How the core banking systems impact on employee behaviour of a small banking institution

Thesis submitted in accordance with the requirements

of the University of Liverpool for the degree of

Doctor of Business Administration

by

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October 2019

Abstract

Banks use IT platforms to enhance the relationship with their customers by way of making customer driven, flexible business processes and introducing innovative products and services. An efficient core banking system is a key component in an IT platform of a bank. This research investigated how a core banking system impacts on employee behavior from a small banking institution standpoint. The researcher identified a lively business case and selected his current employer, a small banking institution, as the research site to conduct the study. Influenced by his ontological and epistemological assumptions, the researcher applied case study methodology to conduct this action research with the aim of generating actionable knowledge. Since the bank made a number of assumptions in implementing the new core banking system relating to employee behaviour, it was significant that the researcher investigates if these assumptions were met or not and how to make sure the new core banking system implementation is effective. The research findings revealed that the employee reaction to a new core banking system of a small bank is not homogeneous within the bank, and among different job functions and core banking modules. The study also releveled that the employees who believe they had a limited support from their old technological platform to perform their job, reacted positively to the new system while the employees who believe their old system or module fulfilled their user needs did not react positively. Further, the employees who use specialised core banking modules such as Custody or AML generally reacted negatively to the new core banking system while a positive reaction was observed among the employees who use standard core banking modules such as General Ledger. The researcher found that employee training, post-implementation support, communication and commitment of leadership, integration of all modules into one platform, and process alignment are critical success factors that influence the reaction of employees to the core banking system, and benefits realisation as a result. Based on the findings, the researcher argues that a mere capital investment in core banking systems does not result in positive behaviour of employees unless such investment is strongly supported by critical factors such as employee training, post-implementation support,

alignment of processes and procedures, communication of leaders, commitment of leaders, and a strong integration of all modules.

With this study, the researcher was able to achieve threefold objectives. Firstly, through the study findings, the researcher provided a solution to a workplace-based problem at his practice. Secondly, the research results filled a gap in existing literature on core banking systems, and this actionable knowledge can be used by both academics and industry practitioners. Finally, by undertaking the study, the researcher was able to evolve as an action researcher, a key (and final) milestone in his scholar-practitioner transformation journey. The researcher also identified a few limitations and areas for further research on the same research topic to extend the findings to banks having different profiles to the research site.

Key words: Core Banking Systems, Technology Acceptance Model, Employee Behavior

Dedication

This thesis is dedicated to two great individuals who played an unmatchable role in my life – my late father Jayasekara Thennakoon and my late mother Amara Withanage. The solid foundation you laid four decades ago has finally reached to the great height although you are not here today to see the success. Although I have met a number of great people at various milestones in my life journey, you were the only two role models throughout my life who demonstrated a true leadership at all times with strong emortional inteligence, integrity and commitment even in extreme challenging times. How great it feels to finally reach to the top of the academic world as a scholar practitioner, and to reflect on the role you each played for me to get there. This is unquestionably dedicated to you.

Acknowledgements

There can be no learning without action and no action without learning (Revans, 1998). Thank you very much for all who connected with my research project since you facilitated me to practically experience the true meaning of action based learning and knowledge generation.

A big appreciation is extended to the ABC Bank, all employees, and gate keepers who opened up the Bank for me to conduct this insider action research project. The Bank's employees at all levels, who participated in this research and shared their views and insights, gave the heart to this project and provided an immense contribution in generating actionable knowledge which was key to the project.

It has been a great rewarding journey over the last few years since I stepped into the DBA class at the University of Liverpool. The DBA faculty members and my classmates from all corners of the global village had been extraordinary in their active and professional engagements, and gave a remarkable contribution to my scholar practitioner transformation journey. I also thank the student support team who provided a very good support throughout the DBA program. And a heartiest appreciation is extended to my primary supervisor, Dr Lorenzo Lucianetti for supporting me to successfully complete this project. The approach taken by Dr. Lucianetti was phenomenal both in supporting and critically challenging the thesis project which ultimately helped me to sharpen my scholar practitioner skills with critical thinking and reflection.

Finally, I extend a special appreciation to my family and friends for their support. A very big thank you to my wife Eromi and two sons Themika and Danuka who were wholeheartedly supportive and offered constant encouragement for my success. I believe I was able to provide a true value and meaning to their unconditional support and sacrifices, and set the bar high for Themika and Danuka.

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List of Abbreviations

ABC – The Bank, The Research Site

AML – Anti Money Laundering and Compliance module of CBS

AR – Action Research

CBS – Core Banking System

CLR – Critical Literature Review

DBA – Doctorate in Business Administration

FX – Foreign Exchange Operations module of CBS

GL – General Ledger module of CBS

ICT – Information and Communication Technology

IT – Information Technology

HR - Human Resources

RQ – Research Questions

TAM – Technology Acceptance Model

UOL – University of Liverpool

WIRE – Wire Transfers module of CBS

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Chapter 1 - Introduction

1.1 Background

The researcher currently works as a senior executive in one of the commercial banks in Bermuda ("ABC" [i] or "the Bank"), a financially strong small Island economy in Americas. Similar to most of the other small banks in the region, ABC has also been facing a number of challenges in maintaining financial sustainability due to low or negative economic growth over post-global financial crisis period, intense competition, high fixed and operating cost base, limited product offerings, and small market share with low volumes. As Marinč (2013) noted, banks use Information Technology ("IT") to enhance relationships with their customers by way of making customer driven, flexible business processes and introducing innovative products and services. Chau and Lai (2003) argued that banks have been transforming their conventional approach of *'bricks and mortar'* into a *'clicks and mortar'* approach with the emergence of e-commerce and IT, in order to achieve competitiveness and sustainability. This is because, with *'bricks and mortar'* approach, customers had to physically visit to the bank to obtain a service whereas with *'clicks and mortar'* approach, banks can serve the customers with multiple channels through internet and mobile technology in addition to its physical presence. As Marinč (2013) argued, through an effective IT processes, banks can exploit economies of scale, and these economies of scale provide some competitive advantages to banks in a highly dynamic and competitive business environment.

With the increased use of IT, banks can improve the organisational formality and complexity (Rahmanseresht *et al.*, 2016). An efficient core banking platform is a key component in this IT framework. According to Kreća and Barać (2015), although banks are effective financial units, they enter fierce competition when it comes to attracting and retaining their customers. This process is becoming more and more challenging but with new Information and Communication Technology ("ICT") developments in particular with new core banking solutions, banks have the ability to

meet complex, multiple and spontaneous requests of their customers. For Kreća and Barać (2015), having an advanced integrated banking system is a necessity, not a choice.

In 2013, ABC made some changes to its leadership structure by appointing a new CEO and a few other new senior leadership positions. The leadership team was tasked to come up with an updated strategic plan. One of the key components identified in this strategic plan was a need for a new technological platform to cater the increasing needs of the business where a new core banking system ("CBS"), a centralised on line real-time banking software including hardware and relevant network infrastructure that supports all the core processes in a bank (Nath *et al.*, 2014), is an integral part of the new technological platform. Although the researcher was not an employee at the time of identifying the need for a new technological platform, the researcher was able to review the management meeting minutes which identified limited functionality and system security as two key reasons why the old banking platform was not suitable from forward looking standpoint. ABC management, having identified the strategic needs and the existing limitations, developed a business case for a new core banking project in March 2014. After some robust discussions, ABC's Board of Directors approved the business case and agreed to incur a significant capital expenditure involve in implementing the new CBS. The new CBS that supports all the core processes of the Bank contains various modules or components including customer deposits, lending, investments, treasury, custodian services, various other banking services such as wire transfers and foreign exchange operations, eBanking, AML and compliance, and general ledger accounting and reporting. The Bank had been implementing the system during the years of 2014 and 2015 which went on live in October 2015.

As per the business case for the core banking project, an internal management document prepared in March 2014, ABC's senior management made a number of assumptions in making the decision to invest in the new CBS. One of those key assumptions was that the employees will react positively to the new CBS which will

ultimately improve organisational performance by way of improvements to employee productivity, integrated processes, reduced current employee cost through automated processes, and improved management reporting. This assumption, however, had never been supported by any empirical finding or technical analysis, so far. Further, as a senior executive at ABC, the researcher had experienced a few cases where some of these assumptions had not been met. For example, the researcher was aware that after six months of CBS implementation there had not been material changes to the employee numbers or cost of the Bank.

1.2 The Organisational Issue – The Workplace Based Problem

Once the new system is implemented, if this assumption or any component of the assumption is found to be incorrect due to various economic, industry or the Bank specific factors, ABC will be taking a massive risk in terms of financial sustainability by investing a significant financial and other resources on this new CBS. One of the key questions yet to be answered, is how the new CBS impact on the behaviour of employees at ABC.

As Hersey *et al*., (2008) argued the level of performance readiness which is the ability and willingness of an employee to perform a specific task vary from person to person. The perception or understanding amongst bank employees on the role of technology in strategic decision making is not identical (Murari and Tater, 2014), and since human beings do not react the same manner as financial or physical capital, employees' reaction to technological factors could become a landmine to a successful change strategy, unless carefully managed (Raelin, 2003). Hence if some employees react negatively for the change strategy of implementing a new CBS, achieving ABC's expectations of the new system can become a real challenge.

On this backdrop, the interest to do the research, and the subsequent actionable knowledge, was in the first place to understand whether this assumption or any component of the assumption was met or not, and, then, how to make sure ABC

change in the CBS is effective. Possible actions could be the training of employees, changes to the system, and similar intervention. Accordingly, the researcher decided to investigate the correlation between CBS and employee behaviour at ABC.

1.3 Research Questions and Objectives

Based on the preliminary review, following research questions were identified to conduct this empirical study.

RQ1: How have ABC employees reacted to the CBS?
RQ2: Has this reaction to the CBS been positive or negative in terms of their perceptions?
RQ3: Has the reaction hindered the desired improvements the CBS aims bringing?

Since CBS of ABC contains various modules or components as explained previously and some employees only deal with one or a few modules only, the researcher intended to examine above research questions from the employees in different business units/functions since their reaction to CBS could be limited to the components or modules of CBS they use such as behaviour of employees who uses custody module of CBS or treasury module of CBS. This is vital since the intention is to generate actionable knowledge, and understanding the components or modules where employees react positively or negatively could help taking both corrective and preventive actions.

ABC can be differentiated from a number of other banks due to one or more characteristics. Firstly, the Bank operates in a small Island economy that has significantly higher GDP, and during last few years this economy has been stagnated with no material economic growth. Secondly, ABC is a 100% privately owned small bank with low volumes that operates in a small industry of four banks. Thirdly, the customer base of ABC represents corporates and high net worth individuals as

opposed to a mass scale retail banking operation. Fourthly, ABC has significantly higher per employee cost, low employee turnover, and limited focus on learning and development function. Finally, ABC operates in a flat organisational structure, and employs expatriates on most of the key senior management and specialised job roles where their service with the Bank is less than five years.

As will be discussed under the critical literature review section of this document, the researcher was unable to find any empirical study conducted on the correlation between CBS and employee behaviour, in particular, the banks that have similar characteristics of ABC, although some studies have been conducted on technology use and/or acceptance in banking industry (e.g. Beimborn *et al.*, 2007; Dasgupta *et al.*, 2000; and Nath *et al.*, 2014). The Bank has decided to implement the CBS without any empirical pieces of evidence or technical analysis. Since ABC is in an early stage of its new core banking platform, understanding how employees react on the new system is a critical factor as human resources behaviours and practices will need to fit existing and potential market of the Bank which will ultimately provide a competitive advantage for the business (Schneider and Bowen, 1993). Fitz-Enz (2000), having identified the significance of employee performance, argued that human resource be considered as the lifeblood of any business and ROI of human capital do play a vital role in measuring the performance of the business. Accordingly, if employees of ABC react negatively to the new CBS, this competitive advantage which can lead to enhanced performance of ABC cannot be achieved.

1.4 Intended Contribution

The contribution of this empirical examination is threefold. Firstly, from the researcher's perspective, the study can make a true contribution to the academic world and add some new actionable knowledge to the management since current literature, as will be discussed in the next section, indicates a gap. By undertaking this empirical examination, the researcher has the ability to evolve as an action researcher and a scholar practitioner who can live in both academic and practice worlds. Secondly,

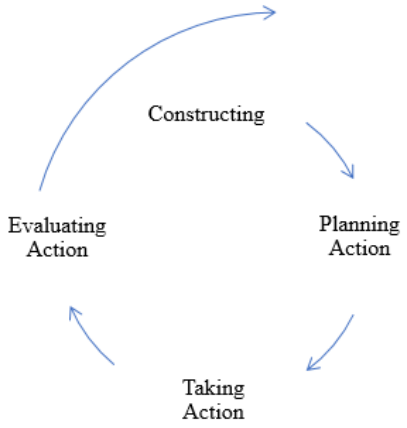
from ABC's perspective, senior leaders of the Bank, at the early stage of the new system, can identify whether their new capital investment will reap expected benefits. Through empirical results, they can have a thorough understanding of the changes of employee behaviour which will ultimately impact on the organisational performance. This could include but not limited to understanding factors that motivate employees to indicate a positive correlation with the new CBS, specific modules or components of the CBS where employees react positively and the ones that indicate a negative correlation, relationship between or integration of various modules or components of the CBS, leadership behaviour of the business, and learning and development function etc. It could ultimately help leaders to take both corrective and preventive actions to improve overall performance such as modules, or components leaders should focus more on implementation (and post-implementation) of the CBS, issues associated with integration, adequacy of training, the effectiveness of leadership and communication, and post-implementation support, etc. The third contribution is for the industry. Being a practitioner-oriented research that aims to generate actionable knowledge, study findings can be directly applicable to banking institutions those have similar characteristics of ABC, and banking institutions using similar modules or components of the CBS (such as the banks using custody module or investment module). This is significant since today almost every bank is increasing their investment in core IT systems on the assumption that it will ultimately increase organisational performance. The researcher, with his several years of banking experience, has observed the mixed reaction of banking employees to the new systems post system implementation. Examining this empirically could, therefore, make a significant contribution to the banking industry especially in aligning new IT investments with employees before and after system implementations.

1.5 The Research Structure

The researcher intended to design the structure of the research as an Action Research ("AR") since one of the primary objectives of the research is to generate actionable knowledge. This thesis report contains five chapters which begins with the

introduction chapter where the researcher discusses the background of the research, the organisational issue, the research questions, the intended contribution and the structure of the research.. The introduction chapter is then followed by a literature review chapter where the researcher reviews, analyses and reflects on prior empirical findings in relation to the research questions. It is however to be noted that, although the core review of prior empirical findings is performed in the second chapter, the literature review is a process that is continued throughout the research (i.e. across all five chapters) . After reflecting on the critical review of literature, the researcher moves into the research methodology. The chapter on the research methodology includes various tasks that discuss and reflect on the philosophical assumptions, management research, AR, research methods, and data collection. In the fourth research chapter, the researcher moves into another key milestone that is focused on collection and analysis of data. In this chapter, the researcher analyses and critically reviews research results. Based on the reflections made in the previous chapters, the researcher then moves into the final section of the thesis which is presented in the fifth (and final) research chapter and mainly summarises the research and provides the research conclusions. As a part of the chapter, the researcher also discusses and reflects on his AR journey and how he evolved as a scholar practitioner. Accordingly, the chapter contains various reflections, framing and reframing made throughout the research process (i.e. across all five chapters of the research).

One of the key objectives of this AR is to generate actionable knowledge to resolve a lively organisational problem. Accordingly, as a part of the fourth chapter, the researcher discusses some specific organisational actions taken based on preliminary research findings. The researcher decided to apply an AR cycle, to structure this actionable knowledge generation process, as suggested by Coghlan and Brannick (2010) that contain four basic steps as below.



(Figure 1 – AR cycle (Coghlan and Brannick, 2010))

Accordingly, as Coghlan and Brannick (2010) suggested, in the constructing stage, the researcher engages in constructing what the issues are, as a working theme, on the basis of which action will be planned and taken. The next step, planning action stage, follows from the construction of the issues and the focus will be on series of initial steps to be taken before taking action. In the next step, taking action, the researcher implements the action plans as a collaborative process while interventions are made. In the last step, evaluating action, the researcher evaluates the outcomes of the actions both intended and unintended.

Chapter 2 - Critical Literature Review ("CLR")

2.1 Introduction

Levy & Ellis (2006) highlighted the significance of doing an effective literature review that could help build a solid foundation to the research subject by methodologically analysing and synthesizing various empirical findings relating to the subject. Accordingly, in this chapter, the researcher intends to build a conceptual framework by developing a theoretical scaffolding around the RQs. This is done by performing a search of prior empirical findings, critically reviewing the literature applicable to the research, and relating the review results with RQs to make conclusions. The rest of the chapter discusses these various tasks in detail.

2.2 Conceptual Development

In order to build a theoretical scaffolding around the subject, the researcher first identified the key components of the study – '*employee behaviour', 'IT'* and '*CBS'*. Since the empirical findings on 'CBS' were limited, 'IT' was selected as a key component in addition to 'CBS', to widen the search. Based on this concept map, a key word search was conducted using discovery and google scholar search engines in University of Liverpool ("UOL") library, and the search was conducted on peer-reviewed academic journal articles to identify the applicable empirical findings. The researcher, with the aim of further enhancing both rigor and relevance, also conducted a backward and forward search of literature as suggested by Webster and Watson (2002) *cited in* Levy & Ellis (2006). Following the search, the review was conducted under three key relationships which are also interrelated.

- Employee behaviour and IT (generic)
- CBS implementation and employee behaviour
- Employee behaviour, IT and performance

To enhance the relevance, the researcher attempted to focus more on industry-specific empirical findings without compromising the rigor, and accordingly, at least half of the rich literature to be discussed subsequently are from the banking industry. The table below illustrates the analysis of industry-specific empirical findings which represents 55% of the total number of literature reviewed in this chapter.

# of Articles	Researcher(s)	Country	Year	Employee behaviour and IT	CBS implementation and employee behaviour	IT, Employee behaviour and performance
1	Griffin (1991)	USA	1991			
2	Prasad and Harker (1997)	USA	1997			
3	Dasgupta *et al.*, (2000)	Greece	2000			
4	Anadarajan *et al.*, (2000)	India	2000			
5	Crossman and Abou-Zaki (2003)	Lebanan	2003			
6	Pereira (2004)	Portugal	2004			
7	Shu & Strassmann (2005)	USA	2005			
8	Beimborn *et al.*, (2007)	Germany	2007			
9	Shah *et al.*, (2010)	India	2010			
10	Zhang *et al.*, (2011)	China	2011			
11	Sharma and Mani (2012)	India	2012			
12	Machogu and Okiko (2012)	Rwanda	2012			
13	Mohlala *et al.*, (2012)	South Africa	2012			
14	Vivin Maharani *et al.*, (2013)	Indonesia	2013			
15	Wallace *et al.*, (2013)	Ireland	2013			
16	Nath *et al.*, (2014)	India	2014			
17	Murari and Tater (2014)	India	2014			
18	Sandulli *et al.*, (2014)	Spain	2014			
19	Kumar *et al.*, (2015)	India	2015			
20	Kreća and Barać (2015)	Serbia	2015			
21	Eastburn and Jr.Boland (2015)	USA	2015			
22	Chandio *et al.*, (2017)	Pakistaan	2017			
23	Garg & Dhar (2017)	India	2017			
24	Mekpor and Dartey-Baah (2017)	Ghana	2017			

(Table 1 - Analysis of industry-specific empirical findings)

As illustrated above, the researcher made an effort to capture industry-specific empirical evidence from multiple jurisdictions to strengthen the review. Given IT is a dynamic and ever-changing discipline, more focus was given on recent literature. An attempt was also made to capture at minimum three to four empirical findings in each key relationship to enhance the overall scientific quality of literature. Key findings

and its applicability to the research is reviewed in the succeeding paragraphs. The researcher intends to strengthen the theoretical scaffolding around the research subject by critically reviewing the issues in reference to Technology Acceptance Model ("TAM"), an information systems theory which is used to study IT acceptance behaviour of users, introduced by Davis (1986).

2.3 Employee behaviour and IT

2.3.1 Defining employee behaviour

Since employee behaviour could take a broader scope which is generally understood as the reaction of employees to specific situations at the workplace, the researcher decided to narrow the scope by examining this behaviour in response to the implementation of the new CBS only. Some of the factors that affect employee behaviour include leadership, job responsibilities, effective communication and technology (Management Study Guide, 2018). In fact, technology is a significant factor that can have both positive and disruptive influences on employees' behaviour.

As Garg & Dhar (2017) argued, given the banking industry is characterised by complex situations, supervisors need to engage in social exchange relationships with their subordinates by supporting them in difficult situations which could enhance employees' work motivation and engagement. Garg & Dhar (2017) suggested that banks need to arrange training programs to improve the interpersonal skills of supervisors, and supervisors need to have precise and frequent communications with employees relating to specific goals and change projects such as technological transformations while providing opportunities to employees to discuss and clarify any doubt throughout the process.

In the service sector, knowledge itself is identified as a product and human capital is the dominant form of capital (Johnson *et al.,* 1996). As Shah *et al.,* (2010) highlighted, banking industry jobs require employees to develop creative thought in

order to enable innovative processes throughout the bank. Borman & Motowidlo (1993) noted that behavioural engagement and expected outcome at a workplace are related to each other. As Campbell (1990) noted, from a workplace context, behaviour denotes the actions employees exhibit to accomplish a work and the outcome aspect deal with the consequences of an employee's job behaviour.

Adaptive performance is identified as an employee's ability to adapt and provide required support to the job profile in a dynamic work environment (Hesketh & Neal, 1999). An effective adaptive performance requires employees' ability to successfully deal with various change projects performed in a dynamic work environment such as technological transformations (Baard *et al.,* 2014; Pradhan & Jena, 2017). When such technological transformations are implemented, employees need to be engaged in fresh learning and get themselves effectively adaptable with the changes (Griffin *et al.*, 2010 & Hollenbeck *et al.,* 1996 *cited in* Pradhan & Jena, 2017). Pradhan & Jena (2017) further noted that when such change projects are implemented, employees are also expected to adjust their interpersonal behaviour in order to effectively work with a wide range of peers and subordinates. As Kahn (1990) noted, engaged employees work with a sense of passion that would turn into not only high performance but also extra role behaviour.

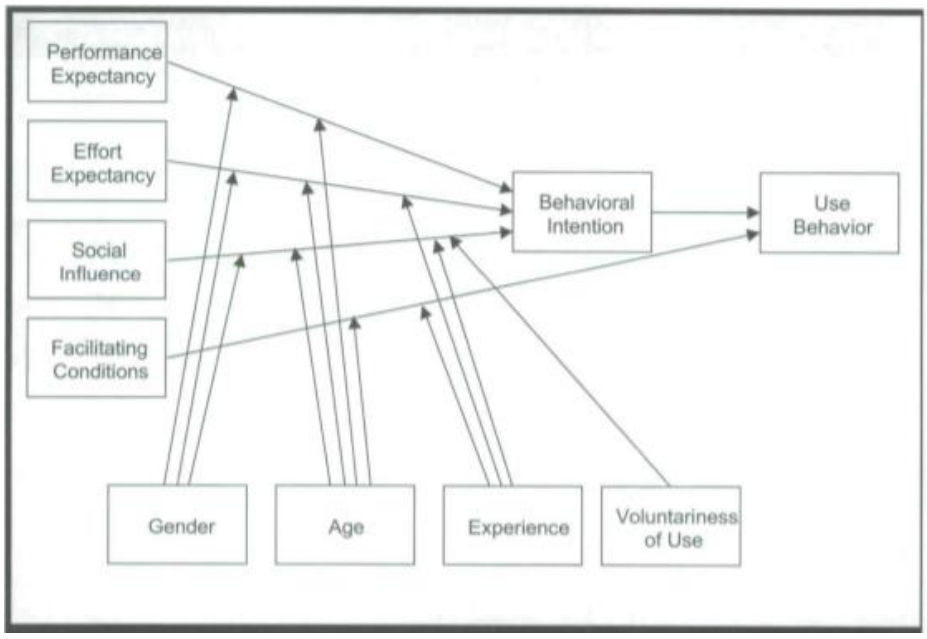
2.3.2 Employee behaviour analysed through TAM

In reviewing empirical evidence relating to employees' behaviour to new technology, as stated earlier, TAM (Davis,1986) provide some rich insight. TAM highlights that two factors, *perceived usefulness* – the belief that job performance of a person will be enhanced through the use of a new IT system, and *perceived ease of use* – the belief that use of a new IT system will be free of effort (Davis, 1989). According to this model, perceived usefulness and perceived ease of use will determine the users' attitude on the adoption of new IT platform.

TAM has since been reviewed and expanded and two of those upgraded TAM are TAM 2 (Venkatesh & Davis, 2000) and unified theory of acceptance and use of technology (Venkatesh *et al.,* 2003). Several researchers (for example Adams *et al.,* 1992; Segars & Grover, 1993; Subramanian, 1994; and Nadri *et al.,* 2018) have further studied and applied either TAM or expanded TAM in order to provide empirical evidence on the relationships that exist between perceived usefulness and perceived ease of use. The overall outcome of these studies support the TAM theory in assessing the IT acceptance behaviour. The TAM is however not without criticisms or limitations. As Chuttur (2009) noted one of the challenges in applying TAM is its limited explanatory and predictive power. Benbasat & Barki (2007) argued that researchers' attempt to expand TAM in response to constantly changing IT environments has led to a state of theoretical chaos and confusion. Although TAM assumes that users will be free to act without limitation when they form an intention to act, in the real world, there is a limited freedom to act (Bagozzi *et al.,* 1992). Despite these limitations, as Venkatesh (2000) argued, Davis's TAM is identified as the most widely used model of users' acceptance and usage of technology.

In building a theoretical framework, the researcher decided to review the upgraded TAM model built by Venkatesh *et al.,* (2003) which is a unified theory of acceptance and use of technology. Venkatesh *et al.*, (2003), in their study conducted with an objective of developing a unified view of user acceptance of IT, found that there are four constructs – *performance expectancy, effort expectancy, social influence* and *facilitating conditions* - that act as direct determinants of IT user acceptance and IT usage behaviour. Findings of Venkatesh *et al.,* (2003), as illustrated in the figure 2 below, highlight that behavioural intention which is impacted by performance expectancy, effort expectancy, and social influence, demonstrate a strong positive correlation between the usage of the behaviour of IT systems. Although Venkatesh *et al.,* (2003) developed the model over a decade ago, their model and findings are still applicable today. For example, the researcher reviewed approximately 25 citations of the model in subsequent empirical studies but was unable to identify any changes to the model that impact the current study, rather some further validate or reemphasise

the components of the model[ii]. The findings of Venkatesh *et al.,* (2003) also highlight how employees' age, gender, experience and voluntariness of use impact performance and effort expectancy, social influence and facilitating conditions. The researcher notes that these findings could partially explain the RQ1 and RQ2 - *how have ABC employees reacted to the CBS* and *has the reaction to the CBS been positive or negative in terms of their perceptions*, although a critical limitation is that the findings are not directly related to CBS but to generic IT use. Also, since the researcher intends to use different demographic factors of employees at ABC and responses to different modules of the CBS, findings of Venkatesh *et al.,* (2003) on generic IT use can be compared with overall CBS use of employees at ABC and their reaction to different modules of the CBS. The researcher anticipates this approach could provide an extension to the model (further validation) or a completely new finding from a specific research setting.



(Figure 2 - Research model of Venkatesh *et al.,* 2003)

Having noted that findings of Davis (1986; 1989) and Venkatesh *et al.*, (2003) provide limited insight to the banking industry, the researcher decided to expand the review to capture industry-specific literature.

In a study conducted on Indian banking industry, Sharma and Mani (2012) found that among several factors that influence employee satisfaction, job-specific factors make the highest influence, and these factors include challenging work, quality of supervision, flexibility to balance work and life, job security, autonomy and independence in doing routine job tasks, opportunity to use skills, recognition, personal achievements, and degree of responsibility. In a study conducted on a South African bank, Mohlala *et al.*, (2012) found that employees who perform IT job tasks would react negatively with regard to their long term commitment to the bank when they feel that the technology is unappealing and management style is inappropriate.

Though these two studies have limited relevance due to differences in demographic factors and no direct reference to the relationship between CBS and job-specific factors, it encouraged the researcher to investigate how the use of new CBS influence employee behaviour through various job-specific factors above.

In reviewing the two research questions (*how have ABC employees reacted to the CBS* and *has the reaction to the CBS been positive or negative in terms of their perceptions*), the researcher found that perceived usefulness has a significant effect on behavioural intention and usage behaviour of bank employees on CBS (Nath *et al.,* 2014). This study was an extended study on TAM (Davis, 1986; 1989) and conducted on the factors influencing IT acceptance by employees in Indian banking sector where Nath *et al.,* (2014) found that technology facility and computer self-efficacy influence perceived ease of use that ultimately influence perceived usefulness. The argument of Nath *et al.,* (2014) that places a greater weight on perceived usefulness was supported by another empirical study done by Chandio *et al.,* (2017) on the online banking information system acceptance, who argued that although the perceived usefulness and perceived ease of use are the two motivational factors that influence the intended usage behaviour, perceived usefulness on intended behaviour is more important than the perceived ease of use hence perceived usefulness is to be considered as a stronger predictor of intended usage behaviour. According to Chandio *et al.*, (2017), the output quality, web security and response time are some key determinants of

perceived usefulness which could increase users' motivation and their acceptance of online banking systems. These findings are somewhat opposite to the findings of Anadarajan *et al.,* (2000) who argued social pressure instead of perceived usefulness is the key driver in employees' acceptance of new technology, based on a study conducted on the banking industry in lesser developed countries. In a similar study on some Indian banks, Murari and Tater (2014) found although employees in different banks have the same perception or understanding of information security to avoid potential risks, their perception or understanding are not identical when it comes to relative advantage, complexity, and innovation techniques used by them in providing services to customers. Differences in perception or understanding among different employees bring an added challenge in generalising findings of Anadarajan *et al.,* (2000) and Nath *et al.,* (2014). The findings of Kumar *et al.,* (2015) on Indian banks and software firms, who argued that there is a positive correlation between IT literacy level and attitude of employees towards IT, could partially explain why employees have different perceptions or understanding on innovative techniques. Findings of Dasgupta *et al.,* (2000) on Greek banking industry provide another dimension of IT adoption decisions of employees which partially explain the RQ1 - *how have ABC employees reacted to the CBS*. Accordingly, in the short run, IT adoption decisions are significantly impacted by the factors like organisational culture, involvement of MIS staff, and the size of the bank which are primarily organisational factors and controllable. Environmental factors such as market stability, ownership and country policies etc that are mostly uncontrollable have an impact on IT adoption in the long run. With regard to organisational culture, Dasgupta *et al.,* (2000) identified two dimensions – '*innovation oriented culture'* which is determined by high innovation, detail, outcome and team dimensions, and '*stability oriented culture'* which is characterised by easy goingness, high stability and people dimensions. Though IT adoption leads to organisational change mostly characterised by innovation orientation, Dasgupta *et al.,* (2000) found stability oriented cultures have a positive impact on IT adoption in the long run though some resistance is visible in the short run.

Overall these findings highlight that, to explore RQ1 and RQ2 - *how have ABC employees reacted to the CBS* and *has the reaction to the CBS been positive or negative in terms of their perceptions*– the researcher needs to consider understanding various job specific factors that influence employee satisfaction (Sharma and Mani, 2012), perception or understanding of different employees on factors like relative advantage, complexity, and innovation techniques (Murari and Tater, 2014), IT literacy level and attitude of employees (Kumar *et al.*, 2015), and culture of the organisation (Dasgupta *et al.,* 2000). One of the key limitations in these literature is lack of consensus (i.e. Anadarajan *et al.,* 2000 versus Nath *et al.,* 2014). Also these findings are not directly from total CBS or do not explain the relationship of key components of a CBS, although they deal various IT and IT related aspects and employee behaviours. Further, by referring to various ABC records including ABC annual reports, management meeting minutes, and management accounting packs, it can be seen that there are key differences in the demographic factors of employees at ABC compared to the research sites of these prior empirical findings. These factors at ABC includes flat employee organisational structure in ABC, high expatriate employee base occupying in leadership positions, and significantly higher per employee cost etc which will make it dificult to fully correlate with the literature. Additionally, most of these findings are from Indian banking industry that limits the relevance due to differences in factors like economic, geographical, scale, legal and regulatory environment. A gap in the application of existing literature was accordingly identified.

2.4 CBS implementation and employee behaviour

A high level understanding of how CBS has been evolving and what it does today could strengthen the foundation of this analysis. As Kreća and Barać (2015) noted, the first CBS emerged in 1970's and had basic functionality to carry out core banking transactions. In 1980's, CBS was developed as packages with the product-orientation, but it had limited capacity to process large scale data. In 1990's vendors further advanced their solution with more client orientation, flexibility, and scalability with

digital channels. The advanced CBS solutions in the last decade further increased the mobility in terms of meeting increased client demands, and facilitating real time processing and multichannel integration. With a CBS, a bank today has the ability to fulfil complex, multiple and spontaneous requests of their customers, and having an advanced integrated system like CBS, according to Kreća and Barać (2015), is therefore a necessity, not a choice.

On a case study research in one of the German banks, Beimborn *et al.,* (2007) argued that operational level alignment in IT and business is a key driver of post implementation success of a CBS in retail banks. They found that the key to enhancing operational alignment is the correct understanding of business needs by IT staff. Additionally, the usage of CBS is also influenced by the degree of relationship between business units with regard to sharing of knowledge and mutual understanding. Hence managers need to enhance interrelationships between business units, invest in educating both in functional and customer orientation, and encourage employees to work in different business units. Whilst the results provide a rich insight on usage of CBS and need for right alignment to enhance the productivity of the systems, the study has some limitations in applying its results to research questions of ABC since the scope of Beimborn *et al.,* (2007) is limited to core banking usage of four retail bank branches which differs with ABC's corporate and high net worth limited customer base. Also, the impact of behaviour among branch employees could be different with the behaviour of ABC employees who operates in a centralised set up with all front office, back office, and leadership teams are in one location, hence a further examination is warranted.

In another study relating to CBS implementation, Nath *et al.,* (2014) identified social influence of superiors as the key determinant of perceived usefulness of the CBS technology who also argued that managers' role as effective communicators is heightened in conveying the benefits of using IT and in turn achieving organisational goals. The researcher believes that employee behaviour on CBS could also be impacted by the level of training they have on new technology. This assumption was

supported by Machogu and Okiko (2012), who from their study on commercial banks in Rwanda, identified that employee training had a significant influence on ICT adoption. As Walker (2005) *cited in* Machogu and Okiko (2012) argued, ICT training is a primary organisational factor that helps users to understand the best use of new technology where lack of ICT training was identified as a key barrier to ICT adoption. Machogu and Okiko (2012) argued that banks could increase their performance by improving employee related aspects of ICT usage and adoption.

A general observation in this review is the empirical studies on CBS implementation is limited, in particular, attempting to explore the RQ1, RQ2 and RQ3 – *how have ABC employees reacted to the CBS; has this reaction to the CBS been positive or negative in terms of their perceptions; and has the reaction hindered the desired improvements the CBS aims bringing*. A few studies done on CBS implementation limits its relevance for the reasons highlighted above. However, these findings generally highlight the need to assess the effectiveness of communication process and employee training components in ABC in finding answers to research questions one, two and three.

2.5 Employee behaviour, IT and performance

A key component of this review is to understand the interrelationship between employee behaviour, IT and performance since these interrelated components are the core components of the research.

In a study conducted on front-line employees in an Irish bank, Wallace *et al.*, (2013) attempted to identify three types of employees exist within retail banking – *champions, outsiders* and *disruptors.* Champions demonstrate a high degree of civility and customer focus, and have the lowest sabotage. Champions display considerate leadership behaviours that encourage empowerment, and facilitate performance and extra-role behaviours. Wallace *et al.*, (2013) found champions mostly amongst older and permanent employees, and males. Outsiders highly rate their own performance,

and despite their performance they demonstrate medium level sabotage, complaining behaviour and lack of engagement. Outsiders were identified mostly amongst non-managers and non-permanent employees. It was also evident that outsiders are mostly within the female employees and are within the age group of 36-45. Disruptors demonstrate low performance and complaining behaviour, and are staying long in the organisation holding permanent employments. They are a form of saboteur who lack civility and customer focus, and have a medium rating for leader behaviour. It was identified that almost 40% of disruptors are holding managerial roles. To mitigate the negative impact of disruptors, Wallace *et al.,* (2013) suggested managers to have team building exercises, increase visibility and employees' perceptions of surveillance, and increase vigilance by walking about.

A key takeout of these findings to the research is that different employees with different demographic characteristics demonstrate different performance behaviour. A key challenge is however identified which limits the relevance due to the limited scope of the findings. This is bacause the findings apply only to front line employees of a large retail bank whereas ABC's core banking users are from all levels of employees and ABC is a small bank that got limited retail activities.

In assessing employee behaviour of ABC, findings of Zhang *et al.,* (2011) provide some insight. Accordingly, service climate, which reflects employees' perception on core activities of the organisation, has a positive correlation with service performance of front line bank employees, and the job stress negatively impacted the relationship between service climate and performance of employees while organisation identification had a positive impact. Overall, the findings from literature review, highlight the significance of taking into account the factors such as degree of employee involvement and job stress etc., in investigating the correlation between employee behaviour and organisational performance, although findings cannot be directly applied to ABC since the scope of Zhang *et al.,* (2011) is only limited to front line employees.

Despite the use of sophisticated information technologies such as CBS that could handle complex information requirements of banks, Eastburn and Jr.Boland (2015) found several surprise outcomes for bankers during 2008-2010 financial crisis that challenge the general belief of IT and organisational performance has a positive correlation. By interviewing 23 senior bank executives in the USA, Eastburn and Jr.Boland (2015) noted less mindful behaviour, the narrow focus of attention, reduced sense of inquiry, application of rigid procedures, and limited sense of accountability among senior executives that resulted in surprise outcomes for them. This finding partially captures the responses to the RQ1 and RQ3 highlighting that the mere existence of an advance IT systems such as CBS does not result in superior performance unless the users especially senior executives of the business display a positive behaviour with a strong mindfulness.

As noted by Shu & Strassmann (2005), though the generic belief among industry professionals is that IT systems will enhance employee productivity and performance, this belief was challenged based on historical data from banking industry. This is because despite investment on IT has increased significantly over past several years, some emperical studies reveal that the labour productivity has not increased as expected rather it has indicated a negative correlation. This phenomenon was identified as '*IT productivity paradox'*. Shu & Strassmann (2005) by reviewing the data from some largest US banks during 1989-1997 period, to further examine IT productivity paradox, found that IT generates positive marginal results for banks and its productivity is higher than that of labour. On the other hand, based on an empirical study on employees in Europe, Martin and Omrani (2015) found that internet use is positively correlated with the job satisfaction of employees which to a certain degree challenges the IT productivity paradox. Martin and Omrani (2015) however argued that use of computers is not related to employees' behaviours but it is innovative work practices that lead to positive attitude of employees. There are a number of empirical studies conducted on banking industry where some findings highlight that IT has a positive correlation with employee and/or organisational performance, while others support the existence of IT productivity paradox.

A similar finding was made by Prasad and Harker (1997), who in their study conducted on retail banks in the USA, found that additional investment in IT capital may not reap a material gain, rather it is more of a strategic need to stay in the competition. Prasad and Harker (1997) further found that banks generate high returns by increasing investment on IT labour which highlights the need to shift the focus from IT capital investment to IT labour investment. Since ABC's investment included a sizable amount of IT labour investment (such as cost of implementing the system), findings of Prasad and Harker (1997) provide added insight since it encourages the researcher to view the investment of CBS from two components – *capital* and *labour* and assess the correlation between IT labour and ABC's performance (i.e. RQ3 – *has the reaction hindered the desired improvments the CBS aims bringing*) given the findings also highlight the need to invest not only technical skills of employees but also industry specific knowledge base of the work force.

In further reviewing literature, a complementary effect can also be identified in IT and employees. In a study conducted on Portuguese financial sector during 1994–1999, Pereira (2004) found a complementary effect between IT systems and labour instead of a substitution effect. The study found a negative correlation between technology investment and labour cost which also highlighted a change to labour profile – a gradual decrease of administrative labour and an increase in technical labour and managerial positions. Pereira (2004) also found a positive correlation of IT investment with productivity and competitiveness, though some further research on this aspect is warranted.

Further, it is to be noted that core IT systems, in particular, CBS have undergone significant technological changes over the years. For example, the researcher with his several years of industry experience notes that the system user friendliness has significantly enhanced in modern systems which could influence (positive) user behaviour. The researcher notes that the above contradictory results may partially

explain this phenomenon. A gap in existing literature in finding answers to research questions is accordingly identified.

In further reviewing the research questions, a study on the impact of work redesign of bank front line staff in the USA conducted in 1980 by Griffin (1991) provides some insight. Griffin (1991) found that by redesigning the work as a result of a new on line computer network, employees' attitudes that include their satisfaction and commitment level increased initially but then declined to the original level over a period. On the other hand, performance showed no change initially but started to increase in the long run. Although these findings provide partial responses to the research questions, two key limitations are the study was conducted over 30 years ago and limited only to front line employees which materially limits the relevance.

In another related study on small service firms in Spain, Sandulli *et al.*, (2014) found that matching the educational level of employees with IT intensity of the organisation could increase the efficiency of small service firms in IT intensive industries such as financial services sector. They also found that the impact of IT training to the efficiency of organisation depends not on the IT intensity but on the training intensity. In further investigating RQ2 and RQ3, the researcher notes that the empirical study conducted by Crossman and Abou-Zaki's (2003) provide some insight. This study was on employees of Lebanese banking sector to investigate relationships between job satisfaction, job performance, socio demographic factors and individual job facets provide some insight. Crossman and Abou-Zaki (2003) found that job satisfaction is not independent in all job aspects such as work, promotion, pay, supervision and co-workers, and that satisfaction with one aspect could lead to satisfaction with another. They also found that less educated (employees with only a school certificate) were least satisfied with their jobs that contradicts with previous literature (Clark, 1993; Metle, 2001 *cited in* Crossman and Abou-Zaki, 2003). By reviewing all these findings, the researcher notes that multiple factors impact employee satisfaction (Crossman and Abou-Zaki, 2003), and training and level of education are two key

variables that impact employee satisfaction in relation to new technology (Machogu and Okiko, 2012; Sandulli *et al.,* 2014).

Another factor to review in assessing the relationship between CBS and employee behaviour is the impact of management and leadership. As Bharadwaj (2000) noted, organisations with strong IT personnel can effectively integrate IT and business processes and work with other business units more efficiently. As Sambamurthy and Zmud (1992) *cited in* Bharadwaj (2000) argued, one of the key distinguishing factors of successful organisations is the ability of managers to coordinate multifaceted activities related to the successful implementation of IT systems. From a banking leadership standpoint, in a study conducted on an Islamic bank in Indonesia, Vivin Maharani *et al.*, (2013), however, found that transformational leadership does not directly effect on organisational citizenship behaviour which is reflected by employees' extra role behaviour. According to Vivin Maharani *et al.*, (2013), it is transformational leadership, employees' extra role behaviour and job satisfaction that directly effect on the performance of employees.

As Mekpor and Dartey-Baah (2017) noted, organisational citizenship behaviour, which is the willingness of employees to engage in positive voluntary work behaviour beyond their formal job tasks, will have a significant implication on organisational performance. From their empirical study on Ghanaian banking sector, Mekpor and Dartey-Baah (2017) argued that if banks intend to get their employees to exhibit the highest level of organisational citizenship behaviour, they should encourage with an effective mix of both transformational and transactional leadership styles, an approach called transfor-sactional leadership as advanced by Dartey-Baah (2015). According to Mekpor and Dartey-Baah (2017) leaders need to take a situational and complementary approach in adopting transformational and transactional leadership style if they are to strengthen the organisational situational behaviour of the employees. As Grant (1991) argued, one of the factors that determines the strategic flexibility of organisation is the adaptability of its employees to organisational changes. Bharadwaj (2000) argued that resource based view of IT highlights that organisations' ability to differentiate

themselves on the basis of IT resources that contain not only IT infrastructure but also human IT skills. According to these arguments, effective use of these IT resources (Bharadwaj, 2000) blended with transformational as well as transactional leadership which should be applied with a situational approach (Vivin Maharani *et al.*, 2013, and Mekpor and Dartey-Baah, 2017) could develop IT enabled intangible assets like synergy, customer orientation and enhanced organisational knowledge base.

Although these findings provide partial responses to RQ1, RQ2 and RQ3 – *how have ABC employees reacted to the CBS; has this reaction to the CBS been positive or negative in terms of their perceptions; and has the reaction hindered the desired improvements the CBS aims bringing*, differences in various demographic factors of employee profiles of ABC, and geographical and economic factors limit the relevance highlighting a gap in current literature.

2.6 Discussion and concluding remarks

This CLR was conducted based on the conceptual framework developed at the beginning of the study and following an in-depth search of the literature. Peer-reviewed empirical findings were reviewed, and a special focus was provided in reviewing industry-specific literature with a wider jurisdictional representation. Being an action researcher, an equal focus was provided to both the rigor and the relevance factors given one of the key objectives of this examination is to generate an actionable solution to a lively organizational problem (Thorpe and Holt, 2008).

The table below summarizes overall review of empirical findings in relation to all three research questions.

Research question		Empirical findings	Are they Industry Specific?	Do they explain research questions?	Can they be applicable to the research site (ABC)?
RQ1	How have ABC employees reacted to the CBS?	Davis (1986); Davis (1989)	No	Partially	No
		Campbell (1990)	No	Partially	No
		Kahn (1990)	No	Partially	No
		Grant (1991)	No	Partially	No

		Griffin (1991)	Yes	Partially	No
		Adams *et al.*, (1992)	No	Partially	No
		Bagozzi *et al.*, (1992)	No	Partially	No
		Borman & Motowidlo (1993)	No	Partially	No
		Segars & Grover (1993)	No	Partially	No
		Subramanian (1994)	No	Partially	No
		Johnson *et al.*, (1996)	No	Partially	No
		Hesketh & Neal (1999)	No	Partially	No
		Anadarajan *et al.*, (2000)	Yes	Partially	No
		Bharadwaj (2000)	No	Partially	No
		Dasgupta *et al.*, (2000),	Yes	Partially	No
		Venkatesh (2000); Venkatesh *et al.*, (2003)	No	Partially	No
		Venkatesh & Davis, 2000	No	Partially	No
		Pereira (2004)	Yes	Partially	No
		Benbasat & Barki (2007)	No	Partially	No
		Chuttur (2009)	No	Partially	No
		Shah *et al.*, (2010)	Yes	Partially	No
		Machogu and Okiko (2012)	Yes	Partially	No
		Mohlala *et al.*, (2012)	Yes	Partially	No
		Sharma and Mani (2012)	Yes	No	No
		Vivin Maharani *et al.*, (2013)	Yes	Partially	No
		Baard *et al.*, (2014)	No	Partially	No
		Nath *et al.*, (2014)	Yes	Partially	Partially
		Murari and Tater (2014)	Yes	Partially	No
		Eastburn and Jr.Boland (2015)	Yes	Partially	No
		Kumar *et al.*, (2015)	Yes	Partially	No
		Chandio *et al.*, (2017)	Yes	Partially	No
		Garg & Dhar (2017)	Yes	Partially	No
		Mekpor and Dartey-Baah (2017)	Yes	Partially	No
		Pradhan & Jena (2017)	No	Partially	No
		Nadri *et al.*, (2018)	No	Partially	No
RQ2	Has this reaction to the CBS been positive or negative in terms of their perceptions?	Davis (1986); Davis (1989)	No	Partially	No
		Griffin (1991)	Yes	Partially	No
		Bharadwaj (2000)	No	Partially	No
		Dasgupta *et al.*, (2000),	Yes	No	No
		Venkatesh (2000); Venkatesh *et al.*, (2003)	No	Partially	No
		Crossman and Abou-Zaki (2003)	Yes	No	No
		Pereira (2004)	Yes	Partially	No
		Shu & Strassmann (2005)	Yes	Partially	No
		Machogu and Okiko (2012)	Yes	Partially	No
		Mohlala *et al.*, (2012)	Yes	Partially	No
		Sharma and Mani (2012)	Yes	No	No
		Vivin Maharani *et al.*, (2013)	Yes	Partially	No
		Nath *et al.*, (2014)	Yes	Partially	Partially
		Murari and Tater (2014)	Yes	Partially	No
		Kumar *et al.*, (2015)	Yes	Partially	No
		Martin and Omrani (2015)	Yes	Partially	No
		Chandio *et al.*, (2017)	Yes	Partially	No
		Mekpor and Dartey-Baah (2017)	Yes	Partially	No
RQ3	Has the reaction (of ABC employees) hindered the desired improvements the CBS aims bringing?	Grant (1991)	No	Yes	Partially
		Griffin (1991)	Yes	Partially	No
		Prasad and Harker (1997)	Yes	Partially	No
		Bharadwaj (2000)	No	Partially	No
		Crossman and Abou-Zaki (2003)	Yes	Partially	No
		Pereira (2004)	Yes	Partially	No

Shu & Strassmann (2005)	Yes	Partially	No
Zhang *et al.*, (2011)	Yes	Partially	No
Machogu and Okiko (2012)	Yes	Yes	Partially
Wallace *et al.*, (2013)	Yes	Partially	Partially
Vivin Maharani *et al.*, (2013)	Yes	Partially	No
Sandulli *et al.*, (2014)	Yes	Yes	Partially
Eastburn and Jr.Boland (2015)	Yes	Partially	No
Kreća and Barać (2015)	Yes	Partially	Partially
Martin and Omrani (2015)	Yes	Partially	No
Mekpor and Dartey-Baah (2017)	Yes	Partially	No

(Table 2 – Analysis of empirical findings from the context of Research questions)

Despite there is some rich literature that partially explained or supported research questions, the researcher found a number of limitations in its direct applicability to ABC and its research questions. Firstly, there was a lack of uniformity in the empirical findings that provide contradictory results. For example, there were findings that support the thinking that IT has a positive correlation with employee satisfaction and performance while there were others who support the thinking of IT productivity paradox (e.g. the findings of Prasad and Harker,1997 either directly or indirectly supported the IT productivity paradox while findings of Murari and Tater 2014 highlighted a positive correlation between IT and productivity).

Secondly, research sites of the above empirical findings have material differences with ABC due to factors such as geographic, economic and social. Despite an in-depth search of literature, as illustrated in the above table, the researcher was unable to find an empirical study conducted on a site that contains similar characteristics of ABC (e.g. studies on Indian banks by Sharma and Mani, 2012, and Nath *et al.*, 2014 that got a completely different economic and social profile with ABC and ABC's country of operation).

Thirdly, there were a number of changes in demographic factors of employees of empirical findings with that of ABC. For example, there were studies on front line employees (e.g. Wallace *et al.*, 2013; Zhang *et al.*, 2011) or employees in large scale retail banks (e.g. Prasad and Harker, 1997; Zhang *et al.*, 2011; Eastburn and

Jr.Boland, 2015) or banks having different business focus (e.g. the research on an Islamic bank in Indonesia by Vivin Maharani *et al*., 2013) which has key differences with the employee profile of ABC whose customer base is a small number of corporate and high net worth client base with limited number of transactions.

Finally, there was a limited number of empirical studies on CBS or components of a CBS such as custody module or treasury module of the CBS. Most of the empirical findings available were on IT systems that got a broader scope and only a very few studies available on CBS (e.g. though Beimborn *et al.*, 2007 empirically examined a CBS of a German retail bank, focus of this study is different with that of ABC and also the study was conducted in 2007 while CBS in the world have been undergoing a massive technological advancements during last decade which further limits the relevance).

Additionally, none of the above empirical findings provided a complete solution or answer to the research questions although some findings provide partial responses. Even the findings that partially explained the research questions lack the relevance due to limitations summarized above. The CLR accordingly highlighted that there is a clear gap in existing literature which is unable to fully solve or explain the research questions that encourage the researcher to undertake the current empirical study.

In building the conceptual framework, the researcher reviewed prior empirical findings based on three relationships which were also interrelated. They were; *'employee behavior and IT (generic)', 'CBS implementation and employee behaviour'* and *'employee behavior, IT and performance'*. The researcher primarily used TAM (Davis, 1986), which is used to evaluate IT acceptance behaviour, as the key theoretical component in analyzing the literature. Although none of the empirical findings fully explained or answered all research questions, a number of findings provided a rich insight in strengthening the conceptual framework and the research process. Accordingly, in this analysis, the researcher identified that he can use some key findings in TAM related literature in selecting an interview sample, developing

interview questions and discussion topics, and collecting and analyzing qualitative data in relation to research questions. One of these key literature findings that can be used in the data collection process is the use of demographic factors such as age, gender, experience etc that influence usage behaviour (Venkatesh *et al.,* 2003). Further, from technology acceptance context, the findings that IT literacy level (Kumar *et al.,* 2015), training and level of education level (Machogu and Okiko, 2012; Sandulli *et al.,* 2014), and stress level (Zhang *et al.,* 2011) of employees have a direct correlation with their adoption to IT, persuaded the researcher to include these factors in examining the behaviour of ABC employees to the new CBS. On the other hand, Anadarajan *et al.,* (2000) found somewhat contradictory finding arguing social pressure is the key driver in employees' acceptance of new technology, and the researcher found it is significant to understand whether ABC employees' adoption to the new CBS was voluntary or due to social pressure. Argument of Nath *et al.,* (2014) that managers' role as effective communicators in conveying the benefit of new systems encouraged the researcher to examine how the communication process influence ABC employees' reaction to the new CBS. Argument of Dasgupta *et al.,* (2000) that involvement of MIS staff is a critical factor that influences IT adoption decisions in the short run suggested the need to review the role played by MIS team of ABC in moving into the new CBS. Further, as Beimborn *et al.,* (2007) argued, operational level alignment in IT and business is a key driver of post-implementation success of a CBS in retail banks, the researcher decided to test this finding from ABC context, which is not a conventional retail bank, and assess how it impacts the employee reaction to their new CBS. One of the key assumptions made by ABC in moving into the new CBS is that it would improve employee productivity. This assumption was rejected through the '*IT productivity paradox'* which highlighted IT capital investment and labour productivity indicate a negative correlation (Shu & Strassmann, 2005). Although this finding was challenged by some other scholars, it persuaded the researcher to examine whether ABC employees indicate a positive reaction to the CBS which in turn could result in a higher productivity.

Chapter 3 - Research Methodology

3.1 Introduction

The objective of this chapter is to continue to perform an indepth discussion about the theoritical foundation of this study – reasearch methodology. Accordingly, in this chapter, the researcher first explains his philosophical position and associated assumptions which lays the foundation in selecting a research method alligned with the philosophical position. The researcher then reviews research methods, discusses the methods in relation to the study and RQs, and explains and justify the selected research approach – AR with case study methodology, which is conducted as a qualitative research. In the final section, the researcher deep dives into the data collection. Since AR is identified an emergent inquiry process (Shani and Pasmore, 1985), there are some processes that evolved throughout AR project providing learning opportunities and allowing critical reflections at multiple stages of the study.

3.2 The Researcher's Philosophical Position and Assumptions

Being a practitioner, the researcher believes his *'ontology'* that is his philosophical assumptions about the nature of reality (Easterby-Smith *et al.*, 2012) is closely aligned with *'relativism'* that assumes the facts would depend on the viewpoints of the observer. The researcher believes his ontological position is influenced by the findings of Latour and Woolgar (1979) who argued that people decide the truth of an idea or a theory through various discussions and agreements between key players since these players hold divergent views. The researcher also notes that the acceptance of a particular theory could be materially influenced by the commercial resources and politics of business as argued by Knorr-Cetina (1983). Similarly, the researcher's *'epistemology'* which is a general assumption about ways of inquiring into the nature of the world (Easterby-Smith *et al.*, 2012) is closely aligned with *'social constructionism'* a philosophical assumption that is entrenched from the prior

empirical findings of Berger and Luckman (1966). Social Constructionists assume managerial issues can be researched effectively by seeking to understand how participants make sense of the world or a particular situation through sharing their experiences, and these arguments were further supported by prior empirical work done by Watzlawick (1984) and Shotter (1993). The researcher also notes that Social constructionism based research methods are sometimes referred as interpretive methods (Harbermas, 1970). The researcher generally assumes human interests are the main drivers of science and the observer (or 'insider researcher' in the case of the researcher) is part of what is being observed. The researcher also assumes that concepts should incorporate diverse stakeholder perspectives and the research needs to progress through gathering rich data from which ideas are induced. The researcher notes that these assumptions are an integral part of constructionism epistemology, which is different to the thinking of positivist philosophical assumptions that believe human interests are not relevant, the observer must always be independent and generalization should happen through a statistical probability. The researcher believes, given the research is about understanding employee behavior, taking a pure positivist approach could defeat the purpose since human interests are an integral part of the research.

Based on these philosophical position and assumptions, the researcher decided to undertake a research on his practice – banking – by examining employee behaviour in relation to the newly implemented CBS of ABC. From a constructionist perspective, as argued by Easterby-Smith *et al.*, (2012), the researcher assumed that there could be many realities, and it is, therefore, necessary to gather diverse perspective of the issue which can be done by undertaking a qualitative inquiry process that would allow the researcher to gather the experiences and views of multiple stakeholders / participants.

3.3 Management Research through Action Research

Prior to undertaking the current research project, the researcher, as a part of his Doctorate in Business Administration ("DBA") academic studies, reviewed the two broader kinds of research which were pure research and applied research. The researcher is aware that the pure research mainly addresses to the academic audience while the applied research could have a target audience in both academic and practice worlds and can be used to provide a solution to a work place based problem.. The researcher further notes, since management knowledge is validated for use, management research is identified by some scholars as an applied research (Tranfield, 2002). Due to transdisciplinary in nature (Saunders *et al.*, 2000), management researchers generally require to apply and blend the knowledge generated from various disciplines such as social science, economics, finance, philosophy, political science, and psychology, etc.

In order to conduct this practitioner based management research, the researcher used AR approach, which according to Greenwood and Levin (2007) is a context bound, holistic and collaborative set of integrated activities that can produce two outcomes – *a solution to lively business case* and *contribution to management knowledge*. Various scholars believe AR could fall under the broad definition of applied research that focuses on finding solutions to practical issues as opposed to pure research that mainly caters academic audience. Greenwood and Levin (2007) however rejected this pure and applied distinction highlighting particularly its negative impact on the significance of AR and arguing that AR could involve all major forms of social research that could include qualitative, quantitative, and mixed research methods depending on the problem and the situation. According to Greenwood and Levin (2007), problem analysis and problem-solving aspect of AR is a collaborative process that promotes a broad participation in the process of research. This could involve professional action researcher and various other stakeholders from within and outside the organization that goes closely with the transdisciplinary nature of management research highlighted by Saunders *et al.,* (2000). AR could productively support the intended research since AR is also identified as an informed investigation into an actual organizational problem that will generate an actionable solution to the issue (Thorpe and Holt, 2008).

This argument or thinking was further supported through prior empirical findings of Shani and Pasmore (1985) who identified AR as an emergent inquiry process in that applied behavioral science knowledge is integrated with existing organizational knowledge and applied to solve real organizational problems.

It is to be noted that research generally contains three audiences – *first, second* and *third persons* (Reason and Bradbury, 2008). Although the traditional research focuses on the third person where the researcher is doing the research on the third person and presenting outcome to another third person, AR has the ability to integrate all three forms of research or more specifically, it allows the third person research to integrate the first person and the second person (Coghlan and Brannick, 2010). This was clearly identified by Reason and Marshall (1987) arguing *'All good research is for me, for us, and for them'* which talks about three audiences. This argument highlights that the AR produces a knowledge though generalizable outcomes or ideas (*for them*), responds to concerns for our practice such as a work place based problem (*for us*), and addresses the expectation of the individual researcher through processes and outcome (*for me*).

AR, according to Greenwood and Levin (2007), create mutual learning opportunities for both insiders and outsiders ultimately leading to a joint ownership and representation of knowledge and action designs. However, one challenge an action researcher needs to achieve in optimising this learning is to overcome communicative domination that undermines the cogenerative process. To successfully mitigate these challenges, the researcher identifies the need for a high level of sensemaking skills (Weick, 1988) which is vital in knowledge building and transferring process. As noted by Coghlan and Brannick (2010), action researchers are influenced by their own beliefs, assumptions, values, strategies and behaviours in moving forward their AR project. This process was identified by Reason and Torbert (2001) as upstream and downstream inquiry. Marshall (1999, 2001), having identified this experiencing and reflection process as *'living life as inquiry'*, suggested that action researchers, as self-reflective practitioners, need to craft their own practice and attend to its quality through inner and outer arcs of attention, being active as well as receptive. The

knowing and reflection components of action were highlighted by Schon (1983) in his notion of *'reflective practitioner'* – while knowing highlights what action researchers have already learned, reflection in action highlights what action researchers are doing and what is happening around them when they are engaged in action. As Rigg and Trehan (2004) argued, the researcher believes that Critical Action Learning approach, he has been practicing throughout the DBA journey, could assist him to connect his learning and experiences with the high level of critical reflection.

The researcher noted that, as Coghlan and Brannick (2010) highlighted, there are various dimensions of AR some of which include a complex action knowledge generation process, change focus, divergent thinking pattern, team-based approach, thought action cycles, necessity for a breadth of preunderstanding of business, own quality criteria, and real-time nature. As Greenwood and Levin (2007) suggested in order to be considered as an AR, the research project should have three components - *action, research, and participation*. Coghlan and Brannick's (2010) argued that to be effective, any AR project needs to have three elements – *a good story, rigorous reflection on the story,* and *an extrapolation of theory or usable knowledge by reflecting this story.*

The research is about how employees of ABC react to the CBS. The AR approach accordingly is more appropriate to conduct the research since the study intends to generate actionable knowledge that provides a solution to a lively business case while contributing to management knowledge (Greenwood and Levin, 2007). The researcher took a participatory approach by engaging with the employees of ABC and by gathering their experience and understanding their reaction to the CBS. Divergent thinking patterns of different employees which were gathered through in-depth one to one interviews had been analysed using relevant demographic classifications to deeply understand some patterns or areas of employee behaviour. The outcome of the study could be used by the leaders of ABC to bring some corrective and preventive actions with a change focus while the new knowledge generated from the study can be added to the management knowledge. Accordingly, by investigating how the ABC's new

CBS impacts its employee behaviour, the researcher intends to address the all three audiences of AR as highlighted by Reason and Marshall (1987). The study intends to provide a solution to lively business case (*for us*), and the actionable knowledge it generates can be utilised by management practitioners in the banking industry (*for them*). The researcher also intends to develop himself as a scholar practitioner by undertaking this workplace based action research project (*for me*) which further justifies the selection of AR approach to the current research project.

As Ramsey (2014) suggested, when a scholar practitioner is engaged in an AR, the researcher notes that there could be three key phases or moments where inquiry is required. The researcher notes these three moments of inquiry are *'mapping the terrain', 'testing plausibility'* and *'evaluating action'* (Ramsey, 2014 *cited in* DBA handbook of UOL, 2017). In the current research, the researcher mapped the terrain by focusing on the context of employee responses to the newly implemented CBS at ABC. The purpose of mapping the terrain is to construct the thesis as a project intended to identify learning from the attempt to implement CBS at ABC and ensue that similar large-scale complex capital expenditure projects in future are more effective from forward looking standpoint. In order to conduct the inquiry, as will be discussed in the succeeding paragraph, the researcher selected case study methodology which was conducted as a qualitative study. The actions involve in testing plausibility were discussed using an AR cycle where the researcher discussed the interventions made at the organisational level which involves taking some specific actions based on the research findings (i.e. actionable knowledge). Further, based on the actionable knowledge generated, the researcher provided specific recommendations to ABC leaders (i.e. an actionable solution to an organisational problem) which can be used as both corrective and preventive actions. Due to the specific timespan of the research, the evaluation of action phase of the current research is outside the scope and mainly limited to an evaluation of a few organisational actions as will be discussed in the chapter 4 under specific organisational actions.

3.4 Case Study Research approach

While most of core banking statistics could be quantitative, when a subject like employee behaviour (of a banking institution in relation to a technological platform) is empirically examined, the researcher identified the need to focus more on the qualitative research methods.

As Creswell *et al.*, (2007) argued, researchers have extensive qualitative research designs available to conduct a study and the selection of an appropriate design should be based on the ontological and epistemological assumptions of the researcher and the objective of the research project.

Out of various qualitative research approaches, the researcher believed that '*case study'* research approach could be more suitable to conduct this empirical study since, according to Yin (2009), case study approach is more appropriate to study a problem within real life contemporary context. Yin (2009) further argued that with a case study methodology, the researcher's analytic approach could involve a detailed description of the particular case and setting of the particular case within the contextual conditions. As Creswell (2013) noted, the researcher is aware that one of the challenges in taking case study approach is there is a risk that the case selected could be either broad in scope or narrow in scope which could challenge both rigor and relevance of the research. To mitigate this challenge, the researcher clearly defined the scope at the beginning of the study by specifying that he intends to investigate how the newly implemented CBS of ABC impacts employee behaviour. Further, since employee behaviour in general could be defined with a broader scope, the researcher narrowed the scope to suit the research objectives by examining the ABC employees' behaviour in response to the implementation of new CBS only.

The researcher also noted that, as argued by Creswell *et al.*, (2007), the case study methodology is more appropriate when the researcher has a case bounded by time or place which could inform problem. The current research could be closely aligned

with *'instrumental case study'* suggested by Stake (1995) since the intent of the case is to understand a specific issue, problem or a concern and the researcher can then select one bounded case to illustrate the issue. The researcher further believed he was influenced by his relativist ontology and constructionist epistemology (Easterby-Smith *et al.,* 2012) in selecting the case study approach where more focus will be on providing a rich picture of this single case with an in-depth understanding of the behaviour of ABC employees in relation to their new CBS. The selection of case study methodology with an instrumental case study can be further justified since the investigation of how ABC's employees react on its newly implemented CBS is a problem with real life contemporary context.

3.5 Data Collection

In order to conduct data collection process of the research, the researcher used quota sampling technique which is nonprobability sampling technique. As Easterby-Smith *et al.,* (2012) noted, in the quota sampling technique, the population is divided into various categories and the selection continues until the required sample is selected in each category with the aim of making sure that each of the categories is represented according to the quota proportions. As Mason (2002) noted, quota sampling set out series of categories and minimum number of cases required for each category. According to Robinson (2014), as the sample is gathered, these quota are monitored to see if they are being met, and this approach can ensure that all key relevant groups are represented in the sample. The key reason for using quota sampling in the case of ABC was the researcher wanted to identify and sample various sub groups of the population who could directly contribute to the research. It also facilitated the researcher to understand the divergent thinking in different sub groups of employees at ABC with regard to their reaction to the CBS. This approach was supported by Magnusson and Marecek (2015) who argued that the random sampling technique could be counterproductive in interpretative research and the researcher may not be rigorously served by drawing a set of participants at random from the general population.

The researcher, with the permission received from the gatekeepers at ABC, accessed the human resources ("HR") management records at ABC which contained various demogrpahic data of ABC employees (excluding employee names and all payroll related data). Due to the confidentiality of HR data, the report was accessed onsite in the presence of Head of HR at ABC. Accordingly, the total size of the population at ABC was 62, and the selected sample size was 21 which is 1/3 of the population. The employees were categorised into different sub groups which were *'back office', 'customer service',* and *'IT'*, the researcher using the judgment selected employees from each sub group. For clarity, *'back office'* job function contains various cost centers or support service functions of ABC, which include operations department, investments department, risk and compliance department, and other (i.e. finance function, legal function, human resources and administration function, and the CEO office). Similarly, *'customer service'* job function contains various profit centers or business units of the Bank, which include banking, treasury and custody business units. Below table highlights the population and the selected sample.

Job Function	Population	Sample	Sample %
Back Office	35	11	31%
Customer Service	20	8	40%
IT	7	2	29%
	62	**21**	**34%**

(Table 3 – Population and sample)

In applying the judgment, the researcher considered other demographic factors such as department (or business unit), gender, age, job category, their usage of CBS, their experience with ABC, and their level of education which is illustrated in table 4 to 10 below. The researcher's approach to factor these demographic factors was also supported by prior empirical findings. For example, in building an upgraded TAM model, Venkatesh *et al.*, (2003) argued how employees' age, gender, and experience impact IT acceptance behaviour. With the approach taken in selecting the sample, the researcher believed that the sample reasonably represents the population and also with

the judgment applied, the selected sample could strengthen the relevance of the research.

Department	Population	Sample	Sample %
Banking	13	4	31%
Custody	4	2	50%
Treasury	3	2	67%
Investments	1	1	100%
Operations	15	5	33%
Risk&Compliance	5	2	40%
IT	7	2	29%
Other	14	3	21%
	62	**21**	**34%**

(Table 4 – Analysis of sample – Department (or business unit))

Gender	Population	Sample	Sample %
Female	43	14	33%
Male	19	7	37%
	62	**21**	**34%**

(Table 5 – Analysis of sample – Gender)

Age	Population	Sample	Sample %
20-35	11	4	36%
35-45	17	5	29%
45-55	25	9	36%
Over 55	9	3	33%
	62	**21**	**34%**

(Table 6 – Analysis of sample – Age)

Job Category	Population	Sample	Sample %
Employee	22	5	23%
Asst. Manager	17	8	47%
Manager	18	5	28%
Senior Executive	5	3	60%
	62	**21**	**34%**

(Table 7 – Analysis of sample – Job category)

Use of CBS	Population	Sample	Sample %
Low (<30% time)	19	4	21%
Average (30% - 50% time)	15	5	33%
Heavy (>50% time)	28	12	43%
	62	**21**	**34%**

(Table 8 – Analysis of sample – Usage of CBS)

Experience with ABC	Population	Sample	Sample %
Below 6 Mnths	6	2	33%
6 mnths - 1 yr	14	5	36%
1 yr - 3 yrs	11	2	18%
3 yrs - 5 yrs	11	5	45%
Over 5 yrs	20	7	35%
	62	**21**	**34%**

(Table 9 – Analysis of sample – Experience with ABC)

Level of education	Population	Sample	Sample %
Certificate/Diploma	32	11	34%
Graduate	17	5	29%
Post Graduate	13	5	38%
	62	**21**	**34%**

(Table 10 – Analysis of sample – Level of education)

For this qualitative research, out of the four types of information suggested by Creswell (2013), the researcher used two types of information - *interviews, and documents* – in categorising data. In collecting data, the researcher used *'one to one in-depth interviews'* that intend to deeply probe to find new clues, identify new dimensions of the issue, and secure, accurate, inclusive accounts that are based on personal experience of organisational members (Burgess, 1982). Interview questions that are mostly open-ended questions were designed to facilitate a semi-structured interview.

The researcher initially developed a list of discussion topics as open-ended questions to conduct a semi-structured interview. These initial discussion topics were developed taking into account the objective of the study, research questions, critical literature

review, and the knowledge of the researcher. As Magnusson & Marecek (2015) suggested, the researcher conducted a *'pretest'* recruiting two of the researcher's work colleagues as participants. The researcher interviewed these two participants using semi-structured interviews on the initially developed discussion topics. This pretest influenced the researcher to refine some of the questions with the aim of improving the participants' understanding of the question. The researcher initially estimated that one interview would take average 45-50 minutes, however, based on the pretest, it was revealed that average interview would take approximately 60 minutes. . Further, from the pretest, it was identified that one question/discussion topic would not be understood by or relevant to employees below assistant manager grade. Hence it was decided to discuss that particular question only with managers and senior executives. For example, the discussion question about *'process alignment'* was limited to the participants holding assistant manager and above level. This is because junior level employees would either have access to limited functionalities of the CBS (i.e. functionalities related to their job tasks) or have limited exposure to assess if processes are adequately aligned (i.e. if ABC has all the policies, procedures or processes, and if the policy framework is aligned with the processes and systems in place). In addition, in the initially developed discussion questions, the researcher did not include the discussion topic *'ability to do multiple tasks at once'*, since the researcher was initially of the view that it had been captured in another discussion topic *'added functionalities'*. However, at the pretest, one participant suggested that the researcher should consider *'ability to do multiple tasks at once'* as a specific discussion topic separate from the added functionalities since any advanced CBS should contain this functionality rather than considering it as an added functionality. The researcher, after a further review, decided to add *'ability to do multiple tasks at once'* as a new discussion topic following the pretest comments. Overall, the pretest enabled the researcher to become more adept and more confident about the interview process.

Participants in the selected sample were approached via their work email and/or work phone, and each participant was provided with *'participant information sheet'* and

'participant consent form'. Some participants confirmed their acceptance via email while others provided their written consent by returning the consent form. Interviews, where each took average 60 minutes (range 50 to 75 minutes) were conducted in a pre-reserved meeting room at the research site, and took place mostly outside the working hours to avoid disturbances to routine work plans. In most of the cases, interviews were recorded using a digital recorder, and a few participants who were not comfortable with digital recording, interview notes were taken. Some of these interview notes were further verified with those participants to ensure their views were correctly recorded. Additionally, the researcher conducted a second round of interviews in approximately three months from the first interview to assess if the responses of participants had been changed. Accordingly, participant No. 2, 3 and 4 were interviewed in early September 2016, and each discussion took approximately 40 to 45 minutes. By the time of the interview, these participants had an experience of almost a year into the new CBS. The researcher noted that the second interview results had no material difference to that of the first interview. The researcher accordingly consolidated the first and the second interview results into one response in assessing the behaviour of these participants. The researcher believed that this approach of verifying the first interview results through the second interview could enhance the credibility of the overall research findings. Appendix 1 provides the schedule of interviews conducted in collecting qualitative data with the job category of the interviewee, job function, date and duration of the interview. The details of the second interview participants are included at the end of the schedule.

Additionally, some secondary data were collected through various organisational documents. These organisational documents contained non-public, internal management reports, business cases, project implementation plans, management accounting packs, and various management meeting minutes. These various secondary data helped the researcher to build and reframe the case study at various stages of the thesis project. Appendix 2 provides a list of secondary data sources reviewed by the researcher which includes the name of the document, and a brief description and/or purpose of using the document.

Chapter 4 - Results and Discussion

4.1 Introduction

In this chapter, the researcher conducts an analysis of data already collected and present the results of the data analysis in relation to the research questions. As Creswell (2013) noted, the researcher understands that the processes associated with data collection, data analysis, and report writing are interrelated and mostly go on simultaneously in a qualitative research project. Accordingly, although the data collection was discussed in the previous chapter, the tasks associated with data collection was captured in this chapter where data collection, data analysis and taking specific actions are interrelated. The interventions made and specific organisational actions taken based on the actionable knowledge generated through this study is elaborated through an AR cycle towards end of this chapter.

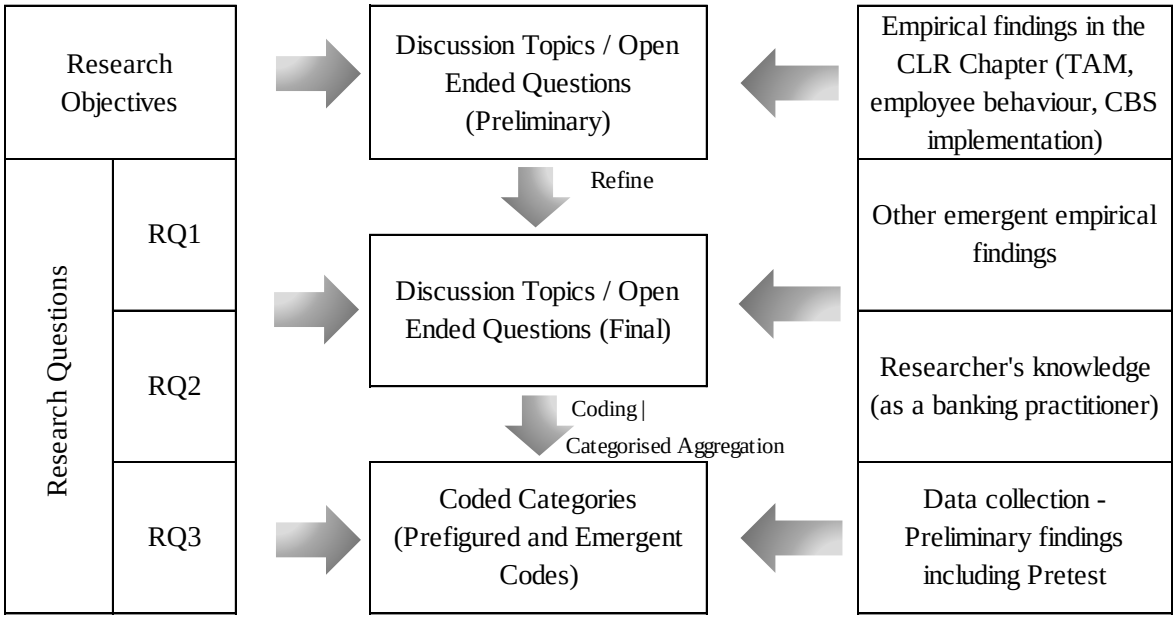
This research was designed to understand how core banking systems impact on employee behaviour of a small banking institution, and the researcher took AR approach with case study methodology to conduct the research.

The key *'theme'* identified in the research was *'CBS and employee behaviour at ABC'*. To recap, there were three questions under the theme of CBS and employee behaviour and these research questions were covered through the qualitative research method;

RQ1: How have ABC employees reacted to the CBS?
RQ2: Has this reaction to the CBS been positive or negative in terms of their perceptions?
RQ3: Has the reaction hindered the desired improvements the CBS aims bringing?

4.2 Data Analysis - Structure

Data analysis is an evolving process that contains various components. The approach taken by the researcher in analysing data is captured in figure 3.



(Figure 3- Data collection and analysis structure)

As Stake (1995) suggested, the researcher used *'categorised aggregation'* by classifying data into various codes. Based on the initial discussion topics developed, the researcher used some *'prefigured'* codes (Creswell, 2013). The researcher however considered the risk of limiting data analysis exclusively to *'prefigured'* codes. To mitigate this risk, as suggested by Creswell (2013), the researcher took a combination of both *'prefigured'* codes and *'emergent'* codes. Pretest of the interviews helped the researcher to refine a few *'prefigured'* codes, and identify some *'emergent'* codes. For example, as explained under data collection section, following the pretest, the researcher refined one *'prefigured'* code namely *'process alignment'*. Further, the researcher identified one *'emergent'* codes namely *'ability to do multiple tasks at once'*.

The researcher developed seventeen discussion topics as open-ended questions in the semi-structured interview set up. As explained under the data collection chapter, the

researcher took into consideration the objective of the study and the research questions in developing the initial discussion topics. Selection of discussion topics was influenced by the review of prior empirical findings identified in the CLR chapter. For example, the researcher took into consideration the findings of Machogu and Okiko (2012) in selecting discussion topics like user-friendliness and adequacy of training. Similarly, Martin and Omrani (2015) influenced the researcher to include innovative work practices as one of the discussion topics. Another example would be the selection of various discussion topics related to processes which was influenced by the findings of Beimbron *et al.,* (2007). In addition, given AR is an emergent inquiry process (Shani and Pasmore, 1985), empirical findings identified throughout the process outside of the CLR chapter also had an influence in developing or refining the said discussion topics. For example, findings of Attiq *et al.,* (2017) further supported the researcher's selection of innovative work practices as a discussion topic, and arguments of Gadge (2017) further supported the selection of process alignment as a discussion topic. Being a banking practitioner, the knowledge of the researcher also assisted in determining some of the discussion topics. For example, the researcher with his industry experience was aware that the employees would be more comfortable (positive behaviour) when the support of MIS team is strong. On this basis, support of MIS personnel was initially included as a discussion topic. The selection of 'support of MIS personnel' as a discussion topic was further supported through empirical studies of Dasgupta *et al.,* (2000) and Beimborn *et al.,* (2007).

When these discussion topics were initially developed, the researcher also assessed if these discussion topics are aligned with the research objectives and questions. Based on the initially developed discussion topics, pretest, and data collected at interviews, the researcher identified twenty-five *'codes'* which represented both *'prefigured'* and *'emergent'* codes (Creswell, 2013).

These discussion topics/interview questions, coded categories, and supported empirical findings are reported in the Table 11.

Discussion Topics | Open Ended Questions	Coded Categories	Supported by the Empirical Findings
1. How do you compare and describe new CBS with old system in terms of;		
a. User friendliness (from employee standpoint)	User friendliness (from employee standpoint)	Griffin (1991); Al-Lalith (2012); Machogu and Okiko (2012); Sharma and Mani (2012); Murari and Tater (2014); Martin and Omrani (2015); Ridwan and Kamili (2015); Rookhandeh and Ahmadi (2016); Attiq *et al*., (2017); Pires and Marcondes (2017)
b. Processing speed	Processing speed	
c. Added functionalities	Added functionalities	
d. Ability to do multiple tasks at once	Ability to do multiple tasks at once	
e. Innovative work practices	Innovative work practices	
f. Interface	Interface	
g. Flexibility	Flexibility	
h. Reporting capability	Reporting capability	
i. Reporting efficiency	Reporting efficiency	
2. Does your core banking related work provide you a feeling of personal accomplishment? Describe.	Feeling of personal accomplishment	Mohlala *et al*., (2012); Sharma and Mani (2012)
3. Do you feel your job make good use of your skills and abilities?	Job make use of skills and abilities	Griffin (1991); Sharma and Mani (2012)
4. Do you feel that process flow of your work has been improved (reduced processes with more efficiencies) with the new CBS? Describe with examples.	Improvement in the process flow	Beimborn *et al.*, (2007)
5. Have a number of manual processes been reduced with new core banking system? Provide some examples.	Reduction in manual processes	Beimborn *et al.*, (2007)
6. Do you feel that you can do the same degree of work that you used to do earlier with a lessor time after the new system was implemented?	Ability to do the job with a lesser time	Chandio *et al.*, (2017)
7. Do you feel that the quality of your work has improved (such as reduction in error rate) after the new system was implemented? Describe.	Improved quality of work	Chandio *et al.*, (2017)
8. Do you feel that you are adding more value to the business/organization with the new system (such as time saved on manual processes is used to do another value added task – extra role behavior)?	Adding more value to the business	Sharma and Mani (2012); Vivin Maharani *et al*., (2013)
9. Do you feel threatened that some of your job tasks will disappear with the automated processes of new system?	Job security	Sharma and Mani (2012)
10. How do you describe the job stress level when compared to the old system Vs new CBS?	Level of job stress	Zhang *et al.*, (2011)

11. Describe your own assessment about your adoption to new CBS (voluntary or social pressure).	Adoption to new CBS	Grant (1991); Anandarajan *et al.*, (2000); Tan and Teo (2000); Nath *et al*., (2014)
12. Describe how your leaders communicated about the new CBS (clearly communicated objectives, new functionalities).	Leaders' communication about new CBS	Bharadwaj (2000); Sharma and Mani (2012); Fheili (2011); Vivin Maharani *et al*., (2013); Wallace *et al.,* (2013); Nath *et al*., (2014); Eastburn and Jr.Boland (2015); Mekpor and Dartey-Baah (2017); Garas *et al*., (2018)
13. Do you feel that leaders have demonstrated full commitment to achieving the objectives of new CBS? Describe.	Commitment of leaders	Bharadwaj (2000); Vivin Maharani *et al*., (2013); Wallace *et al.,* (2013); Nath *et al*., (2014); Eastburn and Jr.Boland (2015); Bravo *et al.,* (2017); Mekpor and Dartey-Baah (2017)
14. Do you know how to operate new CBS? Describe.	Ability to operate CBS	Crossman and Abou-Zaki (2003); Kumar *et al*., (2015)
15. Have you received sufficient training to operate the new system? Describe.	Adequacy of training	Machogu and Okiko (2012); Sandulli *et al*., (2014)
16. How do you describe the support of MIS personnel in moving into new CBS?	Support of MIS personnel	Bharadwaj (2000); Dasgupta *et al.,* (2000); Beimborn *et al*., (2007)
17. How do you describe the alignment of processes and procedures with new CBS and within the different business units?	Process alignment	Beimborn *et al.,* (2007); Gadge (2017)

(Table 11 – Discussion Topics and Codes)

As noted by TechTarget (2017), a CBS is a software solution that is used to support most common transactions of banks. Some core elements of a CBS include but are not limited to; opening and maintenance of customer accounts, providing and servicing loans, processing cash deposits and withdrawals, interest computations for deposits and loans, payments processing (wire, draft or cheque), customer relationship management, providing FX services, providing cash management and clearing services, providing investment and custodian services, online banking services, risk and compliance systems, general ledger and other reporting systems. As Kreća and Barać (2015) noted, a CBS solution could differ from provider to provider, or based on the bank's requirements. Kreća and Barać (2015) further argued that CBS product is affected by many factors and it could be difficult to tell in which way it can be improved due to different requirements of clients. TechTarget (2017) also provided a

similar view highlighting that core banking functions could differ depending on the specific type of the bank. For example, some components or modules used by a retail bank may not be available or required for a wholesale or an investment bank since their core functions could differ with that of a retail bank. Generally, a CBS, by profile, incorporates the entire spectrum of banking operations on one single platform, and this front to back software solution typically ensures a high degree of automation.

Website publications of two leading CBS vendors about their CBS products summarise what a typical CBS should contain in modern days. For example, a leading CBS vendor, Misys (2016) identifies their CBS as an advance core banking solution that has the breadth of functionality required for the most sophisticated banking requirements. Accordingly, their latest CBS could maximise operational efficiency, reduce cost to income ratio, and ensure compliance and rapid time to market. They could provide advanced analytics to generate the insight for the development of timely and relevant products and services and can be combined with their digital channels. According to Misys (2016), their CBS with the connected front, middle and back office could transform the bank into a customer-focused, profitable sales machine. Another leading CBS vendor, Temenos (2017) identifies their CBS as an open, integrated and real-time platform that could provide real-time customer information that could enable banks to offer customers the right products at the right time. Temenos (2017) also identifies their solution has the infinite scalability which allow the banks to generate economies of scale and reduces total IT cost of the business.

Nath *et al.,* (2014) identified CBS as a centralised on line real-time banking software including hardware and relevant network infrastructure that supports all the core processes in a bank. CBS is a key component of an ICT system of a bank. ICT system of a bank also contain various systems and processes that are outside of core banking processes. For example, a bank may have an intranet, an email system (for example Outlook), a website, Microsoft office application (i.e. Word, Excel, Powerpoint etc), payroll or human resource management system, or a document management system. These systems or processes do not form a part of a CBS hence employee responses to

overall ICT system may differ with their responses to a CBS. For example, an employee may identify the email system or Microsoft office application as a user-friendly system and a strong positive behaviour (response) as a result. The same employee however may provide a complete different response when it comes to the CBS or a component of the CBS. Employee response to ICT system of a bank cannot therefore be directly generalizable to the CBS of a bank.

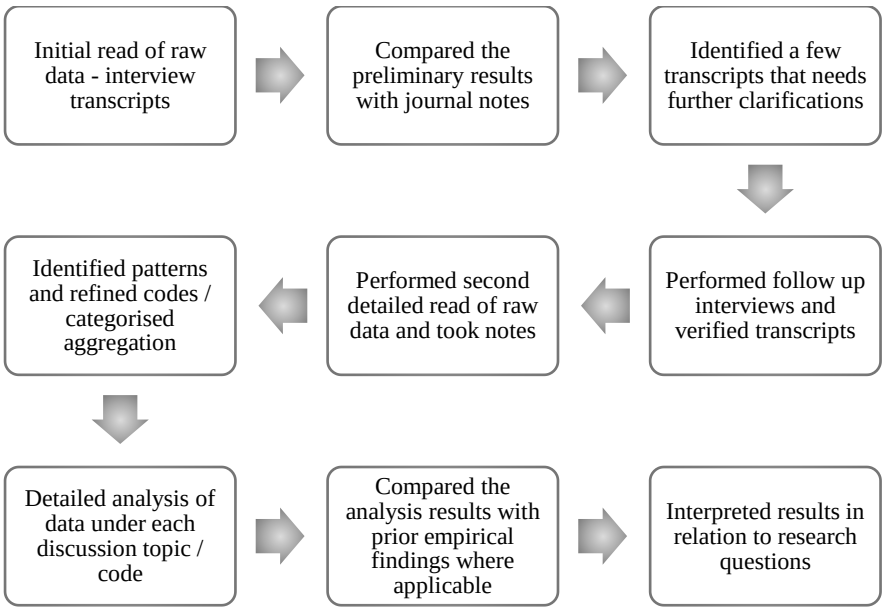
In the context of ABC, as identified in the business case for core banking project and various other management records, the CBS contains a number of modules or components related to core processes of the Bank. These modules or components include Lending, Deposits, eBanking, Investments, Treasury, Custody, various other banking services such as wire transfers ("WIRE") and foreign exchange operations ("FX"), AML and compliance ("AML"), general ledger ("GL"), and CBS reporting. The other ICT (non-core) applications or processes of ABC such as email system, intranet, website, Microsoft office applications, payroll system, and leave management system are excluded in the scope of this study since they are not a part of the CBS of ABC.

Although there are several modules of CBS, various users and departments use different modules applicable to their area of operation, other than the users at IT who maintain all the modules of the CBS. The only module that all departments use is CBS reporting module, which is the data warehouse of CBS that provides various reports for various users of CBS across the Bank. Table 12 below provides the modules used by each department/business unit grouped under job functions.

Job Function	Department / Business Unit	CBS Modules or Components
Customer Service	Banking	Lending, Deposits, WIRE, eBanking, CBS reporting
	Custody	Custody, Treasury, CBS reporting
	Treasury	Treasury, FX, Custody, CBS reporting
Back Office	Investments	Investments, Custody, GL, CBS reporting
	Operations	Lending, Deposits, WIRE, FX, eBanking, Treasury, CBS reporting
	Risk & Compliance	AML, Lending, Deposits, WIRE, eBanking, CBS reporting,
	Other (incl. Finance)	GL, CBS reporting, Lending, Deposits, FX, Investments
IT	IT	All modules or components

(Table 12 – CBS Modules used by each Department and Job Function)

The qualitative data analysis is a process that contained various steps. The figure 4 below illustrates the process applied by the researcher in analysing data.



(Figure 4- Data analysis process)

The researcher did a first read of raw data contained in the interview transcripts, and compared the preliminary observations /results with the researcher's journal notes that he took immediately after each interview. The researcher then had to have follow-up interviews with three participants since their responses to a few discussion topics needed a further clarification. For example, one participant initially commented that

he is adding more value to the business; however, this response contradicted with his responses to some of other related discussion topics. Follow-up interview revealed that the participant's response was based on his overall contribution to the Bank, instead of his value addition with the new CBS. When the specific question was asked from CBS standpoint, the participant's response revealed that his value addition has not gone up. After clarifying these comments through follow-up interviews, the researcher did another detailed read of the interview transcripts, took notes, and did another refinement of coded categories. Based on the final refined codes, the researcher moved into the data analysis. Responses of each participant to each discussion question were carefully analysed under each coded category to understand how employees at ABC react to their new CBS. While doing the analysis, the researcher noted that most of these codes and responses provided to the key discussion topics are interrelated. The researcher while performing the analysis compared the results with prior empirical findings where applicable. The results of the data analysis of each of the twenty-five coded categories and how the results are interpreted in relation to RQs are discussed in the next section.

4.3 Data Analysis - Results

a) User friendliness (from employee standpoint)

The majority of the participants, fifteen of twenty-one participants, responded saying they do not believe the new CBS is more user-friendlier than the old system. The participants 'overall negative reaction can be captured in their own words, for example, some of these participants commented *'it has not been a pleasant experience' (Participant No 14, an Assistant Manager at Customer Service job function), 'I cannot say user friendliness has improved compared to the old system I had' (Participant No. 4, a Manager at Back Office job function), 'current system is slower than the old system' (Participant No. 3, an Assistant Manager at Back Office job function).* A further analysis revealed that their negative response was due to

various reasons some of which include *'lack of training,' 'output of training,' 'not maximising the use of technology,' 'complex menu structure,'* and *'manual processes.'* Some of these specific reasons are discussed further under other discussion topics /coded categories such as 'adequacy of training', 'reduction in manual processes', 'ability to do the job with a lesser time', 'flexibility', and 'process alignment'. Some of these findings are consistent with prior literature, for example, Machogu and Okiko (2012) identified lack of ICT training as a key barrier to ICT adoption of employees. Only four participants believed that the user friendliness has improved while three believed user friendliness either has improved in some components of CBS or has improved gradually after them getting to know the system. Further analysis of participant comments revealed that employees who use Treasury, FX and GL modules considered the system as more user-friendly while others responded negatively or stayed neutral. Comments from the participants in IT revealed that user friendliness purely from technological standpoint has improved.

The researcher, by analysing these responses, finds that the overall negative responses to user friendliness is interrelated to and a reflection of the responses provided by participants to various other discussion topics / coded categories. The researcher is also of the view that the overall negative reaction of participants to user friendliness could hinder the desired improvements the CBS aimed bringing to ABC.

b) Processing speed

Overall, eleven of twenty-one participants believed processing speed of the new CBS is better than the old system, while one participant, an assistant manager working in the back office, believed, although the overall processing speed is low, when it comes to GL module, the processing speed has substantially improved. Interestingly, two participants who represented Custody and Investments business units respectively and did not believe user friendliness has improved, believed that processing speed of the system has improved and they identified effective integration of all modules into one system as the key reason for this overall speed. These responses can be strongly

captured in some of the comments made by participants, for example, some participants commented, *'we are inputting data into one system and it updates all fields same time, and processing speed is improved as a result' (Participant No. 14, an Assistant Manager at Customer Service job function), 'speed has improved I believe due to online real time transaction processing' (Participant No. 04, a Manager at Customer Service job function), 'processing speed is better than the old system' (Participant No. 05, an Employee at Back Office job function).*

Five participants believed that processing speed has not improved compared to the old system (i.e. they see there is no change in the processing speed) or average. The other five participants believed the speed is lower than the old system. Overall, participants representing Banking and Risk & Compliance departments believed that the processing speed is either low or there is no improvement compared to the old CBS.

The researcher, with his experience at the Bank, identifies that some employees such as employees who use GL module struggled to meet some internal deadlines due to low processing speed and manual work involved their work prior to the new CBS, and their current response that the speed has now increased highlight their positive reaction to the new CBS.

c) Added functionalities

Overall, nine of twenty-one participants believed that system has some added functionalities compared to the old system. The rest (twelve) believed new CBS either do not have added functionalities or with their experience, they are not sure whether the system has newly added functionalities.

Participants who believed the new CBS had added functionalities identified features such as eBanking platform, effective integration, ability to do FX netting arrangements, multiple ways of accessing data as some added functionalities

compared to the old CBS. Further, these participants use the modules such as GL, Investments, Treasury, and eBanking.

Participants who believed either the system has no added functionalities or they do not see it has new functionalities, identified some key limitations in some functionalities. For example, two participants, identified the inability to do batch processing or bulk processing facility as a key constraint in the new system. In their own words, they commented *'I cannot see lot of improvements in terms of functionalities. I would have expected at least we would have configured batch processing functionality which is a basic functionality in any modern CBS' (Participant No. 12, a Manager at Back Office job function), 'I cannot say we have added functionalities in the new CBS. If we had bulk processing functionality it could have been a big improvement' (Participant No. 07, an Employee at Back Office job function)*. These participants mainly use the banking related modules (Deposits, Lending, WIRE), Custody, and AML& Compliance.

The researcher, with his experience at the Bank, identifies that the participants who had a limited benefit in the old CBS generally identified more added functionalities in the new CBS such as FX netting arrangements while participants who extensively used the old CBS in the past identified some limitations such as lack of bulk posting facility. These responses are consistent with the researcher's own observations and experiences at the Bank during past three years.

d) Ability to do multiple tasks at once

Half of the overall participants believed the system could do multiple tasks at once, while the other believed system either cannot do multiple tasks at once or were not sure whether it could do multiple tasks. The respondents who were not sure about the system can or cannot do multiple tasks were mostly the employees or assistant managers who use only one or a few modules or functionalities in the system and do not see the full system functionalities as a result.

Some participants, who considered several weaknesses in the system, however, responded positively when it came to multiple tasks. For example, one participant, a manager at customer service job function, who had a lot of negative views on the system, believed the system could do multiple tasks. In the participants' words *'to some degree, it can do multiple tasks. For example, once the transactions are input, it updates cash and portfolio at the same time' (Participant No. 2, a Manager at Customer Service job function).* Another participant also viewed this positively. In his own words, '*our CBS can do multiple tasks at once since it integrates all systems into one platform' (Participant No. 13, a Manager at Back Office job function)*. Overall, participants from Treasury, Operations, and Custody believed multitasking nature of the system while others either did not believe the system can do multitasking or were not sure about it.

The researcher, with his experience at ABC as an insider, is of the view that the responses of participants at 'employee' or 'assistant manager' level, whose responses revealed that they were not sure about system's ability to do multiple tasks at once, is not completely unexpected. This is because these participants' current job exposure is limited to one or a few modules or tasks of the new CBS rather than the complete CBS.

e) Innovative work practices

The majority of the participants were of the view that either system does not contain any significant innovative work practices or it has the capability but not configured or visible at present. As Martin and Omrani (2015) argued the mere use of computers is not related to employees' behaviours but it is innovative work practices that lead to a positive attitude of employees. As Attiq *et al.*, (2017) argued, employees' job satisfaction has a direct and positive impact on innovative work behaviour. They identified innovative work behaviour as the deliberated eagerness by employees to innovatively perform for better procedures, utilise advanced technology, communicate

with clients and expand new services. Further, it was found that it is necessary to have effective support from top management for employee satisfaction and innovative work behaviour.

Expectation of employees in the new system can be captured in their comments, for example, one participant commented, *'I was expecting lot of flashlight kind of things in the new system which means more user-friendly integrated system with innovative work practices and I don't think we got it' (Participant No. 11, and Employee at Customer Service job function).* Based on the majority of responses, it is, therefore, visible that employees of ABC did not react positively to their CBS in terms of innovative work practices.

Four participants, however, opined that the system contains some innovative work practices. One, a senior executive, commented that since ABC got the model bank solution, the CBS, which is accepted globally, has already considered best practices or innovative work practices in developing the model bank. Two participants who represented back office job functions considered business intelligence and automated financial reporting as some innovative practices available in two modules – GL and CBS reporting – of the CBS. Another participant, a manager at customer service job function who mainly uses Treasury module also considered the system has some innovative practices. In the participant's own words *'new CBS allows us to do direct trade execution where we can directly input deals, and back office can verify and review these deals online real-time basis. This materially improves real-time Asset & Liability Management operation and nostro cash reconciliation'(Participant No. 2, a Manager at Customer Service job function).*

The researcher, although has personally experienced the added functionalities of Treasury module as an insider, is of the view that the positive comments of above four participants cannot be generalised to the entire CBS since these comments were limited to a few modules of the CBS such as GL, Treasury, FX and CBS reporting rather than the CBS as a whole. Further, given there were several negative comments

to a number of other discussion topics that does not demonstrate an increased job satisfaction following the implementation of new CBS, the researcher views it may not be possible to expect a material improvement in innovative work practices or a significant positive response to innovative work practices.

f) Interface

As Ridwan and Kamili (2015) argued, system integration plays a key role in the success of a modern CBS since traditional CBS lack the flexibility where sub systems are independently established and difficult to connect. Accordingly, if all the modules are affectively interconnected, the bank can perform an integrated service which ultimately reduce the total cost of the business.

Almost all the participants, other than one participant, identified system interface and integration of all key components or modules into one system as a positive feature and a key advantage of having the new CBS. The one participant, who is an employee of the customer service job function, commented the interface as average. This employee who is in the 20-35 age group is a techy savvy one, and his views in his words were *'Yes it integrates all systems, and we can see real time picture. It is just automated but not the kind that I envisaged which includes sort of icons, flashlights, etc. Its just an ordinary system but better than the old system' (Participant No.11, an Employee at Customer Service job function)*. Further discussion with this participant revealed that the participant, although expected more advanced interfaces and features, still of the view that the current functionality is better than the old CBS. Overall, it could be concluded that ABC employees reacted positively to the system interface in the new CBS.

The researcher is aware that the team who did the technical integration of all different components of the CBS had a wealth of experience in successfully delivering similar projects. This is further supported through empirical findings of Pires and Marcondes (2017) who argued that the quality and expertise of the integration team play a key

role in ensuring an increased efficiency in systems and IT integration. The overall participants' response to the interface is consistent with the researcher's personal experiences and observations of the CBS at ABC.

g) Flexibility

The majority of the participants viewed the system flexibility as low compared to the old system they had been using. Their main observation was that it is difficult to bring any small change to the system or fix a bug, and it takes too long to address the issues raised by users. Some other comments include *'lack of menus, flashlights or icons that can guide the users to specific functions,' 'lack of user manuals,'* and *'limited support from the help menu.'* Overall, the general view of the participants was whether they compare this with the old system or any other advanced CBS, the flexibility of the current CBS is limited.

Six participants however viewed that the system has some degree of flexibility. Two participants, both from the back office job functions which mainly use GL module of the CBS, considered system has the flexibility to meet the user needs. One participant, a manager at the IT job function, commented that the system is flexible compared to the old CBS purely from a technological standpoint. Two other participants commented that system flexibility is better compared to the old system but below their expectation of a modern state of the art CBS. Another participant, a senior executive, viewed that the system is flexible to the extent what the Bank has purchased, in his words *'it may work for some generic modules but may have limited flexibility for specialized modules such as Investments, Custody, etc since what we have today is a generic model bank solution' (Participant No.6, a Senior Executive at Back Office job function).*

The researcher is of the view that, although a few participants believe the system has some degree of flexibility, the overall negative reaction to system flexibility could hinder the desired improvements the CBS aimed bringing to ABC.

h) Reporting capability

Participants' responses to the reporting capability were clearly divided. Some commented that the system has the capability to produce reports while others viewed it negatively. Another group believed that the system might have the capability, but they do not see it today. That is, they either get only core / basic reports (i.e. capability is limited to the core or basic reports) or don't have the required reports today (i.e. reporting efficiency is low). Another participant, a manager at the back office who mainly uses GL module, saw reporting capability as strong. In the participant's words *'I was shown that five different ways a report can be generated. So I believe reporting capability is strong' (Participant No.3, an Assistant Manager at Back Office job function).* A further discussion with two participants one from IT, and another who uses GL module indicated that the system has the capability, but employees may struggle due to lack of training on how to generate these reports or due to limited user-friendliness in the system from an average user standpoint.

The researcher's personal experience in the new CBS indicates a strong reporting capability of the new CBS. The researcher with his experience at ABC is of the view that the negative responses to reporting capability are largely associated with the limited or lack of training on the new CBS.

i) Reporting efficiency

The majority of the participants viewed the reporting efficiency as low. They identified several challenges in getting the required reports from the system whether it relates to the customer or internal management report. Some of their negative reactions include, *'the reports are not straightforward. We cannot get the reports we want both for internal and customer requirements' (Participant No. 20, an Assistant Manager at Customer Service job function), 'I believe efficiency should be better than*

today, some reports are not customised hence difficult to understand' (Participant No. 05, an Employee at Back Office job function).

Two participants, a manager, and an assistant manager, working in the back office, were of the view that the reporting efficiency of the CBS is high. For example, one participant commented, *'current CBS insight module has more efficiency in producing reports , mainly it is integrated and this materially save time and enhance accuracy' (Participant No. 4, a Manager at Back Office job function).* As Al-Laith (2012) noted, reliability of reporting (of financial statements) would be influenced by the concentration on IT related tasks like control over the registration of transactions and submission of information. The researcher being an insider is aware that the system controls over financial reporting process has been strengthened through GL module of the CBS, and these two participants' positive response therefore is not completely unexpected. On the other hand, these two participants mainly use two modules of the CBS – GL and CBS reporting - and are subject matter experts of these modules. It is, therefore, difficult to generalise their comments/experiences with that of the other participants. Another participant, a senior executive, was of the view that the system has the reporting efficiency to meet user needs. His comments are more focused on financial reporting side than overall management reporting or business intelligence reporting side, hence cannot be generalised.

The researcher observes that the reporting efficiency is high when it came to GL module and some Investment related reporting, however when it came to operational, customer and business intelligence reports, the efficiency is not satisfactory. This observation is also consistent with the researcher's personal experience on the new CBS of ABC. As Rookhandeh and Ahmadi (2016) argued, there is a significant positive correlation between organisational excellence and use of IT in decision making process. The limited reporting efficiency identified by the majority of ABC employees which is critical for effective decision making therefore could negatively affect the overall organisational performance.

j) Feeling of personal accomplishment

Although personal achievements, recognition, and degree of responsibility, etc positively influence employee satisfaction (Sharma and Mani, 2012), when it came to ABC, only seven participants responded that their CBS related work provided them a feeling of personal accomplishment while the majority responded either they do not feel personally accomplished or not sure whether they feel it or not. Comments of two participants strongly capture majority views, *'no I don't feel personally accomplished, simply because I don't (didn't) know what the end result would be. We still have several unknowns' (Participant No. 14, an Assistant Manager at Customer Service job function), 'with my several years of experience in banking systems, it does not feel me a sense of personal accomplishments. If I were to select a new CBS, I would not select the current model bank CBS since our needs are more specialised than generic' (Participant No. 12, a Manager at Back Office job function).*

The participants who felt personally accomplished are coming from the employees using modules such as Investments, Treasury, FX, and GL, and further discussions revealed they directly contributed and were more engaged in implementing the system than others and also directly benefited from the automation and integration of all modules into one CBS platform.

Since one of the objectives of the new CBS is to improve overall employee productivity, the researcher believes that the overall negative responses of participants to the feeling of personal accomplishments could hinder the desired improvements the CBS aimed bringing at ABC.

k) Job make use of skills and abilities

A few participants initially expressed some confusion about the question if the question relates to total job tasks or only CBS related tasks, and the researcher had to clarify further that the question focuses on CBS related work. After this clarification

two participants, a manager at back office and an employee at customer service, who initially believed that their job does not fully make good use of their skills and abilities, responded saying that it has nothing to do with their CBS related work, but more of general duties and they believe they can undertake more responsibilities or contribute more to the business through the CBS. Another participant, a manager at back office, believed that a correlation between the CBS and skills could not be identified and the system can only be identified as a tool to deliver jobs.

It is believed that the opportunity to use skills and employee satisfaction has a positive correlation (Sharma and Mani, 2012). Overall, the majority of the participants believed their current job does not make good use of their skills and abilities or was not sure if their skills and abilities are fully used, while eight participants believed they make good use of their skills and abilities in their current job. Those who believed their job make good use of their skills comes from participants using Treasury, AML, GL, and Custody. Those who did not believe their job make good use of their skills identified a few reasons to justify their thinking. Some comments in their words were; *'management do not understand that I can deliver more'(Participant No.20, an Assistant Manager at Customer Service job function), 'I believe I can be utilised to add more value to the business' (Participant No.12, a Manager at Back Office job function), '...If the system was good, I could have avoided these ...(manual) work and do more productive work' (Participant No.15, an Employee at Back Office job function).*

Since one of the objectives of the new CBS is to improve overall employee productivity, the researcher believes that the overall negative responses of participants to job make use of skills and abilities could hinder the desired improvements the CBS aimed brining at ABC.

l) Improvement in the process flow

The majority of participants believed that the process flow of their work has not improved such as reduced processes with more efficiencies, after implementing the CBS. Only four participants believed that there is an improvement in the process flow of their work. Another four participants believed that they could see improvement in some process flows while other processes remained same or became more complicated.

In terms of modules, participants who use Investments, GL, FX, and Treasury believed that the process flow of their work has improved with the new CBS mainly due to the benefits of integration and automation of several manual processes and workarounds. On the other hand, participants who use modules of Custody, Deposits, Lending, WIRE and AML believed their process flow has not improved and in several cases gone down with more process flows either additional processes or continuation of manual processes. These negative responses can be captured in the comments of one participant, *'no improvement in process flows, not at all. With the previous system, we used to do bulk posting but with the new one, we have to post each deal one by one, adding more processes and time' (Participant No. 21, an Employee at Customer Service job function).*

The researcher notes that overall negative reaction of the participants to the process flow is interrelated to and consistent with their responses to the coded categories of 'reduction in manual processes' and 'process alignment'. The researcher, however, identifies that, even with overall negative reaction to the process flow, several participants identified that processing speed has improved. The researcher's personal experience reveals that this response is mainly due to the benefits of effective interface and integration of different modules into one system, which substantially improves the system performance and lead-time.

m) Reduction in manual processes

The majority of the participants believed that the manual processes have not reduced with the new CBS rather they believed in some areas, the manual processes has been increased. Their specific comments include, *'I would say we have more manual processes today than our legacy system from operational standpoint. We cannot use bulk posting which add more manual processes' (Participant No. 12, a Manager at Back Office job function), 'no, we have more manual processes today. We have introduced more processes but it involve more manual work' (Participant No. 20, an Assistant Manager at Customer Service job function)*. Only four participants who mainly use the modules of GL, Investment, FX and Treasury believed that the manual processes have reduced because of automation and integration of all the components into one system.

The researcher observes that overall negative response to the reduction in manual processes is consistent with the participants' reaction to the coded categories of 'improvements in the process flow' and 'process alignment'. The researcher is of the view that overall negative reaction to this discussion topic could hinder the desired improvement the CBS aimed bringing to ABC.

n) Ability to do the job with a lesser time

The majority of the participants did not believe they could do the same degree of work that they used to do earlier with a lessor time after the new CBS was implemented. Some of their comments were, *'no, due to manual work, it takes lot more time to deliver results' (Participant No. 07, an Employee at Back Office job function), 'I believe we take more time to do things for example, despite processing speed being high, due to lack of bulk posting, it takes more time to complete transactions' (Participant No. 12, a Manager at Back Office job function)*. Only four participants who mostly use Investments, FX, Treasury and GL modules believed that they could do things in a lesser time than the old system. Also, a manager at IT believed that from a technical standpoint it takes lesser time to deliver a task. Some contradictory views among the senior executive and employees in the same job function was also

observed. A senior executive believed that from banking operations they could deliver results in a lesser time. However, majority of participants who represented the banking operations, maintained a contradictory view saying that with the new CBS it takes more time to do the same jobs that they used to do earlier due to lack of functionalities such as bulk payment processing, and continuation of more manual processes.This contradictiory reaction appears to be a reflection of limited employee engagement which is further discussed under the leadership communication and commitment.

The researcher further observes that the majority negative reaction to this discussion topic is interrelated to and consistent with the reaction to discussion topics of 'process flow', 'training', 'reduction of manual processes' and 'process alignment'.

o) Improved quality of work

Only two participants, both from the customer services job function, and holding the assistant manager job category, believed that the error rate could go up instead of going down and this is due to more paperwork than the old system used to have. The majority of participants believed there is no material change to their work quality that is measured using the parameters like error rate etc. They also noted that historical as well as the current error rate of their operations have been low and therefore it may be difficult to comment this based on the error rate. One participant's comment captures the majority views, *'I'm not sure if quality has improved or not. But the new system has the capability to detect errors than the old CBS. This is a positive feature. Generally, error rate has been low so I doubt that any material increase or decrease could be visible currently' (Participant No. 18, an Assistant Manager at Back Office job function).*

Eight participants, however, believed that the quality of their work has increased due to various reasons such as automation of processes, effective integration of all modules into one system, effective error detection on a real-time basis, less manual

processes, etc, and these positive comments were mostly related to the participants using GL, Treasury, FX and CBS reporting modules.

The researcher observes that the majority participants' reaction which highlights the quality of their work has either improved or not deteriorated further can be aligned with one of the objectives of the new CBS – improvement in employee productivity. However, the researcher further observes that there is a limited relevance in its application since ABC's historical error rate has always been low which limits comparison.

p) Adding more value to the business

Only six participants believed they are adding more value to the business with the new system who mainly use the modules of GL, Treasury, FX, Investments and CBS reporting while three participants believed only in a few areas they add value which is below their original expectation and they could add more value once the current issues in the new CBS is fixed. Others, which represent the majority of participants, believed their value addition is similar to the time they operated the old CBS and expected that all the pending issues in the new CBS need to be fixed if they are to add more value to the business using the new CBS. One participant's comments capture the majority view, *'I don't think we are adding more value since there are several manual processes still there. However we could add more value once these issues are fixed, and that was anyway one of the objectives of moving into the new CBS' (Participant No. 12, a Manager at Back Office job function).* The researcher observes that the overall conclusion from the comments from all the participants was that the value addition of the new CBS is below the expectation until the pending issues/limitations in the system are fully resolved.

The researcher, being an insider at ABC, believes that since the Bank is addressing some of these issues or limitations, the participants' reaction to this discussion topic

can be different more towards a positive direction in future (for example six to twelve months from now), as a result.

q) Job security

Job security and employee satisfaction have a positive correlation (Sharma and Mani, 2012). Only three participants believed that they feel threatened that some of their job tasks will disappear with the automated processes of the new CBS, and they mainly use Investments and Custody modules. Everyone else, the majority, did not believe the automated processes of the new CBS could pose a threat to their job tasks. Three participants who felt a threat noticed, through automation and integration, some of their job tasks have already disappeared and expressed some uncertainty about their future with the business. For example, an employee of the customer service job function commented '*Of course, I definitely feel threatened. Most of my daily work comes from the system. With automation, half of my work including manual work could easily disappear' (Participant No.21, an Employee at Customer Service job function).* At the same time, all of them have considered the new CBS positively and actively engaged in its implementation, and two of those three are subject matter experts in their respective CBS modules.

Majority of the participants who did not feel threatened that some of their job tasks would disappear with the automated processes of the new CBS commented that their responses are based on their key job functions such as managerial tasks, primary data input tasks, etc. which has to be done irrespective of the old CBS or the new CBS. Overall responses of participants, therefore, did not indicate that there is a concern about job security with the introduction of the new CBS.

The researcher, with his experience at ABC, believes that this discussion topic is more relevant to participants at 'employee' or 'assistant manager' level than managerial employees whose job tasks also involve non-system related or managerial tasks. The researcher believes that the participants' overall belief that the system does not

threaten their job security could be due to the system being not effectively implemented with full functionalities which prevent employees in realistically assessing the true automation functionalities of the CBS that could replace some works performed by employees. The researcher, in this regard, notes that the effectiveness of the system implementation was challenged based on the reactions of employees to discuss topics of 'process flow', 'reduction of manual processes', and 'process alignment'.

r) Level of job stress

Job stress has a negative influence on the relationship between service climate and employee performance (Zhang *et al.*, 2011). Participants' responses for stress level assessment were divided. Half of the participants believed the job stress level has gone up with the introduction of the new CBS. For example, six participants believed that they feel increased stress level when they compare the new CBS with the old CBS. Four participants on the other hand believed either stress level in some areas are getting down while some other areas it is increasing, or stress level at the beginning of the CBS was very high, but it is going down gradually. Their comments include, *'…day 1 stress level is very high but now it is going down when we familiar with the system' (Participant No. 04, a Manager at Back Office job function), 'I feel stress level is little bit up with the new system. We are now accepting this since we understand that we have to live with it' (Participant No. 20, an Assistant Manager at Customer Service job function).*

Participants who responded increased job stress represented mainly Operations and IT departments. The participants who believed that the stress level has not increased (or lower than old system) were still of the view that their stress level at the beginning of the new system was very high and it was getting better day by day when they experience the new system and its functionalities.

The researcher, with his experience in the CBS, observes that the stress level generally decreases with the post implementation time of the system. Since the responses were collected after six months of implementing the new system, negative responses to the job stress level by almost a half of the participants, according to the researcher's view, could hinder the desired improvements the new CBS aimed bringing at ABC.

s) Adoption to new CBS

Half of the participants believed their adoption to the new CBS had both voluntary and some degree of social pressure elements. Responses of two participants strongly capture how both elements influenced the adoption. The first participant commented *'I believe the adoption to the new CBS was initially due to some degree of indirect social pressure but also I can see I did it voluntarily since I believed the new integrated system could add more value to the business. For me personally I hesitated but I gradually adopted' (Participant No.14, an Assistant Manager at Customer Service job function),* and the response of the second participant was *'I would say it was both voluntary and some degree of social pressure. So it was a mix of both. There was a degree of mandatory assumptions into the new system. It was either you evolve or die. So there was a mandatory point to that. Also, there is a team or company responsible for doing the right thing for the bank and team as well. However, I would still think that I would adopt voluntarily even if there is no social pressure since I see the value of it' (Participant No.1, an Assistant Manager at Back Office job function)*.

Interestingly three participants believed their adoption was due to some direct or indirect social pressure and was not done voluntarily. Nine participants, on the other hand, believed that there was no any social pressure element and their adoption was voluntary. These findings are contradictory to the findings of Anadarajan *et al.*, (2000) who argued that social pressure be the key driver in employees' acceptance of new technology. On the other hand, in another empirical study, Tan and Teo (2000) found that adoption to internet banking is influenced more by attitudinal and perceived behavioural control factors, rather than social influence. The participants' mixed

reaction to the adoption to the new CBS, according to the researcher's view, could be a reflection of these divergent findings in prior empirical results.

In addition, based on the analysis of overall responses, the researcher is of the view that, although majority employees voluntarily adopted to the new CBS (or a mix of both voluntary and some degree of social pressure), the Bank was largely unable to capitalise this voluntary adoption into an actual benefit realisation of the new CBS. According to the researcher's view, this is reflected in negative reactions of employees to various discussion topics some of which include 'adequacy of training', 'user-friendliness', 'reporting efficiency', 'reduction of manual processes' and 'process alignment'.

t) Leaders' communication about new CBS

From the analysis of data, the researcher found that majority of participants were of the view that communication by leaders about the new CBS either was poor or could have been better. As Fheili (2011) identified, IT implementation projects require a greater degree of cooperation and collaboration between suppliers and demanders of the system. Fheili (2011) further noted that, with the advancement of IT, the organisational focus has been changed from pure support mode to innovation and development mode.

The majority of participants believed the employee engagement was not satisfactory and they could have been engaged throughout the process rather than at or closer to the go-live exercise. Two participants' comments capture the majority view, *'I would say it (communication) was poor. The team was not engaged. Lack of communication at the beginning, and only when we were rushing to go live, communication started which was not effective' (Participant No. 14, an Assistant Manager at Customer Service job function), 'it was scattered. Communication was not very clear. We only had a few meetings. Lot of people were blindsided' (Participant No. 07, an Employee at back Office job function)*. This is a key observation since the quality of supervision,

effective communication of leaders and employee involvement are three key factors that influence employee satisfaction, IT adoption and performance (Sharma and Mani, 2012; Amah and Ahiauzu, 2013; Nath *et al.,* 2014).

Only two participants, two employees of the customer service function, whose immediate supervisor is a department head than the senior executives of the Bank, was of the view that leaders properly communicated about the new CBS. Another participant, a senior executive, who was also a member of leadership team, was of the opinion that communication was good. Two other participants, two managers, were of the view that their immediate supervisor properly communicated about the new CBS on a regular basis. These two were however was of the view that the communication by the overall leadership team was not adequate. Everyone else identified that the communication by the leaders as either poor or not adequate in clearly communicating the objectives of moving to the new CBS, and its new functionalities, etc.

As Garas *et al.,* (2018) found, from the context of Egyptian banking industry, bank's internal branding has a positive relationship with their employees' affective and continuance commitment. Further, when the role clarity of employees is high, they will demonstrate a strong in role as well as extra role behaviour. Given a number of employees did not respond positively to the discussion topic relating to the effective communication of the new CBS implementation (which created some confusion about role clarity relating to the system implementation process), the researcher views that it is possible not to see a positive in role or extra role behaviour from ABC employees. To ensure the leadership effectiveness, as suggested by Mekpor and Dartey-Baah (2017), banks' training programs should not only focus on employees but also on leaders by introducing suitable management training programs such as training on situational leadership which could help leaders to adopt appropriate leadership styles to specific situations based on the change readiness of employees. The researcher notes, historically, there has been a limited focus at ABC on leadership training and development activities, and there is a possibility that it would have had some impact of current research outcome. Further, by reviewing some internal documents including

core banking project implementation meeting minutes from 2014 to 2015, project steering committee meeting minutes and action items list in 2015, it was visible that the communications until very close end of the project were limited to a few employees involved in the project rather than all potential users of the system. Accordingly, participants' response that they were kept dark on some of the CBS project developments by the leaders closely correlate with these organisational records. Further, the researcher views that the negative response of the majority of employees about the communication of the leadership team, negatively affected the employee satisfaction level and could hinder the desired improvements the CBS aimed bringing, as a result.

u) Commitment of leaders

As Bravo *et al.*, (2017) argued, when employees feel committed to the organisation, they will demonstrate a more positive attitude towards their job and are even willing to undertake extra responsibilities. Lack of employee engagement by leaders could lead employees to feel a lower degree of commitment and attitude towards job.

The majority of participants were of the view that the leaders at ABC have not adequately demonstrated their full commitment to achieving the total objectives of the new CBS. There were some diverse views expressed by the participants. Some were of the view that their immediate leaders had a strong commitment but the other leaders did not, so the overall commitment of the leadership team was inadequate. Some, on the other hand, expressed the view that although the leaders had a commitment that was limited to meeting the go live deadline and not achieving the full objective of the CBS.

Only a few viewed leadership commitment as positive. Only two participants, an employee and a manager both in the customer service function, were strongly of the view that their leaders demonstrated full commitment to achieving the objectives of the CBS. Others viewed the leaders either did not demonstrate their full commitment

to achieving the objectives of the new CBS, or their commitment was more focused on meeting the go live decision but not achieve the full objectives of the new CBS. One participant commented, *'everyone was focusing to meet the deadline rather than making sure the system fully meets our needs' (Participant No. 18, an Assistant Manager at Back Office job function)*. One participant, a senior executive, who was also a member of the leadership team, had some specific views about the leadership. In the participants own words *'Overall leadership team had a good commitment. However, when it comes to specific areas … we had some issues. This team including the leader did not pay much attention to data. Most of the issues we have today are not technical issues or bugs but due to lack of customer data which we could have cleaned up at the beginning especially when we know the project started in May 2014 to October 2015. This fell through and was a major failure and also impact our ongoing client files remediation process' (Participant No.6, a Senior Executive at Back Office job function)*.

One key observation, the researcher sees here, is the difference between the commitment to achieve overall objectives of the new CBS versus the commitment to meet the project deadline. By reviewing core banking project implementation meeting minutes, project steering committee meeting minutes and action items in 2015, the researcher noted that a more focus was paid and actions were made towards achieving project completion deadline which was met successfully. However, employee engagements and discussions about achieving overall objectives such as how processes can be improved, how the new management reporting helps, what are the training gaps and how to address those gaps, etc were limited throughout the project. Accordingly, the researcher notes that the employees' negative response about leadership commitment is partially correlated with the review results of these organisational records. From the responses of employees, the researcher identifies that the commitment of leadership was either not satisfactory or limited to meeting the project deadline only which could negatively impact overall employee satisfaction level and hinder the improvements the CBS aimed bringing at ABC, as a result.

v) Ability to operate CBS

Almost all the participants responded that they know how to operate the CBS. However, they were specific in their comments highlighting that they only know the basic and core functions applicable to their individual job roles. For example, one participant commented, *'yes, I know how to use the system but only for the limited functions related to my job' (Participant No. 18, an Assistant Manager at Back Office job function).* They viewed the training provided on the core or basic functionalities in the system as inadequate, and they have limited knowledge on other functionalities or modules of the CBS which are required in most of the situation due to cross-functional nature of the operation which is done in an integrated system.

According to the researcher's experience, the result which states that everyone knows how to operate CBS is not completely unexpected since the majority of participants have more than three years of experience and have been using a system (either old or new CBS) to perform their tasks. A key observation, however, is their knowledge is limited to basic and core functions applicable to their areas that is not what was expected by having a new CBS.

w) Adequacy of training

The overall response of the sample, except one participant, believed that the training provided on the CBS was insufficient. From the further discussion, it was revealed that the participant who was satisfied with the training was a subject matter expert who had prior knowledge of the system, and his comments were specific to GL component of the CBS. Hence, overall it could be concluded that the overall training was not adequate. This is a key observation since the level of training has a strong influence on ICT adoption (Machogu and Okiko, 2012). One of the other key limitations identified by the participants was a lack of post system implementation support/training which exacerbated the issues associated with the training and the participants' response as a result.

Participants raised their concern on limiting the post implementation support to just one month and also this support was for limited areas. They commented that employees were shown how to do their basic functions as a part of the UAT and go live process, and whenever an exception came, they could not move on. This substantially increased the level of frustration. Some general comments of participants include *'training was clearly insufficient' (Participant No.16, a Manager at Customer Service job function), 'I do not think training was adequate' (Participant No.5, an Employee at Back Office job function), 'the training was mostly informal and self' (Participant No.18, an Assistant Manager at Back Office job function), 'overall I do not think the training was sufficient. It was mostly limited to UATs and most of the cases subject matter experts were trained but not all the users' (Participant No.7, an Employee at Back Office job function).*

Based on the responses of employees, the researcher identifies that the lack of training and post system implementation support strongly influenced employees' negative reaction to the new CBS which could ultimately hinder the desired improvements the CBS aimed bringing at ABC.

x) Support of MIS personnel

Involvement of MIS staff and their understanding of business needs (Dasgupta *et al.*, 2000; Beimborn *et al*., 2007) are some key drivers of IT adoption process. It is also believed that organisations with a strong IT team can effectively integrate IT and business processes which could enhance business unit efficiency (Bharadwaj, 2000). From the analysis of data, the majority of the participants believed that the support of MIS team was good with some exceptions to their comments. These exceptions that negatively impacted the support provided by MIS team were, *'…limited knowledge of the MIS team on the new CBS' (Participant No.7, an Employee at Back Office job function), '…system was new to MIS team, and they were even not trained on it properly' (Participant No.14, an Assistant Manager at Customer Service job*

function), '…MIS team was too much stretched' (Participant No.18, an Assistant Manager at Back Office job function), '…although the team was supportive, there were some leadership issues' (Participant No.12, a Manager at Back Office job function).

There were some divergent thinking about the role played by the MIS team. Some, while commenting that their support could have been better, were sympathetic to the fact that the team was so much stretched which impacted their ability to support the Bank. While the others were of the view that the team lacked the subject matter experts (especially when it came to specialised areas like Custody, Investments, etc) which limited the support they could provide. Some also commented on the leadership issues/changes at IT as a key challenge.

Overall, the researcher believes that although the support of MIS team was considered positively, their limited knowledge on or exposure to the new CBS, negatively impacted the overall satisfaction and productivity of employees at ABC.

y) Process alignment

Operational level alignment is a key factor in post-implementation success of a CBS (Beimborn *et al.*, 2007). As argued by Gadge (2017), there is a need to have effective proper synchronization between business processes and technical innovations failing which the banks would not achieve the desired outcome despite how good the product be.

The question about process alignment was limited to participants holding assistant manager and above level. This is because junior level employees would either have access to limited functionalities of the CBC (i.e. functionalities related to their job tasks) or have limited exposure to assess if processes are adequately aligned (i.e. if ABC has all the policies, procedures or processes and if the policy framework is aligned with processes and systems in place). From the analysis of data, it was

revealed that only two participants believed that processes and procedures are aligned with the new CBS and within the different business processes. These participants, two assistant managers at back office job function, mainly use GL and CBS reporting modules of new CBS, and their responses are limited to their job function and modules they use. Others, the majority, either did not believe all the related processes and procedures are aligned with each other and with the new CBS or were not sure whether such alignment had taken place. Out of these participants, three believed only some processes had been aligned while commenting lot more processes and procedures need to be aligned if they are to get the full benefit of the new CBS. Some specific comments of the participants include, *'I don't think all the processes and procedures were properly aligned with regard to the system. There are some improvements needed' (Participant No 19, an Assistant Manager at IT job function), 'I would say lot more work to be done to ensure effective process alignment since this is essential to obtain real benefits of the system' (Participant No. 08, a Senior Executive at Customer Service job function).*

The researcher, with his prior banking experience, is aware that a CBS would achieve better results if processes and procedures have been efficiently aligned. The overall negative responses about process alignment, according to the researcher's view, therefore, could hinder the desired improvements the CBS aimed bringing to ABC.

4.3 Outcome of the Analysis

The researcher intended to understand the responses to three research questions under the theme of 'CBS and employee behaviour at ABC,' and these questions were;

- *RQ1: How have ABC employees reacted to the CBS?*
- *RQ2: Has this reaction to the CBS been positive or negative in terms of their perceptions?*
- *RQ3: Has the reaction hindered the desired improvements the CBS aims bringing?*

The analysis of responses provided by participants is summarised in table 13.

Theme and Coded Categories	Reaction of Participants		Modules used by Minority who responded;	
CBS and Employee Behaviour	**Response**	**All or Majority**	**Positively**	**Negatively**
User friendliness (from employee standpoint)	Negative	Majority	Treasury, FX, GL	
Processing speed	Positive	Majority		AML, Banking
Added functionalities	Negative	Majority	Treasury, FX, GL, Investments, eBanking	
Ability to do multiple tasks at once	Equally Divided			
Innovative work practices	Negative	Majority	Treasury, FX, GL, Investments, eBanking	
Interface	Positive	All		
Flexibility	Negative	Majority	GL	
Reporting capability	Equally Divided			
Reporting efficiency	Negative	Majority	GL, CBS Reporting*	
Feeling of personal accomplishment	Negative	Majority	Treasury, FX, GL, Investments	
Job make use of skills and abilities	Negative	Majority	Treasury, GL, AML, Custody	
Improvement in the process flow	Negative	Majority	Treasury, FX, GL, Investments	
Reduction in manual processes	Negative	Majority	Treasury, FX, GL, Investments	
Ability to do the job with a lesser time	Negative	Majority	Treasury, FX, GL, Investments	
Improved quality of work	Neutral	Majority	Treasury, FX, GL, Investments	
Adding more value to the business	Neutral	Majority	Treasury, FX, GL, Investments, CBS Reporting*	
Job security	Positive	Majority		Investments, Custody
Level of job stress	Equally Divided			
Adoption to new CBS	Positive	Majority		Cannot establish due to mixed reaction
Leaders' communication about new CBS	Negative	Majority	Treasury, FX, GL, Investments	
Commitment of leaders	Negative	Majority	Treasury, FX, GL, Investments	
Ability to operate CBS	Positive	All		
Adequacy of training	Negative	All		
Support of MIS personnel	Positive	Majority		Cannot establish due to mixed reaction
Process alignment	Negative	Majority	GL, CBS Reporting*	

* CBS reporting related to Finance and Investments

Colour	Meaning
	Majority react positively
	All react positively
	Response is either neutral or equally divided
	Majority react negatively
	All react negatively

(Table 13 – Summary of the data analysis)

Action researchers learn by doing since there is no learning without action and no action without learning (Revans, 1998; Creswell, 2013). Similarly, in analysing data and interpreting results related to the CBS of ABC, the researcher undertook a number of learning and reflection exercises which enabled the researcher to understand new patterns and behaviours. For example, when the employee responses to a particular discussion topic is analysed and interpreted, the researcher first identified and discussed the majority and minority views, then analysed and identified patters (for example employees who use GL, FX and Treasury modules reacted positively to the discussion topic 'added functionalities' while employees who use banking, custody and AML modules reacted negatively).

This evidences the divergent thinking patterns of different employees and based on the analysis of such divergent patterns, the researcher reached to the conclusions. The same approach was repeated in analysing and interpreting the results of each discussion topic. For a few discussion topics, the researcher has identified strong positive or negative reaction despite the majority of discussion topics had divergent reactions (majority views). Based on the final analysis of all discussion topics related to employee behaviour, the researcher developed overall conclusions/recommendations which is based on the responses of ABC employees (since the research is about the examination of how employees react to the new CBS and if such reaction help ABC to achieve its desired results). These conclusions were further presented in a table to provide more clarity. Given there are limited prior empirical studies on CBS (although there are some studies on generic IT), these reactions such as reaction to the CBS and different modules of the CBS cannot be

directly compared with results of prior studies. This is where the researcher directly contribute to new management knowledge. There are some generic responses that the researcher can compare with prior studies such as relationship with employee satisfaction and training etc in which the researcher has provided reference to prior literature.

The first research question was to understand how ABC employees would react to their new CBS. Most of the responses provided by the participants to various discussion topics indicated their divergent thinking patterns or perceptions. The only coded categories where all the participants had a strong and unanimous view were the *'Interface'* and *'Ability to operate CBS'* (positive reaction) and *'Adequacy of training'* (negative reaction). Participants' responses to all other discussion topics were summarised based on the reaction of the majority while some discussion topics revealed equally divided or neutral responses from participants hence could not be considered as a strong view against or for one direction.

The second research question was to understand whether employee reaction to the new CBS is positive or negative in terms of their perceptions. Data analysis revealed that overall employee response to the CBS is more negative than positive regarding their satisfaction where positive reaction was noted only for six out of twenty-five coded categories, while majority reacted either negatively (fourteen coded categories) or did not notice an improvement compared to the old system (five coded categories). These research findings, when compared with some prior empirical findings, show some mixed response or outcome. For example, in a study conducted on Indian banks to assess the impact of new banking technologies on employees' job satisfaction, Kumar and Sharma (2017) found that after implementing these new technologies, majority of bank employees found they are satisfied with job opportunity, work pressure level and training programs which contradict with the current research results. On the other hand, in the same study, Kumar and Sharma (2017), found that banks employees are not satisfied with the opportunity of employees' decision making which demonstrates a negative behaviour and is consistent with current research

results. To mitigate the negative impact, Kumar and Sharma (2017) identified the need for properly informing and educating employees whenever banks implement new technological solutions.

As Scapens and Roberts (1993) argued, information system changes would require an understanding of various historical and organisational contingencies, and any negative views about or reaction to a system change should not be dismissed as emotional or illogical since such reaction could be informed by some real concerns. ABC management accordingly need to take these reactions into consideration if they truly need to reap full benefits of the system in the long run. It is, however, to be noted that the majority responses cannot be generalised for the entire CBS since the reaction of participants working for different departments or using different modules of the CBS were not identical.

Two key limitations identified at the CLR were such prior empirical examinations were focused on generic IT use rather than CBS (for example, Dasgupta *et al.*, 2000; Venkatesh *et al.*, 2003; and Kumar *et al.*, 2015), and limited studies done on CBS where findings were presented as 'overall CBS' responses than exploring components of CBS (for example, Beimborn *et el.*, 2007 and Nath *et al.*, 2014). This gap is addressed in the current study since the researcher analysed the responses not only as overall CBS but also explored individual components of the CBS whose responses were different to the majority. For example, this analysis revealed that although participants' overall satisfaction to the CBS was negative, participants who mainly use Treasury, FX, and GL modules of the CBS reacted positively to almost all the discussion points other than '*Adequacy of training.'* These participants represent the departments of Treasury and Other (mainly Finance).

As Dey (1993) *cited in* Creswell (2013) noted, qualitative researchers often *'learn by doing'* data analysis. Although, the researcher further attempted to expand this analysis to factors other than departments and modules use (for example other factors such as job function, age, experience with ABC, gender and level of education) no

identified pattern could be identified amongst these other factors. For example, Venkatesh *et al.,* (2003), through an extended study on TAM (Davis, 1986; David, 1989), found a pattern on how age, gender and experience influence performance or effort expectancy and social influence. Venkatesh *et al.,* (2003) identified these factors as the determinants of IT user acceptance and IT usage behaviour. The researcher initially assumed that he could find a partial response to RQ1 and RQ2 by comparing actual research results with the findings of Venkatesh *et al.,* (2003), although this prior empirical study had a limitation since it was not based on the research done on CBS but generic IT use. However, from the analysis of participants' responses, the researcher was unable to establish any pattern between these factors – positive or negative. Hence the findings of Venkatesh *et al.,* (2003) relating to these demographic factors cannot be validated through this research results in the current research setting. On a further reflection, the researcher acknowledges that it is possible to have a different behaviour among ABC employees to their new CBS compared to the patterns in demographic factors identified by Venkatesh *et al.,* (2003) due to a number of factors. These factors include; smaller sample size of the current research, material differences in demographic and geographic factors between two studies, differences in scope of each study, and differences in the timing of each study.

The researcher further noted that it is possible to have a different research outcome since prior empirical findings of Chandio *et al.,* (2017) also indicated that there are divergent views or lack of agreement about the findings of TAM among scholars leading to inconclusive or mixed results. For example, while Davis (1986) argued that information systems acceptance is significantly effected by the perceptions relating to ease of use of system, Subramanian (1994) found that the perception of ease of use has an insignificant effect on the use of technology.

One specific example that strengthens the researcher's finding of the demographic factors in the model suggested by Venkatesh *et al.,* (2003) cannot be validated was that all the participants who use GL module irrespective of their age, gender, the level of education, and experience with ABC, indicated a positive satisfaction to the CBS.

Another example was that the responses of participants in Banking and Treasury departments (business units) who comes under the 'Customer Service' job function were not identical. Participants representing Treasury indicated a positive satisfaction to the CBS while the overall response of Banking was negative. Accordingly, the researcher decided to use the department and modules of the CBS as the key differentiating factor to analyze data and present findings, taking into account both rigor and relevance of all the factors and objectives of the study.

The third research question was to understand whether ABC employees' reaction would hinder the desired improvements, the CBS aims to bring. A key objective of implementing a new CBS was to improve overall performance. ABC intended that once the new CBS is in place, it will increase employee productivity and reduce current employee cost through automated processes. From the analysis of these qualitative data, the researcher noted that overall employee productivity of ABC has not increased after implementing the CBS as a whole. However, the researcher found that the employees who use GL, Treasury and FX modules of the CBS have revealed a positive satisfaction and enhanced productivity. Further, from the qualitative data analysis together with a verification made by reviewing ABC's management accounting packs for the period of six months before and after implementing the new CBS, the researcher found that ABC was unable to reduce its employee cost through automated processes of the new CBS. In summary, this analysis revealed that the reaction of ABC employees to the new CBS hindered the overall improvements the ABC intended to achieve through implementing a new CBS as a whole. However, the reaction of employees who uses the modules of GL, Treasury and FX revealed that their reaction positively correlated with the intended improvements the CBS aimed bringing for their departments which are Treasury and Other (i.e., Finance).

As a key component of the conceptual framework, the researcher identified three interrelationships in building the literature framework of the current study which were; *'Employee behaviour and IT (generic)', 'CBS implementation and employee behaviour'*, and *'Employee behaviour, IT and performance'*. Employee behaviour was

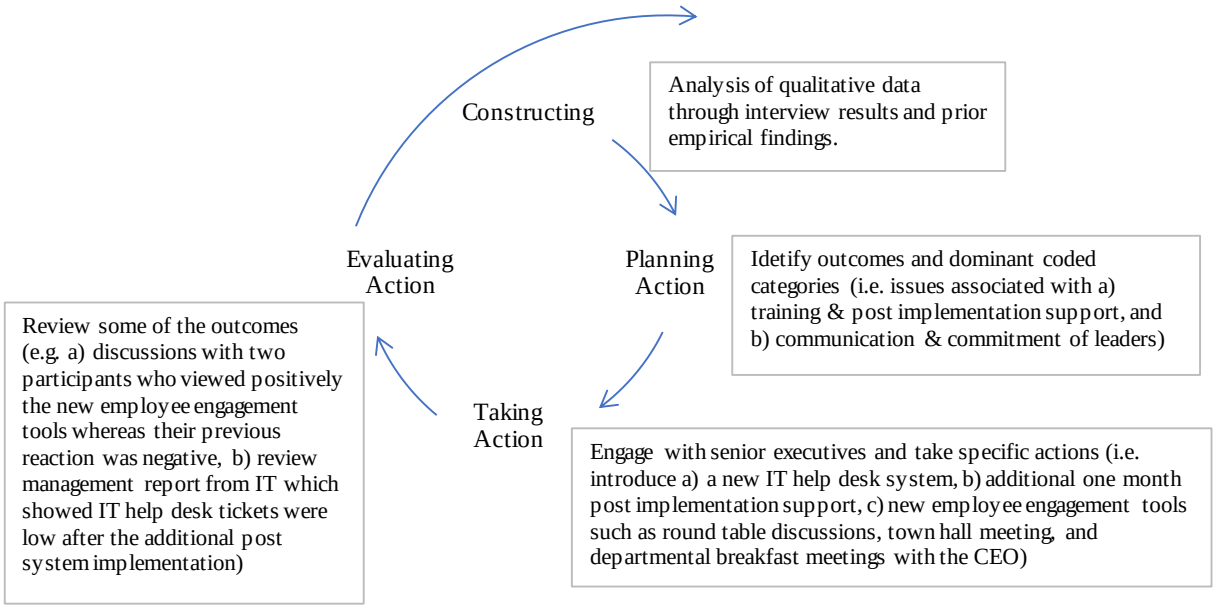
specifically reviewed using TAM (Davis, 1986) as the key theoretical component which is used to discuss IT acceptance behaviour of users. In analysing the current study findings with reference to the literature and conceptual framework, the researcher noted that, from the context of TAM (Davis, 1986) including extended TAM model built by Venkatesh *et al*., (2003), as discussed in the preceding paragraphs, employees' perceptions to the newly implemented CBS at ABC were not homogeneous within the Bank or among job functions or CBS modules. From the context of employee behaviour, IT and performance, the researcher noted that desired improvements the newly implemented CBS aimed bringing at ABC were not fully realised due to mostly negative and / or mixed perceptions employees had at ABC in relation to their CBS implementation. The researcher further noted that these negative and/or diverse perceptions were largely as a result of their reactions to various factors identified in the literature framework such as user training (Machogu and Okiko, 2012, Sandulli et al., 2014), process automation and alignment (Beimborn *et al.*, 2007; Gadge, 2017), communication and commitment of leaders (Bharadwaj, 2000; Sharma and Mani; 2012; Nath *et al.*, 2014; Mekpor and Dartey-Baah (2017), and IT adoption decisions (Grant, 1991; Anandarajan *et al.*, 2000, Tan and Teo, 2000; Nath *et al.*, 2014).

4.4 Some Specific Actions based on preliminary research findings

Thorpe and Holt (2008) identified AR as an informed investigation into an actual organizational problem that will generate an actionable solution to the issues. As Greenwood and Levin (2007) argued, problem analysis and problem-solving aspect of AR is a collaborative process which involve the action researcher and various other stakeholders, and one of the dimensions of AR according to Coghlan and Brannick (2010) is the real time nature. Accordingly, based on the preliminary research findings, the researcher decided to engage with ABC's senior executives and agreed that there are some immediate actions that can be taken to address some of the issues identified.

From the deep dived analysis of ABC employees' behaviour through their interview results and prior empirical findings, it was visible that majority of coded categories are interrelated to each other and there are a few dominant coded categories that directly or indirectly impact the responses of other coded categories. Accordingly, the researcher decided to identify these dominant coded categories since the objective is to take some immediate organisational actions based on employee responses and such actions should be able to address a majority of negative responses. Two dominant issues identified based on the employee reactions, which also impact other coded categories, were issues associated with training and leadership behaviour.

ABC accordingly took some specific actions, based on these key observations, to address the issues associated with CBS implementation and mitigate the negative responses from employees which is illustrated in figure 5 below which highlights four steps associated with the AR cycle.



(Figure 5 – AR cycle - Taking some specific organisational actions)

One of the key issues identified from employees' responses that resulted in negative behaviour was inadequacy of training together with limited post implementation

support. From the analysis of employees responses, the researcher noted that training and post implementation support directly or indirectly impact the responses for a number of other coded categories such as employees reactions to; user friendliness, added functionalities, flexibility, reporting efficiency, ability to do the job with a lesser time, reduction of manual processes, improvement to process flow and process alignment. Accordingly, it was critical that ABC's senior executives deal with the issues associated with training and post implementation support which could mitigate negative reactions to a majority of coded categories. Following a robust discussion including two brainstorming sessions, ABC's senior executives decided to engage a CBS service provider to provide additional one month onsite post implementation support to ensure all key system issues flagged by employees are resolved and employees are provided with adequate training. As identified in one of the brainstorming sessions with ABC senior executives, more focus of this post implementation support was provided to specialised modules such as custody and AML where employees needed more training than generic CBS modules. The post implementation support also included specialised training on system functionalities, reporting capabilities including how users can create customised reports, and automation of specifically identified manual processes. Additionally, it was decided to introduce a dedicated IT help desk system to log and resolve all CBS related issues employees may have.

Another concern raised by the employees was effectiveness of communication and commitment of leaders which indicated limited focus on employee engagement. The researcher discussed these concerns which were based on preliminary research findings with ABC's senior executives. There were a few more senior management meetings where ABC's senior executives had in-depth discussions on how to improve overall employee engagement in the Bank. Following these multiple discussions, the Bank decided to introduce more employee engagement tools starting with regular round table discussions with specific functions and/or departments. The Bank also introduced quarterly town-hall meeting to engage employees and provide key business updates including updates about the CBS. Additionally, a breakfast meeting with the

CEO was introduced where each function or department directly meets the CEO that allow employees to ask questions or make suggestions while the CEO provides key developments about the Bank and its employees.

The researcher notes the assessing of effectiveness or outcome of those actions can take time and is outside of the time span of this research. However, the researcher was able to assess some specific outcomes through discussions with a few participants and also by referring to management reports. In one case, the researcher spoke to two participants who previously provided negative comments about communication and commitment of leaders. Both these participants (*Participant No. 07, an Employee at back Office job function, and Participant No. 18, an Assistant Manager at Back Office job function)* spoke positively about the newly introduced round table discussions where they were able to ask not only about any question on CBS but also any other generic questions. In another case, the researcher was able to review 36 management reports, that contained IT helpdesk tickets logs, prepared by the IT department. These IT helpdesk logs highlighted that the number of IT helpdesk tickets (i.e. issues) had gone down after the additional post implementation support was implemented which highlighted that the specific action had produced the intended results.

Chapter 5 - Summary and Conclusion

5.1 Introduction

In this chapter, the researcher's key focus was to evaluate the actions. The researcher first summarises the study he performed including the conceptual framework and research methodology. The researcher then discusses and reflects on his journey as a scholar practitioner. The reflections made throughout the research process across various stages are discussed including the framing and reframing performed and learnings made. The researcher then moves into a discussion on the actionable knowledge generated through this research which provides solution to a workplace based problem and also contributes to management knowledge. Finally, the researcher reflects on his research by identifying limitations and further research areas.

5.2 Journey as an Action Researcher

5.2.1 The Research, Conceptual Framework and Research Methodology

ABC, the bank where the researcher has been working as a senior executive, implemented a new CBS with the aim of improving overall performance. A number of assumptions such as enhanced employee satisfaction and productivity, integrated processes, reduced current employee cost through automated processes, and improved management reporting, etc had been made in implementing this new CBS, and the researcher decided to investigate if ABC was able to achieve the objectives the CBS aimed bringing to ABC. More specifically, the aim of the researcher was to examine employee behaviour in relation to the newly implemented CBS of ABC. Three research questions, as presented below, were developed to conduct this study under the theme of *'CBS and employee behaviour'*.

RQ1: How have ABC employees reacted to the CBS?
RQ2: Has this reaction to the CBS been positive or negative in terms of their perceptions?
RQ3: Has the reaction hindered the desired improvements the CBS aims bringing?

To begin the project, the researcher first developed a conceptual framework by building a theoretical scaffolding around the research topic. This includes identifying three key components or relationships of the study – *'employee behaviour and IT (generic)', 'CBS implementation and employee behaviour',* and *'employee behaviour, IT and performance'*. Since employee behaviour could take a broader scope which is generally understood as the reaction of employees to specific situations at workplace, the researcher narrowed the scope by examining the behaviour of ABC employees in response to the implementation of their new CBS only. Based on the conceptual framework, the researcher then conducted a comprehensive review of prior empirical findings under three key relationships identified in the conceptual framework. To enhance the relevance, the researcher focused more on industry specific empirical findings without compromising the rigor. Accordingly, 55% of prior empirical findings reviewed under CLR chapter represents industry specific (i.e. banking specific) literature. Being a practitioner oriented action research, equal consideration was given to enhance *'rigor'* as well as *'relevance'* of the theoretical scaffolding of this research.

In building the conceptual framework, as explained in the CLR chapter, the researcher reviewed the TAM (Davis, 1986; Davis, 1989), a model that is used to study IT acceptance behaviour of users. More specifically, the researcher reviewed an extended study on TAM conducted by Venkatesh *et al.*, (2003) whose findings highlight how employees' age, gender, experience and voluntariness of use impact performance and effort expectancy, social influence and facilitating conditions.

As explained in the CLR chapter, although there was some rich literature that partially explained or supported research questions, the researcher found a number of limitations in its' direct applicability to ABC and its research questions. Some of these material limitations included *'limited number of empirical findings on CBS and components of CBS', 'lack of uniformity in the empirical findings', 'material differences of research sites of these empirical findings with that of ABC', 'material*

differences of demographic factors of employees of ABC with that of other empirical findings', and none of these empirical findings provided a complete solution or answer to the research questions. CLR accordingly encouraged the researcher to conduct this study since the research could clearly fill a gap in existing literature.

To conduct this research, as an insider researcher, the researcher took AR approach and applied case study research design. The researcher was encouraged to take AR approach since AR is a context bound a holistic and collaborative set of activities that can produce two outcomes - *a solution to lively business case* and *contribution to management knowledge* (Greenwood and Levin, 2007). Further, as Thorpe and Holt (2008) noted, AR can be identified as an informed investigation into an actual organizational problem that could generate an actionable solution to the issue. The researcher believes that he was influenced by his constructionist epistemology (Easterby-Smith *et al.,* 2012) in selecting the case study approach which facilitates him to study a problem with real-life contemporary context (Yin, 2009) in providing a rich picture of this single case. The researcher strongly believes these theoretical interpretations strengthened both the rigor and relevance of applying AR with case study approach into this research project with an in depth understanding of the behavior of employees in relation to the new CBS of ABC.

The researcher used qualitative research approach in conducting this research. The researcher used a quota-sampling technique which is a non-probability sampling technique in selecting the sample of approximately 1/3 of the total population of 62 employees. Employees were categorised under different groups and sub groups to ensure the selected sample reasonably represents the population that strengthens both rigor and relevance of data collection process. To collect qualitative data, the researcher conducted in-depth one to one semi-structured interviews on various discussion topics developed within the key research questions. The data was then analyzed through various *'themes'* and *'codes'* to identify various patterns.

5.2.2 Reflection – Scholar Practitioner Transformation Process

The researcher began his DBA journey in 2012 with the aim of becoming a Scholar Practitioner who, according to Tenkasi and Hay (2004), can truly bridge the gap between theory and practice. The researcher had a dream of becoming a professional who truly got the membership of both academic and practice worlds – a *'Semiotic Broker'* according to Astley and Zammuto (1992) or a *'Boundary Spanner'* according to Huff and Huff (2001). The researcher, being a practitioner, was encouraged to take action learning and research approach to his DBA journey, since 'action learning involves engagement with real issues, rather than with fabrications, is both scientifically rigorous in the confronting the issue and critically subjective through managers learning in action' (Coughlan and Coughlan, 2008), where a scholar practitioner can directly apply same to the field of management and business administration.

Since the beginning of his DBA journey, the researcher has been able to build a comprehensive knowledge framework around various management dynamics through six academic modules namely *'change and crisis management', 'knowledge creation' 'leadership and community', 'complex adaptive systems', 'decision making with risk and uncertainty',* and *'ethics and sustainability'*. The researcher, being a practitioner, have been living with these dynamics on a day today basis, hence building a sound knowledge base on these dynamics through DBA studies was a true value addition to the researcher in his scholar practitioner transformation process. In addition, the researcher was able to build a strong theoretical as well as practical knowledge base on practitioner oriented research with various research dynamics studied and examined through three academic modules in the DBA journey namely *'doctoral practitioner', 'management research'* and *'action research and action research thesis'*. By undertaking these academic modules through action learning environment where each academic module was completed with an action learning project relating to a work place based problem, the researcher was able to explore all the dimensions of scholar practitioner process while establishing a strong foundation to conduct a comprehensive action research in any research setting. The researcher believes he was able to substantially enhance his critical thinking and reflection skills through the

DBA journey, with a greater understanding of various philosophical assumptions applicable to his position, different research paradigms and methods, insider research dynamics, challenges of conducting an insider research, steps of conducting research including data generation and analysis, and how to ensure scientific rigor and relevance of the research.

With this backdrop, the researcher moved into the final stage of his DBA journey by undertaking an action research on the relationship between CBS and employee behaviour at ABC. The researcher identified a complex or *'wicked'* problem (Rittell and Webber, 1973) from his workplace and was able to develop some effective or *'great'* questions (Marquardt, 2007) that could empower people and instill in them a sense of their own strength and efficacy. Having learned the significance of developing strong stakeholder management process, the researcher was able to effectively interact with all stakeholders relating to this research which includes working with some difficult stakeholders who got divergent thinking patterns. Since divergent thinking is identified as an integral part of creative problem solving process (Brockner and James, 2008), the researcher decided to engage instead of avoid those stakeholders.

As an insider action researcher, before and during the study, the researcher took reasonable consideration to manage various AR dynamics such as access, preunderstanding, role duality, and political and ethical considerations (Bell and Bryman, 2007; Coghlan and Brannick, 2010). In addition to meeting all the requirements in the rigorous ethical approval process at the UOL, the researcher, as an insider researcher, took various other steps to ensure that AR dynamics of the project is managed effectively. One key step was the formal approval obtained from the CEO of ABC to conduct the study that enabled the researcher to use ABC as the research site, collect data from internal records of ABC most of which included confidential data, and approach ABC employees to collect data via interviews. The researcher also used *'participant information sheet'* and *'participant consent form'* to ensure the participants make an informed and voluntary decision about their participation that

ultimately help managing political and ethical considerations. In addition, to generate data in an unbiased and effective manner, the researcher learned the need to establish a situation where ABC employees feel comfortable in responding to questions and expressing their views. The researcher believes that he was able to mitigate any potential access barriers by obtaining a trust with employees and having an effective social interaction as suggested by Easterby-Smith *et al.,* (2012). For example, one manager and two junior employees said that they will generally not express their true views about specific discussion topics, however, since they trust that the researcher, despite being a senior executive of ABC, does not (and has not in the past) take(n) their views personally or against them, they will share their true views. The researcher subsequently noted that the views of these employees to a number of discussion topic relating to leadership, communication, training, user-friendliness etc were negative.

Similarly, the researcher learned how to effectively manage another AR dynamic 'preunderstanding' which is the knowledge, insights or experience of the researcher before he commenced the study (Brannick and Coghlan, 2007). With several years of industry experience, the researcher was aware most of the issues and information relating to the research site and research topic, and made some assumptions accordingly. While most of these assumptions proven correct, there were a few instances where researcher's assumptions proven wrong. For example, the researcher prior to undertaking the research assumed that training on the CBS was not positive, integration of the CBS modules was a key benefit, reporting efficiency was a positive factor, and staff cost would go down after implementing the CBS due to automation of some time-consuming manual tasks specially at operational level. While assumptions on training and integration were proven correct, based on the analysis of research data, the researcher found that his assumptions about reporting efficiency and staff cost were not correct. Since the researcher had learned that he needed to have a rigorous reflection on experience, integration, and introspection to expose underlying assumptions in his research (Argyris *et al.,* 1985), he was able to mitigate the risk of over relying on his assumptions. This was achieved by having epistemic reflectivity with regular analysis of lived experience and their various methodological or

theoretical presumptions (Coghlan and Brannick, 2010). As a practice, the researcher has been maintaining a diary and kept journaling on various issues as and when there was a new development or observation throughout the research journey. Although this was informal and done in addition to formal interview record keeping process, it helped the researcher to reflect on various assumptions, developments, and comments made by some participants relating to the research throughout the study.

The researcher also learned the significance of factoring political and ethical considerations throughout the research project since there is a need to maintain the credibility as an astute political player and strong change driver by effectively assessing power, influence, and interest of the stakeholders. As Coghlan and Brannick (2010) argued, AR integrates first-person research to the second person and third person researches, and balancing all three is a challenge that involves sensitivity issues, ethical and political considerations. The researcher believes that he was able to evolve as a *'political entrepreneur'* (Bjorkman & Sundgrenn, 2005) by establishing an effective relational platform throughout the research process which ultimately enhances legitimacy and credibility of the research.

As Revans (1998) argued, there is no learning without action and no action without learning. Throughout the research, learning and critical reflection helped the researcher to frame and reframe the study that involves strategies of combining individual learning to organizational learning. After the research framing was done at the initial stage, the research has been subject to a number of reframing exercises based on the learnings made at different stages. The first learning and reframing were done based on the comments from the primary supervisor who suggested that the researcher consider expanding the qualitative research component of the thesis proposal and develop some specific research questions within the scope of the research topic. With this initial learning and reframing, the researcher moved into the conceptual development where the second reframing occurred. This reframing was done based on the comments from the secondary supervisor as well as direct learnings of the researcher. Based on secondary supervisor comments, the researcher enhanced

the CLR chapter by presenting empirical findings of CBS implementation in a new paragraph, increasing the weight on the analytical side of the literature, and specifying the scope of the employee behavior limiting it in relation to CBS implementation. In addition, the researcher, having learned the need to enhance the relevance of this action research, decided to increase the number of industry specific empirical findings in building the theoretical scaffolding around the research topic and 55% of the literature reviewed in the CLR chapter represent industry-specific literature as a result. The third learning and reframing occurred at data collection and analysis stage. After developing initial semi-structured interview questions / discussion topics, the researcher conducted a 'pretest' by recruiting two of the work colleagues, and their responses influenced the researcher to refine some discussion topics with the aim of improving participants understanding, increase average interview time from 45 minutes to 60 minutes, and limit one discussion topic only to manager and above grade employees. Final learning and reframing were done at data analysis and interpretation stage. For example, the researcher, in the early stage of the research, assumed that he can find a relationship between CBS adoption and factors like age, gender, level of education, and experience etc, based on the prior empirical findings of Venkatesh *et al.*, (2003) who did an extended study on TAM and identified a pattern on how age, gender, and experience influence performance or effort expectancy and social influence, which are the determinants of IT user acceptance and IT usage behaviour. However, from the analysis of participants' responses, the researcher was unable to establish any pattern between these factors – positive or negative. The researcher, having learned the outcome of ABC data analysis, reframed the data analysis and interpretation to present this new behaviour / finding which was not assumed at the initial stage of the research, and provided a new insight into the research outcome.

As Mezirow (1991) noted, the researcher believes that he has considered all three forms of reflection in this research project – *content reflection* (thinking about the issues, what I think is happening), *process reflection* (thinking about strategies, procedures and how things are done), and *premise reflection* (critique underlying

assumptions and perspectives). As elaborated in the preceding paragraphs, at the different stages of the research which includes building thesis proposal, initial literature review, data collection and analysis and interpreting results , the researcher applied critical thinking and reflected same in the outcome. Overall, these learnings and reflections made researcher more adept and confident about the overall research process and outcome. At the conclusion stage, when the researcher looks back the work accomplished on this research, he believes that he has established *'a good story'*, *'rigorous reflection on this story'*, and *'extrapolated theory and usable knowledge by reflecting the issues'*, which are, according to Coghlan and Brannick (2010), three critical components an effective AR project should have.

From a forward looking standpoint, the research journey made a material influence and impact to the researcher (being a banking practitioner holding a senior leadership position in the business) in making future leadership decisions. From various learnings and reflections made throughout this research journey, the researcher is now fully aware of various behavioural factors of employees that influence their reaction to various organisational actions including leadership decisions. The researcher, being a senior executive, is directly involved in the strategic decision making process of the Bank which includes key capital expenditure projects of the Bank. The researcher's understanding on what went wrong and what went well in implementing the new CBS, which is a major capital expenditure project of the Bank, provides a solid basis in making future leadership decisions relating to any major capital expenditure project. For example, in implementing a future project, the researcher needs to engage all the participants (i.e. employees) throughout the project and not limiting it to the beginning and ending spaces only. In addition, the participants should be provided with regular communications about the project to ensure their full buy in. If the researcher is involved in decision making and implementation of any future technology related project, either at ABC or any other smaller bank similar to ABC, he now knows that selecting a pattern on how age, gender, experience found in the extended TAM model of Venkatesh *et al.,* (2003) may provide limited relevance. Based on the analysis of ABC employees' responses, the researcher knows it will be

more logical to differentiate employees based on the modules (generic versus specialised) they use in a future CBS releted project. In further reflection, the researcher believes he, being a senior finance practitioner, historically gave a significantly higher weight on financials or quantitative factors in making key strategic decisions while a limited attention was paid to qualitative factors. For example, in building a business case for a project, the researcher used various financial models to analyse the financial viability through various performance measures such as return on assets, net present value or profitability etc while a very limited weight was applied to assess the viability from qualitative, human or relational aspects. This AR based case study which used qualitative data such as various behavioural factors of employees, changed the researcher's thought process and influenced the researcher to equally factor various qualitative data which includes taking various human and relational aspects into consideration in making any future strategic decisions. The researcher believes this is also a key learning outcome he gained through his scholar practitioner transformation process.

5.3 Actionable Knowledge and Contribution to the Management Literature

ABC had a number of expectations of implementing new CBS some of which included increasing employee satisfaction and productivity, reducing current employee cost through automated processes, and improving management reporting, which could ultimately lead to a better organisational performance. These expectations or assumptions have never been supported though an analysis, and as a senior executive at ABC, the researcher has observed that some of these expectations have not been met. For example, after six months of implementing the new CBS, there has not been a material improvement in the performance, and some employees have still been raising some concerns about user friendliness, lack of training etc. Therefore, the interest to do the research and subsequent actionable knowledge was in the first place to empirically examine whether these expectations or assumptions were met or not, and then how to make sure ABC change in the new CBS is effective.

ABC could be differentiated from conventional banks due to one or more characteristics. ABC is a 100% privately owned small bank that operates in a small Island economy which has significantly higher GDP but stagnated during last few years with no material economic growth. The customer base of ABC represents corporates and high net worth individuals as opposed to a mass scale retail banking operation. Since the corporate and high net worth customers have multiple requirements some of which are complex as opposed to standard retail banking offerings, the need for specialised CBS modules such as Custody, FX, and Investments etc increases. In addition, ABC has a significantly higher per employee cost, operates in a flat organisational structure, and employs expatriates on all senior management and specialised job roles where their service with the Bank is less than five years.

The outcome of the data analysis, which highlighted deep dived findings of this research, was discussed in the 'Results and Discussion' chapter. The researcher conducted data analysis of the theme *'CBS and employee behaviour'* based on the coded categories / discussion topics developed around the theme which was exclusively a qualitative study, and the results of the analysis with key findings were then interpreted.

In summary, from employee behaviour standpoint, the researcher found that responses of employees at ABC to their new CBS were not homogeneous within the Bank, and among different job functions and modules or components of the CBS. The majority of employees at ABC reacted negatively to the new CBS while employees who mainly use modules of GL, Treasury and FX reacted positively.

The desired improvements the CBS aimed bringing at ABC included increasing employee satisfaction and productivity, reducing current employee cost through automated processes, and improving management reporting, which could ultimately lead to a better organisational performance. From the examination of qualitative data analysis, however, the researcher found that these initial assumptions about desired

improvements have not been fully realised after six months of implementing the new CBS at ABC. This was evident through majority negative reactions of ABC employees to various discussion topics about employee perceptions that ultimately hindered the desired improvements the CBS aimed bringing to ABC. For example, majority of ABC employees negatively reacted to discussion topics such as training, post implementation support, reporting efficiency, manual processes, process alignment, communication and commitment of leadership etc which ultimately hindered the desired improvements the ABC aimed bringing through the new CBS.

This research provides some key contributions to ABC, the banking industry and management knowledge in the context of CBS implementation of a small banking institution like ABC. From this examination, the researcher found that employee training, post-implementation support, communication and commitment of leadership, integration of all modules into one platform, and process alignment are critical success factors that influence the reaction of employees to a CBS, and benefits realisation and organisational performance as a result. More specifically from ABC context, this study revealed that limited or lack of training, limited post-implementation support, limited communication and commitment of leaders, and insufficient alignment of processes were some critical factors that negatively impacted the employee behaviour. Effective integration and interface of all components or modules of the CBS were identified as a strong positive factor in successful implementation of the CBS at ABC.

As Coghlan and Brannick (2010) argued, being an insider, the researcher was influenced by his 'preunderstanding' which includes both tacit and explicit knowledge. This enabled the researcher to know both public and private life of the research site and made some assumptions about the anticipated results of employee behaviour to the new CBS. Some of the findings of this examination which included *'lack of training'* and *'effective integration'* etc., confirmed the researcher's assumptions which were based on his preunderstanding. However, there were some other findings that the researcher did not completely anticipate. For example, the

researcher assumed positive responses to *'communication of leaders', 'reporting efficiency',* and *'reduction of manual processes'* etc., whereas employees at ABC responded negatively. Also, the researcher assumed negative responses to *'job stress level'* and *'job security'* whereas the responses of ABC did not reflect a material negativity. The researcher, however, was able to objectively assess these 'unanticipated' findings through epistemic reflectivity; something the researcher has been developing throughout his DBA journey by constantly analysing lived experience and its methodological and theoretical assumptions. The researcher was also aware the risk of assuming he knows 'all the answers' when he is too close to data, as identified by Bjorkman & Sundgren (2005), which allowed him to make an objective analysis and interpretation of results.

From the context of generic IT use, the researcher's finding that increased investment in CBS does not result in positive reaction of employees or improved performance, while partially supporting the concept of *'IT Productivity Paradox'* (Shu & Strassmann, 2005), challenged prior empirical findings of Ahmadirezaei (2011) and Murari and Tater (2014) who argued for a positive correlation between IT and performance.

The CBS implemented at ABC was one of the highly recognised core banking solutions used globally, hence purely from system or technological standpoint, ABC do not need to bring any material change or enhancement. Despite this being a highly (technologically) advanced CBS, it did not bring the desired improvement ABC aimed at the beginning mainly due to various issues associated with system implementation as evidenced through the analysis of participant responses. From the context of a CBS of a small banking institution, the researcher accordingly argues that mere capital investments in CBS does not result in positive behaviour of employees unless such investment is strongly supported by critical factors such as employee training, post-implementation support, alignment of processes and procedures, communication of leaders, commitment of leaders, and a strong integration of all modules.

The researcher found that employee responses to the CBS were not homogeneous and cannot be generalised as a result. Reaction to the CBS from employees in different job functions as well as within the same job function was not identical. For example, Customer Service job function had employees from Treasury, Custody and Banking departments who had a divergent reaction to the CBS as a whole, and to individual discussion topics of the CBS. The researcher also found that employees who believed they had a limited support from their old technological platform to perform their job which included employees who use modules of Treasury, FX and GL reacted positively to the new CBS while employees who believed their old system or module fulfilled their user needs which included employees who use Custody module did not react positively to the new CBS. In addition, reaction to the CBS is negative from the employees who use specialised modules such as Custody and AML than standardised modules such as GL.

The researcher believes that the research results can further be reviewed in relation to leadership approaches such as situational approach to leadership (Hersey *et al.*, 2008). Accordingly, actions of leaders are influenced by various situational factors which are *'task behaviour'* (i.e. the guidance and direction provided by leader), *'relationship behaviour'* (i.e. the socioemotional support provided by leader), and *'performance readiness'* (i.e. the willingness and ability of followers to perform a specific job). As Hersey *et al.*, (2008) argued, based on the assessment of the particular situation, four leadership approaches are possible – *'high task with low relationship', 'high task with high relationship', 'high relationship with low task',* and *'low relationship with low task'*. The very first decision of ABC's leadership team to implement a new CBS can be closely aligned with more leader oriented than a collaborative approach, hence can be considered as a *'high task low relationship'* based decision. ABC Leaders made several assumptions in deciding to go ahead with a new CBS but did not demonstrate a critical reflection of their own assumptions. As Raelin (2003) argued, if decision-making is based on situational approach, leaders need to demonstrate a sense of both personal and collective reflectiveness. The researcher accordingly identifies a limited or lack of personal and collective reflectiveness as a weakness in the leadership

approach at ABC with regard to the CBS decision-making process. Based on the analysis of responses provided by employees, it is also visible that there was a limited engagement of employees during (and six months after) the implementation of the CBS. Most of the employees viewed communication and commitment of leadership team was limited, and commitment was more towards achieving the go-live deadline than a holistic view of achieving the overall objectives of the CBS. This, once again, highlights a more *'high task and low relationship'* type leadership approach which limits the collaboration. As Babakus *et al.,* (2003) identified, there is a high correlation between employees' perceptions of management commitment to service quality, and their job satisfaction & organizational commitment. This means, when ABC employees view commitment of their senior management as a negative factor, their level of satisfaction and commitment to the business will also be weak or negative.

The researcher, being an insider of ABC, is aware that performance readiness level of employees at ABC is not identical where their ability and willingness to perform a task vary from person to person. Applying a *'high task low relationship'* approach across the board, according to the researcher's view, fails to capture diverse performance readiness level of employees, which is evident from negative comments from employees about lack of engagement in the CBS implementation project, and limited communication and commitment of leaders.

The researcher believes that some notable negative reactions of employees at ABC, which included lack of training, process alignment, and reporting efficiency etc could have been addressed at the early stage of the implementation, had the leaders demonstrated a sense of personal and collective reflectiveness in their decision-making process which would have allowed them to objectively assess both task and relationship behaviours taking into account performance readiness level of employees at ABC. Additionally, from organisational context, as Schneider (2000) argued, to achieve the full benefit of a change or a new leadership strategy, leaders need to identify organisations as living, a social organism who got its own character, culture,

and identity. Organisation should not be identified as a machine because, although it may have machine like characteristics, they are communities of people who must serve the needs of community. Based on the responses from employees at ABC, it is visible that ABC leadership team decided to introduce a new CBS with the aim of improving organisational performance but was not successful in getting all the employees engaged. ABC leadership team was also unable to fully understand the basic prerequisites employees would expect from leadership such as providing sufficient training, addressing process alignment issues, and automating manual processes etc (i.e. fail to understand that ABC should be considered as a living, social organism and not a machine).

From ABC context, based on the analysis of qualitative data, the researcher identified specific recommendations that senior leaders of ABC need to consider as a short to medium term basis. These specific recommendations are summarised below.

The researcher recommends that senior leaders of ABC conduct a thorough training needs analysis and fill those training gaps of employees as an immediate requirement. This would be a corrective action that can address the immediate employee concerns of training of functionalities of the system especially on specialised CBS modules such as AML and Custody etc. From a forward looking perspective, the ABC leaders could take a number of strategies and actions that would add as not only corrective but most importantly preventive actions. Given the system is now over six months old, senior leaders of ABC need to identify gaps in the post system implementation support and incorporate such gaps into overall training strategy. It is also recommended that the training strategy is expanded not only to the operational aspects of the CBS but also to its reporting capabilities since reporting efficiency specially from business and operational standpoints were identified as insufficient. Also, since the CBS of ABC contains not only standard CBS modules but also some specialised modules such as Custody and AML, senior leaders of ABC should pay more attention and allocate more resources to these specialised modules to ensure that all employees are sufficiently equipped with the knowledge and training on functionalities. The

researcher also recommends that ABC conduct a comprehensive review of its operational processes to ensure that all processes are aligned with overall strategic objectives, and manual processes are eliminated or substantially reduced with automated processes. Given overall negative employee reaction on communication and commitment of leadership, it is recommended that communication strategy of the Bank be reviewed and reorganised, and leadership gaps are addressed as a strategic priority since quality of supervision, effective communication of leaders and employee involvement have a strong positive relationship with IT adoption, employee satisfaction, and performance (Sharma and Mani, 2012; Amah and Ahiauzu, 2013; Nath *et al.,* 2014).

The researcher recommends that the senior leaders of ABC consider taking a situational approach to leadership (Hersey *et al.,* 2008) demonstrating a sense of both personal and collective reflectiveness (Raelin, 2003). However, a careful assessment of performance readiness level of employees must be an integral part of the decision making process at each level since this study clearly demonstrate employee responses to their new CBS is not identical which highlights their different performance readiness level and divergent thinking patterns.

5.4 Limitations, Further Research, and Conclusion

This research was an examination of employee behaviour in relation to the newly implemented CBS of ABC, a small and less conventional banking institution. On this context, although most of the findings can apply to the banking industry, the relevance of specific findings will be strong if the user of these findings represents a bank having a similar profile of ABC. For example, if a less conventional small bank in a small Island jurisdiction intends to implement a new CBS, the leaders of such banking institution can directly use the findings of current research at both planning and implementation stage of the new CBS. These banking leaders can use the findings to understand potential behaviour or responses of employees, plan the project to ensure that they get employees full buy in into the project, understand that they have to

allocate more weight to specialised core banking modules than generic modules, and structure the CBS implementation to ensure that both their employees and customers demonstrate a positive behaviour which could ultimately lead to improved performance.

It is however possible that employees in larger conventional retail banks or banks in a larger jurisdiction where access to resources is a less challenge than a small bank in a smaller jurisdiction could react differently to the reaction of ABC employees to the CBS. For example, prior empirical studies done on Iranian (Ahmadirezaei, 2011) and Indian (Murari and Tater, 2014) banking sectors revealed that IT has a positive correlation with performance of banks by increasing operational efficiency and reducing operational cost. Similarly, from Indian urban co-operative banks standpoint, Gadge (2017) found that CBS positively influences key performance indicators of banks. These findings, although some are on generic IT systems than specific CBS, contradicted with the findings made in the current study where such a positive correlation was not supported. One possible reason for such contradictory results could be due to geographical or demographical differentiations, which can further be verified by undertaking a similar study on CBS of banks having different geographical or demographical factors to ABC.

Although there are a number of prior empirical findings on banking and a few on CBS, the researcher found some key limitations in its direct applicability to ABC. For example, prior empirical findings by Anadarajan *et al.*, (2000) on banks in lesser developed countries; Beimborn *et al.*, (2007) on four retail bank branches of a German bank; Dasgupta *et al.*, (2000) on Greek banking industry; Nath *et al.*, (2014) on CBS usage of Indian banking sector, Gadge (2017) on CBS of Indian urban co-operative banks, Prasad and Harker (1997) on retail banks in the USA, and Mekpor and Dartey-Baah (2017) on Ghanaian banking sector, are all different to the current research site by one or more characteristics because ABC is a non conventional, non retail bank that cater mainly for the corporate and high networth customer base, in a small Island economy.

As explained at the CLR chapter, some of the key limitations in the prior empirical findings and its direct applicability to the research site included lack of uniformity in the prior empirical findings, material differences in the research sites due to various geographical, social and economic factors, differences in demographical factors of employees, and limited studies on the CBS and components of the CBS. The researcher accordingly believes that a similar study on the CBS and components of the CBS can be conducted on banks having different profiles to ABC such as larger banks, retail banks, and custodian banks or investment banks who use some specialised modules of the CBS such as Asset Management or Custody. Similarly a study on the CBS or components of the CBS can be conducted on banks having similar profiles to ABC such as a small bank with a customer base representing corporate and high net worth individuals, but operating in a different jurisdiction either an another small economy or a country with a larger geographic presence. The results of such studies can be compared with the results of ABC to examine if ABC findings on employee behaviour are consistent across the banking industry irrespective of its demographic or geographic differentiations, hence confirm generalisability (or divergent behaviour pattern).

In conclusion, the researcher notes that he was able to explore various dimensions of action research highlighted by Coghlan and Brannick (2010) through this research, some notable dimensions include change focus, divergent thinking patterns, need for a breadth of preunderstanding of ABC's business, real-time nature, and complex action knowledge generation process.

Human resources is considered to be the lifeblood of the organisation (Fitz-Enz, 2000), performance readiness level which is the ability and willingness to perform a specific task vary from employee to employee (Hersey *et al*., 2008), and bank employees understanding or perception on the role of technology is not identical (Murrari and Tarter, 2014). As discussed previously, the decision of ABC leaders to implement a new CBS was based on some high level assumptions such as new system

will strenghthen employee satisfaction and productivity. Since these assumptions had never been verified through any technical or empirical analysis, it was critical that the researcher conducted the current study to empirically examine how the new CBS at ABC impact the employee behaviour. There was no prior research conducted on employee behaviour in relation to CBS of a small bank like ABC. Through the study, the researcher argues;

1) Employee reaction to a new CBS of a small bank like ABC is not homogeneous within the bank, and among different job functions and modules of CBS;
2) Employees who believe they had a limited support from their old technological platform to perform their job, react positively to a new CBS while employees who believe their old system or module fulfilled their user needs do not react positively to a new CBS;
3) Reaction to a CBS is negative from the employees who use specialised modules such as Custody and AML than standardised modules such as GL, with regard to a standard CBS implementation of a small bank like ABC;
4) Employee training, post-implementation support, communication and commitment of leadership, integration of all modules into one platform, and process alignment are critical success factors that influence the reaction of employees to a CBS, and benefits realisation as a result, and;
5) Mere capital investments in a CBS does not result in positive behaviour of employees unless such investment is strongly supported by critical factors such as employee training, post-implementation support, alignment of processes and procedures, communication of leaders, commitment of leaders, and a strong integration of all modules.

Based on the study conducted, the researcher made some specific recommendations to the senior leaders of ABC that could directly assist them in taking both corrective and preventive action to their lively business issue, both as short term and long term solutions. The researcher's above findings can be directly applicable to banks having similar profile to ABC and banking practitioners in their decision making process of

CBS implementation. The researcher accordingly believes this study generates actionable knowledge that is beneficial to both ABC and banking practitioners, and makes a notable contribution to management literature on the banking industry.

Notes

i. The researcher currently works for one of the commercial banks in Bermuda. For the purpose of this research, the Bank is identified as "ABC" - a fictitious name assigned since the actual name of the Bank needs to be kept confidential.

ii. In 2012 Ventakesh *et al.* (2012) extended their research to cover the consumer acceptance aspect of the IT. Although this is an addition to previous '*user*' acceptance model, it does not alter or challenge the findings of user acceptance model from employees' perspective; rather it further validates the original findings. Bandyopadhyay and Fraccastoro (2007) citing that the study of Ventakesh *et al.* (2003) is limited to the US context, conducted a study in India focusing more on the impact of culture. Their findings, however, do not change the core findings of Venkatesh *et al.* (2003) rather it encourages to focus more on a few components of the same model.

Bibliography

Adams, D. A; Nelson, R. R. & Todd, P. A. (1992) 'Perceived usefulness, ease of use, and usage of information technology: A replication', *MIS Quarterly*, 16(2). pp.227-247.

Ahmadirezaei, H. (2011) 'The Effect of Information Technology in Saderat Banking System', *Procedia - Social and Behavioral Sciences*, 30, 2nd World Conference on Psychology, Counselling and Guidance - 2011, pp.23-26.

Al-Laith, A. G. (2012) 'Adaptation of the Internal Control Systems with the Use of Information Technology and its Effects on the Financial Statements Reliability: An Applied Study on Commercial Banks', *International Management Review*, 8(1), pp.12-20.

Amah, E, & Ahiauzu, A (2013) 'Employee involvement and organizational effectiveness', *Journal Of Management Development*, 32(7), pp. 661-674.

Anandarajan, M., Igbaria, M., & Anakwe, U.P. (2000), 'Technology acceptance in the banking industry: A perspective from a less developed country', *Information Technology & People*, 13(4), pp.298-312.

Argyris, C., Putnam, R., and Smith, D. (1985) *Action Science*, San Francisco: Jossey-Bass.

Astley, W. G., & Zammuto, R. F. (1992) 'Organization science, managers, and language games', *Organization science*, 3(4), pp.443-460.

Attiq, S., Wahid, S., Javaid, N., Kanwal, M., & Shah, H. J. (2017) 'The Impact of Employees' Core Self-Evaluation Personality Trait, Management Support, Co-worker Support on Job Satisfaction, and Innovative Work Behaviour', *Pakistan Journal of Psychological Research*, 32(1), pp.247-271.

Baard, S.K., Rench, T.A. & Kozlowski, S.W.J. (2014) 'Performance adaptation: A theoretical integration and review', *Journal of Management*, 40(2). pp.48-99.

Babakus, E., Yavas, U., Karatepe, O. M., & Avci, T. (2003) 'The effect of management commitment to service quality on employees' affective and performance outcomes', *Journal of the Academy of marketing Science*, 31(3), pp.272-286.

Bagozzi, R. P.; Davis, F. D. & Warshaw, P. R. (1992) 'Development and test of a theory of technological learning and usage', *Human Relations*, 45(7). pp.660-686.

Bandyopadhyay, K. & Fraccastoro, K.A. (2007) 'The effect of culture on user acceptance of information technology', *Communications of the Association for Information Systems*, 19(1), p.23.

Beimborn, D.; Franke, J.; Wagner, H.-T. and Weitzel, T. (2007) 'The Influence of Allignment on the Post Implementation success of a Core Banking Information System – An Embedded Case Study', *Hawaii International Conference On System Sciences,* Waikoloa, HI.

Bell, E. & Bryman, A. (2007) 'The ethics of management research: an exploratory content analysis', *British Journal of Management,* 18 (1), pp.63-77.

Benbasat, I.& Barki, H. (2007) 'Quo vadis, TAM?', *Journal of the Association for Information Systems,* 8(4). pp.211-218.

Berger, P.L and Luckman, T. (1966) *The Social Construction of Reality*. London: Penguin.

Bharadwaj, A. S. (2000) 'A resource-based perspective on information technology capability and firm performance: an empirical investigation' *MIS quarterly*, 24(1). pp.169-196.

Björkman, H. & Sundgren, M. (2005) 'Political entrepreneurship in action research: learning from two cases', *Journal of Organizational Change Management,* 18(5), pp.399-415.

Borman, W.C. & Motowidlo, S.J. (1993) Expanding the criterion domain to include elements of contextual performance. In N., Schmitt, W., Borman. eds. *Personnel selection in organizations.* New York: Jossey-Bass, pp.71-98.

Brannick, T. & Coghlan, D. (2007) 'In Defense of Being "Native": The Case for Insider Academic Research', *Organizational Research Methods,* 10(1), pp.59-74.

Bravo, R., Martínez, E., Buil, I., & de Chernatony, L. (2017) 'Brand Identity Management and Corporate Social Responsibility: an analysis from employees' perspective in the banking sector', *Journal Of Business Economics And Management,* 18(2), pp.241-257.

Brockner, J. & James, E.H. (2008) 'Toward an understanding of when executives see crisis as opportunity', *Journal of Applied Behavioral Science,* 44(1), pp.94–115.

Burgess, R.G. (1982) *Field Research: A Source Book and Field Manual*. London: Allen and Unwin.

Campbell, J.P. (1990) Modelling the performance prediction problem in industrial and organizational psychology. In M.D., Dunnette, L.M., Hough. eds. *Handbook of industrial and organizational psychology*. Palo Alto, CA: Consulting Psychologists Press, pp. 687-732.

Chandio, F. H., Irani, Z., Zeki, A. M., Shah, A., & Shah, S. C. (2017) 'Online Banking Information Systems Acceptance: An Empirical Examination of System Characteristics and Web Security', *Information Systems Management,* 34(1), pp.50-64.

Chau, P., and Lai, V. (2003) 'An empirical investigation of the determinants of user acceptance of internet banking', *Journal of Organizational Computing and Electronic Commerce,* 13(2), pp.123-145.

Chuttur, M.Y. (2009) '*Overview of the Technology Acceptance Model: Origins, Developments and Future Directions',* Indiana University, USA, Sprouts: Working Papers on Information Systems.

Coghlan, D. & Brannick, T. (2010) *Doing action research in your own organization*. 3rd ed. London: Sage.

Coughlan, P. & Coghlan, D. (2008) 'Codifying implementation guidelines for a collaborative improvement initiative', *Action Learning: Research & Practice,* 5(1), pp.39-54.

Creswell, J. W., Hanson, W. E., Clark, V. L. P., & Morales, A. (2007) 'Qualitative research designs: Selection and implementation', *The Counseling Psychologist,* 35, pp.236-264.

Creswell, J. (2013) *Qualitative inquiry and research design: choosing among five approaches*. 3rd ed. London: Sage.

Crossman, A. & Abou-Zaki, B. (2003) 'Job satisfaction and employee performance of Lebanese banking staff', *Journal of Managerial Psychology,* 18(4), pp.368-376.

Dartey-Baah, K. (2015), 'Resilient leadership: a transformational-transactional leadership mix', *Journal of Global Responsibility,* 6(1), pp.99-112.

Dasgupta, S.; Ioannidis, A. & Agarwal, D. (2000) 'Information technology adoption in the Greek banking industry', *Journal of Global Information Technology Management (Ivy League Publishing),* 3(3), pp.32-51.

Davis, F.D. (1986) *'A technology acceptance model for empirically testing new end-user information system: Theory and result'*. Doctoral Dissertation, MIT Sloan School of Management, Cambridge, MA.

Davis, F.D. (1989) 'Perceived usefulness, perceived ease of use and user acceptance of information technology', *MIS Quarterly,* 13(3), pp.319-340.

DBA Thesis Handbook (2017), University of Liverpool.

Easterby-Smith, M., Thorpe, R. & Jackson, P. (2012), '*Management research',* 4th ed. London: Sage.

Eastburn, R. & Jr.Boland, R. (2015) 'Inside banks' information and control systems: Post-decision surprise and corporate disruption', *Information & Organization*, 25(3), pp.160-190.

Fheili M.I. (2011) 'Information technology at the forefront of operational risk: banks are at a greater risk', *The Journal of Operational Risk,* 6(2), pp.47–67.

Fitz-Enz, J. (2000). *The ROI of human capital: Measuring the economic value of employee performance*. Amacom Books.

Gadge, R. (2017) 'The prior and after adoption of CBS (Core banking solution) system and its influence on KPIs (key performance indicators) in urban co-operative banks: An empirical study. In *Data Management, Analytics and Innovation (ICDMAI),* 2017 International Conference on, pp.102-110.

Garas, S., Mahran, A., & Mohamed, H. (2018) 'Internal corporate branding impact on employees' brand supporting behaviour', *Journal Of Product And Brand Management*, 27(1), pp.79-95.

Garg, S., & Dhar, R. (2017) 'Employee service innovative behavior', *International Journal of Manpower,* 38(2). pp.242-258.

Greenwood, D.J. & Levin, M. (2007) *Introduction to action research*. 2nd ed. Thousand Oaks, California: Sage.

Grant, R, M, (1991) 'The Resource-based Theory of Competitive Advantage', *California Management Review*, 33(3), pp.114-135.

Griffin, R.W. (1991) ‘Research notes. Effects of work redesign on employee perceptions, attitudes and behaviours: A long term investigation’, *Academy Of Management Journal*, 34(2), pp.425-435.

Habermas, J. (1970) Knowledge and interest, in D. Emmett and A. Macintyre (eds), *Sociological Theory and Philosophical Analysis*. London: Macmillian, pp.36-54.

Hersey, P., Blanchard, K.H., & Johnson, D.E. (2008) ‘Situational leadership®’: In: *Management of organizational behavior: leading human resources*. 9th ed. New York: Pearson International, pp.132-157.

Hesketh, B. & Neal, A. (1999) Technology and performance. In D.R. Ilgen & E.D. Pulakos. eds. *The changing nature of performance: Implications for staffing.*

Huff, A. S., & Huff, J. O. (2001) ‘Re-focusing the business school agenda’, *British Journal of Management*, 12(s1).

Johnson, J., Baldwin, J.R. & Diverty, B. (1996) ‘The implications of innovation for human resource Strategies’, *Futures*, 38(2). pp.103-119.

Kahn, W.A. (1990) ‘Psychological conditions of personal engagement and disengagement at work’, *Academy of Management Journal*, 33(1), pp.692-724.

Knorr-Cetina, K.D (1983) 'The ethnographic study of scientific work: towards a constructionivist interpretation of science’ in K.D. Knorr-Cetina and M. Mulkay (eds), *Science Observed: Perspectives on the Social Study of Science*, London: Sage, pp. 115-40.

Kreća, M., & Barać, D. (2015) ‘Comparative Analysis of Core Banking Solutions in Serbia’, *Management (1820-0222)*, (76), pp.11-22.

Kumar Behera, A.; Nayak, N.; Das, H. & Mohapatra, R. (2015) ‘An Empirical Study of the Impact of IT on Performance in Indian Service Industries’, *Global Business & Organizational Excellence*, 34(3), pp.67-78.

Kumar, S., & Sharma, M. (2017) ‘E-AGE BANKING AND ITS IMPACT ON JOB SATISFACTION OF EMPLOYEES’, *Inspira-Journal of Commerce, Economics & Computer Science (JCECS)*, 3(4), pp.198-204.

Latour, B. and Woolgar, S. (1979*) Laboratory Life: The Social Construction of Science Facts*. Beverly Hills, CA: Sage.

Levy, Y. & Ellis, T.J. (2006) 'A systems approach to conduct an effective literature review in support of information systems research', *Informing Science Journal*, 9, pp.181-212.

Machogu, A. & Okiko, L. (2012) 'The Perception of Bank Employees towards Cost of Adoption, Risk of Innovation, and Staff Training's Influence on The Adoption of Information and Communication Technology in The Rwandan Commercial Banks', *Journal Of Internet Banking & Commerce,* 17(2). pp.1-15.

Magnusson, E., & Marecek, J. (2015) *Doing interview-based qualitative research: a learner's guide*. Cambridge University Press.

Management Study Guide (2018) available at https://www.managementstudyguide.com/employee-behaviour.htm.

Marinč, M. (2013) 'Banks and information technology: marketability vs. relationships', *Electronic Commerce Research*, 13(1), pp.71-101.

Marshall, J. (1999) 'Living life as inquiry', *Systemic Practice and Action Research*, 12(2), pp.155-171.

Marshall, J. (2001) 'Self reflective inquiry practices', in P. Reason and H. Bradbury (eds), *Handbook of Action Research,* 2nd ed. London: Sage. pp.682-695.

Martin, L. and Omrani, N. (2015) 'An assessment of trends in technology use, innovative work practices and employees' attitude in Europe', *Applied Economics,* 47(6), pp.623-638.

Marquardt, M. (2007) 'The power of great questions', *T+D,* 61 (2), pp.92-93.

Mason, J. (2002) *Qualitative researching*, 2nd ed. London: Sage.

Mekpor, B., & Dartey-Baah, K. (2017) 'Leadership styles and employees' voluntary work behaviors in the Ghanaian banking sector', *Leadership & Organization Development Journal*, 38(1), pp.74-88.

Mezirow, J. (1991) *Transformative Dimensions of Adult Learning*, San Francisco: Jossey-Bass.

Misys (2016) *Core Banking Solutions – Think Outside-In Banking* [Online] Available from: http://www.misys.com/solutions/fusionbanking/core-banking/.

Mohlala, J., Goldman, G. A., & Goosen, X. (2012) 'Employee retention within the Information Technology Division of a South African Bank', *South African Journal Of Human Resource Management*, 10(2), pp.1-11.

Murari, K. & Tater, B. (2014) 'Employee's attitude towards adoption of IT-based banking services - A case of Indian private sector banks', *Competitiveness Review*, 24(2), pp. 107-118.

Nath, R.; Bhal, K.T. and Kapoor, G. T. (2014) 'Factors influencing IT Adoption by Bank Employees: An Extended TAM Approach', *The Journal for Decision Makers,* 38(4), pp.83-96.

Nadri, H.; Rahimi, B.; Lotf nezhad afshar, H.; Samadbeik, M. & Garavand, A. (2018) 'Factors Affecting Acceptance of Hospital Information Systems Based on Extended Technology Acceptance Model: A Case Study in Three Paraclinical Departments', *Applied Clinical Informatics*, 09(2). pp.238–247.

Pereira, M. (2004) 'Impacts of information systems and technology on productivity and competitiveness of the Portuguese banking sector: an empirical study', *International Transactions In Operational Research*, 11(1), pp. 43-62.

Pires, M. G., & Marcondes, R. C. (2017) 'Relevant Factors in The Post-Merger Systems Integration and Information Technology in Brazilian Banks', *Brazilian Business Review (English Edition)*, 14(2), pp.160-181.

Pradhan, R. K., & Jena, L. K. (2017) 'Employee Performance at Workplace: Conceptual Model and Empirical Validation', *Business Perspectives and Research*, 5(1), pp.69-85.

Prasad, B. & Harker, P. T. (1997) 'Examining the contribution of information technology toward productivity and profitability in US retail banking', *Wharton School Working Paper* - 97-07, University of Pennsylvania, Philadelphia.

Raelin, J.A. (2003) *Creating leaderful organizations: how to bring out leadership in everyone*. San Francisco, California: Berrett-Koehler.

Rahmanseresht, H., Mahmoudi, O., & Ghaderi, B. (2016) 'The Effect of Information Technology (IT) on Organizational Structure in Governmental Banks of Iran', *International Journal Of Management, Accounting & Economics*, 3(4), pp.246-260.

Ramsey, C. (2014) ‘Management learning: A scholarship of practice centred on attention?’, *Management Learning*, 45(1), pp.6-20.

Reason, P. and Bradbury, H. (2008) *Handbook of Action Research*, 2nd ed. London. Sage.

Reason, P. and Marshall, J (1987) ‘Research as personal process’, in D, Boud and V. Griffin (eds), *Appreciating Adult Learning*. London: Kogan Page. pp.112-126.

Reason, P. and Torbert, W.R. (2001) ‘The action turn: toward a transformational social science’, *Concepts and Transformation*, 6(1). pp. 1-37.

Revans, R. W. (1998) *ABC of action learning*. London: Lemos & Crane.

Ridwan, A. Y., & Kamili, I. (2015) ‘Designing an integrated core banking system for a medium-scale Sharia bank in Indonesia. In *Information and Communication Technology (ICoICT)*, 2015 3rd International Conference on, pp.537-542.

Rigg, C. & Trehan, K. (2004) ‘Reflections on working with critical action learning’, *Action Learning: Research & Practice*, 1 (2), pp.149-65.

Rittell, H. & Webber, M. (1973) ‘Dilemmas in a general theory of planning’, *Policy Sciences*, 4, pp.155–69.

Robinson, O. C. (2014) ‘Sampling in Interview-Based Qualitative Research: A Theoretical and Practical Guide’, *Qualitative Research In Psychology*, 11(1), pp.25-41.

Rookhandeh, N., & Ahmadi, K. (2016) ‘Exploring the Relationship between Applying Information Technology and Achieving Organizational Excellence in State Banks’, *International Journal Of Management, Accounting & Economics*, 3(2), pp.105-122.

Sandulli, F.; Baker, P. & Lopez-Sanchez, J. (2014) ‘Jobs mismatch and productivity impact of information technology’, *Service Industries Journal*, 34(13), pp.1060-1074.

Saunders, M., Lewis, P. & Thornhill, A. (2000) *Research methods for business students*. Upper Saddle River, NJ: Prentice Hall.

Scapens, R.W. and Roberts, J (1993) ‘Accounting and control: a case study of resistance to accounting change’, *Management Accounting Research*, 4(1), pp.1-32.

Schneider, B. and Bowen, D. E. (1993) ‘The service organization: Human resources management is crucial’, *Organizational Dynamics*, 21(4), pp.39-52.

Schneider, W. E. (2000) 'Why good management ideas fail: the neglected power of organizational culture', *Strategy & Leadership*, 28(1). pp.24-29.

Schon, D. (1983) *The Reflective Practitioner*. New York: Basic.

Segars, A. H. & Grover, V. (1993) 'Re-examining perceived ease of use and usefulness: A confirmatory factor analysis', *MIS Quarterly*, 17(4). pp.517-525.

Shah, A., Garg, A., Poddar, B., Aggarwal, N., Mehrotra, P., Goyal, R. & Tripathi, S. (2010) 'Indian banking 2020: making the decade's promise come true', available at: www.iba.org.in/events/FICCI-Sep10.

Shah, S. & Corley, K. (2006) 'Building better theory by bridging the quantitative-qualitative divide', *Journal of Management Studies,* 43(8), pp.1821-1835.

Shani, A.B. (Rami) and Pasmore, W.A (1985) 'Organisation inquiry: towards a new model of the action research process', in D.D.Warrick (ed.), *Contemporary Organisation Development*: *Current Thinking and Applications*. Glenview. IL: Scott, Foresman. pp.438-448.

Sharma, E, & Mani, M (2012) 'A Comparative Analysis of Employee Satisfaction in Indian Commercial Banks', *IUP Journal Of Organizational Behavior,* 11(4), pp.38-61.

Shotter, J. (1993) *Conservational Realities*. London: Sage.

Shu, W., & Strassmann, P. A. (2005) 'Does information technology provide banks with profit?', *Information & management,* 42(5), pp.781-787.

Starke, R. (1995) *'The art of case study research'*, Thousand Oaks, CA: Sage.

Subramanian, G. H. (1994) 'A replication of perceived usefulness and perceived ease of use measurement', *Decision Sciences,* 25(5–6), pp.863–874.

Tan, M., & Teo, T. S. (2000) 'Factors influencing the adoption of Internet banking', *Journal of the AIS,* 1(1es), pp.5.

TechTarget (2017) *What is core banking system?* [Online] Available from: http://whatis.techtarget.com/definition/core-banking-system.

Temenos Headquarters SA (2017) *Core Banking - Everything starts with core* [Online] Available from: https://www.temenos.com/en/solutions/products/core-banking-software/.

Tenkasi, R.V. & Hay, G.W. (2004) 'Actionable Knowledge and Scholar-Practitioners: A Process Model of Theory-Practice Linkages', *Systemic Practice and Action Research*, 17 (3), pp.177-206.

Thorpe, R. and Holt, R. (2008) *The Sage Dictionary of Qualitative Management Research.* London: Sage.

Transfield, D. (2002) 'Formulating the nature of management research', *European Management Journal*, 20(4). pp.378-382.

Venkatesh, V. (2000) 'Determinants of perceived ease of use: Integrating control, intrinsic motivation, and emotion into the technology acceptance model', *Information Systems Research*, 11(4), pp.342-365.

Venkatesh, V. & Davis, F. D. (2000) 'A theoretical extension of the technology acceptance model: Four longitudinal field studies', *Management Science*, 46(2). pp.186-204.

Venkatesh, V.; Morris, M. G.; Davis, G. B. & Davis, F. D. (2003) 'User acceptance of information technology: Toward a unified view', *MIS quarterly*, 27(3). pp.425-478.

Venkatesh, V.; Thong, J.Y. & Xu, X. (2012) 'Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology', *MIS Quarterly*, 36(1), pp.157-178.

Vivin Maharani, e.; Eka Afnan, T. & Noermijati, N. (2013) 'Organizational Citizenship Behavior Role in Mediating the Effect of Transformational Leadership, Job Satisfaction on Employee Performance: Studies in PT Bank Syariah Mandiri Malang East Java', *International Journal Of Business And Management*, 17(8). pp.1-12.

Wallace, E.; de Chernatony, L. & Buil, I. (2013) 'Service employee clusters in banking Exploring Ind's typology considering behaviour, commitment and attitude about leadership', *European Journal Of Marketing*, 47(11/12), pp.1781-1803.

Watzlawick, P. (ed.) (1984) *The Invented Reality*. London: Norton.

Weick, K.E. (1988) 'Enacted sensemaking in crisis situations', *Journal of Management Studies,* 25 (4), pp.305–317.

Yin, R.K. (2009) *Case study research: Design and method*, 4th ed. Thousand Oaks, CA: Sage.

Zhang, R.; Liu, X.; Wang, H. & Shen, L. (2011) 'Service climate and employee service performance: exploring the moderating role of job stress and organizational identification', *Service Industries Journal*, 31(14), pp.2355-2372.

Appendices

Appendix 1 – Schedule of Interview (Qualitative Data Collection)

Participant No	Job Category of the Interviewee	Job Function	Location	Date of the Interview	Duration of the Interview (minutes)
1	Asst. Manager	Back Office	ABC Office	15.05.2016	75
2	Manager	Customer Service	ABC Office	19.05.2016	65
3	Asst. Manager	Back Office	ABC Office	25.05.2016	60
4	Manager	Back Office	ABC Office	26.05.2016	60
5	Employee	Back Office	ABC Office	09.06.2016	50
6	Senior Executive	Back Office	ABC Office	13.06.2016	75
7	Employee	Back Office	ABC Office	16.06.2016	55
8	Senior Executive	Customer Service	ABC Office	23.06.2016	60
9	Senior Executive	Back Office	ABC Office	24.06.2016	60
10	Asst. Manager	Customer Service	ABC Office	27.06.2016	50
11	Employee	Customer Service	ABC Office	29.06.2016	60
12	Manager	Back Office	ABC Office	09.08.2016	75
13	Manager	Back Office	ABC Office	11.08.2016	65
14	Asst. Manager	Customer Service	ABC Office	12.08.2016	60
15	Employee	Back Office	ABC Office	17.08.2016	50
16	Manager	Customer Service	ABC Office	22.08.2016	50
17	Asst. Manager	IT	ABC Office	23.08.2016	65
18	Asst. Manager	Back Office	ABC Office	24.08.2016	55
19	Asst. Manager	IT	ABC Office	26.08.2016	50
20	Asst. Manager	Customer Service	ABC Office	29.08.2016	60
21	Employee	Customer Service	ABC Office	01.09.2016	50
2	*Manager*	*Customer Service*	*ABC Office*	*01.09.2016*	*40*
3	*Asst. Manager*	*Back Office*	*ABC Office*	*02.09.2016*	*45*
4	*Manager*	*Back Office*	*ABC Office*	*02.09.2016*	*40*

Appendix 2 – Sources of Secondary Data Collection

Document No	Document Name	Description and/or Purpose
1	Business Case for the Core Banking Project – March 2014	The researcher reviewed the CBS business case to gather information about the project objectives, issues faced in the old platform, implementation timeframe, project costs, CBS modules, and other key project milestones etc.
2	Monthly management meeting minutes – 2013 and 2014	The researcher reviewed 15 monthly management meeting minutes from January 2013 to March 2014 which contained discussions, analysis and decisions related to the old and new core banking system
3	Core banking project implementation meeting minutes 2014 and 2015	The researcher reviewed 18 project meeting minutes from May 2014 to October 2015 related to the implementation of CBS. By reviewing these minutes, the researcher was able to identify various implementation milestones, discussions took place at each stage, level of employee involvements, challenges and successes.
4	Core banking steering committee meeting minutes and action items list 2015	The researcher reviewed 24 steering committee meeting minutes and action items list from January 2015 to October 2015 related to the CBS implementation. By reviewing these internal documents, the researcher was able to identify key discussion points and implementation decisions made at each stage of the project, key risks identified and mitigants made, extent of employee and leadership involvement in the project
5	HR management record - December 2015	The researcher accessed the HR management record that contained various demographic data of ABC employees (excluding employee names and all payroll related data) which was used in building data collection methodology including sampling techniques.
6	Management reports - IT helpdesk ticket log 2015	The researcher reviewed 12 management reports that contained IT help desk tickets logged during 2015. The review helped the researcher to assess the volume of system issues experienced by users pre new CBS implementation.
7	Management reports - IT helpdesk ticket log 2016	The researcher reviewed 12 management reports that contained IT help desk tickets logged during 2016. The review helped the researcher to assess the volume of system issues experienced by users post new CBS implementation.
8	Management reports - IT helpdesk ticket log 2017	The researcher reviewed 12 management reports that contained IT help desk tickets logged during 2017. The review helped the researcher to assess the volume of system issues experienced by users post new CBS implementation. The researcher was also able to compare the results before and after additional post system implementation support (training).
9	ABC Management Accounting Pack - April 2015 to April 2016	The researcher accessed 13 monthly management accounting packs from April 2015 to April 2016 to verify data relating to normalised payroll cost and normalised net income in each month covering six months before and six months after the CBS implementation.
10	ABC Annual Report - 2015	The researcher reviewed ABC's annual report to access and verify some specific qualitative data such as commentary about CBS implementation, information about gatekeepers of the Bank, and organizational performance.

Appendix 3 – Participant Information Sheet

Committee on Research Ethics

Participant Information Sheet

1. **Title of Study**

How the core banking systems impact on employee behaviour of a small banking institution.

2. **Invitation**

You are being invited to participate in this research study. Before you decide whether to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and feel free to ask me if you would like more information or if there is anything that you do not understand. Please also feel free to discuss this with your colleagues and supervisor if you wish. I would like to stress that you do not have to accept this invitation and should only agree to take part if you want to. Though I play a dual role being the researcher and an employee of the organisation, I have taken strong measures to ensure that my role as the researcher is independent from the role I play in the organisation as an employee. My academic background and knowledge in action research including insider research dynamics and ethics will act as strong mitigating factors of a potential risk of role duality. Additionally, since I do not directly involve in managing you at work, except in a few cases, the potential conflict of interest situation is remote. Even with these measures, if you still feel any discomfort in participating, please feel free to inform me.

Thank you for reading this.

3. **What is the purpose of the study?**

The purpose of this study is to understand how a core banking system would impact on the behaviour of employees in a small banking institution. Accordingly, the

researcher aims to find out how employees will react to the new system and how the new system will improve employee satisfaction level.

Based on the research outcome, the business leaders can gain a thorough understanding of the changes of employee behaviour which will ultimately impact on organisational performance. They could identify factors that motivate employees to indicate a positive correlation with new core banking system, their leadership behaviour of the business, and need for learning and development activities. The business leaders could accordingly take steps to develop strategies for both individual development and organisational performance in relation to core banking system.

4. Why have I been chosen to take part?

You have been chosen for this study since you are an employee who is a direct user of the core banking system of the research site (the organisation).

5. Do I have to take part?

No, taking part is voluntary. If you don't want to take part, you do not have to give a reason and no pressure will be out on you to try and change your mind. You can pull out of the discussion at any time.

6. What will happen if I take part?

If you agree to take part, I will ask you to answer some questions via written questionnaire, one to one interviews or focus group interviews. This may include some audio visual recordings where applicable, and all such recordings will be destroyed once they have been transcribed and anonymised. There aren't any right or wrong answers – I just want to hear about your opinions. The discussion should take about an hour at the longest.

7. Expenses and/or payments?

There are no any expenses such as travelling to be incurred by participants since the research will be conducted at the participants' organisation,

8. Are there any risks in taking part?

The researcher believes that there are no known direct risks for you in this study. If you however feel that there is a risk in sharing your true views, assuming that it could impact your performance assessment, or compromise confidentiality, please be

assured that strong measures have been taken to prevent these potential risks. Strong data security measures are taken to maintain the confidentiality of participants and their views expressed, as explained in this document. The researcher, in his role as an insider, will not use participants views in any means, in assessing the participants performance at work, and additionally, except in a very few cases, does not play a direct role in assessing the performance of employees. Despite these measures taken, if you still feel any discomfort, please bring it to my attention immediately.

9. Are there any benefits in taking part?

There are no direct rewards, gifts or benefits for you by taking part this study. Since one of the primary beneficiaries of this study is your organisation, you along with the other members of your organisation may become an indirect beneficiary of the outcome of this study.

10. What if I am unhappy or if there is a problem?

If you are unhappy, or if there is a problem, please feel free to let me know by contacting me on +14417050351 or lasanthat@hotmail.com and I will try to help. If you remain unhappy or have a complaint which you feel you cannot come to me with then you should contact the Research Governance Officer at ethics@liv.ac.uk. When contacting the Research Governance Officer, please provide details of the name or description of the study (so that it can be identified), the researcher involved, and the details of the complaint you wish to make.

11. Will my participation be kept confidential?

All the information you give will be anonymous and confidential and only used for the purposes of this research and will only be accessible to me and my research supervisor. No third parties will have access to any of the information you provide. All the information you provide will be stored in a password protected computer or a locked file cabinet. Your names will only be used to by the researcher to communicate with you relating to this research such as in obtaining your consent to the research and communicating via emails. It is to be noted that the final research reports will not contain your names.

12. What will happen to the results of the study?

Once the research is completed, a summary of the findings will be made available to all the participants. The name of the organisation and names and contacts of participants will be kept confidential and will not be identifiable from the results. Subject to this confidentiality, the research results may be published in future.

13. What will happen if I want to stop taking part?

You can withdraw at any time, without explanation. Since the results are anonymised it is to be noted that the results may only be withdrawn prior to anonymisation.

14. Who can I contact if I have further questions?

If you have further questions, please contact me on +14417050351 or lasanthat@hotmail.com.

Appendix 4 – Participant Consent Form

UNIVERSITY OF LIVERPOOL

Committee on Research Ethics

PARTICIPANT CONSENT FORM

Title of Research Project: How the core banking systems impact on employee behaviour of a small banking institution.

Researcher: Lasantha Thennakoon

	Please initial box
1. I confirm that I have read and have understood the Participant Information Sheet dated 11.10.2015 for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	☐
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my rights being affected. In addition, should I not wish to answer any particular question or questions, I am free to decline.	☐
3. I agree to take part in the above study.	☐

Participant Name	Date	Signature
_____	_____	_____

Lasantha Thennakoon

Name of Person taking consent / Researcher	Date	Signature

Student Researcher:

Name	Lasantha Thennakoon
Telephone	+14417050351
Email	lasanthat@hotmail.com

Appendix 5 – Interview Questions

How the core banking systems impact on employee behaviour of a small banking institution?

A Research By

Lasantha Thennakoon

Research Stage : Data Collection - One to One Semi Structured Interview

May – August 2016

Interview Questions

Interview No. : ……

Date : ……

Time : ……

Name (Optional)	

Age	
20-35	
35-45	
45-55	
>55	

Job Category	
Senior Executive	
Manager	
Assistant Manager	
Employee	

Gender	
Male	
Female	

Job Function	
Back Office	
Customer Service	
IT	

Level of Education	
Certificate/Diploma	
Graduate	
Post Graduate	

Experience with ABC	
< 6 mnths	
6 mnths - 1 yr	
1 yr - 3 yrs	
3 yrs - 5 yrs	
> 5 yrs	

Use of CBS	
Low (<30% time)	
Average (30-50% time)	
Heavy (>50% time)	

Thesis Title

How the core banking systems impact on employee behaviour of a small banking institution.

Interview Questions

CBS and employee behavior

1. How do you compare and describe new CBS with old system in terms of;
    a. User friendliness (from employee standpoint)

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    a. Processing speed

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b. Added functionalities

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c. Ability to do multiple tasks at once

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d. Innovative work practices

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e. Interface

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f. Flexibility

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g. Reporting capability

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h. Reporting efficiency

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2. Does your core banking related work provide you a feeling of personal accomplishment? Describe.

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3. Do you feel your job make good use of your skills and abilities?

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4. Do you feel that process flow of your work has been improved (reduced processes with more efficiencies) with the new CBS? Describe with examples.

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5. Have a number of manual processes been reduced with new core banking system? Provide some examples.

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6. Do you feel that you can do the same degree of work that you used to do earlier with a lessor time after the new system was implemented?

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7. Do you feel that the quality of your work has improved (such as reduction in error rate) after the new system was implemented? Describe.

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8. Do you feel that you are adding more value to the business/organization with the new system (such as time saved on manual processes is used to do another value added task – extra role behavior)?

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9. Do you feel threatened that some of your job tasks will disappear with the automated processes of new system?

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10. How do you describe the job stress level when compared to the old system Vs new CBS?

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11. Describe your own assessment about your adoption to new CBS (voluntary or social pressure).

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12. Describe how your leaders communicated about the new CBS (clearly communicated objectives, new functionalities).

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13. Do you feel that leaders have demonstrated full commitment to achieving the objectives of new CBS? Describe.

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14. Do you know how to operate new CBS? Describe.

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15. Have you received sufficient training to operate the new system? Describe.

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16. How do you describe the support of MIS personnel in moving into new CBS?

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17. How do you describe the alignment of processes and procedures with new CBS and within the different business units?

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18. Any other comments of the participant?

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For additional comments

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