A Study on Distribution Channel Optimization and Gap Analysis at Royal Industrial Corporation PVT.LTD

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ABSTRACT:

This study explores the performance evaluation of distribution channels within a manufacturing context, focusing on both operational efficiency and customer satisfaction. As manufacturing processes evolve, integrating digital and traditional distribution strategies has become vital for maintaining competitiveness. The research examines how distribution mechanisms influence product delivery, operational costs, and service quality, thereby impacting overall organizational effectiveness. Emphasis is placed on understanding the integration of Omni channel models and their role in enhancing market reach. This study focuses on analyzing the existing distribution channels of Royal Industrial Corporation Pvt. Ltd. And identifying gaps that affect operational efficiency, The findings highlight inefficiencies in communication, delivery timelines, and channel coordination of this study concludes with recommendations to improve distribution planning, strengthen channel relationships, and implement better monitoring mechanisms.

Keywords: Distribution Channel Performance, Customer Satisfaction, Service Quality, Process Improvement, Gap analysis, Optimization.

INTRODUCITON:

Distribution channel management is a critical component of modern business operation. It involves the process of delivering products from manufactures to customers through various intermediaries such as wholesalers, distributors, and retailers. An optimized distribution channel ensures timely product availability, cost efficiency, and improved customer satisfaction. Royal Industries Corporation Pvt. Ltd., a company involved in industrial product distribution, relies heavily on effective channel management to maintain its competitive position in the market. However, inefficiencies within distribution networks can lead to delays, higher operational costs, and reduces service quality. Therefore, it is essential of analyze the existing system and identify operational gaps. This study focuses on understanding the current distribution practices of the company and identifying areas where improvements can be made to enhance efficiency and performance.

II OBJECTIVES OF THE STUDY

2.1 PRIMARY OBJECTIVE:

- To analysis the existing distribution channel system of the company, to identify gaps and inefficiencies in the current distribution network, To evaluate the performance of distribution channels in terms of delivery, cost, and efficiency.

2.2 SECONDARY OBJEECTIVE:

- To understand the concept and importance of distribution channel management to study the relationship between the company and its channel partners.
- To study various strategies used for distribution channel optimization and to analysis to industry practices related to supply chain and distribution.

- To suggest improvements for enhancing their distribution efficiency and performance to gather their industrial channel of optimization.

III REVIEW OF THE LITERATURE:

3.1 Suryani, Z. (2021) : This research focused on the optimization of the distribution logistics network for a company in the metalworking industry, with a direct focus on minimizing operating costs. The methodology involved using the GUSEK software to design an optimal logistics distribution network. A key strategic decision analysed was the selection of two optimal locations for new distribution centres from four possible sites.

3.2 Mittal, R., & Singh, R. (2022): The researchers applied a Game Theory approach to model and analyse the sources and resolutions of channel conflict (e.g., price and territory disputes) between manufacturers and their authorized distributors/dealers. The study identified misaligned incentives and a lack of clear governance structures as the primary conflicts leading to distribution inefficiency. The research's contribution lies in using a quantitative model to prescribe optimal contract and incentive mechanisms that promote channel cooperation and alignment.

3.3 Andrejić, M., et al. (2023): This study investigated the growing necessity of integrating green logistics and emission-less route search into the industry's supply chain for long-term sustainability. It argued that firms must address environmental and regulatory challenges by prioritizing elements like low-emission transportation and green warehousing. The research identified a significant gap in the practical application and quantification of the financial and ecological benefits of green logistics in heavy industries.

IV. RESEARCH METHODOLOGY

Research methodology is the process of systematic investigation of any management problem is deals with research design, data collection method, sampling plan, and statistical data.

RESEARCH DESIGN:

The research follows a descriptive research design, which helps in collecting detailed information about the usage pattern and spending behavior of digital payment app users. The study mainly relies on primary data, supported by secondary data.

PRIMARY DATA: Interviews with company employees and distribution managers, Observation of distribution processes to informal discussions with channel partners.

SECONDARY DATA: Company reports and internal records and their industry publications and journals and online resources and relevant academic literature.

SAMPLE SIZE AND SAMPLING METHOD

Sampling: Sampling may be defined as “The selection of some part of an aggregate the basis of which judgement or interpretation about the aggregate or totalling is made.”

Sample Size: The sample size is certified to its nature of data collection. Data collection is based on the primary data is 121 respondents are taken as the sample for this study.

Convenience Sampling: In this method, the sample units are chosen primary on the basic of the convenience to the investigation.

STATISTICAL TOOLS USED

The collected data were analysed using appropriate statistical tools to obtain meaningful results. The tools used in the study include:

•Chi-Square
•Correlation
•ANOVA
• Regression Analysis

V.DATA ANALYSIS AND INTERPRETATION

5.1 Relationship between the experience and how often they face issues with product availability

HYPOTHESIS:

HO: There is no significant association between years of experience in the industry

and current distribution channels effectively minimize logistics and operational costs.

ALTERNATIVE HYPOTHESIS:

H1: There is significant association between years of experience in the industry and current distribution channels effectively minimize logistics and operational costs.

Years of experience in the industry * Frequency of facing issues with product availability Crosstabulation

Count

		Frequency of facing issues with product availability					Total
		Always	Often	Sometimes	Rarely	Never	
Years of experience in the industry	Less than 1 year	1	1	1	4	4	11
	1-3 years	3	4	11	15	5	38
	4-6 years	6	7	7	2	10	32
	7-10 years	2	4	6	6	4	22
	More than 10 years	5		8	3	0	18
Total		17	18	33	30	23	121

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	27.547[a]	16	.036
Likelihood Ratio	31.496	16	.012
Linear-by-Linear Association	6.675	1	.010
N of Valid Cases	121		

a. 15 cells (60.0%) have expected count less than 5. The minimum expected count is 1.55.

CALCULATION STATEMENT:

- Calculated Chi-Square value (χ^2) = 27.547
- Degrees of freedom (df) = 16
- Table value at 5% level ($\chi^2_{0.05,16}$) ≈ 26.30
- p-value = 0.036

INFERENCE:

Since the calculated Chi-Square value (27.547) is greater than the table value (26.30) and the p-value (0.036) is less than 0.05, we reject the null hypothesis. There is significant association between years of experience in the industry and current distribution channels effectively minimize logistics and operational costs

5.2 Correlation between Satisfied with the timeliness of product delivery and satisfied with the current pricing structure

Null Hypothesis(Ho):

There is no significant correlation between satisfaction with the timeliness of product delivery and satisfaction with the current pricing structure.

Alternative Hypothesis (H_1):
There is a significant correlation between satisfaction with the timeliness of product delivery and satisfaction with the current pricing structure.

Correlations

		Satisfied with the timeliness of product delivery	Satisfied with the current pricing structure
Satisfied with the timeliness of product delivery	Pearson Correlation	1	-.054
	Sig. (2-tailed)		.555
	N	121	121
Satisfied with the current pricing structure	Pearson Correlation	-.054	1
	Sig. (2-tailed)	.555	
	N	121	121

Calculation:

R = –0.054
p = 0.555
Inference:
The significance (Sig.) value is **0.555**, which is **greater than 0.05**. This indicates that **there is no significant correlation** between the respondents' satisfaction with the timeliness of product delivery and their satisfaction with the current pricing structure.

5.3 Variance between age group of the respondents and satisfied with the timeliness of the respondent.
Null Hypothesis:
H0: There is no significance difference between age group of the respondents and opinion with the timeliness of product delivery**.**
Alternative Hypothesis:
H1: There is a significance difference between age group of the respondents and opinion with the timeliness of product delivery.

ANOVA

Age group of the respondents			Sum of Squares	df	Mean Square	F	Sig.
Between Groups	(Combined)		3.391		.848	.476	.753
	Linear Term	Unweighted	.646		.646	.362	.548
		Weighted	.697		.697	.391	.533
		Deviation	2.694		.898	.504	.680
Within Groups			206.609	116	1.781		
Total			210.000	120			

HOMOGENEOUS:

Age group of the respondents

Satisfied with the timeliness of product delivery		N	1
Duncan[a]	Very Dissatisfied	8	2.62
	Neutral	37	2.73
	Very Satisfied	41	2.95
	Dissatisfied	11	3.09
	Satisfied	24	3.12
	Sig.		.352

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 16.182.

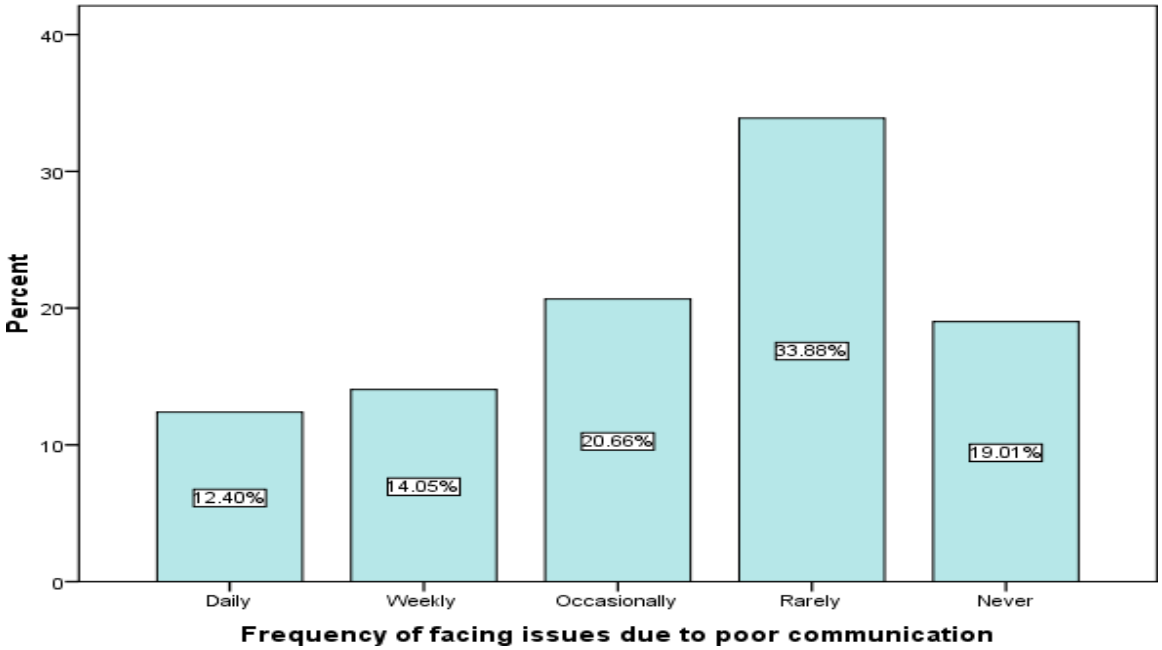
RESULT

The one-way ANOVA test, comparing means across different 'Age groups of the respondents', yielded an F-statistic of 0.476.With 4 and 116 degrees of freedom, the corresponding p-value Sig. is 0.753.Since the p-value (0.753) is greater than the significance level of 0.05, we fail to reject the null hypothesis, concluding there is no statistically significant difference in the means of the dependent variable across the age groups.

5.4 TABLE SHOWING FREQUENCY OF FACING ISSUES DUE TO POOR COMMUNICATION

FACING ISSUES	RESPONDENTS	PERCENTAGE
Daily	15	12.4%
Weekly	17	14.0%
Occasionally	25	20.7%
Rarely	41	33.9%
Never	23	19.0%
TOTAL	**121**	**100.0%**

Inference:



Majority 33.9% of the respondents are rarely facing issues due to poor communication Minority 12,40% of the respondents are daily facing issues due to poor communication.

FINDING:

I. The Company has an established distribution network, nut it lacks proper coordination and among channel members.

II. Communication gaps exist between the company and distributors, leading to delays in information flow.

III. Inventory management is not fully optimized, resulting in either stock shortages or excess and stock, and planning and lack of real-time.

IV. There is limited performance evaluation of channel partners, affecting accountability and impacted due to delays and inconsistency in product need.

SUGGESTIONS:

I. Implement advanced digital tools such as ERP systems for real-time inventory and order tracking, to improve their communication by establishing clear and regular interaction channels with distributors.

II. Adopt better inventory management techniques like Just-in-Time(JIT), to reduce stock issues, to optimize logistics planning to ensure reduce transportation.

III. Provide training programs for channel partners to improve efficiency and coordination for data analytics to forecast demand and improve distribution planning.

IV. Strategies should be adjusted according to geographic demands to minimize delays and logistical challenges.

V. Greater emphasis should be placed on studying consumer behavior and preferences to refine channel selection.

CONCLUSION:

This study highlights that optimizing distribution channel performance is integral to operational success and customer satisfaction in the manufacturing sector. The findings emphasize the need for businesses to integrate digital and traditional distribution approaches, resolve internal organizational conflicts, and consider consumer behaviour in channel management decisions. Timely product delivery and strategic geographic planning are also critical for improving service quality. Ultimately, organizations that continuously evaluate and adapt their distribution models will be better positioned to achieve sustainable growth and maintain a competitive advantage in an evolving marketplace.

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