

Exploring Causes for Underutilization of the XYZ Cloud ERP System for Effective Strategic Decision-Making: A Case from ABC (Pvt.) Ltd.—Sri Lanka

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Abstract

Utilizing the right resources and adequate capabilities helps to bring competitive advantages and it assists to generate valuable positions for the business. Most importantly, utilizing the unique resources within the organization enhances the senior management's decision-making capabilities. From Sri Lanka, one of the leading apparel manufacturing organizations was selected for this research study and a case-based qualitative method was adopted for it. XYZ Cloud ERP system was selected to implement at ABC (Pvt.) Ltd. by expecting to bring competitive advantages and a valuable position to the business. However, the preliminary study revealed that the organization has failed to bring expected outcomes and it is required to identify the causes and explore the reasons for the underutilization of the XYZ Cloud ERP system. This study has adopted thematic network analysis to identify the causes and explore reasons from the senior management who are responsible for taking strategic decisions. To understand the central phenomena of the above problem setting, semi-structured interviews were conducted to collect data. Nine (9) senior executives and one (1) director were selected representing different levels of industry experience, academic backgrounds, and decision-making authority. The study was aimed from the organizational, cultural, information system quality, information quality and service quality perspectives. Altogether thirteen (13) factors were identified and seven (7) of them were recognized as the most influencing causes and reasons for the underutilization of the XYZ Cloud ERP system. Findings explain that the XYZ Cloud ERP system has failed to provide different levels of analytical information and senior management has failed to understand the significance of the information sys-

tem's data. Moreover, the merging of the ERP system's data with the excel spreadsheet's data helps to produce decision-making information and it negatively influences the use of the XYZ Cloud ERP system. The findings further reveal that the lack of support from the ERP vendor and top management promotes traditional practices and discourages to use of the XYZ Cloud ERP system maximum. Finally, recommendations are proposed to overcome the negatively influencing causes and reasons. Most significantly, it helps to bring people development, organizational transformation and organisational business processes improvements.

Keywords

Sri Lanka, Cloud ERP, Strategic Decision-Making and Apparel Industry

1. Introduction

Sri Lankan Garment Industry: After its independence in 1948, Sri Lanka was recognized as a country with an "agriculture economy with a plantation-based export sector" to the world, with premium quality export products (Bandara & Karunaratne, 2010). Even though Sri Lanka is known for its agricultural and plantation-based exports, the export-oriented production of clothing started in the 1970s and a significantly large volume of export began from 1986 onwards (BOI, 2019). According to the Board of Investment (BOI) in **Figure 1**, the apparel export income was Rs. 5.2 billion in the year 2019 and provided a large number of employment opportunities to the nation (BOI, 2019). On the other hand, the Central Bank of Sri Lanka (2019) confirms that the earnings of foreign exchange from apparel exports were US \$304,824 million in 2018 and the contribution of employment opportunities to the nation was 307,912.

Background of the study: To drive the organization's success and to have a better outcome of business excellence in a garment manufacturing organization, it is required to prepare, equip and support individuals to adopt change management (Kotter, 2021). On the other hand, Moohebat et al. (2005) explain that many organizations tend to use information systems (ISs) to find strategic solutions as well as, for intensive decision-making for their business excellence. Khaparde (2012) explains that the ERP system is "an enterprise-wide application software package that, integrates all necessary business functions into a single system with a common database"; furthermore, it streamlines the business processes within the boundaries of departments and geographical borders (Seo, 2013). The enterprise information systems help achieve upstream and downstream integration with the business entities, and most importantly, links between the company's business processes for effective strategic decision-making (Seth et al., 2017). Mitra and Mishra (2016) point out that the implementation of the ERP system brings planned and revolutionary change to the organization's strategies. Moreover, many researchers have extensively explored influencing

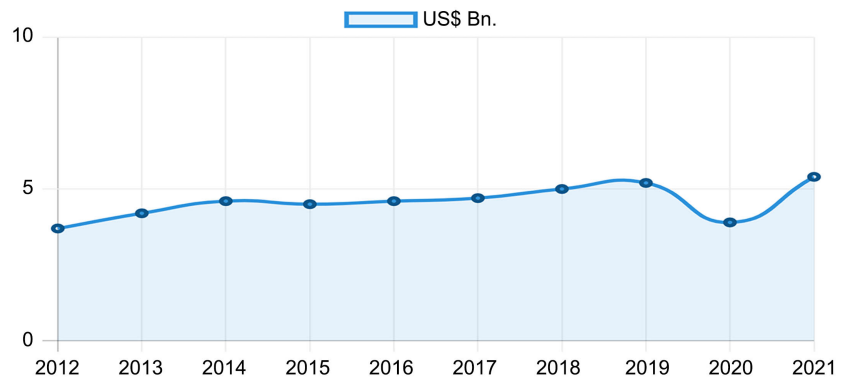


Figure 1. Apparel Exports 2012-2021 (Jan.)—Sri Lanka. Source: Extracted from Board of Investment (BOI), Sri Lanka website (BOI, 2019).

factors for integrated information systems adoption (Freeze et al., 2010) and (Cherunilam, 2015), implementation of the Cloud ERP system (Huang et al., 2021), (Mitra & Mishra, 2016) and (AlMuhayfith & Shaiti, 2020) and their significant challenges and benefits (Abd Elmonem et al., 2017) and (Salimi et al. (2015)). However, less attention was given to studying the influencing factors for the underutilization of the Cloud ERP system for effective strategic decision-making from the Sri Lankan apparel manufacturing industry perspective. One of the garment-manufacturing organizations is selected for this research study and a case-based study is adopted to understand the central phenomena. Moreover, this study tries to contribute new knowledge to the existing literature and attempts to fill the knowledge gap.

The findings of the study help to understand the most influencing causes and reasons for underutilization of the cloud ERP system and it further assists in taking proactive actions for the senior management of the ABC (Pvt.) Ltd. Moreover, it is expected to bring new knowledge to the industry specialists who work in the garment manufacturing industry, especially from South Asian countries. For this study, a qualitative methodology and an inductive approach are adopted to find the answers to the central phenomena. Senior executives and director-level members were selected for this research study and thematic network analysis was used for the data analysis.

Having a better understanding of the background of the study and the research objectives whereas the second section is designed to bring theoretical underpinning. The third section is organized to understand the research methodology and it extensively discusses the sample selection along with the data collection process. The next section is designed to analyze the findings gathered from semi-structured interviews and the thematic network analysis approach is used for that. The latter part of the section brings the findings insights, which further validate the theoretical background. The final section discusses the conclusion, which includes the recommendations and their benefits.

2. Literature Review

The Enterprise Resource Planning (ERP) system and its evolution: At the beginning of the 1960s, computers were introduced to the world and many organizations started designing the “reorder point system” to manage their inventories (Goldston, 2020). Gradually, it progressed to the stage of material requirement planning (MRP) and afterwards, the MRP II was introduced to address some of the operational problems through various information systems integrations (Salimi et al., 2015). Outdating the material requirement planning system in the 1980s, the ERP system was introduced to the world. Aligning to the above, Salimi et al. (2015) justify that the tangible and intangible benefits are gained by using the ERP system, and it is provisioned to work with service-oriented activities. The Cloud ERP system is another characteristic of cloud computing and it was introduced as software as a service (SaaS) to the world (Abd Elmonem et al., 2017). The difference between the on-premises and the Cloud ERP system is that the software can be accessed through the user browser instead of operating it through prior installation and configuration to the client’s PC. Breaking the boundaries of all the above, Chofreh et al. (2016) further explains that the sustainable ERP system helps to streamline the “business processes, cost reductions, and quality improvements that lead to securing economic improvement, social equity & justice, and environmental protection”.

The ERP system usage: The information system usage affects the individual learning performance in an organization and it weighs to achieve the organization’s strategic objectives (Freeze et al., 2010). The latest and most useful integrated application is the cloud ERP system and it uses for administrative purposes in an organization (Wickramasinghe & Karunasekara, 2012). Furthermore, AlMuhayfith and Shaiti (2020) clarify that small and medium enterprises significantly benefit their organization’s performance by adopting and using the integrated information system.

Effective strategic decision-making: Cherunilam (2015) clearly explains that the adoption of technology-based strategic planning stepping into the digital age and it has helped many organizations (eg: Apple Inc., Microsoft Corporation & Ford Motor Company) because they have understood it in the early stages. “Strategy is about choice” and it helps to select from a different set of activities to bring a distinctive value to the organization Cherunilam (2015). Wiraeus and Creelman (2019) argue that technology greatly supports the decision-making process. It further justifies that the key performance indicators (KPI) scores are extensively used to achieve organization objectives. According to Okar et al. (2021), massive real-time information through the ERP system facilitates to take the decision-making process and Amason and Schweiger (1994) decisively confirm that such systems were called decision support systems. Furthermore, Hitt et al. (2007) point out that strategic input is required for effective strategic decisions. Strategic leaders rely on technologies and information systems for the ef-

fective decision-making process.

Theoretical underpinning: “For the successful exploitation of the ERP system”, Peng and Nunes (2010) reveal Thirty-five (35) critical success factors in the context of Chinese State-Owned Enterprises (SOE). On the other hand, Huang et al. (2021) disclose Thirty-five (35) critical success factors through the literature review for the on-premise Cloud ERP system implementation. It helps to summarize the latest findings into a single viewpoint awareness. From the systematic literature review, Abd Elmonem et al. (2017) identify Fourteen (14) advantages and Nineteen (19) challenges for Cloud ERP system implementation. D&M IS success model is introduced to understand the success of the information system and its impact on the organization’s success focusing on quality and user satisfaction perspective (Delone & Mclean, 1992) and (Okar et al., 2021). The above information explains that the implementation of the integrated cloud ERP system helps to bring competitive advantages to the business. Moreover, it further emphasizes that the unsuccessful implementation of the ERP system negatively influences strategic activities.

3. Introducing to the ABC (Pvt.) Ltd.

First woven into the garment fraternity in 1974, it has grown into one of the top apparel exporters in Sri Lanka. ABC (Pvt.) Ltd. operates with over 12 manufacturing facilities and 12,000 associates. ABC management proudly manufactures and exports over 2.5 million garments per annum to its buyers in the USA and Europe. Over the decades, the organization has strived to maintain an error-free record of accomplishment and reputation in the business areas. However, when reviewing the last three (3) years of sales performance, it elucidates that a long-term problem was existing and it has to be investigated as soon as possible. Figure 2 helps to understand the sales figures and their progressive status. Understanding the declining sales trend at ABC (Pvt.) Ltd. is an essential requirement to have the right resources and dynamic capabilities in an organization to overcome the current crisis.

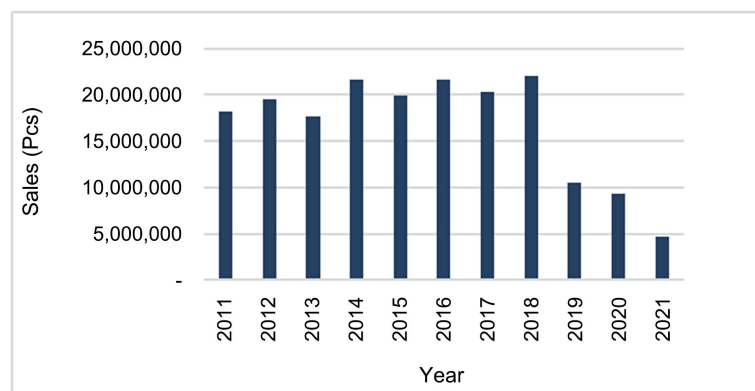


Figure 2. ABC (Pvt.) Ltd.—Last 10 years sales. Source: Retrieved data from the XYZ Cloud ERP system.

Four (4) years before, six different legacy information systems were used having limited functionalities to accomplish the organization's needs. Importantly, the lack of systems integration resulted in greater difficulties to yield consolidated information for strategic decision-making (Srinivas et al., 2016). Most significantly, it has failed to achieve a holistic view of information to create a valuable position and competitive advantages for the business (Table 1).

Experiencing the legacy system's disadvantages, it was compelled to look for an integrated information system as a cloud enterprise resource planning (ERP) system. Lečić and Kupusinac (2013) explain that the ERP system's responsibility is to provide an accurate and analytic set of information for the effective decision-making processes and to "support their communication needs". Ranjan et al. (2016) further explain that the ERP system is a "strategic tool in OEM business environment" and it helps to "improve the performance of the supply chain and reduce the cycle times of new products". Usage of the modern business system helps to improve decision-making and solve practical problems; furthermore, it helps in reducing the business managers' decision-making errors (Semenyuta et al., 2019).

The legacy system's practical and operational difficulties forced ABC Management to look for strategic solutions where it brings competitive advantages and a unique position to the business. Aligning with the above understanding, ABC management has decided to look for an apparel industry-specific Cloud ERP system and managed to implement the XYZ Cloud ERP system. The XYZ Cloud ERP system is facilitated with advanced features of application programming interface (API) and it is exclusively designed for "the apparel manufacturing and sourcing industry to track all business operations" (WFX, 2021). The XYZ Cloud ERP system is equipped with ten (10) main business modules and it is capable of handling vendor consolidation as well as third party systems integrations (WFX, 2021). Table 2 shows the XYZ Cloud ERP system business modules and current utilization status at ABC (Pvt.) Ltd.

The background of the study clearly explains that the ERP system helps to perceive significant advantages and benefits to the organization from multiple perspectives. On the other hand, the preliminary study at ABC (Pvt.) Ltd. revealed that the ABC management has failed to bring a valuable position to the business by maximum utilizing the XYZ Cloud ERP system.

Table 1. Legacy systems and their functional modules.

| Legacy Systems | Modules | Legacy Systems | Modules |
|--------------------------------|--|---------------------------------|---|
| M-track | Sampling & Fixed Asset | E-shipping | Shipping & Logistics |
| Standalone ERP | Sales & Marketing | Microsoft Excel and Word | Quality functions, Management & Audit Reports |
| | Procurement & Indent Warehouse (Inventory) | | |
| MS Project & Access | Production planning | Finex | Trade-finance Module |
| M-Plus | Production Module | | |

Source: Information collected from senior members at ABC (Pvt.) Ltd.

Table 2. Current utilization status of XYZ Cloud ERP system.

| Module | Primary Function | Status | Primary Function | Status |
|--|--|-----------|-----------------------------------|-----------|
| Sampling | Sale order management | Yes | Capacity planning | No |
| | Mini costing and Bill-of-Material Management | No | Sourcing Management | No |
| | Inventory Management | No | Tracking (Time & Action Calendar) | No |
| | Ad-hoc sourcing | Yes | Business Intelligent Report | No |
| Sales | Catalog Management | Yes | Buyer Costing | Yes |
| | Int. costing & Bill-of-Material | Yes | Sales Order Management | Yes |
| | Time & Action Calendar | Yes | Liability Management | Part. |
| Sourcing | Indent Management | Yes | Sourcing Management | Yes |
| | Material Allocation | Yes | Consolidation PO Management | Part, |
| Inventory | Material Requisition | Yes | Receiving & Dispatch management | Yes |
| | Miscellaneous | Yes | Raw Material Allocation | Part. |
| Shipping & Logistics Module | Pre-shipment management | Yes | Post-shipment management | Yes |
| | Commercial invoicing | Yes | Integration with external system | Yes |
| | Import consolidation | Man. | Packing List Import Function | Yes |
| Production | Planning & coordination | Yes | Cutting & Bundling | Yes |
| | Sawing & Washing | Yes | Packing & Dispatch | Yes |
| | Leftover garments. | Manual | Material allocation & Dispatch | Yes |
| Quality Control (QC) | Material QC Process | Manual | Semi/Finish QC Process | Partial |
| Trade-Finance | Account payable | Yes | Account payable | Yes |
| | Fixed Asset | Partially | Liability Management | Partially |

Source: Collected data during the pilot study.

Problem statement: Implementation of the XYZ Cloud ERP system was decided in November 2018 expecting to benefit competitive advantages to the business and effective strategic decision-making for the senior management. However, the preliminary study exposes that due to the underutilization of the XYZ Cloud ERP system over the period, it has failed to experience such benefits.

The pilot study (**Table 3**) reveals that there were shortfalls in following up on standard operating procedures (SOPs) for some of the organization's business processes and failed to utilize the XYZ Cloud ERP system for effective strategic decision-making. It further explains that there were provisioned to bypass the SOPs for interconnected departmental business processes and manual practices were heavily utilized to accomplish the organization's strategic objectives. Even though the XYZ Cloud ERP system facilitates adequate system features to benefit, still the system users have failed to utilize it maximum to gain a competitive advantage for the business. Aligning to the preliminary responses given by the senior management, the outcome has shown that loss of opportunities and failure to gain competitive advantages for the business using the XYZ Cloud ERP system.

Table 3. Preliminary study feedback.

| Responder | Response | Outcome |
|-------------------------------|---|---|
| Merchandiser | Buyer Costings were created using an excel spreadsheet instead of using the ERP system. | Unable to generate buyer-costing vs budgeted costing variance report for the next season's customer negotiation. |
| Sampling Manager | Reluctant to manage the Time & Action calendar by senior merchants. | Unable to track a holistic view of sampling progress and final delivery target timelines for customer communication. |
| Auditor/Group Finance Manager | Sales orders against buyer liability and raw material against supplier liability functions were not operational. | Unable to generate liability asset-valuation report for financial analysis & decision-making process. Poor material allocation for liability raw materials and excess inventory. |
| Director/ Managing Director/ | <ul style="list-style-type: none"> - No consolidation for raw material POs and forwarder bookings. - No supplier ageing reports for general purchases. - No visibility of supplier purchasing and customer sales trends. | <ul style="list-style-type: none"> - Due to this poor consolidation of the supplier purchase order, the company incurs huge import (transportation) costs. - Unable to demand the supplier for better pricing and customer delivery extensions as well as for margin hike-up. |
| Director/ | <ul style="list-style-type: none"> - Unable to obtain a consolidated form of reports and dashboards. - Unable to obtain budget vs actual details for capacity planning and negotiation with the customers. | <ul style="list-style-type: none"> - Poor planning results in capacity wastage. - Unable to review on-time reports for effective decision-making. - Manual data feeding for trade finance and still one legacy system is in operation. |
| QC Manager | Receiving and dispatching the raw materials without updating the defect percentage status in the system. | Unable to review supplier wise raw material defect percentage and values for supplier evaluation and price negotiation. |

Source: Responses are collected from senior management of ABC (Pvt.) Ltd.

Along with the above preliminary findings, it was managed to bring secondary evidence for one of the cases highlighted by the senior executives: “*Sales order against buyer liability & raw material against supplier liability functions were not in operational*”.

Existing process flow: Table 4 explains that manual instructions (through e-mail) are given to the liability management dept. to validate and verify the raw material stock details with the system-recorded information. Subsequently, it is requested to transfer those stocks into the liability stores and instructed to maintain that information in the excel sheets. However, having an understanding of manual instructions, where sales orders are cancelled from the XYZ Cloud ERP system.

Important: If the order cancellation is done due to the buyer's fault then a supplier debit note is raised, if not that expense is absorbed by ABC management. Due to an unavailability of liability cancellation instructions in the ERP system, the finance dept. is compelled to maintain the payment details in the excel spreadsheets as follows (Table 5).

The primary and secondary information elucidates that the XYZ Cloud ERP system is not utilized maximum to bring a unique and valuable position to the business. Most importantly, senior management has failed to make effective strategic decision-making aligning with the organization's strategic objectives.

Table 4. Cancellation request form—Manual XL sheet.

| XYZ Cloud ERP system update | | | | Liability details manual instruction—for liability reconciliation | | | | | | | | |
|-----------------------------|---------|-------|----------------|---|-----------|-----------|----------|-------|---------------------|----------------|--------------------|--|
| Buyer | Style # | PO # | Orig. Qty. Pcs | Mat. Type | Sup. Name | Sup. PO # | Mat. Clr | Cons. | Raw Mat. Order Qty. | Canc. Qty. Pcs | Raw Mat. Canc Qty. | |
| GAP | 2305 | AB1DC | 2500 | B. Fabric | Eve | 4675 | Wt | 2 | 5000 | 1000 | 2000 | |
| GAP | 2305 | AB1DC | 6000 | Poly Bag | Crea | 4124 | Rd | 1 | 6000 | 1000 | 1000 | |

Source: Data collected during the pilot study with the Auditor.

Table 5. Liability claim-tracking schedule.

| Buyer Division | Merchant Manager | ABC-Paid liability | ABC-Unpaid Liability | Total USD | Claimed from Buyer |
|----------------|------------------|--------------------|----------------------|-------------|--------------------|
| GAP | Mr Saman | 13,000.00 | 0.00 | (13,000.00) | 0.00 |

Ex: Finance dept. prepares the liability claim-tracking schedule using an excel spreadsheet.

Source: Data collected during the pilot study with the finance dept.

Having an understanding of all the above, it is significant to know what causes and reasons influence to underutilizing of the XYZ Cloud ERP system. Hence, this research study intends to find the most influencing causes and reasons for the underutilization of the XYZ Cloud ERP system for effective strategic decision-making at ABC (Pvt.) Ltd.

4. Research Methodology

According to Kothari (2004), the research methodology is “a way systematically solve the research problem” by adopting scientific logic and a systematic process from the beginning. Since this study intends to take an exploratory nature of the research study, the most suitable method would be the qualitative research method. This **research** study adopts the inductive approach to understand the central phenomena of the problem setting and it would help to bring significant benefits to ABC management. Having a better understanding of all the above, the research philosophy of this study would be interpretivism with the semi-structured interview (Saunders et al., 2009).

Sampling strategy and selection procedure: This study adopts a qualitative approach and a non-probability sampling method to select the participants who can provide in-depth knowledge about the central phenomena referred to investigate. Selecting the right sample group from the different departments is extremely important in a single case study as it represents the entire population (Saunders et al., 2009).

ABC management is equipped with eight independent departments and selected samples were represented from all the departments. Altogether, 10 samples were selected from the total population of fifteen (15) senior executives and three (3) directors. Importantly, selected samples were represented from different levels of educational backgrounds, industry experience and strategic decision-making authority. Among all three directors, one of the directors is selected

for this study and holds the highest level of strategic decision-making authority. The finance dept. is equipped with four (4) senior executives and managed to select three (3) members, who were holding different scope of responsibilities. Afterwards, it was managed to select six (6) members from the total population of eleven (11) and all of them were represented by purchasing, production planning, merchandising and general depts. Overall 55.55% of the members were selected as a sample group from the senior executives and directors at ABC management, therefore, the findings can be generalized to the entire population (Kreicic & Morgan, 1970) (Table 6).

Data collection: The proposed theoretical framework is brought out from the updated D&M IS success model, and it helps to prepare the semi-structured interview guide for data collection (Figure 3).

System quality: According to Freeze et al. (2010), system quality refers to “the individual perception of a system’s performance”, the hardware availability and the software application design for the use of the information system. This research study tries to understand the level of resources helping for the utilization of the XYZ Cloud ERP system. **Information quality:** Swaid and Wigand (2009) reveal that information is measured using the following desired characteristics “accuracy, precision, currency, reliability, completeness, conciseness, relevance, understandability, meaningfulness, timeliness, comparability, and format”. This study tries to measure the accuracy, precision and relevance of the information residing in the XYZ Cloud ERP system for effective strategic decision-making. **Service quality:** Petter and McLean (2009) highlight that service quality refers to the support organisation’s responsiveness, reliability, and empathy. This study intends to understand the service quality from the ERP vendor and the internal IT support service perspective. **Organization/Cultural factors:** Kamhawi (2008) discloses that user resistance and lack of management support are the challenges to the success of the ERP system adoption. Huang et al. (2021) argue that the Cloud ERP system’s success greatly depends on “the communication within the organization”. Hence, the above two factors are incorporated into the proposed theoretical framework.

Use, User satisfaction and Net system benefit: “Use/the intention to use” deals with all three quality factors and the consumption of the IS output explains as actual usage (Petter & McLean, 2009). User satisfaction also deals with all three quality factors and it further influences the use/intend to use the ERP system (H. Zaied, 2012). However, for the proposed conceptual framework, user satisfaction is pointed only to the use of the ERP system as it is expected to find user satisfaction from the XYZ Cloud ERP system usage perspective. The net system benefit is represented as the final factor in the proposed conceptual framework and it results in understanding the perceived net system benefits to the business. Most significantly, it intends to understand the level of effective strategic decision-making perceived by senior executives and directors at ABC (Pvt.) Ltd. (Table 7).

Table 6. Sample participants from ABC (Pvt.) Ltd.

| Resp. ID | Designation | Work Exp. | Highest Edu. Qual. | Duration (mm: ss) |
|----------|------------------------------------|-----------|--------------------|-------------------|
| R01 | Group Internal Auditor | 08 | Postgraduate | 22:99 |
| R02 | Accountant | 15 | Graduate | 24:08 |
| R03 | Group Finance Manager | 23 | Postgraduate | 15:01 |
| R04 | Planning Manager | 14 | Graduate | 21:16 |
| R05 | Group Purchasing Manager | 30 | Graduate | 14:38 |
| R06 | Group Project Manager | 20 | Graduate | 14:03 |
| R07 | Sen. Merchandizing Manager | 11 | Higher Dip. | 14:22 |
| R08 | Director of Marketing & Production | 30 | Graduate | 17:34 |
| R09 | Sen. Merchandizing Manager | 11 | Graduate | 14:22 |
| R10 | Group Shipping & Logistic Manager | 20 | Graduate | 10:49 |

Source: Field data.

Table 7. Items (interview questions) used for Semi-structured interviews.

| Main Themes | Interview Items |
|--|--|
| System Quality: | Do you find that the XYZ Cloud ERP system is always available for access? |
| | Do you think that the XYZ Cloud ERP system is user friendly to access? |
| | Do you experience high-speed information access in the XYZ Cloud ERP system? |
| Information quality: | Explain please that the XYZ Cloud ERP system provides the information exactly that you want and is sufficient to achieve your organization's objectives? |
| | Does the ERP system provide up-to-date information to achieve your goals? |
| Service quality: | Do you experience a lack of support from the ERP consultants and how? |
| | Do you find that the internal team lacks project management skills and poor implementation strategy? |
| User Satisfaction: | Are you overall satisfied with the XYZ ERP system? |
| | Do you think that the XYZ ERP system is helpful to you and how? |
| | Do you find that the learning and improvements within your organization motivate you to use the XYZ ERP system and how? |
| Organization and Culture: | Do you find that the negative organizational factors result in the underutilization of the XYZ ERP system and how? |
| | Do you find that the cultural factors influence in underutilization of the XYZ ERP system and how? |
| | Do you find that decision-makers use personal common sense rather than system data to make strategic decisions? |
| Use/The intention to use (Underutilization of the XYZ Cloud ERP system): | Are you completely dependent on the ERP system instead of manual workings? |
| | Does the XYZ ERP system provide sufficient and up-to-date information to achieve your organization's objectives?" |
| | Does the XYZ ERP system provide information that is exactly what you want?" |
| Net system benefit (effective strategic decision-making): | Do you frequently use the XYZ ERP system for strategic activities? |
| | Do you think that content of information from the XYZ ERP system helps in effective decision-making in strategic activities? |

Source: (Freeze et al., 2010; Peng & Nunes, 2010; Kamhawi, 2008; Freeze et al., 2010).

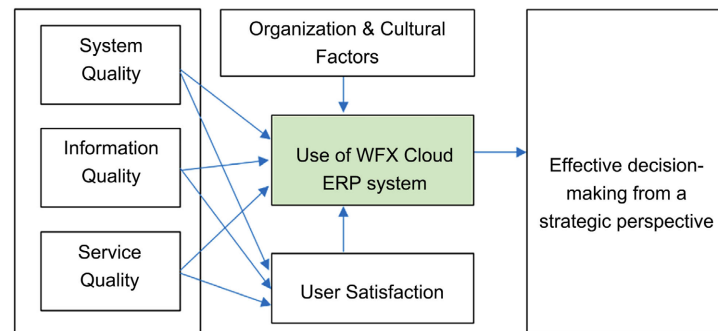


Figure 3. Proposed conceptual framework.

5. Data Analysis and Findings

According to Braun and Clarke (2006), codes are referred “Pity labels identifying what is of interest in the data” and themes are referred “a common, recurring pattern across a dataset, clustered around a central organizing content”. This section is used to understand the collected data as meaningful information, by sequentially organizing the unstructured data into codes, basic, organizing and global themes. The collected data (data logging) is analyzed with the help of the Thematic Network approach and the entire process is studied using the three-phase of the stages. Initially, the author repeatedly listens to the recordings (anecdotes and vignettes) and understands to prepare the transcripts. From the unstructured data, individual transcripts are drafted and it is documented in chronological order for analysis.

Managed to identify the initial codes and the basic themes from the transcripts and there were instances, a single code was mapped into many answers. However, identifying the codes with the basic themes was exercised as much as possible and it took many cycles. Soon after finalizing the codes and the basic themes, the researcher moves to construct the organizing themes by grouping one or many basic themes, by understanding their insights. The organizing themes try to elucidate the broader meaning of the collection of the basic themes and it is mapped to global themes or research objectives understanding the research questions. All the above works were performed using the Microsoft Excel software and finally, it is presented using Microsoft Word.

5.1. Summary of the Samples

The XYZ Cloud ERP system and industry experience: The interview findings explain that most of the interviewees were having a longer period of industry experience, especially from a manufacturing background. 90% of the participants were having a longer period of industry experience (above 11 years) and a balance of 10% of participants was having 6 to 10 years. Overall industry experience is at a satisfactory level; therefore, the majority of the interviewees would be able to provide better insights. 80% of the people were having more than six years of working experience with the XYZ Cloud ERP system; hence, it would be possible to identify the causes and explore the reasons for the underutilization of

the XYZ Cloud ERP system.

The XYZ Cloud ERP system helpful and its overall satisfaction: **Petter and McLean (2009)** explain that the use and user satisfaction, positively influence IS success and its impacts at the individual level. It is better to understand the level of user satisfaction and system user-friendliness, as it gives a holistic view of the interviewee's perception of ERP system usage. Aligning to the above, 60% of the interviewees have responded by saying that they were overall satisfied with the XYZ Cloud ERP system as it is easy to work, but the rest of the respondents have commented negatively. At the same time, 90% of the people have confirmed that the XYZ Cloud ERP system is helpful to their work and in contrast to that, 10% of the respondents have reacted negatively (**Figure 4, Figure 5**).

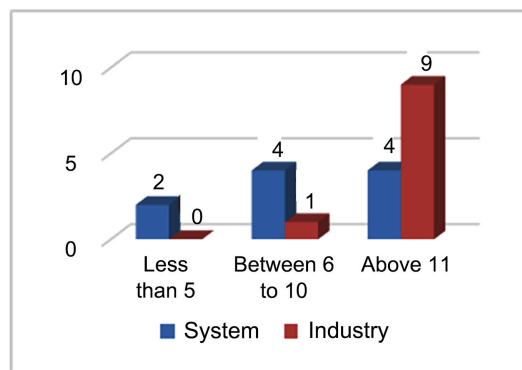


Figure 4. Industry and the ERP system experience.

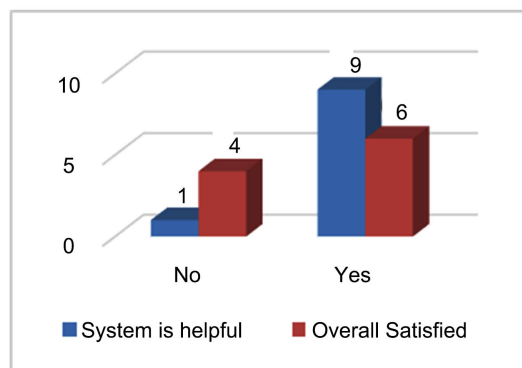


Figure 5. System helpful and overall satisfied.

5.2. Identifying Causes for Underutilization of the XYZ Cloud ERP System

ERP vendor support: **Peng and Nunes (2010)** highlight that the ERP vendor support is an essential element for ERP system usage and **Pan et al. (2011)** reveal that the lack of support from the ERP vendor results in human-related risks and it negatively influences the organization's performance. All three sub-themes (change request delivery, vendor resistance and vendor support) explain the ERP vendor's services, therefore, it is represented as "ERP vendor support" and analyzed the interview findings.

“**R2:** Requirements (report formats) are given to the ERP vendor but failed to deliver it on time.” “**R2:** Yes. Taking time to correct and rectify the bugs and errors by the ERP vendor.” “**R3:** The ERP system has facilitated most of the information, but the ERP vendor has failed to provide the system reports on time.” “**R4:** We should have a better version of Artificial Intelligent (AI) and customization possibilities. Furthermore, most of the functions are not working as we expected, the vendor has failed to provide them.” “**R4:** ... What was committed by the XYZ vendor, has not yet been delivered, therefore unable to use some of the modules.” “**R9:** there are plus and minuses where the (ERP Vendor) team might not be mature enough to provide comprehensive training...” “**R10:** Yes. Most of the requests were given a long time before and the ERP vendor failed to provide those features on time.”

Training and knowledge gap: The following authors (Ram, 2013), (Kharuddin et al., 2015), (Yang & Su, 2009), (Huang et al., 2021) and (Peng & Nunes, 2010) have extensively discussed the importance of the training and its impact on user satisfaction. Based on the feedback given below, the training influences better utilization of the XYZ Cloud ERP system and it helps to reduce the knowledge gap among the system users.

“**R1:** Mainly, I can notice that lack of training and poor communication errors were existing.” “**R2:** Data is existing but MIS dept. should able to get it into the information and provide it to us.” “**R2:** Lack of training exists.” “**R3:** Poor training and development exist.” “**R6:** ...most of the information is up to date but again there are delays in updating the information. **Interviewee (Probing):** Do you find anyone updating the information lately. **R6** Yes, there are, certain department users updating the information a little later due to the lack of knowledge.” “**R10:** Yes. Management has failed to understand the user learning and tries to get the work immediately.” **A few suggestions are as follows:** “**R5:** The effective training motivated us to work on the information system, which we can achieve success.” “**R6:** Yes, of course, every day we also learn and definitively it improves more.” “**R8:** Learning and motivation help to implement the system. **Interviewer (probing):** will it help you to make effective decision-making. **R8:** 100%.”

Top management support: Ravasan and Mansouri (2015) and Peng and Nunes (2010) have identified that the “lack of top management support” is one of the causes of poor ERP system usage and Huang et al. (2021) also recognizes that the top management support is a success factor for the ERP implementation and usage. Aligning the above, positive and negative findings are identified and it is sequentially recorded below.

“**R2:** From the management, poor direction to use the information systems for decision-making.” “**R2:** Top management should insist to work through the ERP system to provide information when they request.” “**R3:** Top management involvement is poor...” “**R5:** I think, the top management and the project man-

agement lack coordination. Management does not take the big overall idea of the information system.” “**R10**: Management support is required to correct the errors.” “**R10**: ...management has failed to change it over the period.” **A few positive suggestions are as follows**: “**R1**: ...management insists to adhere to the information system processes.” “**R9**: I wouldn't say that there are negative factors. The management takes information as much as from the system. So, they use the system to accomplish their goals. **Interviewer (probing)**: So no negative factors exist. **R9**: Yes.” “**R9**: The top management focuses on the system as the main benchmark. So when something is presented to the top management, based on these XYZ records, they look into that keenly and they give certain directions to us.” “**R9**: The information which we provide to the management, they make decisions, the reports have facilitated from the ERP system.”

Network and system performance: Huang et al. (2021) identified that poor network performance is a significant barrier to ERP system usage and Peng and Nunes (2010) revealed that the slow system response time is one of the post-implementation barriers to the use of the integrated information system. The interview findings also reveal that the senior executives have heavily experienced poor system and network performances and it bottlenecked to use of the ERP system.

“**R6**: Most probably due to the connectivity of the internet, only we will have the delay...” “**R6**: We can get most of the data speedily, it depends on the connectivity of the internet. There may be a delay in getting the data. **Interviewer (Probing)**: Is it because of the internet or the network performance. **R6**: It is because of the network performance.” “**R7**: It depends on the given times but at certain times, I would say NO. **Interviewer (Probe)**: Can I know, what is the reason for that? **R7**: It can be multiple reasons. One reason is internet connectivity.” “**R10**: Sometimes network issues were existing therefore unable to open the XYZ system.” “**R5**: I would say overall not satisfied **Interviewer (probing)**: Do you find particularly poor performance or any other? “**F5**: It's not optimized for search criteria if you are taking a specific report.” “**R7**: Maybe there could be ongoing data processing at the back end, which is slowing down the front interface.”

System user friendly: Cheng (2018) has proven that system flexibility has positively influenced perceiving system usefulness to the business. It reveals that some of the system modules were not user friendly and there were shortfalls in it. Therefore, senior executives find it difficult to use it for information retrieval.

“**R1**: To a greater extent and for some modules, I find the system is not user friendly.” “**R5**: Yes, it's cloud-based and it's user-friendly, but, when I access it from the mobile, it seems, the layouts and all features are not much user-friendly.” “**R7**: I think, it's not a user-friendly system to be accessible from anywhere because it is not a user-friendly ERP system that is currently being granted to run.” **A few positive suggestions are as follows**: “**R6**: Yes, it is accessible. Because it is a cloud-based system, we can access it from anywhere.”

“**R9**: ...from my experience, the ERP system is more flexible compared to other ERP systems in which I have worked. So I think it's a tailor-made system based on XYZ organization's requirements...”

5.3. Exploring Reasons for Underutilization of the XYZ Cloud ERP System

Traditional practices: Many interviewees highlighted that traditional practices were existing at ABC (Pvt.) Ltd. for decision-making processes instead of utilizing the ERP system information. Most importantly, common sense was used instead of taking information from the XYZ Cloud ERP system for effective strategic decision-making, especially from the senior executives.

“**R2**: Practice of the manual system promotes the user to underutilize the ERP system.” “**R4**: Still, people practice a traditional way of working which has to be eliminated then it helps to utilize the XYZ ERP system maximum.” “**R9**: The reason would be like, there is certain information which we don't get from the supplier. So, we raise manual bookings through an Excel sheet. Later, we update that information into the system.”

Wiraeus and Creelman (2019) disclose that the technology is heavily supported for decision-making and defining the KPIs. However, the analysis of the finding reveals that the lack of top management support influences to *promote* the traditional practices.

“**R5**: In my department, certain documentation parts are still manual. We don't, rely on the systems such as calling quotations and approvals. **Interviewer (probing)**: is it the system that doesn't have the feature or the traditional practice? **R5**: I think it's the traditional practice with the top management.” “**R6**: There was a changeover of the system. There were many things people-driven in the initial days and changed from manual work to system. However, still, some people have negative thoughts or they applied to go for the manual processes.”

Amason and Schweiger (1994) argued that the decision-support system is used for real-time information retrieval and aligning with the above, Okar et al. (2021) have commented that it helps taking decision-making processes. Finding reveals that some of the staff members were promoting manual updates like tracking through excel sheets and it influences poor system updates.

“**R1**: ...For some modules, we had to do manual workings to achieve the work objectives Ex: for liability management, sales modules...etc.” “**R2**: Almost most of the reports are used as manual due to the shortfalls in the XYZ ERP system.” “**R2**: Still XL sheets are used to update the information and for decision-making.” “**R10**: We do a lot of manual work for decision-making. Like preparing reports in XL and coordinating it through XL.”

Different levels of information: The organization has the immediate ability to access the information and it helps in achieving competitive advantages for the strategic initiatives (Hassabelnaby et al., 2011). However, the interview find-

ings have highlighted that the XYZ Cloud ERP system has failed to provide different levels of information for effective strategic decision-making to the senior executives.

R1: *The system provides up-to-date information, but, it does not have sufficient information to achieve our goals. Interviewer (Probe): do you find any particular reason for that? R1: the information that is not sufficient for us to achieve our goals.* **R2:** *There are certain details, which are pre-set for a managerial level to the top management or the owners of the company. There are certain reports that we are supposed to provide on-time, so currently, those reports could not be generated with the XYZ system.* **R7:** *Certain details depend on multiple categories, so this can start from samplings to costing and production, multiple aspects and each aspect have its roots in detail? The current ERP system does not cater to exploring all those roots. Whereas most of that information is vital in making decisions for decision-makers, analyzing and forecasting future orders. So currently the ERP system does not support all areas of that.*

Few positive feedbacks are as follows: **R6:** *This is a customized based ERP system. So, whatever the requirements we have requested, they have developed and most of the features were based on that requirements only. So most of our requirements have been fulfilled, but, if there are any shortfalls in the requirements, we can request a service provided to do that development. Interviewer (Probe): So it means that when you take any reports then you are getting all the information. R6 Yes. Most of the information, we can get it.* **R9:** *...from my perspective as a manager, I can get many reports from my subordinates, who extract this information from the system only....* **R10:** *Yes, I would say it provides information based on the system maintained by merchandisers. So the information which they input to the system, we can retrieve it back.*

The findings insights are discussed as organizing themes and it is aligned to the research objectives:

The analysis of the finding explains that the majority of the senior executives were retrieving transactional and historical information as strategic information and trying to align it with the organization's strategic decision-making processes. It further explains that the XYZ Cloud ERP system has failed to provide different levels (tactic, operational, strategic) of strategic information to bring valuable positions to the business and for an effective decision-making process. Finding further reveals that the merging of the ERP system and spreadsheet information provides better results for decision-making processes and it promotes manual practices for strategic activities. Over the period, the top management's poor attention and lack of support from the ERP vendor resulted in promoting manual practices at ABC (Pvt.) Ltd., which encourages underutilizing the XYZ Cloud ERP system. Moreover, it can be further understood that the ERP vendor has failed to provide adequate support to extract the decision-making information and the system implementation team has failed to conduct an adequate blueprint design during the designing stage (**Figure 6**).

The findings insights are discussed as organizing themes and it is aligned to the research objectives:

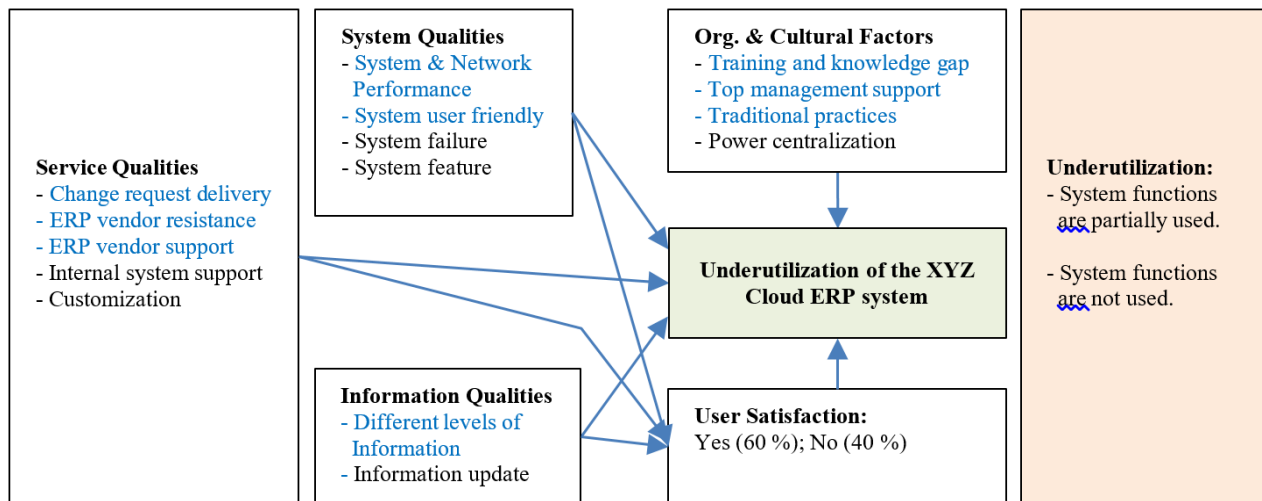


Figure 6. Thematic map with main and sub-themes.

6. Conclusion and Recommendations

Large-scale apparel manufacturers adopt the best innovative technology for the manufacturing processes and try to bring competitive advantages to the business. However, many organizations fail to accomplish such advantages due to the various shortfalls in the organizational, cultural, information quality, information system quality and service quality perspectives. This study aims to identify the causes and explore the reasons for the underutilization of the XYZ Cloud ERP system for effective strategic decision-making. This study adopts interpretivism philosophy and an inductive approach to find the central phenomena. Collected primary data were analyzed with three stages of the Thematic Network analysis and the outcome was presented supporting the background of the theoretical underpinning. Significantly, five (5) causes and two (2) reasons were identified for the underutilization of the Cloud ERP system and finding insights were discussed to satisfy the research objectives. Proposed recommendations are supported by the key literature and the most appropriate solutions are given to the identified sub-themes. The primary expectation of the below recommendation is to bring people development, business process improvements and organizational transformation. As a result of that, it is expected to utilize the XYZ Cloud ERP system maximum. However, it is highly recommended to implement the suggested recommendations by understanding the organization's cultural settings, planning financial resources and consulting garment manufacturing industry-specific domain experts.

The ERP Vendor support: ISO 10002:2018 has introduced a framework as “*Guidelines for complaints handling in organizations*” that helps to set an effective procedure for handling customer and ERP vendor relationships (ISO, 2011).

Understanding the above it is advisable to review the ERP vendor service agreement and its support level to ABC (Pvt.) Ltd. (Panda & Leepsa, 2017). It would help to comprehend the gap persisting in the information and communication structure. **Training, knowledge gap:** ABC management should pay attention to the effective training and sufficient resources for the senior executives, who are directly involved in using the ERP system. Most importantly, the support service team (internal) is responsible to organize in-house training sessions and it is recommended to take the ERP vendor's assistance as well (Seth et al., 2017). **Top management support:** Samimia et al. (2019) have revealed that the strategic relationship framework helps to understand the "strategic leader's relationship with the followers" and it influences to gain overall performance. Introducing a leadership program would help senior executives to understand the importance of their influence on ERP system usage. Because of that, it would help to form an information-driven culture and it assists in maximum use of the XYZ Cloud ERP system. **System & Network performance:** Identifying the long-time system processes and re-scheduling them during non-working hours would improve the information accessibility from the information systems (Okar et al., 2021). It is advisable to install physical servers at ABC premises and recommended to adopt Lewin's change model for the system changes (Burnes, 2019). **System user friendly:** It is recommended to evaluate system user interfaces like design, colour, font size and resizing of the window and especially, the number of clicks to be performed for a single activity of information retrieval.

Traditional practices: It is suggested to revisit the implemented SOPs and start working with the business process re-engineering (Zaini & Saad, 2019). In terms of eliminating the traditional practices and streamlining the existing business process, it is recommended to bring business process re-engineering to the management (Zaini & Saad, 2019). **Different levels of information:** Based on the decision theory, it is recommended to evaluate the relevance of the system's information at different levels of the senior executives and identify a change request gap (Almeida & Bohoris, 1996). In terms of achieving the above, it is proposed to initiate a separate discussion with the ERP vendor and schedule a change request discussion (Burnes, 2019).

The recommendations suggest that effective use of change management and business process re-engineering assists to bring expected long terms results. Moreover, effective training enhances people's knowledge and mitigates the knowledge gap among senior management. Implementation of the proposed recommendations helps to understand different levels of information residing in the XYZ Cloud ERP system for use of organizational decision-making processes. Most significantly, it assists in customer negotiation processes and historical information trend analysis. Strengthening the internal and external support services assists to improve the uninterrupted use of the XYZ Cloud ERP system and it establishes an effective relationship among the different stakeholders. Re-engineering the physical resources (servers) and organizational business processes improves

effective information accessibility and promotes senior management to utilize the XYZ Cloud ERP system maximum. Facilitating adequate leadership programs among the senior executives enable people development and it paves a path to bringing information-driven culture for strategic decision-making processes. Overall, the recommendations of this study stress to implement to bring people development, business process improvements and organizational transformation. Therefore, it is expected to gain competitive advantages and a unique position for the business.

7. Future Research

This research study has focused only on a single case study and it is recommended to have a comprehensive study on the garment manufacturing industry because it would greatly benefit the industry leaders and senior executives in that trade. During the study, it was managed to understand that future research study is required on the following topics “senior employee’s competency level for information technology adoption” and “how information-driven culture helps the organization’s decision-making process”. It is recommended to have a mixed method of study instead of focusing only on the qualitative method.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

References

- Abd Elmonem, M. A., Nasr, E., & Gheith, M. H. (2017). Benefits and Challenges of Cloud ERP Systems—A Systematic Literature Review. *Future Computing and Informatics Journal*, 1, 1-9. <https://doi.org/10.1016/j.fcij.2017.03.003>
- Almeida, A. T., & Bohoris, G. A. (1996). Decision Theory in Maintenance Decision Making. *Journal of Quality in Maintenance Engineering*, 1, 39-45. <https://doi.org/10.1108/13552519510083138>
- AlMuhayfith, S., & Shaiti, H. (2020). The Impact of Enterprise Resource Planning on Business Performance: With the Discussion on Its Relationship with Open Innovation. *Journal of Open Innovation*, 6, Article No. 87. <https://doi.org/10.3390/joitmc6030087>
- Amason, A. C., & Schweiger, D. M. (1994). Resolving the Paradox of Conflict Strategic Decision Making, and Organizational Performance. *The International Journal of Conflict Management*, 5, 239-253. <https://doi.org/10.1108/eb022745>
- Bandara, Y. M., & Karunaratne, N. D. (2010). An Empirical Analysis of Sri Lanka’s Manufacturing Productivity slow-down. *Asian Economy*, 21, 391-403. <https://doi.org/10.1016/j.asieco.2010.03.008>
- Board of Investment-Sri Lanka (BOI) (2019, January 7). *Manufacturing*. <https://investsrilanka.com/apparel-new/>
- Braun, V., & Clarke, V. (2006). Using Thematic Analysis in Psychology. *Qualitative Research in Psychology*, 3, 77-101. <https://doi.org/10.1191/1478088706qp063oa>
- Burnes, B. (2019). The Origins of Lewin’s Three-Step Model of Change. *Applied Behavioral Science*, 56, 32-59. <https://doi.org/10.1177/0021886319892685>

- Central Bank of Sri Lanka (2019). *Economic and Social Statistic of Sri Lanka*. Central Bank Printing Press.
- Cheng, Y.-M. (2018). What Drives Cloud ERP Continuance? An Integrated View. *Journal of Enterprise Information Management*, 31, 724-750. <https://doi.org/10.1108/JEIM-02-2018-0043>
- Cherunilam, C. (2015). *Business Policy and Strategic Management*. Himalaya Publishing House (Pvt.) Ltd.
- Chofreh, A. G., Goni, F. A., Ismail, S., Shaharoun, A. M., Klemeš, J. J., & Zeinalnezhad, M. (2016). A Master Plan for the Implementation of Sustainable Enterprise Resource Planning Systems (Part I): Concept and Methodology. *Journal of Cleaner Production*, 136, 176-182. <https://doi.org/10.1016/j.jclepro.2016.05.140>
- Delone, W. H., & Mclean, E. R. (1992). Information Systems Success: The Quest for the Dependent Variable. *Management Science*, 3, 60-95. <https://doi.org/10.1287/isre.3.1.60>
- Freeze, R. D., Alshare, K. A., Lane, P. L., & Wen, H. J. (2010). IS Success Model in E-Learning Context Based on Students' Perceptions. *Information Systems Education*, 21, 173-184.
- Goldston, J. (2020). The Evolution of ERP Systems: A Literature Review. *International Journal of Research Publications*, 50, 1-17. <http://ijrp.org/paper-detail/1042>
- H. Zaied, A. N. (2012). An Integrated Success Model for Evaluating Information System in Public Sectors. *Journal of Emerging Trends in Computing and Information Sciences*, 3, 814-824.
- Hassabelnaby, H., Hwang, D., & Vonderembse, M. A. (2011). The Impact of ERP Implementation on Organizational Capabilities and Firm Performance. *Benchmarking*, 19, 618-633. <https://doi.org/10.1108/14635771211258043>
- Hitt, M. A., Ireland, R. D., & Hoskisson, R. E. (2007). *Strategic Management—Competitiveness and Globalization: Concepts and Cases*. Thomas Higher Education.
- Huang, Q., Rahim, M., Foster, S., & Anwar, M. (2021). Critical Success Factors Affecting Implementation of Cloud ERP Systems: A Systematic Literature Review with Future Research Possibilities. In *The 54th Hawaii International Conference* (pp. 4683-4692). <https://doi.org/10.24251/HICSS.2021.569>
- ISO (International Organization for Standardization) (2011, November 14). *ISO 10002:2018. Quality Management—Customer Satisfaction—Guidelines for Complaints Handling in Organizations*. <https://www.iso.org/standard/71580.html>
- Kamhawi, E. M. (2008). Enterprise Resource-Planning Systems Adoption in Bahrain: Motives, Benefits, and Barriers. *Journal of Enterprise Information Management*, 21, 310-334. <https://doi.org/10.1108/17410390810866655>
- Khaparde, V. M. (2012). Barriers of ERP While Implementing ERP: A Literature Review. *Mechanical and Civil Engineering*, 3, 49-91.
- Kharuddin, S., Foong, S.-Y., & Senik, R. (2015). Effects of Decision Rationality on ERP Adoption Extensiveness and Organizational Performance. *Enterprise Information Management*, 28, 658-679. <https://doi.org/10.1108/JEIM-02-2014-0018>
- Kothari, R. C. (2004). *Research Methodology—Methods and Techniques*. New Age International (P) Ltd.
- Kotter, J. P. (2021, February 26). Leading Change: Why Transformation Efforts Fail. *Harvard Business Review*. <https://hbr.org/1995/05/leading-change-why-transformation-efforts-fail-2>
- Kreicic, R. V., & Morgan, D. W. (1970). Determining Sample Size for Research Activities.

- Educational and Psychological Measurement*, 30, 607-610.
<https://doi.org/10.1177/001316447003000308>
- Lečić, D., & Kupusinac, K. (2013). The Impact of ERP Systems on Business Decision-Making. *TEM Journal*, 2, 323-326.
- Mitra, P., & Mishra, S. (2016). Behavioural Aspects of ERP Implementation: A Conceptual Review. *Interdisciplinary Journal of Information, Knowledge, and Management*, 11, 17-30. <https://doi.org/10.28945/3402>
- Moohebat, M. R., Asemi, A., & Jazi, M. D. (2005). A Comparative Study of Critical Success Factors (CSFs) in Implementation of ERP in Developed and Developing Countries. *Advancements in Computing Technology*, 2, 99-110.
- Okar, C., Ouiddad, A., Chroqui, R., & Hassani, I. B. (2021). Assessing the Impact of Enterprise Resource Planning on Decision-Making Quality: An Empirical Study. *Kybernetes*, 50, 1144-1162. <https://doi.org/10.1108/K-04-2019-0273>
- Pan, K., Nunes, M. B., & Peng, G. C. (2011). Risks Affecting ERP Post-Implementation—Insights from a Large Chinese Manufacturing Group. *Journal of Manufacturing Technology Management*, 22, 107-130. <https://doi.org/10.1108/17410381111099833>
- Panda, B., & Leepsa, N. M. (2017). Agency Theory: Review of Theory and Evidence on Problems and Perspectives. *Indian Journal of Corporate Governance*, 10, 74-95. <https://doi.org/10.1177/0974686217701467>
- Peng, G. C., & Nunes, M. B. (2010). Barriers to the Successful Exploitation of ERP Systems in Chinese State-Owned Enterprises. *International Journal of Business and Systems Research*, 4, 596-620. <https://doi.org/10.1504/IJBSR.2010.035077>
- Petter, S., & McLean, E. R. (2009). A Meta-Analytic Assessment of the DeLone and McLean IS Success Model: An Examination of IS Success at the Individual Level. *Information & Management*, 46, 159-166. <https://doi.org/10.1016/j.im.2008.12.006>
- Ram. (2013). Competitive Advantage from ERP Projects: Examining the Role of Key Implementation Drivers. *International Journal of Project Management*, 32, 663-675. <https://doi.org/10.1016/j.ijproman.2013.08.004>
- Ranjan, S., Jha, V. K., & Pal, P. (2016). A Strategic and Sustainable Multi-Criteria Decision-Making Framework for ERP Selection in OEM. *International Journal of Applied Engineering Research*, 11, 1916-1926.
- Ravasan, A. Z., & Mansouri, T. (2015). A Dynamic ERP Critical Failure Factors Modelling with FCM throughout Project Lifecycle phases. *Production Planning & Control*, 27, 65-82. <https://doi.org/10.1080/09537287.2015.1064551>
- Salimi, F., Dankbaar, B., & Davidrajuh, R. (2015). A Comprehensive Study on the Differences between MRP and ERP Implementation. *Communications of the IIMA*, 6, 83-94. <http://www.iima.org/>
- Samimia, M., Cortesa, A. F., Andersonc, M. H., & Herrmannnd, P. (2019). What Is Strategic Leadership? Developing a Framework for Future Research. *The Leadership Quarterly*, 33, Article ID: 101353. <https://doi.org/10.1016/j.leaqua.2019.101353>
- Saunders, M. N. K., Lewis, P., & Thornhill, A. (2009). *Research Methods for Business Students* (5th ed.). Pearson Education.
- Semenyuta, O. G., Orobinskaya, I. V., Shiryaeva, N. M., & Kruchanova, Y. A. (2019). Prospective Directions of Improving the Process of Decision Making in Business Systems by the Example of Modern Russia. In E. G. Popkova, & A. V. Chesnokova (Eds.), *The Leading Practice of Decision Making in Modern Business Systems* (pp. 109-114). Emerald Publishing Limited. <https://doi.org/10.1108/978-1-83867-475-520191012>
- Seo, G. (2013). *Challenges in Implementing Enterprise Resource Planning (ERP) System*

in Large Organization: Similarities and Differences between Corporate and University Environment. MIT Sloan School of Management.

- Seth, M., Goyal, D. P., & Kiran, R. (2017). Diminution of Impediments in Implementation of Supply Chain Management Information System for Enhancing its Effectiveness in Indian Automobile Industry. *Journal of Global Information Management*, 25, 1-20. <https://doi.org/10.4018/JGIM.2017070101>
- Srinivas, M., Ramakrishna, G., Rao, K. R., & Babu, E. S. (2016). Analysis of Legacy System in Software Application Development: A Comparative Survey. *International Journal of Electrical and Computer Engineering*, 6, 292-297. <https://doi.org/10.11591/ijece.v6i1.pp292-297>
- Swaid, S., & Wigand, R. (2009). Measuring the Quality of E-Service: Scale Development and Initial Validation. *Journal of Electronic Commerce Research*, 10, 13-28.
- WFX (World Fashion Exchange) (2021, February 5). *WFX Cloud ERP*. <https://www.worldfashionexchange.com/>
- Wickramasinghe, V., & Karunasekara, M. (2012). Impact of ERP Systems on Work and work-Life. *Industrial Management & Data Systems*, 112, 982-1004. <https://doi.org/10.1108/02635571211238554>
- Wiraeus, D., & Creelman, J. (2019). *Agile Strategy Management in the Digital Age*. Palgrave Macmillan Imprint. <https://doi.org/10.1007/978-3-319-76309-5>
- Yang, C., & Su, Y.-F. (2009). The Relationship between Benefits of ERP Systems Implementation and Its Impacts on Firm Performance of SCM. *Journal of Enterprise Information Management*, 22, 722-752. <https://doi.org/10.1108/17410390910999602>
- Zaini, Z., & Saad, A. (2019). Business Process Reengineering as the Current Best Methodology for Improving the Business Process. *Journal of ICT in Education*, 6, 66-85. <https://doi.org/10.37134/jictie.vol6.7.2019>