

An analysis of the difficulties
experienced by the credit union sector
in Ireland engaging in Digital
Transformation

Alan Roche

A dissertation submitted as part of the Master of
Business Administration programme

Submitted to the School of Business, the National
College of Ireland.

August 2020

Submission of Thesis and Dissertation

National College of Ireland
Research Students Declaration Form
(Thesis/Author Declaration Form)

Name: Alan Roche

Student Number: X18133126

Degree for which thesis is submitted: Master of Business Administration

Title of Thesis: An analysis of the difficulties experienced by the credit union sector in Ireland engaging in Digital Transformation

Date: August 2020

Material submitted for award

- A. I declare that this work submitted has been composed by myself. ✓
- B. I declare that all verbatim extracts contained in the thesis have been distinguished by quotation marks and the sources of information specifically acknowledged. ✓
- C. I agree to my thesis being deposited in the NCI Library online open access repository NORMA. ✓
- D. I declare that no material contained in the thesis has been used in any other submission for an academic award. ✓

Signature of research student: _____



Date: _____ 15th August 2020 _____

Submission of Thesis to Norma Smurfit Library, National College of Ireland

Student name: Alan Roche

Student number: X18133126

School: Business

Course: Master of Business Administration

Degree to be awarded: Master of Business Administration

Title of Thesis: An analysis of the difficulties experienced by the credit union sector in Ireland engaging in Digital Transformation

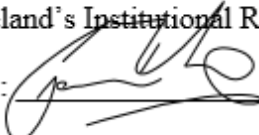
One hard bound copy of your thesis will be lodged in the Norma Smurfit Library and will be available for consultation. The electronic copy will be accessible in TRAP

(<http://trap.ncirl.ie/>), the National College of Ireland's Institutional Repository.

In accordance with normal academic library practice all theses lodged in the National College of Ireland Institutional Repository (TRAP) are made available on open access.

I agree to a hard bound copy of my thesis being available for consultation in the library.

I also agree to an electronic copy of my thesis being made publicly available on the National College of Ireland's Institutional Repository TRAP.

Signature of Candidate:  _____

For completion by the School: The aforementioned thesis was received

by _____ Date: _____

This signed form must be appended to all hard bound and electronic copies of your thesis submitted to your school

Abstract

The use of digital technologies has become prevalent in financial services in recent years. In many cases, consumers expect convenient access at times that suit them and from locations that suit them. The digitisation of such services can be considered a prime example of digital transformation. Credit unions are key players within the financial services landscape in Ireland credit unions with a membership of 3.4 million and a footprint in almost every town in the country. Credit unions have not advanced their digital transformation agenda in a meaningful or coordinated way. The focus of this dissertation which uses qualitative research methods, collecting data via in-depth interviews is on whether the heterogeneous nature of the credit union sector in Ireland acts as a barrier to digital transformation. From a review of the existing literature, it is noted that his topic has not been covered in detail. Taking into consideration the strategic imperative for digital transformation in today's financial services firms and the importance of credit unions to society, it was deemed that this research is required. The findings indicate a recognition within the sector of the importance of digital transformation to credit unions. The research finds that the credit union sector in Ireland contains many characteristics which indicate that it is heterogeneous and that aspects of this heterogeneity limit the ability of the sector to embrace digital transformation in a meaningful way. This research paper is a small introduction to a vital topic for the future of the credit union sector and its 3.4 million members. This research involved participants from six credit unions but its findings have relevance for all credit unions. It is recommended that the sectors representative bodies conduct further research in this area.

Dedication

This dissertation is dedicated to my wife Sinead and our four beautiful children, Aoife, Lorcan, Eleanor and Aoibheann. Without their unwavering support throughout the past two years of this MBA programme, I simply would not have been able to undertake this journey. No words will adequately express all that I owe to them.

Acknowledgements

I would like to acknowledge the support of a number of people without who this dissertation would not have been possible.

- Thank you to Al McCauley, Chief Executive Officer, Heritage Credit Union Limited whose ongoing support and flexibility made the process of completing the MBA a reality. Wise words, advice, counsel and challenge have helped me to crystallise my thinking.
- To the Board of Directors in Heritage Credit Union for sponsoring my studies and encouraging further learning for all in the organisation.
- To all of the rest of the team in Heritage Credit Union who have had my back for the last four years.
- Thank you to Sean Staunton, Chief Executive Officer, Progressive Credit Union Limited, your friendship, advice and support has been invaluable in this process as it is daily, a real example of collaboration within the credit union sector.
- To my dissertation Supervisor, Richard Heywood Jones, you got me there. Not only did you provide valuable advice about the research process and practical tips for getting the project completed, but you also showed a genuine interest in my topic, which provided no end of encouragement.
- To all of the participants who willingly gave their time up for the interviews, thank you. You are a shining example of all that is good about the credit union movement, and your professionalism and dedication to your roles have helped to contribute to this important research.
- To all of the lecturers who delivered modules throughout the programme, thank you, I was constantly challenged and feel that my mind has been expanded as a result.
- Finally thank you to all of my classmates in the MBA 2018 – 2020, we all stuck it out until the end and supported each other on this journey.

Contents

Abstract.....	3
Dedication.....	4
Acknowledgements	5
List of Abbreviations.....	8
1 Introduction.....	9
1.1 The increasing role of technology in financial services.....	9
1.2 What are credit unions	10
1.3 Brief history and development of credit unions in Ireland.....	11
1.4 Rationale for research	12
1.5 Structure of dissertation	12
1.6 Conclusion.....	13
2 Literature Review	14
2.1 Introduction.....	14
2.2 Credit Unions	14
2.2.1 Characteristics of credit unions.....	14
2.2.2 Technology adoption in credit unions	15
2.2.3 Sectoral changes in Ireland.....	17
2.2 Digital Transformation.....	17
2.3.1 What is Digital Transformation?.....	17
2.3.2 Digital Maturity	18
2.3.3 What are the organisational requirements for Digital Transformation?.....	18
2.3.4 Leadership skills required for Digital Transformation	20
2.3.5 Why do firms need to adopt Digital Transformation?.....	21
2.4 Costs of DT	21
2.4 Organisational Change.....	22
2.5 Conclusion.....	23
3 Research aims and question	24
4 Methodology	26
4.1 Research philosophy	26
4.2 Research Approach and Methodology	27
4.3 Method of data collection.....	27
4.4 Sample selection	28
4.5 Limitations of the data collection method.....	29
4.6 Analysis of data	30
4.7 Requesting participation.....	31

4.8 Ethical Considerations	31
5. Analysis of Findings.....	32
5.1 Introduction	32
5.2 Relevance of DT to the credit union sector	33
5.3 Change	34
5.4 Collaboration.....	35
5.5 Process Automation	38
5.6 Other noted barriers to DT	39
5.7 What DT means in practical terms to the credit union sector.....	41
5.8 Conclusion.....	42
6. Discussion of findings	43
6.1 Introduction	43
6.3 Heterogeneity of the credit union sector in Ireland.....	43
6.4 Discussion of findings in relation to themes identified.....	44
6.4.1 Relevance of DT to the credit union sector	44
6.4.2 Change.....	45
6.4.3 Collaboration	46
6.4.4 Process automation.....	47
6.4.5 Other noted barriers to DT.....	48
6.4.6 What DT means in practical terms to the credit union sector.....	49
6.5 Conclusion.....	49
7. Conclusions.....	51
7.1 Contribution to research on credit unions in Ireland.....	51
7.2 Additional findings	52
7.3 Possible improvements to the research	52
7.4 Intended audience	52
7.5 Recommendations for future research	53
7.5.1 The impact of the capital structure on appetite to invest in innovation.....	53
7.5.2 The needs and wants of members when it comes to DT	53
7.5.3 Brand identity within the credit unions sector	54
7.6 Final Comments.....	54
8 References List.....	57
Appendix 1 Consent form for interview participation.....	66
Appendix 2 Interview Questions.....	68

List of Abbreviations

CBI	Central Bank of Ireland
CUMA	Credit Union Managers Association
CUDA	Credit Union Development Association
DT	Dgital Transformation
ILCU	Irish League of Credit Unions

1 Introduction

1.1 The increasing role of technology in financial services

CBI (2017) state that innovation in technology is contributing to changing the shape of the financial services landscape in Ireland; this presents challenges for financial institutions keeping up to date with the pace of change in technology and in the form of new players, particularly online-only players who act as competition. According to CBI (2020), these online-only players are Fintech companies who deliver financial services to customers through the use of technology. Fintech has allowed the delivery of services in new ways such as consuming a full range of financial services without ever physically setting foot in a financial institution.

There are several examples of such online-only players, N26 (2020), advertise as a fully digital bank, allowing customers to open an account from their smartphone and start using the account immediately. As a provider of loans, Avantcard (2020), point to their offering of loans and credit cards in Ireland without any physical branch infrastructure, allowing customers to apply for and drawdown a loan online.

From 2017 to 2019, there was a sharp rise in the adoption of new digital solutions for financial services in Ireland (Ernst & Young, 2019). At the same time, the traditional financial services industry in Ireland has struggled to keep pace with rapid technological development. There are opportunities for the sector, but there is a requirement to embrace the changes and develop new skillsets (PWC, 2019). It has become somewhat easier for new players to enter the market and gain market share because of this. The rapid rate at which the Irish public is adopting digital financial services has put pressure on traditional financial services organisations to develop digital solutions. The Covid-19 Pandemic has somewhat exacerbated the drive towards digital solutions with organisations like N26, claiming that

within five years, digital banks will have as many customers as traditional ones (Cantillon, 2020).

The topic of digital transformation (DT) has become so crucial to the economy and society in general that the Government of Ireland is reviewing the primary school curriculum to ensure that children start learning the skills required to live and work in a digital economy from as early an age as possible (Education, 2018). In 2019 responding to a question about Ireland's Digital Learning Strategy the Minister For Education and Skills outlined that a key goal of the strategy was to promote students becoming engaged with the digital learning process and teaching them to think about what they are learning actively (Oireachtas, 2019). The children of today will become the future decision-makers in tomorrow's industries, meaning this is a crucial point.

In 2019 ninety-one per cent of all households in Ireland had access to the internet with over seventy-nine per cent of people using the internet every day. Internet banking is used on a routine basis by seventy-three per cent of the population (CSO, 2019).

1.2 What are credit unions

The main representative body for credit unions in Ireland ILCU (2020), state that a credit union is a member-owned organisation where members pool their savings and then lend those savings out to each other at fair rates of interest. The members are connected or joined together by a 'common bond' which might be the area that they live in or their employer. Credit unions exist only to serve their members, and any profits that are generated are returned to members by way of a dividend or invested in improving services. Credit unions as cooperatives are not motivated to make profits for satisfying shareholder needs; their focus rather is on providing service to members.

1.3 Brief history and development of credit unions in Ireland

According to a history of the movement by ILCU (2019), credit unions were first set up in Ireland in the late 1950s, pioneered by three individuals, Nora Herlihy, Sean Forde and Seamus P. MacEoin in response to the effects of high rates of unemployment, substandard housing conditions and general abject poverty. The conditions of the time led to a high prevalence of money lending further compounding poverty levels. Thus research into the concept of introducing credit unions into Ireland was founded on social principles and the desire to help those less fortunate in society rather than a motive of delivering profits for shareholders. By the time the movement reached its 50th anniversary in 2008, there were 521 credit unions on the island of Ireland.

In recent years there has been a significant amount of change within the sector. Kennedy (2015), summarises that the financial crisis in Ireland which manifested itself in 2008 led to a Commission on Credit Unions being established in 2011 which ultimately wide-ranging changes to legislation which were enacted in 2013. The updated legislation introduced new requirements in the areas of Governance, Risk & Compliance and Strategic Planning and placed pressure on credit unions to evolve their structures to meet changing demands.

In addition, as outlined by Ireland (2019), the Credit Union Restructuring Board (REBO) was established in 2013 to guide and facilitate the restructuring of the sector through voluntary mergers. ILCU (2019b), reports that as of March 2019 the number of credit unions on the island of Ireland had reduced to 326 a clear sign of the rationalisation which occurred following the changes outlined above. Within the Republic of Ireland, specifically, there are 241 individual credit unions with total assets of €18.3 billion and members or customers of 3.4 million. The total number of credit unions is down from 406 in 2011 arising from the restructuring of the sector (CBI, 2019).

1.4 Rationale for research

The author has been a senior manager within the credit union sector since 2007 and has many changes in that period. The role of technology and DT, in particular, has increased in importance and occupies much management time in credit unions. The existing literature in the area of DT examines organisational readiness factors and leadership skills required, but there is no specific review of the credit union sector in Ireland. The author's aim is that this research will contribute to future policy in the sector and point towards further research requirements.

At the last reported census, Ireland had a population of 4.76 million people (CSO, 2017). With 3.4million members, it is clear that a significant majority of people in Ireland are members of a credit union and this coupled with the growing relevance of DT in society generally points to the merit in studying the ability of the sector to embrace DT.

The proposed research will seek to examine the sector with a view to determining if the fragmented nature of the sector allows it to adapt to advances in digital technologies. The author will attempt to determine if the heterogeneous nature of the industry acts as a barrier to digital transformation adoption.

1.5 Structure of dissertation

The remainder of this dissertation is structured in the following way. In chapter two, there is a review of the existing relevant literature, looking at the characteristics of credit unions. An examination of the scant research into technology adoption in credit unions is also examined and some information on the sectoral changes in recent years. The chapter also looks at the concept of digital transformation, the organisational requirements to implement a DT agenda. Finally, the chapter looks at what other research has classified as important leadership characteristics to lead a DT agenda and an examination of why there is a DT imperative for firms.

The third chapter sets out the authors aims in this research dissertation along with the research question, which is to be answered.

Chapter four contains details on the research methodology and philosophical approach. An outline is given on how data will be collected and analysed and the methods used to select participants. Finally, some limitations to the research methodology employed are also discussed.

The fifth chapter sets out the principal findings which are relevant to the research question. These findings were categorised into four broad themes. Chapter six is an extension of this chapter and involves a more in-depth discussion of the findings and an analysis of their relevance in terms of answering the research question.

Finally, chapter seven which is the concluding chapter comments on the contribution which this research has to the industry sector in Ireland. There is a brief discussion of some additional findings which, although not directly relevant to the research question are of interest to the author and recommendations for future research. The concluding chapter discusses the intended audience for the dissertation and sums up the authors final views on the research findings.

1.6 Conclusion

The focus on digital technologies in the early education of children, the prevalence of the internet in households across the country and the continued rise in the adoption of technical solutions for financial services by customers ensure that the topic of DT should be high on the agenda of all financial services firms. The researcher has a particular interest in credit unions and the role which DT will play in the future evolution of that sector. This research aims to contribute to filling a research gap in this area.

2 Literature Review

2.1 Introduction

Saunders, Lewis and Thornhill (2016) argue that the literature review section of a research assignment is essential. It is an opportunity for the author to demonstrate their level of knowledge about the current research in the chosen field. Horn (2009) states that if a research dissertation is to be successful, it requires a critical review of the literature related to the topic.

This literature review examines literature relating to the credit union sector, specifically, the characteristics of credit unions, technology adoption and structural changes in the credit union sector. There is also an examination concept of DT within organisations from the viewpoint of existing research. This author then considers the topic in the context of organisational requirements and challenges which organisations experience in implementing such transformation. The author then examines the literature concerning the skills required to lead DT and some considerations on the importance of the subject to financial services firms. There is also an examination of the level of investment and cost related to undertaking DT in organisations.

Overall the literature review seeks to set the context for the author's research concerning the organisational structure of credit unions in the Republic of Ireland and their capacity to undertake DT journey against the backdrop of the current structure of the sector.

2.2 Credit Unions

2.2.1 Characteristics of credit unions

Credit unions are similar to a bank in that they accept in members shares or deposits and lend money back out again. There are distinctive features of credit unions however, such as one member, one vote, and the focus of helping members to achieve their economic and social

goals while also helping the wider community. A further key difference is that unlike commercial banks, there is no conflict between the owners of the institution and the customers, the two groups are the same in within credit unions. With banks, the customers are depositors and borrowers, whereas the owners are shareholders who demand a profit. Because credit unions only transact with members and the members are in fact, the owners of the organisation, this conflict does not exist in the same way. There is considerable academic research in relation to the banking sector; the credit union sector, however, does not have a comparable level of academic research (Mckillop and Wilson, 2011)

Credit unions, unlike banks, are governed by a voluntary Board of Directors elected from amongst their membership. This Board is subject to term restrictions and appoints a paid executive Management Team to run the day to day operations of the credit union. There can be a conflict on certain issues between the interests of the voluntary Board and the paid Management, which can often leave the Management Team in a weakened position, without a clear mandate for action (Rubin, Overstreet, Beling and Rajaratham, 2013).

Although they have many characteristics which differentiate them from traditional banks, credit unions are becoming more integrated into the mainstream financial services market. Appealing to a broad range of socio-economic sectors in society, they have a social responsibility within their communities, and this is a crucial differentiating factor. As they work to provide a broader range of services and compete with traditional commercial banks, credit unions mustn't lose this community focus (Power, O'Connor, McCarthy and Ward., 2012).

2.2.2 Technology adoption in credit unions

The literature on technology adoption in credit unions has been predominantly focused on the sector in The US. Advances in technological adoption by organisations is seen as one of the most important drivers in the success of financial institutions. In Ireland, the credit union

sector in Ireland has a diverse IT infrastructure with multiple providers of software platforms to credit unions. In the late 1990s, there was an attempt to introduce a centralised system for all credit unions which collapsed after costs spiralled to one hundred million euro. The introduction of new technological solutions, even modest in nature can allow for cost reductions and improvements in performance which can, in turn, demonstrate the potential future benefits from further investment (McKillop and Quinn, 2015).

Dow (2007) argues that there are many reasons for consolidation within credit unions and that one of those reasons is that larger credit unions are often in a better position to be earlier adopters of new technologies which are likely to bring more benefits to members.

The US, credit union sector, is varied in terms of the types of credit unions, there is also evidence of significant heterogeneity within the technologies in operation within that sector (Malikov, Restrepo-Tobón and Kumbhakar, 2018).

In Indonesian credit unions, technology is seen as a factor which positively changes the culture of organisations. Customers are found to have a more positive attitude towards the services provided by the credit union if the level of IT innovation is higher (Gat, Abdurahman and Waworuntu, 2017).

The transformation in the financial sector as a result of advances in technology has not bypassed credit unions. This is one factor which is driving significant change within the credit union sector, advances in technology have had a considerable impact on the structure and economics of credit unions (Goddard, McKillop and Wilson, 2009).

2.2.3 Sectoral changes in Ireland

Following the publication of the Commission on Credit Unions report and the establishment of REBO, there has been a significant level of restructuring in the sector. Much of the academic literature which exists has focussed on the impact of the increased scale achieved through mergers on the financial performance and efficiency of credit unions. It is vital in such restructuring that the relationship with members is not lost and that their needs are considered and taken into account (Byrne, McCarthy, Ward and McMurtry, 2012).

As outlined in the introduction, there has been a significant reduction in the number of credit unions in Ireland due to an increase in merger activity. Much of this merger activity is the result of the difficulty in weaker credit unions adapting to and complying with the level of regulatory change and increasing regulatory burden (Jones, Money and Swaboda, 2017). In summarising recent regulatory changes Casey (2020) points to an overhaul of the Governance framework in 2013, changes to the savings regulatory framework in 2016, a changed investment framework in 2018 and also changes to the Fitness & Probity framework for certain positions within the sector, also in 2018. In 2020 the lending framework and associated regulation was also updated bringing in new requirements in relation to limits on longer term lending.

2.2 Digital Transformation

2.3.1 What is Digital Transformation?

The concept of DT is central to this research, and it is useful to look at how other researchers have described this process. DT can be considered an evolutionary process within firms whereby the combination of technology and organisational practice helps a firm move towards digital maturity. Moving towards such maturity enhances an organisations ability to provide services and can ultimately be a competitive advantage (Ivančić, Vukšić and Spremić, 2019). Organisations often think of DT as a process whereby using new

technologies enables them to deliver services in this competitive internet age (Mergel, Edelmann and Haug, 2019). Kane (2019) states that digital disruption refers to new technologies causing a change in the way organisations do business, and DT is the method organisations use to adapt to this change.

The common thread identified is that DT involves changes to how organisations conduct their business by way of altered processes which in turn leads to a change in the way services are delivered. This change will have an impact on organisations in various ways, including redesigning operations, retraining staff and investment in new technologies.

More recently, the COVID-19 pandemic has resulted in a very sudden, dramatic level of digital transformation of society. Unusually much of this transformation was not undertaken explicitly as part of a considered strategy; it was merely a necessary reaction needed to adapt to a sudden change in environment (Iivari, Sharma and Ventä-Olkkonen, 2020).

2.3.2 Digital Maturity

Digital maturity can simply be thought of as the state at which an organisation considers technological advancement and innovation holistically, beyond looking at single projects in isolation (Mettler and Pinto, 2018).

Rader (2019) cautions, however against the danger in assuming that digital maturity is an end state for an organisation. He articulates that it can be considered as a method of applying digital technologies within businesses to assist with the innovation of their business models.

2.3.3 What are the organisational requirements for Digital Transformation?

Kane *et al.* (2017) and Ivančić *et al.* (2019) point to the fact that to successfully implement DT organisations need to arrive at a level of digital maturity, this is not an overnight change and involves rethinking the entire business. A firm commitment to keep digital as a core

element of your business and to develop a digital culture is critical is also mentioned by (Kane *et al.*, 2017).

There is a significant organisational impact in attempting to reach this level of digital maturity. It is a process of transformation which requires reconsidering the strategy and business model of an organisation, and this can be difficult where organisations have limited resources and time to experiment with such new strategies (Bouwman, Nikou and de Reuver, 2019). The issue of limited resources can be a significant concern because new skills which are required on the part of a workforce to adopt new technologies is a substantial concern in organisations. DT does not solely involve deploying new technological solutions; it also means changing the cultural mindset and internal processes of the organisation (Nahrkhalaji *et al.*, 2019).

Changes brought about by technology require organisations to redesign how they do their work and how they lead and need different types of jobs (Schwarz Müller *et al.*, 2018). This change is made more difficult by the fact that the commentators view the financial services sector as an extremely conservative one, and this presents a challenge in terms of opening up the organisational boundaries to be prepared to collaborate with firms that can provide digital solutions (Klus *et al.*, 2019).

Traditional organisations that had achieved commercial success before the advent of the digital economy are described as pre-digital organisations. A key challenge for such organisations is how they can develop an effective digital strategy and how they can continually keep it up to date. There is no endpoint in terms of digital strategy. (Chaniias, Myers and Hess, 2019). The financial services sector, which is dominated by traditional organisations, has faced disruption from new technology and competitive players and must now embrace this in terms of more efficiency in their organisational setup. A key challenge in this is that traditional organisations do not have the knowledge or skillset required to develop

and implement such digital solutions (Gomber *et al.*, 2018). Traditional organisations are viewed here as those that established their customer base through the delivery of service via bricks and mortar branches as opposed to online.

In larger financial services firms, there are many internal barriers to digital transformation, a key barrier being an organisational structure which is not suited to innovation and large-scale change. Large financial firms have tended to be more accustomed to incremental changes and improvements on a small scale (Das *et al.*, 2018). The challenges are not necessarily dominated by technology. Despite substantial investment in the hardware and software elements of digital transformation, a lack of employees with the requisite skills remains a challenge to the successful implementation of a DT strategy. (Nair, 2019).

DT requires a significant degree of flexibility within organisations, and there has to be a balance between the efforts given to the process of undergoing DT and to people continuing to look after their existing roles (Gong, Yang and Shi, 2020).

2.3.4 Leadership skills required for Digital Transformation

Leaders need the ability to communicate effectively with teams and to have strong technology skills (Christoffels, 2019). Also creating the right culture from the top is essential (April and Dalwai, 2019). This point is echoed by (Nahrkhalaji *et al.*, 2019) who argue that changing the cultural mindset and internal processes of an organisation are essential in addition to deploying new technological solutions. (Fouad, 2019) claims that a clear leadership vision is required and the leader must demonstrate an ability to gather the differing opinions of various stakeholders.

Attoti *et al.* (2019) posit that traditional leadership skills are more important than technical ones. Managers need to be able to understand the full range of customer needs and to think differently about the customer relationship. Management must also be able to navigate the

pressure from some stakeholders to adapt technology to fit the organisation and from others to do the reverse (Loonam *et al.*, 2018).

The successful implementation ultimately depends to a large extent on how front-line workers implement the new technologies, which is something that requires strong leadership. It is a difficult task to implement new digital technologies to bring about meaningful and lasting change (Leonardi, 2020). Within the leadership group, a lack of managerial experience and guidelines can present difficulties (Martinez, 2019).

2.3.5 Why do firms need to adopt Digital Transformation?

The introduction of digital technologies is a crucial enabler in terms of developing new services and delivering efficiency for customers. DT is a field which is continuously evolving, and an organisation will never reach the end of their journey towards digital transformation (Gurbaxani and Dunkle, 2019). DT in fact and the use of Fintech solutions are a firmly established part of the financial sector and unlikely to disappear from the agenda, there is a view that the more significant financial institutions are now ready to embrace this (Mention, 2019)

The apparent need to maintain a competitive position and relevance creates an imperative for organisations to adapt to technological advancements. In addition to this customers are now demanding different service delivery channels, and the competitive landscape is continually increasing as a result of the entry of non-traditional actors into the financial services sector (Wheeler, 2020).

2.4 Costs of DT

DT requires significant investment in IT and also requires specialist involvement to ensure that integration occurs successfully. This means that a very detailed evaluation of the potential benefits of any investment to be made in this area (Kohli and Johnson, 2011).

DT comes at a cost to organisations and requires considerable investment, it is not without risks, and sometimes the level of expenses are unforeseen at the outset (Reddy and Reinartz, 2017).

The digital transformation process in the financial services industry requires scale, investment, and high degrees of organisational change (Cuesta *et al.*, 2015).

Significant consideration should be given to how DT projects are financed, the costs are high, and consideration of the potential financial return must be factored into the decision to invest (S.M., Chen and Alkema, 2019)

2.4 Organisational Change

Todnem (2005) suggests change is always ongoing in organisations and, as the pace of the business environment has evolved so too has the pace of change that organisations are experiencing. Morgan (2016) outlines that such change rarely happens in isolation within organisations. Change focused on one area of an organisation may have knock-on effects in another area; this must be recognised to understand organisational change fully.

Pulinka (2020) believes that change is, in fact, an entirely necessary part of the life of an organisation. Gracey (2020) echoes this sentiment, and the current business environment throws up many disruptive events which require change and flexibility. The ability to undergo organisational change is an essential part of the resilience of a firm.

Wittig (2012) outlines that the employee reaction to organisational change is critical to ensuring success. The level of communication which happens with employees is a crucial determinant in influencing how they react.

2.5 Conclusion

This literature review has examined the concept of DT and organisational requirements. The leadership of the DT process and an initial exploration of the strategic imperative for financial services firms to undergo digital transformation was also examined. A thread running through all of the literature reviewed is that DT goes beyond the actual technology and is wholly dependent on organisational culture, guidance from leaders, employee support and re-engineered internal processes. Indeed it is argued that organisational setup is even more important than technology to the area of digital transformation Orji (2019).

Another clear theme from the literature is that the journey of DT is one which does not have a defined endpoint. For these reasons, it is essential that organisations fully understand where they sit in this landscape and what factors may be impacting their ability to develop digital strategies.

3 Research aims and question

Vial (2019) points to the importance of continuing research into DT because of the ever-changing nature of the topic. DT is described as highly relevant to society and business, and as new technologies become available and understood, updated research is essential.

This chapter sets out in more details the research aims for this dissertation and the primary research question which the author will attempt to answer. The author aims to contribute in a small way to an important topic.

The credit union sector in Ireland is heterogeneous in nature with a great deal of diversity prevailing across the separate legal entities (Oireachtas, 2017). Credit unions in Ireland vary in nature, scale and complexity. There are small credit unions which serve rural areas or small pockets of urban areas. There are also large credit unions serving much larger rural and urban areas and Industrial Credit Unions serving large employers or employment sectors. Each of these credit unions is autonomous with separate governance structures, all making individual decisions regarding the strategic direction for the organisation. The literature review has clarified the concept of DT and pointed to several organisational and leadership requirements to successfully implement a DT agenda. The author will attempt to examine some credit unions in Ireland to ascertain if there is a correlation between this heterogeneity and the ability of the sector to engage in DT programmes.

The primary research question to be addressed by this study is:

Does the heterogeneous nature of the credit union sector in Ireland act as a barrier to digital transformation?

The research question seeks to explore if the heterogeneous nature of the credit union sector in Ireland negatively impacts the ability of the sector to embrace digital transformation.

The objectives of the research question are to identify what characteristics make the credit union sector heterogeneous and further understand if these characters hold the sector back in terms of its ability to embrace DT.

In attempting to answer this question, the author aims to investigate a number of strands. The primary aims of this research are as follows:

1. To examine the main characteristics of the credit union sector in Ireland.
2. To examine the topic of digital transformation and understand organisational requirements for the successful execution of such transformation.
3. To examine the views of senior managers within the sector about the topic of DT and the ability of their organisations to embrace this agenda.

The researcher has a number of objectives in following these strands:

1. To understand the theoretical construct of the credit union sector in Ireland and the change which the sector is and has been subjected to.
2. To understand at a basic level what is meant by the concept of DT and how this applies to organisations.
3. To understand why the topic of DT is so important for organisations today.

4 Methodology

Saunders *et al.* (2016) present the research onion as a tool which describes the stages of selecting the correct research methodology. The research onion has a number of different layers which the researcher should peel away until the centre of the onion is reached, which is the actual collection of data in the research.

There are six layers in the onion:

1. Research Philosophy
2. Research Approach
3. Research Strategy
4. Research Choices
5. Time Horizons
6. Techniques and Procedures

This section will proceed to discuss the journey of the author through some of the key layers.

4.1 Research philosophy

The author considers interpretivism as the most appropriate philosophy for this research. Saunders *et al.* (2016) argue that because organisations are complex entities operating within particular contexts, interpretivism can be seen by some as the most appropriate philosophy for business research. Interpretivism seeks to interpret the experiences and perspectives of individuals and the meaning that these individuals create. As has been stated, the credit union sector is heterogeneous in nature and managers significant influence in determining the strategic direction of credit unions. For this reason, a deeper understanding of individual perspectives was deemed necessary and overall given these factors, the author views this philosophy as the most appropriate, for the research in question.

4.2 Research Approach and Methodology

Azungah (2018) states that an inductive approach to research is one which provides theories or findings based on observations or interpretations of the data which has been collected, rather than starting out with a hypothesis and proving or disproving it. The author views that the use of inductive reasoning is the most suitable approach to this dissertation. The data collected will be analysed to look for patterns or themes which will help to answer the primary research question.

The design of a research project is a critical stage, and comparisons are drawn to starting a long journey and the importance of selecting the right roads to travel Saunders *et al.* (2016) From a methodological point of view, the initial choice is whether or not to use a quantitative or qualitative approach or indeed a mix of the two.

The author has chosen to use qualitative methods for this research project because the in-depth analysis of the views and opinions of senior managers within the sector is crucial to answering the question. This means a smaller sample size and focusing on a depth of information and understanding participants' meanings and the relationships between them. A qualitative approach has been used, for example by (Chaniias *et al.*, 2019) and (Loonam *et al.*, 2018) in researching this particular field.

4.3 Method of data collection

The author has chosen to use semi-structured interviews as the method of collecting primary data. Saunders *et al.* (2016) state that semi-structured interviews are useful where the research is exploratory and where the researcher may need to probe for further information on some answers or deviate from the planned questions.

It will be necessary to obtain information from a sample of credit unions concerning their organisational structure and digital maturity levels to assist in answering the research and motivation of key decision-makers in respect of digital transformation. This information obtained from these primary sources will then be analysed in the context of the secondary data collected from the literature review.

Primarily this method has been chosen because it is critical to understand the experience and opinions of those working in key positions within the sector. Use of a survey or questionnaire runs the risk that participants will either put completion on the long finger or not provide the necessary attention to the task. The use of semi-structured interviews will enable the author to obtain a more in-depth and more comprehensive interpretation of interviewee's position (Collis and Hussey, 2009).

During the initial literature review the author has ascertained that previous research in the area of the DT of organisations has used interviews to collect data, for example (Kane, 2019; Attoti *et al.*, 2019; April and Dalwai, 2019).

4.4 Sample selection

The research involved participants from six individual credit unions in the Republic of Ireland, which represents just short of two and a half per cent of the number of credit unions in total. Boddy (2016) argue that the sample size is not necessarily the most important factor within qualitative research. The credit unions were asked for the person in their organisation with overall responsibility for DT to participate.

The author considered including providers of digital solutions to the financial sector in the sample but on reflection believed that there might be a high degree of bias in such a sample. In addition to this, such interviewees would not have the same level of knowledge about the organisations in question.

The issue of sampling needs to be put into the context of the nature of the research itself and the likelihood that there will be commonality in the themes raised. If there is a commonality in terms of the themes a larger sample size does not necessarily add any more value, in fact, it will just bring more data which may distract from information relevant to the research (Fugard and Potts, 2015). In this context, the author felt that a sample of six was an appropriate number to allow for suitably in-depth interviews to take place.

An important issue in terms of sampling for interviews in qualitative research is selecting a sample of participants who are likely to be able to add value to the topic and can contribute positively to the research (Bryman and Bell, 2011). For this reason, the author specified that the most appropriate person in the credit unions to take part in the interviews was the one with responsibility for the DT agenda.

Because of the current Public Health situation regarding COVID-19, these interviews cannot be conducted face-to-face and as such, will be carried out over the telephone.

4.5 Limitations of the data collection method

Conducting the research in this fashion will take a considerable time commitment, and early planning and execution will be critical.

There are some disadvantages with telephone interviewing; in particular, a telephone interview cannot be sustained for as long as a face-to-face one, in general, twenty-five minutes is the maximum practical duration. In addition to this, the interviewer cannot observe facial expressions or body language in response to certain questions (Bryman and Bell, 2011)

4.6 Analysis of data

The author will make detailed notes during the interview while simultaneously creating a digital recording. Transcripts of these recordings will be produced to facilitate a more comprehensive analysis of the data obtained.

The author proposes to use a thematic approach to collate and analyse the data. (Baun and Clarke, 2006) describe thematic analysis as a method for identifying if there are patterns or themes which exist in the data collected. They propose a 6 phase approach for analysing these themes.

1. Familiarising yourself with the data
2. Coding the data
3. Identifying themes within the data
4. Reviewing and refining themes
5. Final definition and names for themes
6. Producing the final report

To ensure that all information is kept both secure and confidential several steps will be taken. Electronic data will be stored on an encrypted device which requires two-factor authentication to access and is only accessible by the author. Physical notes taken during the interviews will be stored in a locked fireproof cabinet and will not contain any information to identify either interview candidates personally or the credit unions in which they are employed. The interview candidates will be assigned a code number, and the information linking the candidate to the code will be stored on a separate device, this will ensure confidentiality is maintained.

4.7 Requesting participation

Participants will be contacted personally by the author to seek their agreement to participate in the research. If a potential participant indicates their willingness to participate in the interview, they will receive an information sheet and a consent form to review. The interviewer and participant will sign the consent forms before commencing the process. Once completed, the consent forms will be scanned and stored digitally on an encrypted device.

Participation will be entirely voluntary, and the author will not attempt to exert any influence on a candidate to participate.

4.8 Ethical Considerations

The author has read the NCI Ethical Guidelines and Procedures for Research involving Human Participants and completed the NCI Ethics Application form, which has been submitted to the Ethics Committee for approval. The author sees no difficulty in complying with the ethical guidelines.

5. Analysis of Findings

5.1 Introduction

Of the six participants interviewed, three hold the CEO position within their organisation, and three hold other Senior Management Positions. The length of time in their current position ranged from four years to twenty-six years, and none hold any formal IT-related qualifications. All of the candidates, however, mentioned the importance of IT to their roles, with two candidates questioning whether or not qualifications were necessary in the context. IC1 stated “I don’t have any IT qualifications at all, but I’m not actually sure that this matters, I feel I have developed a skillset and have sufficient competence to know what is required on our digital journey. An IT graduate wouldn’t necessarily have that competence” IC3 stated, “I don’t have any formal qualifications, but for all of my working career both in credit unions and other industries I have been finding ways to use IT to improve work practices, I suppose you could say that I am qualified by experience (QBE).”

The remaining candidates all pointed towards the lack of people with relevant qualifications as a significant problem. (April and Dalwai, 2019; Attoti *et al.*, 2019; Christoffels, 2019) all echo this point, pointing to the fact that traditional leadership skills are more important than technical ones.

Conducting a thematic analysis on research data stretches beyond just summarising the data which has been collected. It seeks to identify patterns and connections within this data that are related to the research question(s) and important in answering the question(s). It is not necessarily recommended to use the question(s) as the theme headings (Maguire and Delahunt, 2017).

In analysing the interview transcripts, the author observed six clear themes emerging from the answers provided by participants. This chapter outlines the findings from the research in the context of those themes. The six themes observed are as follows:

1. Relevance of DT to the credit union sector
2. Change
3. Collaboration
4. Process Automation
5. Noted barriers to DT
6. What DT means in practical terms to the credit union sector

5.2 Relevance of DT to the credit union sector

It was important during the interview process to ascertain the views of the participants on the relevance of DT to the credit union sector. The author believed that given the ubiquitous nature of technology in our daily lives, the importance of DT to credit unions was in no doubt. It was necessary for the purposes of validating the importance and relevance of the research question to obtain the views of the participants on this point.

Each of the participants validated this opinion to a greater or lesser degree, with IC1 stating “Yes, of course, it is. It is almost like a universal truth that doesn’t need to be explained. Credit unions must be able to provide the products and services in a manner that is acceptable to our members and at a cost that they are prepared to pay for such services. DT will ultimately lower costs, which is to the benefit of all of our members which is at the very core of the credit union ethos.

IC3 agreed with the relevance but qualified the opinion “It has to be relevant to every business, it is a constant battle between getting revenues up and keeping costs contained. On the one hand, you are looking at your internal processes seeing how you can drive

automation, and on the other hand, you are trying to keep costs contained. This has to apply to every single organisation, including credit unions. The only nagging doubt I would have here is that credit unions are businesses centred on people if the goal of DT is to reduce the number of people employed there would be a slight conflict here.”

IC2 “Anything that done for the benefit of members could be considered within the ethos of credit unions; the member needs must be at the heart of everything we do.”

IC4 “I suppose yes you could say it fits with the ethos. Unfortunately, I think ethos probably isn’t as central any more; really now it is a question of sustainability and survival. You have to innovate to keep up with expectations. For sure ethos matters but at the end of the day if you go out of business, then irrespective of ethos the service to members is lost.” IC6 had a similar point “Ethos has to take second place to business need and sustainability, but yes it is in keeping with the ethos, credit unions were initially set up sixty years go with people saving and borrowing small amounts and everything recorded in paper ledgers, we have come a long way since then, but that doesn’t mean the ethos has disappeared, it is still there just in an evolved form.”

5.3 Change

The theme of change came into each interview that was conducted. In particular, the relevance of change management in the context of DT. IC1 and IC3, in particular, noted the importance of change and how staff react to that change.

IC1 “A change culture in the organisation is required, this goes beyond DT into all areas of the business. It is an important consideration for me in terms of the members of my Management Team. If the Management Team doesn’t embrace change, it won’t filter down in the organisation. Actually, in my view, DT is probably not the biggest area of change. DT is not a strategy in and of itself; it is an enabler of strategy. The sector needs to rethink its

strategy and then use DT to enable new strategies, and it is the business model or strategy where the real change lies.”

IC3 “Change is at the nub of it all if the staff are not open to changes then whatever money is invested will be probably be down the drain.”

Other candidates, while agreeing with the importance of change, questioned the current ability of the sector to handle and manage change. For example, IC6 stated “We have to learn better how to handle change as organisations, everything is changing at a rapid pace, new regulations within the last few years, mergers, fundamental changes in financial services and lots more. It used to be that we knew who we were competing against, now new competitors are popping up all over the place, I wonder about our ability to manage the fundamental changes associated with DT.”

IC2 commented “I have been working in credit unions for twenty-six years, it has changed so much in that time that it is almost unrecognisable. That is not unusual or strange, and society has changed a great deal in that timespan too. I am nearing the end of my career, and I am not as up to speed on the latest technologies, but I do know that we must embrace the change associated with DT to remain relevant.”

On the topic of change, once participant noted that the level of change ongoing presented a significant difficulty in deciding what to prioritise. IC5 stated “We are absolutely bombarded with change for the last few years, and there is no sign of it letting up. With DT, the possibilities seem endless. Sometimes you get so bogged down, and there are so many choices in front of you it is hard to know what to focus on next.”

5.4 Collaboration

The issue of collaboration within provoked mixed responses from the participants, with some pointing toward existing successful examples of cooperation in relation to DT as evidence of

the potential gains in this area whereas other candidates felt that there needed to be a fundamental change in the sector to allow for meaningful collaboration for DT.

Pointing to an example of a successful area of past collaboration IC2 stated “There are already examples of where this works and has worked, you might not think it but even getting us to the point of providing electronic payment services was an example of DT itself. I know there were two solutions, one provided by an International Bank and one through the ILCU¹ but no individual credit union could have gotten there on their own”

IC5 provided another example citing “The Cultivate Farm Loan² is an example of collaboration working in this area. As an example, it might not be at the cutting edge of technology. Still, there is a web portal to allow farmers from many counties in Ireland to make an enquiry about an agricultural loan and this enquiry will be forwarded to their local participating credit union for follow up, we are reaching more people through working together, surely this is a form of DT.”

IC3 “There has to be a role for collaboration, we have a common aim after all, but not collaboration at all costs, that is an important distinction. It is a tough square to circle, there are lots of differences between credit unions, even in the range of services that are offered, collaboration would have to overcome this”

IC4 “I think there has to be collaboration, I’m a relative newbie to the sector and having come from banking it is something I found strange within credit union land. Within the banks we had head office and divisions within head office, decisions were made and policies set and then these were rolled out across the organisation uniformly. It took me a while in the

¹ For more information see <https://cusop.ie/>

² For further information on the Cultivate initiative see <https://cultivate-cu.ie/>

sector to realise that when I was talking to people in another credit union, even a neighbouring one, they might be doing things completely differently.”

IC1 “Even the largest credit union in Ireland is tiny in the context of one of the main retail banks, and DT simply can’t happen without scale, that scale can come through credit unions working together. Collaboration can help to make DT accessible to all sizes of credit union, and it can also help smaller credit union offer services which they have been excluded from thus far.”

The participants did not see collaboration within the sector on DT as a straight forward process. With IC6 there was a feeling that there was no leadership driving collaboration “It is easier said than done, where does it come from, like who starts it off? We are missing the leadership in the movement to drive this collaboration. We all know we need to collaborate to achieve DT, but it’s like nobody quite knows where to start from.”

IC1 raised concerns with regards to what stakeholders should actually be driving the DT collaboration “I think the problem with trying to get to the sort of collaboration needed is that as a sector we have mostly been followers rather than leaders in this area. What I mean by that is that there are two or three main ITSP’s providing banking platforms to the sector at the moment, as credit unions we generally passively accept enhancements that they develop rather than coming together and telling them what we want or need, it’s a bit like the tail wagging the dog.”

IC2 felt that the main representative body should lead collaboration “I think the ILCU should be leading the charge for DT and providing services for credit unions, and we could have a menu to choose from on a subscription basis.”

Some also saw the individuals within credit unions of the participants as hindering collaboration. IC4 pointed out a problem of ego “From what I have seen in the sector, ego

can be a big problem. Discussions about practical collaborations tend to happen at CEO level. CEO's can feel like they are giving up ground if they compromise and work together.”

IC3 also pointed to differences between credit unions and the difficulty in overcoming that “You know the problem though, of collaborations, people set up committees to drive it, and you know that saying, a camel is a horse designed by a committee. How do you navigate the different digital need of each credit union on the committee, I've sat on some of those committees, and you would need to be Kissinger to broker an agreement.”

IC6 “If we had one common IT platform it would make life easier, I can't see it happening though, the mistakes of the past still haunt credit unions. This was a reference to an attempt in the late 1990s to bring in a centralised credit union system.

5.5 Process Automation

A common theme throughout the participant interviews was the concept of automation of processes and its relevance to DT. As IC3 put it “In the late 1970s or 1980s I feel I started working in Digital Transformation, we just called it computerisation then. Really what DT is, is looking at what you currently do and see how it can be done smarter using the latest available technology. That is exactly what we were thinking back then when we started moving to computerisation from paper records. Ultimately it is about automating to the greatest degree possible processes and the delivery of service.”

IC1 “DT is about automating manual processes into automated or semi-automated ones, this can be service delivery, regulatory compliance functions, monitoring functions, loan underwriting, any area of our operation really.”

It is clear from some of the participant responses that it is not as simple as just automating a process, IC1 points out one of the difficulties “We have been proceeding with a pilot project to automate one area of our operation concerning regulatory compliance. What we have found though, is that although the same legislation and regulatory requirements apply to each credit union in the pilot each had slightly different interpretations. The difference in processes and procedures was pronounced. Before any technology can be applied to automating the tasks a huge body of work is required to standardise processes, I don’t think that this was fully understood at the outset by everyone.”

IC6 who came from a banking background previously states “Credit unions are behind the times in a lot of operational areas. I came from a background of very clearly defined and documented processes. There was a process flow for every process that existed, and this is an essential pre-requisite for digitising anything. There are no shortcuts in this area, we are working with a group of credit unions to look at replacing our core banking platform, and this is holding the project up. The Project Manager for the project has a mantra, Standardise, Standardise, Standardise if you want DT to succeed.”

IC4 “There can be an issue that everyone thinks the way they do things is the right way, and they aren’t willing to change. Bring it back to the point I made earlier about ego nobody wants to admit that other credit unions are doing things better potentially. I think you would need an outside independent facilitator.”

5.6 Other noted barriers to DT

The cost of DT was raised as a challenge by a number of participants also. IC1 stated “Costs are significant in this area, and that is where scale becomes a problem. We just are not there yet in terms of scale as an organisation to be able to go headlong into this.” IC3 “Everything boils down to money at the end of the day, and there are competing demands, some of the

costs we have seen for potential DT projects are staggering, they seem out of reach.” IC5 stated “The costs of DT are astronomical, I think we bury our heads in the sand a little bit because we are so frightened by the costs. When I worked in banking, huge budgets were set aside for these things, and we simply don’t have that kind of funding available.

Concerning staff resources, IC1 noted “We run a pretty tight ship and don’t have much spare capacity amongst the staff we have. DT needs to get slotted in beside people’s existing roles.” IC2 came back to the issue of size in their organisation “As I mentioned we are a small organisation, we have one branch and less than ten staff, it can be hard to get the day to day things done at times, let alone investigate DT.”

IC3 and IC5 had similar views with IC3 noting “We are tinkering around the edges of DT when we can fit it in with the day job. DT will ultimately help to free up staff resources with more automation, but you need to frontload it with staff resources to get it off the ground.” And IC5 noted, “It is a vicious circle, we are told DT will reduce our reliance on headcount and yet in order to get there we probably need to increase headcount.”

Finally, on the topic of an overarching vision for the sector in the area of DT, a mainly negative view was expressed by the participants. IC1 stated “No, there is no overall vision at the moment. The little bits that are happening are piecemeal. We are losing ground in our core business of lending to forecourt financing, cheaper home loans and automated underwriting.”

IC4 suggested “I would love to say there is a vision or even one is emerging, but there is no evidence of this. A brave step is needed, and the various stakeholder groups need to come together and put a roadmap in place, but what did I say earlier about ego!”

IC3 suggested, “If there is a vision in place. I would say that it is a vision with a small v, we need a vision with a capital V.” While IC5 felt that “There is a lack of understanding of the

topic of DT within the sector, this is a problem. You don't know what you don't know if you know what I mean. We need a greater level of knowledge about DT.”

5.7 What DT means in practical terms to the credit union sector

The participants were asked what areas of DT were most important for the credit union sector. The purpose of this question was to obtain specific examples from practitioners in the industry of how DT applies to credit unions.

IC1 “The list is probably endless but to start with it has to be delivery of service to members or supporting that delivery. Bringing more automation into the loan underwriting process is a must; it is too manual at the moment.”

IC2 “Members need to be able to access our services from their mobile devices, there is literally almost nothing that we cant do on our mobiles these days, yet at the moment although we can do loan apps through are websites these are not available on mobile apps.”

IC4 and IC6 felt that DT needed to focus more on social media and interactive digital communications with members. IC4 “Digital communications with members on their mobile phone is essential; people want information immediately. IC6 “Chatbots for members is something which we need, responsive answers to queries. A lot of people don't want to phone in, they want to type something into their device and get an immediate answer.”

IC3 thought the following “Grow the loan book, that is what is needed to help with sustainability. DT needs to be utilised to promote loans to people, provide information and capture applications in an instant. Members then need to be able to draw down their loans without moving off their phone. We have just launched a digital signature solution to allow people collect loans without calling to the credit union, but it can only be done from a laptop or desktop computer, we have to be on the phones.”

5.8 Conclusion

The interviews raised many points relevant to the research questions, and these will be discussed in more detail in the next chapter. Overall there was a commonality between participants responses with many of the same points being raised, albeit with slight nuances.

6. Discussion of findings

6.1 Introduction

This research set out to examine if the heterogeneous nature of the credit union sector in Ireland acts as a barrier to DT in the sector. The data collected during the interviews points to the fact that such obstacles exist. This chapter will begin with a brief look at some characteristics which could lead to the classification of the sector as heterogeneous.

6.3 Heterogeneity of the credit union sector in Ireland

The response of the participants validates the view that the credit union sector in Ireland is heterogeneous in nature which is a central tenet of the research question. Issues such as the lack of a centralised IT system, differences in the size of credit unions, differences in the level of product and service offered and differences in processes and procedures between individual credit unions were all highlighted by the participants.

Commission on Credit Unions (2012) highlight that the sector in Ireland has a limited product range, lack an integrated IT system while recognising that the sector is made up of a variety of credit unions with differing degrees of development ambition and at different stages on their journey.

A ‘one size fits all’ model of regulation of the sector in Ireland has been criticised because it does not suit the needs of a sector which is not homogenous in nature (Oireachtas, 2017). El Louadi (2008) points out that there is no such thing as a purely heterogeneous or purely homogenous sector there are degrees which sectors can span. Oxford (2020) defines heterogeneity as:

“The state of consisting of many different people or things.”

As stated, the data gathered clearly points towards the heterogeneous nature of this sector. The author aims to demonstrate through discussion of the findings in relation to each of the themes identified that this heterogeneity has relevance for each area and ultimately makes the task of DT in the sector more difficult.

6.4 Discussion of findings in relation to themes identified

The themes identified during the analysis of data collected in interviews are detailed in the following section.

6.4.1 Relevance of DT to the credit union sector

As reported in chapter five, each of the participants reported their view that DT holds relevance for the credit union sector. This is an important finding, as noted in the literature review (Dow 2007, Goddard, McKillop and Wilson, 2009; McKillop and Quinn 2015) all argue that technology and the adoption of new technologies are important for the development of credit unions and particularly important in meeting the ongoing needs of credit union members.

Commission on Credit Unions (2012) state that the rate at which the credit union sector in Ireland developed and adopted technology solutions did not keep pace with the rate of adoption in society generally. If credit unions are to remain relevant to their membership technology must play a part in that. CUAC (2016) echoes this point and argues that the internal capabilities which credit unions have in this area are a critical component of their future development.

Given the importance of the area of technology and DT to society in general and the credit union sector, it is positive to note the unanimity amongst the participants as to the relevance of this area. The interview participants, as senior managers in the industry, are in a pivotal position to influence future policy and development. In the context of this research, this

finding is significant, the literature points towards the essential nature of DT to organisations, and it is important to demonstrate that leaders within the sector under discussion also hold this view.

6.4.2 Change

(Todnem, 2005; Gracey 2020; Pulinka 2020) all point to the critical and necessary part which change plays in the life and development of a business. Each of the participants discussed the idea of change as an essential factor within a DT agenda. Although each of the participants identified the importance of change, there were some doubts expressed about the ability of the sector to navigate this change and manage the consequences of change successfully.

It was also pointed out by some participants that DT could not be considered in isolation, and that changes are multi-faceted affecting many parts of the organisation.

From the literature, we see that (Kane, 2019; Schwarzmüller *et al.*, 2018 Ivančić, Vukšić and Spremić, 2019) all point towards the importance of change within organisations as part of the DT journey. The interview findings highlight challenges such as differences in process between individual credit unions, which will make the process of change required to collaboratively undertake a DT journey more difficult.

Relating this topic to the research question under investigation, the author has considered the findings in relation to change in the context of heterogeneity. If credit unions need to come together and collaborate to achieve DT, which will be discussed in the next section, the change process will be made more difficult because of the level of difference in the sector. Change is never a simple process; trying to navigate change across multiple organisations with multiple different stakeholders will add a further layer of complexity.

6.4.3 Collaboration

A clear recognition of the requirements for collaboration between credit unions was evident amongst the participants. The literature pointed to the high cost of investment to enable DT, the scale of credit unions in Ireland, and even the largest one is still small compared to the traditional financial services sector. This presents a challenge for credit unions in undergoing DT, and the factor of cost was raised by a number of participants as a barrier.

Commission on Credit Unions (2012) echoes points raised in the literature regarding the level of investment required. It also points to examples in international movements of collaboration which led to the setting up of shared service entities to help the process and improve efficiency. This type of arrangements must include the standardisation of processes and a move towards standardised IT platforms.

Although consolidation is occurring within the sector, resulting in larger credit unions, collaboration on DT is still a fundamental requirement. The heterogeneous nature of the sector both ensures the need for cooperation and also makes collaboration more difficult.

Although the participants pointed to some noted successes in the area of collaboration, it was largely considered an area that required much attention.

The level of difference between credit unions, coupled with problems such as ego amongst individuals, was noted and significant challenges to the area of collaboration. Despite the barriers which were identified, there was a clear desire amongst the participants for a higher level of collaboration. It was encouraging to hear discussion of common aims for the sector and examples of previous and current collaborative efforts.

Collaboration will not just happen, however, and a number of the participants noted that leadership is lacking at a sectoral level to drive this. This will be a challenge given the diversity that exists within the credit union landscape in Ireland.

6.4.4 Process automation

Process automation is central to DT, as was articulated by IC3 who said that in essence, you could boil the topic of DT down to the automation or semi-automation of previously manual processes. The non-standardised nature of processes across the sector, which was highlighted by the participants adds a layer of complexity to this topic. It was the view of more than one participant that the sector does not have clearly defined and mapped processes and that this is an inhibiting factor in the context of DT.

Attitudes of Management to this area will be crucial in terms of future collaborative efforts. In the literature (Loonam *et al.*, 2018; Fouad A. B., 2019; Nahrkhalaji *et al.*, 2019; Leonardi, 2020) all highlight the requirements for those leading DT to be able to overcome resistance from employees to areas such as process automation.

The findings pointed to attitudes within the sector which resist such standardisation which will act as a barrier to DT. (Commission on Credit Unions, 2012; CUAC, 2016) both point to the need for a standardised IT platform for the sector. If resistance is being experienced at the level of standardising processes and procedures, the challenge will be somewhat more significant to reach agreement on a standardised IT platform. The memories of the failed attempt to standardise the system in the 1990s as referenced by (Mckillop and Quinn, 2015) may make this concept more difficult to achieve.

This failed project ended up with a loss of €35 million of members funds in the sector without ever going beyond pilot testing. This failure was perhaps for more deep-seated issues than technical ones, but it has been blamed on technology and has dented the confidence of the sector in pursuing such a path. The failure, however, does not negate the need for such a project to proceed (Mangan and Kelly, 2009).

Heterogeneity again is a factor here that adds complexity and will present challenges for pursuing a DT agenda. For a single organisation to undergo a project of process automation, there will be challenges, particularly if that organisation does not have clearly mapped or defined processes already in existence. Thinking about the required level of collaboration which has been discussed and further complexities are evident. Now you have multiple organisations with multiple different processes which first need to be aligned and homogenised before automation can be considered.

6.4.5 Other noted barriers to DT

The issue of costs has been mentioned already as a driver towards the need for collaboration. The level of costs associated with such projects is frightening for credit unions. The previous failure of an attempt to introduce a standardised operating system was referenced because the memory of this project is still influencing decisions within the sector.

It was noted, however, that the costs of DT are not solely related to investments in new technologies. There are the human resources costs associated also. Participants indicated that credit unions do not have the level of staff resource required to focus on DT to a sufficient degree.

The issue of an overarching vision, or indeed lack of such vision was also seen as relevant to the topic. In the author's view, this is interrelated with a number of the other issues that were raised throughout the research. In a heterogeneous sector with multiple stakeholders creating an overarching vision that gets support from a large enough number of credit unions will be a significant challenge.

6.4.6 What DT means in practical terms to the credit union sector

The author felt that it was important to obtain the views of the participants about what DT actually meant in practical terms to the credit union sector. Without some practical examples, the concept of DT could remain esoteric for some.

The prevailing view of the participants was that DT primarily needed to be centred on bringing the credit union service to the mobile device of members. The ability for members to get information and consume services from the convenience of their devices was seen as essential to ensure the continued relevance of credit unions.

6.5 Conclusion

The credit union sector is made up of differing sizes of credit unions at different stages on their development journey. Each credit union is independently governed and has its own Board of Directors and Management Team. The findings of the research have pointed to differences in processes and procedures within the sector and to different attitudes towards how these differences should be overcome. These factors are all characteristics of the heterogeneous nature of the credit union sector.

The literature also points towards significant investment levels which are required to fund DT and considerable risks associated with this investment. DT involves fundamental changes to how an organisation does business and in addition to the costs related also requires significant resource in terms of people dedicated to such projects. It was also evident from the literature that DT is an absolute requirement for firms in the financial services sector in order to maintain a competitive position and develop the range of services they can provide to their customers.

Within the research, it has been found that while there is a common aim, there are differences in terms of the requirements for a DT journey within the sector, there are barriers to this agenda. A large amount of change is required. We see from the literature that there the area of DT can be a key enabler for the sector to provide products and services to members in new and exciting ways. The issue of change and a fear that the sector may be in danger of becoming paralysed by change at the present time presents another barrier.

Overall it is clear from the research that the credit unions individually cannot tackle the DT agenda. For this reason, collaboration is needed, and the heterogeneous nature of the sector makes this process more difficult. Heterogeneity brings many differences which all provide further challenges to be overcome.

7. Conclusions

This research set out to test the hypothesis that the heterogeneous nature of the credit union sector acts as a barrier to digital transformation. It is the authors view that the findings demonstrate that this is the case and that further research into this area is required.

The role which credit unions play in their communities and the penetration of credit unions across the population of Ireland mean that this is an important sector which merits study in a number of areas.

Having completed the research, there are some areas which the author feels that although not directly relevant to the research question, are worthy of mention. There are also several suggestions which could have improved the quality of the research along with recommendations for future research.

7.1 Contribution to research on credit unions in Ireland

The author believes that this research has made a positive contribution to the study of credit unions in Ireland. Specifically, the area of digital transformation in the Irish credit union sector had a dearth of research which is surprising considering the importance of the topic. Previous research has dealt with areas such as changes within the credit union sector, the unique characteristics of credit unions and technology adoption within credit unions. On the issue of DT within financial services, previous work has focused on the banking sector with no available study on the credit union sector. This study is an early introduction to this area and could provide the platform for further research related to the topic.

7.2 Additional findings

From the data gathered during the interviews, there are two additional findings which, although not directly related to the research question are worthy of mention in this section.

The first is in relation to the requirement for credit unions to maintain a minimum capital level of ten per cent. One participant felt that this acted as a barrier to credit unions and impacted on their willingness to invest sufficiently in DT.

Secondly, two of the participants highlighted that in their opinion, the brand identity of credit unions is often not distinguished. People think of the 'credit union' brand without differentiating between individual credit unions.

7.3 Possible improvements to the research

In chapter four, the author mentioned that consideration was given to including representatives of IT service providers (ITSPs) to the sector in the interview sample but discounted because of a fear of potential bias. One of the participants in particular mentioned these ITSPs as a potential barrier to DT given their conflicted focus on the profitability of their businesses rather than solely what is beneficial for the sector. It is now the author's opinion that it would have been helpful to obtain the views of such providers; given that there is heterogeneity in terms of the IT solutions in the sector such views would be relevant to the research question.

7.4 Intended audience

The author puts forward the view that this research should be of interest to several stakeholders within the credit union sector. At an individual credit union level, the study should prove informative on the topic of DT and provide a summary view of the opinions and approach of peer credit unions to this important topic. The research would also be of interest to representative bodies such as ILCU, CUDA and CUMA. Between these three representative bodies, the interests of Boards and Management within credit unions are accommodated. If policy within the sector is to be adapted to overcome the

barriers to DT leadership will be required. The representative bodies are best placed to provide that leadership, but they will have to be courageous and unbiased in doing so. Finally, the research may be of interest to Central Bank of Ireland as regulators in providing a view from within the sector of a topic which the Central Bank has deemed critical to the future of the financial services sector in Ire

7.5 Recommendations for future research

Taking into consideration the comments in the previous section, there are a number of areas which the author feels merit future research.

7.5.1 The impact of the capital structure on appetite to invest in innovation

The comment by one participant regarding the capital levels which credit unions much maintain to satisfy regulatory requirements is in the opinion of the author extremely insightful. Within the literature review, the potential conflict between Boards and Management is highlighted. It was mentioned that Boards are naturally extremely cautious and fearful of investing significant sums in IT-related projects because of the impact which this would have on the capital base of the organisation. This is a point of view which the author has himself encountered in several credit unions. It is not a criticism of Boards but rather an acknowledgement of the position they find themselves in. It has been the authors experience that Management is much more willing to make such investments but that ultimately they require Board approval. Future research could consider the impact which this capital requirement has on the willingness of credit unions to make innovative decisions and invest in areas such as DT.

7.5.2 The needs and wants of members when it comes to DT

Another potential area for future research is the needs and wants of credit union members in the field of DT. The characteristics which differentiate credit unions from other players within the financial services sector have been pointed out. The drive towards DT will provide

a platform for credit unions to compete more on the level of these other players within financial services. While the author agrees that this is necessary and desirable research from the perspective of the members of credit unions should be conducted to validate this more completely prior to significant changes or investments.

7.5.3 Brand identity within the credit unions sector

Given the comments regarding brand identity, a study could be conducted in Ireland to ascertain the level of awareness which the public at large has regarding the separate nature of each credit union as an organisation in their own right. The author recognises that such research would be challenging, and its findings could potentially challenge many stakeholders in the sector, provoking difficult strategic questions which need to be addressed.

7.6 Final Comments

As a Senior Manager involved in the sector for over ten years, the author has witnessed a substantial degree of change, and the topic of DT is one which is of interest to the author. At the outset of this research project, the author discussed the importance and ever-expanding role of digital technologies in society. Within this, it was noted that within the financial services landscape, in particular, DT has become essential to maintain relevance to customers.

A brief introduction to the credit union sector in Ireland was set out, noting the very high level of penetration within the population. The particular characteristics of the credit unions sector, which differentiate them from the banking sector, amongst other things, highlights the ownership structure of credit unions.

The literature review pointed to the credit union sector in Ireland having diverse heterogeneous characteristics. Credit unions are at various stages of development, offering different ranges of products and services.

The literature concerning DT points towards its powerful role in helping organisations transform how they do business and how they deliver services to their customers.

Organisational flexibility and a willingness to redesign how the organisation operates were seen as key requirements in order to progress a DT agenda. Change essentially is at the heart of DT for firms, and clear leadership is required in order to deliver this change.

The findings of this research point to a number of challenges for the credit union sector in Ireland in adopting digital technologies and embracing digital transformation. It is evident that there are already examples of DT at play in the sector and that DT can take many forms.

What is also apparent, however, is that there is a need to move to the next level and in particular embrace mobile technology to allow for better consumption of services by members on their mobile devices. The core aim of this research was to investigate if the heterogeneous nature of the credit union sector in Ireland acted as a barrier to DT efforts.

The findings indicate that this is, in fact, the case and consequently, the sector must adopt strategies to overcome these barriers. Credit unions in Ireland are diverse in terms of size, level of products and services offered and crucially in terms of processes and procedures; these factors indicate that the sector is heterogeneous in nature.

In terms of challenges or barriers to embracing DT within the sector, the findings of the research indicate that difficulties concerning change and the management of change surrounding DT are one such barrier. The fact that large scale collaboration is required is a second significant barrier to DT. Further barriers are the requirement to standardise processes across credit unions in order to allow for automation with DT along with the lack of any overarching vision or roadmap for the area of DT.

The heterogeneity of the sector exacerbates each of these barriers which have been mentioned. The whole topic of change and the need to standardise processes is complicated

by the fact that each credit union has its own distinct way of doing things. While the aims of each credit union are the same and fundamentally to one degree or another credit unions are all doing the same thing, how they do it individually can be quite different. The need for collaboration and a united DT vision or roadmap for the sector is also significantly affected by heterogeneity. If each credit union was just a branch of one head office decisions would be taken centrally and rolled out, thus simplifying matters.

The author recommends that in order to overcome these barriers, each of the representative bodies for the sector need to come together and find a path through differences. It is acknowledged that this will be difficult and that each of the stakeholders has their own unique perspective on the requirements. Finally, what must not be forgotten in all of this is the views of the member. Credit unions are member-owned organisations, and they are the key stakeholder whose needs must be front and centre of any drive towards DT.

The author believes passionately in the vital role which credit unions play in Irish society. The author also believes that DT is a critical component of the future of credit unions and believes that this dissertation will contribute in some small way towards this future goal.

8 References List

April, K. and Dalwai, A. (2019) 'Leadership Styles Required to Lead Digital Transformation', *Effective Executive*, XXII(2), p. 2019.

Attoti, I. El *et al.* (2019) 'How can digital leadership guide the customer journey? An exploratory study', *Proceedings of the 15th European Conference on Management, Leadership and Governance, ECMLG 2019*, pp. 475–483. doi: 10.34190/MLG.19.064.

Avantcard (2020) *Dream Big Personal Loans*. Available at: <https://www.avantcard.ie/personal-loans> (Accessed: 20 July 2020).

Azungah, T. (2018) 'Qualitative research: deductive and inductive approaches to data analysis', *Qualitative Research Journal*, 18(4), pp. 383–400.

Baun, V. and Clarke, V. (2006) 'Using thematic analysis in psychology', *Qualitative Research in Psychology*, 3, pp. 77–101.

Boddy, C. R. (2016) 'Sample size for qualitative research', *Qualitative Market Research*, 19(4), pp. 426–432. doi: 10.1108/QMR-06-2016-0053.

Bouwman, H., Nikou, S. and de Reuver, M. (2019) 'Digitalization, business models, and SMEs: How do business model innovation practices improve performance of digitalizing SMEs?', *Telecommunications Policy*. Elsevier Ltd, (October 2017), p. 101828. doi: 10.1016/j.telpol.2019.101828.

Bryman, A. and Bell, E. (2011) *Business Research Methods*. 3rd edn. Oxford: Oxford University Press.

Byrne, N. *et al.* (2012) 'Credit Union Restructuring: Don't Forget the Member!', *International Journal of Co-Operative Management*, 6(1), pp. 31–41. Available at: <http://www.newharmoniypress.coop/journals-2/>.

Cantillon (2020) *Irish banks' failure to innovate could leave them written off for good*, *Irish Times*. Available at: <https://www.irishtimes.com/business/financial-services/irish-banks-failure-to-innovate-could-leave-them-written-off-for-good-1.4264040> (Accessed: 20 July 2020).

Casey, P. (2020) *Address at the Credit Union Development Association's Annual Conference - Registrar of Credit Unions Patrick Casey, Central Bank of Ireland*. Available at: <https://centralbank.ie/news/article/speech-patrick-casey-cuda-annual-conference-25-january-2020> (Accessed: 1 August 2020).

Central bank of Ireland (2017) 'Discussion Paper : Consumer Protection Code and the Digitalisation of Financial Services', p. 66.

Central Statistics Office (2017) *Census 2016 Summary Results - Part 1*, [Online]. Available at: <http://www.cso.ie/en/csolatestnews/presspages/2017/census2016summaryresults-part1/>.

Central Statistics Office (2019) *Information Society Statistics - Households 2019*. Available at: <https://www.cso.ie/en/releasesandpublications/ep/p-isshh/information societystatistics-households2019/typeofinternetactivities/> (Accessed: 10 July 2020).

Chanas, S., Myers, M. D. and Hess, T. (2019) 'Digital transformation strategy making in pre-digital organizations: The case of a financial services provider', *Journal of Strategic Information Systems*. Elsevier, 28(1), pp. 17–33. doi: 10.1016/j.jsis.2018.11.003.

Christoffels, M. (2019) 'A framework for managing change leadership in a digital transformation environment', *Proceedings of the 15th European Conference on Management, Leadership and Governance, ECMLG 2019*, pp. 428–437. doi: 10.34190/MLG.19.011.

Collis, Ji. and Hussey, R. (2009) *Business Research a Practical Guide for Both Undergraduate and Postgraduate Students*. Hampshire: Palgrave Macmillan UK.

Commission on Credit Unions (2012) 'Report of the Commission on Credit Unions March 2012', (March).

CUAC (2016) 'Review of Implementation of the Recommendations in the Commission on Credit

Unions Report', *Credit Union Advisory Committee*, (June). Available at: .

Cuesta, C. *et al.* (2015) 'The digital transformation of the banking industry', *Digital Economy Watch*, (August 2015), pp. 1–10. Available at: www.bbva.com.

CX (2019) *Staff Rule ! companies who crown staff will wear the CX crown*. Available at: <https://thecxcompany.com/wp-content/uploads/2019/10/CXi-Report-2019b.pdf>.

Das, P. *et al.* (2018) 'Barriers to innovation within large financial services firms: An in-depth study into disruptive and radical innovation projects at a bank', *European Journal of Innovation Management*, 21(1), pp. 96–112. doi: 10.1108/EJIM-03-2017-0028.

Dow, J. P. (2007) 'The adoption of web banking at credit unions', *Quarterly Review of Economics and Finance*, 47(3), pp. 435–448. doi: 10.1016/j.qref.2006.08.014.

Education, D. of (2018) *Digital Transformation : Assessing the Impact of Digitalisation on Ireland's Workforce*. Available at: <https://www.education.ie/en/Publications/Policy-Reports/digital-transformation-assessing-the-impact-of-digitalisation-on-ireland-s-workforce.pdf>.

Ernst & Young (2019) 'Global FinTech Adoption Index 2019', pp. 1–44.

Fouad A. B., K. (2019) 'Digital Transformation and Leadership Style: A Multiple Case Study.', *ISM Journal*, 3(1).

Fugard, A. J. B. and Potts, H. W. W. (2015) 'Supporting thinking on sample sizes for thematic analyses: a quantitative tool', *International Journal of Social Research Methodology*. Routledge, 18(6), pp. 669–684. doi: 10.1080/13645579.2015.1005453.

Gat, Abdurahman, E. and Waworuntu, S. R. (2017) 'Contribution of information technology through consumer engagement to improve market growth of credit union', in *2017 5th International Conference on Cyber and IT Service Management, CITSM 2017*. doi: 10.1109/CITSM.2017.8089259.

Goddard, J., McKillop, D. and Wilson, J. O. S. (2009) 'Which credit unions are acquired?', *Journal of Financial Services Research*, 36(2), pp. 231–252. doi: 10.1007/s10693-009-0055-x.

Gomber, P. *et al.* (2018) 'On the Fintech Revolution: Interpreting the Forces of Innovation, Disruption, and Transformation in Financial Services', *Journal of Management Information Systems*, 35(1), pp. 220–265. doi: 10.1080/07421222.2018.1440766.

Gong, Y., Yang, J. and Shi, X. (2020) 'Towards a comprehensive understanding of digital transformation in government: Analysis of flexibility and enterprise architecture', *Government Information Quarterly*. Elsevier, 37(3), p. 101487. doi: 10.1016/j.giq.2020.101487.

Gracey, A. (2020) 'Building an organisational resilience maturity framework', *Journal of business continuity & emergency planning*, 13(4), pp. 313–327.

Gurbaxani, V. and Dunkle, D. (2019) 'Gearing Up For Successful Digital Transformation', *MIS Quarterly Executive*, 18(3), pp. 209–220. doi: 10.17705/2msqe.00017.

Horn, R. (2009) *Researching & Writing Dissertations*. London: Chartered Institute of Personnel and Development.

Iivari, N., Sharma, S. and Ventä-Olkkonen, L. (2020) 'Digital transformation of everyday life – How COVID-19 pandemic transformed the basic education of the young generation and why information management research should care?', *International Journal of Information Management*. Elsevier, (June), p. 102183. doi: 10.1016/j.ijinfomgt.2020.102183.

ILCU (2019a) *About Credit Unions: History, Irish League of Credit Unions*. Available at: <https://www.creditunion.ie/about-credit-unions/history-of-credit-unions/> (Accessed: 4 August 2020).

ILCU (2019b) *About Credit Unions: Key Statistics, Irish League of Credit Unions*². Available at: <https://www.creditunion.ie/about-credit-unions/key-statistics/> (Accessed: 4 August 2020).

ILCU (2020) *About Credit Unions: What is a Credit Union?*, Irish League of Credit Unions. Available at: <https://www.creditunion.ie/about-credit-unions/what-is-a-credit-union/> (Accessed: 4 August 2020).

Ireland, C. B. of (2019) 'Financial Conditions of Credit Unions, 2019: II', 353(3), pp. 2011–2016.

Ireland, C. B. of (2020) *Explainer - What is "fintech" and how is it changing financial products?*

Available at: <https://www.centralbank.ie/consumer-hub/explainers/what-is-fintech-and-how-is-it-changing-financial-product> (Accessed: 20 July 2020).

Ireland, G. of (2019) *Credit Union Restructuring Board (ReBo)*, Gov.ie. Available at: <https://www.gov.ie/en/publication/289988-credit-union-restructuring-board-rebo/%0D> (Accessed: 4 August 2020).

Ivančić, L., Vukšić, V. and Spremić, M. (2019) 'Mastering the Digital Transformation Process: Business Practices and Lessons Learned', *Technology Innovation Management Review*, 9(2), pp. 36–50. doi: 10.22215/timreview/1217.

Jones, P. A., Money, N. and Swaboda, R. (2017) *The Irish Credit Union Business Model: Is it still fit for purpose? A research briefing paper*. Dublin. doi: 10.16309/j.cnki.issn.1007-1776.2003.03.004.

Kane, G. (2019) 'The Technology Fallacy: People Are the Real Key to Digital Transformation', *Research Technology Management*, 62(6), pp. 44–49. doi: 10.1080/08956308.2019.1661079.

Kane, G. C. *et al.* (2017) 'Digital Maturity', *MIT Sloan Management Review*, (July). Available at: <https://www2.deloitte.com/insights/us/en/focus/digital-maturity/digital-mindset-mit-smr-report.html>.

Kennedy, P. (2015) 'TIME PLEASE ! BEDDING DOWN CHANGE IN IRELAND ' S CREDIT UNIONS', *Accountancy Ireland*, 47(1).

Klus, M. F. *et al.* (2019) 'Strategic Alliances between Banks and Fintechs for Digital Innovation: Motives to Collaborate and Types of Interaction', *The Journal of Entrepreneurial Finance*, 21(1), p. 1.

Kohli, R. and Johnson, S. (2011) 'Digital transformation in latecomer industries: CIO and CEO leadership lessons from Encana Oil & Gas (USA) Inc.', *MIS Quarterly Executive*, 10(4), pp. 141–156.

Leonardi, P. (2020) 'You are going digital - now what?', *MIT Sloan Management Review*.

Loonam, J. *et al.* (2018) 'Towards digital transformation: Lessons learned from traditional organizations', *Strategic Change*, 27(2), pp. 101–109. doi: 10.1002/jsc.2185.

- El Louadi, M. (2008) 'Knowledge heterogeneity and social network analysis - Towards conceptual and measurement clarifications', *Knowledge Management Research and Practice*, 6(3), pp. 199–213. doi: 10.1057/kmrp.2008.9.
- Maguire, M. and Delahunt, B. (2017) 'Doing a Thematic Analysis: A Practical, Step-by-Step Guide for Learning and Teaching Scholars', *All Ireland Journal of Teaching and Learning in Higher Education*, 3. doi: 10.1109/TIA.2014.2306979.
- Malikov, E., Restrepo-Tobón, D. A. and Kumbhakar, S. C. (2018) 'Heterogeneous credit union production technologies with endogenous switching and correlated effects', *Econometric Reviews*, 37(10), pp. 1095–1119. doi: 10.1080/07474938.2016.1222234.
- Mangan, A. and Kelly, S. (2009) 'Information systems and the allure of organisational integration: A cautionary tale from the Irish financial services sector', *European Journal of Information Systems*, 18(1), pp. 66–78. doi: 10.1057/ejis.2008.60.
- Martinez, F. (2019) 'Process excellence the key for digitalisation', *Business Process Management Journal*, 25(7), pp. 1716–1733. doi: 10.1108/BPMJ-08-2018-0237.
- Mckillop, D. G. and Quinn, B. (2015) 'WEB ADOPTION BY IRISH CREDIT UNIONS : Performance Implications', *Annals of Public and Cooperative Economics*, 86(3), pp. 421–443.
- Mckillop, D. and Wilson, J. O. S. (2011) 'Credit unions: A theoretical and empirical overview', *Financial Markets, Institutions and Instruments*, 20(3), pp. 79–123. doi: 10.1111/j.1468-0416.2011.00166.x.
- Mention, A. L. (2019) 'The Future of Fintech', *Research Technology Management*, 62(4), pp. 59–63. doi: 10.1080/08956308.2019.1613123.
- Mergel, I., Edelman, N. and Haug, N. (2019) 'Defining digital transformation: Results from expert interviews', *Government Information Quarterly*. Elsevier, 36(4), p. 101385. doi: 10.1016/j.giq.2019.06.002.
- Mettler, T. and Pinto, R. (2018) 'Evolutionary paths and influencing factors towards digital maturity:

- An analysis of the status quo in Swiss hospitals', *Technological Forecasting and Social Change*. Elsevier, 133(March), pp. 104–117. doi: 10.1016/j.techfore.2018.03.009.
- Morgan, G. (2016) 'Organisational change : a solution-focused approach', *Educational Psychology in Practice*, 32(2).
- N26 (2020) *N26 Accounts*. Available at: <https://n26.com/en-eu> (Accessed: 20 July 2020).
- Nahrkhalaji, S. S. *et al.* (2019) 'Challenges of Digital Transformation: The Case of the Non-profit Sector', in *IEEE International Conference on Industrial Engineering and Engineering Management*. IEEE, pp. 1245–1249. doi: 10.1109/IEEM.2018.8607762.
- Nair, K. (2019) 'Overcoming today's digital talent gap in organizations worldwide', *Development and Learning in Organizations*, 33(6), pp. 16–18. doi: 10.1108/DLO-02-2019-0044.
- Oireachtas, H. of the (2017) *Report on the Review of the Credit Union Sector with specific reference to the Credit Union Advisory Committee Review of Implementation of the Recommendations in the Commission on Credit Unions Report (June 2016)*. Dublin. doi: 10.1002/ejsp.2570.
- Oireachtas, H. of the (2019) *Digital Strategy for Schools, Dail Debates*. Available at: <https://www.oireachtas.ie/en/debates/question/2019-06-12/106/> (Accessed: 15 June 2020).
- Orji, C. I. (2019) 'Digital Business Transformation : Towards an Integrated Capability Framework for Digitization and Business Value Generation', *Journal of Global Business & Technology*, 15(1), pp. 47–58.
- Oxford (2020) 'Definition of Heterogeneity', *Oxford Learner's Dictionary*. Available at: <https://www.oxfordlearnersdictionaries.com/definition/english/heterogeneity?q=heterogeneity>.
- Power, C. *et al.* (2012) 'Credit unions and community in Ireland: Towards optimising the principle of social responsibility', *The International Journal of Co-operative Management*, 6(1.1). Available at: <http://newharmonypress.coop/wp-content/uploads/2012/10/IJCM-Vol-6-No-1.pdf>.
- Pulinka, Á. (2020) 'Complexity of change and its relationship with the levels of cooperation needed during a change process', *Budapest Management Review*, 51(5), pp. 15–26. doi:

10.14267/veztud.2020.05.02.

PWC (2019) *Research highlights challenges faced by the financial services sector*. Available at: <https://www.pwc.ie/media-centre/press-release/2019/research-highlights-challenges-faced-by-financial-services.html> (Accessed: 8 January 2020).

Rader, D. (2019) 'Digital maturity – the new competitive goal', *Strategy and Leadership*, 47(5), pp. 28–35. doi: 10.1108/SL-06-2019-0084.

Reddy, S. K. and Reinartz, W. (2017) 'Digital Transformation and Value Creation: Sea Change Ahead', *GfK Marketing Intelligence Review*, 9(1), pp. 10–17. doi: 10.1515/gfkmir-2017-0002.

Rubin, G. M. *et al.* (2013) 'A dynamic theory of the credit union', *Annals of Operations Research*, 205(1), pp. 29–53. doi: 10.1007/s10479-012-1246-7.

S.M., N., Chen, J. Y. J. and Alkema, P. (2019) 'The underlying factors of a successful organisational digital transformation', *SA Journal of Information Management*, 21(1), p. 10. Available at: <https://sajim.co.za/index.php/sajim/article/view/995/1412>.

Saunders, M., Lewis, P. and Thornhill, A. (2016) *Research Methods For Business Students*. 7th edn. Essex: Pearson Education Limited.

Schwarz Müller, T. *et al.* (2018) 'How does the digital transformation affect organizations? Key themes of change in work design and leadership', *Management Revue*, 29(2), pp. 114–138. doi: 10.5771/0935-9915-2018-2-114.

Todnem, R. (2005) 'Organizational-Change-Management-a-Critical-Review.Pdf', *Journal of Change Management*, 5(4), pp. 369–380. Available at: <http://www.projektmanazer.cz/kurz/soubory/modul-c/organizational-change-management-a-critical-review.pdf>.

Vial, G. (2019) 'Understanding digital transformation: A review and a research agenda', *Journal of Strategic Information Systems*. Elsevier, 28(2), pp. 118–144. doi: 10.1016/j.jsis.2019.01.003.

Wheeler, W. (2020) 'Co-opting Artificial Intelligence as an Opportunity for Financial Service Professionals', (January), pp. 66–73.

Wittig, C. (2012) 'Employees' Reactions to Organizational Change', *OD Practitioner*, 44(2). doi:
10.1177/0021886316655871.

Appendix 1 Consent form for interview participation

An analysis of the difficulties experienced by the credit union sector in Ireland engaging in digital transformation

Consent to take part in research

- I..... voluntarily agree to participate in this research study.
- I understand that even if I agree to participate now, I can withdraw at any time or refuse to answer any question without any consequences of any kind.
- I understand that I can withdraw permission to use data from my interview within two weeks after the interview, in which case the material will be deleted.
- I have had the purpose and nature of the study explained to me in writing, and I have had the opportunity to ask questions about the study.
- I understand that participation involves a telephone interview to discuss the topic of digital transformation in credit unions.
- I understand that I will not benefit directly from participating in this research.
- I agree to my interview being audio-recorded and to a transcript of the interview being made.
- I understand that all information I provide for this study will be treated confidentially.
- I understand that in any report on the results of this research, my identity will remain anonymous. This will be done by changing my name and disguising any details of my interview, which may reveal my identity or the identity of people I speak about.
- I understand that disguised extracts from my interview may be quoted in the author's dissertation, submitted to the National College of Ireland.

- I understand that if I inform the researcher that myself or someone else is at risk of harm they may have to report this to the relevant authorities - they will discuss this with me first but may be required to report with or without my permission.
- I understand that signed consent forms and original audio recordings will be retained in on a securely encrypted laptop belonging to the author and which requires two-factor authentication to access until the exam board of National College of Ireland confirms the author's grade for this dissertation.
- I understand that a transcript of my interview in which all identifying information has been removed will be retained for two years after the date of the exam board ratification of the results for this dissertation.
- I understand that under freedom of information legalisation I am entitled to access the information I have provided at any time while it is in storage as specified above.
- I understand that I am free to contact the researcher for further clarification and information.

Signature of research participant

Signature of participant

Date

Signature of researcher

I believe the participant is giving informed consent to participate in this study

Signature of researcher

Date

Appendix 2 Interview Questions

Background of the Interviewee

1. What do you regard a Credit Union as?
 - a. If needed elaborate, e.g. full financial service provider / social organisation solving social needs, etc..
2. What is your role in the Credit Union?
3. How long have you been working within the Credit Union sector?
 - a. Tease out specifically the length of time in their current role.
4. Do you have any I.T. or technical qualifications in the area of Digital Transformation?
 - a. Is a lack of training a problem in the area of D.T.?

Knowledge of Digital Transformation

5. What is your understanding of the term Digital Transformation?
6. How, in your opinion, does Digital Transformation apply to Credit Unions and is it relevant to credit unions?
7. How will Digital Transformation affect your organisation?
8. Is there a specific Digital Transformation strategy in your organisation?

Credit Unions and Digital Transformation

9. Is Digital Transformation in keeping with the credit union ethos
10. What areas of Digital Transformation do you view as most important for Credit Unions?
11. Are Credit Unions undergoing Digital Transformation already?
12. What restraints are there in the Credit Union sector, which will limit Digital Transformation?
 - a. Are they just internal
 - b. External membership adoption....

View on requirements and challenges concerning Digital Transformation

13. What are the critical organisational requirements for implementing a Digital Transformation agenda in your view?
14. Is there buy-in at all levels in your organisation for Digital Transformation?
15. Does the right level of leadership exist in your organisation to lead a Digital Transformation agenda?
16. What challenges do you see for your organisation in implementing a Digital Transformation agenda?
 - a. Technical
 - b. Resources
 - c. Training
 - d. Other
17. Are organisational changes required in order to deliver on Digital Transformation?

Wider sectoral considerations

18. Could collaboration with other credit unions aid Digital Transformation in the sector?
19. Is what other Credit Unions are doing relevant to your organisation?
20. Is there an overarching vision for the sector concerning Digital Transformation?
21. Are there any supports or restrictions imposed by the Central Bank?

22. Are there any other points you think are relevant to the discussion?