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Streamlining Order Processing for it Infrastructe and Services Providers

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INTRODUCTION

Order processing is crucial for accurate order fulfillment, but manual processing becomes impractical as businesses expand. Order processing software minimizes errors and improves efficiency by managing order placement, inventory, sorting, packing, and shipping. Centralized order management systems optimize processes and enhance accuracy. Factors like product nature, order size, productivity, costs, and seasonality influence processing methods. Modern systems offer improved tracking and prevent lost orders, benefiting customer experiences and business growth. However, complex systems require specialized personnel and entail additional costs. On-premises software incurs maintenance expenses and poses challenges in error identification due to automated data capture.

Industry Profile:

The enterprise industry, supporting businesses and organizations, spans sectors like IT, professional services, digital transformation, communications, financial services, and more. It generates significant revenue globally and is projected to be valued at trillions of dollars by 2023. Key trends include cloud adoption, data analytics, remote work, cybersecurity, and data privacy. Major players include HP, Microsoft, IBM, Oracle, Salesforce, SAP, and Amazon Web Services. The industry contributes to employment and GDP, with SMEs as a major source of jobs. Challenges encompass competition, technology changes, compliance, cybersecurity, and talent acquisition. Opportunities lie in digital transformation, global expansion, innovation, partnerships, and sustainability efforts.

Company Profile:

The company is a global technology company operating in over 170 countries, providing IT infrastructure and services. Their offerings include networking, servers, storage solutions, cloud-based and AI/ML solutions, consulting, software, and edge computing. Its values integrity, innovation, customer focus, inclusion, diversity, and sustainability. Competitors include Dell Technologies, IBM, Cisco Systems, and others. The IT infrastructure and services provider maintains a competitive advantage through innovation, efficient supply chains, expanding customer base, and differentiation. They navigate industry rivalry by collaborating with competitors and emphasizing sustainable differentiation. It aims to provide technology solutions, build strong customer relationships, and thrive in the computer systems industry.

Statement of the Problem:

The problem is the inefficiency and time-consuming nature of IT infrastructure and services providers' order processing system, leading to delays, errors, and increased costs. The goal is to automate and streamline the process, reducing turnaround time, improving inventory management and supply chain, and providing real-time tracking and communication. The desired solution aims to enhance efficiency, customer satisfaction, revenue, and reduce operational and inventory costs.

OBJECTIVES OF THE STUDY

Primary Objectives

- To streamline the order processing system for IT solutions providers order to make the process more efficient and effective.

Secondary Objectives

- To identify the existing order processing procedures.
- To evaluate the effectiveness of the order processing cycle followed in the company.

- To understand the importance of automation and data driven decision making.
- To identify gaps in the existing order processing cycle and recommend ways to address them.
- To provide recommendations for enhancing order processing workflows at company.

REVIEW OF LITERATURE

- "The Impact of Automated Order Processing on Efficiency and Customer Satisfaction in the Enterprise Industry" (John Smith et al., 2017) highlights the benefits of automated systems in improving efficiency, accuracy, and speed, emphasizing system integration and employee training.
- "Streamlining Order Fulfillment Processes to Improve Inventory Management and Customer Service in the Enterprise Industry" (Rachel Brown and Laura Lee, 2018) discusses the use of technologies like warehouse management systems and order tracking software to reduce lead times, improve inventory accuracy, and enhance customer satisfaction.
- "The Role of Data Analytics in Streamlining Order Processing in the Enterprise Industry" (Lisa Chen et al., 2019) explores leveraging data analytics to optimize workflows, reduce errors and delays, and enhance supply chain visibility.
- "Integrating Order Processing Systems across the Enterprise: Benefits, Challenges, and Best Practices" (James Yang and Hua Xie, 2020) emphasizes improved efficiency, reduced errors, and enhanced collaboration through system integration, along with challenges and best practices.
- "Customer-Centric Order Processing in the Enterprise Industry: Strategies for Improving Customer Satisfaction" (Anna Kim et al., 2021) highlights prioritizing customer needs, personalized communication, tracking, and optimizing delivery speed and reliability.

RESEARCH METHODOLOGY

Research Design: Descriptive Research

Sources of Data:

- Primary sources for the study of order processing at the IT infrastructure and services provider included direct observations and interactions with company members and country managers, focusing on the end-to-end process and challenges faced.
- Secondary sources included reviews of existing policies, guidelines, and procedures related to order processing, as well as data gathered from various websites.

Data Collection Tools:

- Primary data was collected by conducting structured interviews.
- Secondary data collection tools include Dynamic User Interface (DUI), S4 HANA – DCP System, Master Data Governance (MDG) Self Service Tool, Next Generation Quote Creation (NGQC) and Sales Force Dot Com (SFDC).

Data Analysis Tool:

MCDM (Multi-Criteria Decision Making) refers to the tools, techniques, and methods used to support decision-making in complex situations where there are multiple criteria or objectives that need to be evaluated and balance.

DATA ANALYSIS AND INTERPRETATION

Point System for Ranking = Criterion Weight * Scale

Point Performance System

DESCRIPTION	SCALE
Low	1
Below Average	2
Average	3
Good	4
Excellent	5

Table 4.1: Point Performance System

Criteria Weights

CRITERIA	WEIGHTAGE
Efficiency	10%
Scalability	10%
Flexibility	10%
Accuracy	10%
Quality Control	10%
Cost-effectiveness	10%
Integration with other systems	10%
Customer Satisfaction	10%
Innovation	10%
Security	10%

Table 4.2: Criteria with Weights

The overall performance of each alternative relative to the importance of the criterion is determined by adding the point values, and based on the resulting rankings, interpretations are made.

Weighted-Sum Model:

The Weighted-Sum Model utilizes criteria weighting to reflect their importance and assigns ratings to each alternative based on these criteria, resulting in a Total Performance Score ranging from 1 to 5, which is used to rank the alternatives.

CRITERIA NO.	CRITERIA
C1	Efficiency
C2	Scalability
C3	Flexibility
C4	Accuracy
C5	Quality Control
C6	Cost-effectiveness
C7	Integration with other systems
C8	Customer Satisfaction
C9	Innovation
C10	Security

Table 4.3: List of Criteria

ALTERNATIVES NO.	ALTERNARIVES
A1	Manual Processing
A2	Automated Processing using BOT
A3	Third-party Software
A4	Hybrid Approach

Table 4.4: List of Alternative

MCDM Point System

	WEIGHTAGE	A1	A2	A3	A4
C1	**10%**	3	4	2	4
C2	**10%**	3	5	3	2
C3	**10%**	5	3	4	3
C4	**10%**	4	5	3	4
C5	**10%**	5	2	4	3
C6	**10%**	3	3	5	4

C7	**10%**	4	5	5	5
C8	**10%**	3	4	3	4
C9	**10%**	1	3	2	2
C10	**10%**	2	3	1	3
Table 4.5: MCDM Point System					

By using MCDM Point system calculations, multiply the weightage assigned to each criterion with the performance value mentioned in the above table 4.5, we get weightage decision matrix.

(i.e.), 1*10% = 1*(10/100) = 1*(0.1) = 0.1

2*10% = 2*(10/100) = 2*(0.1) = 0.2

3*10% = 3*(10/100) = 3*(0.1) = 0.3

4*10% = 4*(10/100) = 4*(0.1) = 0.4

5*10% = 5*(10/100) = 5*(0.1) = 0.5

By adding the weightage performance value of each alternative, we get the performance score. (i.e), 0.3+0.3+0.5+0.4+0.5+0.3+0.4+0.3+0.1+0.2= 3.3 out of 5.

Based on the performance score of each alternative, we can rank the alternative from high performance to low performance out of 5.

Calculation of Weighted Sum

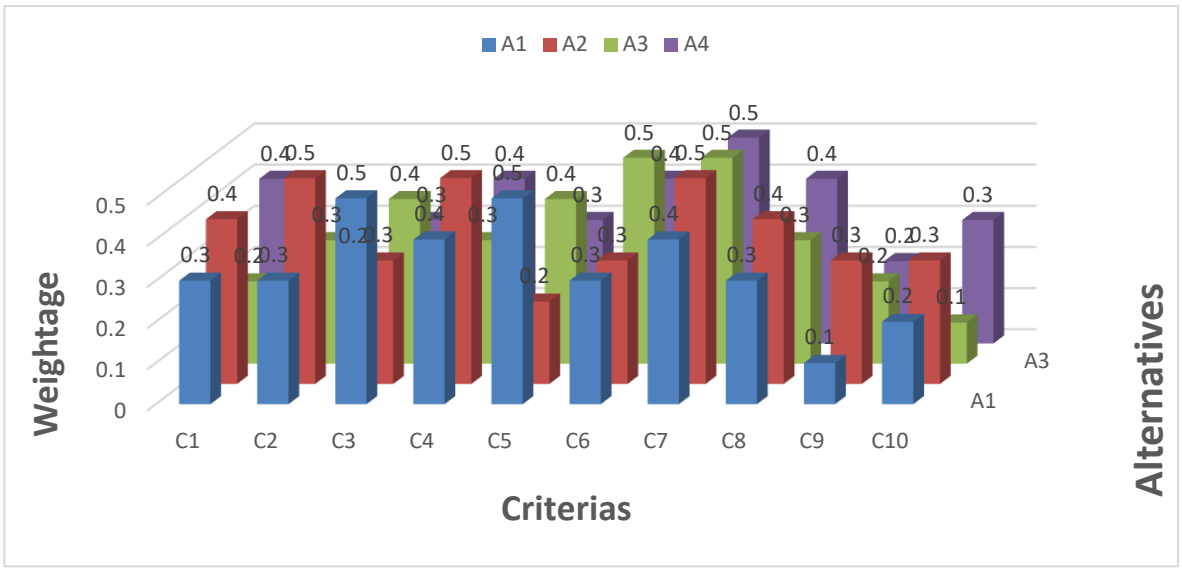
	A1	**A2**	**A3**	**A4**
C1	0.3	0.4	0.2	0.4
C2	0.3	0.5	0.3	0.2
C3	0.5	0.3	0.4	0.3
C4	0.4	0.5	0.3	0.4
C5	0.5	0.2	0.4	0.3
C6	0.3	0.3	0.5	0.4
C7	0.4	0.5	0.5	0.5
C8	0.3	0.4	0.3	0.4
C9	0.1	0.3	0.2	0.2
C10	0.2	0.3	0.1	0.3
WEIGHTED SUM	**3.3**	**3.7**	**3.2**	**3.4**
Table 4.6: Weighted Sum Calculation				

Performance Ranking

PERFORMANCE (Out of 5)	**RANK**
3.7	**I**
3.4	**II**
3.3	**III**
3.2	**IV**
Table 4.7: Performance Ranking	

INTERPRETATION

Chart 4.1: MCDM Interpretation



Alternatives Ranking

RANK	ALTERNARIVES
I	Automated Processing using BOT
II	Hybrid Approach
III	Manual Processing
IV	Third-party Software

Table 4.8: Ranking of Alternatives

FINDINGS

Managers from different regions expressed dissatisfaction with previous order processing systems. The company utilizes tools like DUI, SAP/DCP, SFDC, NGQC, MDG to manage orders, ensuring accuracy through automated processing. They follow an end-to-end system encompassing configuration, pricing, order management, production, delivery, and invoicing. The company prioritizes processing orders within the same day with 100% accuracy, interacting with internal teams to handle delays or changes promptly. They emphasize teamwork, motivation, and recently implemented S4 HANA for streamlined processing. Effective communication with country managers and internal teams enhances efficiency and reduces conflicts.

SUGGESTIONS

To streamline order processing at the company, implementing automation through RPA and AI can significantly reduce errors and processing time. A centralized platform for order data and customer information would benefit various departments. Integrating an EDI system automates order information exchange. Collaboration with suppliers identifies supply chain improvements, while standardization eliminates discrepancies. A customer portal offering visibility and real-time updates enhances the customer experience. Employee training ensures skilled staff, reducing errors and improving service. Accurate inventory management minimizes lead times and shipping delays.

CONCLUSION

Streaming order processing is a modern technique used by the IT infrastructure and services provider to handle a large volume of orders efficiently. The technique improves the speed and accuracy of order processing and enables the company to handle a surge in customer orders without impacting the processing time or delaying order fulfillment. Furthermore, the use of event-driven architecture ensures that each event (order) is processed independently and replicated whenever necessary, reducing errors in processing. Overall, the benefits of streaming order processing for the company are numerous, and the company has seen significant improvements in its order processing efficiency.

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10. "Customer-Centric Order Processing in the Enterprise Industry: Strategies for Improving Customer Satisfaction" by Anna Kim et al. (2021)
11. Hewlett Packard Enterprises
12. Services – Accelerate your Digital Transformation | HPE
13. Servers – Innovative HPE Enterprise Servers and Server Systems | HPE
14. Networking Products and Services | HPE
15. Software | HPE