VOLUME - 15, ISSUE - 04, APRIL - 2026 • PRINT ISSN No. 2277 - 8160 • DOI : 10.36106/gjra

Original Research Paper

Management

A STUDY ON ORDER FULFILMENT CYCLE TIME ANALYSIS IN REDSERV

Dr. R. Vignesh* Assistant Professor, School of Management Studies, Sathyabama Institute of Science and Technology Deemed to be University, Chennai, Tamil Nadu, India. *Corresponding Author

Kishore.K MBA Final Year Student, School of Management Studies, Sathyabama Institute of Science and Technology Deemed to be University, Chennai, Tamil Nadu, India.

ABSTRACT This study examines the order fulfilment cycle time at Redserv, focusing on evaluating the efficiency of the order processing system and its impact on customer satisfaction. Order fulfilment cycle time refers to the total time taken from receiving a customer order to its final delivery, involving multiple stages such as order processing, inventory allocation, picking, packing, dispatch, and delivery. In a highly competitive business environment, minimising cycle time is essential for improving operational performance and ensuring timely and accurate service delivery. The study aims to understand the existing fulfilment process, identify delays and bottlenecks, and analyse the factors affecting overall efficiency. The research is based on both primary and secondary data collected through questionnaires, company records, and observations. Various statistical tools, such as percentage analysis, Chi-square test, t-test, and ANOVA, are used to analyse the data and draw meaningful conclusions. The findings reveal key inefficiencies in certain stages of the process, including delays in coordination and processing activities. Based on the analysis, the study suggests measures to improve process efficiency, reduce cycle time, and enhance service quality. Overall, the study highlights the importance of effective order fulfilment cycle management in achieving higher customer satisfaction and organisational success.

KEYWORDS : Order Fulfilment, Cycle Time, Logistics Efficiency, Supply Chain Management.

INTRODUCTION

In this era fast-paced Indian business landscape, being able to fulfil orders efficiently is key to the success of the company, especially in logistics and service industries. Order fulfilment encompasses everything from the moment a customer places an order to when they receive the final product or service(Thirumalai et al., n.d.). The speed and precision of this entire process play a huge role in customer satisfaction, operational efficiency, and overall business performance. With the explosive growth of e-commerce, digital platforms, and B2B transactions, customers now expect quicker and flawless deliveries more than ever(Seema et al., n.d.). This puts a lot of pressure on companies to refine their fulfilment processes and cut down on cycle times. The order fulfilment cycle time is a vital performance metric in supply chain management, measuring the total duration from when an order is placed to when it's delivered(Seema et al., 2025). A shorter cycle time not only boosts customer satisfaction but also optimises resource use, lowers operational costs, and enhances competitive edge. However, achieving efficiency in this area can be tough due to the many interconnected stages involved, like order processing, inventory management, warehouse operations, packing, dispatch, and transportation (Maheshkumar & Soundarapandian, 2025). A hiccup in any one of these stages can throw off the whole workflow, leading to longer cycle times and poorer service quality. For Redserv, a service-focused organisation, timely delivery and operational efficiency are essential(Agnihothri et al., 2002).

Even with well-defined processes in place, the organisation still encounters a range of challenges that can slow down its order fulfilment cycle. These hurdles include manual tasks, mistakes during order entry, inventory shortages, poor coordination between departments, limitations in the warehouse, and issues related to transportation(Lawong & Akanfe, 2025). On top of that, having a relatively young workforce and a rising number of orders adds to the complexity of managing fulfilment operations effectively. This study is prompted by both internal and external pressures that the organisation is facing. Internally, there's a pressing need to boost process efficiency, cut operational costs, and improve interdepartmental coordination(Wirtz & Stock-Homburg, 2025). Externally, customers are raising their expectations, competition in the market is fierce, and the demand for quicker delivery services calls for ongoing enhancements in fulfilment performance. By analysing the order fulfilment cycle time, we can gain valuable insights into where processes may be falling short and pinpoint areas ripe for improvement(Xu et al., 2025). This study zeroes in on the current order fulfilment process at Redserv, taking a close look at each stage of the cycle. It aims to measure the time spent at various points, identify any bottlenecks, and understand the key factors that impact cycle time(Amrit & Narayanappa, 2025). The study takes a close look at how employees perceive process efficiency, recognising that they are vital in carrying out and managing operational tasks. Their feedback is invaluable for pinpointing real-world challenges and finding workable solutions. Additionally, the research employs a quantitative approach, drawing on data from both primary and secondary sources. To gather insights, a structured questionnaire was distributed to employees from various departments, including operations, warehouse, logistics, and management(Vignesh & Soundarapandian Professor, 2023). The analysis utilizes statistical methods like percentage analysis, T-tests, ANOVA, and Chi-square tests to interpret the data and extract meaningful conclusions. This organised method ensures that the results are trustworthy and provide a clear picture of the factors influencing the order fulfilment cycle time. Ultimately, this study aims to enhance operational efficiency at Redserv by identifying critical problem areas and proposing practical solutions. By streamlining the order fulfilment cycle time, the organisation can boost customer satisfaction, make better use of resources, and maintain a strong competitive edge in the market.

Objectives of the Study

The objective of the study is to analyze the order fulfilment cycle time at Redserv.

- To understand the existing order fulfilment process at Redserv.
- To measure the time taken at each stage of the fulfilment cycle.
- To identify delays and bottlenecks in the order fulfilment process.
- To analyze factors affecting the order fulfilment cycle time.
- To evaluate employee perception regarding fulfilment

efficiency.
- To suggest measures for reducing order fulfilment cycle time.

METHODOLOGY

The goals of the quantitative research study have been clearly defined. One of the key features of quantitative research is that it tends to work best with smaller sample sizes, even though its results are often not easily measurable or quantifiable. Its main strength, which sets it apart from qualitative research, lies in its ability to provide a thorough description and analysis of the research topic. Data was gathered from both primary and secondary sources. Primary data was collected through structured questionnaires from appropriate respondents, while secondary data came from company websites, books, and journals. For this study, a sample size of 200 responses was considered. The random sampling technique was employed under a descriptive method. The research was carried out over three months. To analyze the collected data, methods such as percentage analysis, T-Test, ANOVA, and Chi-Square were utilized to derive results of this study.

Table 1

Factors	Operations Staff	Warehouse Staff	Delivery Staff	Supervisor	Manager	Total
Your designation at Redserv	84 (42)	43 (21.5)	35 (17.5)	23 (11.5)	15 (7.5)	200 (100)

Source: Computing from Primary Data

The table 1 shows that the majority of respondents (42%) are Operations Staff, followed by Warehouse Staff (21.5%) and Delivery Staff (17.5%). Supervisors (11.5%) and Managers (7.5%) form a smaller proportion. This indicates that most respondents are involved in operational-level activities, reflecting the company's strong focus on execution and daily operations.

Table 2

Factors	Less than 1 year	1-3 years	3-5 years	More than 5 years	Total
How long have you been working at Redserv	82 (41)	68 (34)	35 (17.5)	15 (7.5)	200 (100)

Source: Computing from Primary Data

The table 2 indicates that a significant proportion of respondents (41%) have less than one year of experience, followed by 34% with 1–3 years of tenure. This suggests that the organization has a relatively young and less experienced workforce. The lower percentage of employees with more than 5 years of experience (7.5%) reflects limited long-term retention or a growing organization with recent hiring trends.

Table 3

FACTORS	Order Processing	Inventory	Logistics	Customer Support	Others	Total
Departments that you are associated with	74 (37)	53 (26.5)	30 (15)	23 (11.5)	20 (10)	200 (100)

Source: Computing from Primary Data

The table 3 revealed that the majority of respondents are associated with Order Processing (37%), followed by Inventory (26.5%) and Logistics (15%). This distribution highlights that the study is largely centred around core operational departments. The smaller representation from Customer Support and other departments indicates comparatively lesser involvement in backend or support functions.

Table 4

FACTORS	Retail	B2B	Online	Bulk Orders	Total
Type of orders do you mainly handle	15 (7.5)	92 (46)	63 (31.5)	30 (15)	200 (100)

Source: Computing from Primary Data

The table 4 revealed that most respondents handle B2B orders (46%), followed by Online orders (31.5%). Bulk orders (15%) and Retail orders (7.5%) form a smaller share. This indicates that the organization primarily focuses on business-to-business transactions and digital platforms, emphasizing large-scale and structured order management.

Table 5

FACTORS	Below 50	50 – 100	100 – 200	Above 200	Total
Average number of orders processed per day	87 (43.5)	55 (27.5)	33 (16.5)	25 (12.5)	200 (100)

Source: Computing from Primary Data

The table 5 indicates that a significant portion of respondents (43.5%) process fewer than 50 orders per day, while 27.5% handle between 50–100 orders. Only a small percentage manage higher volumes. This suggests that the workload is moderate for most employees, with limited high-volume processing roles within the organization.

Table 6

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Total
Orders are received and recorded without delay.	103 (51.5)	60 (30)	27 (13.5)	7 (3.5)	3 (1.5)	200 (100)
Time taken to verify customer orders is reasonable.	98 (49)	71 (35.5)	19 (9.5)	9 (4.5)	3 (1.5)	200 (100)
Manual processes increase order processing time.	101 (50.5)	67 (33.5)	18 (9)	7 (3.5)	7 (3.5)	200 (100)
Errors in order entry cause delays in fulfilment	95 (47.5)	71 (35.5)	15 (7.5)	10 (5)	9 (4.5)	200 (100)
Inventory availability affects order fulfilment time.	102 (51)	54 (27)	19 (9.5)	10 (10)	15 (7.5)	200 (100)
The time taken to locate items in the warehouse is minimal.	91 (45.5)	70 (35)	15 (7.5)	15 (7.5)	9 (4.5)	200 (100)
Warehouse layout supports faster picking of orders.	109 (54.5)	54 (27)	19 (9.5)	10 (5)	8 (4)	200 (100)
Technology (barcode/RFID) helps reduce picking time.	84 (42)	43 (21.5)	35 (17.5)	23 (11.5)	15 (7.5)	200 (100)

Overall order fulfilment cycle time meets customer expectations.	98 (49)	71 (35.5)	19 (9.5)	9 (4.5)	3 (1.5)	200 (100)

Source: Computing from Primary Data

The table 6 indicates that the majority of respondents (51.5% strongly agree and 30% agree) believe that orders are received and recorded without delay. This indicates that the organization has an efficient system for order intake, minimizing initial processing bottlenecks and ensuring smooth workflow at the entry stage. The data shows that 49% of respondents are very satisfied and 35.5% are satisfied with the time taken for order verification. This reflects a high level of efficiency in the verification process, suggesting that the organization has effective mechanisms in place to validate orders promptly. A substantial majority (50.5% strongly agree and 33.5% agree) believes that manual processes increase order processing time. This clearly indicates the presence of operational inefficiencies and highlights the need for automation and digital integration to enhance productivity and reduce delays. A significant proportion of respondents (47.5% strongly agree and 35.5% agree) acknowledge that errors in order entry lead to delays in fulfilment. This indicates that inaccuracies in data entry are a critical issue affecting operational efficiency, emphasizing the need for error reduction strategies and system improvements. The data indicates that a majority of respondents (51% strongly agree and 27% agree) believe that inventory availability significantly affects order fulfilment time. This highlights the critical role of effective inventory management in ensuring timely order processing and minimizing delays in the supply chain. The majority of respondents (45.5% strongly agree and 35% agree) feel that the time taken to locate items is minimal. This reflects an efficient warehouse management system, likely supported by proper organization and inventory tracking mechanisms. The majority (54.5% strongly agree and 27% agree) believe that the warehouse layout supports faster picking of orders. This indicates that the physical arrangement of the warehouse is well-optimised, contributing positively to operational efficiency. The responses show that 42% are very satisfied and 21.5% satisfied with the role of technology, such as barcode/RFID, in reducing picking time. This suggests that technological adoption has improved operational efficiency, although there is still scope for enhancement as some respondents remain neutral or dissatisfied. The data reveals that 49% of respondents are very satisfied and 35.5% are satisfied with the overall order fulfilment cycle time. This suggests that the organization is largely successful in meeting customer expectations regarding delivery timelines.

Table 7

Factors	Always	Often	Some-times	Rarely	Never	Total
Order confirmation is communicated promptly to customers.	97 (48.5)	61 (30.5)	25 (12.5)	11 (5.5)	6 (3)	200 (100)
Stock-outs delay order processing.	91 (45.5)	65 (35.5)	21 (10.5)	13 (6.5)	10 (5)	200 (100)
Orders are dispatched on the same day of packing.	115 (57.5)	55 (27.5)	14 (7)	10 (5)	6 (3)	200 (100)
Delayed deliveries result in customer complaints.	91 (45.5)	50 (25)	35 (17.5)	15 (7.5)	9 (4.5)	200 (100)

Source: Computing from Primary Data

The table 7 analyzed that the most respondents (48.5% always and 30.5% often) report that order confirmations are communicated promptly to customers. This demonstrates strong communication practices within the organization, contributing to improved customer satisfaction and transparency in the order fulfilment process. A significant proportion of respondents (45.5% always and 32.5% often) report that stock-outs delay order processing. This suggests that inventory shortages are a frequent operational challenge, emphasizing the need for better demand forecasting and inventory control systems. A majority of respondents (57.5% always and 27.5% often) state that orders are dispatched on the same day of packing. This reflects a high level of operational efficiency and effective coordination in the fulfilment process. A majority of respondents (45.5% always and 25% often) agree that delayed deliveries result in customer complaints. This underscores the direct relationship between delivery performance and customer satisfaction, highlighting the need for timely delivery systems.

Table 8

Factors	Excellent	Good	Average	Poor	Very Poor	Total
The packing process is completed within the scheduled time.	89 (44.5)	42 (21)	39 (19.5)	20 (10)	10 (5)	200 (100)
Quality checks increase fulfilment cycle time.	94 (47)	57 (28.5)	36 (18)	9 (4.5)	4 (2)	200 (100)
Coordination between packing and dispatch teams is effective.	93 (46.5)	59 (29.5)	31 (15.5)	11 (5.5)	6 (3)	200 (100)
Customer location impacts delivery time.	105 (52.5)	53 (26.5)	32 (16)	7 (3,5)	3 (1.5)	200 (100)

Source: Computing from Primary Data

The table 8 indicates that a considerable proportion of respondents rate the packing process as excellent (44.5%) or good (21%). This indicates that packing activities are generally completed within the scheduled time, contributing to smoother downstream operations. Most respondents rate the impact of quality checks as excellent (47%) or good (28.5%). This indicates that while quality checks are essential, they are managed efficiently without significantly increasing the overall fulfilment cycle time. The data shows that 46.5% rate coordination as excellent and 29.5% as good. This indicates strong interdepartmental coordination, which plays a crucial role in ensuring timely dispatch and smooth workflow across operations. Most respondents rate the impact of customer location as excellent (52.5%) or good (26.5%). This indicates that geographical factors significantly influence delivery timelines, emphasizing the importance of route optimization and regional distribution strategies.

Table 9

Factors	Yes	No	TOTAL
Inadequate packing materials cause delays.	156 (78)	44 (22)	200 (100)
Delivery schedules are adhered to strictly.	176 (88)	24 (12)	200 (100)
Employee training helps improve fulfilment speed.	185 (92.5)	15 (7.5)	200 (100)
The current order tracking system is efficient.	171 (85.5)	29 (14.5)	200 (100)
Process bottlenecks are regularly identified and resolved.	174 (87)	26 (13)	200 (100)
Overall, Redservs order fulfilment process is efficient.	191 (95.5)	9 (4.5)	200 (100)

Source: Computing from Primary Data

The table 9 shows that the large majority of respondents (78%) agree that inadequate packing materials cause delays. This highlights a key operational bottleneck, suggesting the need for better material planning and inventory management for packing supplies. The data shows that a significant majority of respondents (88%) confirm that delivery schedules are adhered to strictly. This indicates strong operational discipline and effective planning in the delivery process, contributing to timely order fulfilment. An overwhelming majority (92.5%) agree that employee training helps improve fulfilment speed. This emphasizes the critical role of human resource development in enhancing productivity and operational performance. Most respondents (85.5%) believe that the current order tracking system is efficient. This reflects the effectiveness of existing tracking mechanisms in ensuring visibility and control over the order fulfillment process. A large proportion (87%) confirms that process bottlenecks are regularly identified and resolved. This indicates a proactive approach by the organization in continuous process improvement and operational optimization. An overwhelming majority of respondents (95.5%) agree that the overall order fulfilment process at Redserv is efficient. This reflects a high level of satisfaction with the system and suggests that the organization has a well-structured and effective fulfilment process.

Table 10

Factors	Very Positive	Positive	Neutral	Nega-tive	Very Negative	Total
Transportation issues increase order fulfilment cycle time.	94 (47)	67 (33.5)	28 (14)	7 (3.5)	4 (2)	200 (100)

Source: Computing from Primary Data

A large proportion of respondents (47% very positive and 33.5% positive) acknowledge that transportation issues increase the order fulfilment cycle time. This highlights transportation as a critical external factor influencing operational efficiency and suggests the need for improved logistics management.

Table 11

Factors	N	Mean	Std. Deviation	Std. Error Mean
Manual processes increase order processing time	200	1.760	.9987	.0706
Stockouts delay order processing	200	1.930	1.1276	.0797
Coordination between the packing and dispatch teams is effective	200	1.890	1.0504	.0743
Overall order fulfilment cycle time meets customer expectations	200	1.740	.9146	.0647
Overall Redservs order fulfilment process is efficient	200	1.045	.2078	.0147

Source: Computing from Primary Data

The one-sample t-test results indicate that respondents generally have a positive perception of the order fulfilment process at Redserv, as reflected by low mean scores across all variables. The mean value for "Manual processes increase order processing time" (1.76) and "Stock-outs delay order processing" (1.93) shows agreement that these factors contribute to delays, highlighting operational challenges. The mean of 1.89 for coordination between packing and dispatch teams suggests relatively effective teamwork. Further, the mean score of 1.74 indicates that the overall fulfilment cycle time meets customer expectations to a satisfactory level. Notably, the very low mean of 1.045 with minimal variation confirms a strong consensus that the overall order fulfilment process is highly efficient. The low standard deviations and standard errors across all variables also indicate consistency and reliability in the responses.

Table 12

Factors	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Manual processes increase order processing time	24.923	199	.000	1.7600	1.621	1.899
Stockouts delay order processing	24.206	199	.000	1.9300	1.773	2.087
Coordination between The packing and dispatch teams are effective	25.445	199	.000	1.8900	1.744	2.036
Overall order fulfilment cycle time meets customer expectations	26.904	199	.000	1.7400	1.612	1.868
Overall, Redservs order fulfilment process is efficient	71.111	199	.000	1.0450	1.016	1.074

Source: Computing from Primary Data

The table 12 analyzed that the one-sample t-test results (test value = 0) show that all variables have highly significant t-values with p-values of 0.000, indicating that the mean differences are statistically significant. The statements "Manual processes increase order processing time" (t = 24.923, mean = 1.76) and "Stock-outs delay order processing" (t = 24.206, mean = 1.93) confirm that these factors significantly contribute to delays in the fulfilment cycle. The variable "Coordination between packing and dispatch teams is effective" (t = 25.445, mean = 1.89) reflects a statistically significant positive perception of coordination efficiency. Similarly, "Overall order fulfilment cycle time meets customer expectations" (t = 26.904, mean = 1.74) indicates that the process largely satisfies customer expectations. Notably, "Overall Redservs order fulfilment process is efficient" shows a very high t-value (71.111) with a mean of 1.045, demonstrating a strong consensus and highly significant perception of overall efficiency. The narrow confidence intervals across all variables further confirm the reliability and precision of the results.

Table 13

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Designation at Redserv	Between Groups	73.358	1	73.358	55.056	.000
	Within Groups	263.822	198	1.332		
	Total	337.180	199			
Designation at Redserv	Between Groups	20.088	1	20.088	33.259	.000
	Within Groups	119.592	198	.604		
	Total	139.680	199			
Average number of orders processed per day	Between Groups	38.454	1	38.454	41.958	.000
	Within Groups	181.466	198	.916		
	Total	219.920	199			

Manual processes increase order processing time	Between Groups	85.825	1	85.825	150.844	.000
	Within Groups	112.655	198	.569		
	Total	198.480	199			
Stock outs delay order processing	Between Groups	88.821	1	88.821	107.105	.000
	Within Groups	164.199	198	.829		
	Total	253.020	199			
Coordination between packing and dispatch teams is effective	Between Groups	72.659	1	72.659	97.919	.000
	Within Groups	146.921	198	.742		
	Total	219.580	199			
Overall order fulfillment Cycle time meets customer expectations	Between Groups	63.381	1	63.381	121.721	.000
	Within Groups	103.099	198	.521		
	Total	166.480	199			

Source: Computing from Primary Data

The table 13 revealed that the One-Way ANOVA results show statistically significant differences across groups for all variables, with p = 0.000 in each case. High F-values for factors such as manual processes (F = 150.844), stock-outs (F = 107.105), and fulfilment cycle time (F = 121.721) indicate that these operational aspects vary significantly across respondents. Additionally, variables like coordination (F = 97.919) and workload (F = 41.958) also show notable differences. Overall, the findings suggest that employee designation and roles significantly influence perceptions of order fulfilment efficiency, highlighting the need for targeted operational improvements.

Table 14

Overall order fulfilment cycle time meets customer expectations	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.b			.018	.018
1.0					
N of Valid Cases	98				
Pearson Chi-Square	13.729c	4	.008		
Likelihood Ratio	10.248	4	.036		
2.0					
Linear-by-Linear Association	6.950	1	.008		
N of Valid Cases	71				
Pearson Chi-Square	11.922d	1	.001		
Continuity Correction	5.894	1	.015		
Likelihood Ratio	8.968	1	.003		
3.0					
Fisher's Exact Test					
Linear-by-Linear Association	11.294	1	.001		
N of Valid Cases	19				
Pearson Chi-Square	.f				
4.0					
N of Valid Cases	9				
Pearson Chi-Square	.g				
5.0					
N of Valid Cases	3				
Pearson Chi-Square	462.744a	16	.000		
Likelihood Ratio	354.234	16	.000		
Total					
Linear-by-Linear Association	165.727	1	.000		
N of Valid Cases	200				

Source: Computing from Primary Data

Chi-square indicates in table 14 a clear variation in responses across different designations regarding the impact of manual processes on the order fulfilment cycle time. Most operational-level employees show strong agreement that manual processes increase delays, while higher-level roles have more varied opinions. This suggests a relationship between job role and perception, highlighting the need for automation to improve efficiency. The Chi-square test results indicate a statistically significant association between variables, as reflected by significant p-values across multiple categories (e.g., Pearson Chi-square = 13.729, p = 0.008; 11.922, p = 0.001). The overall results (^{2} = 462.744, p = 0.000) further confirm a strong relationship between factors influencing order fulfilment cycle time and customer expectations. The significant Linear-by-Linear Association (p = 0.000) also suggests a consistent trend in responses. These findings imply that operational factors such as manual processes and role-based perceptions significantly impact whether the order fulfilment cycle time meets customer expectations, highlighting the need for process improvements and better alignment across roles.

Table 15

Overall Redservs order fulfilment process is efficient	Value	df	Asymp. Sig. (2- sided)
Pearson Chi-Square	423.882b	12	.000
Likelihood Ratio	301.015	12	.000
1.0			
Linear-by-Linear Association	159.240	1	.000
N of Valid Cases	191		
Pearson Chi-Square	.c		
2.0			
N of Valid Cases	9		
Pearson Chi-Square	462.744a	16	.000
Likelihood Ratio	354.234	16	.000
Total			
Linear-by-Linear Association	165.727	1	.000
N of Valid Cases	200		

Source: Computing from Primary Data

The Chi-square test results revealed in the table 15, a highly significant association between the variables, as indicated by the Pearson Chi-square value (χ^2 = 423.882, df = 12, p = 0.000). The likelihood ratio (301.015, p = 0.000) further supports this significance. The Linear-by-Linear Association (χ^2 = 159.240, p = 0.000) indicates a strong trend in the relationship. The overall results (χ^2 = 462.744, p = 0.000) confirm a very strong association between operational factors and the perceived efficiency of Redservs order fulfilment process. This suggests that factors such as manual processes and role-based differences significantly influence overall efficiency, highlighting the importance of process improvement and system optimization.

Table 16

Overall order fulfillment cycle time meets customer expectation	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	45.231b	1	.000		
Continuity Correctionc	38.006	1	.000		
Likelihood Ratio	31.026	1	.000		
1.0					
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	44.769	1	.000		

N of Valid Cases	98				
Pearson Chi-Square	37.763d	2	.000		
Likelihood Ratio	35.530	2	.000		
2.0					
Linear-by-Linear Association	27.470	1	.000		
N of Valid Cases	71				
Pearson Chi-Square	2.591e	1	.107		
Continuity Correctionc	.946	1	.331		
Likelihood Ratio	3.683	1	.055		
3.0					
Fisher's Exact Test				.228	.170
Linear-by-Linear Association	2.455	1	.117		
N of Valid Cases	19				
Pearson Chi-Square	.f				
4.0					
N of Valid Cases	9				
Pearson Chi-Square	.g				
5.0					
N of Valid Cases	3				
Pearson Chi-Square	458.538a	16	.000		
Likelihood Ratio	395.977	16	.000		
Total					
Linear-by-Linear Association	176.324	1	.000		
N of Valid Cases	200				

Source: Computing from Primary Data

The Chi-square test results indicate a statistically significant association between variables for most categories, as reflected by high chi-square values and p = 0.000 (e.g., χ^2 = 45.231 and 37.763). The Linear-by-Linear Association is also significant (χ^2 = 176.324, p = 0.000), indicating a strong trend in the relationship. However, one category (χ^2 = 2.591, p = 0.107) shows no significant association, suggesting variation in responses within that group. Overall, the results confirm a strong relationship between operational factors and the extent to which the order fulfilment cycle time meets customer expectations, highlighting the importance of improving key processes to enhance customer satisfaction.

CONCLUSION

In this study, we took a deep dive into the order fulfilment cycle time and the various operational factors at Redserv, gathering insights from a diverse group of respondents, mainly made up of operations, warehouse, and delivery staff. The results provide a detailed look at how well the organization is doing in terms of fulfilment efficiency, pinpointing bottlenecks and capturing the perspectives of employees at different levels of the hierarchy. The demographic breakdown of the respondents showed that most were from the operational level and had relatively short tenures, indicating that Redserv is a young and growing company. Many of the respondents were involved in essential tasks like order processing, inventory management, and logistics, which adds a lot of credibility to the data we collected. The focus on B2B transactions and moderate daily order volumes helped frame the operational context for our findings. Our descriptive analysis revealed that Redserv's order fulfilment process is generally viewed as efficient. There was a high level of satisfaction reported across key stages—from order intake and verification to packing, dispatch, and final delivery. The layout of the warehouse, coordination between departments, and same-day dispatch practices stood out as major strengths.

The technological tools like barcode and RFID systems were recognized for boosting operational efficiency, although there's still room for improvement. Despite its strengths, the study uncovered some significant operational hurdles. A large majority of respondents acknowledged that manual processes slow down order processing and that mistakes in order entry cause delays in fulfilment, both of which highlight ongoing inefficiencies that urgently need digital solutions. Inventory issues, especially stock-outs and insufficient packing materials, were also noted as frequent bottlenecks. Transportation problems emerged as a major external factor that prolongs the fulfilment cycle, emphasizing the need for better logistics management. The inferential analyses added a layer of statistical credibility to these insights. The One-Sample t-test results showed that respondents generally had a positive and statistically significant view across all variables. The impressively high t-value (71.111) and the almost unanimous agreement on overall fulfilment efficiency (mean = 1.045) indicate a strong organizational reputation for process performance.

The One-Way ANOVA results revealed that employee designation and role significantly affect perceptions of fulfilment efficiency, with manual processes (F = 150.844), stock-outs (F = 107.105), and fulfilment cycle time (F = 121.721) showing the most variation between groups. This suggests that operational challenges are perceived and experienced differently depending on job roles, highlighting the need for tailored interventions. The Chi-square analyses further validated the significant relationships between operational factors—especially manual processes and role-based perceptions—and both fulfilment cycle time and customer expectations. The striking chi-square values (χ^2 = 462.744, p = 0.000; χ^2 = 423.882, p = 0.000) emphasize the strong connection between process quality, employee roles, and customer satisfaction outcomes. The linear-by-linear associations also indicate consistent trends, reinforcing the reliability of these findings. To wrap things up, Redserv showcases a solid and efficient order fulfilment system, backed by strong coordination, smart tech use, and a disciplined delivery culture. However, the study clearly highlights the need for automating manual tasks, improving inventory planning, enhancing employee training programs, and optimizing logistics networks to maintain and boost fulfilment performance. The differences in how various roles perceive these issues also suggest that targeted communication and process alignment strategies are necessary across all levels of the organization. By making these improvements, Redserv will be better positioned to meet changing customer expectations with more consistency, agility, and operational excellence.

REFERENCES

1. Agnihothri, S., … N. S.-I. J. of, & 2002. (2002). Leveraging technology to improve field service. Emerald.Com, 13(1), 956–4233. https://doi.org/10.1108/09564230210421155
2. Amrit, C., & Narayanappa, A. K. (2025). An analysis of the challenges in the adoption of MLOps. Journal of Innovation & Knowledge, 10(1), 100637.
3. Lawong, D. A., & Akanfe, O. (2025). Overcoming team challenges in project management: The scrum framework. Organizational Dynamics, 54(1), 101073.
4. Maheshkumar, S., & Soundarapandian, M. (2025). A Study on Digital Literacy and Skill Development in India. https://doi.org/10.5281/zenodo.18233412
5. Seema, V., Sridevi, K. B., Vignesh, R., & Maheshkumar, S. (n.d.). Bridging the Digital Divide: A Comparative Assessment of Online and Offline Buying Behavior in Rural Indian Markets.
6. Seema, V., Vignesh, R., Meena, L., Thavaraj, H. S., Sivaraja, G., Umamaheshwari. (2025). A study on the consequence of corporate domination on livelihood of rural people in Dindigul District. World Journal of Advanced Research and Reviews, 26(1), 4210–4215. https://doi.org/10.30574/WJARR.2025.26.1.1096
7. Thirumalai, S., Management, K. S.-J. of O., & 2005, undefined. (n.d.). Customer satisfaction with order fulfillment in retail supply chains: implications of product type in electronic B2C transactions. Elsevier. Retrieved April 8, 2026, from https://www.sciencedirect.com/science/article/pii/S0272696304001408
8. Vignesh, R., & Soundarapandian Professor, M. (2023). Role Of APEDA In Sustainable Agricultural Marketing In India. Global Journal For Research Analysis, 12(12), 54–55. https://doi.org/10.36106/gjra
9. Wirtz, J., & Stock-Homburg, R. (2025). Generative AI meets service robots. Journal of Service Research, 28(4), 527–543.
10. Xu, J., Sun, Q., Han, Q.-L., & Tang, Y. (2025). When embodied AI meets Industry 5.0: Human-centered smart manufacturing. IEEE/CAA Journal of Automatica Sinica, 12(3), 485–501.