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Digital Transformation: The Role of Cloud Erp Systems in Garment Industry Thane Region

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Abstract

In the landscape of the garment industry, particularly within the Thane region, the integration of digital technologies has become paramount for sustainable growth and competitive advantage. This paper explores the pivotal role that Cloud Enterprise Resource Planning (ERP) systems play in driving digital transformation within garment manufacturing enterprises in the Thane region. This study clarifies the advantages, difficulties, and implementation techniques related to the Cloud ERP adaptation systems in the apparel industry. The Use of implementing Cloud ERP systems in the garment industry include enhanced operational efficiency, improved inventory management, optimized supply chain visibility, and increased scalability. These studies assist the garment industry of Thane region to adopt cloud ERP to upgrading their Rapid technological improvements and changing consumer needs are causing a substantial paradigm shift in the Thane region's clothing industry. Agile, digitally enabled operations are taking the role of traditional industrial processes to improve efficiency, flexibility, and response to market dynamics quality.

Key words: ERP, Cloud ERP, Garment Industry, Digital Transformation, Traditional

1. INTRODUCTION:

The garment industry stands at the crossroads of transformation, propelled by the convergence of digital technologies and shifting consumer preferences. In the Thane region, renowned for its vibrant textile and apparel sector, manufacturers are grappling with the imperative to modernize operations, enhance the competitive environment and increasingly dynamic marketplace. The main aim of implementing Cloud Enterprise Resource Planning systems emerge as a linchpin in the journey towards digital transformation, offering unprecedented opportunities to revolutionize traditional manufacturing practices and unlock new avenues of growth.

1.1Background and Context:

The garment industry of the Thane region has long been a cornerstone of its economic landscape, characterized by a rich heritage of textile craftsmanship and a diverse ecosystem of manufacturers, suppliers, and retailers. But the sector has faced several difficulties recently, from shifting customer tastes and fiercer international competition to supply chain management complications and operational inefficiencies. The advent of digital technologies promises to transform conventional business structures and usher in a new era of efficiency and innovation, providing a glimmer of optimism amidst these challenges.

1.2 Objectives of Research:

- This study's main goal is to investigate how cloud ERP systems might help the Thane region's garment sector undergo a digital revolution. objectives are as follows
- Analyze implementing cloud-based ERP systems in clothing manufacturing companies.
- Examine the main causes and inspirations for the Thane region's adoption of cloud-based ERP systems.
- Identify best practices and strategies for successful implementation and utilization of Cloud ERP systems in the garment industry context.
- Assess the impact of Cloud ERP systems on business performance, operational efficiency, and competitive positioning of garment manufacturers in the Thane region.

1.3 Scope and Significance:

This research focuses specifically on the garment industry of the Thane region, acknowledging its unique characteristics, challenges, and opportunities. By delving into the role of Cloud ERP systems, the study seeks to provide valuable insights and practical recommendations for

industry stakeholders, including manufacturers, suppliers, policymakers, and technology providers. The results of this study should also add to the larger conversation about technology adoption and digital transformation in the context of developing economies and sectors.

2. REVIEW OF LITERATURE:

A review of the literature is an essential component of every research project's improvement. The contemporary topics that provide light on the new study are also recognized by the readers. Here are a few literature reviews.

2.1 Yang, H., & Tate, M. et.al (2012. The author of this research study reviews several research articles and defines a few cloud computing concepts. The author defines cloud computing concept that enables simple, network connectivity that is available to a shared computing resources that can be firstly allocated and released with less help from service providers or management. These resources include servers, networks, storage, apps, and services. Various kinds of cloud models exist, including

1. "Infrastructure as a service (IaaS)":

It provides cloud computing service via Internet. Processing, storage, and other lower-level hardware and network resources are included in these services. Unlike traditional hosting services, which charge a monthly or annual fee for the rental of full physical servers or certain parts of them, Cloud infrastructure is available for rent as virtual machines that may dynamically scale up or down in response to user demand.

2. "Platform as a service (PaaS)":

It helps to provide service as granting consumers access to development and execution environments. A PaaS product is a development, testing, design, and deployment platform integrated into one. The PaaS user can quickly develop apps using the programming languages that the provider provides with a few clicks, and then install them on the cloud infrastructure for the provider.

3." Software as a Service (SaaS)":

The provider of Cloud space for the end user to host the application. It helps the user make their APP online without purchasing the new software and cloud space. For new licensing software is more costly so if the user uses Software as service, it required less cost. There are many clouds service provider such as AMAZON, MICROSOFT, GOOGLE etc.

2.2. C.M. Navaneethakrishnan.et.al. (2013). In this research paper Author explained that Businesses can use direct software implementation or cloud-based methods to implement ERP systems. The traditional ERP systems are deployed on the company's premises. Within the company, the servers and required software packages are configured. All of the software is set up on the personal PCs. Server maintenance and emergency recovery are under the purview of the company itself. The business bears full responsibility for maintenance. Another option for ERP deployment is a hosted network, in which the servers are located at separate locations and the business is connected by a direct network. One of the newest developments in ERP systems is the utilization of cloud-based services.

2.3 Kent Ramchand, Mohan B. Chhetri et.al. (2021). In this research paper author explained how cloud computing gets benefitted in implementing in business. Given the growing popularity and uptake of cloud computing, businesses looking to migrate several legacy apps to the cloud would benefit from an evaluation of the expenses associated with running the cloud and the economics of migration before moving forward. But as cloud migrations have proliferated, a large number of them have been marred by botched attempts at modernizing applications or migrating data. The main cause of the unsuccessful attempts is inadequate forethought in determining appropriate applications are take use to public or private cloud services, which results in delays and overspending.

2.4 Devendra Wankhede, Shreya Khobragade et.al (2021). In this research paper author state that Because textile companies can frequently evaluate, analyze, and optimize their business operations based on their corporate business strategy, the robust ERP solution makes it easier for them to make the appropriate business decisions. A textile company with a

complete ERP solution may also communicate with its business partners more efficiently. This application's main goal is to support several textile companies in using the system, which helps them provide outstanding customer service, maximize return on asset investments, streamline merger and acquisition processes, optimize enterprise processes, reduce operational risk, and facilitate environmental compliance.

3. RESEARCH METHODOLOGY:

Using a descriptive research design, this study examines and evaluates the advantages, difficulties, motivators, drivers, best practices, and effects using cloud-based (ERP) systems on Thane region garment manufacturing companies. Data are gathered and analyzed from ten Thane region clothing industry companies using quantitative research approaches. To ensure representation from a range of sizes and types of enterprises, 10 garment industry companies in the Thane region are chosen using a purposive sample technique total sample papulation sized 500 as using sample calculator total 97 sample sampling is collected. Data is gathered from key stakeholders, IT specialists, managers, and staff members, adoption, and use of Cloud ERP systems through structured surveys. Ten or Nine responses are obtained from each of the chosen companies, for a total of 97 responses. The gathered data is analyzed using statistical techniques and instruments such as regression analysis, correlation analysis, and descriptive statistics. Statistical software tools like SPSS software are used for data analysis in order to draw conclusions and extract important insights.

4. DATA ANALYSIS AND INTERPRETATION:

Q 4.1: To what extent do you believe a cloud ERP system can improve operational efficiency in your garment manufacturing enterprise? Rate it in 1 to 5

"Null Hypothesis (H0): In terms of operational effectiveness, using cloud ERP in the apparel business does not significantly differ. "

"Alternative Hypothesis (H1): In terms of operational effectiveness, using cloud ERP in the apparel business significantly differ".

(Table: 4.1.1)

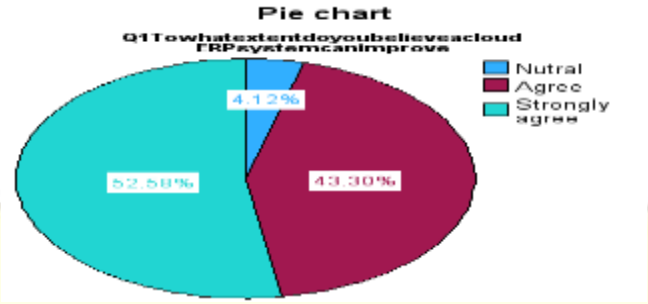
cloud ERP system can improve operational efficiency		
	Missing Value	0
N	Valid Value	97
The Mean Value		4.48
The Mode Value		5
The Median Value		5.00
Skewness of data		-.595
The Kurtosis of sample taken		-.602
Variance of data		.336
Std. Error of Kurtosis of sample data		.485
Std. Error of Skewness of sample taken		.245

Table: 4.1.2)

cloud ERP system can improve operational efficiency		
	N	%
Neutral	4	4.1%
Agree	42	43.3%
Strongly agree	51	52.6%

(Table: 4.1.3)
One-Sample T-Test
Q1:Is cloud ERP system can improve operational efficiency

	Test Value = 0				
	T	df	Significance		The Mean Difference is
			Two-Sided p value	One-Sided p value	
	76.231	96	<.001	<.001	4.485



(Figure 4.1.1)

DATA INTERPRETATION:

After compiling above data using the software SPSS, the result shows that 43.30 % agree and 52.58% Strongly agree to use Cloud ERP system for operational efficiencies above T-test result shows that the p value is less than that significant factor .001 so the evidence reject Null Hypothesis and accept Alternate Hypothesis.

Q 4.2. Do you think a cloud ERP system will impact the business performance metrics such as cost reduction and inventory management?

"Null Hypothesis (H0): In terms of cost savings, there is no discernible change in the apparel business when using cloud-based ERP.

"Alternative Hypothesis (H1): In terms of cost savings, there is discernible change in the apparel business when using cloud-based ERP.

(Table: 4.2.1)

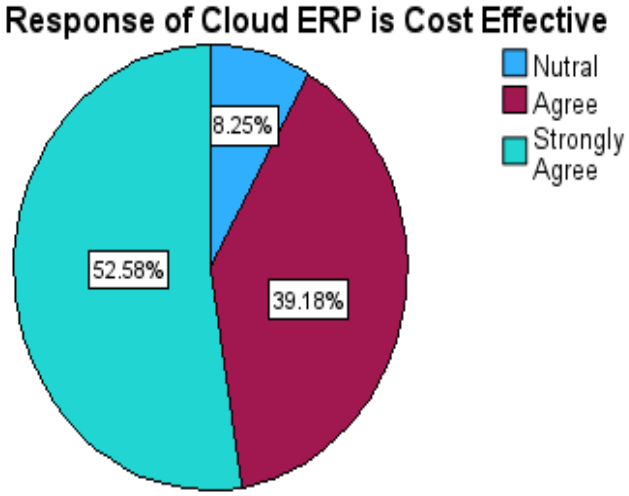
Statistics		
Is Cloud ERP is Cost Effective		
N	Valid	97
	Missing	0
Mode		5
Range		2
Minimum		3
Maximum		5

(Table: 4.2.2)

Is Cloud ERP is Cost Effective					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Strongly Agree	51	52.7	52.7	100.0
	Agree	38	39.1	39.1	47.4
	Neutral	8	8.3	8.3	8.3
	Total	97	100.0	100.0	
One-Sample Test					
	Test Value is 0				

Is Cloud ERP is Cost Effective	t	df	Significance		Mean Difference	Confidence Interval of the Difference is 95%	
			One sided P value	Two sided P value		Lower	Upper
	67.847	96	<.001	<.001	4.443	4.31	4.57

(Figure: 4.2)



DATA INTERPRETATION:

After compiling above data using the software SPSS, the result shows that 39.18 % agree and 52.58% to use Cloud ERP system for Cost Effective above T-test result shows that the p value is less than that significant factor .001 so the evidence reject Null Hypothesis and accept Alternate Hypothesis.

Q 4.3. Do you think that adaptation of Cloud ERP in Garment industry optimizes the supply chain management?

"Null Hypothesis (H0): When it comes to supply chain management, there are no appreciable differences in the apparel business when using cloud ERP.

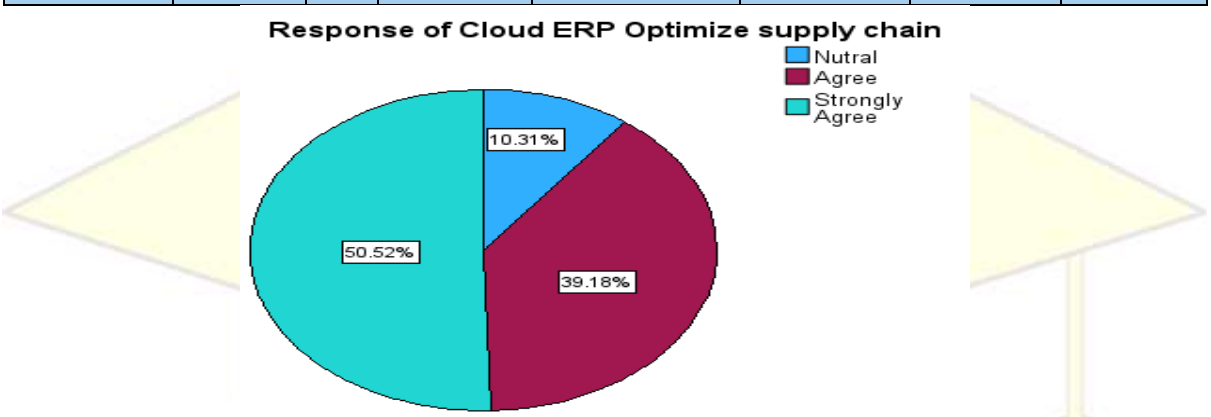
"Alternative Hypothesis (H1): When it comes to supply chain management, there are appreciable differences in the apparel business when using cloud ERP.

(Table: 4.3.1)
Statistics

	Missing Value	0
N	Valid Value	97
Mean Value		4.40
Mode Value		5
Median Value		5.00
Std. Deviation of data		.672
Std. Error of Skewness		.245
Skewness of data		-.686

(Table: 4.3.2)

Cloud ERP Optimize Supply Chain							
	One-Sample Test the Test Value = 0						
	t	df	Significance		Mean Difference	Confidence Interval of the Difference is 95%	
			One-Sided p	Two-Sided p		Lower	Upper
Is Cloud ERP Optimize Supply Chain	64.541	96	<.001	<.001	4.402	4.27	4.54



(Figure: 4.3)

DATA INTERPRETATION:

After compiling above data using the software SPSS, the result shows that 50.52 %strongly agree to use Cloud ERP system for Optimizing Supply chain. above T-test result shows that the p value is less than that significant factor .001 so the evidence rejects Null Hypothesis and accept Alternate Hypothesis

5. CONCLUSION:

Based on the findings presented in this study, it is evident that Cloud (ERP) systems are integral to the digital transformation of garment manufacturing enterprises in the Thane region. The integration of these technologies not only supports sustainable growth but also enhances competitive advantage in an evolving market landscape.

Key benefits highlighted in this research include enhanced operational efficiency through streamlined processes, improved inventory management capabilities, optimized supply chain visibility, and enhanced scalability. These advantages empower garment manufacturers in Thane to make informed decisions based on real-time data insights, thereby driving operational excellence and strategic growth.

In conclusion, this research underscores the transformative impact of Cloud ERP systems on garment manufacturing enterprises in the Thane region. By leveraging these technologies, companies can not only enhance their operational capabilities but also position themselves for sustainable growth and competitive advantage in the digital era. Future efforts should focus on refining implementation strategies and overcoming barriers to adoption, thereby enabling more garment manufacturers in Thane to embrace Cloud ERP systems and drive continuous improvement in business performance and customer satisfaction.

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