

Supply Chain Management of Agricultural Products in Rural Market of Gorkhpur Region, Uttar Pradesh, India

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Abstract

India is an agriculture based economy and it provides more than 70 percent livelihood to rural populations in India. Uttar Pradesh is the most populous state of India where more than 65 percent population depends on Agriculture and its allied services. The paper is based on the finding the challenges and issues related to supply chain management of agriculture products by various business intermediaries i.e. distributors and retailers. We have used simple random sampling techniques for getting information from 55 respondents. The questionnaire has been circulated among the intermediaries of three major markets of Gorakhpur district of Uttar Pradesh. We have employed the percentage calculation method to find out the actual problem and challenges to various business intermediaries related with the agriculture and allied agriculture businesses. The findings of the study indicate that a more intermediaries involved in agricultural business apart from allied agriculture business and they use private vehicle and trucks for transportation facilities. There is no public mode of transportation is available to them. There are approx. 93 percent of intermediaries does not have own warehouse facility which affects their business profitability.

Keywords: Distribution Channel, Supply Chain Management, Transportation, Warehouse, Rural market etc.

1. Introduction

The profitability of any business is depends on the availability of the right product to the right consumer at right time at right place but this is only possible with the better supply chain management strategy. The supply chain management includes a many things i.e. inventory, transportation, warehouses facilities to the business intermediaries. A business intermediary can be a wholesaler, retailer, agent or any of both. A product passes through various distribution channels before reaching to the consumers. The movement of the product depends on various facilities available to the intermediaries such as transportation mode, warehouse facility, government help etc.

The improvement in the process of supply chain management as a whole based driven forces to the business for better availability of product. The government role and the awareness of the business intermediaries along with appropriate policy and strategies can improve the supply chain management in the particular industry or region. The role of the government is primarily in maximizing the size of the particular industry. A better transportation facility, warehouse

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availability, training and skills, bank involvement attracts the big market players which ultimately increase domestic and international competitiveness in particular industry.

The Uttar Pradesh largely contributes in the area of agriculture and allied agricultural activities because of its large population involved in agriculture sectors. The Uttar Pradesh has ranked first in the production of wheat in India. The total population of Uttar Pradesh is 19,98,12,341 (As per 2011 census) which contributes 16.51 percent of the India's population. In Uttar Pradesh about 65% of total population is depend on agriculture. The total number of agro-climatic zones in Uttar Pradesh is 20. The total number of soil group area is 8. The total rural population in Uttar Pradesh is 15,53,17,278 which contributes 77.73 percent of total India's population (As per 2011 census). The Uttar Pradesh secured first rank in the overall rural population in India. The growth rate of rural and urban population in Uttar Pradesh during 2001-11 was 17.96 percent and 28.82 percent respectively. Gorakhpur is a major district secured fifth rank in rural population in Uttar Pradesh. The total population of Gorakhpur is 813,813 (2019). The area of Gorakhpur is approx. 3483.8 square kilometer .There are mainly seven revenue subdivisions or tehsils , 19 development blocks ,1354 gram panchayat ,91 nyaya panchayat,3448 villages,1 municipal corporation and 8 town areas are exist in it. Therefore, such large agriculture based areas and huge population has attracted man business intermediaries to involve in the business of agriculture and allied agriculture commodities.

The major market in Gorakhpur is known as Golghar market includes maximum number of wholesaler and retailer of different products like luxury items, telecom products, textile etc. The major "Mandi" (Local Wholesale Market) in Gorakhpur district is located in Transport Nagar which is 6 KM away from Gorakhpur district. There are many wholesalers and local farmers traded various agriculture commodities i.e. vegetables and fruits etc. with retailers in this markets.

The available previous literature on supply chain management focuses on various models, functions and matrix of the supply chain management, transportation, logistics and inventory management. None of the studies has focused on the business intermediaries i.e. wholesalers and retailers who are the important element in supply chain management of rural markets especially in India. In this paper we have considered three major markets i.e. Khorabar, Motiram Adda and Chauri Chaura. The intermediaries of agriculture and allied agriculture or both has been considered in the following study. Consequently, there is this study focused on various challenges faced by the wholesalers, retailers and agents of these markets. There are various issues has been discussed in the following study.

The purpose of the study is to highlight the problem, issues and challenges in Gorakhpur district of Uttar Pradesh. This research study is also an attempt to validate the results of few previous studies based on the same analysis. This research study has following research objectives:

1. To analyse various challenges faced by various business intermediaries in rural market in Gorakhpur.
2. To analyze the availability of various facilities i.e. warehouse, transportation available to business intermediaries in rural market in Gorakhpur.

In order to find out the answers of the following objectives, we have employed percentage calculation methods. The organization of this research study is organized as follows. Section II contains review of literature, Section III analysis and result discussion, Section IV discussing conclusion of the research study.

2. Review of Literature

In this paper researcher highlights the different issues and challenges which are related to various business intermediaries i.e. wholesalers and retailers. These business intermediaries performed major role in the process of Supply Chain Management (SCM) in rural market. The literature review helps to identify and select the quality papers which are used to identify the research gap. **Mentzer, et al, 2001** has given the distinction between the supply chains which is a phenomenon used in business and their management. He focuses on the Supply Chain Management (SCM) that it is the phenomena which exist in business. **Heskett; et.al** focuses on the concept of physical flow and distribution and coordinated with the flow of materials in the whole supply chain. **Smykay et .al** emphasized that inbound and outbound movements are included in the business logistics. He has formulated the concept of integration and synchronization as the concept of SCM. **Forrester** focuses the integrated nature of organizational relationship and gives a theory of distribution management. He highlighted between the company functions and between the company and its markets, industry etc. **Mentzer et, al.** gave a model of supply chain management. This models indicates flow from inter-functional coordination which covers trust, commitment, dependence, behavior to Inter-corporate coordination which includes marketing, sales, research, development, forecasting, production, purchasing, logistics etc and this flows toward the customer satisfaction and profitability of the firm. **Fox, et.al 1993** defined supply chain as a set of activities which focuses the functions of enterprise. These functions must be integrated to each other in order to operate efficiently. Lambert,et .al and **Simchi,et.al 2003** focuses on holistic view that is importance of overall optimization in a supply chain rather than functional optimization. **Flychmein and Meyr (2003)** give the matrix which highlights the operational, tactical and strategic analysis for decision making at short- term, mid-term and long term levels respectively. This matrix flows from Procurement to Production, Production to Distribution and Distribution to Sales.

3. Data and Methodology:

This research study is based on primary source of data. The simple random sampling method has been used to collect the data. The data has been collected through all three markets i.e. Khorabar, Motiram Adda and Chauri Chora of Gorakhpur, Uttar Pradesh on 18th – 19th January, 2020. A total of 55 respondents have been interviewed in detail through personal interview method. The sample consists of business intermediaries i.e. wholesalers, retailers and agents, intermediaries based on agriculture and allied agriculture (See Table 1). About 19 percent of the sample respondents are distributors, 45 percent are retailers, 7 percent are agents and 29 percent are both wholesaler/retailers (See Table 1). About 62 percent of the samples respondents are involved in the trading of agricultural commodities and 9 percent are involved in allied agriculture trading (See Table 1).

Table 1: Sampling Details

Categories		Actual Sample size	Percentage
Government Registration	Registered	55	100
	Not Registered	0	0
	Total	55	100
Business	Wholesalers/Distributors	10	18

Intermediaries	Retailers	25	46
	Agents	4	7
	Wholesalers/Retailers	16	29
	Total	55	100
Markets	Khorabar	19	34
	Motiram Adda	14	25
	Chauri Chaura	22	40
	Total	55	100
Qualification of Owners/Entrepreneurs	Higher Secondary	15	27
	Senior Secondary	17	31
	Graduation	16	29
	Post-Graduation	7	13
	Total	55	100
GST Number	With GST Number	29	52.7
	No GST Number	26	47.3
	Total	55	100
Own Warehouse Facility	With warehouse availability	4	7
	No warehouse availability	51	93
	Total	55	100
Mode of Transportation	Private vehicle	29	52
	Buses	0	0
	Trucks	26	48
	Railways	0	0
	Airlines	0	0
	Total	55	100

Source: Primary survey conducted on 18th – 19th January, 2020 in Gorakhpur.

4. Results and Discussion

For the analysis of data, researcher fill the questionnaire by the 55 respondents who are the distributors or retailers of agricultural products (like-rice, wheat, maize or allied agricultural products like products curd, milk etc.) in three villages i.e. Khorabar, Motiram Adda and Chauri Chaura. The analyses of data in these areas are as follows-

4.1 Registered Retailers or wholesalers: There is a 100% registered retailer or wholesalers are present in Khorabar, Motiram Adda and Chauri-Chaura villages.

S.No.	Number of wholesalers or retailers of rural market	Percentage of registered wholesalers or retailers
1	55	100

The retailers or wholesalers are aware about the registration. All the retailers are registered it shows that they follow the rule and regulations and they have professional ethics about the business. They believe in honesty, respect to others and accountability towards the business.

4.2 Region where survey is done:

S.No.	Number of wholesalers or retailers of rural market	Region where survey is done
1	55	Khorabar, Motiram Adda and Chauri-Chaura village in Gorakhpur region

The survey is done in Gorakhpur region of Uttar Pradesh in Khorabar, Motiram Adda and Chauri-Chaura village. These areas are under 25 kilometer range from Gorakhpur city. These are the rural areas where people have limited resources to use in daily basis and maximum people have small business or depend on agriculture in it. Chari Chaura is historical place where in 5 February 1922 a large number of protestors of non-cooperation movement and opened fire by police and at the retaliation demonstrators attacked in police station. In this incident 22 occupants and 3 civilians were killed. This incident is famous for Chauri-Chaura kand.

4.3 Turnover of wholesalers or retailers of agricultural products in rural market:

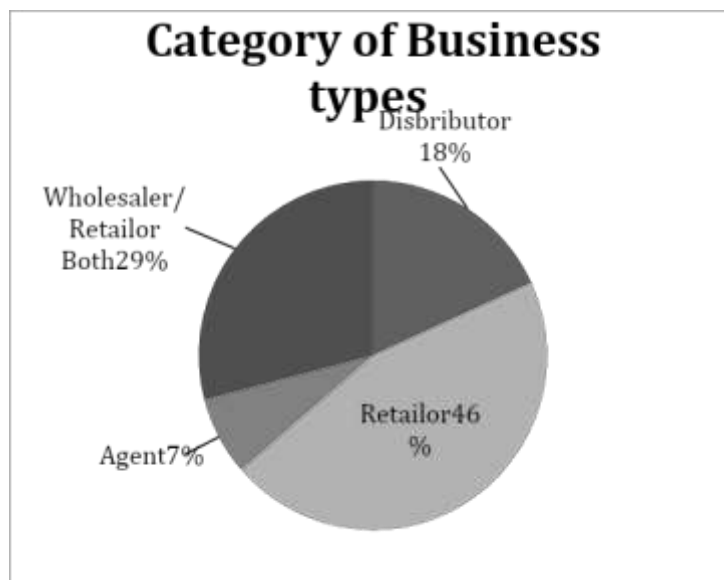
S.No.	Percentage of retailers or wholesalers have turnover	Percentage of retailers or wholesalers have no any turnover	Amount of turnover
1	52	48	Above 50 Lakhs/annum

About 48% of retailers has no turnover .They are not come under the criteria of income tax.52% of retailers or wholesalers come under the criteria of income tax, their average turnover are appr. Above 50 lakhs/annum.It shows that retailers or wholesalers have limited number of turnover.48% of retailers or wholesalers have no any turnover they have limited business.

4.4 Business Type:

S.No.	Percentage of Distributors	Percentage of retailers	Percentage of Agent	Percentage of wholesaler/retailer both
1	18	46	7	29

Thus, retailers have maximum number of percentage and agents have less percentage in rural market of Gorakhpur region. Retailers are comfortable in their business because of good transportation facilities.



4.5 Qualifications:

S.N o.	% of Xth pass	% of XIIth pass	% of UG Pass	% of PG Pass
1	27	31	29	13

Thus 31% retailers or wholesalers are XIIth passed, 29% UG passed and 27% passed Xth and 13% passed PG in rural market. Thus, the maximum percentages are of XIIth and UG passed. PG passed have least percentage. This shows that people are less interested to study at higher education.

4.6 Dealings:

Sl. No.	Percentage of agricultural items	Percentage of Allied agriculture items	Percentage of both
1	62	9	29

Thus, the dealings of maximum items are of agricultural items in rural market of Gorakhpur region. The productions of agricultural items are maximum in these areas therefore. People have easily done the business of agricultural items. Allied agricultural items like milk, curd etc. have less percentage in these areas.

4.7 Getting on time material from manufacturing/supplier:

SN o.	Per. of Less time	Per. of Below Average time	Per. of Average time	Per. of Above average time	Per. of More time
1	60	30	6	4	0

About 60% retailers or wholesalers are agreeing to get on less time material from manufacturer /Supplier, 30% to get the material on below average time, 6% receive the product on average time, 4% are of above average time and 0% are of more time. It takes less time to get material on time from the manufacturer or supplier. The main reason is that the transport facility are good and good relationship of the retailers from their suppliers.

4.8 Product range:

S.N o.	Per. of Less Product range	Per. of Below average range	Per. of Average range	Per. of Above average range	Per. of more range
1	4	8	16	44	28

Thus, about 44% of retailers and wholesalers of rural market are agreed to have good product range which is maximum in percentage. 4% have less product range, 8% have below average range, 16% have average range and 28% have more average range.

4.9 Transportation facilities:

S.N o.	Per. of Private vehicles used	Per. of Buses used	Per. of Trucks used	Per. of Railways used	Per. of Airways used
1	52	0	48	0	0

Maximum number of retailers or wholesalers (About 52%) of retailers and wholesalers used private vehicles, 48% used trucks, and 0% used buses, railways and airways. It shows that the maximum number of retailers or wholesalers purchases the products in local areas or nearby areas thus, they use their private vehicles.

4.10 Own Warehouse availability:

S.No.	Percentage of retailers those have own warehouse	Percentage of retailers those have not their own warehouse
1	7	93

Thus, only 7% of retailers have their own warehouse and 93% of retailers have not their own warehouse. In these areas maximum retailers have limited resources thus they do not use warehouses. They purchase limited resources from the supplier.

4.11 Government financial aid to expand the business:

S.No.	Per. of Less Gov. financial aid	Per. of below financial aid	Per. of average financial aid	Percentage of above average financial aid	Per. of more financial aid
1	63	4	0	0	33

Thus, 63% of retailers or wholesalers agreed to provide less financial aid by the government, 4% says below financial aid provide by the government, 0% says are of average financial aid and above average financial aid and 33% says to provide more financial aid by the government. Maximum retailers says that government does not provide any financial aid in these areas if they try to get financial benefit the process is so complex thus they do not apply for financial aid.

4.12 Government help in case of any loss:

S.No.	Per. of less govt. help	Per. of below govt help	Per. of average govt. help	Per. of above govt help	Per. of more govt. help
1	60	6	15	9	10

Hence, maximum that is 60% retailers or wholesalers are supported less government help, 6% supported below government help, 15% agreed average government help 9% says above government help and 10% supported more government help. Most of the retailers say that in case of any loss no help is provide by the government immediately. It takes so much time for recovery of loss.

4.13 Training and skills provide by the government:

S.No.	Percentage of retailers agreed that government provide no any training and dev. Skills programs in rural market
1	100

Thus, all the retailers or wholesalers of rural market of Gorakhpur region are agreed that government does not provide not any training and skill development programs to them. All the retailers said that training program should be provided by the government about our business.

4.14 GST Number:

S.No.	Percentage of retailers or wholesalers have GST number	Percentage of retailers or wholesalers have no GST number
1	52	48

About 52% of retailers or wholesalers in rural market have GST number whereas 48% have no any GST number they are not the income payee. 48% of retailers or wholesalers have no GST number they are the small businessman.

4.15 Customer Satisfaction:

S.No.	Per. of less satisfaction	Per. of below satisfaction	Per. of average satisfaction	Per. of above average satisfaction	Per. of more satisfaction
1	0	0	2	48	50

Hence, 0% retailers say that customers are less satisfied and below satisfied. 2% retailers agreed that customers are average satisfied, 48% retailers agreed that customers are above average satisfied and 50% retailers give their view that more customers are satisfied. Maximum customers are satisfied from their retailers or wholesalers. They also focus to provide a better quality product from their supplier or wholesaler.

4.16 Responsiveness by big supplier/manufacturer:

S.No.	Per. of less response	Per. of below response	Per. of average response	Per. of above average response	Per. of more response
1	4	0	24	42	30

In this paper, 42% of retailers have above average response, 30% have more response, 24% have average response, 4% have less response and 0% has below response by their big supplier or manufacturer. Maximum retailers have good relationship from their manufacturer or supplier. The main reason is that they are hard worker, give better business and sincere to their work's a result good business is given by the retailers and gives more benefit to their supplier.

5. Findings & Conclusions

The findings of the research paper shows that in Khorabar, Motiram Adda and Chauri Chaura markets out of 55 respondents in Gorakhpur region 99 percent of business intermediaries wholesalers and retailers are registered, 62 percent intermediaries' deals agricultural items whereas, 9 percent intermediaries deal with allied agricultural items and 29 percent deals in both. There are maximum retailers agreed that due to bad transportation and warehouse facilities it took more time to receive products from manufacturer or suppliers. There are approx. 52 percent business intermediaries uses private vehicle for their transportation facilities. The situation of having any type of warehouses whether own or government is also very pathetic. There are more than 90 percent intermediaries do not have any type of warehouse facility to them. There is no government supports in terms of financial aid, training and skill development, warehouses etc. to the intermediaries. There are around 52 percent intermediaries have GST number and other 48 percent do not have GST number, thus these are not the tax payers to the government. The bank also does not provide any types of loans to these business intermediaries/entrepreneurs for their business activities.

5.1 Limitations of the Study: The limitations of this paper are as follows-

1. The following research study covers only three rural market of Gorakhpur region.
2. This research study does not highlight the other rural markets of Uttar Pradesh.

5.2 Recommendation: The recommendations to the government are as follows-

1. The government should provide proper training and skill development programs to the retailers or wholesalers of rural market.
2. There would be flexibility to provide provides loans to the retailers or distributors to expand their business in rural market.

References:

1. Mentzer, J. T., DeWitt, W., Keebler, J. S., Min, S., Nix, N. W., Smith, C. D., & Zacharia, Z. G. (2001). Defining supply chain management. *Journal of Business logistics*, 22(2), 1-25.
2. Heskett, J. L.; Robert M. Ivie, and Nicholas A. Glaskowsky, Jr. (1964), *Business Logistics: Management of Physical Supply and Distribution* (New York: The Ronald Press).
3. Smykay, E. W. (1973). *Physical distribution management*.
4. Forrester, J. (1958). *Industrial dynamics: A major breakthrough for decision makers*. *Harvard Business Review*, 36, 37-66.
5. Mentzer, J. T., DeWitt, W., Keebler, J. S., Min, S., Nix, N. W., Smith, C. D., & Zacharia, Z. G. (2001). Defining supply chain management. *Journal of Business logistics*, 22(2), 1-25.
6. Fox, M. S., Chionglo, J. F., & Barbuceanu, M. (1993). *The integrated supply chain management system*. Technical report, Department of Industrial Engineering, University of Toronto.
7. Simchi-Levi, D., Kaminsky, P., & Simchi-Levi, E. (2004). *Managing The Supply Chain: Definitive Guide*. Tata McGraw-Hill Education.