Report On

Impact of digital marketing uses in agro sector: A case study of Bogura Vegetable market

Submitted by
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An internship report submitted to the Brac Business School in partial fulfillment of the requirements for the degree of
Bachelor of Business Administration

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Declaration

It is hereby declared that

1. The internship report submitted is my/our own original work while completing degree at Brac University.
2. The report does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The report does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I/We have acknowledged all main sources of help.

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Letter of Transmittal

19 January 2023

Md. Shamim Ahmed

BRAC Business School

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Subject: Submission of case study Report

Dear Sir,

With due respect, I would like to inform you that, I am a student of BRAC Business School, BRAC University. It is an absolute pleasure for me to submit the case study report titled 'Impact of digital marketing uses in agro sector: A case study of Bogura Vegetable market' which has done as a part of the fulfillment of the requirements for the degree of Bachelor of Business Administration. Your guideline has been followed in every aspect of preparing this report. I have really enjoyed working on this report and I have tried my level best to make an effective report. This report is focuses on both theoretical and practical knowledge.

Within the title limit I have made this report as comprehensive as possible. But there may be some mistakes due to various limitations. So, I beg your kind consideration in this regard. I hope that my work would meet the level of your expectation. Any query on this report is appreciated.

Sincerely yours,

Md. Rafiul Islam
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BRAC Business School

Acknowledgement

At first I would like to thank almighty Allah for giving me the opportunity, strength, patience and knowledge for completing my internship. My gratitude goes to entire BBS Department of BRAC University for arranging Internship Program that facilitates integration of theoretical knowledge with real life situation. Also, I would like to give my special thanks to my academic supervisor Md. Shamim Ahmed from the deepest corner of my heart for providing encouragement and valuable direction. I would also like to give thanks to my seniors, juniors and my classmates and colleagues for their help, advice, and suggestions, inspiration and support.

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ABSTRACT

The government of Bangladesh has consistently prioritized providing food security for its citizens. Unpredictable swings in the price of vegetables are a common issue that affects both farmers and merchants. To address this, digital communication technologies, such as the internet and mobile phones, are increasingly being adopted in the country. This can be used to enhance the stability and efficiency of the vegetable market.

The use of digital communication technologies such as mobile phones is increasingly widespread amongst farmers, even those with lower incomes and lower levels of education. Research has shown that those who have completed at least high school level education and make more than 2 lakh takas a year are more likely to use such technologies for marketing their produce, potentially increasing efficiency and productivity. As mobile phones have become more accessible, many farmers and their families have at least one device, which can be used by all family members.

Farmers should be encouraged to utilize digital communication systems in order to bolster the production and sale of vegetables and other agricultural products. By utilizing such systems, farmers can gain access to data that can help them determine the best vegetables to grow throughout the year, reduce production and marketing costs, and even secure better prices for their produce.

The government should take initiative in setting up a telephone-based advisory service to provide guidance on the use of pesticides on vegetables. Currently, farmers obtain pesticide advice from sales representatives of different insecticide companies, which is often biased towards the products they market. Due to the remote locations of most vegetable farmers, they are unable to access the assistance offered by agricultural extension departments. This telephone advisory service would be especially valuable to vegetable growers, offering advice on topics such as variety selection, planting techniques, fertilizer usage, preservation and shipping techniques. It should also extend beyond insecticide use, providing a range of advice.

Chapter 1: Introduction

I. Background:

The Bangladeshi government is committed to ensuring food security, a difficult task in a densely populated country. Two key elements of food security, often in opposition to each other, are keeping food prices affordable for the general population and enabling farmers to receive fair prices for their produce. Research has demonstrated that the traditional multi-tiered food marketing system can be a major obstacle to achieving these goals, as middlemen may manipulate the market to their own benefit. Vegetables are highly perishable and cannot be kept for long periods of time, which makes the marketing of them significantly more fragile. Price volatility is commonplace in the vegetable market, and is a major problem for both the growers and the merchants. As the government of Bangladesh strives to become a 'smart' nation by 2041, the usage of digital communication systems, such as mobile phones and the internet, is growing rapidly. Thus, the participants in the vegetable market can benefit from utilizing digital communication technologies for a variety of purposes, which could in turn improve the stability and efficiency of the marketing.

II. Rationale:

This case study seeks to investigate the impact of digital communication tools on vegetable marketing in the Bogura region. It strives to determine if the utilization of such technologies is helping vegetable producers receive a fair price for their produce. The research aims to evaluate how digital communication tools can be employed more effectively to guarantee just prices for vegetable farmers and stabilize the vegetable market. The ultimate goal of this research is to understand how digital communication technologies can be utilized to reduce the cost of producing and selling vegetables.

III. Problem Statement:

Local vegetable farmers often have to rely on brokers or wholesalers, referred to as Paikar or Bepari, to sell their produce. Unfortunately, they usually don't receive a fair price for their crops. Additionally, they lack information about the desired product, and their options for selling their goods directly to customers or shops are quite limited.

IV. Objectives:

The objective of this study is to evaluate the effects of using digital communication technologies on providing fair prices for vegetable producers. The research will focus on the potential of digital communication systems to be used to facilitate the exchange of information, provide training, and advertise agricultural produce. It will also investigate if digital communication technologies can be used to develop a vegetable market which is advantageous to both farmers and shoppers, and whether it can reduce the fluctuations in vegetable prices

V. Scope:

This research aims to explore the dynamics of vegetable marketing in the Bogura region. It will assess the costs, margins and profitability of stakeholders in the vegetable market. Additionally, it will examine the utilization of digital communication systems and how they benefit vegetable market participants in the region.

VI. Limitations:

This study was limited by factors such as the amount of time and money available, a small sample size, the geographic area from which samples were drawn, a lack of comprehensive research into the topic, and the absence of the use of more advanced statistical analysis.

VII. Assumptions:

The survey respondents were given the opportunity to answer questions without any external interference, providing an authentic look into the vegetable production industry in the Bogura region. The sample size was carefully selected to ensure that the results would be reflective of the population as a whole.

Chapter 2: Literature Review

Digital communication technologies facilitate access to a wider range of customers for farmers in rural areas, as demonstrated by Francis Dittoh et al. in their case study of northern Ghana. Farmers have a strong desire to increase production when provided with more potential customers. It was found that a considerable number of farmers are open to changing their crops to meet customers' needs (56.5%), have the capacity to transport goods to medium- to large-scale purchasers (42.6%), have the ability to store crops for sale (48.1%), and are prepared to package crops for sale (57.4%).

Paikar:

A paikar is a small-scale trader who operates within one or more local markets, exchanging goods such as agricultural produce from farmers for sale to retailers or consumers. These merchants are typically small farmers who lack full-time employment on their farms or are landless laborers, and their limited business volume is a reflection of the financial constraints they face.

Beparies:

Professional dealers, otherwise known as beparies, source agricultural goods from both farmers and paikar in nearby markets or from local communities. Compared to paikar, beparies typically deal with a larger quantity of merchandise.

Arathdar:

An arathdar is a commission agent that facilitates transactions between a bepari (a seller) and a retailer. They provide storage services and charge a set fee for their services. By purchasing goods from a bepari, an arathdar helps to bridge the gap between the seller and the retailer.

Retailers:

The retailer is the end of the marketing chain, obtaining goods from distributors through wholesalers and selling them to consumers

Intermediaries' role in the marketing for vegetables:

Intermediaries play an essential role in the vegetable marketing industry, performing a variety of critical value-adding tasks such as transportation, storage, grading, financing, market information, and pricing. These activities are essential to ensure the efficient and successful delivery of goods from producers to consumers.

Transport:

Intermediaries facilitate the connection between consumers and producers by arranging for transportation of locally produced agricultural goods to distant markets. Tasks such as loading, packing, and crating are handled by the intermediaries. In Bangladesh, transportation costs are significant and a variety of transportation methods are employed in order to offer customers an accessible location.

Storage:

The storage function's primary purpose is to ensure products are made available as needed. This can be a great time-saver. Different crops have different storage needs; for example, paddy and potatoes can be kept for longer periods of time, whereas vegetables need to be delivered quickly to the market. Additionally, fruits and vegetables must be post-harvested correctly before being sold, as they are perishable. Lastly, if sellers are unable to sell their goods on the same day, they must keep them until the following day.

Grading:

Intermediaries often have the responsibility of grading, which is the process of categorizing a product based on certain standards. This grading influences the buying and selling prices, and is

usually done by visually evaluating the quality. For fruits and vegetables, the job of grading is usually taken on by paikar, bepari, retailers, and at times, even by the producers themselves.

Packaging:

Intermediaries are essential for packaging products. Packaging has a major effect on the amount of waste produced. The type of crops can affect the type of packaging material used. In Bangladesh, fresh produce is generally transported in gunny sacks, bamboo baskets, plastic crates, plastic bags, or nylon sacks. In some cases, the produce is sent without any packaging. Paikar and Bepari are usually responsible for wrapping and packing.

Financing:

Financing is essential for the selling of agricultural products, as the financier assumes the risk of potential loss of capital. In some cases, middlemen may not have enough money to purchase products from farmers, so they often purchase them on credit). Additionally, Aratdars, Paikars and beparies often lend money to each other in mutual exchange. Approximately 60% of middlemen finance their own operations.

Risk Acceptance:

The vegetable retail business involves two main risks: price fluctuations and potential spoilage of produce during storage and transportation. In Bangladesh, there is currently no system of insurance in place to cover such losses. Many farmers have resorted to selling their mango orchards to middlemen, who then take on the full responsibility for the orchard. Similarly, middlemen involved in the marketing of vegetables share the risks associated with price volatility and damage to the produce.

Digital communication resources:

A broad selection of digital communication tools is available, with new technologies continually being created. These digital communication methods can generally be classified into two distinct groups.

I. Synchronous equipment

- Telephone calls (e.g., Telephone, cell phone)
- VoIP (e.g., Imo)
- Text messaging services (e.g., WhatsApp)

II. Asynchronous instruments

- Newsgroups
- Podcasts
- Sharing of videos (e.g., YouTube)
- Internet news video
- Social media (e.g., Facebook)
- SMS, or text messaging
- Online stores (e.g., daraz, evaly)
- Electronic markets (e.g., Bikroy.com)
- Mobile transactions (e.g., bKash)

Most of the digital communication tools are still not being utilized by our farmers. However, they are familiar with using voice calls on their cell phones in their daily activities. As internet access becomes more cost-efficient and swifter, the utilization of other digital communication technologies such as social media and video streaming is increasing.

Use of digital communication system in the marketing for vegetables:

Mobile phones are extensively used by vegetable vendors for promotion purposes. When travelling to remote rural areas to purchase produce, the vendors often converse with the aratdar and other vendors to compare market prices, thereby reducing the risk of price fluctuations. Furthermore, they utilize their cell phones to locate markets that offer a variety of crops, as well as large farms that have a selection of quality vegetables.

For larger farms, the use of digital communication technologies can be highly beneficial. Farmers can use their mobile phones to perform a range of agricultural and marketing activities, such as learning new cultivation techniques, getting up-to-date market prices, locating insecticides and fertilizers, finding high quality seeds and seedlings, seeking advice about the use of insecticides and fertilizers, and connecting with buyers for their produce. Unfortunately, smaller farms may lack the funds or knowledge to make the most of these digital advances.

Agora and Shawpno supermarkets are heavily reliant on digital communication systems such as SMS, POS, websites, and cell phones to manage their vegetable marketing. This technology is employed to carry out a range of tasks such as ordering, demand forecasting, inventory control and managing supplier relationships. The rise of online free markets in our country has been substantial, with websites such as Bikroy.com, Ekhanei.com, OLX.com.bd and daraz.com becoming increasingly popular as platforms which allow producers to connect with consumers without the need for intermediaries. Farmers are trying to market their agricultural produce on digital platforms, yet they are not heavily publicized. It is anticipated that these open markets will become a significant source of direct sales for agricultural products, especially vegetables, in the near future. Bangladesh's government is also making digital communication technologies a priority for the agriculture sector and has created a number of websites to aid vegetable producers.

Below are some key websites discussed:

- wp.ekrishok.com (e-Krishok): The goal of this effort is to use digital communication system for agricultural extension and agro-market management. It is being led by the Bangladesh Institute of digital communication in Development. The objective is to offer up-to-date guidance and information on agricultural marketing, distribution, and production. Services are provided to farmers through local information centers and a

variety of digital communication instruments, including computers, mobile phones, and the internet. Farmers can also directly access the services.

- (http://www.frs-bd.com) Fertilizer Recommendation System The government of Bangladesh's Soil Resource Development Institute (SRDI) is behind this effort. The purpose is to recommend the best fertilizer kinds to use for a certain crop. crop in a specific spot. It contains an expansion database with information on the types of soil in each upazila in our nation.
- http://www.dae.gov.bd: The Department of Agriculture Extension, Ministry of Agriculture, is the owner of the website. The website offers a list of authorized fertilizer dealers, a list of pesticides that are prohibited, the most recent data on agricultural production technology, pest control strategies for various crops, and other helpful data.
- Agriculture Information Service (http://ais.gov.bd): This organization aims to promptly transmit the most recent knowledge and innovations in agricultural production systems to smallholder farmers.
- Bangladesh Agriculture Development Corporation (http://www.badc.gov.bd): BADC frequently updates this webpage with the market price of seeds.

Field surveys on several agro-products were conducted by Tasnoova et al. (2006), Matin et al. (2008), and Rahman et al. (2006) in various regions of Bangladesh. They discovered that although there were few market intermediaries, they were well-organized. As a result, they control farmers and force them to sell their goods at cheaper prices since farmers lack the means to return their goods to the market without incurring additional expenses.

Chapter 3: Methodology

This project will involve exploratory research, utilizing both primary and secondary data. To acquire primary data, 25 vegetable growers were randomly selected across various income levels. A questionnaire was then used to collect the necessary information. The study will be analyzed using a descriptive methodology.

I. Research design type:

This study utilizes a quantitative research methodology and a single cross-sectional research design. Descriptive research will be conducted to gain insight into the associated factors. To obtain the necessary data, surveys of various randomly selected vegetable producers in Bogura will be conducted. Upon collection of the data, quantitative techniques such as ANOVA, regression analysis and discriminating analysis will be implemented to measure the relationship between the variables.

II. Information required

This study requires information on the application of mobile phones, the internet, and mobile money transfers in the marketing of vegetables. This data can be sorted into two distinct categories: related factors and unrelated factors.

a. Related factor is:

Vegetable farmers' selling prices in the Bogura region.

b. Unrelated Factors:

The following are the primary independent variables that were discovered through a review of the literature, discussions with experts in the field, and an initial analysis of the issue:

- Mobile phone usage

- Using online marketplaces
- Using the internet
- Annual revenue
- Use of mobile banking
- Education

III. Gathering data from secondary sources:

Secondary data is gathered from a variety of sources, including news articles, academic publications, yearly reports from the ministry of agriculture, and more.

IV. Gathering information from first-hand sources:

The researcher personally conducted face-to-face interviews and conversations to gather primary data. Samples are chosen at random from Bogura region vegetable producers.

V. Scaling methods:

The data used in this investigation are metric in nature. The key independent and dependent variables are measured using a 05 (five-point) Likert scale while conducting a survey for data collecting.

VI. Pretesting and questionnaire development:

Primary data is collected through a questionnaire that includes both structured and unstructured questions. The structured questions are designed to measure the degree of agreement or disagreement of the farmer towards the research topics on a Likert scale with five possible answers. Examples of unstructured questions include the farmer's age, how digital communication systems help to reduce production costs, and the cost of marketing vegetables.

VII. Sampling methods:

The Bogura vegetable producers are the study's target group. 25 people made up the sample

size. They are chosen at random. Simple random sampling is the method utilized in this investigation. Five villages were chosen based on convenience, and the respondents were drawn from two of the twelve upazilas.

VIII. Fieldwork:

A pre-written questionnaire is used to collect data in English. The questionnaire is distributed to the respondents in Bangla, and interviews are conducted in a professional manner at the respondents' homes, vegetable gardens, and local marketplaces. The primary data gathered from the questionnaire and interviews will form the basis of this research, with additional secondary data sources explored for background research and literature evaluation.

Chapter 4: Results & Analysis

This study has provided crucial information about the use and effect of digital communication technologies in the Bogura vegetable marketing.

a. Mobile phones are available to all farmers. Even if a farmer doesn't use a mobile phone himself, his family does have at least one phone, which is used by everyone. This suggests that a mobile phone might be an effective instrument for enhancing the efficiency of the marketing for vegetables.
b. 60%(15) farmer have smartphone in their family
c. Only 32%(8) of farmers use the internet. Using their cellphones and mobile networks, farmers access the internet. The government established a Union Digital Center in each union in Bangladesh, however the farmers are unaware of it.
d. Even though some farmers use the internet, they never utilize it for farming. For social networking, viewing videos, accessing the most recent news, and other things, they utilize the internet. The farmers are unaware of free internet marketplaces (like Bikroy.com) where they may offer their goods to customers directly and without middlemen.
e. The majority of farmers use their cellphones to check the price of veggies on the market. Farmers make up 40%(10) of those who regularly do this.

f. Of the farmers surveyed, 60%(15) believe they receive a reasonable price, and 8%(2) of them express extreme satisfaction with their profits from growing vegetables. Meanwhile, 20%(5) of farmers are dissatisfied with the market pricing for vegetables, and among them, 12%(3) are extremely dissatisfied.
g. 48%(12) of farmers believe that using digital communication technologies may help them achieve higher pricing for veggies, while 40%(10) are unsure. Only 12%(3) of them believe this will not greatly assist.
h. All farmers who advertise their produce using digital communication system, namely mobile phones, believe they receive higher prices compared to going rates. 20%(5) of them believe they will pay 11-15% more, while 8%(2) believe they will pay 16–20% more. As a result of employing digital communication system, 12%(3) believe they receive 1-5% more in pricing, 60%(15) believe they receive 6–10% more.
i. Farmers who earn less than Tk 2.00 lakh annually rarely use any digital communication system for vegetable selling.
j. While 8%(2) of farmers disagree with this assertion, and the remaining 60%(15) are unsure, 32%(8) of farmers believe that using digital communication system may lower output costs.
k. While 60%(15) of farmers are unaware of this, 40%(10) of farmers believe that using digital communication system can assist to lower vegetable marketing expenses. The following are the identified potential cost-cutting measures: The farmers can contact the beparies, who can then immediately pick up veggies from the vegetable fields. The expense of transportation is reduced.
l. Cell phone voice calls are the sole digital communication technology that 80%(20) of farmers utilize. Only 20%(5) of them make use of several digital communication s.
m. The usage of digital communication technologies is positively correlated with education and income. Farmers who have completed at least their high school education and make above 2 lakh rupees annually are strongly encouraged to employ digital communication technologies.

Chapter 5: Discussions & Conclusions

The following conclusions may be drawn from this research:

a. Farmers should be encouraged to utilize digital communication technology to cultivate and distribute vegetables and other agricultural products. This technology can help farmers make informed decisions about which vegetables to grow in different seasons, reduce their costs of production and marketing, and potentially gain higher profits from the sale of their produce.

b. A cell phone is not necessary for a farmer to use personally. He can still take advantage of utilizing a mobile phone as long as this household owns at least one.

c. Compared to farmers who don't utilize any digital communication system, farmers who use digital communication system for marketing their veggies are pleased with the prices at which their vegetables sell.

d. The government should take the initiative to implement a telephone advising service for vegetable growers in rural areas to assist them with the application of pesticides. Currently, farmers are relying on field representatives from various insecticide companies for advice, which may be biased towards their own products. In order to provide impartial guidance to the growers, a telephone service could cover a range of topics such as vegetable variety selection, planting techniques, fertilizer usage, and preservation and shipping techniques, in addition to insecticides. This would be a great benefit to farmers in areas that are far from Upazila centers, where the Department of Agriculture Extension is unable to offer direct assistance.

Appendices

A: Questionnaire

Name: …….

Age: ……

Village: …….

Upazila: ……

Listed below are some questions regarding use of digital communication system by vegetable growers

Question 1:

a) Do you use a mobile phone? i) Yes ii) No

b) If yes then which type? i) Normal ii) Smartphone

c) Do you use mobile phone to know market prices at different markets of the vegetables you grow?

i. yes

ii. no

Question 2:

a) Do you use internet? i) Frequently ii) Occasionally iii) No

b) If yes then how? i) Mobile phone ii) Cybercafé iii) broadband

c) Do you use internet to know current market prices at different markets?

i. Yes

ii. no

Question 3:

a) Have you ever tried to sell your vegetables directly using online marketplaces like Bikroy.com/daraz/evaly?

i. Yes

ii. No

b) If yes then which one?

i. Daraz

ii. Evaly

iii. bikroy.com

Question 4:

Do you think you are getting fair prices for the vegetables you grow?

i. Yes

ii. No

iii. Sometime yes sometime no

Question 5:

a) Do you think use of digital communication system help to get better price for vegetables?

i. Yes

ii. No

iii. Sometime yes sometime no

b) If yes, how much extra price do you get as a result of using digital communication system?

0-5%	6-10%	11-15%	16-20%	21-25%	>25%	>50%	>100%

Question 6:

To whom do you sell your vegetables most frequently?

Paikar	Beparies	Arathdar	Directly to Consumers	Other

Question 7:

Your income range (lakh Taka per year):

<2	2-4	4-7	7-10	>10

Question 8:

a) Do you use mobile payments to receive money for the products you sell?

i) Yes

ii) No

b) If yes then which one do you use?

bKash	DBBL	nagad	upay	other

Question 9:

a) Does use of digital communication system helps you to reduce production cost?

i. Yes

ii. No

iii. Sometime yes sometime no

b) If yes then how?

Question 10:

a) Does use of digital communication system helps you to reduce marketing cost of your products?

Strongly Agree	Agree	Neither Agree nor Disagree	Disagree	Strongly Disagree
5	4	3	2	1

Question 11:

Which of the following digital communication system do you use:

Email	Social networks	Video sharing sites	Instant messengers	News sharing
Blogs	SMS	Online forums	Govt. portals	Other

Question 12:

Your education:

No education	Primary school	High school	College	Graduate

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