability of seeds, especially during planting seasons, and reaching remote rural areas efficiently require robust logistical planning and execution. Any disruptions in these supply chains can directly affect market penetration and customer satisfaction.

Moreover, regulatory constraints and agricultural policies can influence marketing strategies for agricultural products. Compliance with quality standards, certifications, and licensing can add layers of complexity and cost to marketing activities, especially for smaller-scale producers or new market entrants.

Chapter 5 – Conclusion

The study of marketing strategies for hybrid maize seed in Samastipur District, Bihar, provides valuable insights into the dynamics of agricultural marketing in a specific region. Through a comprehensive analysis of various marketing approaches and their impact on the adoption and sales of hybrid maize seeds, several key conclusions can be drawn.

Firstly, it is evident that targeted marketing strategies tailored to the local agricultural practices and socio-economic conditions play a crucial role in promoting the adoption of hybrid maize seeds. Farmers in Samastipur District, like in many other agricultural regions, prioritize factors such as yield potential, pest resistance, and adaptability to local climatic conditions. Therefore, marketing efforts focusing on these key benefits are more likely to resonate with the target audience and drive sales.

Secondly, the study highlights the importance of effective distribution networks in ensuring the availability of hybrid maize seeds to farmers in remote or underserved areas. Access to quality seeds, timely availability during planting seasons, and support services such as technical guidance and training significantly influence farmers' decisions regarding seed purchases. Strengthening distribution channels through partnerships with local agro-input retailers, cooperatives, and agricultural extension services can enhance market penetration and customer satisfaction.

Furthermore, the role of information dissemination and education emerges as a critical factor in promoting hybrid maize seed adoption. Awareness campaigns, demonstration plots, farmer training programs, and peer-to-peer networks all contribute to increasing farmers' knowledge about the benefits of hybrid seeds and best agronomic practices. Building trust and credibility through transparent information sharing and showcasing success stories of adopters can further boost confidence among potential buyers.

Additionally, the study underscores the need for continuous monitoring and adaptation of marketing strategies based on market feedback, technological advancements, and changing farmer preferences. The agricultural sector is dynamic, and successful marketing strategies must evolve accordingly to remain relevant and competitive.

In conclusion, the study emphasizes the importance of a holistic and customer-centric approach to marketing hybrid maize seeds in Samastipur District, Bihar. By aligning product attributes with farmer needs, improving access and availability, enhancing information dissemination, and fostering ongoing innovation, stakeholders can contribute to sustainable agricultural development and improved livelihoods in the region.

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