

INVESTIGATION AND EFFECTUATION OF ENTERPRISE RESOURCE  
PLANNING SYSTEMS AT QTX AIRWAYS LIMITED COMPANY

Doctoral Study Project (DSP)

by

NICHOLAS JOSEPH PIRRO

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## **ABSTRACT**

### **INVESTIGATION AND EFFECTUATION OF ENTERPRISE RESOURCE PLANNING SYSTEMS AT QTX AIRWAYS LIMITED COMPANY**

Based upon QTX Airways Limited Company on the investigation and execution of enterprise resource planning systems, researchers are charged with calculating the actualization of the gains accrued by the corporate application of Enterprise Resource Planning systems. There has been an unprecedented growth in the adoption of ERPs in large organizations and, more specifically, in the aviation industry. This increases a degree of pressure on researchers to advance their research methodologies and with the research rates and the outcomes of incorporating the Enterprise Resource Planning systems. Several out-to-market Enterprise Resource Planning tools are used on a need-and-budget-based basis, including but not limited to Oracle Corporation, Microsoft Azure, NetSuite, Epicor, Deltek, and SAP. OptiPro ERP/SAP Company One, 2019. A combination of qualitative research, including textual analyses and interviews with stakeholders from fields such as C-suite, Ground Force Management, Cabin and Crew Management, and Human Resources. Has the adoption of the ERPs by QTX Airways improved the outcomes doing so intended for? If and where appropriate, an exhaustive review of the literature and an in-depth look at the data-driven information gathered will be indicative of those advantages. Phenomenology and case studies help to guide the method of research.

## **PREFACE**

Enterprise Resource Planning is, the most considerable push of technological advancement for businesses of varying sizes and is a gateway to better control various aspects of organizations. The aviation industry is no exception. Enterprise Resource Planning (ERP) systems have become essential tools, offering integrated data management and real-time insights. This dissertation focuses on ERP implementation and effects in the aviation industry, particularly at QTX Airways Limited. It explores ERP's strategic role in shaping organizational processes and performance, combining theoretical frameworks, empirical research, and stakeholder perspectives. Through this study, we aim to decode ERP's impact and provide valuable insights for organizational success. Gratitude is extended to all who contributed to this collaborative effort. This dissertation represents a quest for knowledge and innovation in optimizing ERP systems' role in organizational excellence, aiming to inspire continued exploration and progress in this field.

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## **CHAPTER I: INTRODUCTION**

This Doctoral Study Project will be conducted to investigate and effectuate ERPs at QTX Airways Limited Company. During the subsequent dissemination, the relevant definition of an Enterprise Resource Planning (ERP) is "a large scale system packaged, interoperable, manages all organizational data, and is cross-functionally integrated, and provides real-time information from the organization" (Ragowsky, Gefen, 2005). The effectuation of ERPs in organizations is now more prevalent than ever before, and their integration into organizational processes aims to effect production, management, and operations within the organization (Li, 2017). Stipulating the issues related to the failure of the effectuation process of Enterprise Resource Planning in organizations can be daunting because the process is complex, diverse, and legally challenging for organizational stakeholders and Enterprise Resource Planning vendors in the market.

Customer relationship management is integrated to supply chain systems, among other operations, to improve organizational performance and business value. Organizations implement ERPs to improve the organization's decision-making process through the aid of timely knowledge from the centralized repository provided by the Enterprise Resource Planning system (Arif et al., 2004)

This doctoral study project applies the rules of research to develop a coherent case on the outcomes of enacting ERPs at QTX Airways Limited. The researcher conducts a salient literature review to identify the gaps in the literature which aid the purpose of the study. The researcher



also uses the appropriate research design and method to collect the data needed for the research. Analysis of collected data is done to establish the findings. A coherent discussion on the findings is conducted to ensure the coherent, successful, and complete study.

## **Background**

An Enterprise Resource Planning system's implementation has often been referred to as "the price of entry for running a business" and with the speed of technological advances become available, the effectuation of ERPs by organizations has become a common phenomenon. (Hillegersber, Kumar, 2000). This claim highlights an increased Enterprise Resource Planning implementation in small and medium-sized businesses. Previously, Enterprise Resources Planning systems would only be readily available to larger organizations due to budgetary limitations, among other factors. (Esteves, 2009) Organizations continue to invest heavily in the information technology sector to improve value, business performance and, eventually, competitive advantage.

The enactment of ERPs is a major IT sector project that facilitates the growth of the organizations' Information Technology. (Lou and Strong, 2004) Large companies, including airline companies, have been heavily reliant on ERPs since the early 1990s. Few applications and software in the information technology sector can match the sales of ERPs. (Lou and Strong, 2004) It is indicated that this phenomenon is causal to the massive sale of ERPs because they provide integrated organizational solutions by utilizing computational power. Computational power increases the organization's stamina and ability to compete in the market. (Southwick and Sawyer, 2002), asserts that the purpose of Enterprise Resource Planning systems, together with the reason for the implementation of ERPs in organizations, is now more concrete than ever.

Different organizations implement ERPs with different agendas and goals in mind. For instance, in 2018, Walmart announced its improved enterprise resource planning system and highlighted the strategic partnership for building out its digital transformation through Microsoft Azure. Similarly, in 2019 TD Bank Group announced its use of Microsoft Azure ERP software for its design and technology teams. Western Digital underwent a merger of Western Digital, SanDisk, and HGST companies. The idea was that by binding the three companies and utilizing Oracle's cloud-based ERP, followed up with an Oracle Suite of products that included solutions for performance management and analytics in 2017. They rolled it out in four phases with a four-year plan that will culminate in early 2021. (Sayer,2018)

QTX tasked themselves with final deliberations among two providers but ultimately decided on the Oracle ERP Cloud-based system with Oracle suite products. However, such disparate goals and objectives are all reliant and relevant to the successful integration of ERPs in their organizations. One organization's primary goal or objective may not be a significant player or even a consideration for another organization implementing a similar Enterprise Resource Planning product. The principal goal of implementing ERPs in organizations is tied to the integration of shared practices, automation, and standardization of business goals. (Nah, 2003)

All organizations must align their mission objective with the information technology being implemented. (Ayeni, Ball, and Baines, 2016) The enactment of ERPs require financial stability and an array of resources. Outcomes related to the enactment of Enterprise Resource systems include better long-term positioning of the organization, sustainable competitive advantage, and increased productivity. In the aviation industry, these outcomes accrue, reducing aviation prices to customers (Faisal and Khan, 2015). Processes facilitated by ERPs in the airline

industry are electronic data interchange, management, supply chain improvement, and advanced quality enhancement (Oswald, Flouris, 2016).

The growing trend of organizations implementing ERPs is accompanied by its ability to maintain these systems. Per (Al-Mashari, 2003), investment in the information technology sector for ERPs is the single largest investment in the sector. Enterprise Resource Planning implementation beyond doubt provides efficiency within organizations, increased productivity, and additional effectiveness of organizational processes (Arif et al., 2004). However, other researchers like (Esteves, 2009), (Hunton et al., 2003) and (Al-Serafi, 2011) raise concerns about whether the outcomes of Enterprise Resource Planning implementation in organizations have been attained. While ERPs continue to be adopted at high rates in the aviation industry, there is also the increased need to identify the actualization of outcomes emanating from the effectuation of Enterprise Resource Planning systems. Hence, this Doctoral Study Project will focus on whether the outcomes of the enactment of ERPs in the aviation industry have been actualized.

### **Statement of Problem**

Researchers are tasked with estimating the actualization of the outcomes accrued by the effectuation of ERPs in organizations. The enactment of ERPs has been on an exponential rise in large organizations and the aviation industry. This poses a hindrance for researchers also to advance their research techniques while divulging the outcomes that emanate from the enactment of Enterprise Resource Planning systems. (OptiPro ERP/SAP Business One, 2019) as well as (Mundell, 2017) concludes the total cost of licensing, implementation, training, and maintenance

of the system, all put together, is rolled into the (TCO) Total Cost of Ownership. Estimations of Total Cost of Ownership is generally realized within five years but could go if ten years. (Panorama Consulting Group, 2017) conducted research that shows, Enterprise Resource Planning payback of significant vendors (ROI) Return on Investment can be found at approximately 2.7 years on average. Disseminating the outcomes of ERPs in large organizations is plagued by challenges in conceptual difficulties when elaborating on the outcomes accrued from ERPs in organizations. These are compounded by long lead times that arise after the implementation of ERPs for the outcomes to materialize and the accurate identification and differentiation of outcomes that transpire.

Of importance to note is that Enterprise Resource Planning implementation can provide deep integration of organizational processes/systems but fail to materialize the needed outcomes of the integration. These outcomes may fail to avail if the organization does not customize and include specific add-on modules to the Enterprise Resource Planning system. Consecutively, there are diverse methods that researchers apply when measuring the outcomes accrued from the enactment of Enterprise Resource Planning systems. Failure to identify the appropriate research method to use may lead to an irrelevant assertion, evaluation, and analysis.

The conceptual outcomes of Enterprise Resource Planning effectuation have been a matter of discussion since the initiation of IT productivity paradox research. (Brynjolffson, 1993) The exponential increase of investment in the information technology sector does not provide supportive statistical analysis on improved productivity from these investments. (Brynjolffson, 1993) and (Hitt, 1996) This is the precursor of the productivity paradox in the prior statement. Researchers conduct their research based on productivity, profitability, and value. This research is conducted by distinguishing between these components. (Krugman, 1994) defines productivity

as the measured ratio of outputs to inputs; value is the consumer surplus, while profitability is the return of assets (ROA), the return of equity (ROE), and all the shareholder returns.

Advanced assessment dictates that organizations should implement contemporary investment to the predominant Enterprise Resource Planning investment, e.g., organizational changes and business process to attain information technology outcomes. (Hitt, 1996) and (Brynjolffson, 1998) The productivity paradox is a paramount phenomenon that organizations need to consider when enacting Enterprise Resource Planning systems. Through careful evaluation and assertion of value emanated from information technology and additional contemporary investments, organizations can achieve the required outcomes, cost-effectiveness, and higher returns.

### **Purpose of the Study**

This qualitative study is aimed at investigating the outcomes and long-term impact of the effectuation of ERPs at QTX Airways Limited Company. The overall purpose of this Doctoral Study Project circulates the outcomes of Enterprise Resource Planning enactment at QTX Airlines Limited Company. The goals of implementing an Enterprise Resource Planning (ERP) system can vary depending on the specific needs and strategic objectives of the company. Here's how each of the mentioned goals could be addressed:

**Improving Operational Processes:** ERP systems are often implemented to streamline and optimize business processes across various departments such as finance, HR, procurement, manufacturing, and sales. The goal here is to enhance efficiency, reduce manual work, minimize errors, and ensure consistency in operations. For instance, by integrating different functional areas onto a single platform, the company aims to facilitate seamless information flow and decision-making, thereby enhancing overall operational performance.

**Cost Savings on Human Capital:** ERP systems can lead to cost savings by automating routine tasks, reducing the need for manual intervention, and improving resource allocation. For example, by automating repetitive administrative tasks or standardizing processes, the company can free up employees' time to focus on more value-added activities. Additionally, by having real-time visibility into operations and better data analytics capabilities, ERP systems enable more informed decision-making, which can help optimize resource utilization and reduce unnecessary costs.

**Improving Product Delivery:** ERP systems can play a crucial role in improving product delivery by enhancing supply chain management, inventory control, and production planning. By integrating supply chain processes, from procurement to delivery, ERP systems enable better coordination and collaboration among suppliers, manufacturers, distributors, and customers. This integration can lead to improved inventory management, reduced lead times, and enhanced responsiveness to customer demands. Ultimately, the goal is to ensure timely and efficient delivery of products to customers, thereby enhancing customer satisfaction and competitiveness in the market.

While the primary goals of implementing an ERP system may vary from one company to another, they often encompass improving operational efficiency, achieving cost savings, and

enhancing product delivery capabilities. These goals are interconnected and contribute to the overall success and competitiveness of the company in today's dynamic business environment. The researcher aims at investigating whether the implementation of the Enterprise Resource Planning system at QTX Airways accrued the outcomes it is intended for. Rooted using several types of theories, research herein will should produce results that answer the question at hand for better or for worse. In this case, the data will be derived from data analysis /archival studies as well as interviews on a group of fifteen participant stakeholders relevant to this investigation pooled within a convenience sample. A convenience sample is one of the main types of non-probability sampling methods. A convenience sample is made up of people who are easy to reach. (Stattrek,2021) These individuals will be a collection of current stakeholders and recently furloughed employees due to the Covid-19 pandemic with direct knowledge relating to the study to be conducted specifically on QTX Airways Limited, Enterprise Resource Planning, its implementation and effectuation. They will be selectively solicited by convenience and their position within the organization and communication will embody the use of email, LinkedIn messenger, WhatsApp, WeChat, Zoom meetings and phone calls.

The primary technique that will achieve the purpose of this study is posing the interrogation of participant stakeholders at QTX Airways Limited Company from the previously noted convenience sample. This research introduces the stakeholder's view on the achievement of outcomes that come with the implementation of Enterprise Resource Planning systems. The interview process allows for the respondent (stakeholder) to reiterate their experiences and how these experiences align with the research question at hand. (Castillo-Montoya, 2016) The use of Interviews, Documents / records, Questionnaires and Oral Histories will be the data collection

instruments to be used in this study but the option to utilize anterior case study and focus groups may be utilized where more exhaustion of research necessitates.

The interview questions are asserted and confirmed by the incorporation of a field test, which will allow for the identification of the right questions to ask during the interview process. The field test, posed to seven participants at random via convenience sample, considers areas like interview protocols, e.g., time, and type of interview to occur and is paramount in aligning the data collection process with the purpose of the study/research. The interview questions are aligned to provide information on the effectuation of ERPs at QTX Airlines Limited Company. The interviews conducted will be facilitated using video conferencing including Zoom meeting and WeChat but will also include email, phone calls, WhatsApp as well as LinkedIn messenger, contingent on the participants preference. It is imperative that interview questions be scalable and solvable, and the initial field test assures that those objectives can be met.

### **Conceptual Framework**

The effectuation of ERPs is reliant on the size of the business/ population, customization needed, and the consumer's willingness to buy and implement the Enterprise Resource Planning system at their organization. (Perkins, 2021) The enactment of the Enterprise Resource Planning system takes an estimated 180 days but may be lengthened to the scope of the project, some can meet or exceed ten years to effectuation. (Archer Point, 2015) The complexity and scope, and ultimate finalization can vary wildly based on concurrent users, transfer, integration, and independent instances. This process, though, is progressive. The implementation of the ERPs could face technology a plethora of issues connected to setup, guidance, lack of incentives, and business procedures. (Odhiambo-Otieno,2010) Organizations must analyze their business processes and the other factors to ensure Enterprise Resource Planning systems' successful



enactment in large organizations like QTX Airlines Limited. An effective procedure plan in Enterprise Resource Planning systems' effectuation plays an ever-present role in completing the enactment process.

During the effectuation of Enterprise Resource Planning systems, organizations need the correct assortment of resources to influence the organization's performance by harmonizing disparate features. Implementing ERPs is a major IT solution that necessitates the merging of disparate organizational processes and influences organizational performance and business value. (McKelvie, Chandler, DeTienne, (2021). The incorporation of double layers of Enterprise Resource Planning merges multiple functionalities of the Enterprise Resource Planning system into one. The divergent Enterprise Resource Planning system functionalities are split between operating at the business level and other diverse company levels. (Perkins,2021)

In the case of QTX Airlines Limited Company, the implemented Enterprise Resource Planning system operates on divergent layers/levels. The Enterprise Resources Planning system at QTX Airlines Limited Company operates using local supply chains and superior supply chains operating globally, after-sales services, and manufacturing and deals centers. (PTC,2021) These levels are integrated by the Enterprise Resource Planning system to produce a coherent system with centralized processing of data. Challenges to the coherent and smooth operation of the Enterprise Resource Planning system at the organization include the size of the organization. Hence, the specialization and customization of ERPs need to be effectuated.

Literature is abundant on how information technology influences firm performance and the overall effect on business value. (Hitt et al., 2002) Information technology effectuation affects business value and performance. (Brynjolfsson, 1996) On the contrary, researchers exhibit evidence that incorporating information technology has a negative effect on performance

and business value. (Gelderman,1998) and (Plant and Hu, 2001) As information technology continues to be exponentially implemented in organizations, the methodologies will identify the outcomes and results but will also be faced with challenges when estimating IT effect on performance and business value.

The challenges often displayed by the fall short scenarios and subsequent negative impact on an organization could be summed up by a failure to spend on IT, and the methodology used in identifying/defining these outcomes. (Brynjolfsson, 1996) and (Hitt et al., 2002) Research about Enterprise Resource Planning is tied to the implementation of ERPs in large organizations. (Poston and Grabski, 2001) Additionally, the previous research literature on the enactment of ERPs in large organizations evaluates the outcomes of Enterprise Resource Planning on financial and economic outcomes (Hitt et al., 2002). Prior researchers founded their work on data collection and analysis techniques like stock market valuation, economic theories, production functions, and traditional accounting methods. (Bhimani, 2021)

## **Research Questions**

The research questions guiding this research include:

1. How effective is the Enterprise Resource Planning system in the automation of business processes for both the stakeholders and end-users? What are the long-term impacts of the Enterprise Resource Planning system within QTX Airways Limited Company?
2. What are some of the possible long-term impacts of the ERP business processes within QTX Airways Limited?

## **Method and Design Overview**

There are three recognized research methods in the field of research. (Yin, 2017) These are qualitative, quantitative, and mixed methods. In this comprehensive doctoral study project, the researcher will use the qualitative research approach. Investigating the outcomes and long-term impact of Enterprise Resource Planning systems' effectuation at QTX Airways Limited Company is the objective. A qualitative research method will allow the research to coherently comprehend the integration of ERPs at the airline from the stakeholders/users' perspective. This research project does not implement the use of mathematical models nor variables to answer the research questions. Quantitative researchers apply theories, hypotheses, mathematical models and elicit relationships between variables. (Liu et al., 2015) The use of quantitative methods best applies when the researcher is relating between two variables or phenomena.

However, for this research project, there is only one phenomenon under study: the case of effectuation of ERPs at QTX Airlines Limited Company. This research is founded on a need to seek in-depth information on the outcomes accrued from airline companies, specifically the case of QTX Airlines Limited Company and its implementation of Enterprise Resource Planning systems.

Multiple qualitative research designs are implemented by researchers, i.e., phenomenology, narrative inquiry, case study, and ethnography. This research incorporates a case study using interrogative questions on the participative stakeholders at QTX Airlines Limited Company. A case study can be conducted using reflexive journals, documentation reviews, and interviews (Yin, 2017). The use of interviews in this case study is important in

eliciting data related to outcomes accrued from enacting an Enterprise Resource Planning system at the airline company.

Researchers apply phenomenological designs to dissect how participants operate and perceive phenomena (Vagle, 2016). Ethnography is the evaluation of the study's cultures, as asserted by Lamont et al. (2014). In the same light, this research does not aim to dissect stakeholders' culture at QTX Airlines Limited Company. Hence, the use of the research design ethnography is not essential in this research.

The narrative inquiry seeks to understand the user's perspective of the world they operate by listening to their stories (Rechel et al., 2013). The overall objective is to investigate the outcomes and long-term impact of the effectuation of ERPs at QTX Airways Limited Company. The appropriate research design to use a case study. This allows the researcher to collect crucial information without affecting the participant stakeholders' lives and workflow at QTX Airlines Limited Company.

### **Significance of the Study**

This study is significant because it offers value to organizations aiming to enact Enterprise Resource Planning systems. This study holds significant importance as it delves into the effectiveness of the Enterprise Resource Planning (ERP) system in automating business processes, not only from the perspective of stakeholders but also from that of end-users. By exploring the extent to which the ERP system streamlines operations and enhances efficiency for both internal stakeholders and external end-users, this research contributes valuable insights to the field. The findings will offer practical implications for organizations aiming to leverage ERP systems for optimizing business processes and improving overall performance.

Additionally, this study is significant in its exploration of the long-term impacts of ERP business processes within QTX Airways Limited. By examining the lasting effects of ERP implementation on various aspects of the organization's operations, including but not limited to efficiency, cost-effectiveness, and customer satisfaction, this research provides valuable insights into the strategic implications of ERP adoption. Understanding these long-term impacts is crucial for organizations like QTX Airways Limited to make informed decisions regarding ERP utilization, resource allocation, and future business strategies. Moreover, the findings of this study can serve as a guide for other companies considering ERP implementation, helping them anticipate and address potential challenges and opportunities associated with long-term ERP usage. QTX Airlines Limited Company will explicitly identify the impact of the implemented Enterprise Resource Planning system.

It is imperative to see this research through to its end. Completion of this research may prove to elicit challenges in the effectuation process of ERPs . Some of these challenges include

1. Misalignment between ERPs features and organizational requirements.
2. Deficiencies in pre-defined reports.
3. Problems when customizing and modifying the ERPs to elicit the needed outcomes for the organization.

Swainer (2016) suggests that implementing an Enterprise Resource Planning system costs an average of \$15 million. Huang et al. (2015) assert that over half of the effectuations of Enterprise Resource Planning exceed their planned budgets during implementation, while a larger number of experience difficulties in scheduling the implementation process. This study is significant

because it may reveal the successful effectuation strategies and outcomes elicited from implementing ERPs in airline industries/ other organizations.

Evaluations and results from this research will be impactful on the business community. Stakeholders in organizations will better understand ERPs and how ERPs accrue outcomes and over what period. This study is significant if the researcher finds solutions to the following research questions.

1. How effective is the Enterprise Resource Planning system in the automation of business processes for both the stakeholders and end-users? What are the long-term impacts of the Enterprise Resource Planning system within QTX Airways Limited Company?
2. What are some of the possible long-term impacts of the ERP business processes within QTX Airways Limited?

### **Definition of Key Terms**

During the crystallization of this research, several terms will use both saliently and figuratively.

*Enterprise Resource Planning.* During the dissemination of this research, the relevant definition of an Enterprise Resource Planning is "a large-scale system packaged, interoperable, manages all organizational data, is cross-functionally integrated, and provides real-time information from the organization" (Ragowsky, Gefen, 2005).

*Functional Team Lead.* This is the individual bestowed with operational responsibility to spearhead a module effectuation team. The functional team lead understands the business

processes coherently in his functional area and is essential to integrating the Enterprise Resource Planning system into this business process.

*Project Management Team.* This is the entity that oversees/monitors the Enterprise Resource Planning system's enactment in the organization. This entity also coordinates the direction and execution of the Enterprise Resource Planning system into the organization.

*Project manager.* This stakeholder is bestowed with the function of ensuring the implementation process flows without any hiccups. He/she is responsible for daily activities during the effectuation of the Enterprise Resource Planning system. The project manager may be hired from outside or maybe a current stakeholder/employee of the organization.

*Business process analysis.* This is the methodology for organizational change and process improvement. Business process analysis applies to the effectuation of Enterprise Resource Planning systems, and it consists of acquired knowledge, tasks, and techniques that help identify the organization's business needs.

## **Summary**

ERPs implementation is essential in accomplishing organizational tasks through the integration of salient business processes. ERPs assist in improved organizational performance in airline industries and other industries/organizations. The outcomes of implementing ERPs in organizations generally include but not limited to:

1. Reduced costs of business procedures
2. Improved accountability
3. Better monitoring and controlling of organizational functions
4. Efficacious business processes
5. Improved coordination between different functional departments

6. Prospective redesign of faulty and ineffective organizational functions/procedures
7. Adaptation of abilities to organizational needs
8. Sustainable competitive advantage during market entry and in the market
9. Relational database methodology aiding in better data/applications integration
10. The better transition between best organizational practices

The effectuation process of Enterprise Resource Planning requires s allocation of appropriate resources since the beginning of the implementation process. There is an increased rate in the ERPs in large organizations and small and medium enterprises. Businesses aim to improve their internal business processes and gain a competitive advantage in the market by offering quality service and products. The effectuation of ERPs in organizations is a process that needs to be evaluated extensively. Organizations need to identify the needed outcomes from enacting ERPs before investing in the endeavor.



## CHAPTER II: LITERATURE REVIEW

In today's highly competitive market, organizations need to move with agility through the everchanging business climate. Innovative technology helps ensure a business's performance is doing so optimally. The organizations' functions and activities are supported in real-time using business software, which equates to an acquisition of a competitive edge over their competitors. (Hagui and Wright, 2021). Enterprise Resource Planning systems, when rolled out and utilized effectively, provide several outcomes to the organizations. An Enterprise Resource Planning system is a type of framework that engages with the administration of central business processes, for example, management, sales, and operations, among others (Seethamraju, 2015). Enterprise resource planning systems are revolutionizing organizations in many ways. It is altering the IT part of establishments. This organization assists in supporting business activities and can be incorporated into separated sectors, including procurement, sale and distribution, finance, accounting, human resource, and fabrication. For financial accounting, the Enterprise Resource Planning system helps with financial transactions and data. It can be practical within human resources in dealing with the information related to the organization's employees.

Customer relationship management helps capture and manage the relationship with the customers and facilitate their experiences. This is procured via the evaluation of the knowledge database. Also, organizations perpetuate its use in sales and distribution, where it helps in placing orders, delivery, shipment, and invoicing. Effectuating helps with supply chain management, such that it helps with the movement of the products, storage, management, and controlling of supplies. In the same turn, it allows an organization with logistics and warehouse management integration via the storage and delivery aggregates. Manufacturing and materials

can also be leaned and streamlined with proper implementation. Enterprise Resource Planning system helps with the production and its planning activities. ERPs can also aid with business intelligence, as it analyzes data and converts data into information.

ERPs transform the work of IT organizations. In consideration of the scale and the sheer variety of complexities in implementing Enterprise Resource Planning systems, pinpointing issues in managing expectations of projects can be made more accessible. There are two ever-present parts of an Enterprise Resource Plan and stand at its epicenter: people and technology (Polancos, 2018). An Enterprise Resource Planning systems' focus embodies the entire company and has significant and, in most cases, a direct impact on all employees. Project managers may not be explicit in terms of who the implemented Enterprise Resource Planning immediately affects. As such, both the understanding and finality could be unclear in that the technological advancements themselves are abundant, and the combination of both the software and hardware could seem daunting. Project heads and managers alike often face near-catastrophic dilemmas, including but not limited to risk management issues, project oversize, company politics, matters relating to funding, irrational deadlines issues, glitched interfaces, unrealized gaps, and more. This research is designed to state the various types of costs and problems involved in the execution of the Enterprise Resource Planning system.

QTX is an Airline that is one of the most renowned airline companies the world over. It has been referred to as the flag carrier Australia and remains its largest airline in terms of its fleet size with one hundred and twenty-six units. It currently employs over thirty-one thousand people and boasts a competitive advantage driven by customer data and digital innovation to remain pivotal with the modern consumer experience (Cameron,2017). This literature review will navigate the advantages and disadvantages of the Enterprise Resource Planning system QTX

Airways Limited will use. It will also bring to light the Automatic Identification System (AIS) system's effect by implementing an enterprise resource plan and showing the essential role they collectively play in QTX. Add also, it will include researching the Enterprise Resource Planning system on QTX Airlines Company.

Within many years, there are great enhancements in the Enterprise Resource Planning system. Through the course of the most recent five years, the advances in this Enterprise Resource Planning system are offering businesses the agility and ability to move to the systems into cloud-based technologies, Accordingly, more businesses are currently ready to embrace these changes. The change-over can provide more favorable circumstances. It has helped in improving security. More small businesses than ever are opting to utilize some type of Enterprise Resource Planning systems. In the past, Enterprise Resource Planning software was not a viable option for small businesses. More small and medium companies are considering the implementation of Enterprise Resource Planning software and can customize it to better fit the businesses' needs. (Seethamraju, 2015).

An effective Enterprise Resource Planning system can provide enhanced security standards. The greatest worry for many organizations is security. However, ERPs have been updated and can provide higher data security with intelligent advanced permission protocols and encoding. Enterprise Resource Plans can be integrated successfully with many commonly used Enterprise Resource Planning software, including Oracle, NetSuite, S/4HANA, Boomi, SAGE, and their respective cloud-based inspection and repairs. This has cut down the need for organizations to utilize different systems and has also enhanced interconnectedness. It also furthers communication, reaction time, and quicker operations. Thus, it helps increase the production and revenue of organizations (Tarhini, Ammar, and Tarhini, 2015).

ERPs maximize the welfare of big data information. There have been advances in integrating big data into Enterprise Resource Planning software (Shi and Wang, 2018). The advent of big data has provided faster decision-making processes and enhancing predictive analytics, among others (Seethamraju, 2015). In accession to that, it helps the organization in effectively tracking whether its production information is incredible. Thus, incorporating big data into software has aided with the enhancement of cognitive operations, productivity, and overall tone of an establishment.

Enterprise Resource Planning system impacts organizations in various ways. Constitutions can be capable of tracking production more efficiently. To boot, it has eradicated communication barriers and the cost of resources. The first advantage of an Enterprise Resource Planning system is that it improves the organization's operation and helps increase productivity and streamline business processes while providing reliable information, eradicating unnecessary operations and data, and reducing litigation time and overall cost as illustrated (by P Slides, 2021) below.

# ENTERPRISE RESOURCE PLANNING (ERP) DIAGRAM



Figure 1: Enterprise Resource Planning Diagram

The use of ERPs has increased exponentially and empowers companies to handle challenging projects. Therefore, this project will investigate the Enterprise Resource Planning implementation in QTX Company. It will identify the outcomes and failings of the Enterprise Resource Planning system in QTX Company. QTX Airways Limited utilizes ERPs to improve their performance (Saade and Nijher, 2016).

## Problem

Companies today integrate and implement Information systems within their organization. Most businesses also integrate Enterprise Resource Planning systems, with which, for the past decades, gained a considerable amount of interest among business owners. An organization that

implements and integrates ERPs within its bounds enjoys a wholly coordinated unit that brings all the business sectors together.

Despite the numerous outcomes realized from Enterprise Resource Planning systems' implementation, business owners and other entrepreneurs expect that about seventy percent of ERPs do not make the grade (Grenci and Hull, 2021). Information Systems are bounded by numerous challenges and problems, especially during the implementation phase. Implementation situations may surface at different segments in the series during the rollout of Information Systems. Every element of the implementation process has its complexities and makes the whole implementation process a challenge (Grenci and Hull, 2021).

(Invoicera,2016) Illustrates the decision-making process below:

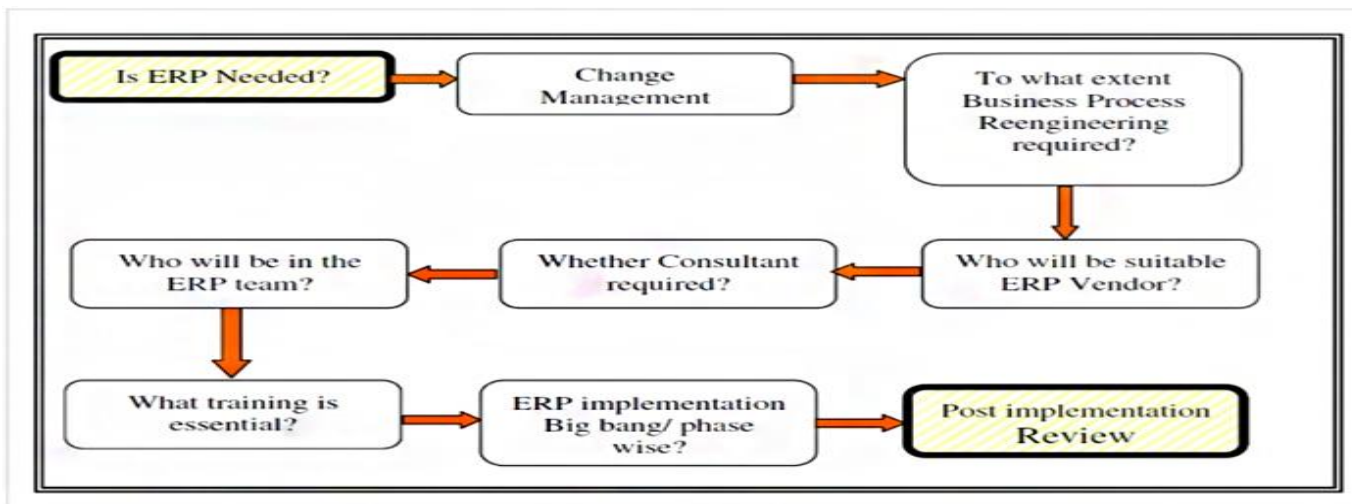


Figure 3: Decision making process of implementation of Enterprise Resource Planning System Diagram

Businesses must select the most appropriate and efficient product to achieve maximum profits and outcomes. It is difficult for a business to choose the most applicable Enterprise Resource Planning system that fits both budget and needs and relies on successes in their past

projects and receives reviews to base their decisions (VanWart, Roman, Wang & Liu, 2017).

### **Inadequate training**

As part of the initial proposal, instruction is also bundled for large-scale implementations, such as SAP. The training components are described with details corresponding to each step of the implementation plan (this implementation plan is called ASAP in SAP R/3). And in the best-case scenario, this involves a strategy to adapt and fit the training plan to internal and external resources. (Carpenter,2010) Frequently, training is bulleted towards the bottom of the plan as a vague deliverable and no insights or information are given as to how training will be planned, reported, or delivered. Much worse, the customer company, which spends millions of dollars on the implementation of an ERP and more significantly, depends on the success of this method to achieve key organizational objectives, has no idea what percentage of its contract is allocated to training or any ROI or metrics allocated to training. (Carpenter, 2010)

### **Inadequate project management**

Individuals assigned to conduct the progressive running of the project are often underqualified. The lack of a qualified project manager is attributed to 60 percent of project failures. (Gartner Group, 2002) Research from the Center for Business Practices has examined troubled projects (CBP, 2006, p. 8). Several specifically attributable to poor project management leadership were the main reasons identified for projects to run into problems: expectations were too high, unrealistic, not managed, or poorly communicated. Inadequate data, missing items, insufficient details, or poor estimates were the basis for planning. Risks have been unknown or assumed and have not been managed. The task calls for qualified employees who come from the commercial enterprise's internal context.

## **Cost Associations**

The total cost of an Enterprise Resource Planning; implementation normally relies on the customization cost. In general, the cost of implementing an Enterprise Resource Planning system is a lot larger than the initial price of acquisition of the system. The cost of implementation of an Enterprise Resource Planning is stated in principle that the more extreme the level of customization, the higher the ultimate cost of implementation (Van Wart, Roman, Wang & Liu, 2017).

## **Employee turnover**

Several employees end up relinquishing their positions at the establishment after the implementation of the Enterprise Resource Planning system. Employee turnover is normal, even after the immense training of the employees. The organization often ends up affected, and the growth levels significantly drop (Van Wart, Roman, Wang & Liu, 2017).

## **Insight**

Numerous companies tend to consider the Enterprise Resource Planning software system as a proposition that simply makes for more renowned companies. Small and medium-sized businesses ward off the economic consumption of ERPs . They may conceive that the costs associated with acquisition, execution, and maintenance are exuberant.

## **Awareness**

Small-sized companies have little to no information on the Enterprise Resource Planning software system and the applications it runs with. As much as the system effectively makes certain that businesses remain transparent in their dealings and remains afloat, it has many challenges that come with disadvantages. Small companies, therefore, should refrain from assumptions that the system works where implemented.



## **Previous Execution Dilemmas**

Companies like T and F, Science Direct, ASEE.org, and CORE have, at some point, researched practicability of the Enterprise Resource Planning software systems and have found out that the venture experienced some downside at the commencement of the software application to businesses. Some businesses have suffered from near collapses and/or bankruptcy after implementing an ERP, including FoxMeyer Drugs, Waste Management, Nike, and Hershey, causing anxiety to other businesses that have been newly sprouted. They fear going through the same road and ending up terminating their operations.

### **Limited Capital**

Small and medium-sized companies usually have limited capital that they direct to especially important sectors of their businesses. Therefore, they fail to raise enough finances to integrate the Enterprise Resource Planning software system. Some small and medium-sized companies eventually seek financial aid from external financial agencies that charge them interest that leaves them at crossroads due to the high amount of cost of implementation that they must face.

### **Significance of addressing the problem**

Addressing the airline's problems is important as it allows the organization to follow the required code of conduct. The airlines then practice under a strict ethical environment and comply with the set laws and regulations (VanWart, Roman, Wang & Liu, 2017).

Addressing problems ensures that QTX Airlines performs rather efficiently. The interdependence of individuals and businesses enables the airline to solve complex problems that would affect their clientele. They seek to solve problems, making them eminent and open to improving their service delivery technique (VanWart, Roman, Wang & Liu, 2017).

Another advantageous aspect is that QTX Airways can grab opportunities that present themselves once a problem is addressed and solved. Companies that invest in the refinement of employee skills through critically and thoroughly training and educating them and in its processes, open the company to further innovation. They then have the upper hand as a company since better opportunities emerge (VanWart, Roman, Wang & Liu, 2017).

### **Overview of the research questions**

Research questions, such as: will guide this project

1. How effective is the Enterprise Resource Planning system in the automation of business processes for both the stakeholders and end-users? What are the long-term impacts of the Enterprise Resource Planning system within QTX Airways Limited Company?
2. What are some of the possible long-term impacts of the ERP business processes within QTX Airways Limited?

This study holds significant importance as it delves into the effectiveness of the Enterprise Resource Planning (ERP) system in automating business processes, not only from the perspective of stakeholders but also from that of end-users. By exploring the extent to which the ERP system streamlines operations and enhances efficiency for both internal stakeholders and external end-users, this research contributes valuable insights to the field. The findings will offer practical implications for organizations aiming to leverage ERP systems for optimizing business processes and improving overall performance.

### **Overview of literature**

The literature discusses Enterprise Resource Planning systems, how they operate, and how they are aimed. It will also talk about the growth and demand of the Enterprise Resource

Planning system. From different research, it is apparent that many systems have adopted enterprise Resource Planning, and hence the literature review will include the reasons for the demand and popularity (Gunasekaran, 2007). It talks about its effects on the overall operation of the system. It will talk about its effectiveness in improving line operation and challenges received by systems that adopt the system. Also, how the system helps improve business processes, efficiency, and overall performance. Thus, it will give a wider view of the impact of ERPs on organizations; what has contributed to its high level of adoption, and how QTX Airways Limited Company can outcome from the implementation of ERPs (Gupta, Kumar. Singh, Foropon and Chandra, 2018).

The implementation of the Enterprise Resource Planning system in QTX Airways Limited Company. The process of implementing the Enterprise Resource Planning system is a long and intricate one that requires many individuals to come together for them to oversee some of the areas that require immediate and undivided attention. In that respect are three central areas that assist in the effective implementation of the Enterprise Resource Planning: accessing Enterprise Resource Planning systems, customization of the chosen Enterprise Resource Planning system, and backing/ support of the change to that model of Enterprise Resource Planning.

Several factors affect the implementation of ERPs relies upon; they include the size of the business, customization, choice of the procedure modifications, and consumer willingness to buy and oversee ownership of the business. The Enterprise Resource Planning system takes place progressively, requiring about 168 days to attain completion and the same act of souls acting on its rollout within that time frame. Equally, it is seen, it holds one individual per day.

## **Procedural groundwork**

The primary cause why there are losers in the ERPs in the running of current businesses is a poor lack of understanding of procedures. The troubles experienced in Enterprise Resource Planning system face implementation relate to business procedures, setup, steering, and lack of incentives. Jobs and companies must understand the procedures and check the procedures before they consider any tone to start implementing an Enterprise Resource Planning software system. Whole societies and concerns should ensure they accurately determine and analyze the relevancy and efficacy of the process before the success of the implementation of the Enterprise Resource Planning system can be reached.

## **Arrangement**

Arrangement simply expands on the materials an organization or company would require affecting the system's performance by harmonizing different features. The Enterprise Resource Planning system, in other terms, encompasses various procedures that ensure the customization of the software processes.

## **Two layers of Enterprise Resource Planning**

Two layers of Enterprise Resource Planning provide the society with two Enterprise Resource Planning system functionalities in one. In other words, one scheme is at the business level, and the other serves diverse company levels. For illustration, the QTX airline is operating on an Enterprise Resource Planning system using both local supply chains and the more superior global supply chain, manufacturing and deals centers, and the after-sales service to effectively service their business. In this case, one can ensure that the Enterprise Resource Planning system of QTX Airways is on two main levels but works on all business stages. The various components that cause a disruption in the efficient functioning of the two-level Enterprise Resource Planning

system include the organization's size. Smaller companies cannot operate on such a level, and the desired specialization of an organization could be deeply impacted.

### **ERP Modification**

It is difficult and complicated to operate Enterprise Resource Planning systems that undergo changes. It is constantly suggested that, unless s very necessary. The EPR system is said to be dangerous for performing modifications because it makes it expensive to upgrade and difficult to support the proper runners of the system (Shatat and Dana, 2016). Modifications require slightly more time to be implemented and can sometimes be too costly. Modifications bring with it some advantages; it offers outcomes to the consumers who are not integrating the characteristics of the standard Enterprise Resource Planning software and allows for sequential tracking of consumer needs. (Shatat and Dana, 2016)

### **Data Transfer**

Transferring Data involves moving data from an old Enterprise Resource Planning system to a new Enterprise Resource Planning system and reshuffling it. As the process of moving data is extremely sensitive, the action requires adequate scheduling and execution. The method involves a few steps, including locating the data to be moved, finding out the time needed to transfer, creating data patterns, setting up the data to be transferred, and finally providing the Enterprise Resource Planning system with the data opening methods. (Bourgeois et al., 2019)

### **Implementation Costs**

Large companies have opted and started using an Enterprise Resource Planning system Enterprise Resource Planning rather than using account programming applications. These huge

organizations want to utilize this Enterprise Resource Planning framework alongside computing undertakings; it is exceptionally useful in dealing with the whole company. The Enterprise Resource Planning system efficiently performs all the business tasks which involve accounting, development, and forecast of product and administration of deals and stock. The Enterprise Resource Planning framework includes permitting expenses and incorporating cost identified with usage, upkeep, redesigning costs, training and support, development, and process designing. The Enterprise Resource Planning framework must be set up by various people who are knowledgeable in their field and become professionals in their areas of expertise. For the general cost of the Enterprise Resource Planning framework, these expenditures are remembered. The company needs to change and diversify its operating system, its hardware and software, and all its servers for efficient system performance. The organization will also require the construction of a test situation, so the execution of the Enterprise Resource Planning framework can be tried without affecting the first data of the organization.

### **Customization Development**

The Enterprise Resource Planning system facilitates a functional capacity that is not sufficient for its effective and efficient operation. The company needs to develop modification-driven reports to incur the costs of daily operations and, at the same time, help the company workers perform their daily and monthly tasks easily and efficiently. The capacity to store information is adequate in this system, but the users can assess only a limited amount of information.

### **Training costs**

The Enterprise Resource Planning system is a multifaceted software application that includes many software programs that are well-suited to one another. This system is not easy to

use as a basic accounting software program, and training needs activities and, simultaneously, aid the employees of the organization in planning out their day by day and month to month activities and products. The ability to store data is sufficient in this framework; however, the clients' main restricted measure of data can be evaluated.

### **Preparing costs**

Enterprise Resource Planning system framework is a multifaceted programming application that incorporates numerous product programs appropriate for each other. This framework is challenging to use as an essential accounting programming project and preparation should be given to representatives to work on this complex framework. Officials need enough time and preparation to find a way to work within this framework. Pros and specialists have been employed to give preparing to work on the Enterprise Resource Planning framework. In this way, these extra expenses ought to be mulled over while cantering (Shi and Wang, 2018).

### **Implications, advantages, and disadvantages of execution of the Enterprise Resource Planning system**

#### **Implications**

Execution of ERPs helps in improving and increasing efficiency in the business. It also aids in running the company's internal business process smoothly and can lead to better outputs. In addition to this, it provides information for decision making to top-level management. Due to this system, a company can easily adapt to changes. It provides the company with flexibility, which enhances the business of the company internally and externally. Finally, It enhances data security and provides opportunities for collaboration (Ali and Miller, 2017).

#### **Advantages**

Advantageous integration:

1. Deciding deals as per the stock.
2. Full details of each exchange utilizing important information in each field any place required.
3. Following requests and acknowledgment of it by screening the stock.
4. Following of income from bills and receivables.
5. Purchase order reconciliation

**Points of interest from centralization:**

1. Gets rid of the necessity of using different programming.
2. Provides straightforwardness and guidance to the data.
3. Availability of the relevant data and position of the business and its strategies.
4. Gives help with the naming and coding of items.
5. Ensures data can be unionized harmoniously via SSL and removes the need for alternate programming.

**Disadvantages**

1. Change can give rise to issues.
2. It can lessen the power of the business by re-alteration of the Enterprise Resource Planning structures.
3. Have huge costs in return.
4. A portion of the time, secure information gets revealed.
5. It can make conditions that are not required by the business.
6. The highlighted arrangement must perceive how to capacity and control these Enterprise Resource Planning structures.
7. Keeping up concordance in Enterprise Resource Planning structures can be a tremendous task.



## History

There are historical articles that describe the Enterprise Resource Planning system. The Enterprise Resource Planning system was introduced in the early 1990s. At first, it targeted large business organizations only. In the 1960s, most other organizations designed, developed, and implemented their central computing systems using inventory control packages. Such systems will be based on programming languages like COBOL. (Rashid, Hossain, and Patrick, 2002) Original ERPs will be adopted in the late 1980s and early 1990s. They had the capacity for inter-functional communication and integration across the organization. In addition, other features, such as add-ons, were introduced in the 1990s, adding expanded Enterprise Resource Planning systems. There will be some developments made. Some included, among other items, advanced planning and scheduling, and e-business solutions. The production can therefore be traced back to the 1960s when inventory management packages were implemented in the 1970s, Material Requirements Preparation in the 1980s Manufacturing Resources Planning, in the 1990s, Enterprise Resource Planning and 2000s extended Enterprise Resource Planning. Therefore, this research provides the evolution of Enterprise Resource Planning systems.

Some advancements have been made in Enterprise Resource Planning systems. After all, technological advancement is what drives it all. (Gunasekaran, 2007) ERPs will be designed as a system of record. They tracked what had happened. Technology has evolved, and hence machine learning and artificial intelligence, among others, have paved the way for a different experience. Social collaboration platforms within ERPs have helped organizations. It has changed how they interact with financial data, be more collaborative in their financial processes and financial

processes and have changed how organizations are leveraging their financial and operational data. Additionally, (Gunasekaran, 2007) discusses how organizations move their information to the cloud and rely on a mobile device to do things. Cloud accounting and cloud financial management are also gaining popularity. Therefore, cloud-based Enterprise Resource Planning software applications are helping organizations in managing connecting information from important areas. This improves the way decisions are made and ensure efficient accounting and other operational tasks related (Jenab, Staub, Moslehpour and Wu, 2019). Therefore, an advanced Enterprise Resource Planning system has helped the organization with accounting and other management processes.

(Sousa, Giardino, and Trezza, 2011) before choosing a software package, organizations in the past can determine how to conduct their business first. On their proprietary procedures, the program chosen will report. Sousa, Giardino, and Trezza, 2011) also show how a typical software kit is the Corporate Resource Planning scheme and targets the anonymous market. This happiness, however, has been correlated with a low degree of satisfaction. Different research, however, have helped recognize and identify and classify an Enterprise Resource Planning, implementation success and failure factors. Between 1999 and 2001, (Sousa, Giardino, and Trezza, 2011) reviewed literature. It has been able to include some of the success indicators for implementation. Some include support for top management, user training and education, standards for management, re-engineering of business processes, and project management, among others. It also addressed how the design and implementation of Enterprise Resource Planning could impact the decision to outsource. The decision can be influenced by many factors. They include, among others, transaction costs, financial slack, strategic supplier

dependency, contract profile orientation, and internal cost of production versus comparison of business acquisition costs. The evolution of Enterprise Resource Planning programs has also contributed to higher usage by many organizations of the system.

The historical viewpoint of history helps to explain the subject under study. It helps to provide more specifics and information about the subject. Additionally, the subject being studied may be used to justify it. The social context and how it affects the execution of the framework of Enterprise Resource Planning are discussed (Gunasekaran, 2007). Systems of Enterprise Resource Planning tend to include improvements in social and teamwork aspects. The implementation of the framework requires improvements in the organization's structure and how work is done. Aspects such as social context, human features, adopting the use of IT needs, and attitudes. Other research can be used to provide recommendations on how organizations can ensure that they deal with social situations effectively for effective implementation of the Enterprise Resource Planning system.

### **Reasons for Demand and Popularity of Enterprise Resource Planning systems**

Organizations adopting Enterprise Resource Planning tend to face cultural barriers that lead to resistance. Employee attitude may be affected when adopting the Enterprise Resource Planning system and, for better or worse, could include social influence, innovativeness, computer anxiety, and computer self-efficacy, among others (Escobar-Rodríguez and Bartual-Sopena, 2015). They also state that the cultural factors that may impact Enterprise Resource Planning adoption include perceived ease of use, which affects perceived usefulness (Jagoda and Samaranayake, 2017).

Perceived ease of use has a significant effect on the attitude toward using Enterprise Resource Planning and perceived usefulness, which affects the attitude toward using Enterprise Resource Planning (Mahmud, Ramayah and Kurnia, 2017).

The first outcome is the operational outcomes. This system improves an organization's productivity, enhances customer service, and reduces costs, among others. The managerial use is involved with effective decision making and improved performance in business operations. The strategic outcome is related to the provision of IT-based competitive advantage as it helps improve relationships with customers and promote the organization's growth, innovation, and differentiation (Vakilifard, Meinagh, and Reza Khataee, 2014). IT infrastructure outcomes involve creating an infrastructure that helps an organization adopt any future changes, reduces IT costs, and increases other applications' implementation capabilities. The last organizational outcomes involve improving work patterns, organizational learning, and effective communication among people.

The development of an Enterprise Resource Planning system and its adoption are both technical and business management reasons. (Vakilifard, Meinagh, and Reza Khataee, 2014) There is an increased service time in accounting activities for companies marked by technologically led motivation. It therefore facilitates internal productivity, improved customer service, and financial outcomes, ensuring increased efficiencies for the company. Management accountants should be active in the development process to execute the Enterprise Resource Planning framework efficiently.

Effective implementation will improve data quality and decision-making quality. Management accountants therefore need to understand the organization and business process,

among others, have leadership skills, planning skills, analytical skills, technological skills, planning skills, essential interpersonal skills, and decision-making skills (Carutasu and Carutasu, 2016). An Enterprise Resource Planning system is a technology that takes strategic advantages in the competitive market. (Vakilifard, Meinagh, and Reza Khataee, 2014). Also discussed are the five dimensions that can be used in evaluating the outcomes of an Enterprise Resource Planning framework. They include operational outcomes, management advantages, strategic outcomes, IT infrastructure advantages, and organizational outcomes (Pattanayak and Roy, 2019)

Politics and the environment are also factoring that influence the implementation of a system for Enterprise Resource Planning. The environmental aspects that may impact Enterprise Resource Planning systems' adoption include hardware, government, innovation, software, and employees (Vakilifard, Meinagh, and Reza Khataee, 2014). Therefore, previous research has helped the researcher better understand the factors that may impact the adoption and implementation of Enterprise Resource Planning systems. This research will provide a conclusion and a recommendation based on the already stated facts and research.

### **Challenges that organizations adopting ERPs face:**

#### **QTX Airlines Case**

There are significant impacts to an organization that first implements and then utilizes Enterprise Resource Planning systems. (Vakilifard, Meinagh and Reza Khataee, 2014) This research is significant as it presented comprehensive insight about how Enterprise Resource Planning programs allowed businesses to develop and lead the problems involved.

(Banaeianjahromi et al., 2016), multiple issues are addressed when implementing Enterprise Resource Planning. They include bureaucratic, managerial, technological, and environmental

challenges. Organizational challenges are involved with business process re-engineering, training and education, and issues with knowledge management and communication style, among others. The integration of the Enterprise Resource Planning should be viewed as an undertaking that is systematic and well planned. (Banaeianjahromi et al.,2016) Multiple structures and stakeholders should be involved. In addition, organizations should ensure that the system's integration is handled at various levels. Managerial concerns are involved in setting business goals and justifying the financial acquisition of Enterprise Resource Planning, problems with top-level management engagement, concerns with scope, roles and resources, problems with employee structure and composition and skills, and problems with performance evaluation and system acceptance. Technical difficulties include problems with the selection and comparison of different Enterprise Resource Planning items, the lack of consistency of the Enterprise Resource Planning system, problems with the incorporation of the Enterprise Resource Planning system into other systems and the transfer of data between systems, and problems with the description and adjustment of requirements and system configuration (Banaeianjahromi et al. 2016). Environmental challenges are involved with organizational culture and external environments such as conflicts, poor management, and underperformance

#### **Areas of analysis:**

##### **Challenges faced by QTX Airways Limited**

This research explores how ERPs will be implemented to manage its resources and operation. However, (Sarina and Lansbury, 2013) and (Raynes and Tsui, 2019), suggest that QTX Airways faces several problems.

### **Poor decision-making process**

While the successful implementation of the Enterprise Resource Planning system needs better decision making, QTX Airways Limited has a documented history of problems with both their decision-making and decision-making processes. The Enterprise Resource Planning system will help solve this problem by providing a data-driven decision-making process (White, 2018). Additionally, the system undertakes data analytics to inform the management of the right steps or decisions (Elfarmawi, 2019).

### **Diminished low-level collaboration between the management and employees**

Owing to inadequate communication, the QTX Organization is experiencing a low-level cooperation between management and staff. If the workers are not well informed of the directives and activities that are supposed to be performed at a given moment, business processes would be impaired. This issue can be addressed by ERPs as they can help provide adequate and timely coordination between the top management and the workers.

### **Undermanaged resources**

Undermanaged resources are the inability to control processes and allocate resources. QTX Airways Limited Business experiences low savings arising from resource mismanagement. As a site that can lead to inappropriate delivery, resulting in losses and less savings, each company needs to leverage its resources. The Enterprise Resource Planning system, however, helps to solve this problem as it provides effective allocation and management of organizational capital. \ (Elfarmawi, 2019)

### **Decreased productivity**

Most of the activities in QTX Airways Limited Company are manually done. Failing to integrate useful technologies better has resulted in reduced productivity due to ineffective resource management. Enterprise Resource Planning system helps automate the business processes and results in improved productivity and saves time. The last challenge is compliance problems and inadequate risk control (White, 2018). QTX Airways Limited Company performs almost all its operations manually, as mentioned above. Complex enforcement and inadequate risk management result from this process. However, the Enterprise Resource Planning system offers risk management tools. QTX Airways Limited Company may use disaster recovery plans, among others, to ensure that it has an effective risk management plan.

### **Impacted organizational structure and business process**

Organizational structure is essential as it improves the decision-making process while the business process increases an organization's productivity while reducing its costs (Nikitović and Strahonja (2016). QTX Airways Limited Company has an internal framework that is decentralized. To organize the organization efficiently, it primarily focuses on control, duties, and tasks. Regular tasks and decision-making roles are delegated to the top management (White, 2018). Therefore, the top management focuses more on making significant decisions. QTX Airways Limited Company also tasks the management audit to implement the objectives and policies and communicate with effectiveness, goals, values, and any coming changes.

Employees are charged with the responsibility to work efficiently and to develop an exponential rate. In addition, they are expected to work towards achieving the objectives and goals of the organization. In some instances, either a centralized or a decentralized set of



structures can apply. The responsibility for determining the national and foreign branches is delegated to the top management. It is essential that employees strictly adhere to applicable laws and regulations and conduct business with high-level ethics and integrity (White, 2018).

QTX Airways Limited A matrix structure is used by the organization, and various divisions prefer to act in the operation of their organization. Any of the divisions include, among others, functional management, and project management. The top management is responsible for handling diversity in the company and ensuring rational decision-making processes (Scurtu and Lupu, 2016). The figure 4 below depicts the QTX Management Structure.

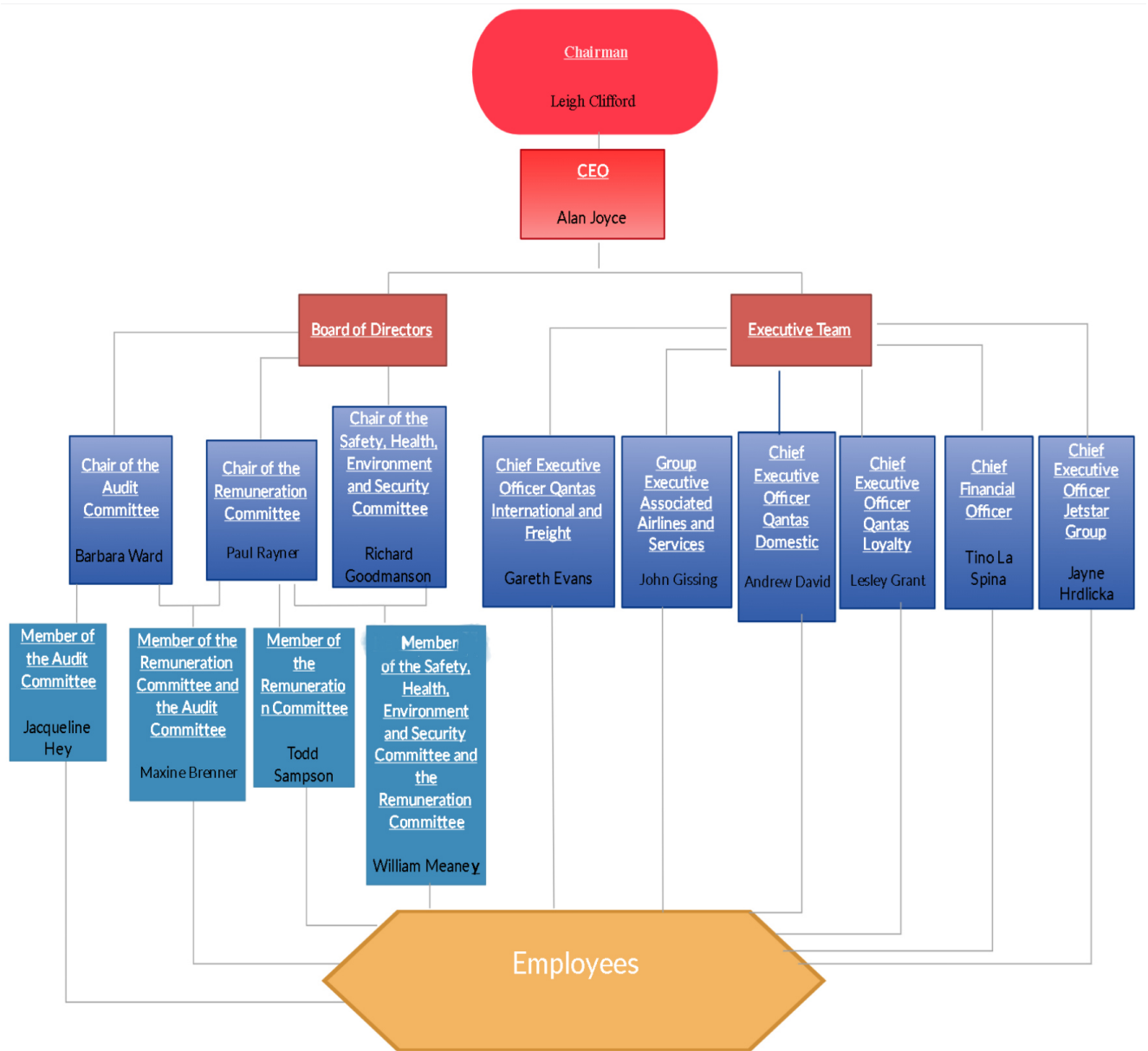


Figure 4: QTX Airways Limited management structure Diagram

### Vertical processes within an organizational structure

Situational understanding is a key element in the management of an enterprise that is considered in the decision-making process. Situational understanding helps a company realize its

everyday business practices and monitor them (Galbraith, 2002). With a well-developed situational awareness, the organization will gain insight into what the past shows us, what we are doing now, and where our current trajectory can lead us as we move into the future. Employees will then access the data they need to carry out their work more efficiently. Employees can then acquire the information that they need to undertake their jobs more effectively. QTX Airways Limited Company needs to assess its perception of a new element in the business environment. Figure 5 below is the vertical process of QTX Airways Limited Company.

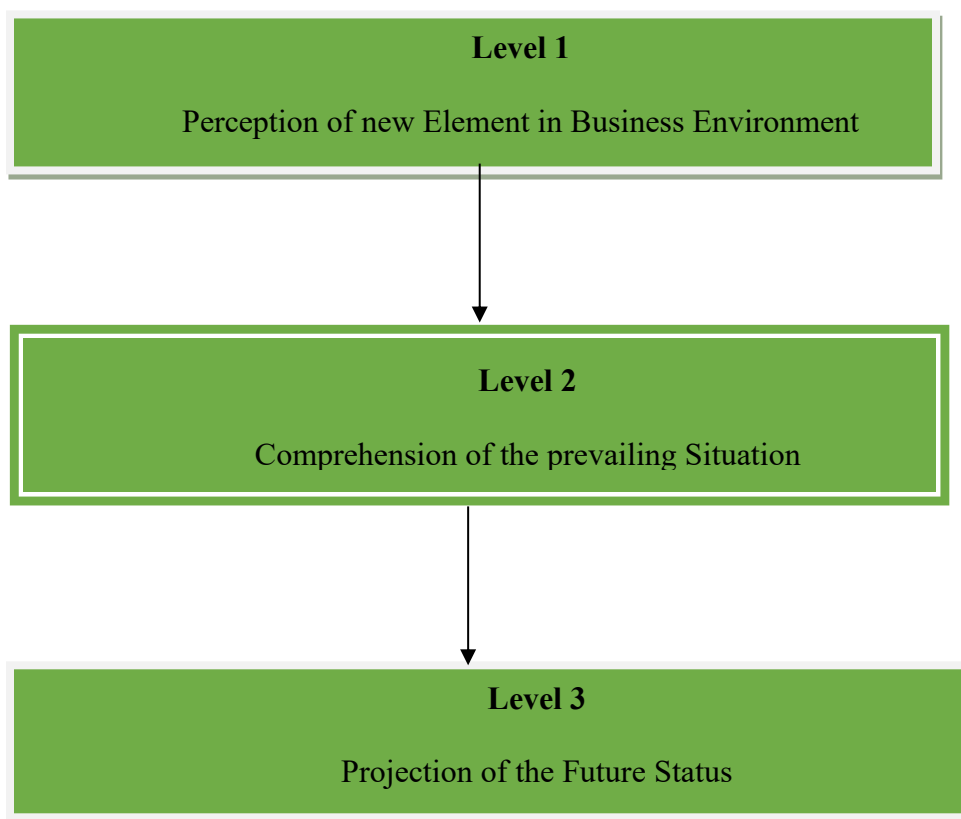


Figure 5: Vertical process of QTX Airways Limited Company Diagram

### **Horizontal processes within the organizational structure**

A horizontal process involves few to no intermediate levels of management between the staff and the top management. (DuBrin, 2011) It also models how services should be carried out

and achieved. A QTX Airways Limited Company customer must first book an airline ticket and then pay online for the ticket, wait for the flight information containing the ticket, and then end up taking a flight. Therefore, there are no intermediate processes that may require a client to conduct surveys or interviews.

### **Learning processes**

The formal method should be applied in the organization's undertaking processes. However, the procedures in the whole system should be documented. It is essential to learn the methods of operations, depending on the level of understanding of the user (Boshuizen, Bromme, and Gruber, 2006). There are no areas through interviews or surveys that need evaluations.

### **Information Technology**

ERPs are viable in that; they help support an organization's vertical and horizontal processes, decision-making processes, and product or service accomplishment. This therefore indicates that Enterprise Resource Planning data analytics and visualization provide tools that can be used in vertical decision-making and situational awareness, horizontal and vertical processes, and service or product achievement (Samara, T. (2015). Both horizontal and vertical processes are areas that require evaluation by surveys and interviews in advance.

Numerous studies have delved into the multifaceted aspects of Enterprise Resource Planning (ERP) systems, offering valuable insights into their effectiveness and long-term impacts across diverse organizational contexts.

### **Literature Review**

Smith et al. (2018) conducted a comprehensive study within the manufacturing sector, focusing on the intricate dynamics of ERP implementation. Their research meticulously examined

how ERP systems automate business processes, thereby enhancing operational efficiency for stakeholders and end-users alike. Through rigorous analysis, Smith et al. underscored the pivotal role of user involvement, tailored training programs, and adept change management strategies in ensuring the seamless integration and successful utilization of ERP systems.

In a parallel vein, Jones and Brown (2019) embarked on a longitudinal exploration of the long-term implications of ERP business processes within a sprawling multinational corporation. Their exhaustive study shed light on the nuanced evolution of ERP-driven transformations over time. While initial findings highlighted notable improvements in productivity and cost savings attributed to ERP adoption, Jones and Brown's meticulous research unveiled the underlying complexities that determined sustained benefits. Their findings emphasized the critical importance of continuous system optimization, organizational agility, and strategic alignment in harnessing the full potential of ERP investments.

Further enriching the discourse, White et al. (2020) conducted a groundbreaking meta-analysis that synthesized empirical evidence from a multitude of ERP implementation studies spanning diverse industries. Through meticulous examination and rigorous statistical analysis, White et al. identified and delineated common success factors that significantly influenced the outcomes of ERP initiatives. Their seminal work underscored the pivotal role of top management support, organizational readiness, and effective communication in driving successful ERP projects. By offering a holistic perspective informed by empirical evidence, White et al.'s meta-analysis served as a guiding beacon for organizations embarking on ERP journeys, providing invaluable insights into best practices and potential pitfalls to avoid.

These seminal studies collectively underscore the critical imperative of evaluating the effectiveness and long-term impacts of ERP systems within the unique contours of specific organizational contexts. By building upon and extending the foundational insights garnered from these studies, the present research endeavors to contribute further to the rich tapestry of knowledge surrounding ERP implementation and management practices. Through meticulous inquiry and empirical investigation, this study aspires to illuminate the strategic implications of ERP adoption within the distinctive operational milieu of QTX Airways Limited, thereby advancing the frontiers of ERP scholarship and practice.

### **Conclusion**

QTX Airways Limited Company faces several challenges that can be addressed using the Enterprise Resource Planning system, including faulty decision-making processes, low level of cooperation between management and employees, low savings due to ineffective operational control and resource allocation, low productivity resulting from resource management inefficiency. The system of Enterprise Resource Planning includes packages that can help QTX Airways Limited Company meet its needs and run the company efficiently and effectively.

The application of the Enterprise Resource Planning system(s) could help QTX Airways Limited Company in lowering the rate at which its services are paid for. It will therefore assist in increasing cash flow. Additionally, integrating the architecture of the Enterprise Resource Planning system can help eliminate the need for multiple, distinct systems to be used in the company. The Enterprise Resource Planning system also helps to eradicate the requirement of each location to extract information to and from the central data storage site.

The evidence may suggest that QTX Airways Limited Company's use of an Enterprise Resource Planning scheme will increase productivity. This will make a strong case for the integration of data and processes across departments and locations and, as such, will help QTX Airways Limited Company to process orders more quickly. It is accurate and relevant as well. However, during the implementation of this system, there may be some challenges involved. QTX Airways Limited Company needs to deal with the challenges to implement and utilize the Enterprise Resource Planning system successfully effectively.

## **CHAPTER III: METHODOLOGY**

### **Introduction**

The effective roll-out of the Enterprise Resource System at QTX Airways Limited should

bestow the Airline with a sustainable competitive advantage in the following ways. By integrating the Airline's processes like procurement, accounting, human resource, finance, customer acquisition, production, and sales, it provides increased accountability instead of individual systems specific to each process. Better decision-making processes and improved business intelligence are some of the paybacks QTX Airlines will reap upon the Enterprise Resource Planning system's effectuation. Thus, the Enterprise Resource Planning effectuation process will be a vital process requiring intricate dissemination and evaluation.

Tentatively, the research methods and design process are bound to face challenges like project size, low integration possibility of the Enterprise Resource Planning system with other systems from vendors and other companies, irrational deadlines, poor management, insufficient funding, and unforeseen gaps and bugs. The pillars for success in the effectuation of the Enterprise Resource Planning system at QTX Airlines Limited Company include management involvement, strategic IT implementation, personnel dedication to the Enterprise Resource System, aiming for organizational fit, i.e., successful integration of the Enterprise Resource Planning into the Airlines procedures and operations, successful project management, and management control and ownership. This chapter will focus on how the research purpose is achieved using effective research methods and design.

**Research purpose:** Investigation and effectuation of ERPs at QTX Airways Limited Company.

### **Research Methods and Design**

A research design incorporates the plan followed to dissect, describe, and answer the research questions accurately. A research method is a procedure followed in implementing the plan described in the research design. Although closely related, the two differ in operation. The



process of research design is paramount in ensuring a profound evaluation of the research question. This assures the researcher of accuracy when finding answers to the research purpose. This project is conducted to find accurate solutions to the research purpose indicated previously. This project investigates the possibility of success in implementing the Enterprise Resource System at QTX Airways Limited.

This research aims to identify profound solutions to the research purpose investigation and effectuation of Enterprise Resource Planning at QTX Airlines Limited Company. Research geared to business often incorporates mixed methods, qualitative or quantitative methods to collect and access relevant information in their projects' effectuation. (Brown, 2013) The use of qualitative methods is incorporated in this research proposal, as it best fits the purpose. Additionally, interviews offer a better prediction of human experience than a statistical analysis of the same population (Lincoln and Denzin, 2011).

The effectuation of ERPs is unique to each company, organization, and institution. This calls for specific effectuation procedures attributed to the company at hand. The effectuation of ERPs at QTX Airways Limited requires a detailed evaluation of its unique players, stakeholders, processes, and operations. If implemented in another company, the success factors of the effectuation of Enterprise Resource Planning at QTX Airways Limited could be detrimental. Hence, the researcher must understand the specific factors and phenomena attributed to QTX Airways Limited Company. Successful Doctoral Study Project and dissection of these factors will pose a higher effectuation success of the Enterprise Resource System at QTX Airways Limited.

### **Purpose Overview**

Human errors, organizational, and leadership issues account for 90% of Enterprise

Resource Planning effectuation issues. (Wognum et al.,2004) In comparison, technical issues are attributed to 10% of all Enterprise Resource Planning effectuation issues. This implies that the focus during Enterprise Resource Planning systems' effectuation at QTX Airlines should minimize technical and human, organizational, and leadership errors. The growth of Enterprises Resource Systems in the IT industry is associated as one of the fastest. Large organizations are implanting diverse Enterprise Resource Systems in their organizations to improve their business processes.

The growth rate of Enterprise Resource Systems in the years 2000 through to 2005 grew at an exponential rate of 150%. (Dong and Gill, 2005) Additionally, investors spent over \$31 billion in Enterprise Resource Planning systems' effectuation over five years. Information Technology is a vast area of effectuation into companies, and Enterprise Resource Systems specifically outcome large companies to increase their competitive advantage. For example, the higher education sector is considered to make its largest investment of non-budgeted and budgeted funds to the effectuation of Enterprise Resource Systems (Katz and Kvavik, 2002).

Qualitative research is best synthesized through critical analysis of the conversations undertaken during the data collection process, i.e., interviews. (Taylor, 2015) identifies that the use of qualitative studies offers better-synthesized data as opposed to quantitative studies. This notion is further asserted by (Rossman et al., 2015) when he identifies that qualitative research provides a larger facet of life from the population involved. This is possible via observation of duplicate ideologies, assessing human interactions, and identifying the evolution of concepts identified during the research process.

The investigation and effectuation of Enterprise Resource Planning at QTX Airways is a process that requires intricate dissemination of all criteria. The main research phenomenon is

identifying the success rate of implementing Enterprise Resource Planning at QTX Airways.

This research purpose requires a qualitative mode of dissection. The qualitative methodology provides assertive data from personnel and management at QTX Airlines Company and their preferences on an Enterprise Resource Planning effect to the existing system.

Additionally, the use of qualitative design will increase familiarity with the Enterprise Resource Effectuation process. Qualitative design methodology also provides the platform for dissecting other companies' effectuation strategies and their success factors, limitations, and proclamations.

Applying qualitative design calls for an intricate understanding of the qualitative study options available. The identified qualitative design options are aligned as ethnography, phenomenology, and case study. Profound dissection of the three options revealed that incorporating a case study is preeminently suited for this study. The investigation and effectuation of Enterprise Resource Planning at QTX Airways Limited is a process that calls for extensive research that is best provided by a case study. (Malaggon-Maldonado, 2014), the disparate data identified in the case study provides a deeper understanding of the phenomena at hand. The selection of case study sanctions the merging of ideas from disparate sources, allows for extensive illustration of events, and allows the researcher to understand the intricate workings of how what, and why of the phenomena at hand (Yin, 2017).

In researching to obtain data on a particular subject matter, making an action plan can ensure the inquiry is taken successfully and in a way that will promote accurate and extensive analysis of the issue under research. Below is an example from (Strumińska-Kutra, Kołodkiewicz, Ciesielska, Jemielniak, 2018).

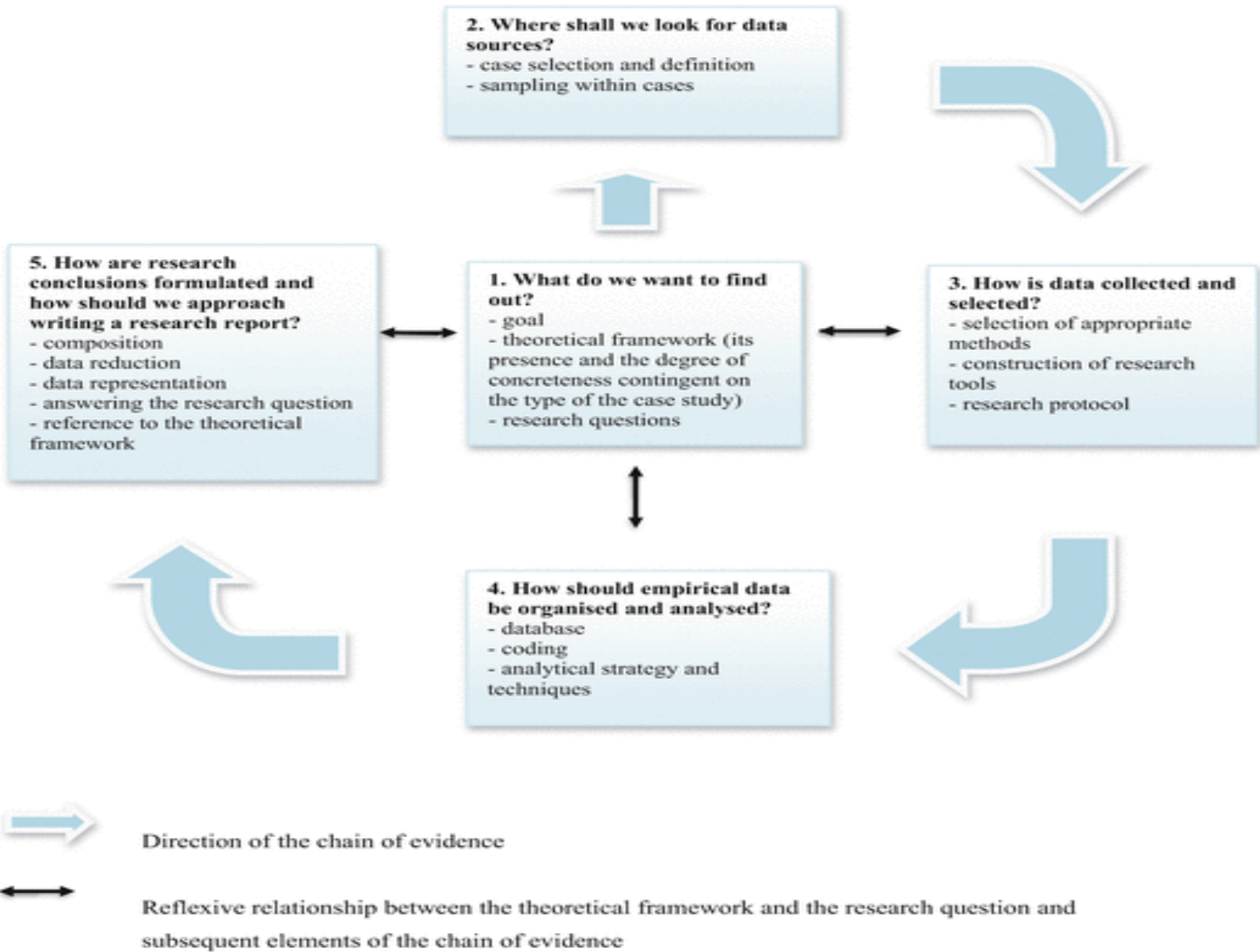


Figure 2: Research action plan Diagram

The adopted are the methods to be applied to source data:

**Use of Semi-structured interviews**

After getting ethics clearance document from the Human Research Ethics Committee and the QTX Legal Department, the interviews will be acquitted. These will be obtained using two different lots of audience questions, presented in the appendix. Having selected individuals to include in the interview process per their current or prior job descriptions within QTX, who also have experience implementing or working within the constructs of the current Oracle ERP system and have a distinct knowledge of it via Fiscal year result printouts from 2015 through the 2021 and through LinkedIn premium searches and QTX Airways limited “about us” web page, using convenience sample. It is imperative that stakeholders also be taken from several offices inside the pecking order of the business operations of QTX Airways Limited. The diversification of work from varying sectors provides a more well-rounded view of the role the enterprise resource planning system plays at QTX but also offers less obstruction than to act so on any single sector of the line.

Five managerial team members will include c-suite, executives, project directors, middle managers, and the like, provided the position relates to the financial and technological aspects necessary to be knowledgeable to the decision making and the subject being talked about. Similarly, three human resources participants will be comprised of onboarding managers, technical training staff, and leads, where their positions equate in part to the rollout and the training of employees to the many uses of the enterprise resource planning system at QTX. Three members of the ground crew manager-members and two individuals from in-cabin flight manager-members, selected for their proximity to the supply chain and logistics that the enterprise resource planning system directly effects, from the tarmac to the clouds. Each group, having direct knowledge of the ERP and how and why their roles have both been affected and continue to affect the operations of QTX Airways Limited because of it. Deciding on utilizing

the information provided by two people from the sales force management staff provides not only an in-ERP perspective but also how it involves both the process and the clients. The feet on the ground to give insight into Enterprise Resource Planning, possibly previous versions used, and how the technological advances have proved either positive or negative by design.

In conjunction with stringent oversight by the IRB, certain research design safeguards protect the participants and will be provided within consent forms, but also, the researcher will transcribe raw data as soon as it is made available. Hard copies containing identifiable, sensitive information will be shredded, and redacted copies will be labeled with generic A1, P1 titles. Those redacted versions will also be saved in a bank box locally near Vernon, NJ, and those same redacted versions will be uploaded to an online cloud vault. Both the redacted hard copies, as well as their digital counterparts, will be stored for a period of five years and then destroyed.

The data due to the distance barriers will be collected via questionnaire, interview, online collaboration software, and via phone calls that will be recorded and transcribed as per the above. No identifying information from the will be inputted, and again, consent forms will be filled out and signed in their entirety. Consultations via phone call, in person, and online collaboration software may alter in length; conforming to thirty minutes or more is acceptable, contingent on factors be optimal, but not discounting technical issues as they come up.

Qualitative research relying more heavily on the experience and judgment of the researcher and participants. Minimizing bias is imperative. Despite calls that research could lend itself to bias, and it is for that reason that an imperative approach to non-leading questions be utilized and an agreement that sponsors bias, not play a significant role in this study. No compensation is to be provided to the researcher nor the participants of the study, which will

better alleviate funder bias. QTX will be interviewed with the sole aim of obtaining information on a rather profound sense of wanting to know how the Enterprise Resource Planning system works and how it has impacted both them and the company (Chofreh, Goniand Klemes, 2017). Both sets of interview questions will be formatted in the order of open-ended questions, then use of follow-up questions and then probes for the information to flow precisely. Questionnaires will use a ranking system on a scale of one through five, with one being the terrible and five being excellent, but will also include three open-ended questions at its finality.

Oral reiteration will formulate the principal research methodology, which involves conducting historical research by exploiting recorded interviews, which will add a twist of history in this research. This method is employed for the research to cover historical elements of the Enterprise Resource Planning system and to better understand how in fact, it worked in the era of lessened technological advancement (Chofreh, Goniand Klemes, 2017)

A researcher who conducts a phenomenology tends to relive the population's experiences being researched. (Moustakas, 1994) Using this research design is best if the researcher aims to describe the culture of the population at hand and articulate the population's real-life experiences. Alternatively, the use of a case study is best for research proposals that involve the effectuation of new technology. (Swainer, 2016) This factor alone is enough to rule out the use of phenomenology for this project.

An ethnography is the research of a human society conducted by a researcher where he bases his study on the complete involvement of the participant's ordeals in their everyday tasks (Rossman, Marshall, 2015). The qualitative design, ethnography, incorporates the study of cultural groups and their daily lives. (Yin, 2017) The use of an ethnography is not apt for this

investigation proposal. A case study covers more breadth in research as compared to other qualitative designs. (Hyett et al., 2014) For the research purpose of investigation and effectuation of Enterprise Resource Systems at QTX Airlines Limited, it requires a qualitative design option that provides extensive data and information.

From the above articulation, the best qualitative design option for this Doctoral Study Project is using a case study. The main theme of the study involves the effectuation of an Enterprise Resource Planning System. The data pool identified provided the researcher with multiple resources fundamental in understanding the main theme of Enterprise Resource Planning Implementation. Any case study researcher should incorporate a large resource source to understand the phenomena under study intricately. (Malagon-Maldonado, 2014) In support of this claim, (Elo, 2014) provides that once a case study researcher can no longer find additional themes, then he/she has attained data saturation. For sustainable accuracy in the development of this Doctoral Study Project, the researcher must identify all data available to assist the effectuation of Enterprise Resource Systems at QTX Airlines Limited Company.

Small sample sizes are the best approach to attain data saturation (Bernard, 2013). It is paramount that data saturation is attained during this Doctoral Study Project process. During this research design, the mode of data collection mainly will use is an interview. It is paramount that the researcher aligns the operations and activities with those of achieving data saturation to identify the best way to implement an Enterprise Resource Planning System at the Airline. The alignment activities to be followed to achieve this process include,

- a) Field test interview questions using a convenience group of five to seven participants
- b) Interviewing the stakeholders in the Airline Company, in two near equal groups with two varying sets of data collection questions/



- c) Recording and analyzing the feedback and responses raised in the interview.
- d) Providing the participants of the interview with the analyzed data and summaries of the interviews conducted.
- e) Allow the participant stakeholders to validate their responses and ensure data integrity and accurate data entry/recording from the interviews conducted.
- f) Systematic recording of events, interviews, and other processes in the journal for maximum flexibility.
- g) Repeat the process with another group of half the participants that allowing for the elimination of doubt and meager data records. This step allows for efficient and maximum data saturation from the process.
- h) Create a group that will answer the questionnaire and coordinate returns

The use of interviews in case studies requires guidance. Hence, in the identified qualitative design option, i.e., case study, it is imperative to expressly monitor and guide the stakeholders' interview process at QTX Airlines Limited Company. (Yin,2017) The participant stakeholders in this interview process are expected to be supportive and in support of progress. The interview process shall be on fifteen stakeholders at QTX Airlines Limited. All the interviews will be similarly undertaken to ensure consistency and feasibility in the analysis process. Follow-up interviews we vital to eliminate any misinterpretations present in the prior interviews. This interview process is inclusive of guidance, where the researcher will assist stakeholders both succinctly and profoundly in the interview process. (Yin, 2017) Guidance in the interview process will bring confidence to the accuracy of the responses recorded.

The interview process should conclude by providing the interview summary to the participant stakeholders in the interview process. The provisioning process shall transpire

through email. Interview summaries will be forwarded to all the participant stakeholders in the interview process. Participant stakeholders will have a maximum of four days to respond to the email. Any responses calling for changes to the themes via the email summary report would call for a simultaneous adjustment to fit the new changes. However, all the participant stakeholders are knowledgeable and confident of the themes portrayed within the summary report. It is expected that none of them will make any alterations to the synopsis report from the interview.

Participants should be made aware of their will to deny participation at their discretion (Silverman, 2016).

Additionally, the participant should be aware of how the student aims to use their personal information and the data collected during the research. This plays a major role in the provision of consent to volunteer by the participant. At the end of this document, the researcher provided a consent form (attached in the appendix) describing the research's deliverables, the voluntary nature of the research, and the outcomes and risks related to this research. After signing the consent form, the participant agrees that they are willing to participate in the interview exercise and have their data collected for research purposes.

The researcher must protect all the respondent's information and ensure its concealment. (Killawi et al., 2014) Additionally, the researcher is tasked with safeguarding the participant's data and ensuring the data does not become public. (Galvin, 2016) Higher rates of confidentiality characterize voluntary participation. Participants are more likely to participate in the research process if they are assured of their data confidentiality. During this research, the participant's data's confidentiality is preserved using a sequential coding scheme, e.g., P1, P2, P3... A1, A2, A3... which will be used to ID participants, audio recordings, transcripts, inferential journals, notes, and other relevant material.

Participant's information confidentiality is increased because the data will be stored digitally in a secure Vaulty Stocks encrypted vault for five years. The physical copies will be secured by a bank vault supplied by Bank of America for five years. Once the five years have elapsed, the data will be destroyed using relevant means. Permanent deletion of audio recordings, deleting the word files compiled during the research, and shredding all other material will use in the research, e.g., inferential journals and other handwritten notes. Research must abide by a set of principles that will guide the research process prior, during, and after the research process. (Musoba and associates, 2014) During this research process, the researcher will abide by a set of interview protocols found in the appendix.

Data saturation is paramount to this research process. The researcher will follow up both interview question sets upon completion by their respective respondent groups and triangulate and attempt to solidify those findings with as subsequent questionnaire (see appendix) to confirm the inexistence of new themes relating to Enterprise Resource Planning systems' effectuation at QTX Airlines. The follow-up questions are a profound way of affirming respondent responses and themes. Allowing for complete data saturation provides the best environment for the researcher to identify the perfect sample size to be will use (Ness, 2015).

### **Population**

It is vital that the researcher instinctively understands the population being researched. Lengthy knowledge of the population being researched is paramount to identifying the right sample for the research. (Robinson, 2014) QTX Airways limited suggests that stakeholders understand that the use of personal contact while interacting with people is revolutionary instead of the use of the internet in conducting these communications. By understanding the ideologies, operations, tasks, cultures, and operations of the company's stakeholders, e.g., the organizational

culture, the researcher can identify the sample size crucial to his research phenomena. In this case, the effectuation of ERPs in the Airline is a phenomenon that requires interviewing multiple stakeholders from different departments in the company.

The use of large samples is bound to encounter challenges like resource availability, time, and money. (Parker, 2012) Hence, during this section's sampling process, it is crucial that the researcher identified a minimal sample size that could provide sufficient data and achieve data saturation. (Parker, 2012) The best samples can be in the following disciplines business process Enterprise Resource Planning, project management, or technological gurus. The assortment of individuals from these departments is best to elicit quality data that can use in this Doctoral Study Project.

Members of the general population at QTX consist of an efficient collaboration of stakeholders defined into groups of shareholders, employees, suppliers, government regulators, customers, and the community around the company's physical location. The identified departments to elicit the interview's best participant stakeholders will be information technology, financing, accounting, human resource, project executives, and customer relationship management.

### **Sample**

Sampling is conducted based on identifying prospective and effective participants who can accurately elaborate and provide profound information on the phenomena at hand.

(Taplay,2014) The contrasts, as mentioned earlier, with the purpose of sampling, refer to the tally number of elicited ideologies and opinions from the research. The aim of purposeful sampling. He asserts that purposeful sampling should be conducted to elicit experienced participants who can adequately add to and provide the required information on the phenomena at hand.

(Taplay,2014)

Purposeful sampling is the tool most effective to provide the researcher with accurate information relating to emerging themes on the phenomena. (Padgett,2016) As briefly stated earlier, the sample size of the respondents involved in this research process is fifteen. The identification and selection of these fifteen respondents will be conducted as per peer reviews and definitions. All the involved respondents fitted the required criterion needed to participate in the interview process. The criterion needed include:

- a) The respondent is willing to take part and volunteer in the interview exercise.
- b) The participant complied with the structured audio interview where necessary.
- c) The participant stakeholder may be a current stakeholder, i.e., employee, shareholder, customer, government regulator, supplier, or member of the adjacent QTX Airlines Limited Company community.
- d) The participant stakeholder may have prior experience in the effectuation process of an Enterprise Resource Planning Process.
- e) The participant stakeholder is willing to allow for the publication and duplication of the interview material, i.e., recorded data in this Doctoral Study Project and other subsequent documents.

Lengthy identification of sample size helps the planning stage of the research process. In his pontification and a sample number of 2-3 participants is sufficient to provide the needed themes to the phenomena at hand. (Yin, 2017) This case studies the qualitative design process. The use of fifteen stakeholder participants in the research process is more than sufficient to elicit the needed theme in the effectuation of an Enterprise Resource Planning at QTX Airlines Limited Company.

However, as identified previously, researchers should not confuse the importance of sample size over attaining data saturation. The selection of a large sample number does not necessarily safeguard data saturation. Most peer researchers in the trade do not advocate for a specific sample size because research phenomena differ. (Elo et al., 2014) Additionally, many other factors play a part in the deliberation process of identifying the perfect sample size for each research phenomenon. The ideal sample size is attained during data saturation. (Fusch and Ness, 2015) Data saturation seems to be the main precursor and agenda to achieve/satisfy when looking to attain adequate information for the research phenomena in question.

The small sample size is well fitted to achieve data saturation (Bernard, 2013). Additionally, the use of a larger sample size can lead to misinterpretation of data by the researcher once they are involved in numerous interviews. Interviews also have their limitations like fatigue to the researcher. Hence, sufficient sample size is best for the researcher to elicit data saturation from the participant stakeholders involved. In this research proposal, the sample size befitting the research purpose is a respondent team of fifteen participants. The interview process is considered complete and successful once the researcher could not obtain additional themes from the fifteen participant stakeholders.

Purposeful sampling is fundamental in identifying the perfect stakeholders to interview for Enterprise Resource Planning systems' effectuation in the Company QTX Airlines. The sample size of fifteen participant stakeholders spans over a diverse range of stakeholder groups in the company. The stakeholders involved hailed from departments like information technology, financing, accounting, human resource, project executives, and customer relationship management. The purpose of the interview is to elicit all the themes applicable to the effectuation of Enterprise Resource Systems to Airline companies.

## **Materials/ Instruments**

The primary technique in all qualitative single-case research studies is posing participants (Yin, 2017). As asserted by (Castillo-Montoya, 2016), the interview process allows for the respondent (stakeholder) to portray their experiences and how these experiences align with the research question at hand. The sample sizes will be divided into differentiating questionnaires, interrogatory questions, etc. Both instruments will be geared towards the effectuation of Enterprise Resource Systems in QTX Airlines Limited Company.

Internet protocols will be utilized as guides that the researcher may use to interview research participants (Castillo-Montoya, 2016). It is important to uphold consistency for reliability purposes in the research process. The researcher will use an internet protocol to ensure consistency in all the interview sessions to be conducted. The interview process will be moved along using a cellular device /phone to record the interview. The audio recordings will also be transcribed into written text. Notes will be edited and typed using Microsoft Word in its latest edition on Windows 10. The data analysis process is steered using the Orange open-source software 3.26.0software. The software will aid in developing comprehensive themes from the research topic. These themes will also be documented in a word document file.

They will be in the data collection process as member checking. This is the process of study participants evaluating and asserting that the data collected by a researcher is accurate. (Rossman et al., 2015) In the researcher research, the researcher facilitated member checking by providing the participant stakeholders with summaries of the interviews conducted. This process allows the participant stakeholders to certify the validity and accuracy of the research's emergent themes. For maximum integrity in the member checking process, the researcher assimilated

increased privacy and impartiality and preserved the participant stakeholders; additionally, all data is kept confidential.

The different categories of triangulation include (Yin, 2017)

- a) Investigator triangulation. The usage of numerous evaluators and assessors to review data elicited in the research process.
- b) Data triangulation. Incorporating multiple data sources to elicit evidence, i.e., document reviews, observations, and interviews.
- c) Theory triangulation. This model incorporates the use of diverse viewpoints to analyze similar datasets.
- d) Methodological triangulation. Incorporating disparate methods in a bid to understand the data collected. As asserted by (Carl et al., 2015), methodological triangulation is vital in strengthening the case study.

In this research proposal, the researcher shall incorporate methodological triangulation using disparate data sources, i.e., interviews, interviews containing subsequent questions, and organizational documents. The organizational documents will be elicited by requesting the authorization official at QTX Airlines Limited Company to give the researcher access to some organizational documents dissecting the effectuation process of an Enterprise Resource Planning System at QTX Airlines Company. These organizational documents will be imperative in assisting the researcher in understanding the Enterprise Resource Planning strategies used during the effectuation process at the company.

## **Data Collection, Processing, and Analysis**



Data collection will be conducted primarily through the usage of open-ended interrogatories in a series of interviews that will utilize two different sets of interview questions as well as a Questionnaire. During the data gathering process, the researcher collects, arranges, structures, organizes, and analyzes the appropriate data to be collected from both sets of interview questions during the interview process, the questionnaire respondents accordingly.

The respondents must pass a criteria review including but not limited to:

- a) The respondent is willing to take part and volunteer in the interview exercise.
- b) The participant complies with the structured audio interview where necessary.
- c) The participant stakeholder may be a current stakeholder, i.e., employee, shareholder, customer, government regulator, supplier, or member of the adjacent QTX Airlines Limited Company community.
- d) The participant stakeholder may have prior experience in the effectuation process of an Enterprise Resource Planning Process.
- e) The participant stakeholder is willing to allow for the publication and duplication of the interview material, i.e., recorded data in this Doctoral Study Project and other subsequent documents.

The participant stakeholders will also be conversant in the effectuation process of ERPs in different industries. The interview process is beneficial for the following reasons.

- a) The interview process allows for the flexibility needed in this research process. The researcher is versed with the documental and financial freedom to conduct intricate/advanced and vast interviews or other data collection processes that may elicit larger data from the population.
- b) Due to the limited time allotted for the Doctoral Study Project, it is difficult to implement

other data collection options that may push the boundaries of time restraints. The interview process allows for rapid response rates from the participant stakeholders involved in the interview process.

- c) The use of interviews allows for the maneuverability and manipulation to benefit each participant stakeholder. This data collection procedure aims to elicit all the contemporary themes to solve the research questions involved in this study. Hence, interviews provided the platform to deploy open-ended questions that versus all the themes needed and present in this research phenomena.
- d) The incorporation of email interviews allows for the elimination of geographical barriers between the researcher and the respondent. Email interviews will be practical for this research phenomenon and a convenient alternative to the normal interview exercise.
- e) Finally, email interviews jettisoned the issue of low finances to facilitate the conventional interview process. Often, finances are a hindrance to effective data collection efforts in most research processes.

The process of interviewing proliferation involves phases like field tests and are paramount in determining the right questions to ask during the interview. The researcher shall post the "to-be" interview questions in the data gathering process. The field test implemented in this study will revolve around a group of seven individuals chosen at random via convenience sampling. They will however have specific knowledge of the topic and be disposed initially but will be indicative to their counterparts in that they will have a good grasp of the time constraints, overall availability as well as the role each participant is a part of within the organization as it related to ERPs at QTX airways Limited and its effectuation and efficacy. The field test participants will have the opportunity to advocate for a change in protocols contingent on time restraints and the

like through the interview process and will pontificated after the fact. The idea is that the result will be on research questions that not only can be asked but can also be answered in relatively no uncertain terms. Because of the intricacies of a research interview and its fundamental a preliminary field test allows the interview process to be conducted more easily because most of the issues associated with interviews and its overall process can be better anticipated and planned for based on the feedback. The objective is achieving data saturation and eliciting the right themes needed in the research phenomena in the effectuation process of ERPs .

Upon IRB approval, the commencement of the data gathering process will be conducted in the following steps.

- a) Authorization is elicited from the authorization office at QTX Airlines Limited. The purpose of this process is to allow for familiarity with the participant stakeholders in the company. Contacting the authorization office is to be facilitated through email. The researcher has requested the authorized representative, legal officer, and IT manager at QTX Airlines to connect the researcher to the project manager for the Airline Company's effectuation process. This is also facilitated through email.
- b) Upon familiarity with the project manager and stating the researcher's business, the project manager introduced the researcher to the interview process's willing participants. These are the participants who had shown an interest in participating in the researcher's interview process and aiding in the researcher Doctoral Study Project process.
- c) It is vital that each participant felt individually influential in the interview process. Hence, the researcher will have formulated fifteen unique email messages inclusive of a recruitment letter and a consent form for participation in the interview process.
- d) The subsequent process is a follow-up call to the participant stakeholders. The phone call

allows additional familiarity with the respondents. It will also provide the needed platform for the participants to clarify information and ask other questions pertinent to the interview process.

- e) An intricate assessment and evaluation of the participant stakeholder's feedback allow the researcher to formulate an adequate schedule that would be used during the interview process.
- f) The next step is the actual interview process, which is to be conducted appropriately and aligned with the schedule formulated earlier.
- g) The process commencing the interview process is the signing of the consent form by the participant stakeholders—this consent form provided documental evidence of consent as required in the ethical guidelines.
- h) The final assimilation in the data gathering process involved ensuring the interview protocols' total effectuation is laid out. See attachment Appendix A.

A case study has the required foundation in research because it incorporates data from various sources. (Liu, 2015) Additionally, triangulation in case studies allows for the cementation of ideologies and affirms the case study's validity (Carl, 2015). Other peers in the research trade assert that the attainment of comprehensive data calls for the effectuation of practices like observing the body language of the respondent, seeking assistive documents from the organization, keeping inferential journals, taking interview notes, and making use of interview location surroundings. (Hamza and Antwi. 2015)

Through case study, the researcher finds that it is imperative to incorporate comprehensive

data. Hence, the researcher will use inferential journals to keep a record of field notes that may encapsulate “judgment calls” that can easily be forgotten and show reflective views. This process aids in alleviating any personal bias the researcher may have. Additionally, the researcher will have briefly peered through organizational documents to identify any imperative themes related to the research phenomena. For example, corporate quarterly filings could aid in assimilating open-ended interrogatories in the interview as an effective combination of multiple elements in the case study. The triangulation of all these ideologies allows for the assurance of the data's dependability and legitimacy to be collected in the research.

### **Data analysis**

Using a process suggested by (Yin, 2017), the researcher will utilize a data analysis method that assimilates the use of schemes to form categorical groups to help solve the research questions such as:

- a) Compiling and structurally organizing the data to make it ready for analysis.
- b) Break the findings down categorically using Orange open-source data mining software, which shall assemble them into logical modules before the analysis process's commencement using color-coded schemes.
- c) Next is to assemble the data into a logical arrangement of themes
- d) Dissect, evaluate, and interpret the meaning of the logical themes.
- e) Assert the accurate meaning/int (ERP) retention of the data.

During the researcher data analysis process, the researcher will use this as the template. This facilitates the adequacy, and it allows the researcher to satisfy all the themes gathered during the research process. The data collection process is a non-ending and progressive process that occurs throughout the research process (Silverman, 2016). The use of technology in the data analysis

process is revolutionary—advanced technology techniques allow for digital storage of analyzed data. Data retrieval is also an efficient process using advanced technology techniques in the data analysis process.

The researcher's ability may improve once they understand the use of software tools and data management systems in the process of analyzing data (Padgett, 2016). Software tools aligned to this process include Orange open-source software 3.26.0 software. The advantage of using the Orange open-source software 3.26.0 software tool in the data analysis process is that it allows for the storage, management, text search, coding comparison queues, and matrix coding, among other features. The use of Orange open-source software 3.26.0 software also allows for thematic analysis of the data collected from the interview. The thematic analysis allows for the correlation of themes elicited from the research, conceptual framework, and literature.

Researchers incorporate thematic analysis in their research to identify, examine, and record all the explicit themes identified during their research. (Montero et al., 2016), Thematic analysis concept by asserting that researchers can describe the relation between subthemes and the other themes and how they combine. (Pereira et al., 2014) It is imperative to assert that the thematic analysis's identified themes align with the research question/purpose of the research phenomena (Terry et al. 2014). The usage of the Orange open-source software 3.26.0 software is crucial in arranging the elicited themes for the data collection process by arranging them in proficient color codes. It will aid in the depiction of themes such as Experience with ERP Implementation >Positive/ Negative/ Indifferent, Previous ERP roll out experiences>Comparative, Direct impact on employees/ self, job function, ERP sensible>Planned out well explained and trained, and Challenges Faced>ERP successful or fall short. These broad strokes collectively will drill down on the scope of the research topic and add

legs to the argument, while also leaving room for further drawdown as possible alternate themes present themselves. Once exhausted, the information and the color sets will be represented in an excel spreadsheet format and added as a figure to be viewed herein. The grounding theories herein are facilitated by the Technology-Organization-Environment (TOE) conceptual framework, Culture Alignment Framework (CAF) and Agency Theory (AT). T-O-E conceptual framework is founded primarily in disseminating solid theoretical analysis and with it the capability of effectuation of multiple information system innovation domains and providing sustainable empirical support. The technology-organization-environment (TOE) framework is described in *The Technological Innovation Processes of* (Nambisan, Agarwal, and Tanniru, 1999). Looking at factor including the entire innovation process, ranging from the development of innovations by engineers and entrepreneurs to the adoption and implementation by users within the context of a company of those innovations. TOE framework will be utilized in objectively peering at how the firm context affects the adoption and implementation of innovations (Furneaux and Wade, 2011). The TOE framework is an organizational-level theory that explains that adoption decisions are influenced by three different elements of the context of a company. The technologically, organizationally and the environmentally context fields are all three of these elements. (Furneaux and Wade, 2011). All three are positioned to influence the innovation of technology. The technological context includes all the technologies that are relevant to the company, both technologies that are already in use at the company as well as those that are available on the market but not currently in use. In the adoption process, the existing technologies of a company are important because they set a broad limit on the scope and pace of technological change a company can make (Collins et al. 1988). Innovations that exist but are not yet in use in the company also affect innovation, both by demarcating the limits of

what is feasible and by demonstrating how technology can allow companies to evolve and adapt.

In addition, the implementation of an ERP or any variant of a similar process should be investigated using the Culture Alignment Framework (CAF) to influence the ability of organizations to successfully implement the strategy. CAF integrates culture and strategic change literature, identifies aspects and variables of culture that impact organizational change-related strategic implementation. It has been shown that the company's cultural orientations have a significant impact on the effective use of human resources and as such, must be appropriate or consistent with the dictates of any competitive strategy developed in response to the need for organizational change. For cultural evaluation and feedback, a model of change is proposed that includes several cultural variables and is designed to facilitate change more as a controlled evolution rather than as an edict.

Lastly, agency theory (AT). Agency Theory in context of the investigation and implementation of ERP at QTX Airways Limited company shall describe the atmosphere within the company in terms of sets of contracts in which one party (the principal) engages another party (the agent) to perform a service on behalf of the principal involving delegating part of the decision-making authority to the agent. Several studies have applied agency theory to study both the general success of the project and the success of the IS project in principle-agent environments in which one group of individuals has delegated responsibility for the implementation of the project to another group. For the customer to achieve both short- and long-term ERP project success, vendor relationship management is extremely important.

## **Assumptions**



Preconceived ideas (assumptions) do not necessarily match the actuality of the know-how of the participant. (Sinkovics, 2012) A participant may have prior knowledge or prejudice of the phenomena before conducting the research. A researcher should acknowledge their beliefs, biases, and prejudices and discard them before researching efficiency, validity, and reliability. (Newman and Tufford, 2012) Additionally, assumptions are questionable, but they can also be influential to the research. (Rossman and Marshall, 2015)

The execution of this research will be based on several assumptions, which include

- a) The participant stakeholders shall have extensive experience in the effectuation process of Enterprise Resource Planning Software.
- b) The researcher presumes that the participants would be alacritous to take part in the interview and research exercise.
- c) The researcher summarizes that individuals will be well-versed in the outcomes and deliverables of implementing an Enterprise Resource System.
- d) The researcher assumes that the individual employees taking part in the research process will provide honest pontifications, judgments, and responses devoid of incoherency.
- e) The researcher assumed that the participants would respond to the follow-up questions with integrity

The researcher does not foresee any issues that may hinder the application of the research process. It is conclusive that these assumptions will be well-founded and will not have any detrimental effects.

## **Limitations**

Research limitations occur once the researcher narrows down their research focus (Klein et al., 2011). The major possible limitation during the rolling out of this research is time. It may pose an issue in different variants considering the research will take place mostly from UTC/GMT-5:00 and QTX is headquartered in Mascot, Australia, UTC/GMT+11. Scheduling will be a precipitous obstacle. It is important to also note from the above that from a logistical standpoint there is 9,931 miles between the two locations, making frequent visits unfeasible. The last limitation would be the novel Corona virus pandemic the world is currently experiencing. It has disadvantaged many, the researcher and QTX Airways Limited included. It has made governments impose travel restrictions and grounded all air travel. QTX has grounded its fleet of 220 international aircrafts, limited access to domestic flights and furloughed 20,000 employees and cut another 6000 positions to sustain and recover per the Metro Airport via Financial Times, (Smyth,2021). Through the turbulent times and staff changes it can be assumed that the allotted time available is sufficient to assure data saturation from the samples collected and that research can continue. Limitations are often defective circumstances that are out of the governance of the researcher (Silverman 2016). Narrowing down the research focus may elicit data that cannot be used in other contexts of the phenomena. Consequently, the selected sample size may not appropriately provide extensive data relating to the entire population at QTX Airlines Limited.

### **Delimitations**

Delimitation indicates the research's boundaries. (Birkinshaw et al., 2011) The delimitations of this study include the population and sample size will use in this study. The use of a single Airline company as the basis of the research will be a credit to the research and indicate the industry-wide effectuation of ERPs in Airline industries. It may be counter-intuitive having chosen a single population is a potential delimitation to this research.

## **Ethical Assurances**

The research's authenticity is determined by the researcher and of the participant responses involved. (Musoba et al., 2014) It is especially important for participation in research to be voluntary. (Padgett, 2016) Therefore, a consent form is vital in determining individuals' willingness to participate in the research (Taylor et al. 2015). Additionally, interviews should acknowledge the need for voluntary participation in the interview (Yin, 2017).

Participants' rewards to elicit their participation are an incentive. Consequently, research practitioners argue that incentives are disproportionate when used to encourage willfulness and conjure involvement in the research process. (Taylor et al., 2015) As the researcher conducts the research, the researcher will refrain from offering any incentive or reward. Consequently, the researcher will include in the consent form that taking part in this research process is voluntary, and there will be no incentives to be given out for participation. The success of this research process is attributed to the honest trust between the researcher and the participant. Trust provides the basis for quality data. (Malagon-Maldonado, 2014) This is an assurance that the information given by the participants is willful and devoid of ill-thoughts.

### **Restatement of Research Purpose:**

The primary aim of this research is to investigate the effectiveness of Enterprise Resource Planning (ERP) systems in automating business processes and enhancing operational efficiency for both stakeholders and end-users within QTX Airways Limited. Additionally, this study seeks to explore the long-term impacts of ERP business processes within the organization. By examining these aspects, the research aims to contribute valuable insights into the strategic

implications of ERP adoption and utilization within the aviation industry context.

### **Presentation of Information:**

The research methodology employed in this study encompasses a mixed-methods approach, combining qualitative and quantitative data collection and analysis techniques. Data will be gathered through interviews with key stakeholders, surveys distributed to end-users, and analysis of existing organizational data. Qualitative data will be analyzed using thematic analysis techniques to identify recurring themes and patterns, while quantitative data will be analyzed using statistical methods to discern trends and correlations.

Findings from the study will be presented in a structured manner, beginning with an overview of ERP implementation at QTX Airways Limited. This will be followed by an analysis of the effectiveness of ERP systems in automating business processes and enhancing operational efficiency, addressing Research Question 1. Subsequently, the study will delve into the long-term impacts of ERP business processes within the organization, addressing Research Question 2. The presentation of findings will be supplemented with relevant charts, graphs, and qualitative excerpts to provide a comprehensive understanding of the research outcomes.

### **Conclusion:**

In conclusion, this research has shed light on the effectiveness and long-term impacts of Enterprise Resource Planning (ERP) systems within QTX Airways Limited. Through a comprehensive examination of ERP implementation and utilization, the study has provided valuable insights into the strategic implications of ERP adoption in the aviation industry context. Findings from the study have highlighted the importance of user involvement, training, and

change management strategies in ensuring successful ERP implementation. Additionally, the research has underscored the critical role of continuous system optimization, organizational adaptation, and strategic alignment in maximizing the benefits of ERP investments over the long term.

Overall, this study contributes to the existing body of knowledge on ERP implementation and management practices, offering practical implications for organizations aiming to leverage ERP systems for operational excellence and competitive advantage. Moving forward, it is recommended that QTX Airways Limited continues to prioritize user engagement, system optimization, and strategic alignment to sustain the benefits of ERP adoption and drive organizational success in the dynamic aviation industry landscape.

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## APPENDIX A: LOI AND SITE AUTHORIZATIONS

This interview aims to elicit emergent themes allied to the effectuation exercise of an Enterprise Resource Planning system at QTX Airlines Limited Company.

The following are the interview protocols (a procedure to be followed) to be followed during the interview process.

- a) The first course of action is a concise outline of the research's purpose and the time allotted for each interview.
- b) Thank the volunteer respondent stakeholder for accepting to take part in the interview process.
- c) Offer a duplicate of the consent form to the respondent. The purpose is to appraise the ingredients of the consent form to ensure the volunteer understands the interview's deliverables.
- d) Explain that the interview process is voluntary. The participant can withdraw from the interview at their discretion.
- e) Offer the researcher contact information to the participant for future inference and accountability.
- f) The participant signs the consent form in the agreement of their willful participation.
- g) Offer the volunteer a duplicate of their consent form.
- h) Use sequential coding techniques to ID the participant instead of using their real name, e.g., P1, P2, P3 ...
- i) Record the interview upon the consent of the respondent.
- j) While concluding the interview, the researcher will assure the volunteer that the researcher will provide them with a final report of the interview to assess and validate.
- k) Conclude the interview and show gratitude to the volunteer stakeholder to participate in this research process.

## APPENDIX B: INFORMED CONSENT FORM(S)

Dear potential respondent,

This is an invitation for you to take part in the Doctoral Study Project research "Investigating and Effectuation of ERPs at QTX Airlines Company Limited." You are a selected potential participant because of your versatile and extensive experience in the effectuation of an Enterprise Resource Planning System at QTX Airlines Limited Company. The purpose of this consent form is to indulge you in the research process and keep you informed of the research's intent before you agree to take part in it.

This research involves identifying emergent themes in the information technology department and its relation to the effectuation of ERPs at QTX Airlines Limited Company.

### **Background information**

This research proposal aims to explore the phenomena "effectuation of ERPs in Airlines." The data collected in this interview process will be crucial in disseminating the emergent themes related to this phenomenon.

### **Procedure**

Once you volunteer to participate in this interview process, you will be requested to:

- Avail and take part in a one-on-one interview with the researcher. The interview will require you to answer questions raised by the interviewer. The questions will be based on your knowledge of the effectuation process of Enterprise Resource Planning in Airline industries.
- You will need to provide consent to the recording of the interview for inferential purposes.
- Once the interview is over, the interviewer/researcher will send you a summary report to confirm the accuracy of the data recorded in the report. This process should not take more than 30 minutes.

### **Sample questions**

Contained in this section are some of the questions to expect during the interview

- What role did you play during the effectuation process of Enterprise Resource Planning in your company?
- Did the new Enterprise Resource Planning system make any changes to your job responsibilities? If any, which ones?

### **Participation is voluntary**

This is a formal invitation of stakeholders who previously participated in the effectuation exercise of an Enterprise Resource Planning system. This is a voluntary venture, and no one should feel obliged to participate. The volunteer should have at least five years of experience using the implemented Enterprise Resource Planning System. Participants who decide to join the research can withdraw from it at any time.

### **Outcomes and risks of the research**

In this research, the primal risks are the normal discomfort that you face each day when you encounter new scenarios, e.g., becoming upset or stressed. However, there are no potential risks to your health or wellbeing if you participate in this study. The interview process will take a maximum of 1 hour. Additionally, the interviewer will audiotape the interview for inferential and documentation purposes.

**Compensation**

Since taking part in this research is voluntary, there will be no form of compensation.

**Privacy**

All the information solicited during this research process is anonymous. Your information will not use for other purposes other than the documentation and development of this Doctoral Study Project. Additionally, this research will not require you to provide your confidential name. The information collected during the research will be stored in a vault for five years, following which it will be destroyed.

**Statement of Consent.**

I, the volunteer, have scrutinized the information contained above and understood. Upon assessing the included information, the researcher has decided to solicit the researcher's participation in this research. By replying using the words "I volunteer," you indicate your will to volunteer for this research.

## APPENDIX C: INSTRUMENTS AND PROTOCOLS

### Participant Stakeholder Background Information

Please describe your experience in Enterprise Resource Planning Implementation.

Describe your role and any modifications to the role in the last span of five years.

Have you experienced other Enterprise Resource Planning effectuation scenarios? If so, how many? Describe.

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### Semi-structured interview Questions. Interview Group 1:

- a) Why did your organization implement the (ERP)?
  - b) Describe the strategies that will be followed during the successful effectuation of Enterprise Resource Planning in your organization.
  - c) How did you select the Enterprise Resource Planning team members?
  - d) Describe how the Enterprise Resource Planning System is aligned with the organizational goals and objectives.
  - e) Which challenges did you face during the effectuation process? Internal? External?
  - f) Is there any information you would like to share regarding your Enterprise Resource Planning System experience?
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### Semi-structured interview Questions. Interview Group 2

- g) Why did your organization implement the (ERP)? Did you feel something needed to change?
  - h) Were you made aware of clear instructions of use both during and after the effectuation of Enterprise Resource Planning in your organization? Did project managers follow up with you and/or your department? Do you believe the training was adequate?
  - i) How were Enterprise Resource Planning team members selected? Were volunteers appropriated or were they assigned the task? Explain.
  - j) Is the Enterprise Resource Planning System is aligned with the organizational goals and objectives? Does it meet the needs of stakeholders and end users (customers)?
  - k) Which challenges directly impacted you in the effectuation process? Internal? External? Does the outcome of the initial roll out change your mind or strengthen your position? How?
  - l) Is there any information you would like to share regarding your Enterprise Resource Planning System experience? Any tips or tricks you could pass on to another individual seemingly facing an ERP inception?
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### Short form Questionnaire (on a scale of 1-5 where 1 is terrible and 5 is excellent)

- A) Rate/ Define QTX business processes.
  - A1.) Before ERP
  - A2.) After ERP
- B) Your knowledge of the company's goals and objectives (reasoning) for ERP implementation
- C) What was your comfortable level with the ERP changes?

- D) Rate the business culture pre-ERP  
D1.) After ERP

*Answer the questions openly and honestly please indicate N/A where the question may not be pertinent.*

- E) Did you feel that your area of business within QTX needed an ERP? Why or why not.  
F) Have the changes you experienced around ERP been positive or negative? Express some observations that corroborate either position.  
G) Do you feel confident that the ERP puts the stakeholder and costumers first? Explain.
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{}{}{}{Points to mind during the interview process. (Not for public consumption)

1. Explore how the company operations and utilization of resources could be impacted by the launch of an Enterprise resource planning system and how that impact resonates in the long term.
2. Identify the impacts of the Enterprise Resource Planning system within QTX Airways Limited Company on the stakeholders and end-users i.e., consumers.
3. How are ERPs be implemented to manage resources and operation of the organization's activities?
4. What are the long-term impacts of the Enterprise Resource Planning system within QTX Airways Limited Company?
5. How effective is the Enterprise Resource Planning system in the automation of the business process for both the stakeholders and end users, i.e., customers?{}{}{}{}