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# The Impact FinTech is having on the Financial Services Industry in Ireland

**The impact that financial technology known as FinTech is  
having on the financial services industry in Ireland**

**Dissertation submitted in part fulfilment of the  
requirements for the degree of**

**Masters of Business Administration (MBA)**

**at Dublin Business School**



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## Declaration

Declaration: I, John Gibson, declare that this research is my original work and that it has never been presented to any institution or university for the award of Degree or Diploma. In addition, I have referenced correctly all literature and sources used in this work and this work is fully compliant with the Dublin Business School's academic honesty policy.

Signed: John Gibson

Date: 20/08/2015

## Acknowledgements

When looking at a piece of work of this magnitude it's important to remember and be grateful for all those involved in the process.

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Mr David Dalton – Head of Financial Services at Deloitte

Minister Simon Harris TD – Minister of State at the Department of Finance

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## Abstract

The world has seen a dramatic change in our everyday lives due to the advancements in technology. Every one of us has been affected or influenced with the latest technology in a variety of ways. The financial services industry is no different and over the past decade has witnessed reform in regulation and the way in which traditional financial services interact with consumers. Part of this reform has come from the advances in financial technology or as the new ambiguous word of FinTech as it's now known. FinTech is already revolutionising the industry as hundreds of new start-ups design new innovative financial products and services for customers. These new entrants are challenging the traditional financial services model or framework.

The research is to look further into the financial services industry and gain a much greater insight into where the industry is now and where it's going in the future. The thesis will aim get an understanding and develop further expert insight into FinTech and its affect that it's having on the financial services industry. At the beginning of the paper the researcher will analyse academic books, journals, newspaper articles and corporate business papers produced by industry experts. The research is a qualitative study which involved six interviews from industry experts within the financial services industry and FinTech. These interviews will provide direct insight with an overview of the financial services industry currently. To analyse what impact FinTech has already had on the industry and is going to have in future. One of the key objectives is to understand whether FinTech will disrupt the financial services here in Ireland or will it collaborate with the existing providers.

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# Chapter 1 – Introduction

## 1.1 Background to the research problem

This dissertation will examine the financial services industry in Ireland and the main focus of the research will be to analyse the impact technology is having on this industry.

We are all aware of the exponential rate in which technology has grown and flourished over the past decade. The evolution from Internet to a much faster service in broadband, the introduction of smart phones and devices has taken the world by storm. The digital revolution will continue to drive forward around the world, as well as within the financial services industry technology is on the rise and sweeping through the industry like a hurricane. Financial technology which is now known as FinTech is changing the traditional financial services model across the globe. This dissertation will examine the impact FinTech is having on our financial services here in Ireland both now and into the future.

The financial services industry has gone through a dramatic evolution since its origins in 1860 through to the nineties and following the financial crisis of 2008. The financial services industry has also seen radical changes through the growth and resurgence of new technology and innovation. The world has witnessed a massive transformation in financial services industry after the decision of President Richard Nixon (1971) to close the door on gold standard and usher in, for the first time in human history, a global system of unconstrained paper money.

Mike Laven a CEO for International payments platform “The Currency Cloud” describes in his white paper that although banks have been responsible for the innovations of payments, for example credit cards, online banking has become unsuitable for the evolution of smart phones, social media and cloud computing. The financial services industry is evolving in more ways than one and financial technology is altering the landscape in more ways than one.

FinTech is simply the ubiquitous word applied to technology in the financial services industry. Following the financial crisis 2008 the financial technology has seen a colossal influx of investment into the financial services technology. This figure has tripled to over €3 Billion and is predicted to reach €8 Billion by 2018. This aggressive investment is been

attracted to the opportunities and changes in the financial services industry driven by technology, regulations and consumer behaviour.

## **1.2 The Research Area: Question & Objectives**

### **Research Question**

*“What impact will FinTech have on the financial services industry in Ireland?”*

The overall aim of this research is to get an understanding from industry experts and a political overview as to what impact FinTech will have on our financial services here in Ireland. Its obvious technology is having an impact on the world and financial technology is impacting the financial services industry. This qualitative research will gain a much deeper insight from individuals that are based in financial services, new entrants into the FinTech world, an economic perspective and a political overview.

The research will gain an understanding of what the traditional financial services organizations are doing to either tackle or support these new entrants. Further to that what are these new entrants doing to challenge the traditional models already in place by traditional providers. The research will also look at what the government is doing to support and complement these changes within the industry

This research should offer an overview that highlights the issues new FinTech entrants will face when entering the market and help prevent such issues hampering their future growth.

## **1.3 Dissertation Approach**

This paper will start with the evolution of the industry in Chapter 2 (Literature Review.) The literature will look back at the financial crisis and the reform the Gramm Leach Bliley Act brought to the industry mainly in the United States. This chapter will also recognise the origins and beginning of the IFSC here in Dublin. From starting out at approximately 50 people to now an impressive 35,000 employees working within the sector. The Literature Review will discuss where the financial services is today globally and more importantly here in Ireland, focusing upon the vast amount of global international financial services companies operating in our IFSC. The most important element is what the future holds here

in Ireland. Where is Ireland heading in terms of development, strategy and investment? The researcher will outline the current strategy led by the Irish Government is the IFS 2020.

Chapter Two (Literature Review) will also discuss FinTech in a much more in depth structure. This dissertation will break down what FinTech really is and what are the different segments in the industry. The Literature Review will delve into evolution of financial services as FinTech grows and new innovative financial technology is developed. To analyse new entrants or start ups within the industry, and how these are combined with the Irish governments IFS strategy, is going to impact the overall structure of the industry. This evolutionary part of the Literature Review will then look at the key segments which have already been successful in the industry as well as the areas which are starting to have an impact.

Chapter Three concentrates on the 'Research Methodology.' This section discusses how the research is going to be conducted by the author. Focusing on the academic techniques used to formulate a scientific approach to answering the research question. The main item within the research is that it will be a qualitative approach through interviews with industry experts from the financial services sector, economists, politicians and FinTech start-ups.

These interviews are what will form the main part of Chapter Four which is the 'Data Analysis and Findings.' The researcher has interviewed six leading experts in financial services and FinTech. Two of these interviews involve Minister Simon Harris and an economist which will illustrate a macro overview of the impact FinTech has had and will continue to have on the financial services industry. These interviews explore the disruptive nature FinTech is having on the financial services industry and its challenge on the traditional banking model.

#### **1.4 Scope of limitations of the research**

Even though the research is based on a qualitative approach of conducting six interviews from industry experts within financial services industry in Ireland and FinTech experts there are a few limitations from the research

The time allowed for the research restricted the opportunity to engage and interview more FinTech start-up directors or owners. The research would have benefitted from an interview of a FinTech start-up whom have become successfully globally. There are also many more Irish financial services companies which may have a slightly different insight into the market

and where FinTech is taking it in the future. The six candidates chosen in this short timeframe have provided a cultural insight across many different avenues within the industry.

Time Management is the most important limitations for the research. With the short time provided to conduct the research for the dissertation along with working everyday has been a challenge. The researcher feels that if more time was available more interviews could have been conducted providing an even more in depth analysis of sector.

### **1.5 Major Contributions & Research Question**

The research is designed to dig deeper into the financial services industry. This qualitative approach will analyse the impact technology or financial technology is having on the traditional financial services model and what the existing companies as well as new entrants are doing to challenge or support this.

This research will provide recent material to new entrants looking to enter the financial services market and also to existing providers within the industry. The research conclusions will provide a strong macro overview from the inside the industry on the basis of the contributions of six leading experts in the FinTech space.

# Chapter 2 – Literature Review

## 2.1 Financial Services

### 2.1.1 What is the Financial Services Industry?

The financial services industry is made up of economic services provided by the finance industry which include, credit unions, banks, financial institutions, accounting firms, real estate, consumer finance companies etc. The financial services industry is basically a financial service provided to consumers or businesses which effectively manages money.

### 2.1.2 History of the Financial Services

Although we can trace a version of the financial system back as far as the 1860's, it was the nineties when the industry really came to fruition. The financial services industry has witnessed significant changes and alterations over the last few decades. Financial Institutions and banks have seen dramatic reform. There has been a mass transform of current banks and new entrants to the industry. The financial services became more prevalent in the United States and the world as a result of the Gramm - Leach - Bliley Act. It was through the Gramm - Leach - Bliley Act that started to change the landscape of financial services. The Act requires these financial institutions and companies who offer financial products or services such as loans, or financial investment advice to simply explain their information sharing practices to their customers thus safeguarding sensitive data. (Federal Trade Commission, Online)

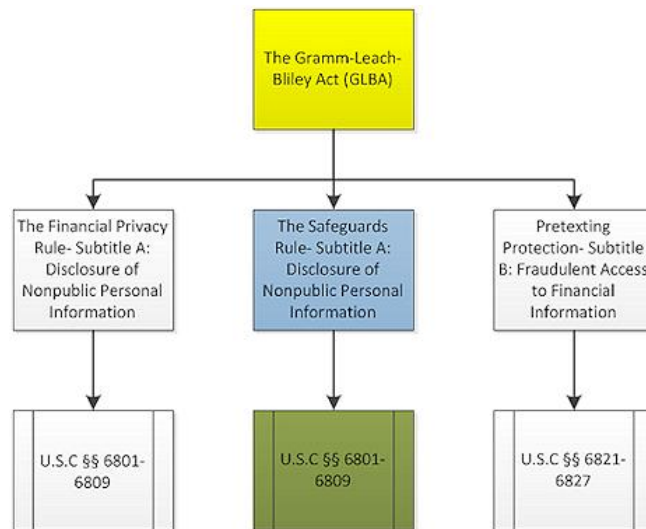


Figure 1: Gramm Leach Bliley Act

The (GLB) Act “loosens restrictions on banks’ abilities to engage in the previously restricted activity of underwriting securities and permits banks to underwrite insurance policies “ (Cara S. Lown, et al, 2000) The author also discusses how the deregulation in the 1980’s of restrictions which allowed banks to expand and consolidate across different markets and into other financial services. The consolidation of commercial banking which is the single largest component of the financial services industry in 1980’s seen banking organizations in the U.S drop considerably from 12, 300 to 6,600 in 2001.

The history of Ireland's International Financial Services Centre (IFSC) begins in 1987. This date was when the IFSC was founded however; it’s full origin dates back as far as the early 1970s. (Finance Dublin 2015) The Central Bank of Ireland is the regulator for the financial services in Ireland. The origins of the bank dates back to 1943 when it was first founded.

### **2.1.3 Where we are today?**

The Irish independent in association with the FSI & IBEC produced a paper called ‘Built on Talent’. The paper illustrates how the financial services Ireland today is responsible for 35,000 jobs and contributes to over €2n in taxes per annum. These 35,000 jobs come from international banks, insurers, fund administrators, investment managers etc. (Irish Independent, Built on Talent, 2014)

Financial Services Industry in Ireland is widely recognized as a financial hub or centre for international banking, insurance and funds industry. Ireland enjoys half of the world's top 50 banks operating here including Citigroup, JP Morgan, BNP Paribas, and Bank of America etc. Enterprise Ireland says in its report that “Over 450 international financial services companies operate within Dublin’s International Financial Services Centre (IFSC) and a number are also regionally deployed throughout the country. (Enterprise Ireland Online, 2010)

FinTech has had a knock on effect throughout the world on financial services within the US and of course Europe. As discussed previously this has escalated dramatically since the financial crisis 2008. The financial services industry has been altered and Siegel + Gale report how “The last 25 years have revealed the interesting trajectory that the financial services industry has taken toward cultivating the customer experience” (Siegel Gale, Online) Customer loyalty to banks and financial institutions has somewhat diminished over time due to the recklessness lending and trading they got involved in.

# 25% of global FinTech FDI projects in the last five years were in Europe, nearly half of which were in London



Figure 2: FinTech for Futures Government Office for Science

Europe and the UK have seen huge developments within the financial technology industry. The study conducted by the Government Office for Science reports that with a market said to be worth an estimated £20 Billion in annual revenue, makes the UK & Ireland as the fastest growing region in FinTech investment globally. (Government Office for Science)

Derek Scally from The Irish Times reports how Ireland is pushing hard to become Europe's home for FinTech. The author discusses how Simon Harris, the minister of state for international banking was in Berlin Germany concentrating on their FinTech scene. The minister feels that Ireland is in a good place to become a FinTech hub. (Derek Scally, Irish Times, Online 2015)

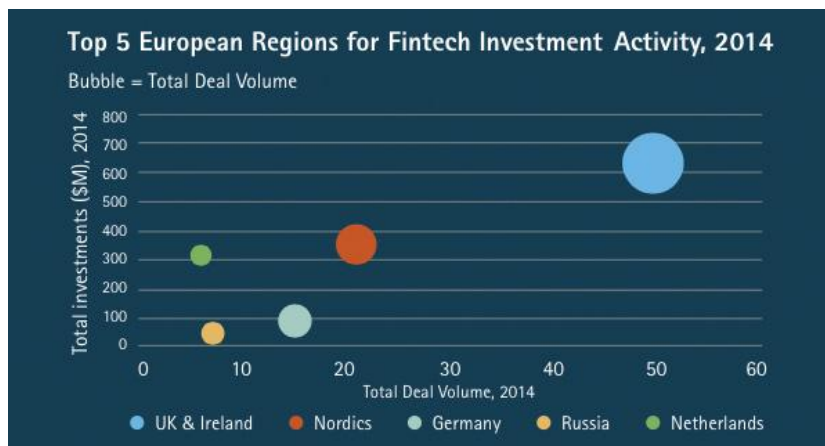


Figure 3: Top 5 European Regions for FinTech Investment for Activity. (Skan, J et al, Accenture)

Since 2004 the UK & Ireland have been involved in over 53% of FinTech deals the Guardian online reports. Some 5,000 jobs could be created in Ireland within the FinTech industry by 2020 the Irish Times reports online. This would increase the workforce by double of that already working in the IFSC currently. Some of the financial services firms are keeping an eye on the FinTech start ups and acting cautiously towards them. Success companies like

Sentential Ireland whom have created 110 new jobs over the past 18 months whom were involved in the SEPA 2.0 change and deal with all the large banks including Bank of Ireland, AIB etc.

The financial industry has changed as people's faith in the banking institutions has been altered by the crash of 2008. The lending platform has seen new innovative transitions in the market

IDA Ireland reported the launch of Citi Accelerator Hub for all FinTech Start-ups. The launch was provided by Minister of State of Department of Finance Simon Harris and Dublin start-up Commissioner Niamh Bushnell and the IDA. This is to offer office space for new innovative FinTech start-up companies here in the Ireland. These new office spaces come with Wi-Fi for the new users and the availability for video conferencing along with the use of Citi network facilities.

Citi will also provide a mentoring support service which will offer them advice with their start-up and aid in networking through industry meetings. Cecilia Ronan whom is Citi's Chief Administrative Office & Head of the Citi Service Centre disgusted at the launch how Citi were very supportive of the FinTech sectors here in Ireland "Citi has been an avid supporter of the FinTech sector since opening the first Citi Innovation Lab in 2009. We now employ 400 technologists out of a total workforce of 2,500. We believe that there is a huge opportunity for early innovators and emerging start-ups here in Ireland to create disruptive technology that will help map the future of financial services." (IDA Ireland, 2015)

#### **2.1.4 Future of Financial Services in Ireland**

##### **IFS 2020 Strategy**

The Irish Examiner reported the latest strategy lay out by the Irish government which will change the landscape of the Financial Services in Ireland in the near future. IFS 2020 was launched in March of this year and it maps out a strategy proposed by the Irish Government for Ireland's International Financial Services over the next five years. The overall aim of the strategy is to make Ireland the global leader in a number of key areas within the financial services sector. Simon Harris Junior Minister of Finance will Chair of Committee made up secretary Generals of the Department of Finance; Public Expenditure & Reform; Jobs Enterprise & Innovation and Foreign Affairs as well as Chiefs Executive from Enterprise Ireland and the IDA. (Walsh, John Irish Examiner, 2015)

This new dynamic team will be responsible for leading the IFS 2020 strategy and ensuring its implementation is transparent. The strategy is a new vision which will aim to provide growth in the financial services sector and create new jobs. The government would like Ireland to be recognised as the Global specialist of International Financial Services. The process behind this approach is to build on the talent here in Ireland, technology and excellent client service.

Ireland today has a thriving and growing IFS sector making a massive contribution to the overall economy. The core of the IFS is made up of 430 IDA Ireland and Enterprise Ireland client companies that provide internationally-traded financial services and technologies. Ireland is well regarded as a competitive location for IFS services however; the industry today is faced with significant challenges which include the following: (IFS 2020 Strategy)

- Growing International Competition for IFS Investments
- Rapid Transformation of IFS business models
- Technology Innovation
- Demographic and Geopolitical trends
- Impacting of Emerging Markets
- Changing regulatory and Taxation Environment
- Rapid Evolution of Consumer Behaviour preferences

These challenges will impact the products and services but also the way which companies compete. Ireland must rise to these challenges if we wish to keep and retain employment. By rising to these challenges this will allow Ireland to grow employment in the future. The IFS can be do this by ensuring that employees have the right skill set and training required to adhere to these challenges. That is effectively what IFS 2020 proposes to do by supporting the sector through this transformation. The strategy outlined by the Government has set ambitious targets by growing the current employment of 35,000 in the IFS industry to over 45,000 doing this through 10,000 new jobs by 2020. In order for the Government to achieve this enormous target they have set out five strategic priorities:

1. Promote Ireland as a Location for International Financial Services & world class innovative products & services
2. Drive continuous improvement in the operating environment & competitiveness of Ireland's IFS sector
3. Drive Research, Innovation & Entrepreneurship in the IFS sector, with a particular focus on financial technology & governance, risk & compliance
4. Develop job-creation opportunities from emerging IFS sub-sectors & new markets
5. A new implementation framework for IFS 2020



Figure 4: IFS 2020 Strategic Goals, (Source IFS 2020 Strategy pg 15)

## 2.2 FinTech

“FinTech *noun*: an economic industry composed of companies that use technology to make financial systems more efficient. “ (McAuley, D Wharton FinTech, Online 2014)

### 2.2.1 Overview

Roy S.Freedman discusses in his book Introduction to Financial Technology what he perceives financial technology to mean. The author describes financial technology with being concerned with building systems that model, value and process financial products such as bonds, stocks, contracts and money. (Freedman, Roy S, 2006 pg 1). The author illustrates how financial products include price, time and credit. Freedman analyses how financial systems which can be viewed as similar to commercial systems involve buying and selling of products in different markets at different times through trading systems and trading technology. Financial Technology involves secure communication to others in a market through common language with a quick delivery of information and news which can be public or private and this is done through a communication network. Financial Technology includes trading technology similar to that of commercial systems. Trading includes several actions such as auctioning, negotiating, buying, selling, borrowing, leasing, brokering, dealing etc

As mentioned already the global investment in financial technology over the past few years is staggering. Global Management Consulting technology powerhouse Accenture recently produced a paper on “The Rise of FinTech”. The paper discusses that due to the new age of open software and cloud computing this has opened up the market thus reducing barriers which allows new entrants into the financial technology industry. As a result of this the financial institutions including banks etc are being pressurized to lower costs and drive growth opportunities which have come about from the digital revolution.

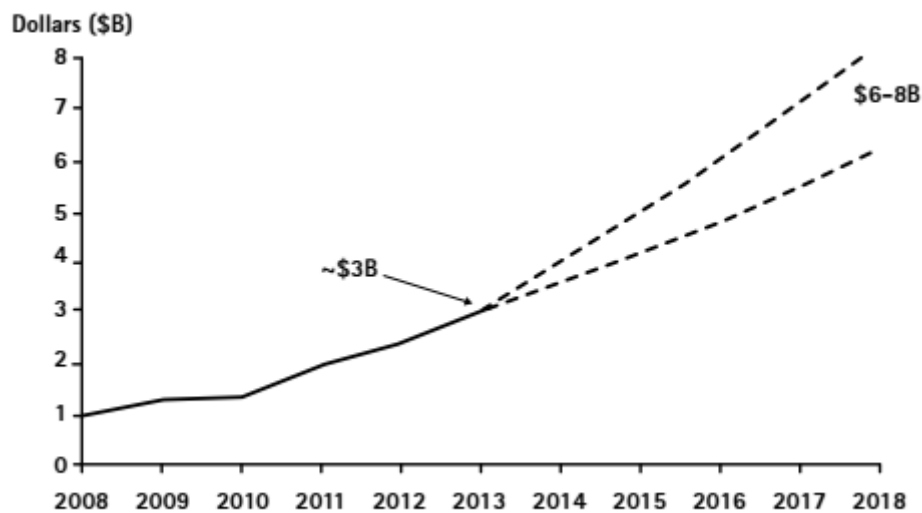
In New York the FinTech Innovation Lab which assists bright FinTech entrepreneurs to develop their latest innovations has seen the Lab’s previous alumni raise \$76 million and one company was acquired for \$175 million. (Gach, R and Gotsch, M, Accenture, 2014) The FinTech market in New York has seen growth of twice the rate compared to Silicon Valley. Over the past four years FinTech has witnessed Global Investment which supersedes venture investing by four times overall. The US has held strong as the main hub for this investment with a huge 83% of global investment in 2013 and nearly 1\$ Billion in the first quarter of 2014. Financial Times reports “The total amount invested in the global FinTech

sector rose from just over \$4bn in 2013 to more than \$12bn last year". (Arnold, Martin 2015, Financial Times Online)

The Financial Times (Arnold, Martin 2015, Irish Times Online) also reports that \$3.5 Billion was invested into KKR also known as Kickstarter. Kickstarter are a donation based crowd funding company whom help entrepreneurs fund a project or venture by raising money for large groups of people primarily over the internet.

The FT also illustrates that there was \$865 million raised by the lending club on the New York stock exchange. Forbes online reports how The Lending Club which involves peer to peer lending has issued over \$1 Billion in loans and they are the clear leader in the market. Peer to peer lending like crowd funding is an innovative financial technology offering credit at much lower rate than the traditional banks. (Caldbeck, Ryan Forbes, Online 2012)

Figure 1. Global fintech investment will more than double by 2018



Source: Accenture, Partnership Fund analysis of CB Insights data

Figure 5: Global FinTech Investment will more than double by 2018, Gach R et al pg 2

FinTech can be broke down into several different areas within the financial sector:

### **A. Asset Management**

Asset Management is simply the management of a client's investments by a financial services company like an investment bank. The bank or company will then invest on behalf of the client. FinTech is having a serious impact in this sector with the UK being regarded as the world's largest fund management centre in the world accounting for over 6.2trn of assets under management. (Shaul, David, UK FinTech Online, 2015) A great example a company thriving within the FinTech world of Asset Management is Motif Investing. A company set up by two friends to make to allow investors to invest in great ideas at a low cost solution. This is done through online readymade portfolios called motifs. Motif Investing recently won an award for being the most disruptive FinTech Company in the market recognized by Benzinga. (Market Watch Online, 2015)

### **B. Bank Technology**

Another key trend which has banks and financial institutions baking and bolting with new FinTech innovation is Omni Channel solutions. BackBase is an excellent example omnichannel solution where the customer experience platform allowing customers to create web portals and mobile applications. There software allows companies which is extremely beneficial to financial institutions to manage customer service experiences. Adobe reports how today customers have more control about how and when they interact with their money. They can access their accounts and financial services through mobile phones, laptops, tablets, online, ATMs and even through social media. A report by the Federal Reserve board found that banking services accessed by U.S internet users during a twelve month period found that:

- 85% visited a bank branch
- 74% used an ATM
- 74% used online banking
- 34% used telephone banking
- 29% used mobile banking
- 15% made a mobile payment

The report suggests that although financial institutions are becoming more effective with engaging with customers through apps, mobile technology, online it acknowledges that social media is causing problems. Although social media has its benefits for reaching customers banks are struggling to comprehend how to use it effectively and efficiently. (Adobe, 2014)

### **C. Crowdfunding**

Crowd funding is one of the most promising areas within the FinTech world. This is another innovative financial technology platform which involves raising capital, finance or money from a large group of people primarily over the internet for ventures or projects. Etsy which is a marketplace where people can buy and sell unique products online have recently looked into crowd funding. The Wall Street Journal reports how Etsy are to launch a crowd funding program which will allow sellers to raise money on the website which will help fund the manufacturing of new products. Etsy product manager Joe Lallouz discusses how passionate the company are about their sellers and they recognise that funds or finance are an issue for sellers. "A lot of sellers identified financing as a big hurdle to growth," (Leslie, J Wall Street Journal, 2015) and two month pilot for its project launching due to a boom in crowd funding.

### **D. Cryptocurrency**

The origins of cryptocurrency started back in 2008 which were invented by Satoshi Nakamoto through an organization called Bitcoin. Bitcoin is payment network using peer to peer technology which operates without any central banks. Bitcoin and cryptocurrency is a digital currency and this is issued by the network. When we look at how the federal reserve system where governments can control currency through printing money however; they cannot control crypto currency as this is decentralised. The downside to Bitcoin or cryptocurrency is that although it is not issued by banks nor is it guaranteed by banks. Reveal a new start-up which in cryptocurrency similar to Bitcoin. (Wallace, Benjamin 2011, Wired Online)

## **E. Information Portal**

Enterprise Information Portal or (EIG) is another area which can affect the financial technology world. EIG is framework bringing together information, people and processes throughout organizational boundaries similar to that of a web portal. Its access to a company's information, knowledge base of employees and for customers, business partners etc. Quroa online report in their article how “ Big Data has created deep demand for analytics and visualization software in the finance industry as well as increased access to financial information for consumers. Online platforms allow for collaboration and crowd sourced analyses in real time. “(Werneck, Bruno Quroa Online, 2015) VC Experts provides valuable and powerful information on the financing of private companies and the fundraising. “VC Experts has become an indispensable resource for entrepreneurs, investors, lawyers, and various services provides in the venture capital and private equity industries.” (ACE, NYSE Online, 2015)

## **F. Investment Management**

Investment management is another key trend in FinTech, which involves the buying and selling investments within a portfolio. Banking, budgeting and taxes can come under Investment Banking however; it usually consists of portfolio management. Forbes online discuss how Investment management is where people who are investing into a large amount of accounts at work, that investment management takes the form of mutual funds. Mutual funds are run by money managers who invest these funds in order to receive capital gains for these investors. These mutual funds are directed by lead investment managers towards stocks and bonds that make up the funds. (Forbes Online, 2013) There has been a reduction in administration fees as well as product fees and customers are reaping the benefits along with more open professional advice. The development of new products within investment management such as crowd sourced ETF's.

## **G. Machine Intelligence**

Artificial Intelligence is having a significant impact in the financial services industry. Jon Kay discusses on the Harrington Star how start up organizations in the FinTech sector are using artificial intelligence to create and develop software solutions to structure data and create a machine learning system. This innovative software will enable a system to act without being directed or asked to do it. The author discusses how the large investment banks are taking AI technology to develop systems on a mobile platform to create a more interactive customer

experience and to prevent mistakes by staff or consumers themselves (Kay, Jon, Harrington Starr Online, 2014). Sentifi.com have recently launched an AI based FinTech service which identifies important events and issues to listed stocks worldwide. (Sentifi, Start-Up Ticker, 2015)

## **H. Marketplace Lending**

FinTech is having a grave impact on the lending side of the financial world. Marketplace lending which includes both peer to peer lending and social lending simply provides borrowers with lower rates on loans and investors with a higher source of fixed income. Following the financial crisis in 2008 borrowers have been looking for ways and means to get lower rates on loans and in turn lenders to get a higher rate of return on their investments. Banks have been dealing with the high regulation that exists with the financial services sector and this has opened doors for peer to peer lending. The process involves an online platform that offers borrowers easy and efficient access to lenders. Peer to Peer lending in the U.S generated \$6.6 Billion last year up 128%. Europe and the UK in particular have seen enormous growth reaching €3 Billion up 144%. (Bakker, Evan 2015, UK Business Insider)

## **I. Money Management**

Money management is something that is vital to us all both on a personal level and business level. Managing our expense reports in our own lives and in a business manner is vital to staying afloat. Money Management firms offer smarter innovative ways on spending and some insight recommendations. Companies like Abacus or Concur are unique online FinTech methods of paying expenses on the go. These online expense platforms are even available in applications for your smart devices. The platforms are setup for employees to upload expenses while allowing managers simple access to approve them. Once these have been approved they can automatically be transferred into your bank account.

## **J. Payments**

The payment companies have also undertaken dramatic changes from the evolution of financial technology. The organizations involved are always looking for new innovative ways to make the process simpler from the transfer of an item of value from one party to another. One such new FinTech start up excelling in this sector is Irish company Stripe. Stripe is a unique online payment platform allowing which allows sellers or people to accept payments

online through applications. They have been classified as the new PayPal which already offers this service. The new innovative firm was set up by four Limerick brothers and is now valued at a staggering \$3.5 Billion. The company has been touted for a firm rival to PayPal (Newenham, Pamela, Irish Times Online, 2014)

## **K. Private Markets**

Towers Watson in their paper "Investing in Private Markets" describes private markets as an umbrella term containing a variety of illiquid investments. In other words, investments that cannot be sold at short notice and as a result of this require a more long-term approach with patient capital. (Towers Watson, 2012) Private markets are often referred to as private equity secondary markets. This area of financial technology has also seen advancements due to the vast amount of information available from advisory services and private companies. DueDil has recently become Britain's largest source of information about private companies according to Euro Money online. (Lee, Peter Euro Money Online, 2015) Equityzen is another company in the financial technology world of private markets which connects shareholders of private companies with investors seeking alternative investment.

## **L. Real Estate**

Online Real Estate which is extremely similar to crowdfunding in that it looks to connect investors with real estate development projects. Planwise is a company that diversified into the real estate online FinTech industry, spotting a gap in the market by offering its listing platform for free. This allowed it to challenge the big players already in the market such as Zillow and Trulia. (Pozin, Illya Forbes Online, 2014) Crowdstreet, a company started up in 2012 designed to connect investors with real estate sponsors similar to a crowdfunding organization, is growing in the market. Anand Sanwal, CEO & Co-Founder of CB Insights, discusses how FinTech start-ups in the lending side will veer towards the real estate market. "I think some of these FinTech start-ups who are focused on lending may eventually get into mortgages as they try to become more of full-service providers," Sanwal told Inman. "But since many are already tackling large lending markets already, they may choose to focus on their initial verticals before starting to diversify and try new markets." (Swinderman, A. Inman Online, 2015)



## 2.3 The Evolution of financial services with FinTech

### Evolution of Financial Services with FinTech

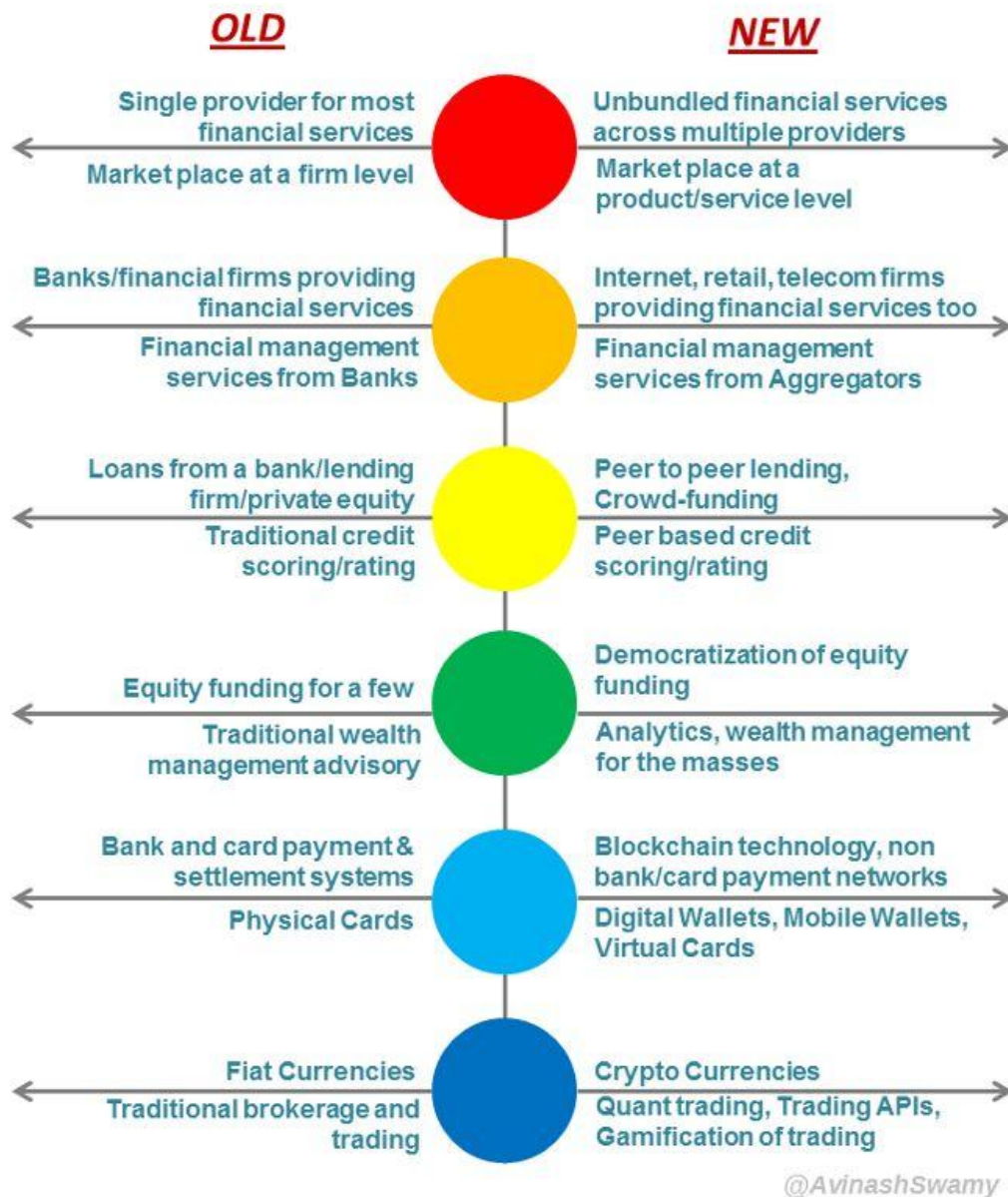


Figure 7: Evolution of Financial Services with FinTech (Swamy, A. Online)

With the Government's IFS 2020 plan to grow the financial services market here in Ireland and create over 10,000 jobs; this opens up the market in financial technology or FinTech. Ciaran Hancock discusses in his article for the Irish Times the level of job creation that FinTech could

provide. The article is in conjunction with David Dalton from Deloitte. It's estimated that with the implementation of the IFS 2020 strategy that FinTech could amount to half of 10,000 proposed new jobs in the financial services. A total of over 5,000 jobs could be created in the ambiguous world of FinTech over the next five years according to Deloitte.

David Dalton discusses in the article how many financial services firms are struggling with outdated legacy platforms and I.T architecture which in turn is preventing their growth and ability to be innovative. Mr Dalton talks about how FinTech start-ups are disrupting business models whilst current financial service firms remain cautious and stagnate. Mr Dalton and Deloitte have this view on FinTech “Our view is that the FinTech and financial services industries are interrelated and mutually dependent. The connectivity between the two sectors needs to be significantly enhanced.” (Hancock, Ciaran Irish Times, 2015)

Deloitte also produced their own paper called “Why FinTech collaboration with Financial Services can drive job creation in Ireland” which again discusses the job creation opportunities in the next five years. In this short paper Deloitte offers three distinct participants within FinTech either which can drive Growth:

1. Disruptors Technology companies that innovate and disrupt traditional FS business models, often disintermediation of the banks (e.g. CurrencyFair)
2. Optimisers Technology companies that focus on product innovation, helping FS institutions to optimise their existing businesses, as standardisation emerges across industry segments (e.g. Barracuda FX, Realex)
3. Financial Services Institutions Financial Services Institutions that are seeking to embrace technology innovation to support their business for example, Citi Innovation Lab and Aon Centre for Innovation and Analytics. (Deloitte)

Deloitte also comments on the key challenge for FinTech in Ireland will be supporting the disruptors and optimisers whilst guiding Financial Services Institutions to transform their business models and gain the benefits of both. (Deloitte 2015, FinTech)

Anna Scally from KPMG is responsible for Ireland’s initiatives around FinTech and she works closely with her colleagues globally in positioning Ireland as a gateway for FinTech industry. Anna discusses how FinTech is a core component of this strategy and she points out how well Ireland is positioned to support this new exciting trend. “The Irish Government has recognised the strengths Ireland has in the FinTech area and the opportunities that are present for economic growth and jobs. FinTech features as a key plank of the Governments International Financial Services Strategy – IFS2020”

The evolution of the financial services industry due to the rise and impact of financial technology is affecting different areas in different ways. As the author illustrated at the start of the literature review the different areas which FinTech can be categorised. The proposal will now look further into the key areas which are revolutionising the Irish Financial Services Industry. The first of this new revolutionary FinTech success stories is the payments sector.

### **2.3.1 Payment Revolution**

Accenture recently reported in their paper “The Future of FinTech and banking” that the investment in technology between the UK and Ireland has rose from \$264 million in 2013 to \$623 million in 2014 which amounts to a staggering 42% of Europe's total investment. The majority of this growth came in the FinTech or financial technology sector. Ireland's IFSC and London's Silicon Roundabout area are the main focus for FinTech Innovation. In the payments sector we have seen astonishing revolution in the financial services here in Ireland (Gach, R and Gotsch, Maria Accenture FinTech 2014).

One example of this is CurrencyFair which are an online peer to peer foreign exchange Marketplace Company enabling customers to exchange foreign rates for international currencies at a more competitive rate. CurrencyFair simply helps its customers avoid bank charges and a better exchange rate when sending your money overseas. CurrencyFair has handled more than \$1 Billion in transfers last year. An Taoiseach Enda Kenny was full of praise for the FinTech company “The best advances in technology make the world a smaller place and the services provided by CurrencyFair will help people all over the world to transfer money cheaply. “ (An Taoiseach Enda Kenny TD 2015 CurrencyFair). The company already employs over 50 people in Ireland and Chief Executive Brett Meyers has said he expects to add another 50 staff here in Ireland by the end of 2015. (O'Brien, C Irish Times Online, 2015) Mr Meyers also spoke with the CNBC and he explained the how Dublin now has the tools and momentum to capitalise on all the opportunities in FinTech which will only see more growth in the future. Mr Meyers believes Dublin has the right people with strong technical and financial backgrounds. He also believes that the government is playing its part in innovation and investing in technology. (Conwell, S CNBC Online, 2015)

Another exciting Irish company in the payments sector is Realex which are also based in Dublin. The company is one of Europe's largest and fastest growing online payment gateways. The company was founded in 2000 and today report processing over €28 Billion in payments of online and mobile businesses worldwide. Realex provides payment processing services to companies such as Virgin Atlantic, GSK, and Paddy Power according

to their latest accounts reported an operating profit of 2.1 million for year to April 2014 (Conwell, S CNBC 2015). In March of this year 2015 Colm Lyon founder and entrepreneur of Realex sold the company to US company Global Payments in a deal worth €115 Million. CEO Colm Lyons had this to say "We are thrilled to be joining the Global Payments team," said Realex Payments CEO and founder, Colm Lyon in a statement. "It's great news for our customers, for our employees, and for Ireland." (Realex Payments, RTE News, 2015)



Figure 8: Ireland is European Home for Financial companies (IFS 2020 Strategy pg 9)

Another revelation in the FinTech world of payments in Ireland is Stripe. Stripe is an innovative online payments company which allows users or businesses to accept payments online. The Collison brothers from Limerick set up the company which is now valued at over \$3.5 Billion. John Collison Co Founder of the company in a recent interview with the Irish Independent explained that the company is now launching in Sweden, Norway, Denmark & Finland. He explains how excited the company is by expanding into Europe as they are already well established in the U.S. Stripe is recognised as a rival or competitor to PayPal (Weckler, Adrian 2015 Irish Independent). Stripe has recently been named as one of Apple's partners its new Apple Pay service along with Visa. (Stripe and Apple Irish Times, 2015)

### 2.3.2 Lending Revolution

With evolution of the financial services industry through FinTech one of the key areas involved in this change is the way that lending is now being conducted. Price Water House Coopers report how powerful forces are reshaping the financial services industry. The report discusses how the retail banking industry is rapidly changing. The belief is that the retail banking industry will look completely different due to customer expectations and changes in technology (Retail Banking, PWC Report 2015)

**55% of bank executives view non-traditional players as a threat to traditional banks**

Figure 9: Bank Executives view non-traditional players as threat (Retail Banking, PWC pg 5)

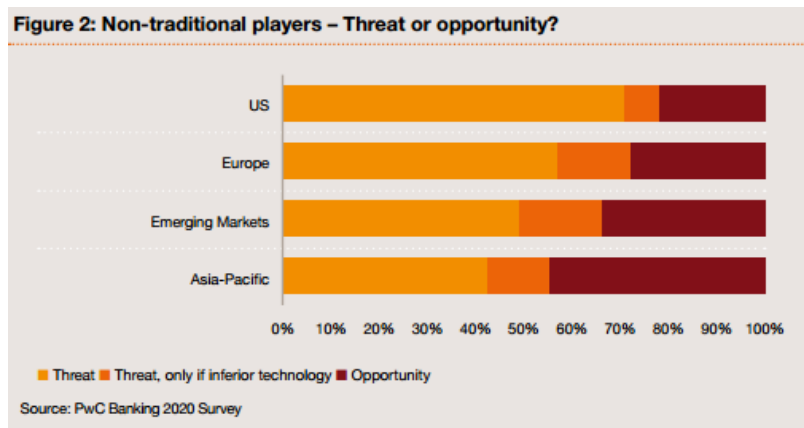


Figure 10: Non-traditional players - threat or opportunity (Retail Banking, PWC pg 6)

Andrew Walker in his paper banking without banks says “A new ecosystem of financial technology (FinTech) start-ups will challenge traditional product development processes, prompting industry giants to question the viability of developing their own products as opposed to acquiring new FinTech players.” The author also discusses that in a decade from now business to business financial services will be facing competition from self service bank as you go and other lending platforms (Walker, A. 2014 Banking without Banks).

One such platform is the FinTech phenomenon of peer to peer lending. This new innovative concept simply cuts out the banking middle man. The main benefit is to offer much lower rates, while savers get far improved headline rates and these business and sites make a profit via a fee.

Peer to Peer lending companies such as The Lending Club an American organization, Zopa which is the UK’s largest peer to peer lending and Grid Finance which is an Irish company are offering a unique lending platform. Matt Levine from Bloomberg Online reports how the Lending Club can be better than banks: as banks can’t do what the lending club does (Levine, M 2014 Bloomberg) For example the lending club simply takes money from one individual and only look to the lending club for repayment and the lending club offers money to others in a similar obvious transaction. Here in Ireland we have a similar company in the

name of Grid Finance. The Irish Independent reported back in October 2014 that Grid Finance aims to transform the Irish banking sector by offering alternative sources to Irish Business. The new company and approach has been supported by Enterprise Ireland. The company wanted to operate like a community bank without being a bank. Chief Executive Derek Butler stated that "It's based on a pretty simple idea of providing a place where people who have money can support those who need it." (McLoughlin, G Irish Independent 2014)

This entire area of financial technology is a unique opportunity to investigate further and discover how it is changing the financial services industry within Ireland especially around the area of lending.

## **2.4 Literature Review Conclusion**

As the author has discussed the financial services has seen an evolution since it first came to fruition back in the 1860's. From the (GLB) Gramm Leach Bliley Act in the U.S which saw a consolidation of some financial institutions across to the development of the IFSC here in Dublin. Technology has transformed the introduction of the internet over twenty years ago to what's known today as broadband operating much faster and more accessible to the world. We can see this through the evolution of mobile phones to smart phones and smart devices which have access to instant broadband in the form of 3G or 4G. Technology is growing at a rate that no one could have predicted. The financial service has witnessed dramatic change due to the advancements in technology from ATM's to online banking etc. It is new ambiguous term of FinTech which is financial technology which is changing the financial services landscape across the globe.

FinTech as the author has already illustrated comes in many different categories, from payment companies online to payments in point of sale which involves machine intelligence and peer to peer payments. Consumer banking is evolving from the way we interface with their banks from mobile applications and online banking. Lending is changing from the traditional banks which can now be offered in the form of peer to peer lending and crowdfunding. FinTech is expanding rapidly and shaping the way in which consumers or businesses operate in the financial services paradigm.

This study will now dig deeper into the financial technology sector concentrating mainly in the Irish market. The author will investigate in a larger scale the overall affect that FinTech is having on our financial services industry. Delving into the financial institutions themselves to see how they are dealing with this exciting innovation to the new start-ups in the industry as

already highlighted above. The investment looks to continue over the next few years in FinTech globally and most certainly in Ireland following the recent strategic approach from the Irish government with IFS 2020.

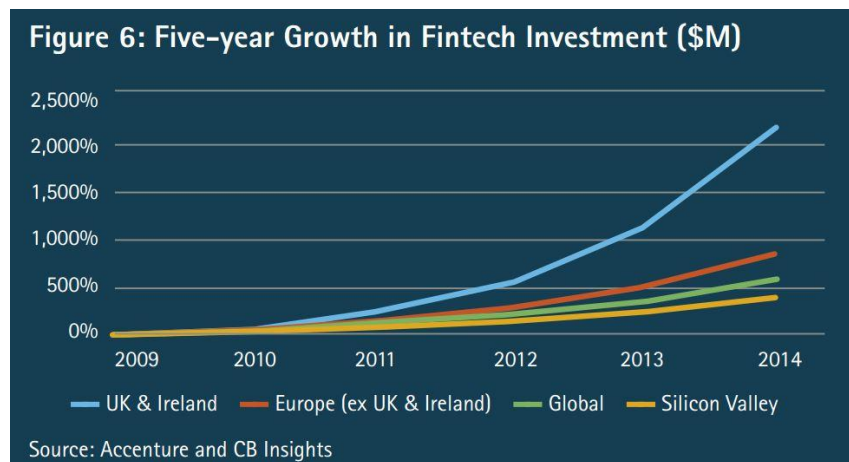


Figure 11: Five – year Growth in FinTech Investment (Skan, J. Future of FinTech & Banking pg 5)

# Chapter 3 – Research Methodology

## 3.1 Research Introduction

“We can therefore define research as something that people undertake in order to find out things in a systematic way, thereby increasing their knowledge” (Saunders et al, 2012 pg 5) Saunders points out that it's important to realise the use of the term systematic is based on logical relationships and not just beliefs. When conducting research it involves the use of different methods and approaches. (Saunders et al, 2012 pg 5) Bryman and Bell see business research which includes studies which draw from social sciences, including sociology, psychology, anthropology and economics for conceptual and theoretical inspiration. (Bryman & Bell, 2015 pg 5)

Jankowicz, 2005 pg 224 defines methodology as the analysis of, and rationale for, the particular method or methods used in a given study, and in that type of study in general. The author merely pointing out that the methodology is for you to provide a rationale or argument for the approach to the research which one has adopted in order to gather data. The most common definitions suggest that methodology is the overall approach to research linked to the paradigm or theoretical framework while the method refers to systematic modes, procedures or tools used for collection and analysis of data (Mackenzie and Knipe (2006).

The intention of this study is to assess the effect FinTech or financial technology is having within the Irish Financial Services Industry and to identify any concerns the financial institutions have with the new start-ups and what approach they feel is necessary to respond. Within this sector the research has a particular focus on the financial services today and where it's going in future due to the impact that financial technology is creating. This section of the study details the methodology behind the research including the research design, data collection and analysis methods, as well as the associated dilemmas that research of this nature can encounter.

## 3.2 Research Question

Saunders et al (2012 pg 10) describes the research question as a key question behind the research process. Therefore it is important that the research questions are clearly defined in accordance with the objectives of the research. For the purposes of this research the following questions have been formulated to identify and assess service quality within the

sector. Blumberg et al (2011 pg 501) employ that the answer to this question provides the desired information necessary to make a decision with respect to the research dilemma.

### Research Question

*“What impact will FinTech have on the financial services industry in Ireland?”*

### 3.3 Proposed Methodology

Saunders et al (2012 pg 128) developed a diagram which breaks down the research into several layers like an onion. Using the research onion see figure 1, this will map and develop the research methodology for this study. This will include selecting a suitable research approach, relevant strategies and philosophies as well as the techniques involved in the collection and analysis of the data.

### 3.4 Research Onion

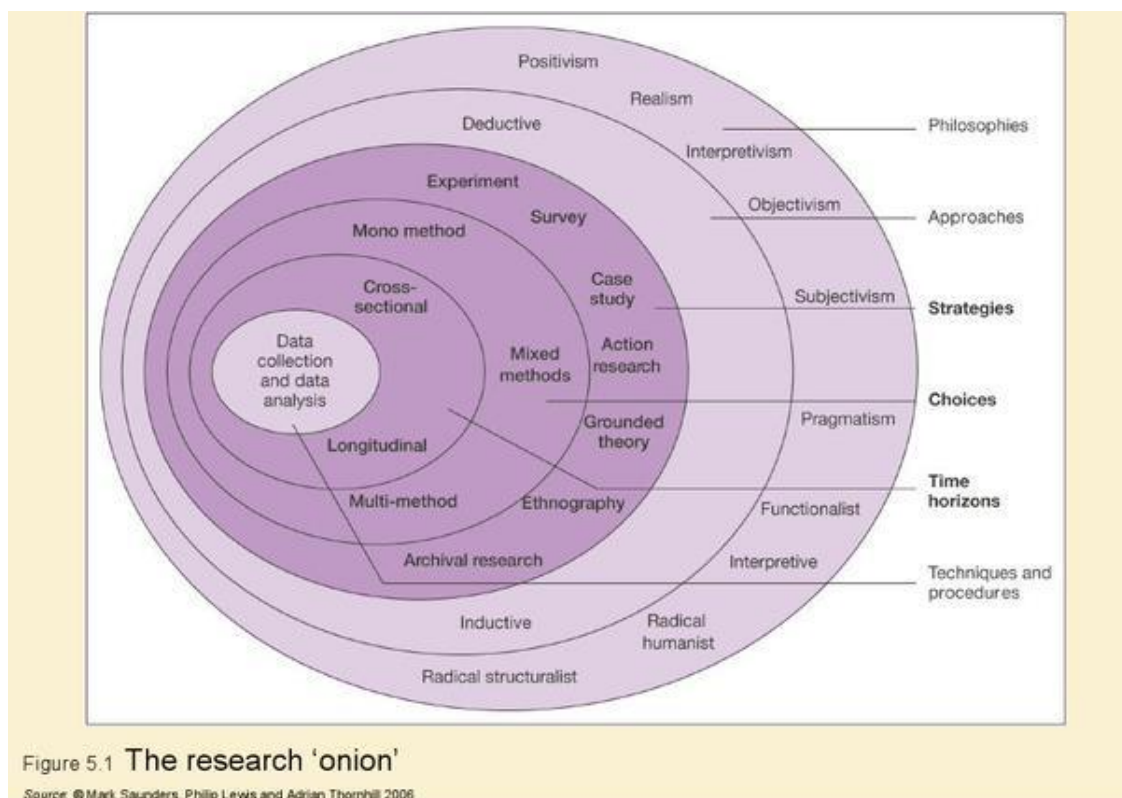


Figure 12: Research Onion (Saunders et al (2012) pg 128

### **3.5 Research Philosophy**

If we dissect the onion by starting at the first layer this incorporates all the philosophical approaches to conducting the research. Saunders et al (2012 pg 128) discuss how in all stages of our research we make assumptions and that the research we adopt can be thought of as our assumptions about the way in which we view world. These assumptions will support your research strategy and the methods chosen as part of that strategy. Blumberg et al (2011 pg 16) discusses how research that is conducted is embedded in the broader philosophies of science. The science, involves either a subjective or an objective approach to research, and these two major philosophical approaches are delineated by several core assumptions concerning ontology (reality), epistemology (knowledge), human nature (pre-determined or not), and methodology (Holden and Lynch, 2004). Johnson & Clark (2006) from Saunders et al (2012 pg 128) argue that the important issue is not so much whether our research should philosophically informed but, rather how well we are able to reflect upon our philosophical choices and defend them in relation to the alternatives we could have adopted.

The author when conducting research and finalising the dissertation considered several different philosophies including: Pragmatism, Interpretivism, Objectivism, Subjectivism, Realism and Positivism.

#### **Pragmatism**

Pragmatism asserts that concepts are only relevant where they support action (Kellerman & Rubbens 2008) from Saunders et al (2012 pg 130) this statement and philosophy simply defines a research approach which is not cemented one way. The researcher can use different philosophical approaches and multiple approaches can be achieved. It's acknowledged that pragmatists realise that there is many different ways of interpreting the world.

#### **Ontology**

Saunders et al (2012 pg 130) talks about Ontology being concerned with the nature of reality. It simply asks questions of the assumptions researchers have about the way the world operates. There are two types of Ontology which are Objectivism and Subjectivism.

## **Objectivism**

“Objectivism is the position whereby the researcher believes that social entities exist separate to those that make up the entity.” (Saunders et al, 2012 pg 131) It’s simply describing that if we look at management it may differ in organizations but the main functions are the same or similar in nature.

Objectivism can be illustrated through management, as management itself maybe an objective entity.

## **Subjectivism**

Subjectivism is when we look back at the study of management we may look at the objective aspects of management being less important as oppose to the way management themselves attach their own individual meaning to their jobs and which way these jobs are performed.

## **Epistemology**

An epistemological issue concerns the question of what is (or should be) regarded as acceptable knowledge in a discipline. (Bryman and Bell 2015, pg 26) this approach looks at what level of knowledge is acceptable in the field of study. In others what constitutes acceptable knowledge. There are three different forms of Epistemology which are Positivism, Realism and Interpretivism.

## **Positivism**

Positivism comprises several beliefs about how one can make sense to others, which have come into existence because it is assumed that no one is perfect and that all human beings are fallible. Positivism is realist which searches for truths “out there”. (Jankowicz, 2005 pg 110)

A positivist approach will adopt the philosophical stance of the natural scientist by collecting data about an observable reality and search for regularities. (Saunders et al, 2012 pg 134) Positivism has three basic principles which are:

1. The social world exists externally and is viewed objectively
2. Research is value - free
3. The researcher is independent, taking the role of an objective analyst.

According to positivism, knowledge develops by investigating the social reality through observing objective facts. (Blumberg et al, 2011 pg 17) The doctrine of positivism is extremely difficult to pin down and outline precisely because it is used in a number of ways by researchers (Bryman & Bell, 2015 pg 27). It is frequently advocated that the positivist researcher will be likely to use highly structured methodology in order to facilitate replication (Gill & Johnson, 2010) from Saunders et al, 2012 pg 135). The assumption is the researcher is value neutral or not affected by the research being conducted like in an interview where that individual will have feelings from certain questions being asked.

## **Realism**

Realism is a research philosophy sharing principles of positivism and interpretivism. It relates to the scientific enquiry and the essence of realism is that what we sense is reality. It assumes a scientific approach to the development of knowledge. (Saunders et al, 2012 pg 136) There are two types of realism which are direct realism and critical realism.

Direct or empirical realism says what you see is what you get, what we experience through our senses portrays the world accurately. Saunders et al, (2012 pg 135) As such it fails to recognise that there are enduring structures and generative mechanisms underlying and producing observable phenomena and events and is therefore superficial" (Bhaskar 1989:2) from (Saunders et al pg 135)

Critical realism which is another brand of realism recognizes that the existence gap between the researcher's concept of reality and the true but unknown reality (Blumberg et al Pg 18). (Saunders et al, 2012 pg 135) explain critical realists argue that what we experience are sensations, the images of things in the real world, not the things directly.

## **Interpretivism**

There have been many criticisms of positivism which define “laws” in the same way as physical sciences in the complex social world of business and management. As a result of this researchers may tend to side with interpretivism. Interpretivism advocates that it is necessary for the researcher to understand the differences between humans in our role as social actors. As humans we play a part on the stage of human life whereas in theatres actors play a part which they interpret in a particular way and act out their part in accordance with their understanding of this role. We as individuals carry this out in the same way in our everyday social lives. (Saunders et al, 2012 pg 137)

Unlike positivists, interpretivists hold the view that the social world cannot be understood by applying research principles from natural sciences. (Blumberg et al, 2011 pg 17) The main principles of interpretivism are the social world is constructed with a meaning from people, the researcher is part of what is observed and research is driven by interests.

The author considered all three approaches for this proposal. For the purpose of this research which involves analysing the impact FinTech is having on the financial services industry through analysing human behaviour the researcher chooses an Interpretative approach. The research involves a level of social world interpretation of experiences and perceptions within the Irish financial services industry. Therefore this philosophy is suitable to the study as “Interpretivism is an epistemology that advocates that it is necessary for the researcher to understand differences between humans in our role as social actors.” (Saunders et al, 2012 pg 137)

In relation to the research ontology (nature of reality) the research will involve a subjective approach to the study because the research will involve analysis of the interviewees interpretation of the effect FinTech is having on the financial services industry currently and in the future through their experiences and perceptions. The role of the researcher according to Saunders et al (2012 pg 132) is to, “seek to understand the subjective reality of the customers in order to be able to make sense of and understand their motives, actions and intentions in a way that is meaningful”.

### **3.6 Research Approach**

The next element or layer of the onion is the type of approach the study will utilize. There are two types of research approaches namely inductive and deductive research.

#### **Deductive Approach**

Bryman and Bell (2015 pg 23) illustrate that deductive theory is the most common view of the relationship between theory and research which the latter is conducted with reference to hypotheses and ideas inferred from the former. Deduction owes much to what we would think of as a scientific research. It simply involves the development of the theory that is then subjected to a rigorous test through a series of propositions. Deductive approach is more affiliated with Quantitative research where the focus is on using data to test theory.

#### **Inductive Approach**

An inductive argument is radically different from a deductive type as it does not have the same relationship between reasons and conclusions. (Blumberg et al, 2011 pg 21). A Qualitative research strategy is regarded as inductive as data collection is used to explore a phenomenon and identify themes, patterns to create a conceptual framework. (Saunders et al, 2012 pg 163)

The author researcher has investigated both an inductive and deductive research approach for this study. Researcher has adopted an inductive approach as this is more suited to qualitative research to use a variety of methods to collect data by studying a small sample of interviewees. This is mainly due to the majority of research following a qualitative method of interviews of senior leaders within the financial services industry. This approach will provide the researcher with an excellent opportunity to understand the industry in far more lucrative way.

### **3.7 Research Strategy**

The next level in the research onion is looking at the research strategy. Blumberg et al (2011 Pg 501) defines research design as the blueprint for fulfilling research objectives and answering the research questions. It's the generic plan of how you will go about answering your research question Saunders et al, 2012 pg 143)

Jankowicz, (2005 pg 198) says the research strategy can be classified into three types: exploratory, descriptive and causal. Bryman & Bell (2015 pg 37) describes the research strategy as a framework for the collection and analysis of data and that the choice of the research strategy reflects decisions about the priority being given to a range of dimensions of the research process. Saunders et al (2012 170) state that the nature of the research project will also be either exploratory, descriptive, explanatory or combination of them.

Elements of the research strategy for the investigation on the impact FinTech is having within the Irish Financial services industry will involve six to eight structured interviews. (Saunders et al 2012 pg 374) describe a structured interview as a data collection technique in which an interviewee physically meets the respondent, reads them the same set of questions in a predetermined order, and records his or her response to each. The researcher will also use a semi-structured interview as although the same set of questions will be asked to each participant, alternative questions may spring to mind during each individual participant's answer.

### Research purpose and strategy (1)

#### Forms of interview

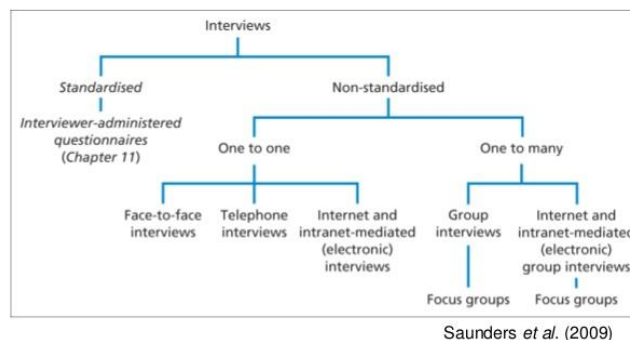


Figure 13: Research Purpose & Strategy, Forms of Interviews (Saunders et al 2012) pg 375

As semi - structured interviews strategy will be implemented the nature of the research design will fall under exploratory and explanatory. The reason for these have been chosen is the researcher is trying to evaluate the impact FinTech is having on the financial services industry and questions are open questions to discover what is happening exploratory. The emphasis here is on studying the situation from the line of questioning and collecting the data to explain the reasons why is the impact of FinTech changing the landscape of the financial services which is explanatory. Grounded theory can be used as the researcher collects the data and analyses it simultaneously. Grounded theory is used to develop theoretical explanations of social interactions and processes in a wide range of contexts including business management.

### **3.8 Research Choice**

The next element or layer of the onion is research choices which refers to the methods used for quantitative and qualitative research. Saunders et al (2012 pg 161) discuss that one way of differentiating between quantitative and qualitative research is to distinguish between numeric data and non - numeric data.

#### **Qualitative Research**

Qualitative techniques are a fundamental approach of exploration and analysis, including in-depth interviews, participant observation, videotaping of subjects Blumberg et al (2011 pg 144). Qualitative research is associated with an interpretive philosophy (Denzin and Lincoln 2005) this is due to the researcher needing to make sense of the subjective and socially constructed meanings Saunders et al (2012 PG 163). Qualitative research usually emphasizes words rather than the quantification in the collection and analysis of data Bryman & Bell 2015 Pg 727). This research strategy is inductivist, constructionist and interpretivist. This research design is associated with a variety of strategies which share ontological and epistemological roots. Some of these strategies used are action research, case studies, grounded theory and semi structured interviews.

#### **Quantitative Research**

Quantitative Research is generally associated with positivism, especially when used to predetermined and highly structured data collection techniques Saunders et al 2012 pg 162. In addition, Bryman and Bell (2015 pg 727) states that quantitative research usually emphasizes quantification in the collection and analysis of data. Blumberg et al (2011 pg 144) simply states that quantitative research studies rely on quantitative information like numbers and figures. The normal strategies used in this research design are experimental and survey research conducted through questionnaires or structured interviews.

For the purpose of this paper, the research will adopt qualitative case study research. Given the nature of the case study, the researcher believes a single data collection technique, in other words a mono method is to be employed for the data collection. An In-depth interview will be used as the mono-method to seek qualitative information from the respondents. "In-depth interviews are a useful qualitative data collection technique that can be used for a variety of purposes, including needs assessment, program refinement, issue identification, and strategic planning. In-depth interviews are most appropriate for situations in which you

want to ask open-ended questions that elicit depth of information from relatively few people (as opposed to surveys, which tend to be more quantitative and are conducted with larger numbers of people)” Guion L, Diehl D, and McDonald D, (2011). Therefore the structure of the in-depth interview will be semi-structured (allowing room for follow up questions where suitable) with a programme of questions that seek depth of information from respondents. Depth is required from the responses so the researcher can fully evaluate an exploratory study of service quality in the financial services sector. Interviews will be recorded to allow researcher to adequately scrutinise and evaluate the data.

Six to Eight In-depth interviews are carried out across six to eight different firms in the Irish Financial Services industry and expert individuals in the field. The interviews consist of the following:

- Mr Cian Twomey – Economist for the National University of Galway (NUIG)
- Mr Derek Butler – CEO of Grid Finance
- Mr Aman Kohli – Lead Mobile Architect at Citigroup Architecture
- Mr David Tighe – Head of Innovation for Bank of Ireland
- Mr David Dalton – Head of Financial Services at Deloitte
- Minister Simon Harris TD – Minister of State at the Department of Finance

Each interview provides a vast amount of knowledge from the financial services industry, FinTech experts, political viewpoint and a macro insight from an economist.

### **3.9 Time Horizon**

The next layer of the research onion refers to the time horizon of the study. An important part of the research is “Do I want my research to be a “snapshot” taken at a particular time or do I want it to be more akin to a diary or series of snapshots. Saunders et al (2012 pg 190) there are two types of time horizons which are cross-sectional “the snapshot horizon” or longitudinal “the diary outlook”.

Longitudinal study is repeated over an extended period of time, tracking changes in variables over times Blumberg et al (2011 pg 495). The main strength of this study is its capacity to study change and development. It is long running study not really designed for dissertations at a master's level.

Cross-Sectional is the study conducted only once and reveals a snapshot of one point in time Blumberg et al (2011 pg 490). For the majority of research proposals they will fall under cross-sectional as the study of a particular phenomenon at a particular time. This study will fall under cross sectional as the project undertaken is under time constraints. A cross-sectional study engages the collection of data on more than one case at one specific time in order to collect quantitative or quantifiable data when more than one variable is considered (Bryman and Bell, 2015 pg 62). Therefore the investigation into the impact of FinTech on financial services is a snapshot of what has happened over the past few years and what plans have been put in place now.

### **3.10 Data Collection Method**

Data collection is an extremely important element of research and as can be seen in diagram 4.1 Saunders et al, (2012 pg 128 ) it is the centre of the 'research onion'. As the research topic is investigative and exploratory in nature (investigating the impact financial technology is having in the financial services sector), the research method is qualitative. Also as the research techniques used are non-numerical or statistical in nature qualitative is more apposite to the topic than quantitative research. "Qualitative is used predominantly as a synonym for any data collection technique (such as an interview) or data analysis procedure (such as categorising data) that generates or uses non-numerical data" Saunders et al (2012 pg161)

#### **Primary Data**

The author will also undertake primary data collection as an essential part of the proposal. The researcher will attempt to interview six experts in the financial services industry and FinTech. Therefore as in-depth interviews have been selected as the primary data collection method across 6 financial services firms and industry experts in Ireland for this study, the technique collates qualitative data. After the researcher's interpretation of this qualitative data on service quality, the researcher then develops theories relating to the topic.

## **Secondary Data Collection**

Where appropriate the researcher makes use of existing sources of data that are publicly available, also known as secondary sources of data. Secondary data relates to data originally collected for some other purpose. This secondary data can include of company and industry specific organisational websites (internal secondary data), as well as any previous and relevant research papers or journal articles (external secondary data).

### **3.11 Sampling Section**

Sampling and selection are principles and procedures used to identify, choose, and gain access to relevant data sources (Mason, 2002). A sample is “a smaller (but hopefully representative) collection of units from a population used to determine truths about that population” (Field, 2005). There are two types of sampling techniques: probability or representative sampling and non-probability or judgmental sampling (Saunders et al, 2012 pg 261). Probability sampling is associated most commonly with survey research strategies as each case being selected from the population is known and is usually equal for all cases. Non-Probability sampling is the probability of each case being selected from the total population is not known. Non-probability sampling is used for this research into the impact of FinTech in the Irish Financial Services sector. Given the size and the scope of the Irish Financial services industry it is not possible for example to interview every firm within Dublin’s IFSC, considering also the time and budgetary constraints of this study. Samples are not selected at random.

“Non-probability sampling (or non-random sampling) provides a range of alternative techniques to select samples based on your subjective judgement. In the exploratory stages of some research projects, a non probability sample may be the most practical” (Saunders et al (2012, p.281).

Therefore suitable selective samples are chosen within the industry as follows: six to eight different firms in the Irish Financial Services industry and experts of FinTech.

They consist of two interviews with Head of Innovations and financial technology in two different financial institutions and one interview with an economist for a macro view. Another interview will be with the Head of Financial Services for the world's largest professional service and accountancy. The fifth interview will be with the CEO of a new start-up FinTech company here in Ireland and the sixth with the Minister for Finance leading innovation

FinTech here in Ireland. Therefore the relevant people with relevant experience from a macro point of view, financial technology and the financial services sector have been selected.

Purposive sampling will also feature into the research of FinTech in the financial services sector. Purposive sampling is using one's judgement to select particular individuals that will best enable the researcher to answer the research question and meet the objectives. It's more accurate for use heterogeneous or maximum variation sampling which uses judgement to choose participants with sufficiently diverse characteristics to provide maximum variation possible in the data collected Saunders et al (2012 pg 287) .

There are slight criticisms towards this approach of allowing the researcher collect data to describe and explain key trends however; Patton (2002) argues that this is in fact strength. As the focus of this study is to analyse patterns and trends which providing value and key themes in the FinTech world on the financial services industry.

### **3.12 Ethical Issues**

During this research topic ethical issues are given serious deliberation. Given the nature of the financial services industry confidentiality from the researcher is an essential requirement and information of a classified nature should not be disclosed. "In the context of research, ethics refers to the appropriateness of your behaviour in relation to the rights of those who become the subject of your work, or are affected by it" Saunders et al (2012 pg 226). Ethical concerns will emerge when a researcher designs and plans research. Ethical principles have been usefully broken down by Diener and Crandall (1978) into four different areas: Bryman & Bell (2015 pg 134).

- Whether there is harm to participant
- Whether there is a lack of informed consent
- Whether there is an invasive of privacy
- Whether deception is involved

Therefore the purpose of the research being undertaken is clearly communicated to all respondents before any research took place allowing respondents time for consideration. No research took place on any organisations without prior consent and understanding of the nature of the research. The organisations in question were also informed prior to the

interview of the topics under research. This allowed organisations further deliberation time. As well as letters of consent, confidentiality agreements are drafted and signed for the research purposes. Anonymity of the participants will also be a feature of the data collection. During the course of the in-depth interviews, participants aren't obliged to answer any questions which they deem unsuitable. Agreement is also sought where voice recording instruments are used and participants have the right of refusal of use and any content to be removed from recording.

### **3.13 Research Limitations**

The researcher tried to envisage the research limitations in advance, the researcher planned around these issues trying to minimise the effect of these limitations. The most likely limitation a short term or snapshot research study like faces is time management. This is due to the short period of time allowed in which the researcher could conduct the research.

When looking at the overview of the financial services industry, managers often have large workloads and busy schedules so there was limited availability for interviews. Together with the researcher's busy work schedule these factors indicated that time management was carefully planned. When considering the lack of availability of monetary outside support of the research, the study also has little monetary controls for the collection of data.

Due to the ambiguous new buzz word of FinTech (financial technology) being currently regarded as a new trend in the market there was very little previous research conducted. This lack of previous study was a limitation to the build up of the literature review.

The reliability of the information or data is another potential limitation of the research. The reliable or genuine responses from interviews can be tainted due to corporate policies of the organisation and confidentiality constraints. Also the researcher's lack of experience working with the financial services sector or involved in finance provides a challenge as to whether they are on the right path or not. The researcher ensured confidence in all participants' which made them trust and respect the researcher.

## Chapter 4 – Data Analysis & Findings

### 4.1 Interviewees Background

#### **Cian Twomey - National University of Galway Economist (Interview 1)**

Cian Twomey has been economist at the University of Galway for over 15 years. Cian specialises as a programme director for the school of financial economics. Mr Twomey works alongside Alan Ahearn whom is the professor and Head of economics for NUIG. Mr Ahearn is also an advisor for the Irish government and IMF. It was important when conducting the research to gain a macro overview from an economist on the financial services in Ireland and the evolution of FinTech. Mr Twomey follows this very closer and provides a dynamic insight into the sector.

#### **Derek Butler - CEO Grid Finance Peer to Peer Lending (Interview 2)**

Derek Butler offers excellent insight knowledge to the industry. Derek has worked for Ernst & Young, PWC, as financial controller for GOAL. Derek set up a FinTech company a little of two years ago called Grid Finance. Grid finance is a peer to peer lending company challenging the bank's lending model. The researcher felt that gaining the knowledge of a FinTech start-up would gather essential information from barriers to entry and where the industry was heading in the future.

#### **Aman Kohli - Lead Mobile Architect at Citigroup Architecture and Technical Engineering, CTO office (Interview 3)**

Aman Kohli has worked for Citi for nearly six years now. Mr Kohli is leading the FinTech development and research for Citi here in Ireland. Citi are a leading global bank whom is dedicated to new innovation in the industry. They support FinTech start-ups and ideas through their innovation lab. The researcher wanted a global bank's perspective on FinTech in the financial services here in Ireland and of an external one.

#### **David Tighe - Head of Innovation in Bank of Ireland (Interview 4)**

David Tighe has worked for Bank of Ireland for over 15 years and comes with a wealth of experience within the financial services industry. Mr Tighe is currently Head of Innovation for BOI and is leading the project for FinTech here in Ireland. Mr Tighe along with Minister Harris recently opened BOI start-up workbench aimed at new start-ups using the branch as a base. Creating a workspace for new FinTech companies this is an excellent opportunity in the region. The researcher wanted to interview an Irish Bank to gain their insight into the FinTech industry and its impact on the financial services.

#### **David Dalton - Head of Deloitte's Financial Service Practice (Interview 5)**

David Dalton brings with him a wealth of experience again working for Deloitte for over four years leading their financial service practice here in Ireland. Mr Dalton has been in Irish papers recently discussing the impact FinTech is having on the financial services industry. The researcher recognised that David would be instrumental towards the complete overview of FinTech and the impact it's having on the financial services industry.

#### **Simon Harris TD - Minister of State at the Departments of Finance (Interview 6)**

Minister Harris is part of the Department of Finance PER and Taoiseach with Special Responsibility for the OPW, Public Procurement, and International Banking (incl IFSC) and was elected to Dáil Éireann in the last General Election. A major part of Minister Harris' role is the IFSC and he is leading the IFS 2020 strategy for the government. Minister Harris is driving forward the concept of FinTech here in Ireland and hoping to create over 10,000 jobs as well as supporting FinTech start ups. The researcher felt that interviewing Minister Harris would be instrumental to the process.

### **4.2 FinTech Awareness**

FinTech as illustrated in the paper early on is a very broad area which can come under various topics and headings. **Cian Twomey (Interview 1)** in the first interview discusses how aware of FinTech he is and how broad of topic FinTech is. There are currently a lot of start-ups in the region and **Mr Twomey (Interview 1)** mentions Fexco which is an Irish financial services company focusing on the bureau de change and payment card services. Fexco has been successful over the past few years reporting an increased turnover last year of €87.6 million (Irish Times, online 2015). **Mr Twomey** also recognises what banks and

global banks are doing within the FinTech area discussing Citi Innovation Labs, Accenture and Deloitte.

**Aman Kohli (Interview 3)** from Citi talks about how they are in relation to FinTech globally and indeed here in Ireland. **Mr Kohli** is leading the FinTech innovation lab here in Ireland and is heavily involved in start-ups in the country. “We’re involved in quite a few of the initiatives that are happening with many start-ups” (**Aman Kohli Interview 3**). David Fleming recently talked about how Citi were a tech company with a banking licence. (Irish Independent, Built on Talent, 2014) Citi have had success in designing the service “BE Mobile” which in 2013 €113 million in transactions were conducted using. This is bank - grade security technology and in 2013 Citi had €30 trillion in transactions using a system they invented themselves called CitiDirect BE.

From an Irish Banks perspective, Bank of Ireland is also heavily involved in FinTech. BOI are one of the sponsors of the NDRC which are an early stage investor in tech companies. **David Tighe in Interview 4** discusses how this is his full time job leading innovation for BOI. **Mr Tighe** discusses how there is a team of eight and a large portion of their work is around FinTech engagement with start-ups in the community. According to **Mr Tighe** the team spends their time searching for start-ups in the industry and even areas further afield in London which is real hub of FinTech. The awareness of FinTech is greater in fields abroad as we look at Berlin & Tel Aviv which is growing considerably according to **Mr Tighe**. Silicon Valley remains the enterprise FinTech that we know of today however; PWC tax partner Paul Murphy talks about in the Irish Times how lucky we are here in Ireland as there is good synergy between the financial services and technology. Mr Murphy discusses how all the major tech players are based in Dublin, Google, Facebook, PayPal and how there are “many spin-offs from the two sectors around the country and we are on our way to creating a FinTech innovation ecosystem” (Ireland Hotbed for FinTech Innovation Irish Times, online 2015).

**David Dalton (Interview 5)** the head of financial services for Deloitte discusses how he has been investigating and looking into FinTech over the past 18 months. **Mr Dalton** recognises that Deloitte has done some research and published some work around the sector recently. The researcher illustrated this earlier in his paper “Why FinTech Collaboration with Financial Services can drive job creation in Ireland” (Deloitte, 2015 Why FinTech) Mr Dalton is also involved in the IFS 2020 Industry Advisory Council and participates in a number of European Executive teams in this space. Jones H, J. et al discuss in their article “Ireland plays for high stakes in FinTech game” how Citi started with 40 people in FinTech in Ireland which has now

grown to 400. “Dalton argues that FinTech can capitalise on the burgeoning growth of the IFSC”. (Jones, H.J et al, 2015)

One of the latest FinTech innovations is a peer to peer lending company called Grid Finance. **CEO Derek Butler in interview 2** discusses Grid Finance being one of the leading early - stage companies in this burgeoning space here in Ireland. **Mr Butler** points out the London is the leader in terms of FinTech however; Ireland is rapidly growing to narrow that gap. CEO Butler is obviously extremely aware of the industry however; he does point out the term FinTech can be have a different meaning to others as its really meant technology companies who are trying to fix part of a traditional bank's value chain and build technology products that actually help solve problems for banks and problems in the value chain.

**Minister Simon Harris TD (Interview 6)** is responsible for the IFSC here in Ireland and has two objectives in mind. As the Minister is solely responsible for the IFSC part of this role is to simply engage with the financial services industry and to find out what industry experts believes needs to be done. **The Minister** also recognizes the need for a new strategy to drive forward growth within the financial services sector. From the origins of the IFSC with total employees at the time of 60 which has now risen to over 35,000, the industry has seen growth that no one could have expected. The new IFS 2020 strategy put in place by the government has seen Minister Harris conduct a series of consultations with industry experts and the main issue that rose from the IFS 2020 strategy was FinTech. **The Minister** recognises that FinTech is something was starting to have a major impact on the financial services industry which he believes will change the way customers interact with our financial services provider in the future.

### **4.3 Is FinTech affecting or changing any segments of the banking business model?**

As touched upon earlier in the paper PWC produced a paper on retail banking and whether or not there was evolution or revolution. The paper analyses the various forces which are reshaping the banking industry. Many industry experts are predicting the fall of the traditional bank as new entrants look to disrupt the traditional model within the financial services sector. Banks will effectively need to adopt to respond to these changes or embrace them through other collaborative means. (Retail Banking 2020, PWC 2015) In a Lafferty Thought Leadership Report, John Egan talks about how the banking model has changed drastically over the past ten years and this trend is set to continue as technology has reduced the

barriers to entry for all industries. As a result of this it's clear for all to see small competitors chipping away at the traditionally exclusive retail banking margins (Egan, John 2014, A Lafferty Report). **Cian Twomey (Interview 1)** discusses how a lot of banks are using FinTech companies to provide technology solutions to their needs. A simply analogy of **Mr Twomey's** statement is an example of banks collaborating with FinTech companies.

**Aman Kohli (Interview 3)** feels that FinTech is not really affecting the bank's business model however; more there engagement model. In other words the way in which global banks such as Citi are now working in more open environment with other companies in the community. **David Tighe (Interview 4)** acknowledges that FinTech is having a knock on effect to the financial services industry but highlights that it depends on who you talk to. This discussion will vary across different banks and financial services companies from different departments in each. **Mr Tighe** states that is his opinion and expertise that FinTech will fundamentally disrupt the banking model in the future.

There is two real differential ways at looking at the banking system which is both commercial banking which covers the purchase and sale of wholesale credit, structuring of corporate debt and equity and servicing private clients. It's simply the business side of banking whereas Retail banking deals mainly with the average customer who walks off the street and into a bank. **David Dalton (Interview 5)** is clear to point out that FinTech is having an impact on the banking system however; reiterates strongly that it's not just the banks that are being affected. **Mr Dalton** talks about how FinTech is affecting all of the financial services industry. FinTech is affecting retail banking to corporate banking and investment banking but, also insurance and areas which he calls investment management.

**Mr Dalton (interview 5)** again mentions areas such as lending and crowdfunding which will have a major impact in the financial services industry. **CEO Derek Butler** of peer to peer lending company Grid Finance **Interview 2** talks about his opinion on FinTech affecting or changing the business model within the financial services industry. **Mr Butler's** opinion is yes it is and no it's not. The reasons behind this are that banks are receiving support from companies looking to fix the ongoing problems that exist in banks today. New entrants to the market see this as only adding to the bank's bottom line by reducing costs however; **Mr Butler** of Grid Finance along with other FinTech start-ups are simply looking to disrupt the traditional banking model. Peer to peer lending is simply changing how capital moves around in society. As we all know banks were the main platform which was safe location for retail customers. Mr Butler believes companies like his are disrupting this service by offering claiming people don't need fully fledged bank to move capital around. New innovative ways

now exist to move capital around. There are several other sectors of FinTech affecting the traditional banking model such as the payments industry.

**Minister Harris (Interview 6)** is again in agreement that FinTech will certainly disrupt the financial services industry. This disruptive change is basically in terms of the way banks and financial service providers deliver their services are going to dramatically change. As a result of all the new start-ups in FinTech the minister simply believes that traditional providers are going to have to get with the programme and adapt to embrace this change or be left behind. When we look at Citi as an example they now have over 2,000 employees based in Ireland and 400 of them are part of their innovation lab.

It's clear to see that there is a certain clear indication that the traditional model of financial services & banking is being challenged by start-ups and all interviewees are in agreement that FinTech has a big opportunity to disrupt the industry and capitalise on the banks old traditional model in the future.

#### **4.4 In what areas do you see the greatest potential impact of FinTech disintermediation of the traditional financial services?**

**Minister Harris (Interview 6)** voices his opinion that it's still a little early to answer this right now. A large proportion of where FinTech is going to go in the future is speculation as we only having the success stories of the current FinTech companies to go by. **Minister Harris** believes that in 20 years time we as customers will be going to a number of alternative companies all offering different specific products and services to satisfy your banking needs. This will ensure that each company will be more flexible and become an industry expert for this product or service. As a result of this the Minister feels this will provide genuine competition for the traditional financial service providers.

The Minister feels collaboration is going to have a significant impact where banks and technology will band together to create a more innovative dynamic strategy. We are also seeing large technology companies moving into banking, the likes of Google or Apple. **The Minister** feels that the same graduates from technology to finance will all be competed for by the likes of Citi, Google, Facebook, and Apple etc. The exciting new start-ups will have a greater understanding of technology and will be able to offer more consumer friendly products challenging the banks.

As we are already aware FinTech is so vast in terms of size however; there are certain segments which are affecting the financial services compared to others. **Mr Twomey (Interview 1)** give his take on what segments of FinTech offers the greatest potential impact on the FSI. The market clearly identifies three key areas in FinTech which are flourishing and they are currencies, payments and lending. **Mr Twomey** agrees that all three are having knocked on affect to the financial services.

## **Lending**

From banks using technology to improve their lending practices when looking at how they interact with their customers; to obviously the impact of peer to peer lending and crowdfunding offering their service to lend directly. **Mr Twomey** points out that it really depends though, as peer to peer lending is really only direct at the start-up market. That on a large corporate level as in a multinational you're lending will still come from the banks. **Aman Kohli (Interview 3)** reiterates how peer to peer lending is simply making finance available to those who are unable to get formal structured products from existing institutions. He feels it's filling a gap left by traditional financial institutions.

**David Tighe (Interview 4)** sees a very noticeable disruption in the lending side of the market. Primarily the Irish market as he points out is already well ahead in the UK & the US. **Mr Tighe** talks about how crowdfunding in the UK is a £4.5 billion marketplace. Obviously with **Derek Butler and Grid Finance (Interview 2)** they would see this segment as having the greatest impact as people are placing money with financial institutions and getting little return. **Mr Butler** points out that many corporations themselves are getting little or no return which is fundamentally wrong.

## **Currencies**

When we look into currencies **Mr Twomey (Interview 1)** is of the opinion that modern corporate banking should FX technology capabilities. Even though from **Interview 2 Mr Butler's** business is peer to peer lending he recognizes the impact that other segments have. **Mr Butler** talks about some of these segments are like low hanging fruit especially on the FX side. There is great opportunity especially on the FX or corporate treasury. **David Tighe from Bank of Ireland (Interview 4)** agrees seeing the FX side as expanding using Brett Myers from Currency Fair as example. It's interesting to see a pattern or trend if you like from all the interviews regarding FX and currency as **David Dalton (Interview 5)** agrees that this company is an excellent success story. It's a success story for an Irish FinTech

company which simply matches lots of consumers on one side with lots of suppliers on the other side in terms of a financial product.

The latest trend of cryptocurrencies is seen as an excellent example of another FinTech segment doing well. Bitcoin is probably the most recognisable in this interesting FinTech space. **Mr Twomey (Interview 1)** is not sure if people will adopt this digital currency format however; his is concerned with the security behind it mainly in emerging countries like Africa. **Aman Kohli (Interview 3)** feels that cryptocurrency and Blockchain in particular is a huge disruption to the area. Forbes recently produced an article how Bitcoin would never replace paper money as in dollars or Euro's. The most interesting thing about Bitcoin is that it has very little to do with money with more the underlying technology known as Blockchain which many leading finance experts feel could transform the world in the next ten years. (Wellers, Dan Forbes online, 2015)

## **Payments**

This is one area that FinTech has seen massive growth and new start-ups. This segment is very notable here in Ireland which several different successful companies. **David Dalton (Interview 5)** sees this segment as a significant area to the disintermediation of the banks. The FinTech market particularly in the US and UK are seeing hundreds of start-ups every month. David Dalton and Deloitte see payments as the area that has the most activity. **David Tighe (Interview 4)** also sees payments as key area discussing the success of Colin Lyon and Realex. After the recent sale of Realex Colin Lyon could retire taking home a whopping €115 million however; he plans to launch another FinTech company shortly. He feels FinTech is going to continue to disintermediate from the traditional financial services model. Mr Lyon had this to say "Traditional banking is going to be very different in the future from what it was in the past and "The beauty about FinTech and payments is that you can build yourself a very niche business, and it can be a very large business. "(Jones, H. J et al, 2015) **Minister Harris (Interview 6)** again mentions the success of Realex and can only see payments growing in the FinTech sector. Other start-ups need to learn from the success of Irish company Realex and believes that these new payment, currency or FinTech companies in general will be able to offer anti - money laundering solutions to either complement or assist existing players in the financial services.

#### **4.5 Do you consider FinTech - specifically 'peer to peer' platforms - as serious competition?**

There is a mixed view around the industry as to whether peer to peer platforms offer serious competition to the traditional financial services industry. It certainly is having a noticeable impact as PWC reported that p2p platforms in the United States alone issued over \$5 billion in loans last year. (Peer Pressure, PWC, 2015) That figure is estimated to rise to a staggering €77 Billion this year! (Robinson, Edward, Irish Independent, 2015)

Currently right now P2P lending is not a serious competitor right now according to **Minister Harris (Interview 6)** however; within the next ten to twenty years we should see serious competition emerging. As a result of the FinTech revolution and p2p lending the giants of the financial services industry are starting to wake up. They are upping the game in terms of innovation and technology and putting in place accelerator programs or incubator programmes luring new young graduates to generate new ideas. (**Minister Harris, Interview 6**)

Obviously p2p start-ups feel they have a real opportunity to disrupt the traditional lending model from large financial services corporations however; we must look at this from a much broader perspective. **Mr Twomey (Interview 1)** points out that a lot of the SME companies are probably not aware of peer to peer lending at the moment. These companies which already exist would have good relationships with their current banks. **Mr Twomey** does see an opportunity for p2p lending in relation to new start-ups or companies struggling to get finance in certain industries. Disrupting the lending platform is very likely but as **Mr Twomey** illustrates the majority of p2p lenders aren't big enough to compete with the banks.

Aman Kohli (**Interview 3**) from Citi is in agreement to **Mr Twomey (Interview 1)** as p2p having some sort of effect on the lending industry but, not as competition. This argument makes sense due to the colossal amount of money that traditional financial services are currently lending. **Mr Kohli (Interview 3)** points out that there isn't enough liquidity in peer to peer to compete with the sheer size and volume of the liquidity in traditional lending. There is a place for it and certainly a growing market but, not enough to be considered a serious competitor says **Mr Kohli**.

**David Tighe from Bank of Ireland Interview 4** discusses how peer to peer is only part of the phenomenon and a current trend coming out of the FinTech space at the moment. It's

simply a macro trend which is part of social movement. **Mr Tighe** does mention another form of a successful peer to peer platform but its back to payments side of things called Venmo. The company is sweeping across colleges in the US by making and sharing payments. A simple example is two people going out to lunch and it costs €40, one party sends the other a peer to peer payment of €20 which can be shared on social media i.e. Facebook or Twitter.

**Derek Butler CEO of Grid (Interview 2)** finance obviously operating within this lending space of FinTech absolutely without any doubt sees p2p as a major future competitor. As p2p is focusing on a particular customer or target market offering, **Mr Butler** sees this as a main factor in terms of growing this segment. He believes banks have for too long their shutters down and put themselves on a pedestal. There is a greater need for people to able to access capital more easily in order to grow their business. Since the financial crisis of 2008 there has been massive brand damage to the banks and if you marry this with the highly regulated demands on the financial services industry this open a lot of doors for p2p.

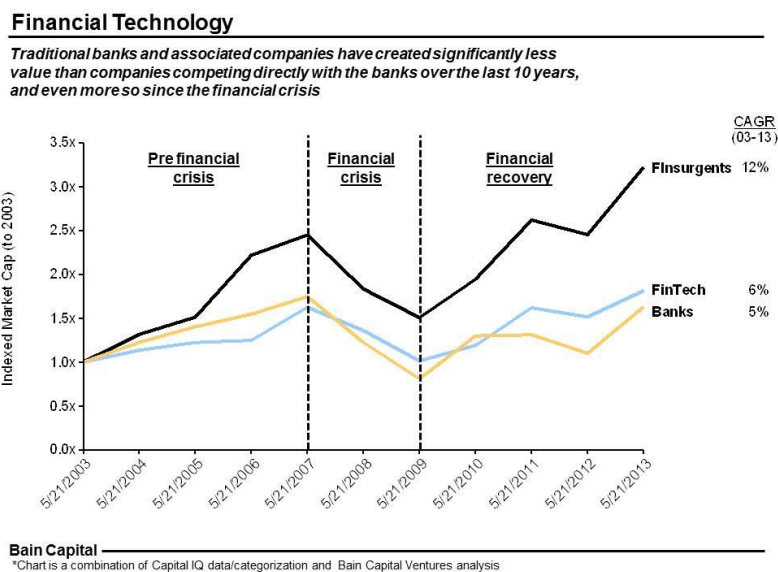


Figure 14: Banks vs. FinTech (Harris, Matt 2013, Finsurgency online)

Banks due to some these regulations may not be able to lend to some businesses even though they operating perfectly and functioning due to the banks concentration risk limits being hit in your sector no loan will be issued. The banks won't inform you that certain regulatory restrictions have prevented us from lending to you, it will be a simple no sorry we can't lend to you. Mr Butler talks about how the traditional banking institutions commercial

model is now flawed and this creates a perfect opportunity for p2p to exploit his gap in the market. "I can't think of a more ready appetite or a more ready opportunity for companies like us. " (**Butler, D Interview 2**)

#### **4.6 In what segment of the Irish market do you think FinTech is seeing the greatest adoption & growth?**

The greatest adoption or growth area in FinTech is not that easy to identify. As FinTech is relatively a new thriving concept derived from financial technology, all we have now is look at the current success stories both abroad and here in Ireland. It can be difficult to envisage where a new gap in the market will arise from, a new innovative concept to add benefit to consumers in relation to financial products. **David Dalton** was one to point out that it's still very early to answer that as there isn't a clear adoption of FinTech approaches. **Mr Dalton (Interview 5)** reiterates again the great success stories FinTech has had here in Ireland from Currency Fair, Barracuda FX etc. These companies were designed and aimed more towards a global strategy as the Irish market would have been too small.

Linked Finance is another success story as they were Ireland's first peer to peer lending site. **Mr Dalton (Interview 5)** sees this as another opportunity for FinTech in Ireland. **Mr Kohli (Interview 3)** of Citigroup reconfirms this insight claiming there will be further growth in the lending segment primarily p2p. **Minister Harris (Interview 6)** has the same vision he sees the lending side or p2p is the most obvious segment of FinTech having an impact in Ireland. Not as much as competition goes but more complementing existing services rather than completely disrupting them. **Mr Butler CEO of Grid Finance (Interview 1)** disagrees with lending having the fastest adoption or growth due to the fact that there is no clarity regulatory regime in this space. In the UK it's a different story as the FCA (Financial Conduct Authority) have designed and built a fair regulatory regime around lending or FinTech in general. The lack of regulatory regime in Ireland for FinTech and lending may prevent this segment growing further. **Mr Butler** told the Irish Independent "I think regulation is an important part of this whole alternative finance market, and I think we would certainly welcome it." (McLoughlin, Gavin, Irish Independent, Online 2014)

**Mr Dalton (Interview 5)** even with the number of payment companies already in place he sees further growth within this segment. He sees a big opportunity primarily in the mobile payments whether this comes from existing companies or new start-ups. **Aman Kohli (Interview 3)** agrees that consumer payments offer a big opportunity or future. **Minister**

**Harris (Interview 6)** confirms payments is the one area where we are seeing new ideas and providing services through new innovation that would have been dealt with by the banks in the past. **Derek Butler CEO of Grid Finance (Interview 2)** a P2P lending company astonishingly sees payments as having the fastest adoption here in Ireland. **Mr Butler** says the reason behind this is that there is clarity of the regulatory regime and there are companies that can move easily across the border. Examples of this are the likes of Apple Pay or Amazon pay which will come into the market soon.

**Mr Kohli (Interview 3)** also recognises the impact that Blockchain a sequential transaction database found in cryptocurrencies is going to have an impact in the coming years as well.

**David Dalton (Interview 5)** from Deloitte also talks about Blockchain being the underlying technology for Bitcoin. Blockchain is a new technology that works on a distributed basis and not directly inside someone's firewall but amongst the marketplace. Everyone has a version of the data and can be changed once you are in line with the rules. **Mr Dalton** talks about how it will fundamentally change how organizations operate and will become very disruptive as a technology.

#### **4.7 Do you think Fin Tech will ultimately collaborate with (& compliment) traditional service Providers or they are going to completely disrupt the industry?**

From the paper so far we can clearly see that FinTech is disrupting certain elements of the traditional financial services model, the prime examples being payments, lending and currencies. **Derek Butler (Interview 2)** believes that in order there will be some companies that can disrupt the traditional model however; these will only be the companies who can stand on their own two feet. **Cian Twomey (Interview 1)** believes that certain companies have already seen disruption in the technology sector and he used Whatsapp as an example. Whatsapp took away SMS messaging from phone companies across the globe which affected the overall revenue for companies like Meteor or Vodafone. Facebook have recently acquired whatsapp to integrate into their technology eco-system.

When we look at FinTech we have similar success stories of some segments being disrupted. Stripe is an excellent example of this who disrupted the payments area for traditional providers. **David Dalton (Interview 5)** from Deloitte is of the same mindset that although there have been some success stories he believes it will be a number of small start-ups FinTech companies that will be successfully globally will disrupt the significant parts of the industry. That the disruption will be drive more from some of the incumbent

players who will effectively adopt the innovation brought to market from new start-ups. It will be the large FX companies buying or acquiring or form partnerships with the new FinTech start-ups which will disrupt certain segments of the industry. **Aman Kohli (Interview 3)** also recognises that there will be disruption due to the hundreds of new FinTech start-ups however; this will be on a minor level. **David Tighe (Interview 4)** talks about disruption in another industry and uses the example of how Netflix put blockbuster out of business. Smart phones that now come with high pixel rated cameras which had an effect on companies like Kodak.

The majority of findings and indeed the research from the interviewees suggests that FinTech is more likely to collaborate than disrupt the industry. **Minister Harris (Interview 6)** feels the intelligent thing to happen would be for collaboration. **The Minister** acknowledges that competition is good for any industry and very much welcomed. It would be very naive for the industry to ignore FinTech and the industry is not naive which is why they will collaborate and support young FinTech companies. **Minister Harris** in his role for the IFS 2020 strategy is seeing the industry giants wanting to support FinTech start-ups. Citi and **Mr Kohli (Interview 3)** also feel that collaboration will be the most common result of FinTech in the coming years. Business in general has seen dramatic change over the past twenty years were things originally were formal are now more informal. **Mr Kohli** feels that the flow of information between start-ups and established companies is more frequent as the barriers are gone. We are now seeing a lot of start-ups seeing mentoring and support today.

**Derek Butler (Interview 2)** completely agrees believes that it will be a good mixture of both but more leaning towards collaboration. **Mr Twomey an NUIG economist (Interview 1)** believes that Ireland should try to pick winners and support as much as possible in terms of start-ups. **David Tighe (Interview 4)** from Bank of Ireland gives excellent insight into why collaboration is where the industry will see more benefit. The banks or traditional financial services providers together have a lot of experience within the industry which money can't buy. This experience provides them with a grave understanding of their customers. The endless amounts of information or data they have acquired down through the years is essential. Banks also understand the mistakes from the past and know how to adapt to any future ones that may occur. Financial Service providers have a certain high level of funds as opposed to new entrants into the market. These funds can be invested into new innovation and can focus on financial technology having a strong financial arm.

The Irish government along with **Minister Harris (Interview 6)** is strong believer in collaboration between financial services and IT companies. This is one of the main key focus points in the IFS 2020 Strategy.

#### **4.8 What do you feel is the biggest issues that FinTech will have here within Ireland?**

##### **Start-up Space**

**Minister Harris (Interview 6)** discussed a few key issues in relation to FinTech here in Ireland. The first problem seems to be around start-up space. There seems to be lack of start-up space and the Irish government are involved in a FinTech representative group with Enterprise Ireland. This group works with companies both big and small in the FinTech space to work together and network. Following meetings with several start-ups in FinTech and existing established financial service provider's start-up space was one key area mentioned.

**David Tighe (Interview 4)** from Bank of Ireland concurs that space is a major issue. Bank of Ireland has Grand Canal space which is used to engage with FinTech start-ups and there is a workbench there. A good recent example of start-up space is Dogpatch expand with Ulster Bank in terms of provision and start-up space. **Derek Butler (Interview 2)** talks about his vision to **Minister Harris (Interview 6)** in relation to creating a zone, large, medium or small bringing traditional and non-traditional companies that can all co-inhabit and coalesce. **Mr Tighe (Interview 4)** also recommends looking at Canary Wharf in London as a good example of large corporate banks operating space with new entrants and start-ups. **Aman Kohli (Interview 3)** reconfirms the issue around office and collaboration space.

##### **Funding**

Another major issue for FinTech here in Ireland is funding. The lack of fund in Ireland is one of the top barriers for growth according to two - thirds of Irish start-ups. This research came from Amárach Research is based on start-ups in general that are based in Ireland not just the FinTech sector. This equates to all start-ups in Ireland and FinTech is only a segment of start-ups here in Ireland. (Kennedy, John Siliconrepublic, 2014) If funding is an issue for start-ups in general is most certainly an issue for FinTech start-ups. **David Tighe (Interview 4)** from BOI talks about funding being a key issue and how it's really difficult for FinTech start-ups. It's a big risk for Irish FinTech start-ups when entering the market. **Mr Tighe**

**(Interview 4)** admires people like Colm Lyon (Realex), Brett Myers and other companies from abroad like The Lending Club. These companies have all grown considerably into major players in the FinTech world and did so by taking a major risk.

According to Deloitte & the IDA high tech companies make up 90% of VC investment in Ireland but only 3-10% out of an average of €400 million has been invested in FinTech in the last 3 years. (Deloitte, 2015) **Minister Harris (Interview 6)** identifies funding as an issue for FinTech start-ups and talks about how is part of the IFS 2020 strategy to get focus on providing funding for bricks and mortar for a new innovative idea. **The Minister** has confirmed that meetings have taken place with the SBCI (Strategic Banking Corporation of Ireland). The SBCI are in a position to offer funding for new FinTech start-ups in the future. Another organization that could provide funding is the ISIF (Irish Strategic Investment Fund) in terms of commercial products.

## Regulation

Regulation is another issue for FinTech start-ups of the current industry itself. As technology and innovation grow regulators are scratching their heads figuring out how to regulate all this change. This is proving to be a difficult challenge and **David Dalton (Interview 5)** talks about how the UK regulator is embracing FinTech. **Mr Dalton** also discusses how regulation is perceived by incumbents as a barrier to entry. **Mr Dalton** is feels though in a lot of cases technology can help solve some of the regulatory challenges incumbents see as barriers. **Cian Twomey (Interview 1)** talks about how regulation is becoming more of an issue when looking at Solvency II and Basel III coming out of the EU. **Minister Harris (Interview 6)** pointed out in his interview that we are in a changing regulatory environment where this is primarily driven by the EU. What the Central Bank of Ireland does is often dictated by the EU. Due to the financial crisis in 2008 where we seen a catastrophic rise in unemployment it's now important to put in place strong regulation. **The Minister** talks about how as part of the IFS 2020 strategy is to produce operational metrics which will make business friendly. **David Tighe (Interview 4)** feels that regulation and engagement with regulation is going to be difficult for FinTech start-ups. London is used as an excellent example when it comes to regulation with FinTech taskforces. These taskforces have come together with lobby group called Innovate Finance from Canary Wharf representing a lot of FinTech start-ups. This open communication will prevent future problems. **Derek Butler (Interview 2)** from Grid Finance talks about how not having regulatory regime means there is low barriers to entry. **Aman Kohli (Interview 3)** from Citi believes the regulatory side of FinTech is a huge opportunity because that's where the banks invest a lot of time and effort.

## Chapter 5 – Conclusions & Recommendations

### 5.1 Introduction

This final piece of the research proposal will bring together the literature review, research methodology and data analysis. The discussion of the thesis started off by looking at the financial services here in Ireland, its origins, where it is now and its future. A large part of the financial services future both globally and here in Ireland is this phenomenon ambiguous term of FinTech or financial technology. This research was to delve into FinTech here in Ireland to investigate what impact it is having on our traditional financial service providers. The information and data conducted from this qualitative piece will provide our academics and practitioners with a great insight into this field for the coming future.

This research proposal was designed to answer the following the questions:

*“What impact will FinTech have on the financial services industry in Ireland? “*

### 5.2 Conclusion

With any good research paper the researcher must undergo an in depth literature review from past papers on the topic, books and current material available. Although financial technology has been around for some time, this new exciting FinTech terms is relatively new. Due to the investment within the industry at the moment several articles and papers from industry experts were available. The key element to the research was always going to come from the primary research rather the secondary research in order to answer the research question.

From the start of the introduction and literature review it's very clear that the financial services have seen dramatic change over the last sixty year; from the Gramm Leach Bliley Act to the financial crisis and new innovative technology. Much of this change has come from the evolution of technology across every industry. Technology has grown at a rate that no one could have predicted. Financial technology is no different and it's changing the way financial services interact with consumers. The Literature Review was to gain insight knowledge to both the financial services industry and financial technology. This extensive reading illustrated how FinTech was impacting on the traditional financial services model globally and here in Ireland.

Since the global financial crisis of 2008 the world has seen dramatic reform with the financial services industry around innovation and regulation. The literature review material combined illustrates this transparent reform by the impact that innovative technology is having in our financial world. The Irish government's strategy IFS 2020 is said to create between 5,000 to 10,000 new jobs in FinTech within the next five years. This latest strategy by the government clearly shows how important the financial services industry is to Ireland with currently over 35,000 employees. FinTech is a major part or player within this dynamic strategy for the future.

FinTech comes in many different segments as the author defined earlier in the thesis. There are certain segments which are prospering above others. From the secondary research it was obvious which of these segments are more successful in the current market. The main segments which are growing in FinTech are lending, payments, currencies. We will see in the final conclusions the trends developed from the primary research and interviews. The primary research developed essential research data from six key interviewees all within or a grave understanding of the industry. These six candidates were carefully selected and came to mind following the researcher's extensive reading of the literature review.

All research and findings shows the extensive amount of new FinTech start-ups in the industry. **David Dalton (Interview 5)** from Deloitte talks about 100's per month globally. **Derek Butler (Interview 2)** CEO and relatively new FinTech start-up here in Ireland talked about how it's very interesting times for new entrants. As **Mr Butler** talked about the current issues banks have had since the crisis of 2008, people's trust and confidence has diminished. Banks have tried to offer all elements to consumers of financial products and services which Mr Butler says is now flawed. **Minister Harris (Interview 6)** talked about the how the new entrants of FinTech companies could specialise in one area becoming experts which would gain confidence from consumers.

Examples of successful FinTech start-ups was outlined at the beginning of the paper and reiterated in the data analysis by the interviewees. Colm Lyon (Realex), the Collison brothers (Stripe) and Brett Myers (Currency Fair) just to name a few. These have all specialised in certain segments of FinTech becoming experts in the field and growing from Irish start-ups to Global players. The turnover figures these organizations have generated over the years is staggering and showing they are certainly having an impact on the traditional financial services industry. Realex alone handled €18 Billion in payments last year; this process would have been originally handled by the traditional banks. Stripe is just over four years old and is currently valued at over \$5 Billion (Stripe Valued, Irish Times, 2015)

The obvious reality is the traditional banking model has changed over the past ten years and this is said to continue due to the latest innovation in technology which has reduced the barriers to entry. The main focus point which evolved from the research was in relation to how FinTech was affecting the traditional financial services model. The discussion was trends amongst all interviewees as to whether FinTech was going to completely disrupt the financial services industry or will it collaborate with the industry. There is some mixed findings coming from the research as some think it will completely disrupt the industry and others to collaborate with it. The new entrants and start-ups feel that due to the current issues within the financial sector, lack of confidence and not specialising in certain areas of financial products or services. This opens the door to an excellent opportunity to disrupt the traditional financial services model. Derek Butler says that banks are concerned by all of the new start-ups in FinTech saying “**if I was a CEO of a bank, I wouldn't be sleeping soundly at night.**” (Interview 2) Others like Minister Harris feel that it will disrupt the financial services industry in terms of the way they deliver their products and services. **Mr Tighe (Interview 4)** from BOI is of the same opinion that FinTech will disrupt the industry however; It's only the companies that can stand on their own two feet will be successful.

The other side to the analysis is that FinTech will disrupt the traditional financial services model however; it's more likely to collaborate with the industry. The reasons behind this analogy is the banks are simply too big to disappear. They have too much knowledge, experience, data, liquidity and capital to simply lie down and fall over. Banks will certainly respond to this latest innovation and we can clearly see that with Accenture's FinTech Innovation lab, Citi Innovation lab and the examples of Ulster as well as Bank of Ireland creating space for these new start-ups. **Minister Harris (Interview 6)** pointed out that the most intelligent thing to do would be for collaboration. Competition is always encouraged in the economy and is very important however; it would be foolish for the financial services industry to ignore FinTech start-ups. They must learn to support them and encourage these new innovation entrants to the market. The same applies to the new entrants unless they have a high level of capital or completely new innovative USP it would be wrong not to acknowledge the experience banks have.

Financial Services providers are creating start-up space for these new entrants and can offer them advice that money can't buy. Start-up Space is a one of the major issues for FinTech companies entering into the Irish market today and one that is going to part of the IFS 2020 strategy outlined by **Minister Harris (Interview 6)**. Financial service providers can offer this

space as seen with Ulster Bank and Dogwatch recently. Funding is another concern for FinTech start-ups and although again this is something the Irish government is focusing within IFS 2020, it's another element the banks could provide as part of collaboration for the right idea. As we know the financial services industry is the most regulated industry after healthcare and although the banks themselves have no control directly over regulation it is issued from the Central Bank or EU. The banks have the experience when it comes to regulation which could be shared through collaboration with FinTech start-ups. Regulation is another issue for FinTech newcomers the example that is used is how well London's regulation complements and supports the FinTech industry. **Derek Butler (Interview 1)** CEO Grid Finance welcomes regulation and encourages as they feel it will only grow their own P2P lending business and encourage new start-ups.

### **5.3 Recommendations for further research**

As the research shows FinTech is still a relatively new concept and technology is growing more and more each day. This opens the door for further research to be conducted over the next few years and probably a lifetime. With the IFS 2020 strategy in place it's going to be interesting to see where our financial services industry here in Ireland is heading and how FinTech will further disrupt or collaborate with our traditional providers.

The research of this thesis was to establish the impact that FinTech is having on our financial services here in Ireland. The researcher feels that there is an opportunity to delve further into the US FinTech space and analyse in much more depth what has worked over there. Has FinTech disrupted their traditional financial services model or is more collaboration. Yes the IFSC consists of these global US banks and the information is known with them however; a direct comparison between Irish research and US would provide a greater understanding not just a bias one from the banks.

Another interesting further research study would be to interview more industry experts firstly from FinTech companies such as Colm Lyon from Realex, Brett Myers from Currency Fair, The Collison brother from Stripe and Linked Finance. These are all Irish success stories on a global scale so their knowledge of the industry would provide excellent material as to where FinTech is going from both an Irish perspective but also a global one. Interviewing more Irish financial service providers like AIB, Ulster Bank, accountancy firm KPMG, PWC and professional service consultancy firm Accenture. These companies have all produced recent

papers on FinTech and some have innovation labs based around FinTech their insight would prove beneficial.

Another interesting further research would be speaking with Global Powerhouses like Google, Apple, and Amazon etc. These companies have endless capital and technology insight and are currently acquiring organizations regularly as well as collaborating with start-ups. An example of this would be Apple Pay which integrates with Stripe technology. Global payments recently acquired Realex so interviewing experts from these organizations would further gain insight into FinTech and how it will further change the landscape in which consumer's converse with their financial service providers.

FinTech industry is still growing and transpiring across the globe however; even though it's a new concept perhaps a quantitative research study may provide a more scientific logical and data led approach. Surveys could be handed out to the public to get their knowledge on FinTech and would they leave their current financial service providers to deal with specialised FinTech companies. Surveys could handed out to industry experts within the financial service industries to engage what their opinion where they feel FinTech is heading and will it disrupt their company or the industry. Will it collaborate with their current provider does that culture exist there from management to directors.

Further research could be directed at wealth management. Looking at an example of this would be an organization called Wealthfront who manage over \$2.6 Billion of assets for clients. Wealth management or companies like Wealthfront simply provide a portfolio management to invest in. The normal part of this industry is a more much personalised dealing with banks however; it's not very economic. Wealthfront has brought together a few very experienced investment professionals and some technical professionals and developed Robo - Advisers. This new system is based on artificial intelligence which constantly manages your portfolio within minimum human intervention. Bloomberg report that by 2020 the assets under management at Robo – Advisors could rise to \$2 trillion. (Regan, M. P Bloomberg, Online 2015) This segment of FinTech could be a very interesting research area in the future giving the staggering figures predicted by 2020 which could fall in line with Ireland's IFS 2020 strategy.

Regulation is another area that would very interesting for further research. The researcher already discussed regulation as one of the key issues for FinTech here in Ireland. Regulation can be a barrier to entry for some incumbents reluctant to enter due to no control in the space and given what happened with the financial crisis in 2008. There may be a lack of

confidence from some new entrants. The flip side to that is as no regulation is in place there are simply no real barriers to entry allowing an influx of companies or start-ups entering the FinTech space in Ireland which could be a catastrophe in the long term. **Derek Butler CEO Grid Finance (Interview 2)** sees one of the advantages of there not being a regulatory regime is the no barriers to entry. Companies like Grid Finance or FinTech start-ups in general can enter the market without regulation preventing them. Further study analysing regulation in the US, London and other companies with FinTech hubs as opposed to the Irish market would be interesting. The researcher already discussed how Canary Wharf and regulation in London was benefiting FinTech companies by supporting them. A study on the benefits and necessity of regulation would be very valuable to academics and practitioners

One of the most fundamental things any industry or companies in particular should do is look at the adoption barriers. As there is long standing relationships between customers and traditional financial services, FinTech start-ups need to make sure that when looking to create a new product or service for the market is to answer one key question. "Will people use it?" FinTech companies must ask themselves what do the customers want? How will you fulfil their needs? The key fundamental part of any business is to focus on its' customers. The researcher feels a mixture of quantitative and qualitative research around these adoption barriers could provide essential research to FinTech new entrants, traditional service providers and consumers themselves.

The researcher points out that nearly every day a new article or study comes out in relation to FinTech either online or in the media. Technology will only continue to grow and prosper in the future at an exponential rate. Financial technology or FinTech will be no different; this presents fantastic opportunities for further research in so many different avenues.

#### **5.4 Analysing the data analysis, conclusions and recommendations**

When evaluating the data analysis, conclusions and recommendations the trends that appear are very consistent with those in the underling literature review. The world is changing with advances in technology and this is very evident in the financial services industry and the impact of FinTech. All participants in the interviews are of the same basic opinion: FinTech is changing the traditional financial services model and impacting on the existing provider's bottom line.

Anna Scally from KPMG talks about how digital disruption is having a strong impact on the traditional financial services model with 25 to 30% of banks existing revenue moving towards competing FinTech providers (Scally, Anna KPMG online (2015)).

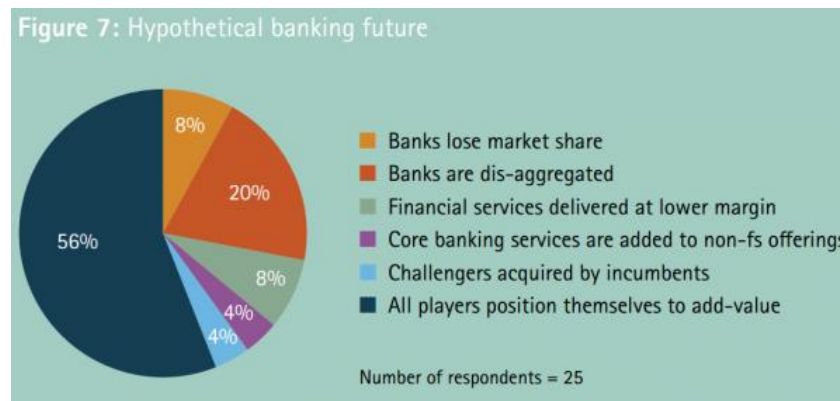


Figure 15: Hypothetical banking future (Skan, J et al 2015 Accenture pg 6)

The data analysis clearly identifies FinTech doing two things, disrupting the industry and/or collaborating with it. What does all this mean? The answer is FinTech will do both. As the research demonstrated FinTech is here to stay and will continue to grow into the foreseeable future.

The main reasons for FinTech's continuous growth globally, and here in Ireland, are the following:

1. Lack of confidence in the banks and industry in the aftermath of the financial crisis.
2. Technology is improving efficiency and reducing imbedded costs in the financial services industry.
3. FinTech offers greatly value to consumers and businesses as it disintermediates banks and cuts out the middle man.
4. FinTech offers potentially superior return on investment (ROI) to investors.
5. FinTech companies are innovative and can offer focused expertise in delivering financial products or services that benefit consumers.

Take this one example:



The image shows a blue rectangular graphic with white text. At the top, the title "What customers are saying about Fintech" is written in a bold, sans-serif font. Below the title is a testimonial in a smaller, italicized font. The testimonial reads: "Transitioning our beer and wine purchases to Fintech's payment method was a seamless process for our retail operations. The best benefit, however, was the amount of escrow we've eliminated from our balance sheet that we formerly had to maintain for each vendor. Our cost of capital decreased by nearly \$90K on an annual basis as a result of converting to the Fintech program." To the right of the testimonial, the name "- Whole Foods Market" is written in a bold, sans-serif font. At the bottom of the blue graphic, there is a light blue horizontal bar containing the text "Select your industry to see a full list of testimonials" in a bold, sans-serif font.

Figure 16: What customers are saying about FinTech (FinTech.Net online by Whole Foods Market)

FinTech is only getting started.

# Chapter 6 – Reflection & Learning

## 6.1 Introduction

Reflection or self reflection is an important part of everyday life as people often reflect on past experiences. Analysing what they have said or done the day before, wishing we might have done that differently. Reflection often occurs in our minds and thoughts long after an event has taken place. It's a natural occurrence which takes place after an event thinking how things might have been different. (Cottrell, S. 2010 p 189) discusses how reflection is important at a university level and that students are expected to develop into thinkers. They are expected to evaluate their own performance and draw conclusions on what went well and how to improve.

The researcher recognises the need for reflection however; this only came to light when the journey started in Dublin Business School nearly six years ago at the degree level. The need for reflection flourished after commencement of the Masters in Business Administration. One of early core modules in process was Personal Development. This intriguing module was fundamental to the beginning of the masters and dissertation process guiding the students of how to grow as individuals. The module offered a key element to reflection as students were tasked to complete an online portfolio called Mahara. (Zubizarreta, J (2009) pg 10) discusses how dwelling on reflection is precisely because of the emphasis on how reflective thinking and judgment are effective stimuli to deep, lasting learning. (Zubizarreta, J (2009) pg 10) talks about how a crucial element of reflection is the key of marshalling the power of what he calls "learning portfolios".

The Lewinian experiential learning model breaks down learning into a four stage cycle. The stages are broken down and described by Kolb, A. D (1984) pg 21 they are as follows the concrete experience which is to simply evaluate and test abstract concepts. The second stage observations and reflections are simply reflecting on the stage before, observing the concrete experience someone has done. The abstract concepts and generalizations which is the third stage in the model which analyses where ideas originated from, retrieving conclusions from these ideas. The fourth stage of the learning model testing implications of concepts in the new situation is testing the new ideas drawn up and seeing if they work.

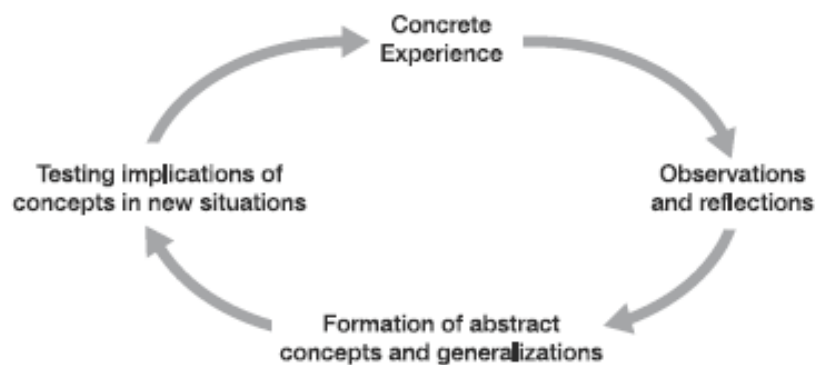


Figure 17: The Lewinian Experimental Learning Model (Kolb 1984) pg 21

This learning model relates to the dissertation where from the start the new ambiguous word of FinTech appeared. The researcher then began to read articles, newspapers journals and books around the FinTech concept and how it was changing the financial services industry which all forms generalizations and an analysis of this topic.

## 6.2 Learning Style

We all recognise that learning is a continuous practice as the old expression translates we learn something new every day. Although as individuals we all learn something new every day, we don't all learn in the same way. Peter Honey and Alan Mumford designed the learning style questionnaire back in 1982 to get an understanding and identify the different learning styles people had.

Upon taking the test the researcher realised his learning style was more towards a theorist. This analogy is seen throughout the paper as a theorist is seen as a perfectionist and one that follows a logical step by step problem solving method. The researcher continuously analysed in the process that all data and information fitted together and made rational sense. This learning style as the researchers agrees was simply concluding from the experience.

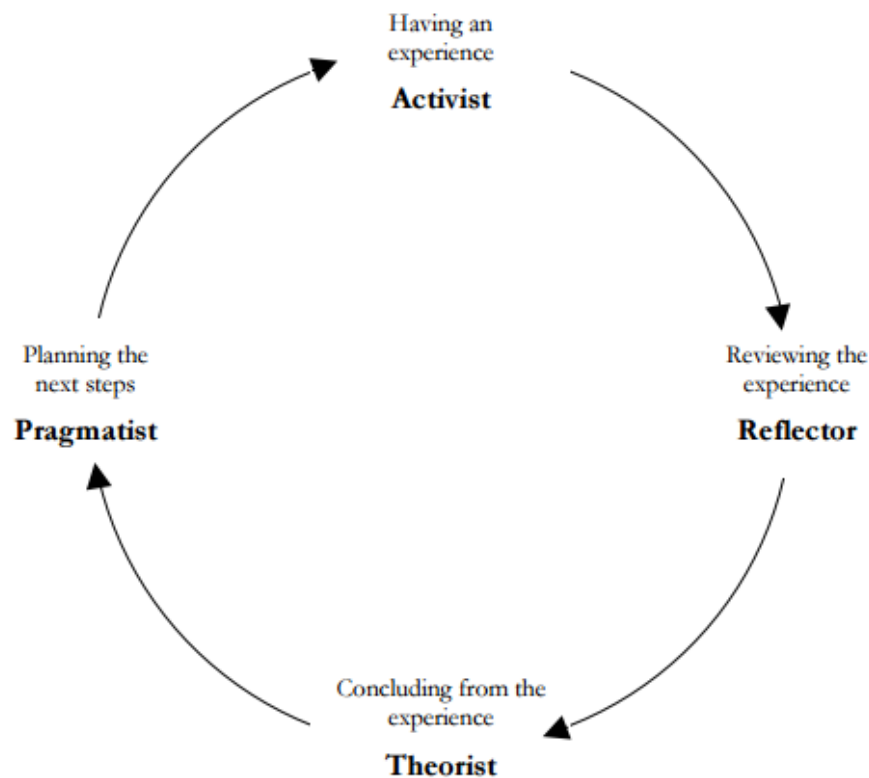


Figure 18: The Learning Cycle Peter Honey & Alan Mumford (2006)

### 6.3 Learning & Development

The author has learned and developed throughout the process. From the beginning of the Masters level it was obvious to the researcher that attending classes provided by the college was essential for discipline and routine. The lecturers are fundamental to any college curriculum and provide students with the information to succeed in both their modules and the course itself. The lecturers encourage students from the very start of the course at both degree and masters level to read from the recommended reading list they hand out. This is so students form a good practice routine when doing assignments and especially for dissertations.

The researcher acknowledges that the topic chosen financial technology was one that wasn't well known to him. As a result of this the researcher needed to start reading books within the financial services industry and financial technology itself to familiarise himself with the industry.

The financial services industry is extremely vast that the researcher was aware of the need to focus on a specific area. FinTech is the latest ambiguous trend of financial technology and a relatively new innovation sweeping across the financial services industry.

The researcher established early on that much of the reading would need to be done through newspaper articles and financial services papers produced from industry experts. Upon reading these papers from economists, politicians, financial services experts; it was obvious that in order to answer the research question effectively the researcher would need to interview these individuals. The knowledge needed to be gathered from a variety of backgrounds, economists, head of innovations for banks, CEO's from start-ups in the FinTech world this would provide an excellent macro overview of the topic. These several interviews would provide compelling arguments in relation to the semi-structured interviews involving the same questions and draw conclusions from the analysis.

The most rewarding learning comes from the primary research. Although the topic required in depth reading, it was arranging the interviews through networking and persistence that was a worthwhile experience. Conducting the interviews played a significant part in my personal development meeting new people, gaining different insights and cultures from different corporate levels. How one individual views the world is an interesting platform as opposed to another. One of the most important skills the researcher learned was to adapt to each different interviewer with a variety of alternative questions if the interviewer was a little short on the main semi structured questions.

Learning from colleagues wasn't another eye opener to the masters. Liaising with other students and discussing how to approach different strategies to conducting research and structuring their work was a very rewarding. Learning from peers and others with experience is vital to anything we do in life. College in general taught the researcher that building cohesive relationships with peers and creating a networking platform was one learning curve that will not be forgetting.

## **Planning & Preparation**

“By failing to prepare, you are preparing to fail.”

– Benjamin Franklin

Planning and preparation is essential to the majority of everything we do in our lives. Benjamin Franklin's statement couldn't be truer when it comes to conducting a research project like a dissertation. As the paper discussed above one of the main research limitations was the short time in which the dissertation had to be completed in. Therefore planning and preparation was going to prove challenging. Dublin Business School has students well prepared as lectures handed out small research assignments throughout the course

preparing us for what lay ahead. The exams which incurred at the end of each semester was another vital stepping stone to preparing students to plan ahead with studying and research required within each module.

This led to the researcher developing time management and planning skills when organizing interviews for the dissertation which can be extremely challenging. Preparing a diary to plan for the months ahead of the research was one of the most important factors as the researcher had to try balance the dissertation with their own employment.

#### **6.4 Application of learning in the future**

The Master of Business Administration has been an educational adventure and a worthwhile experience. Dublin Business School offering a learning platform which the researcher feels has provided him with an academic insight as well as industry experience knowledge that will support his career enhancement.

The process from an academic point of point has been very rewarding and encourages the researcher to look at other possible courses. Project management has been a large proportion of the process and one that is long sought after in the corporate world. As the MBA in Dublin Business School is made up of different nationalities the researcher has learned a lot about different cultures which will encourage travelling with work and this experience can be used in the work place. The corporate environment is made of various cultures today and this experience will support working relationships in the future.

#### **Research**

This has to be one of the biggest skills that any student has learned and developed from partaking in a master's degree. The art of research provides a structured approach to gaining essential information for a specific topic of interest. The researcher can use this essential new skill in his everyday work when looking for new business and clients. Trying to get a better understanding of the industry in which the researcher works in. Research is a very important skill when applying for future jobs and employment in relation to a new industry or organization.

## **Networking**

As the researcher has already mentioned networking has been an excellent learning curve in the dissertation. The greatest skill has to be the art of networking from peers and colleagues within the course. Not to mention the high end economist, banking executives and ministers through the interviews. The researcher will use this networking throughout his career when meeting new people as an opportunity to gain new business and for exciting career opportunity by adding them through social media sites such as LinkedIn.

## **New Career Direction**

The researcher has gained valuable knowledge from the dissertation process in relation to the financial services industry and FinTech phenomenon. This experience will lead the researcher down a new path to discover new horizons and a new chapter in his career. This overall experience has provided the author with extensive knowledge of FinTech and the researcher plans to continue his research within this industry for the future. This has to be the most beneficial part of the process, realising what you want to do in terms of career.

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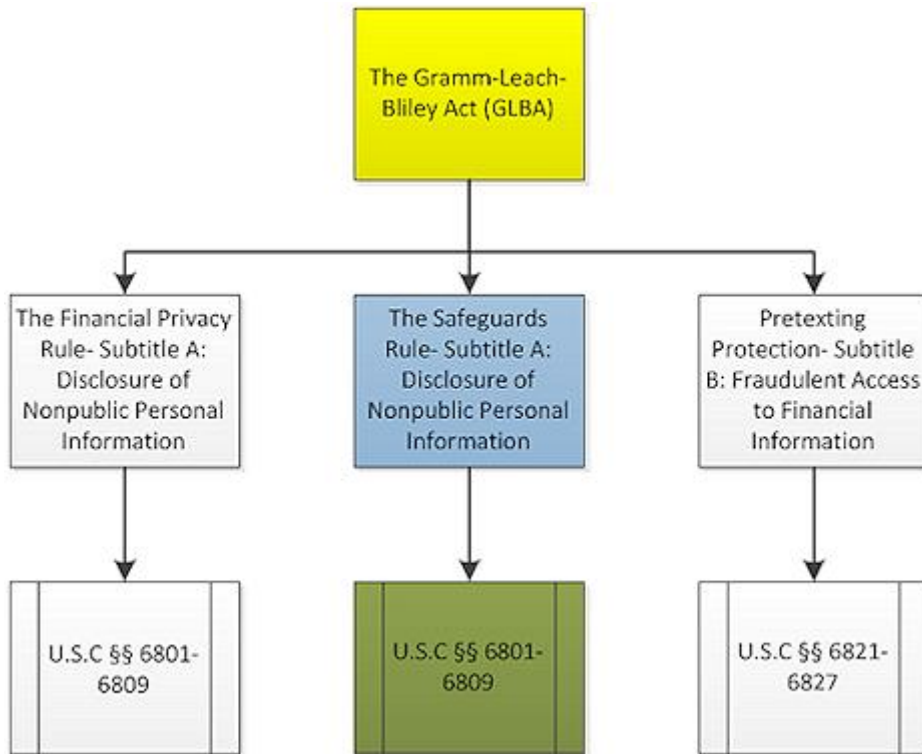
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# Appendices

## A. Gramm Leach Bliley Act Model



Source: File Life Online pg 1 <https://www.filelife.com/home/glbaoverview/>

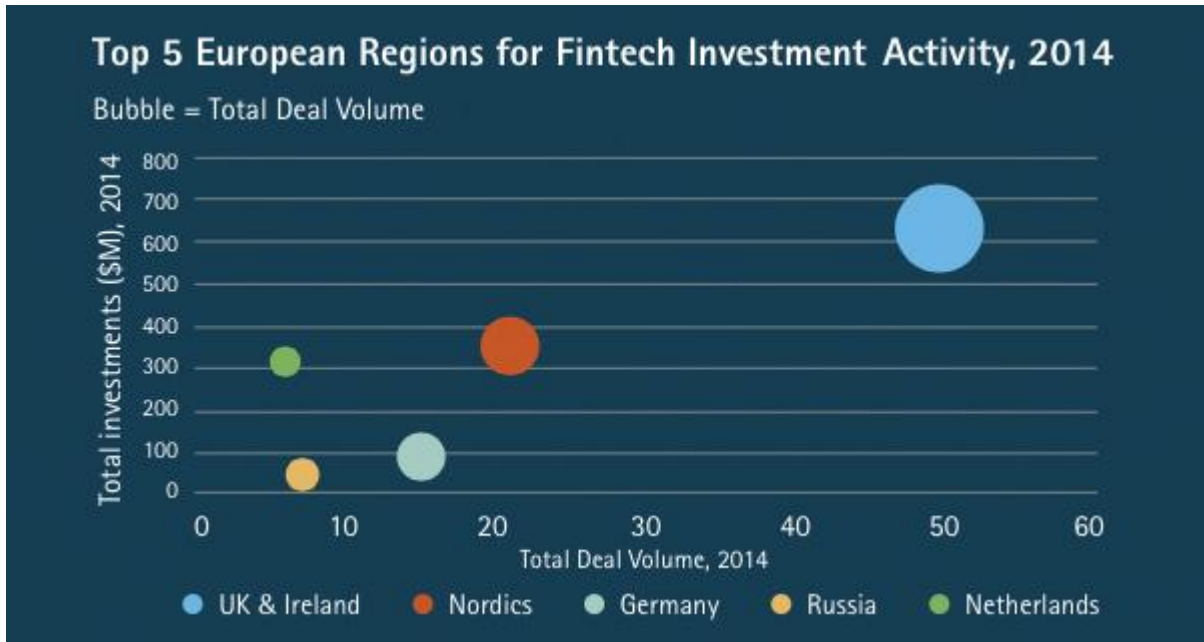
## B. FinTech Global FDI Projects in Europe & London

25% of global FinTech FDI projects in the last five years were in Europe, nearly half of which were in London



Source: Government Office for Science, FinTech for the Future pg 2

### C. Top 5 European Regions for FinTech Investment Activity, 2014



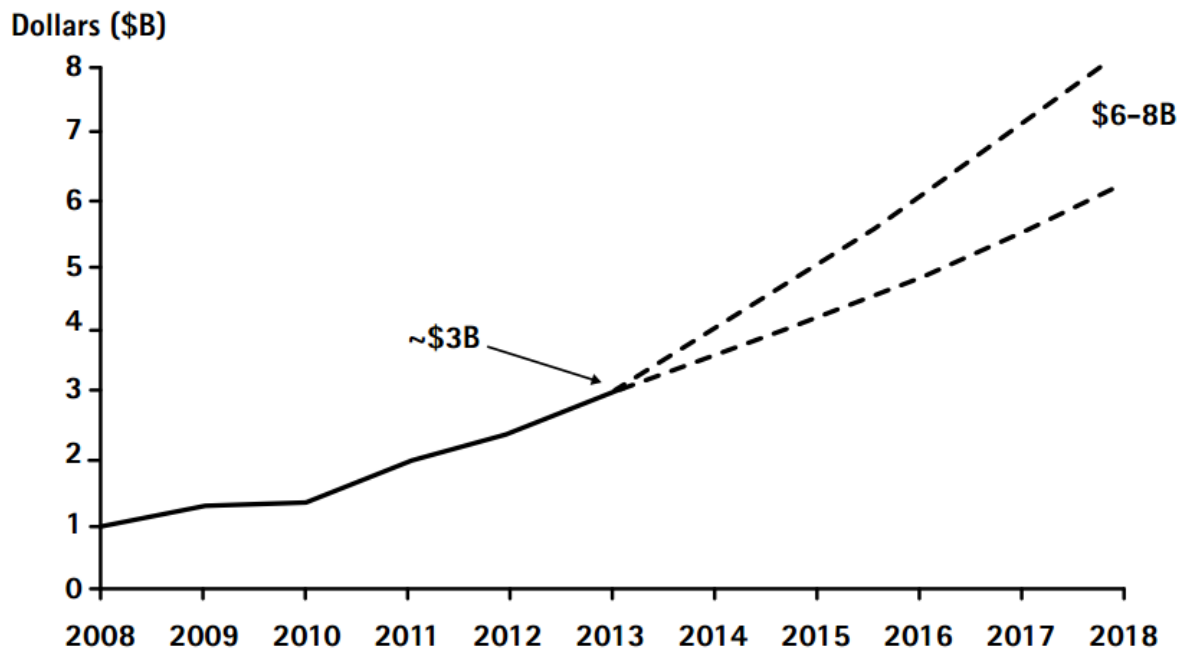
Source: Skan, J., Dickerson, J. Masood, S. Future of FinTech and Banking, Accenture pg 5 (2014)

## D. IFS 2020 Strategic Goals



Source: IFS 2020 A STRATEGY FOR IRELAND'S INTERNATIONAL FINANCIAL SERVICES SECTOR 2015-2020 pg 15

### E. Global FinTech Investment will more than double by 2018



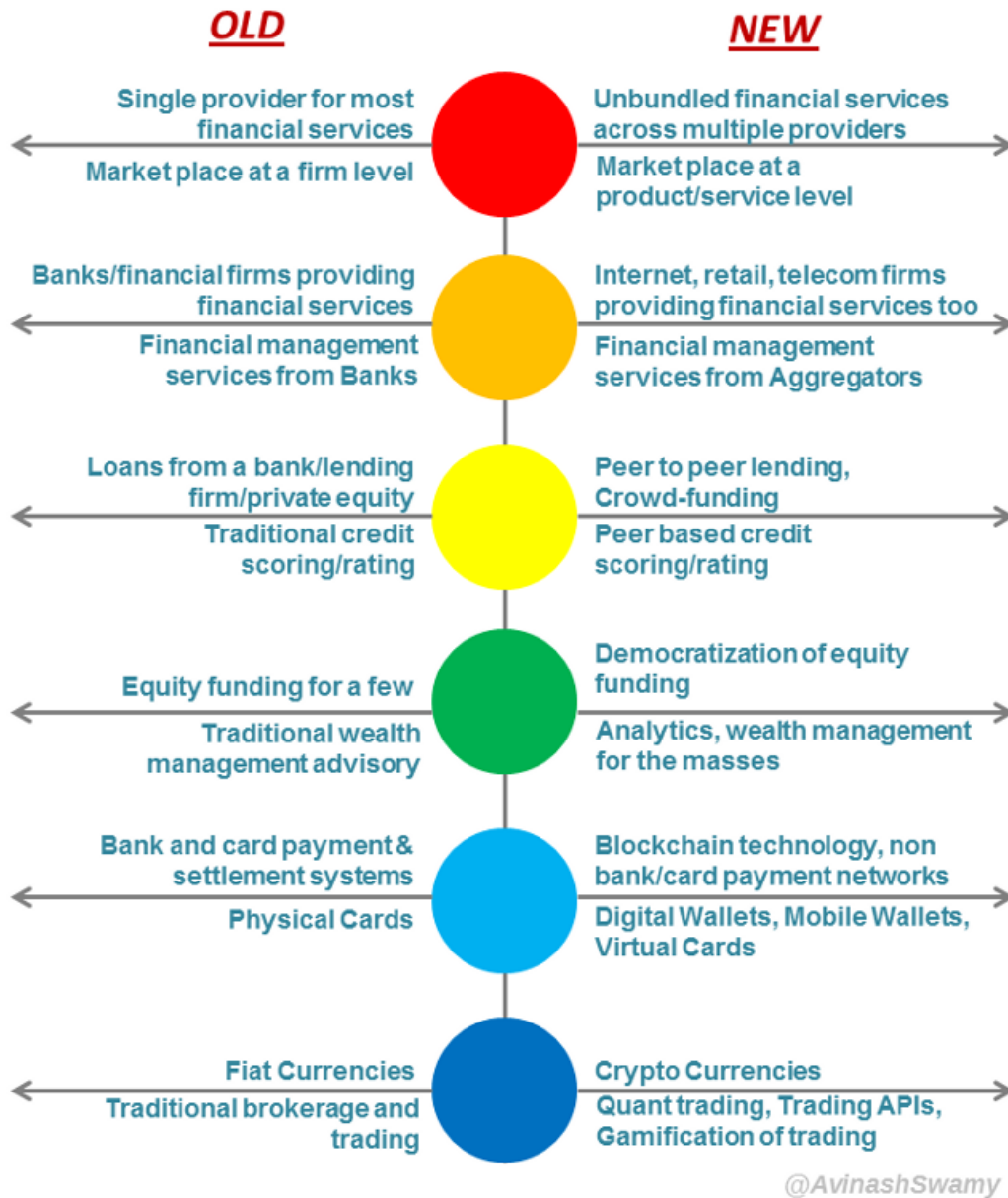
Source: Accenture, Partnership Fund analysis of CB Insights data

Source: Gach, R and Grottsch, M. Rise of FinTech, Accenture pg 2



## G. Evolution of Financial Services with FinTech

# Evolution of Financial Services with FinTech



Source: Swamy, A. Medium online, available at:

<https://medium.com/@avinashswamy/evolution-of-financial-services-industry-c-o-fintech-23d2112dad2b>

## H. Ireland is European Home for Financial Services Companies



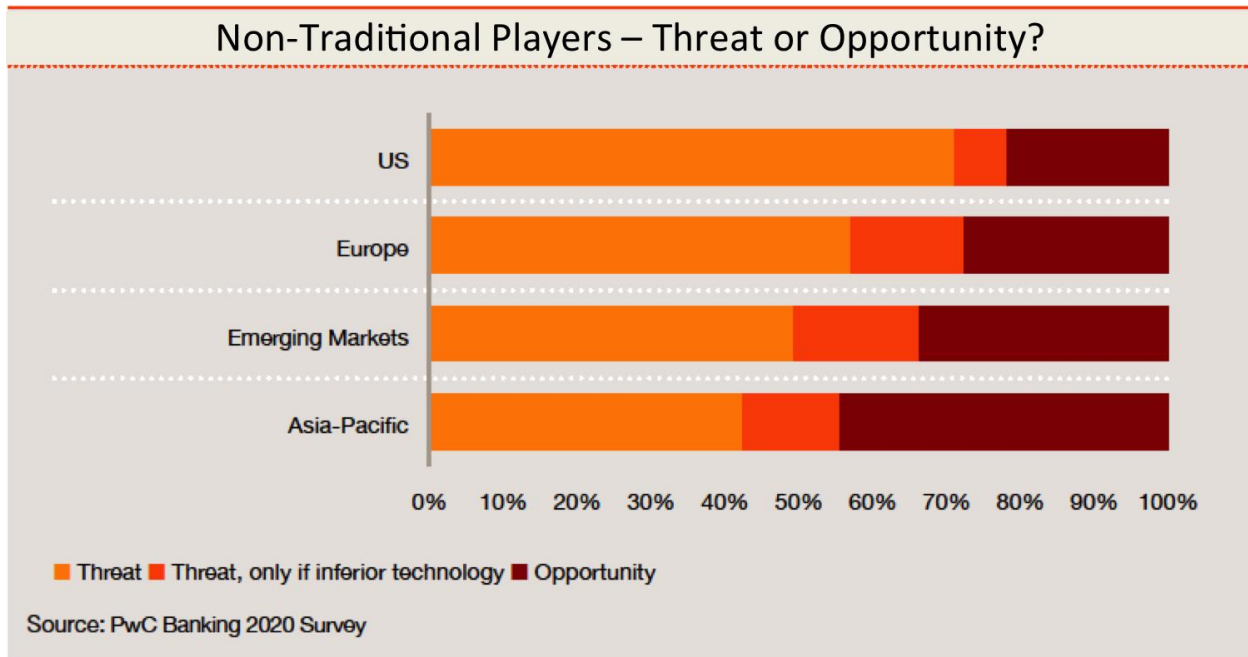
Source: IFS 2020 Strategy, A STRATEGY FOR IRELAND'S INTERNATIONAL FINANCIAL SERVICES SECTOR 2015-2020 PG 9

## I. Bank Executives view non-traditional players as a threat

***55% of bank executives view non-traditional players as a threat to traditional banks***

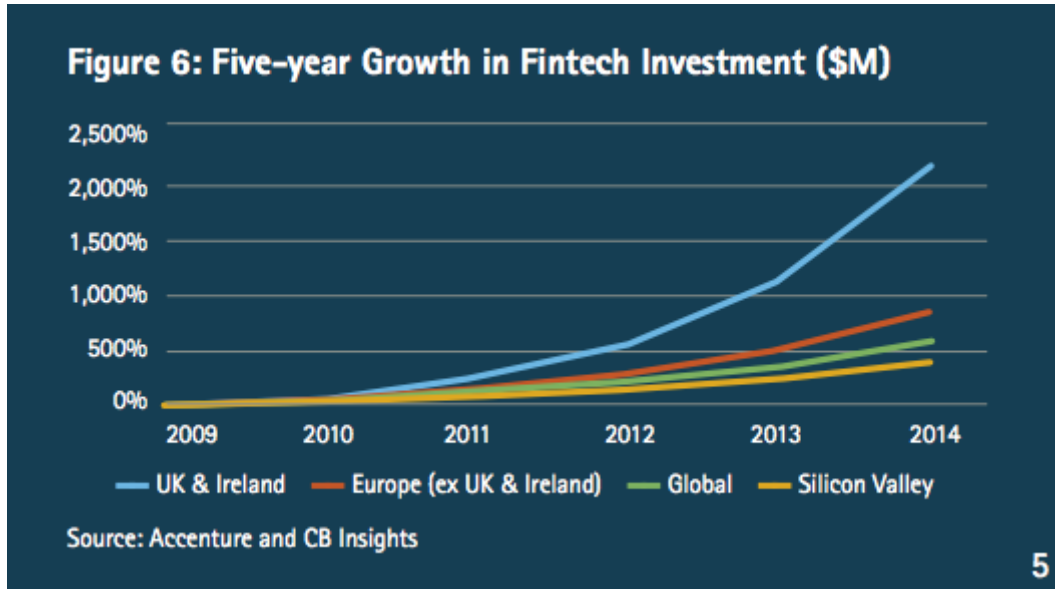
Source: Retail Banking 2020, Evolution or Revolution? PWC (2015) pg 5

## J. Non-Traditional Players – Threat or Opportunity



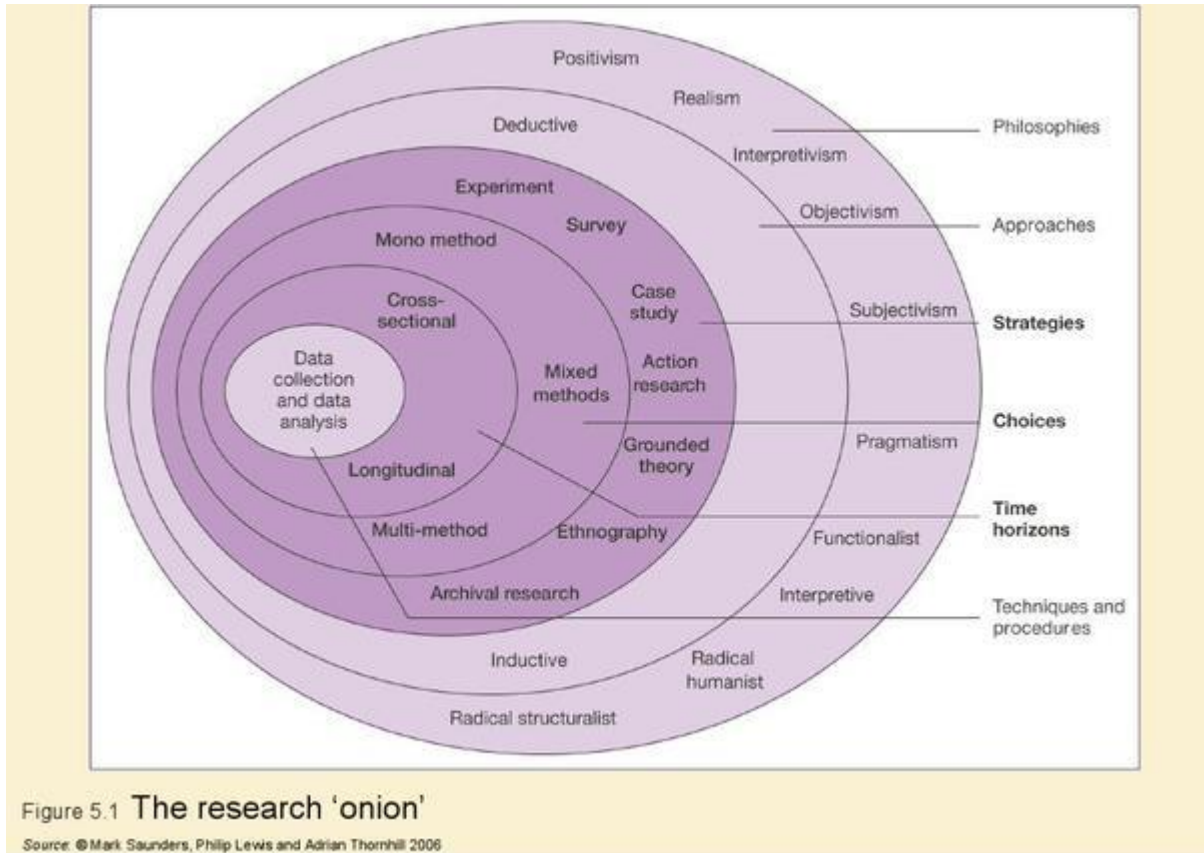
Source: Retail Banking 2020, Evolution or Revolution? PWC (2015) pg 6

## K. Five – year Growth in FinTech Investment



Source: Skan, J., Dickerson, J. Masood, S. Future of FinTech and Banking, Accenture pg 5 (2014)

## L. Research Onion

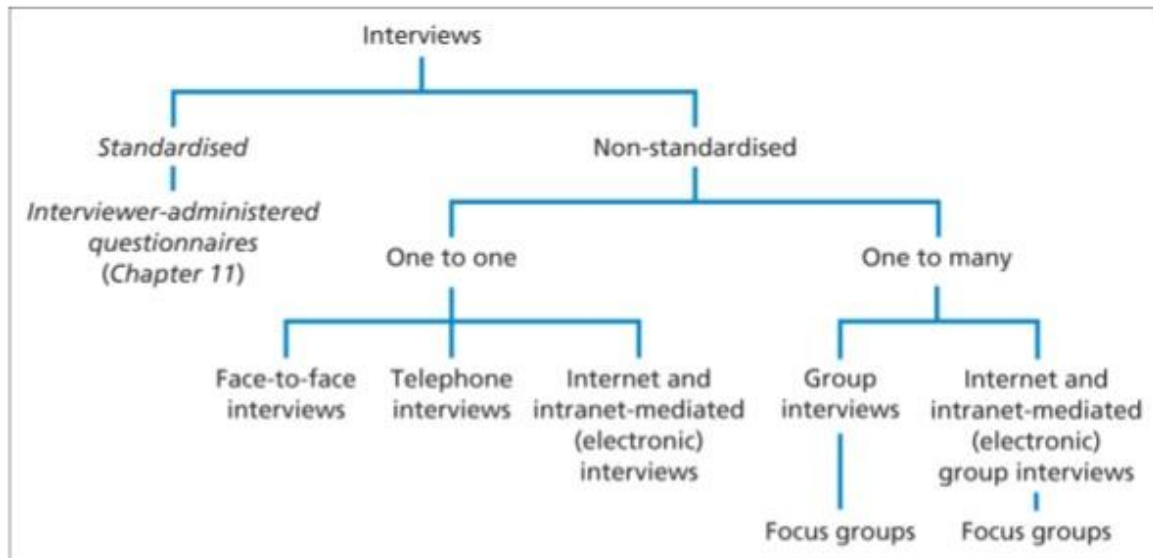


Source: Saunders, M., Lewis, P., Thornhill, A. (2012) Research Methods for Business Students. 6th edn. Essex: Pearson Education Limited pg 128

## M. Research Purpose and Strategy, Forms of Interviews

### Research purpose and strategy (1)

#### Forms of interview



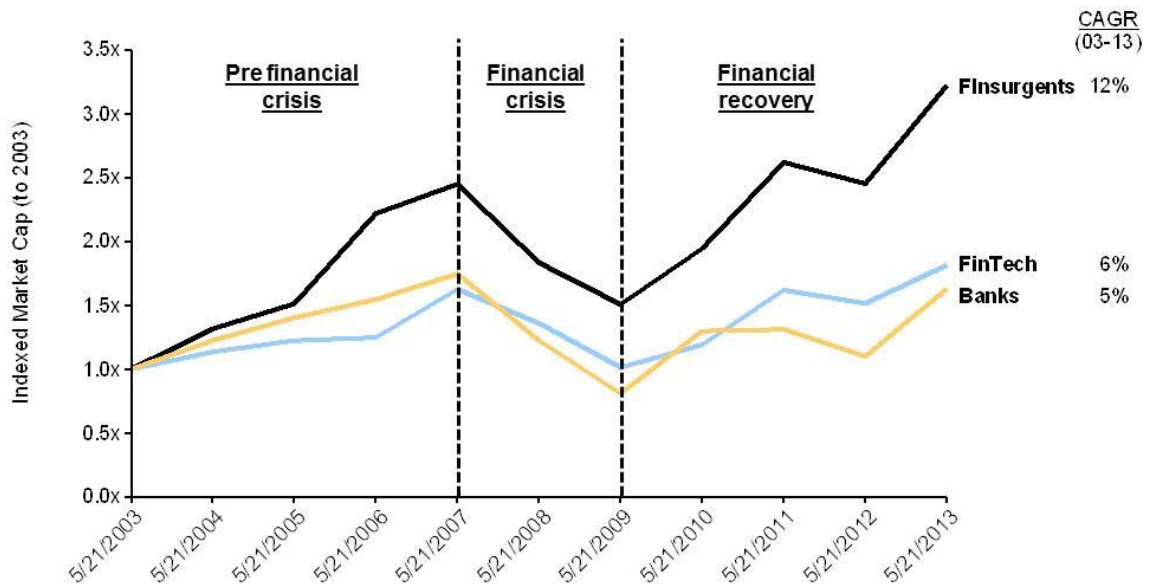
Saunders *et al.* (2009)

Source: Saunders, M., Lewis, P., Thornhill, A. (2012) *Research Methods for Business Students*. 6th edn. Essex: Pearson Education Limited pg 375.

## N. Financial Technology – Banks vs. FinTech (2013)

### Financial Technology

*Traditional banks and associated companies have created significantly less value than companies competing directly with the banks over the last 10 years, and even more so since the financial crisis*



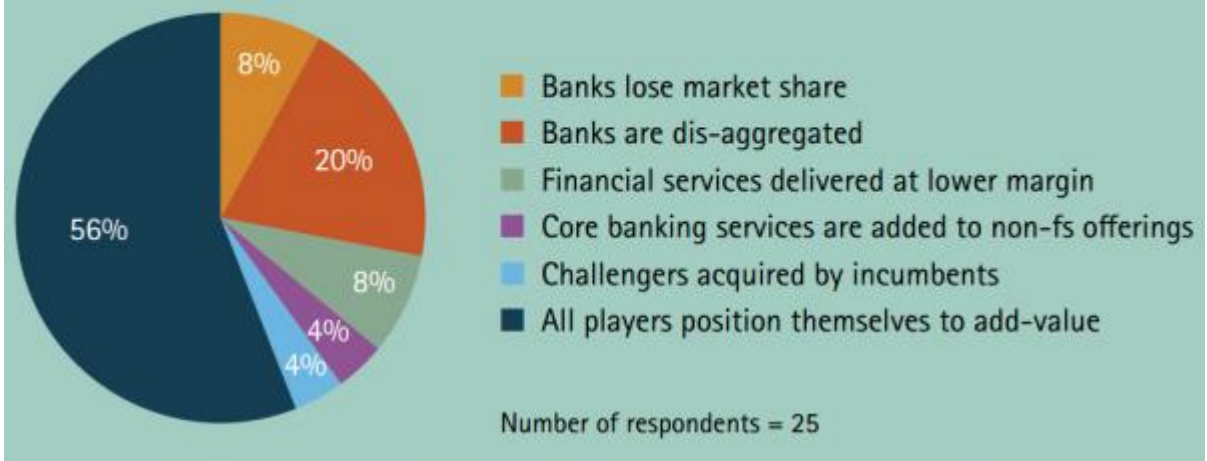
**Bain Capital**

\*Chart is a combination of Capital IQ data/categorization and Bain Capital Ventures analysis

Source: Harris, Matt (2013) Redefining FinTech, 17<sup>th</sup> December Finsurgency online, available at: <http://finsurgency.com/financial-services/redefining-fintech/>

## O. Hypothetical banking future (2015)

Figure 7: Hypothetical banking future



Source: Source: Skan, J., Dickerson, J. Masood, S. Future of FinTech and Banking, Accenture pg 5 (2014)

## P. What customers are saying about FinTech

### What customers are saying about Fintech

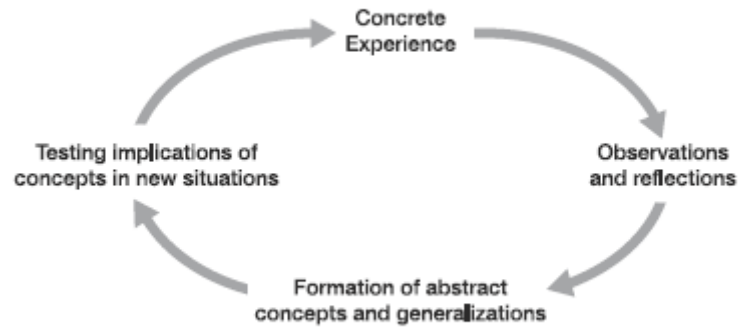
*"Transitioning our beer and wine purchases to Fintech's payment method was a seamless process for our retail operations. The best benefit, however, was the amount of escrow we've eliminated from our balance sheet that we formerly had to maintain for each vendor. Our cost of capital decreased by nearly \$90K on an annual basis as a result of converting to the Fintech program."*

**- Whole Foods Market**

Select your industry to see a full list of testimonials

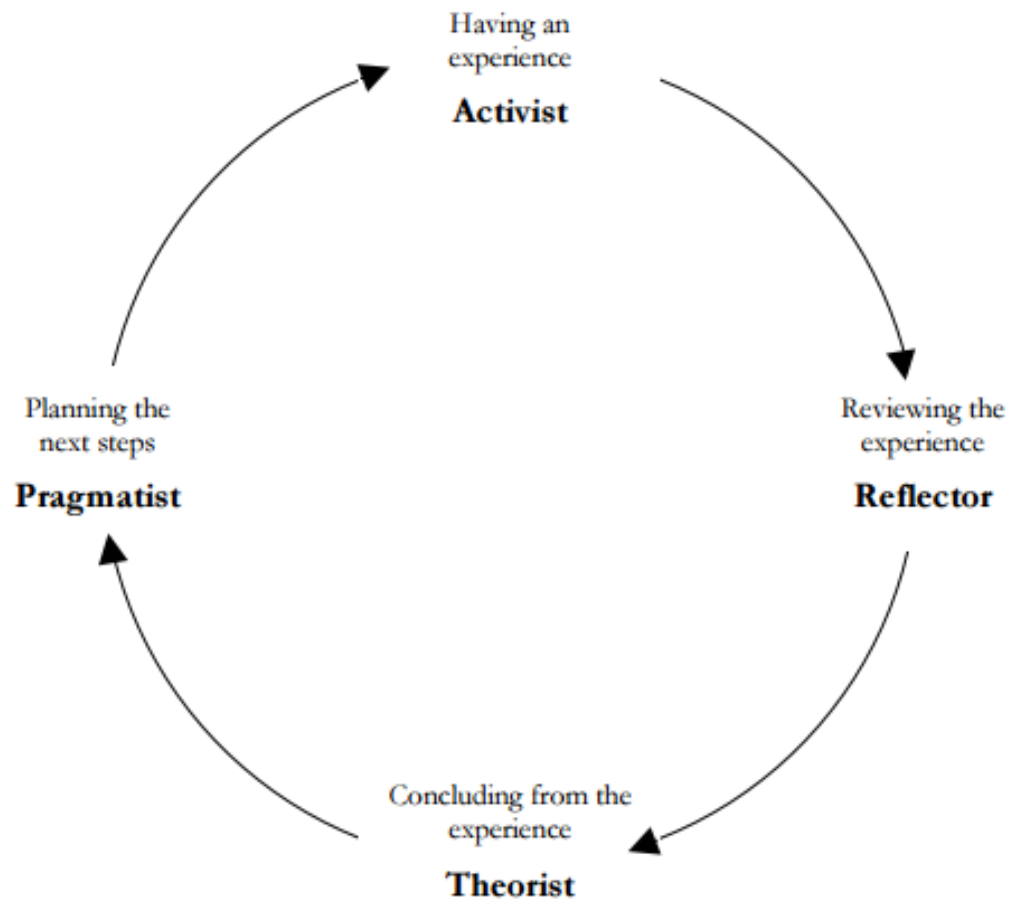
Source: FinTech.Net, Whole Foods Market, available at:  
<http://www.fintech.net/corp/solutions/testimonials>

## Q. The Lewinian Experimental Learning Model (Kolb)



Source: Kolb, A. D, (1984) *Experimental Learning, Experience as the Source of Learning and Development*, Prentice Hall pg 21

## R. The Learning Cycle Peter Honey & Alan Mumford



Source: Honey, P, and Mumford, A. (2006), The Learning Style Questionnaire, Revised Edition, Peter Honey Publications

## S. Peter Honey & Alan Mumford Learning Style Questionnaire

### Honey and Mumford: Learning Styles Questionnaire

There is no time limit to this questionnaire. It will probably take you 10-15 minutes. The accuracy of the results depends on how honest you can be. There is no right or wrong answers. If you agree more than you disagree with a statement put a tick. If you disagree more than you agree put a cross by it. Be sure to mark each item with either a tick or cross. When you have completed the questionnaire, continue this task by responding to the points that follow.

- 1. I have strong beliefs about what is right and wrong, good and bad. ✓
- 2. I often act without considering the possible consequences. ✓
- 3. I tend to solve problems using a step-by-step approach. x
- 4. I believe that formal procedures and policies restrict people. ✓
- 5. I have a reputation for saying what I think, simply and directly. ✓
- 6. I often find that actions based on feelings are as sound as those based on careful thought and analysis. x
- 7. I like the sort of work where I have time for thorough preparation and implementation. ✓
- 8. I regularly question people about their basic assumptions. ✓
- 9. What matters most is whether something works in practice. x
- 10. I actively seek out new experiences. x
- 11. When I hear about a new idea or approach I immediately start working out how to apply it in practice. x
- 12. I am keen on self-discipline such as watching my diet, taking regular exercise, sticking to a fixed routine etc. ✓
- 13. I take pride in doing a thorough job. ✓
- 14. I get on best with logical, analytical people and less well with spontaneous, "irrational" people. ✓
- 15. I take care over the interpretation of data available to me and avoid jumping to conclusions. x
- 16. I like to reach a decision carefully after weighing up many alternatives. ✓
- 17. I'm attracted more to novel, unusual ideas than to practical ones. X
- 18. I don't like disorganised things and prefer to fit things into a coherent pattern. ✓
- 19. I accept and stick to laid down procedures and policies so long as I regard them as an efficient way of getting the job done. x
- 20. I like to relate my actions to a general principle. x
- 21. In discussions I like to get straight to the point. ✓

- 22. I tend to have distant, rather formal relationships with people at work. x
- 23. I thrive on the challenge of tackling something new and different. ✓
- 24. I enjoy fun-loving, spontaneous people. x
- 25. I pay meticulous attention to detail before coming to a conclusion. x
- 26. I find it difficult to produce ideas on impulse. ✓
- 27. I believe in coming to the point immediately. ✓
- 28. I am careful not to jump to conclusions too quickly. x
- 29. I prefer to have as many sources of information as possible -the more data to mull over the better. x
- 30. Flippant people who don't take things seriously enough usually irritate me. ✓
- 31. I listen to other people's point of view before putting my own forward. x
- 32. I tend to be open about how I'm feeling. ✓
- 33. In discussions I enjoy watching the manoeuvrings of the other participants. ✓
- 34. I prefer to respond to events on a spontaneous, flexible basis rather than plan things out in advance. ✓
- 35. I tend to be attracted to techniques such as network analysis, flow charts, branching programmes, contingency planning, etc. x
- 36. It worries me if I have to rush out a piece of work to meet a tight deadline. ✓
- 37. I tend to judge people's ideas on their practical merits. ✓
- 38. Quiet, thoughtful people tend to make me feel uneasy. ✓
- 39. I often get irritated by people who want to rush things. x
- 40. It is more important to enjoy the present moment than to think about the past or future. x
- 41. I think that decisions based on a thorough analysis of all the information are sounder than those based on intuition. x
- 42. I tend to be a perfectionist. ✓
- 43. In discussions I usually produce lots of spontaneous ideas. x
- 44. In meetings I put forward practical realistic ideas. x
- 45. More often than not, rules are there to be broken. ✓
- 46. I prefer to stand back from a situation and consider all the perspectives. ✓
- 47. I can often see inconsistencies and weaknesses in other people's arguments. ✓
- 48. On balance I talk more than I listen. ✓
- 49. I can often see better, more practical ways to get things done. ✓
- 50. I think written reports should be short and to the point. ✓
- 51. I believe that rational, logical thinking should win the day. ✓

- 52. I tend to discuss specific things with people rather than engaging in social discussion. x
- 53. I like people who approach things realistically rather than theoretically. x
- 54. In discussions I get impatient with irrelevancies and digressions. ✓
- 55. If I have a report to write I tend to produce lots of drafts before settling on the final version. x
- 56. I am keen to try things out to see if they work in practice. x
- 57. I am keen to reach answers via a logical approach. ✓
- 58. I enjoy being the one that talks a lot. ✓
- 59. In discussions I often find I am the realist, keeping people to the point and avoiding wild speculations. ✓
  
- 60. I like to ponder many alternatives before making up my mind. ✓
- 61. In discussions with people I often find I am the most dispassionate and objective. x
- 62. In discussions I'm more likely to adopt a "low profile" than to take the lead and do most of the talking. ✓
- 63. I like to be able to relate current actions to a longer-term bigger picture. x
- 64. When things go wrong I am happy to shrug it off and "put it down to experience". x
- 65. I tend to reject wild, spontaneous ideas as being impractical. x
- 66. It's best to think carefully before taking action. x
- 67. On balance I do the listening rather than the talking. ✓
- 68. I tend to be tough on people who find it difficult to adopt a logical approach. ✓
- 69. Most times I believe the end justifies the means. x
- 70. I don't mind hurting people's feelings so long as the job gets done. ✓
- 71. I find the formality of having specific objectives and plans stifling
- 72. I'm usually one of the people who puts life into a party. ✓
- 73. I do whatever is expedient to get the job done. ✓
- 74. I quickly get bored with methodical, detailed work. x
- 75. I am keen on exploring the basic assumptions, principles and theories underpinning things and events. x
- 76. I'm always interested to find out what people think. ✓
- 77. I like meetings to be run on methodical lines, sticking to laid down agenda, etc. ✓
- 78. I steer clear of subjective or ambiguous topics. ✓
- 79. I enjoy the drama and excitement of a crisis situation. ✓
- 80. People often find me insensitive to their feelings. x

## Scoring

You score one point for each item you ticked. There are no points for crossed items. Circle the questions you ticked on the list below:

	2	7	1	5
	4	13	3	9
	6	15	8	11
	10	16	12	19
	17	25	14	21
	23	28	18	27
	24	29	20	35
	32	31	22	37
	34	33	26	44
	38	36	30	49
	40	39	42	50
	43	41	47	53
	45	46	51	54
	48	52	57	56
	58	55	61	59
	64	60	63	65
	71	62	68	69
	72	66	75	70
	74	67	77	73
	79	76	78	80
Totals	<u>11</u>	<u>10</u>	<u>14</u>	<u>10</u>
	Activist	Reflector	Theorist	Pragmatist

# Cian Twomey Economist National University of Galway (NUIG)

## Interview 1

10<sup>th</sup> of July 2015

**JG = John Gibson**

CT = Cian Twomey

**JG: So basically and I suppose just the first question I'm looking at is how aware of FinTech are you?**

CT: I'd describe myself as pretty aware of the different issues involved in FinTech, from both the perspective of what is being aimed at from a policy level, which is in the IFS 2020, and also in terms of the key trends in FinTech at the moment. The fact that FinTech is a very broad area, taking into account everything from technology start-ups right through to successful FinTech operators like first of all, there's FEXCO, and then right into what large multinationals like Citi are doing with their Innovation Labs and Accenture and Deloitte and others. So I would describe myself as pretty aware of the key issues around FinTech.

**JG: Ok. Excellent. And the next thing, what I ask on question two, is FinTech affecting or changing any segments of the business model?**

CT: Yes, I think it's clearly affecting several items of the business model. Again, it depends on which elements of FinTech you want to look at, so clearly, there are obviously issues in terms of payments, for example, but that's one area where a lot of Irish companies have been very successful. Also in terms of say software solutions to companies, so a lot of large banks are using FinTech companies to provide technology solutions to their needs. That's a situation where obviously the FinTech companies and the banks are collaborating with each other, and then obviously as well, a lot of the financial companies in Ireland need to probably invest in technology to bring them up to speed. So again, the business model is a very broad concept and FinTech is having an effect right across the board on different aspects of the business model.

**JG: Excellent. Now, just question three. In what areas do you see the greatest potential impact of FinTech's disintermediation of traditional financial services, lending, currencies, investing that we touched upon?**

CT: Yes. I would say I mean all three are going to be relevant here. In terms of lending, I mean where to start? I mean, you know, at this stage, banks are using technology obviously to improve their lending practices, in terms of their customer interactions. Clearly, as well, say at the lower end of the scale, there are a lot of new technology companies using

their services to try to lend directly, like on a peer-to-peer basis, and crowd financing someone.

I mean again, it varies I think in terms of the scale and so you're talking about on the one hand, we'll say if you're a start-up looking for finance, you know, there's lots of technological solutions you can use to get peer-to-peer lending or crowd finance. On the other hand, if you're a large multinational, you probably would expect banks to use modern technology, but not necessarily probably in the same kind of disruptive manner that the peer-to-peer lending is operating at.

In terms of currencies, I mean clearly, I mean modern corporate banking and business banking should obviously have up to the minute FX technology capabilities. I mean clearly, I suppose one of the other issues you're probably talking about here is the cryptocurrencies idea.

**JG:**           **Yes.**

CT:            Again, whether or not necessarily people will end up adopting Bitcoin, but I think instead, the technology underpinning it is probably more of an issue in the future in terms of, you know, the security elements, you know, the use of I suppose just the technological infrastructure that they've built around that could be quite important. I mean again, you're maybe not so much in Ireland, but I can certainly see it in emerging markets, in Africa and other places where clearly, it's already happened to some extent, where, you know, mobile payments and mobile phones are being used for, you know transactions and payments. Again, a lot of that is based on cryptotechnology that's been developed. You know, it's multifaceted actually in terms of where I think currency is going to go.

I mean again, you know, clearly, say there's new start-ups coming up on-stream, who are coming online, who are offering better deals to both retail and businesses in terms of FX transaction capabilities. Again, that's an obvious one. You know, up to now, obviously a lot of banks have been taking a huge margin on the bid desk on currencies and that will probably now in due course....

In terms of investing, again, obviously you have huge variation there. I mean from a retail perspective, obviously, you know, you can now invest obviously very easily using, you know, ETFs, Smart Beta and all these other new concepts. And again, a lot of those have been facilitated obviously by technology. A lot of the big players, like Fidelity and Pioneer and all those are obviously trying to make cheaper, more affordable products available to their customers using technology. So again, it's quite multifaceted in that regard.

And I think particularly the emergence of ETFs clearly has been facilitated by technology and it's obviously interesting in the Irish case, obviously. iShares is probably the biggest player in this EFT space and all of the iShares in Europe are administrated out of Dublin. So that's where, again, you know, and that in turn has come out of Blackrock and I mean traditionally, it would have been State Street. So you know, again, that whole area of, I suppose, using the web in this space obviously for retail investors and clients to sell funds is going to be a trend that's going to continue.

You know, clearly, having private client interactions on a human-to-human level is quite expensive, so you're going to find there's a lot of financial services companies are going to, you know, outsource that to computers or, you know, whatever, automated, or at least use technology to make it cheaper.

**JG: Ok. Excellent.**

CT: I mean one of the other things, of course, that probably haven't been mentioned here is in terms of regulation.

**JG: Yes.**

CT: Regulation is becoming more and more obviously of an issue, particularly now with, you know, all the various Solvency II and Basel III and all the other things that are coming out of the EU and obviously the global regulatory system. So again, because of the complexity of that, technology is going to have to play a key role in terms of dealing with that complex regulatory environment to ensure that, you know, compliance with regulation, the whole back office administration is conducted appropriately. And again, that's where a lot of the Irish FinTech companies could probably see themselves finding, you know, some market demand for their products and services because again, a lot of the big players, probably it wouldn't make sense for them to invest in, you know, bespoke technology there. It probably would make sense for them to buy in software, buy in services from other FinTech companies, I would have thought.

**JG: Sure.**

CT: In the same way that they're doing it for, you know, payments. I would say the same would apply in terms of regulation.

**JG: Ok. Excellent. And we'll say number four now, do you consider FinTech, specifically peer-to-peer platforms, as serious competition?**

CT: For traditional banks?

**JG: For traditional banks.**

CT: Well, not too serious at the present time. And again, I would say most SMEs, for example, probably aren't that aware of peer-to-peer at the moment. A lot of them would have obviously developed relationships with their banks over time. Larger companies certainly aren't going to use peer- to- peer finance. I can certainly see it in terms of smaller start-ups and the technology sector particularly with maybe other industries where getting bank finance isn't that easy to do, but not at the present time.

That said, I think, you know, in terms of mobile payments and other, I suppose, systems like, for example, you know, whether it's Facebook, Apple, Google and others, mobile phones are going to become the new credit cards. I think that's certainly to be a big issue, so I'd say I certainly would envisage in 10 or 15 years where a lot of people don't have credit cards, that they just use mobile phones integrated into their bank accounts, even if those bank accounts

are just another wallet, electronic wallets. That certainly would be serious. And a lot of those small peer-to-peer lenders aren't big enough to compete, but obviously the likes of Apple, Google, and Facebook are bigger than a lot of the banks at this stage and they would certainly be able to compete in their territory.

What's likely to happen, of course, is I would have thought that Apple, Google, Facebook, etc. would probably partner up with large international banks, so you could certainly see where Citi partner up with Google and Apple partners up with Bank of America, whatever, something like that, where they are with Visa or whoever. That could be certainly something for the future, and it's already happening to some extent, where people can use, you know, their phones for small payments, and that's probably likely to happen more and more.

I mean the issue there of course would be getting retailers probably to buy in and get the technology as well. It could be quite expensive, depending on what happens there. I mean I'm not too familiar with how expensive it would be for retailers, but peer-to-peer, not at the moment. I think it's still kind of an early stage. It's still too kind of new.

**JG:**           **Ok.**

CT:            But I mean the potential is there and you could certainly see where, you know, companies... If they could be provided with an easy solution, for example, to let's say have payments across borders that cuts out some of the payments that the banks are already taking, then there's no reason why they wouldn't do this, but peer-to-peer lending.

**JG:**           **So like a combined platform?**

CT:            Yes, like a business-to-business kind of online payments, cutting out, I mean some of those are already there. Cutting out maybe the bank's margin, but that's something that -

**JG:**           **I suppose Stripe is a good example from an Irish point of view.**

CT:            Yes, Stripe, exactly, yes.

**JG:**           **Excellent. That's perfect. Great stuff.**

CT:            FEXCO is another one.

**JG:**           **And then I suppose a similar, we're kind of touching over a lot of stuff, but in what segment of the Irish market do you feel FinTech is seeing the greatest adoption growth, which is probably something you've touched upon already?**

CT:            I would say again, payments are definitely the one, payments and kind of transactions. That includes the likes of FEXCO obviously. I mean the other one that has clearly been a real success, as I said before, was First Derivatives as kind of a service provider.

**JG:**           **Yes.**

CT: So again, that's one where the company identified that it didn't make sense for the large multinational banks to invest in their own derivatives and risk management systems and they didn't have the expertise to do so, so First Derivatives developed their own proprietary system, which they then partnered up with, and again, that's something that a lot of the banks are willing to engage with because it saves them a lot of money trying to develop their own systems from scratch. They also know they're getting probably state of the art technology there and they're getting kind of ongoing support from a company that knows what they're doing, and also because the same system is being implemented across the board now, in London and elsewhere, it means that if say HSBC, RBS, BNP Paribas want to talk to each other, you know, the systems are compatible, so they can. They're integrated and therefore there's no need to try to develop multiple systems. Again, it's like everything else. If you have one system that works, it makes the technology much easier to process.

**JG: Interesting stuff. And then do you think FinTech will ultimately collaborate or complement traditional service providers or are they going to completely disrupt the industry?**

CT: I think the answer there is going to be a mixture of, as you said, collaboration and disruption. I mean clearly, what you're seeing, I mean a good example would be say WhatsApp, and WhatsApp obviously was a key disruptor to the traditional business services that would have been providing huge margins obviously to the likes of Vodafone and Meteor and others. And then WhatsApp comes along and, you know, provides a different system whereby obviously, you know, that can be bypassed. People save a lot of money. But then what happens, obviously Facebook buy up WhatsApp and integrate it into their technology ecosystem, whatever you want to call it.

And the same is likely to happen here, that you know, a very successful disruptor like Stripe, for example. I mean it's very feasible that in due course, one of the big technology companies will buy it up or similar. I mean it's not just them and it's not just Irish companies here we're talking about. Obviously it's global companies. And you've already seen that with I mean FEXCO has been bought up.

**JG: FEXCO - I didn't see that now, no.**

CT: FEXCO has been bought up by Goodbody's.

**JG: Oh, Goodbody's, ok.**

CT: I'm not sure. I've got to double-check that. I'm not 100% on that.

**JG: Yes, no, I'll check it.**

CT: But I know that they were integrated with one of these. So the likelihood is that it will be a mixture and, do you know, the agile innovator start-ups will keep disrupting things and then they'll probably get to a certain stage where if it makes sense for the big banks and financial services companies to engage with them, they will do so, either buying

their services and, you know, collaborating with them, or if they feel that it adds something to them, they can obviously engage in takeovers. So I mean that's been the way of the world for quite some time in every sector, from pharmaceutical right through to IT.

**JG:**           **Sure.**

CT:           And there's no reason why financial services would be different. But I think what Ireland should do is, and Dublin in particular obviously, where we're positioned here is they shouldn't try to pick winners in this regard. They should just support as much as possible, but leave the system kind of develop and, you know, I suppose like everything else, in this case, you know, the best solutions probably will win out in the end.

**JG:**           **Sure, yes.**

CT:           You know, if there's money to be made, it's certainly the case that if low cost solutions and more efficient solutions are developed, then it's likely that those will win market share and therefore, you know, will end up being there.

**JG:**           **I mean sometimes we'll say in the American market, we always say Silicon Valley and places like that are the best for FinTech, over 3 billion in the last few years. Do you feel that the government would be willing to invest in that large kind of scale here because there are thoughts of creating Boland's Mill or expanding the IFSC?**

CT:           Yes. Well, I mean I don't think the government can invest, you know, directly, but I mean they can obviously try to push. Yes, as I said, even in terms of physical infrastructure, yes, I think they have learned. I would imagine the government have learned a lot from what went right and what went wrong with Dublin Docklands previously, and saw the danger of obviously overstretch during say 2005 till say 2007 when they were probably too ambitious in terms of building and, you know, expansion at that stage.

But at the same time, I think you have to acknowledge that maybe IFSC in general and then obviously more laterally the technology hub that's developed around the Docklands has been very successful to Ireland. So it probably makes sense at this stage, now that there is a strong international financial services sector and there is a strong technology sector in Dublin, to marry the two of them. And, you know, the obvious place and I think all of the urban economic and all of the kind of I suppose sociology of this would indicate that it would make sense to put them physically quite close to each other -

**JG:**           **Sure.**

CT:           - in terms of how these systems developed and the importance of having everybody in a hub like Silicon Valley or in Silicon Roundabout in London. That the obvious place would be somewhere like Boland's Mills or, you know, Ringsend and that area of Dublin. I mean they can't do what the Chinese have done and others. If you were in Hong Kong or China, they would just probably reclaim an entire island out in the middle of Dublin Bay, put it out there, but I don't think we're quite at that scale yet.

**JG:**           **No.**

CT:            I mean the likes of the old mills are there to be used for this purpose and again, I mean this kind of industry probably will be more capital intensive than labour intensive, so it's likely that you're not talking about large manufacturing entities here that are going to employing 300 or 400 initially. You're probably talking again, you know, companies that are doing multi- euro's- euro turnover with maybe 50 to 100 staff. So you know, it's not necessarily going to be a question of space, but I think it would be important though to have, you know, key infrastructure, like utilities, broadband, the usual things that shouldn't be taken for granted.

                But also I think what might be, you know, lacking a little bit in this part of Dublin is the open geography could be seen as part of the development. Again, that's not necessarily my area, but you know, it's certainly something that the government needs to consider. You know, the other thing to bear in mind is there is huge international competition in this space as well. I mean every financial hub in the world is trying to develop FinTech, whether it's Dubai, Singapore, Shanghai, Hong Kong, London, wherever, and everybody's chasing the same dollar here.

**JG:**           **Sure.**

CT:            And Ireland is in a relatively good place. I mean we do have, you know, something to build on, so it shouldn't be impossible to develop that. What might be needed again is I mean some maybe interesting, maybe new kind of budgetary measures in terms of supporting the industry might be useful. Again, the usual ideas about joined-up thinking in terms of government policy around this, supporting SMEs rather than multinationals. I mean that's again, you know, a government policy issue that might need to be considered.

You know, I think talking to a lot of SMEs and I was at a recent event here in NUIG on SMEs and again, a lot of them would feel still that there's still a lack of joined-up thinking in this area and that governments are probably a bit more focused on, you know, the big headline-grabbing multinational openings rather than trying to help indigenous SMEs. But you know, it's difficult at the same time to work out what's the best way to do this. I mean you could possibly still do things like R&D tax credits and so on.

**JG:**           **Sure.**

CT:            That kind of very common... I mean something like tax and, you know, incentive structures are important, but they're not the only thing. You know, I think it's one of those things where once something like this gets a bit of momentum, it kind of feeds on itself, and I mean that's the lesson from the US. I mean we are attracting some kind of venture capital, VC, and other kind of private sector financing at this stage to this area, and again, that's something that Europe obviously is still somewhere behind at this stage in that area. That's going to be something that again, Ireland, relative to a lot of other European countries, has done a good job of, but, you know, still more to do in that space, I would have thought. But you know, we're not in a bad position there.

I suppose it's one of those things where you could also bring in, without getting too sociological, I mean there is an issue about culture here. Again, I think the idea that, you know, a lot of customers and innovators probably will meet failure with their first venture and then succeed with the second or third one.

**JG:**           **Sure. Yes.**

CT:            And that's something that again, needs to be taken into account, both culturally in terms of obviously acceptance of failure and tax issues, bankruptcy and so on. You know, it's a very multifaceted issue and, you know, there's a reason why Silicon Valley hasn't been replicated that easily around the world.

**JG:**           **Sure.**

CT:            But at the same time, I think Silicon Valley is possibly, you know, at this stage the victim of its own success in some regards, in that they're only interested in the really big deals possibly. So you know, Ireland could find itself some kind of niche there in terms of, you know, the kind of companies that maybe Silicon Valley wouldn't touch because they're only really interested in the really big ones.

**JG:**           **Sure.**

CT:            And again, I would have thought I mean the figures here for Deloitte are saying 5,000 jobs by 2020. You know, that wouldn't be a big deal in California, but in Ireland, you know, 5,000 jobs, particularly if they're high skilled jobs, well-paying jobs, something that would have a decent multiplier effect then in terms of, you know, spin-offs in other industries.

**JG:**           **Sure.**

CT:            You know, it's not just the direct impact of the jobs. I suppose it's the indirect impact that needs to be taken into account here as well.

**JG:**           **Sure. Yes. That's kind of huge with Deloitte actually in terms of that's where their predictions are.**

CT:            Yes. I mean there's no reason why. I mean 5,000 isn't an unreasonable number, I would have thought, in this, but considering what we have at the moment. You know, the total IFS 2020 is 10,000 jobs. But just to put that in perspective, I happen to have been in Dubai about three weeks ago and they're aiming to double financial services in the next five years as well.

**JG:**           **Wow.**

CT:            And you know, they'll probably do that. So it's all a matter of scale as well. I mean Ireland, you know, Dublin isn't trying to become London in terms of scale, so I think what Dublin should try to do is try to do a few things well, rather than, you know, trying to do everything.

**JG:** That makes sense, yes.

CT: Again, I mean we've done well in terms of professional funds and a few other things that we've done pretty well, but we're never going to be able to compete with London for hedge funds. We're never going to be able to compete with investment banking, corporate finance and all these other areas. I mean that's going to be always a niche area in Dublin and other smaller financial centres in Europe. So it does make sense for Ireland to, you know, figure out what strategy makes sense. I mean I think FinTech makes an awful lot of sense for lots of reasons, but there are still a lot of challenges and the government shouldn't underestimate the challenges that lie ahead in this area.

**JG:** Sure. Excellent. That's perfect. Is there any kind of other path or guidance you could guide me down in the way of FinTech towards dissertation or any area that maybe stands out more so than the rest?

CT: I think one bit of advice I'd give, just more from an academic perspective now rather than necessarily the FinTech issue, would certainly be to rewrite your research questions very kind of thoroughly, very focused. Think of the usual issue, like the funnel where you're starting from the bigger picture and then narrowing down.

**JG:** Sure.

CT: And I suppose definitely trying to get some academic literature on the nature of innovation, the nature of technology and I'd also think that rather than focusing just on finance, you should also think about technology and the impact of technology more generally.

**JG:** Yes.

CT: I mean I could recommend a couple of interesting books for you in that area.

**JG:** That would be great.

CT: I mean The Second Machine Age is one. You can actually find a PDF.

**JG:** Oh, excellent.

CT: If you just Google the Second Machine Age PDF.

**JG:** Excellent.

CT: And then there's the entire bit then about, you know, automation and robotics and so on, but I don't know how much you want to go into that. I mean that's about automation and the future of work.

**JG:** It might be no harm throwing my eye over it.

CT: Yes.

**JG: Just to see if there's anything.**

CT: The Rise of the Robots is a new book. You know, it's just something that I'm interested in, actually, as it happens. And about, you know, how robotics, automation... You know, the reason it might be interesting is that it's not just about robots, you know, in terms of say how robots are going to affect say car manufacturing, but it's also about automation. You know, how, for example, accountants are vulnerable to new automated processes or how, you know, banks clearly have been impacted. So that whole area actually about how say the traditional retail banking model has changed might be one that you could have a look at. There's a lot on that, actually.

**JG: Funny enough, if there is, I've two actual PDF documents within that that is discussing that.**

CT: Yes, but this is talking more about the future and what's going to happen in the future as, you know, IT systems become even more clever and automation becomes even more prevalent. What's the nature of work going to be? I mean this is actually something that goes back a long way. It goes back to people like Keynes, Schumpeter and others. I mean Keynes, for example, was discussing, you know, how modern technology back in the '20s was going to mean that we'd all only need to work one day a week because, you know, modern technology would make us wealthy enough that we'd be able to just basically, you know, say work 10 hours a week.

**JG: Sure.**

CT: That idea is not new. And then there are people like... I mean if you want to go into the economics of this, people like Robert Gordon are interesting. So Robert Gordon is one of these guys who is a technology pessimist and basically thinks that the new technology, Internet and so on isn't leading to any kind of big economic growth.

**JG: Sure.**

CT: This is one of the biggest debates actually in economics. And contrary to that then, there's a whole thing called secular stagnation. This is if you want to bring the economics into it.

**JG: Yes.**

CT: If you do or not. So secular stagnation is linked to Larry Summers. You may have heard of him, a former Treasury Secretary.

**JG: Yes. Yes.**

CT: So he's basically saying that we're stuck in a rut, a kind of demand side rut. The only reason that you might want to bring this in is that what it means is that for the Western world, the developed world, unfortunately we could be looking at a very prolonged

period of low inflation, low interest rates, and low growth. You know, so we're stuck in this equilibrium, if you want to call it, at the moment and the reason that might be important is that it does put a huge impetus on financial services companies to basically make money in a new way because, you know, the traditional model of, you know, taking a margin on the interest rate, that's going to become more and more under pressure and therefore maybe some of these other technology products and services might be a way in which financial services companies might be able to make their profits, rather than traditional routes.

**JG: Sure. Yes.**

CT: So it's part of this, if you want to establish a big picture about the state of the world economy and the state of finance in the world and so on. You could also bring in regulation there as well in terms of, you know, again, that's putting a lot of pressures on banks and insurance companies in terms of, and you know, regulatory compliance.

**JG: Sure.**

CT: We can't call it paperwork at this stage because nothing is obviously on paper at all.

**JG: No, it's all electronic.**

CT: Electronic, except for Greece.

**JG: Yes.**

CT: It's all paperwork. That's one of the interesting things about Greece, actually. Everything is still done by paper over there. It's quite incredible. That's one of the reasons why it's so vulnerable to under-declaration of income and corruption and so on. It's interesting.

**JG: Yes. Absolutely.**

CT: Like they've no e-government at all and like they don't have any like revenue online or anything like that. None of that.

**JG: That's crazy. Absolutely crazy.**

CT: Yes.

**JG: That's why we're at the stage we're at.**

CT: That's where we're at. One of the reasons where we're at the stage we're at. There are many reasons. Anyway, so you could start with kind of the broad picture of the world and then narrow it down and narrow it down and then eventually focus on what you want to focus on.

**JG: Yes. Excellent. Great stuff. Excellent.**

CT: All right?

**JG: That's perfect.**

## Derek Butler CEO Grid Finance

### Interview 2

25<sup>th</sup> July 2015

**JG = John Gibson**

DB = Derek Butler

**JG: Perfect. It's going to be a very easy question for you to start off, Derek. Just simply I suppose if I could just ask, how aware of FinTech are you here in Ireland?**

DB: Well, obviously you're very aware. You know, we are a FinTech company, so we're kind of one of the leading early-stage companies in the space, and it's a burgeoning space. I think we have to be, I suppose, realistic in terms of the size of it, particularly London, so I would view London as really the world leader in FinTech. And I suppose there's a little bit of misdefining what FinTech actually means. So I think, you know, over the last kind of number of years, FinTech has really meant technology companies who are trying to fix part of a traditional bank's value chain and build technology products that actually help solve problems for banks and problems in the value chain.

**JG: Sure.**

DB: I think what we see now emerging are much more consumer-focused FinTech companies who are focused on B2C relationships and building products for end users that are either consumers or small businesses, as opposed to, you know, large financial institutions.

**JG: Excellent. The second one then is, is FinTech affecting or changing any segments of the banking business model?**

DB: I think yes and no. So you've got a whole ton of companies who are helping fix problems for banks, and that's good for the banks. You know, it's ultimately helping their bottom line. It's either driving revenue or its supporting cost reduction. So that's where kind of functional product companies. There's this other pool, which are looking to actually beat the banks, disrupt the banks and fundamentally change a traditional banking model.

**JG: Sure.**

DB: So if I look at our own business, you know, really, what we're trying to do is fundamentally change how capital moves in society. So historically, people would have put the spare capital that they had into the bank and relied on the bank to clear that then to a

customer that needs it. So in that scenario, the bank is simply a safe place to store that money and a reliable clearing house for that money to those who need it. Companies like ourselves now, I think we can be disrupting that model and we're saying, 'Well, you don't need a fully-fledged bank, regulated institution with all of the restrictions and the parameters that that comes with to actually do that fundamental process of moving capital in society. There are new ways of us being able to move that capital around and it doesn't need to flow through a traditional bank system.'

So you know, that's what we're doing and then there are tons of payment companies who are disrupting the payments element of a bank's business. The ones that are most likely to succeed in that space are ones that own existing strong consumer relationships and already have big audiences. Those companies can best beat the banks in the payments piece. Again, I think that there are a number of shake-outs in the payments industry before we really get a really open source payments infrastructure. Like at the moment, the clearing system for payments in the Irish economy is controlled by the Irish banks, and will remain so for a period of time. So it's going to require a couple of shake-outs in the FinTech payments area for us to really have an open source payment system that really competes with the banks and gives a really, really slick and easy consumer experience.

So you know, that kind of just summarises, I suppose, the three key functions of a bank and how they're being disrupted. You know, when we sat down and we started looking at finance is how can we disrupt banking and how can we do as much as what a bank does without being a bank? And we identified three key things that a bank does – a safe holder of people's cash, a clearing on cash to people who need it, they lend money and then they manage payments. So companies like we are disrupting the first two, you know, providing people with a return on their money and lending that out, and then there are tons of companies focusing on the payments piece. And this is the future for traditional banks, is that they will have hundreds of companies trying to outflank them and disrupt their traditional model and to cherry-pick parts of their value chain, which they're either very weak at or fundamentally flawed. And this is what makes this whole space so exciting. There's this huge opportunity to do that.

**JG:           Excellent. Great stuff. Excellent. You've probably already touched on really there on that, but in what areas do you see the greatest potential impact of FinTech on the implementation of traditional financial services?**

DB:           Which area do I see the greatest impact? I think there's going to be phenomenal impact across society and across the globe, so you know, I myself spent a number of years working in emerging markets. So I worked in Africa and the Caribbean. And I see a fantastic opportunity for those economies and those societies to leapfrog the very traditional banking system, just like they leapfrogged with the telecommunications industry.

**JG:           Sure.**

DB:           They went from having no phones to having mass adoption of mobile. So I see, you know, if FinTech takes off in a developed world context, that in those countries,

they'll just simply leapfrog and they won't even go near a lot of the traditional banking elements, even though in most of those countries, there is a banking system. As they grow and they develop, they will leapfrog.

So that's just one angle. But in terms of specifically which area, you know, I would definitely say it's on the lending side. You know, lending and return is the best way of putting it, so you know, if you look now and just look at the simple facts. Right? You have people placing money in financial institutions and getting a close to zero return on that. And in fact, many corporates are getting a negative return, which is fundamentally wrong. There's a massive need to disrupt that, and then on the lending side, you have a massive lack of democracy and a massive disenfranchisement for the traditional banking system.

So you know, one of the things that we see in a business is, you know, your credit score is like your identity in society and this is a totally new concept for many of the people that we work with. But traditional banks have for way too long had the shutters down and have put themselves on a pedestal and, you know, taken other people's money in on one hand and controlled it and have, you know, made the access to that money by people who need it really hierarchical and kind of really undemocratic, is the best way of putting it. So there is a massive opportunity to disrupt that piece and make it easier or fairer for people to access the capital that they need to grow their businesses because at the end of the day, it's not the bank's money and, you know, this is the thing that we say all the time. It's not our money. It's actually your money.

So there's a massive opportunity to disrupt that. If you marry that, I suppose the reality of the traditional banking model with the massive brand damage that's happened in the last five, six years, marry those two things with the simple reality that banks operate in probably the most regulated environment possible, only pharmaceuticals being similar or as close to banks in terms of regulation. And just even purely on the basis of cost and the cost of regulations and all this, and the restrictions that are put on your business.

So for example, you can have a really, really good small business who's looking to access to cash in a particular week, but if the bank's concentration risk limits have been hit in the sector that that business is operating in, in that week, they're not going to get a loan from that bank. And you know, the bank is going to say, 'Oh, sorry, we can't lend to you today' even though that business is perfectly functioning and it's a great business. They're not going to say to that small business, 'Sorry, we've hit a regulatory limit. We can't help you out.' They'll say, 'Sorry, we can't lend to you for some bullshit reason.' You know?

So you have this, I suppose, fundamental lack of democracy in terms of how capital moves in society. You've got traditional banking institutions whose commercial model is now flawed, operating in a really restrictive environment and with massively damaged brands. I can't think of a more ready appetite or a more ready opportunity for companies like us.

**JG: And in terms of we'll say any other opportunities, lending you're saying is the biggest one, would you say there's any more in terms of investing, funding, currencies?**

DB: I think they're all there. Some of that is kind of low-hanging fruit, you know, particularly on the FX side. You know, frankly, if you look at the breadth and depth of what traditional banks try to do with their universal banking model, it's absolutely crazy. You know, so you've got the likes of, you know, the Bank of Ireland and the AIBs continuing, even after the financial crisis, to be all things to all people. And inevitably what happens when you try to be all things to all people, you satisfy no one. So what you have are these banks committed to universal banking, with these incredibly diverse product portfolios, across market verticals and it's impossible to be able to satisfy all these different types of customers with all these different types of products.

So on that basis, there is, you know, no shortage of opportunity of being on the FX side or corporate treasury or insurance or, you know, consumer credit. There's just no shortage of it, you know.

**JG: Are there any other companies that you feel are doing well?**

DB: I think there are tons. You know, I'm kind of reluctant to say, 'He's going to do well' because you just never know how they're operated. Right?

**JG: Sure.**

DB: But what I will say is there are lots of really good people out there, really capable, bright people starting and running companies and they've got a great opportunity ahead of them, you know. Whether they'll succeed or fail, it's the subject of so many different variables, but there's lots of really bright, smart people out there looking to disrupt the banks and **if I was a CEO of a bank, I wouldn't be sleeping soundly at night.** But I know that they are because they don't see any threats, so that, you know, underscores the opportunity for guys like us, and they really should be worried.

**JG: Excellent. And again, it's touching exactly what we've said. It's kind of flowing in again there, Derek. The next one would have been do you consider FinTech specifically, obviously what you were doing, and peer- to- peer platform, as a serious genuine competitor for banks long term in the future?**

DB: Absolutely no doubt. Just because we're focusing on a particular customer with a particular need that has been badly fulfilled, and our only restriction is, you know, capital and timing, you know. It just takes a certain amount of capital and a certain amount of time for people to have confidence in what you're doing, become aware of the solution that you're providing and then to actually use it, you know.

**JG: Yes.**

DB: We cannot forget that people have effectively been, what's the word? You know, effectively been brainwashed, you know, from a very early age that the only place to hold your money or to borrow money is a bank, and that's the case, you know, for business customers as much as it is for consumer customers. So you know, our huge challenge is the time it takes to build the confidence and trust that we are a credible alternative and to encourage people to make that switch.

**JG: Would you say that the evolution or the rise of FinTech companies is probably mainly from the financial crisis in 2008?**

DB: I think it's been bubbling away for a long time. I'm actually surprised, John, that FinTech hasn't been a bigger antidote to the crisis, to be honest. You know, just given the scale and the depth of that crisis, I'm surprised that there haven't been more alternatives consuming greater amounts of market share.

**JG: Sure.**

DB: Ok? I think there are reasons for that and you've kind of alluded to it there, in terms of just how resistant people are to switching banks or switching to alternatives. There's the simple reality that even though you can be a really sincere customer-focused FinTech company, you're still fighting against the disillusionment or the apathy of your target customer because for them, they just see, you know, although you are different, they just are so disillusioned with how finance is run and how disenfranchised they are from it and how disempowered they are that, you know, it's really hard, even though you can have the best product and be a really sincere company, it's just really hard to make your case. Does that make sense?

**JG: Yes. Absolutely.**

DB: So I think that's a reason for it, but you know, if you look at cold, you think, you know, 'Holy crap, we've just had this absolutely enormous financial crisis, where, you know, real people have ended up bailing out these fucking bankers. Surely to God these banks are just going to disappear overnight?' It hasn't happened and it's not going to happen because there are a lot of powerful forces at play there, you know, be it central banks and all the rest of it. You know, there is, you know, a somewhat cosy relationship between policy makers and banks and, you know, or lots of people who want to protect the status quo, frankly, you know.

**JG: Excellent. In what segment of the Irish market do you see financial technology seeing its greatest disruption?**

DB: Oh. Difficult one to predict and I'll tell you why.

**JG: Sure.**

DB: Because we don't have any clarity... Well, actually, I'd say it's a difficult one to predict on the lending side. Right?

**JG: Right.**

DB: So you know, what segment of the lending market is going to be disrupted is a really difficult one to answer.

**JG: Ok.**

DB: And the reason for that is because we don't have any clarity on a regulatory regime for that space. So if you look at what the FCA has done in the UK, you know. The FCA in the UK has built a fair and reasonable regulatory regime around FinTech, around lending in particular, and it's supported the space to explode.

**JG: Yes.**

DB: So because you've clarity of a regulatory regime, you can then actually make some predictions as to which segments are going to expand fastest. So in Ireland, it's very difficult to predict that because we don't have any clarity around lending. So on that basis, I would probably say in Ireland, if you look at the cold, hard facts, the payments piece will probably be the fastest, just because firstly, you have clarity of the regulatory regime for a start and then you have lots of companies who can move quite easily across borders. So you know, the likes of an Apple Pay or Amazon Pay, which will come into the market shortly, I believe. You've got lots of companies who can come into Ireland and then you've got clarity of the regulatory regime.

So then within kind of payments, I think business payments are probably the one ripest for change. Consumer payments will take time. There's going to be a longer, harder adoption for it there.

**JG: Sure.**

DB: But I'd say business payment processing would be the one that is most easily disrupted.

**JG: Excellent. The other one there, it's, again, similar to what we've gone over again. So do you think FinTech will ultimately collaborate with and/or complement traditional service providers or are they going to completely disrupt the industry on their own?**

DB: I think it'll be a bit of both. Well, honestly, I think the ones that will have the long-term sustainable competitive advantage are the ones that stand on their own two feet as companies and say, 'We stand for this customer.' You know, so we in GRID Finance are very clear on whom we stand for and the customer that we're looking to back, the customer that we're looking to support. So I think companies that do that that stand on their own two feet are clear about whom they are and what they're about as a company, they will succeed in the long term. It'll be harder in the short term, but it will be more sustainable.

**JG: Excellent. And the other thing is something I've touched upon there, which is the IFS 2020. Something was announced by Mr Simon Harris. So just to touch on the IFS 2020, do you feel that that's going to have an impact here in the Irish market? Is it going to help companies like you in the FinTech world?**

DB: So we fed in quite a bit into the IFS 2020 and the strategy advice, and we were delighted then to see, you know, FinTech actually mentioned. That was a good result. You know, what we were pushing for was, you know, create an ecosystem for FinTech in the

IFSC. That makes so much sense because, you know, FinTech is the future of finance, so let's put it in the Financial Services Centre and put it in a place where it's not a million miles away from a lot of the potential disruptors, the Google's, the Facebooks, the Twitters.

**JG:**           **Yes.**

DB:            So you create this real ecosystem that's blending finance and technology. So we see massive opportunity to create this international FinTech ecosystem in the IFSC in Dublin.

**JG:**           **Ok.**

DB:            It's going to be really hard to compete with London, but it's worth giving it a go and particularly if you have a focus. So you know, what I would say is why don't we make Dublin the heart of consumer FinTech? And let's draw in the brightest and the best from abroad into Dublin to develop consumer FinTech. That would be my view. That's my view because we're consumer development people, but if it's another thing. The principle of being focused and being clear on your angle and Dublin, given its size, needs that. It can't just be a bland, relatively vanilla FinTech hub. It's just not going to work.

**JG:**           **Right, yes.**

DB:            That's kind of my view on that.

**JG:**           **There were actually thoughts about creating a FinTech area. It was mentioned and touched upon.**

DB:            Yes.

**JG:**           **But I think it's gone. They're hoping to put it back together.**

DB:            Yes. It's hard to make that kind of stuff happen. You know, you've got to have buy-in from big and small because you'll find it's not about... What I said to Simon Harris, to lots of people, you know, creating an ecosystem is not about putting a whole bunch of early stage companies, start-ups into an incubation centre. That's not an ecosystem. So what you need to do is you need to create a zone where large, medium and small, traditional and non- traditional companies can all co-inhabit and coalesce, and that's really where you get the magic. And it's also not just about money. It's about for those early stage companies, providing them with financial support and all the rest of it, but also providing everyone with access to expertise, brains and skills, and that's how you create an ecosystem.

**JG:**           **And then finally, a bit more generic, is anything else you feel would support the research in terms of FinTech Ireland or?**

DB:            I think it's worth you drilling down further into adoption barriers. Ok?

**JG:**           **Yes.**

DB: So one of the advantages, John, of there not being a regulatory regime is that there's actually relatively low barriers to entry, given that, you know, for a company like ourselves, we're a financial services company at the end of the day. Right? And we're up and running and we're looking after customers and we're growing, you know, big time every week. So there are no major barriers to getting into the industry. What there are, are barriers to adoption. And I think drilling down further into what those are and how you can raise them is really important because at the end of the day, you know, we can all sit around our tables and muse and think about FinTech and oh, isn't it great and all the rest of it. But what does your customer think? And it all comes back to your own customer. Who is he or she? What do they want and how can you better fulfil their needs?

And if there are barriers to them using your products or to adoption of your product, it's so important that you know them and that you will address them and know which ones you can address and influence. And that for me is really, really important because it's easy to sit around and pontificate, but what does your customer actually think? And what will help or prevent him or her from using your very nice model FinTech product?

**JG: That's excellent. Thank you very much for your time. I really appreciate it. Excellent.**

# Aman Citi Bank Lead Mobile Architect at Citigroup Architecture

## Interview 3

28<sup>th</sup> July 2015

**JG = John Gibson**

A = Aman

F = Female voice

**JG: Perfect. So thanks very much today, folks. I really appreciate it, your time and efforts. I'll just start off with the first question, which will be very simple and generic. It's just how aware of FinTech are you?**

A: Yes, quite aware, I think. We're involved in quite a few of the initiatives that are happening with many start-ups and yes, I don't know how to give an answer to how aware, but yes.

**JG: You're heavily involved in -**

A: Yes.

**JG: - the industry and where it's going. Excellent stuff. That's perfect. Well, I suppose the second question I'm delving into a little bit more is FinTech affecting or changing any segments of your own business model here?**

A: Business model, probably not, but engagement model, yes.

**JG: Ok. And when you say engagement model now?**

A: So the way we're kind of working with other companies and the community in general is changing. I guess the whole start-up culture is seeding into corporate worlds as well, so it's a lot more about informality, less about kind of 'This will happen at this time' sort of thing.

**JG: Ok. If I was to say to you then, we'll say, in certain areas of FinTech, what would you see as the greatest potential impact of FinTech on the traditional financial services, lending, currencies, investing? Where would you see it having its largest impact?**

A: Oh. So that's kind of a more segmented answer. I think within consumer spaces, where there is a lot of activity in FinTech, it's filling the gap that traditional financial services can't offer. So you know, you were speaking earlier about peer-to-peer lending. That's ultimately about making finance available to those who either are unable to get formal

structured products from existing institutions, or the payback schedule is inappropriate for what they need. Right? So that's kind of in the consumer space. It's filling a gap that's not being met. Right?

Also what's happening in that space is a drive towards ease of use and better connectivity, I guess, or better connection with the user is coming through? There's a huge move on taking financial products and kind of bringing them into people's lives on the consumer side, so we're seeing a lot of start-ups doing things like behavioural nudges, if you like, or just kind of making the financial planning side of things more aware. I think in the sort of businesses we're involved in, certainly in Europe, it's more institutional. So where there is kind of activity happening, it's happening in areas like, you know, security or operational sides of things in terms of core businesses because I guess it's such a specialised area. Unless people come from that background, they're not really offering anything new, but, you know, there are a couple of start-ups here, so Fundrecs being one of them, that are working in the fund space and offering more efficient ways of working. I can go on, by the way. Yes.

And sorry, there's one more area as well, and that's really just around cryptocurrencies and Blockchain. That's a huge disruptor to the area, or potential disruptor.

**JG: So towards Bitcoins?**

A: Bitcoins and Ripples and Stellers and all these things and then also custom Blockchains as well.

**JG: Ok. Ok, perfect stuff. And there's a little bit of crossover because I was leaning more towards the lending side, maybe payment side because that's what I see as having the biggest effect on, as you say, cryptocurrencies. Do you consider FinTech, specifically peer-to-peer platforms, as a serious competition maybe?**

A: To what?

**JG: To the normal banking models or lending issues? Do you think it can have an effect on them?**

A: Yes. So ok, so yes, it can have an effect. As a competitive thing, not really. Right? Because what happens is if you just look at the sheer amount of money that traditional financial institutions are lending, and then at the other side of it, the other extreme, where you have the payday lenders and the Wongas and all these people – that's at the other extreme of it as well. Right? So just look at the sheer Euro amount that's being lent and then you compare that to the Euro amount being lent in the P2P space. Right? For that to catch at that level, you know, is there enough liquidity in peer-to-peer to match that? So I don't know what the figures are in Ireland, but let's just say it's a number like 2 billion. I'm making that number up. Is there 2 billion liquid available in a peer-to-peer space to lend it out? Right? Probably not. Right?

**JG: Yes.**

A: But it does meet a very important need though because that peer-to-peer, you know, and you're kind of seeing it specialised through different industries as well, so you know, farmers are getting more and more involved in peer-to-peer lending. Small businesses are involved in peer-to-peer lending. Kind of communities get together and they form these lending schemes as well, so yes, so peer-to-peer lending is a big thing. Lending schemes are a big thing, but when they disrupt or if they disrupt is an open question.

**JG: Ok. Excellent. So again, it comes back to something you already touched upon there, Aman, really is we'll say in what segment of the Irish market do you think FinTech is seeing its greatest adoption and growth?**

A: The greatest adoption I guess in terms of the new start-ups that are out there or kind of the successful ones, you know, you touched on the peer-to-peer lending space. There's also the work that Realex did in the payment space. They're kind of the big examples. We're seeing some activity, you know, back in Blockchain. The growth area is going to be in Blockchain and consumer tech is always going to be big. Consumer payments are always going to be big, but we would hope to see good growth happening on the institutional side as well.

**JG: Do you think FinTech will ultimately collaborate or complement the traditional service providers, or are they going to completely disrupt the industry on their own?**

A: I think collaboration will be there. Right? Complement and collaboration will be there. I mean there'll be areas of disruption. Right? Any traditional industry that's been met with the onslaught of start-ups, they have been kind of shaken. Right? The thing about what makes the financial world different to say something like Amazon and Wal-Mart is the level of regulation and the fact you're dealing with money. It's not straightforward commerce. And that changes the equation, but for sure, you know, like what's happening in FinTech is a greater mirror of how business activity is changing.

So go back 20 years, things were very formal. They worked very differently. Now, they're a lot more informal. The flow of information and people between start-ups and established companies, the barriers are gone. And you know, if you look at the FinTech user group in Ireland, it's an interesting mix of smart entrepreneurs working on new solutions and, you know, they are kind on the fringe of some of the more traditional financials getting involved, either hosting the events -

**JG: Sure.**

A: - or kind of going in and working with them. So a lot of start-ups are getting mentoring or product guidance from -

**JG: Sure.**

A: - existing organisations. And you know, that's what needs to be done. Right?

**JG:** Sure. And regarding the IFS2020 and the investment from the government -

A: Yes.

**JG:** - do you feel that that's going to have a good impact on the financial technology world?

A: It should do. It should do. Right? I mean any of these things are positive signs. Right? The government investment is a great indicator of confidence and it's even better if that attracts more private capital to come into it. So you know, if we can get some of the big venture funds coming in as well on the back of that, that'll kind of amplify the activity of what's happening. And Ireland has a great opportunity, both with the 2020 strategy, but also with our location, where we are in Europe, our traditional strengths, to drive a new agenda for innovation. Sure.

**JG:** And there was originally, I know Simon Harris mentioned it and a few others, that we would look to create a financial hub, a FinTech hub within the Boland Mills area.

A: Yes.

**JG:** That may have changed now.

A: Yes.

**JG:** And I think they're going to look to more expand the IFS.

A: Yes.

**JG:** Can you see that happening on a larger scale, the same way we'd see maybe Silicon Valley or towards the London kind of experience?

A: Yes.

**JG:** The Roundabouts they're looking at?

A: Yes. So you know, the location is fine. Right? Be it Boland's Mills or be it here. Right? It doesn't really matter. The big problem is office space, collaboration space. These are huge, huge barriers. You know, start-ups have to be resourceful. I met a start-up yesterday. They've taken a suite of offices in a hotel because office space is so difficult to get.

**JG:** Sure.

A: These are practical things. Right? But, you know, location-wise it's great because you have the financial institutions here and anywhere where you have activity, you know, we're never going to be Silicon Valley, nor should we be. Right? We have to be

Ireland. We have to be Dublin. That's what we should focus on, on our strengths, but what we can do with FinTech is build on those strengths.

**JG: And can you tell me if Citibank itself would be kind of supporting the FinTech companies that are out there or are you following your own?**

A: What do you mean by supporting?

**JG: Is there any start-ups that you may support or take kind of on board at an early stage and kind of get involved with, or is it more of a case that you have your own Lab and you're going your own direction?**

A: Well, it's a combination. So, you know, recently, this spring, we just finished our Citi Mobile Challenge, which is a worldwide competition that we'd run for start-ups within FinTech. And as part of that, we work with partners to offer in-kind prizes, mentoring sessions and then with many of the companies that come through, we offer them mentoring sessions. We offer them routes to our product people. The Lab strategy is a little bit different. The Lab strategy is really about taking inward innovation and expanding that. So where there's a need of capturing a trend of what's happening broadly within the industry and then seeing how it can be applied, that's where the Lab fits into it really, amongst other things. Right?

But working with FinTech is something that's important. And it could be something just as simple as mentoring or on that side of it. And you know, at the other extreme, our Citi Ventures actually invest in start-ups, so it's about having a comprehensive approach for this as well. Early on, I guess, when you look at a start-up's journey, they are trying to understand a problem space well and then offer a solution, which hopefully no other company is offering, and that's where, you know, you don't need money as much as you need access.

**JG: True.**

A: And then after that, you need time to build it out and space to build it out, and then after that, it's about acquiring customers, building out the business and that's where the more formal forms of EC or other capital comes into it.

**JG: And would you know of any other, we'll say, kind of FinTech companies, start-ups that are coming to Ireland that would be worth having a look at?**

A: Yes. There's a whole bunch of them right now. There's probably a dozen or so. I can send you a list separately.

**JG: That'd be great, yes.**

A: But there's, you know, FundRecs, as I mentioned. MyFutureNow. There's Investor Sheet, which is FinTech-ish, but it's quite good. It helps start-ups manage their finances from their investors, and there's Ann Hunt's company. I'll send you on a list.

**JG:**           **Excellent.**

A:               Send you on a list. There's a bunch of them in this area, so you know, there's HashCoin, which is doing some stuff in the Bitcoin space, doing some really, really smart things in it.

**JG:**           **Ok.**

A:               There's Touch Tech Payments. They're doing some work in securing online payments, so.

**JG:**           **Ok. Who would you say of the Irish financial technology companies would be the most successful to date?**

A:               Start-up or general?

**JG:**           **Start-up, yes.**

A:               Well, I mean look, Realex is the kind of canonical example of looking at a company that's done very well. They got a good exit. Colm Lyons done great stuff there, and also with Fire Financial. On the other side of it, I think there's been the peer-to-peer lending side of it as well, the Lending Circle equivalent. They've done very well, so.

**JG:**           **Right.**

A:               I can't recall the name right now. He's just down here on Strand Street. You know the guy, right, the peer-to-peer lending?

**JG:**           **On Strand Street?**

A:               Yes, Strand Street, I think, or Liffey Street.

**JG:**           **Strand Street. No, the only one I've really come across so far is GRID Finance with Derek Butler.**

A:               Yes.

**JG:**           **Now, Strand Street. I can look that up, I'm sure.**

A:               Yes. I'll send you on the list.

**JG:**           **Perfect. Is there any other area that you feel that it'd be worth investigating from, we'll say, the financial technology, and FinTech area within Ireland?**

A:               Yes. Yes. Well, for you or?

**JG:**           **Yes.**

A: I think if you want to get a sense of what's happening with I guess FinTech start-ups is kind of take a look at the companies that are out there right now. That would be a good way to start. Right now, they're predominantly focused on consumer spaces, with a couple of exceptions. So Chasing Returns in an exception. That's working on stock market investing, fund investing. MyFutureNow is consumer-focused, but it's kind of taking it from a more long-term perspective. HashCoin is looking at it from a Blockchain perspective. FundRecs is looking at it from a fund management side. So they're looking at things outside of the consumer space. Right? Bynk is doing a great job. They just raised some capital and that's kind of using like the Facebook messenger-type approach to payments.

**JG: Right.**

A: Right? So if you go to the Start-up Digest, sign up to that and they've a directory of a lot of the start-ups.

**JG: Ok.**

A: See what's happening.

**JG: And is there any other area within FinTech that you feel would be a good area to look at in terms of a start-up or a bank?**

A: I think if you're a start-up, the regulatory side of it, the governance side of it is a huge opportunity because that's where banks invest a lot of time and a lot of effort. It's one of the big risk areas for banks and it's one of the areas that regulators are looking at better ways to integrate with banks.

**JG: That's I think fairly much it from me, folks, in terms of the questions and stuff like that.**

A: Yes.

F: Great, cool. Yes.

**JG: Short and sweet.**

A: That's it.

**JG: That's it, yes.**

F: Thank you very much. Good luck with it.

**JG: Yes.**

F: When does it have to be in for?

**JG: It's to be handed in on the 20<sup>th</sup> of August.**

A: Right.

F: God.

**JG: So I've the rest of the interviews to handle now this week.**

F: So the summer has been hard for you then.

**JG: It has been, yes. It's been fairly boxed down every weekend.**

F: At least the weather has been crap, so it hasn't made you feel too bad.

**JG: Yes. Absolutely. Absolutely. So it's been kept going as well, but yes. Any other documentation you had that you could share?**

A: Yes. Any problems, just drop me a note. I'll send you a couple now, but I gather it's not specific companies you're looking for. It's just kind of general areas.

# David Tighe Head of Innovation for Bank of Ireland

## Interview 4

31<sup>st</sup> July 2015

**JG = John Gibson**

DT = David Tighe

**JG: Ok, Dave. Thanks for much for today. I really appreciate it. I'll start with the first question, which is going to be very basic and something that I know is going to be fairly obvious to you, but how aware of FinTech are you?**

DT: Hugely. We spent a huge amount of time. It's my job. It's my fulltime job, as well as my team, and my team is a team of around eight in an innovation function, which has a dual role of FinTech and the engagement with the start-up community. And we spend all of our time looking at the FinTech community in Ireland, but much wider afield, in the key areas of London, which is a real hub for FinTech, Berlin, which is growing FinTech, Tel Aviv, which is really, really strong on security FinTech, very strong start-up community in Tel Aviv, and then of course into the US, where New York has become a hub for FinTech and the Valley as well, Silicon Valley is a hub.

Just to put that in perspective as well, what we generally find is you have a thriving FinTech community where you have the three core things that come together. One is customers, so that's a whole load of banks or payment providers, or MasterCard or Visa schemes all based there, so look at London - hundreds of banks. Look at New York – hundreds of banks. So they're the customers. The second factor that we generally find is funding. So we access the funds, so strong VC knowledge of the FinTech scene, strong VCs available, so again, look at London and New York as a good example of that.

And then the third one that we generally see is... funding and space. The access to good space as in co-working and sharing and good sharing of knowledge across them. And again, those two cities do that extremely well. Look at what Canary Wharf has done in London.

**JG: Ok. Excellent. The second one then will be can you tell me like is FinTech affecting or changing any segments?**

DT: Yes. Depending on whom you talk to, and you'll get different variances of this throughout every bank in Ireland and different levels of the bank in Ireland and different departments of the bank in Ireland. There are those who believe FinTech is going to change the very fundamental structures of banking, and there are those who believe, you know what? We've existed this way for quite some time. We'll exist like this for a while as well.

So it is an issue. Fundamentally, I believe, FinTech will disrupt banking for the future. It is the core premise of everything that I do.

On that premise, the two early signals for me have always been the payments market, the international FX payments market. Those two markets have seen disruption. They are living proof that disruption is happening. They're the pure evidence that banking as it exists today will change radically over the next... Actually, it's happening, so the way we see banking today will not exist like that in 10 years' time.

We're now moving into lending and we're seeing real disruption in lending. Now, again, I'm talking from an Irish market here. You know, it's already well ahead in the UK. It's already well ahead in the US. The crowd funding market in the UK is a 4.5 billion marketplace basically. You know, it's already begun, in essence, in that lending space, so we'll see it there. We will see digital currencies. It may not be Bitcoin, but we're going to see things in the cryptocurrency space that are going to impact even further on payments. We will see the mortgage process, how customers apply for mortgages and the simplicity of that – that will change massively in the future. So fundamentally, we're going to see the concept of banking as really a part of a customer's life, but it's what they want to do, not what we want to put at them.

**JG:**           **Sure.**

**DT:**           So yes, if you want me to sum it up, FinTech is the biggest opportunity and the biggest threat to traditional banking today.

**JG:**           **Ok, excellent. So again, it's something you kind of touched upon there, but a little bit more in depth, I suppose, in a way, is in what areas do you see the greatest potential or impact of FinTech disintermediation of financing?**

**DT:**           So the two we're seeing already, as I say, payments and FX. I think they're massively disrupted and actually, I would recommend Brett Meyers from CurrencyFair, one of the great Irish FinTech stories. Really, really good guy from the point of view of the understanding of a business and where FinTech can come from, so the growth in that is absolutely superb. The other one I've seen as well is Colm Lyon from Realex. Colm has been hugely successful on the payment side, but also what he's looking more at is using his own Fire platform for supporting other FinTechs. So again, I'd recommend talking to Colm from that point of view.

So again, I stress they're not early indicators. It's not like a simple signal. The signals are firing off all over the place. We're going to see this happen through every facet of banking. One area that I think is very nascent and is starting to come through is the concept of wealth management and the idea of the robo-advisor. So the idea of the digital algorithms, a digital platform that would really be able to advise and optimise a customer's investment strategy is coming through as a very strong approach. But remember, underneath all of these things, there is a fundamental customer friction, and that's what FinTech is about.

If you remove the friction from the process, from the product, from the proposition for the customer, you're onto a winner for FinTech, and that's the core piece here.

**JG: Ok, perfect. So number four there - do you consider FinTech, specifically peer-to-peer platforms, as a serious competitor?**

DT: No. No. Peer-to-peer is part of it. Peer-to-peer is one trend that we've seen in the market, so to put that in perspective, I always talk about kind of the macro trends that are changing society. One of them is the need for all of us to feel part of the tribe, part of the culture, part of a social movement, and that's what peer-to-peer is all about. But that's only one trend. There are multiple other trends. Maybe just to touch on where it might help on the dissertation is something that will really set the story of FinTech. I refer to a company all the time as a great example – Venmo.

**JG: Venmo, ok.**

DT: And it's a great example that I give when I give speeches about FinTech. Brett King as well would be someone I've seen. Brett King is one of the great leaders on the voice of FinTech, where he writes some excellent books on it as well. The concept of Venmo, when you explain it to an audience, I ask people, 'Has anyone heard of them?' And what they generally say is, 'No, I haven't.' Nobody raises their hand and then what I say is, 'Now, let me tell you about them.' Venmo is sweeping colleges in third level in America and what it basically does is it's the ability for me to go out for lunch now with you. We'll have a €40 lunch and I'll send you €20 through a peer-to-peer payment.

**JG: Right.**

DT: That payment can then be shared to my network on Facebook, Twitter, Instagram, whoever, even with a photograph. So I could do a payment through the social network and I can share it with my network and tell everybody that I was out for lunch with you and doing it. So normally what happens are I then go back to the audience and say, 'Now that I've told you about it, would anyone use it?' And there's always the same split. Those generally over the age of 30 won't raise their hand. They're like, 'Why would I want to share my payments and tell people what I've just paid?' Those under the age of 30 love it. They think it's brilliant. They think it's a great concept and that's because you're seeing what we call the rise of, there's a split here in the customer.

There's the digital native and the digital immigrant. The digital native is a new type of customer. They were born with the Internet. They're generally anyone from the age of zero up to 30 at the moment and they don't know any different than the Internet. They've never used an encyclopaedia. They don't ring customer service or Google to find an email. They find it themselves. They use peers to find the answers themselves. They use the web to find answers, but they also share. They're part of a sharing economy. They expect to share with their friends, their college mates, their school friends. They are very public and very open. They're data- focused and they like to do that.

Digital immigrants are learning the Internet. I'm a digital immigrant. You're probably a digital immigrant. And what happened was at some time during our life, the Internet arrived and we had to learn how to change and we are learning how to change, but our self-beliefs weren't changing. So we look at them and we go, 'No, never use it. Why would I want to put payments out there?'

But these guys are looking at it and saying, 'Oh, I would. You know, I share. This is what I like to do.' And that's one of the great examples that if you look at them and what they're doing, to me, it's the great story of where FinTech is going to go. It's the great example of where the customer segments are changing and if you don't cater to that as a bank, you're dead.

**JG: Ok. Excellent. Number five there, I suppose, David, is in what segment of the Irish market do you think FinTech has seen the greatest adoption in growth?**

DT: Well, I touched on it there already.

**JG: Yes.**

DT: I don't want to repeat too much of what I said.

**JG: Yes.**

DT: So touched on it there. I think two of the great examples are Realex and CurrencyFair, and I think again, you're looking at payments because it's an early indicator. Payments are always one of those things where if you look in that market, you can see early indications of where it's going. If I was to look forward into the Irish market and say, 'Where do I see more FinTech disruption?' I think one key area that we're actually extremely, extremely good at is security.

**JG: Security.**

DT: Biometrics, encryption. There are some good, strong Irish FinTechs coming through in that space, and that's from an Irish FinTech perspective. From a banking perspective, I think the key trends for disruption, I would be quite bullish on crowd funding. And when I refer to crowd funding, I'm referring to SME peer-to-peer lending. I think that's a strong market that with regulation and with more players and competition in the market, it will grow. And then the other area I'm particularly bullish on would be digital natives and youth engagement through digital. And I don't think anyone's got that right. There's a really strong agenda for getting a digital native background.

**JG: And something again that you've already touched on is do you think FinTech will ultimately collaborate and/or complement the traditional service providers or compete with it?**

DT: It's a great question. I think that question to me, if you're asking that question, it means you understand FinTech. That's the core crux of what's going on in the world right now. It's kind of like you know the CERN atomic collider? The Hadron Collider?

**JG:**           **Yes.**

DT:            They throw atoms at each other and see what happens.

**JG:**           **Yes.**

DT:            Well, that's what's happening in the financial world right now. So initially what happened was, and I've heard these stories multiple times. I've heard FinTech stand up and say, 'You know what? We're going to take on the world and banks are terrible and the friction is awful and customers don't use banks and there's no value for banks in the future.' And that's a model. You know, some people believe in that and some people think that's the way to go. Other models I've seen, and this is where I really believe the future is, it is like that collaboration, that collision between the two. The banks have a lot of experience in this space. They understand the customers. They have data. Data is really strong with their customers. They know the mistakes. They have funds. They're able to invest in that space. They have a distribution network, so they've a lot of access that can be added to the approach.

But start-ups have something and FinTechs have something and that's this ability to be lean and agile, and that is fundamental to any new development in where we're going in the FinTech space. So you take the assets and the unique selling points of a FinTech start-up and you take the assets and the unique selling point of the bank. You put the two together – you've got a pretty compelling proposition, and that's where I see that market going. I see this as a really strong engagement in this market between banks, between payment providers, between schemes, the card schemes, between the start-ups and the FinTechs and really spinning out. That's not to say a FinTech can't do it on their own. Of course they can, but I can see this being more of a collaborative approach.

**JG:**           **Excellent.**

DT:            Just to add to that, there's something that you might want to touch on in your dissertation, is you've ever come across Clayton Christensen. It's a Harvard Business Review book. It's called The Innovator's Dilemma and there's a classic in that, which is there's the Kodak moment and I think you should look up that as an example.

**JG:**           **So what was that?**

DT:            The Kodak moment. So Kodak, the camera company.

**JG:**           **Yes.**

DT:            And the same for Blockbuster the video store, how Netflix put them out of business. These are the examples of industries and it's happening with the banks now. So Kodak was a camera company and digital came along. Blockbuster and Netflix came along.

**JG:**           **Yes.**

DT: The thing that makes you Kodak and Blockbuster, your branches, your culture, your staff, your IT systems that you've spent hundreds of millions on – all those things, and they're really good. They've made you a really profitable, strong company. They're the things that will put you out of business because you can't respond when this little upstart Netflix comes along and is agile and lean and start to sell in a different way altogether and respond to digital customers. And then digital photography in different ways comes along and the iPhone comes along with cameras on it and Kodak is sitting there going, 'What do you do?' So you've got these products or you've got these businesses that are really heavily laden with culture and IT and staff and people and so on. All of this structure, and they can't really respond.

So it's called The Innovator's Dilemma. It's how you respond to that because the things that have made you great are the things that are going to tie your hands behind your back. So you know, to fundamentally change is going to cost you 100 million and it could be a four-year project. It's too late. Whereas these start-ups can do it in three months in a lean way. It's a totally different model, so Clayton Christensen talks a little bit around whether you do it from the outside or the inside, disrupting yourself, challenging yourself and taking yourself up. Build a new one. Build a new company. Start it again and start challenging again, or alternatively, do it as a bit of a skunkworks or a side project or, you know, a bit of a guerrilla project against what you're currently doing. So you'll see that within the book The Innovator's Dilemma. I'd recommend you get some excerpts from it, but have a look at the concept of The Innovator's Dilemma. It's exactly what's happening.

**JG: Sure. Just in relation to FinTech as we're talking about start-ups in Ireland, what do you think will have the biggest issue for FinTech having an impact on the banks? Is it regulation?**

DT: Regulation is hugely important and the engagement with regulation is going to be difficult for FinTech start-ups. London has shown the way on this. I think they've done an excellent job on regulation. They have FinTech taskforces. They've engaged with a lobby group called Innovate Finance from Canary Wharf representing a lot of FinTech start-ups. By having that open dialogue, it means that you're avoiding the problems of the future. You're never going to get rid of them all, but what you're going to have here really is really strong, incredible customer-focused start-ups and FinTechs that understand the regulations, understand why it's there and engage with the regulation instead of, you know, the cowboy who's just trying to handle something.

**JG: Yes.**

DT: And that's why I like the model. It's a really collaborative model that they've adopted and it works for everybody, for most, and that's why it's so strong. So I think regulation is one.

The second area is funding. It is really hard to be a FinTech start-up. It's really difficult. You are taking a punt. You are commuting down a very difficult road. If you're touching data, I mean the protocols and the services and the protections you need to have in place for that data, it's got to be the hardest job, and that's why I admire people like Colm Lyon when he started Realex or Brett Meyers and what he's done. Some of the other guys from like

Funding Circle and Zopa and Lending Club abroad, you know, these early stage companies, when they were early stage, they're bigger now, they took massive risks and it was, you know, through sheer sweat they probably built these up. So it's hard to build a FinTech. It's not like a standard sort of.

**JG: Construction, ok. And in relation to something I've come across, David, is the strategy proposed by the minister Simon Harris, which is the IFS 2020.**

DT: Yes.

**JG: Do you feel that that will help FinTech?**

DT: It's a good concept. It is focused on basically bringing together, if you think about it, Ireland has tech. We're very good at tech and Ireland has a financial services quarter, so bring the two together. It mirrored very closely what Canary Wharf has done with FinTech and the banks and so on. So I get it. I think it's a strong strategy. It's something that Bank of Ireland ourselves and myself, we'd be very strong supporters of it and we should be supporting it. The one thing I would say is we need to put more into it. We need to throw more at it. I think the regulation focus need to be brought out more in it and the likes of taskforces and engagement with taskforces.

**JG: Yes.**

DT: I think the next step in it now is really about seeing delivery. So it talks about incubators. It talks about a range of funds. It talks about forming groups and I think they will happen. I do not doubt that for a second, but let's speed it up, is the way I would describe it. I think we all need to speed that up and actually support it.

**JG: And there has been talk about something you've mentioned earlier on there, which is in relation to a FinTech hub. I've come across it a few times, but there was actually talk of putting it into the likes of Boland's Mills.**

DT: Yes, great idea.

**JG: But now obviously we're looking more at the IFSC.**

DT: Yes.

**JG: They talked about space. Is that going to be something that...?**

DT: Space is a major issue. I wouldn't worry if it was specifically in the IFSC or if it was in Boland's Mills or across the road. You know, Bank of Ireland has the Grand Canal space. We use that for engagement with start-ups and at the workbench there and I wouldn't worry too much if it's, you know, two to three kilometres outside the IFSC. I think that wouldn't be an issue. I think it's a great concept. I think it's a great idea. What I would recommend is, if you can get a chance, I don't know if the college will fund you to do it, go over to London and see Canary Wharf and see Level39. That's where you can see the

mishmash between the large corporate banks, the banks themselves and the start-ups and see how they're engaging together in this unique space.

So if, as this develops, we keep very close tabs on this and we want to engage in this, I would love for there to be a FinTech hub and I would want to be part of that FinTech hub and I would want to support that FinTech hub. We've just got to grab it and try and build.

**JG: Sure. I won't keep you any longer. Is there any other thing towards where we're going in terms of the FinTech financial services you feel I should look at or any other information that you wouldn't want missed?**

DT: I think one of the things you can't underestimate is banks really set up to be able to engage with FinTech? So sometimes you have to ask the??? 20:20. Look at that Kodak moment, look at that Blockbuster moment. They struggled to be able to adapt and change. Banks are now looking at FinTech. If it's a marketing play, the bank is dead because it means they're delivering relatively nothing. So if this is pure brand, we're innovative and this is what we're going to do and they do nothing credible in that space and don't delivery anything and execute or anything, the bank is dead. It's just a marketing thing.

If they're really credible about it, they're investing in it. They are supporting it. They are putting space in place to do it and they're standing up and saying, 'We believe the future is going to change to FinTech.' Now, the difficulty for that is the organisation of the group. And I would ask this of every bank. This is not specific to where I work. This is of every bank. How are you organised for this change? Are you still traditionally structured? Do you still, for example, have your bricks and mortar, your head of bricks and mortar as your head of the distribution or the head of the bank or the head of whatever? Is digital just a small arm of your business? So the way I would describe it is look at what we BBVA have done.

You know, when I look at the guys who are getting this right and I look at a role model, I look at the way BBVA have talked about this market. They're a financial bank, but they're worldwide. Customer numbers are just phenomenal. They have reconfigured themselves to be a digital bank and to be innovative. They've made sure that they can invest in this space. They've made sure they have the right people. They've made sure they can do internal ventures. They've made sure they can do external ventures. They're changing the culture within the bank. They're changing the systems within the bank and they've literally changed the structure of the bank. It's very hard to be a traditional hierarchical structure of the bank and then turn around and say, 'We're going to have a lean, agile digital innovation set-up.'

So I think you can talk in this space, you can engage in this space, but you need fundamental internal changes to be able to do that, or alternatively, you do it outside completely, and you'll see examples of that. So one of the great examples I would recommend you have a look at is mBank in Poland. They were basically a disruptor bank set up by its parent bank and they grew bigger than the parent bank because the parent bank was struggling with the digital concept and they ended up basically setting up another bank, another disruptor bank, and that bank became bigger.

So a couple of recommended readings, ok, the bible on digital and FinTech are Bank 2.0 and Bank 3.0 by Brett King.

**JG: Bank 2.0 and 3.0?**

DT: By Brett King. There's also another book by him called Breaking Banks and he runs a podcast called Breaking Banks, which I recommend you listen to. It's a 50-minute podcast. He looks at all different areas. It's fantastic. If you go back to March, you'll see an Irish FinTech episode that was held in Bank of Ireland. Brett King is fantastic on that. The other one I recommend and trust me on this, even though because of the title, is a book called Porn for Bankers.

**JG: Porn for Bankers.**

DT: It basically is a corollary of how the porn industry has adapted to digital and how the banking industry can learn an awful lot from the porn industry. It's a very funny book, but it's brilliant.

**JG: Ok, excellent.**

DT: The final book that I recommend is a book by a guy called Ron Shevlin and it is called Smarter Banking. Ron is very, very funny, got a great view of the world and how banking should change, talks a lot about the FinTech journey and where it is. Those four, particularly Ron Shevlin and Brett King, those books, I'd say a good understanding and a good read of those books - you would have exactly the same knowledge of any innovation function of any bank at the moment

**JG: Ok, excellent.**

DT: So I would suggest take a look at them.

**JG: Excellent.**

DT: So that will help you.

**JG: Excellent.**

DT: Is that helpful?

**JG: David, thanks very much. I really appreciate it. It's been very, very helpful.**

DT: So what I suggest is I'll get you some docs.

**JG: Yes.**

DT: Send them on to you. Take your time reading them and all the rest.

**JG:**           **Yes.**

DT:           And after you've digested what we've talked about and you want to push and pull some of those things a bit more, get back to me and we'll sit down for another coffee.

**JG:**           **Excellent.**

DT:           All right?

**JG:**           **David, you're a gentleman and a scholar.**

## David Dalton Head of Financial Services at Deloitte

### Interview 5

31<sup>st</sup> July 2015

**JG = John Gibson**

DD = David Dalton

**JG:** David, thanks very much for meeting with me today. I really appreciate it.

DD: No problem.

**JG:** David, the first question is just one that's obviously going to be very simple for you. It's just simply how aware of FinTech are you?

DD: Reasonably aware. I suppose I've kind of been looking at FinTech for about the last 12, 18 months for a variety of reasons, and I suppose we've done quite a number of kinds of pieces of research around it and we published one a little while ago. And I also participate on the government's IFS 2020 Industry Advisory Council and I've a specific focus around kind of FinTech on that. And then more broadly, within Deloitte, I'm the FSI leader for Deloitte in Ireland, but that means I participate in a number of European kinds of exec teams around this space.

**JG:** Right.

DD: So we're doing a lot in the FinTech space and I'm also linked in to what our colleagues are doing in the US in this space as well. So I'd have at a high level a very good understanding of what's going on, but clearly, you know, it means a lot of things to a lot of different people, so it's quite a broad topic as well.

**JG:** Ok, excellent. Ok. Probably the second one in there, Dave, would be do you feel is FinTech affecting or changing any segments of the banking business model?

DD: I mean the simple answer to that is yes, and I would say I mean perhaps your questions will change, but it's not just banking obviously. It's all the financial services.

**JG:** Sure.

DD: So when we look at it, we look at it in terms of obviously banking, which you can sub-break down between kind of retail banking and kind of -

**JG:**           **Sure.**

DD:           - more of the corporate banking, investment banking. Then into areas like insurance and then into areas we call investment management, which, you know, you get into very different areas.

**JG:**           **Sure.**

DD:           We probably, from our perspective, I guess, and I know we have it on our diagram here. It's just kind of breaking out where we see the different pockets of activity. So we see particularly payments as being very active at the moment.

**JG:**           **Yes.**

DD:           And you know, the potential changes, I suppose either innovation or disruption, depending on your perspective, that would be significant. We see areas like I suppose mobile banking in particular being another kind of area where there's significant kind of innovation going on as well. And then you're into areas like risk and compliance, which are some of the back end kind of core activities that a lot of these large institutions need to do to be compliant with regulation and regulators.

**JG:**           **Sure. Yes.**

DD:           So there's a lot of activity in that space. And then in the areas like lending, there's kind of interesting things going on around crowd funding. I'm sure you've kind of had a look at some of these things.

**JG:**           **Sure. Yes.**

DD:           And then we get into other areas, which are kind of really important, like the asset management area, which, you know, the wealth management area, which is interesting as well, and even into kind of things like FX and FX trading. So I'm sure you've seen things around that space.

**JG:**           **Yes.**

DD:           And then I suppose the last area for us is really around kind of big data and some of the impacts, particularly around kind of the use of that data and getting more into the kind of the predictive analytics and, you know, the artificial intelligence areas. So there's a whole range of different areas and you can see it all potentially having an impact.

**JG:**           **Yes.**

DD:           And so we kind of see a lot of activity and significant amounts of I suppose impact that that activity is having on different parts of the financial services value chain.

**JG:** Excellent. And it's just something, you've kind of really touched upon it there, but just probably to go back into it a little bit more. In what areas do you see the greatest potential impact of FinTech's disintermediation of the traditional financial services?

DD: I think payments are one of the kinds of the significant areas. We've created a platform out of the US, but it's kind of broadening out to take up all of the kind of global kind of data, where we track all of the start-ups in FinTech.

**JG:** Ok.

DD: So a couple of things that we're seeing – we're seeing probably a couple of hundred new start-ups every month -

**JG:** Wow.

DD: - in the FinTech space. And I wouldn't say that's a scientific number. It's just what we're seeing.

**JG:** Yes.

DD: But we analyse I suppose the several thousand kind of FinTech companies that we have on our database. The area that has the most activity and seems to be having the most traction in the marketplace is payments.

**JG:** Is payments.

DD: I'd probably then follow that by the kind of asset management, wealth management space, and we see a lot of activity in that area, but I think we're on a journey here. So these might be the frontrunners at this point in time, but I think this is all going to, you know, play out across all aspects, I guess, of the broader industry over time.

**JG:** Sure.

DD: So the two ones that are kind of above the page at the moment would be those two areas.

**JG:** Those payments.

DD: Yes.

**JG:** And would you see anything in terms of, you're saying asset management, similar in relation to currencies or lending?

DD: Yes. I mean lending is kind of an interesting one. I mean clearly, the whole crowd funding model around lending, you're right to point that out, is definitely one of the areas that has a lot of activity in it at the moment. I guess there's a lot of debate as to whether crowd funding-based lending will take off to the same extent that the traditional

model of lending happens. And part of that is I think there's definitely a role for crowd funding and you'll probably see some of the kind of incumbent players adopt or buy or acquire some of the crowd funding plays, and there's definitely a niche there for that. As to whether it's going to be huge and kind of kill the existing kind of big banking lenders – I'm not sure that that's going to potentially happen, in the short term anyway.

**JG:**           **Ok. And again, we've just touched upon it there, I suppose, and it is something I've leaned towards more so within the dissertation, but that's going to change, I think, from what I've seen from interviews so far, but it was, do you consider FinTech specifically within the peer- to- peer platforms as a serious competition with traditional financial services?**

**DD:**           You might just explain what you mean by peer-to-peer in that context.

**JG:**           **It is. It's quite a bit broader than when I looked at the questions originally. It is kind of a bit. The peer-to-peer lending, so I could give you a little background. I've spoken with Derek Butler in GRID Finance.**

**DD:**           Yes.

**JG:**           **And he feels that long term, he can see a big challenge for the financial services.**

**DD:**           Yes.

**JG:**           **So it's probably more towards into that line of it, the Lending Club, that sort of.**

**DD:**           Yes. The Lending Club is what I'd see as kind of crowd funding.

**JG:**           **It's crowd funding.**

**DD:**           Exactly the same thing, I guess, peer-to-peer, but basically where you disintermediate the banks, basically.

**JG:**           **Yes.**

**DD:**           You know, and the technology becomes the intermediation. The platform becomes the intermediary. Yes. I mean you can definitely see that model being applied, not just on lending. I mean it's the same thing in FX. You know, if you look at currency, the CurrencyFair and Barracuda FX, they're very good examples of the same concept. And it's a very powerful one where you can match, you know, lots of, you know, suppliers on one side with lots of consumers on the other side in terms of a financial product, if that makes sense.

**JG:**           **Yes. Yes.**

DD: I think the key thing in all of this is risk and how the risk is managed in this. So it kind of comes back to, you know, if you have money that you want to potentially put on deposit or lend to somebody, like what risk are you going to take, basically?

**JG: Exactly.**

DD: Or do you understand the risk that you're taking in terms of putting it? And the same thing on the currency side and, you know, all of it, sort of the same kind of things apply.

**JG: Sure. Excellent stuff. So again, it is a little bit of crossover. It's just to get a little bit segmented more probably into the Irish market, but in what segment of the Irish market do you think FinTech has seen the greatest adoption and growth at the moment, or even in the future?**

DD: That's a good question. In terms of adoption, I think we're at the very early stages and I can't say that I can point to an area where I can see a clear adoption of, you know, FinTech approaches. Clearly, there are a few early movers.

**JG: Sure.**

DD: Probably some of the stuff that CurrencyFair and Barracuda FX, for example, have been involved in. They're really interesting.

**JG: Sure.**

DD: But probably the impact on the Irish market is probably quite small because they're kind of a bit more foreign-focused. They're more internationally focused. If I look at the crowd funding, so Linked Finance, I think I forgot the correct name for them – I mean they're operational. They're lending money.

**JG: Sure.**

DD: They've got people, you know, to provide the money, but is it kind of making a huge kind of impact? I think they've got 70 million, 80 million lent, so relative to whatever the total commercial lending, which is hundreds of billions.

**JG: Yes. Ok, perfect.**

DD: I think payment is probably the other area that we will see greater impact, and particularly kind of whether it'll come out of Irish FinTech-based companies, I don't know, but probably around the mobile payments in particular. That's probably the area that, you know, will be the one that has the most obvious or most overt kind of impact.

**JG: Ok. Excellent. This one in particular then, we'll say, do you think FinTech will ultimately collaborate and/or complement the traditional service providers, or do you think it will completely disrupt the industry?**

DD: I think, and I have some experience of a previous kind of similar kind of wave of kind of change. If you go back to the dot.com kind of experience, it's comparable in terms of the level of hype that's generated around some of these things. I think it's only going to be a small number of start-up FinTech companies that will be ultimately globally successful, and that will disrupt significant parts of the industry.

**JG: Ok.**

DD: I think what is far more likely to happen is some of the large incumbent players will adopt the innovation that is, you know, brought to the market by some of the start-ups, and disrupt their competitors, if that makes sense.

**JG: Yes.**

DD: So I think there will be disruption, but it will be more by some of the established large FX companies buying, acquiring, you know, partnering with some of the kind of start-up FinTech companies to drive innovation and drive disruption.

**JG: Ok.**

DD: Does that make sense?

**JG: Yes. Absolutely. Absolutely. It's kind of all tying in with the several interviews that I've done, which is good.**

DD: Yes.

**JG: It's good practice the way it's all going, but everyone has their own insight into it.**

DD: Yes.

**JG: Then it's something you touched upon, which I've come across obviously as a strategy, which would be the IFS 2020. Do you feel that that's going to have a significant impact for Ireland in terms of FinTech?**

DD: I think that's yet to be determined. I hope it will.

**JG: Right.**

DD: And I'm sure the government and I think the industry here would hope so.

**JG: Yes.**

DD: But it's a competitive marketplace and making Ireland attractive for FinTech, for the start-ups, for the entrepreneurs, for R&D, for innovation, you know, that's kind of a core kind of I suppose challenge for IFS 2020 to address. We're competing with obviously London. They would be probably in scale terms the most significant nearby marketplace

from a FinTech activity perspective, but we're also competing with the likes of Amsterdam, Berlin, Israel to a certain extent in this space as well, who all, you know, are selling themselves as FinTech locations. I was in Luxembourg earlier this week and Luxembourg Finance, which is effectively the government equivalent of IFS 2020, they've done a promotional video saying, you know, Luxembourg is the centre for FinTech activity and the right place to be.

So this is getting really kind of competitive, and that's without even going to the US, where you'll obviously have a lot of FinTech activity on the East Coast, as well as on the West Coast in the US. So I think there's a lot to do and I think we need to pick the areas where Ireland has some basis for being differentiated. So I don't think we can try and do everything under the FinTech umbrella. We need to pick a number of areas where we have some real strength in and really focus on those.

**JG: Ok. And I know it was touched upon originally in terms of where they may create a FinTech hub in Ireland. There were talks of Boland's Mills or the expansion of the IFSC.**

DD: Yes.

**JG: Do you feel that there should be a FinTech hub separate from the IFSC or do you feel Ireland would benefit more from expanding the IFSC or separate to the Boland's Mills?**

DD: I think it would be great just to have a physical location. I mean that always really kind of helps. And to be honest with you, I wouldn't have strong views. I haven't thought about it terribly. I don't have strong views as to where that location physically is.

**JG: Sure.**

DD: I think you do need to market any kind of FinTech hub so that it's attractive to the type of people that we're talking about here, kind of the entrepreneurs, the start-ups, and the kind of, I suppose, business and IT people that you need to kind of drive that kind of entrepreneurial innovative spirit.

**JG: Sure.**

DD: So it needs to be kind of a cool kind of location as opposed to, you know, a very traditional kind of site, so that's kind of an important factor.

**JG: Ok.**

DD: I don't know whether you're meeting Colm Lyon, but I would suggest you do.

**JG: I've done a lot of case study on his company and stuff like that, so yes, I haven't actually touched based with him.**

DD: So obviously he's moved on from Realex, but I think he's very focused on that particular point.

**JG: Ok.**

DD: So he may be a good person to talk to.

**JG: Is he a difficult man to get?**

DD: I don't know.

**JG: You have to try, say you. I didn't expect to get you, so.**

DD: Yes.

**JG: Yes. I'll definitely touch base and see can I get a hold of him.**

DD: Yes.

**JG: Yes, that'd be great. In terms of regulation, like we obviously know the financial services industry is the most regulated industry, apart from healthcare or pharmaceuticals. Do you feel that regulation could impact FinTech's development over the next couple of years?**

DD: It certainly can. I mean there are a few different aspects to it. Firstly, and actually, it's really interesting because I think it's a challenge for regulators. All of the innovation and technology change – they're kind of scratching their heads, figuring how they regulate a lot of the activity that's going on. So regulators have a challenge around this. I think there are a couple of things. One is you can clearly see a difference in terms of how the regulator in the UK versus the regulator here is embracing or not embracing FinTech. One of the things that we get by way of feedback from talking to start-ups is just the UK environment is much more supportive of FinTech start-ups in terms of engagement with the regulator than is the case here. And I think that's something. So that can in a kind of negative way influence the success or otherwise of a FinTech kind of cluster here.

**JG: Yes.**

DD: But it's not the only thing. I think there are other things. I think the second thing is that the regulation I think is perceived by maybe some of the incumbents as a barrier for entry.

**JG: Yes.**

DD: But I'm not sure that's actually the case. And I think in a lot of cases, technology can help solve some of the regulatory challenges that incumbents believe or, you know, provide barriers, if that makes sense.

**JG:** Ok. Perfect stuff. And can you tell me, do you feel there's any other particular area of FinTech would be worth investigating in terms of dissertation or further study?

DD: I suppose I don't really fully understand all the areas that you have investigated, so it's kind of hard to kind of...

**JG:** It is. I suppose the main thing where the dissertation has led me so far is exactly what you've touched upon, which is payments, lending, cryptocurrencies, that sort of end of it.

DD: Yes. I mean a couple of things. One is I think we're seeing a lot of activity around Blockchain, so you mentioned cryptocurrencies. So Blockchain is the underlying technology to Bitcoin and it's a really interesting technology. I don't think Bitcoin's got probably a massive future, but Blockchain and the underlying technology. So they've developed effectively this technology that works on a distributed basis, so it's not inside somebody's firewall. It's out amongst the kind of the marketplace. Everybody has a version of the data, if you like, and everybody can update the data based on kind of clear rules.

**JG:** Sure.

DD: That fundamentally can change how organisations work. Like if you think about it, what that does basically is keep an accurate record basically of, you know, trading activity or any particular type of activity. So Blockchain's really interesting. I think that's potentially disruptive, very disruptive as a technology. And the other one I'd kind of point you in the direction of is, and you may have covered it, is Robo-trading. Have you heard of this?

**JG:** I have heard of it. I haven't looked into it too much.

DD: Robo-advisors. So one of the interesting areas, go back to wealth management as being an interesting kind of thing. Look up a company called Wealthfront or Betterment. Wealthfront, for example, I think now has about 3 billion assets under management and it basically provides a portfolio management so you could invest. It's not even talking at high net worth. It's kind of termed mass affluent. So it's kind of a level below. The normal kind of private banking wealth management service, which is a much personalised relationship manager, it's not economic for that part of the market.

**JG:** Sure.

DD: It's economic if you've got 5 million in assets.

**JG:** Yes, yes.

DD: But it's not for the lower level.

**JG:** Sure.

DD: So what Wealthfront have done is there's two or three very experienced investment professionals together with about 10 techies have created a robo- advisor. So it's basically based on artificial intelligence and it actively manages your portfolio. The technology actively manages your portfolio, so if you have 100,000 to invest, you invest your 100,000 and Wealthfront basically automatically determines which equities to put it in, which markets to put it in, which areas to put it, and actively manages the portfolio on an ongoing basis to manage the return for you.

**JG: Wow.**

DD: The total size of the company is 13 employees.

**JG: That's incredible.**

DD: Yes. Now, 2 billion or 3 billion in assets under management is very small in the asset management space.

**JG: Sure.**

DD: But it's an early and interesting kind of example.

**JG: Sure. Excellent. I think that's basically it from me in terms of questions there, but I think it is a fairly macro overview and things like that.**

DD: Yes.

**JG: What I'm looking at is getting an overview from different sides of it and sees where it's going to go. Is there anything else you could guide me on in terms of going down the route of it?**

DD: No, definitely, I mean in terms of other people to talk to, definitely talk to Colm Lyon if you have time. Colm is definitely worth.

**JG: I'll touch base with Colm, yes.**

DD: And who else would I suggest you talk to?

**JG: I've interviewed someone from Citibank.**

DD: Who did you interview there?

**JG: Aman Kohli.**

DD: Don't know him, ok. Actually, I do know him. Yes. Yes, he's working in Citi Innovation Lab.

**JG: Yes. He is, yes. I just thought I'd get his advice and he was very fluent in his answers and what way he was going, but I mean he has his own intake on it.**

DD: Yes.

**JG: And I've interviewed David Tighe from Bank of Ireland.**

DD: Ok.

**JG: It'll be Simon Harris, Derek Butler I've interviewed.**

DD: Yes.

**JG: And yourself. Now I'll try and touch base with Colm.**

DD: Yes.

**JG: I've also done and gone for a macro. What I did is I've also interviewed an economist as well.**

DD: Ok.

**JG: Just to get an idea, from NUIG. I did attempt to get Alan Heron, but he was actually away on holidays at the time. It's just to get a general overview of different strategies.**

DD: Yes, good. Very good.

**JG: But I think for me, this was a dissertation of getting a good mark, but I think for me now, this is also going to be long term. It's going to be a much longer study and see what way I can go into the market from it from a point of view.**

DD: Yes. Actually, the one area that I didn't touch upon that is obviously highly relevant to this is cyber.

**JG: Cyber.**

DD: And you know, that's another potential area for Ireland to focus on as well.

**JG: Excellent. Excellent.**

DD: I assume you have an electronic copy of this, do you?

**JG: I do. I've gone through it all in detail. I even used part of your models in terms of design-wise.**

DD: Yes.

**JG:** It's going to fit very well in collaboration because it was one of the first things I put. In fact, actually, before I even investigated anyone, I chatted to the economist. He threw that my way before anything else.

**DD:** Really?

**JG:** So he really enjoyed the paper.

**DD:** Yes.

**JG:** It's a great breakdown of it.

**DD:** Yes.

**JG:** Great assessment because what I've basically done in terms of literature review is basically explaining what FinTech is, making it simplistic to everyone.

**DD:** Yes.

**JG:** The financial services, where it began, where it is now, where it's going in the future and then the evolution of FinTech on top of that.

**DD:** Yes.

**JG:** And that's where it's coming from. Now, the data analysis will form hopefully the plan for that, but again, as I touched upon earlier, it's very early stages.

**DD:** Yes.

**JG:** But I think there's enough of a platform there to get an insight and produce a good paper that they can actually do future studies on it now in the next five to 10 years. It intrigued me more so now from a career aspect.

**DD:** I know. It's interesting, isn't it?

**JG:** It is. It's very good.

**DD:** But it's very broad. I mean there are a lot of different areas in it.

# Minister Harris TD – Minister of State at the Department of Finance

## Interview 6

12<sup>th</sup> August 2015

**JG = John Gibson**

SH = Minister Simon Harris

**JG:** Well, listen, thanks very much for today, Minister Harris. I really appreciate your time. I know you're a very busy man. Look, I'll just start with a few questions around FinTech. I've probably six to eight basic core questions for you.

SH: Sure.

**JG:** The first one is very obvious and something I know you're aware of. It's just simply how aware of FinTech are you?

SH: Very, because when I was given this role as Minister for State with responsibility for international financial services, I undertook to do two things. I suppose one, to engage with the industry and to see what was the state of the industry here in Ireland in general across financial services, and [inaudible]secondly, to put in place a new strategy for Ireland's international financial services. We have 35,000 people working in IFS in Ireland now. We only had about 60 working here in the end of the 1980s, so I mean the growth of the industry has been incredible, but both from my consultation with industry and from devising a new strategy IFS 2020 to grow employment numbers in the sector, the one issue that came up at all meetings with industry, stakeholders, all consultations with the strategy was FinTech and the fact that there's something major going on in financial services at the moment that is likely to revolutionise and change the way we as customers interact in the future with our financial service providers.

**JG:** Ok. Excellent. That gives us a starting point. Then I suppose question two – would you say is FinTech affecting or changing any segments of the traditional financial services model?

SH: Yes, big time. I mean I've read a lot of reports on the international financial services and they all politely refer to what's going on in the market as disruptive change, and what disruptive change basically means is that the way banks and financial services companies in general are delivering their services is about to radically change and that there's a lot of young start- up companies, which is great to see, now putting in place new products and new ways of delivering financial services. And what that's meaning for a lot of

traditional providers is that they either need to get with the programme and change their own way of doing business, or risk being left behind.

**JG: Absolutely.**

SH: And as a result, there's one very large, I mean I suppose I can name them – Citi. If you look at Citibank here now in Ireland, in Dublin, Citi are in Ireland now 50 years, which is great. We just celebrated that this year and are employing nearly 2,000 people, I think. But if you go over to Citibank in Dublin there, they have now an Innovation Hub. That Innovation Hub from the top of my head is employing about 400 people. Now, if you look at a bank and if you had said to anybody that a bank in Dublin would be employing 400 people not to work on banking, but to work on technology, technological solutions, new ways of delivering the bank's products, people wouldn't have believed you.

But now when I talk to senior business people and senior banking people, they now tell me that it's not more bankers they actually need – it's more technology experts, people with an understanding of how to use technology, how to develop new products, how to come up with innovative ideas. And that's just a tangible example, I suppose, of a business model changing right here in Dublin, and it's happening right across the globe, but we're seeing lots of it in Ireland.

**JG: Sure. Excellent. Excellent. So to delve into it maybe a little bit more, we'll say, in what areas do you see the greatest potential impact of FinTech's disintermediation of traditional financial services?**

SH: Yes. I think to be truthful, I think nobody can tell you honestly where this is going to end, and I think anybody who suggests that they know the end point is probably not telling the truth. I mean one thing we all know is that there's going to be an awful lot of change. I think the most obvious area of tangible change is likely to be a lot of relatively small, product-specific companies being set up. So rather than having, and again, this is an opinion because no one quite knows, but rather than actually having a situation whereby in 20 years' time, you as a customer or I as a customer go to one company or one financial services company to get everything done, it's quite likely now, and we're beginning to see it in Ireland, that there'll be a number of companies delivering parts of your banking needs or parts of your financial services. And because they'll be doing that, they'll be able to be more flexible and more expert in the delivery of that service. And that's going to cause serious competition for a lot of traditional banks and financial services, and how those banks, as I was saying, respond and embrace that change will in my view affect their future competitive position. So I think that's one huge area.

I think the second area is the collaboration between technology and banking. You know, up to now, you've had the scenario whereby, you know, people might have gone to college and they might have studied finance or economics and gone and worked in a bank, and somebody else might have gone to college and studied something to do with computers and technology and gone to work in a computer company or IBM or Dell. You're now going to see them merging I think in a lot of those. I mean, you know, question you could throw out, like will we be banking on our Google Glasses or our Alphabet Glasses, whatever they end up being called, in 20 years? The answer to that, no, but we're clearly

seeing that companies that up to now, you and I have viewed as technology companies are very clearly recognising that these are big consumer brands and they want to get involved in this space of financial services.

I think the big companies are moving from technology into banking and the line is being blurred between the difference between a technology company and a financial services company. The competition that that'll cause for graduates because people come of our colleges with qualifications and backgrounds - you'll have maybe Facebook, Citi, Bank of America, Apple, Google, all competing for a lot of the same graduates and then I think, as I say, the exciting bit that's the possibility of new young start-ups coming because they've a greater understanding maybe of technology or a greater background in it, maybe being able to put some specific consumer-friendly products in the market that will rival big traditional banks.

**JG: Ok. Excellent. You're saying specific areas, though, and towards, we'll say, the FinTech industry having an impact on the traditional financial services, would you say lending, currencies, investments, payments? What would you say would be the more?**

SH: I think the payments could be huge. I think the Realex Company showed, I suppose, the ability of a company to establish in Ireland and to really gain global recognition in terms of its potential. So I think the payments area is definitely one. I think the currency area is one that there's a lot of known unknowns about in terms of how our regulators and our Central Bank and the like is going to react to virtual currencies and stuff over time, and depending on how that question is answered will depend whether the Bitcoins and the likes of this in the virtual currencies really take off. But in the short term, or the relatively short term, I think payments probably is the biggest possibility, along with things like anti-money laundering, whereby a lot of these new companies will be able to provide anti-money laundering solutions that might be complementary and helpful to existing players in the financial services market.

**JG: Ok. And then question four kind of ties back into one of the ones I mentioned there, we'll say. Do you consider FinTech, specifically, we'll say, in peer-to-peer platforms as a serious competitor to traditional financial services?**

SH: Yes. I think at the moment, there's probably no point pretending. At the moment, they're not necessarily in serious competition. I think it's the beginning of the possibility of it, but I think if you were to look, you know, at where it'll be in five or 10 or 15 or 20 years is really I think where we'll see the competition emerging. That's why a lot of the big financial services, the giants of the financial services industry are kind of waking up to this at the moment and they're either upping their own game in terms of innovation and technology, and I use Citi as an example of that, or they're putting in place accelerator programmes, incubator programmes where they're trying to get the great new young graduate with the big idea in to work under their umbrella, rather than go out on their own.

I think the fact that's what's happening. Banks aren't charities. The fact that banks are putting all these supports in place in terms of accelerators and incubators I think shows two things. One that they recognise they might need some of these products themselves, and

two, the possibility that they realise, 'Jesus, we better keep an eye on this because if we don't, these people could emerge as competitors or their ideas could emerge as competitors.'

**JG: Ok. Excellent. Perfect. Then it's kind of touching a little bit back and forward again there, but we'll say in what segment of the Irish market in particular do you see FinTech seeing the greatest adoption in growth within FinTech?**

SH: I think it is the emergence of new companies offering peer-to-peer lending and new ways of making payments is probably the most obvious example we've seen, but I think it is fair to say that in Ireland so far, the biggest thing we've probably seen is these new companies providing complementary services to existing. So it is, I suppose, the balance or it's a reality, I suppose, that there's a degree of competition with new ideas and we're seeing some of that already in the payments area, as I was saying, whereby new payments companies are providing services that would have been provided by banks in the past, and that's visible in Ireland already.

But we're also seeing probably at the moment more complementary services whereby new products that are coming up with companies are then being provided to existing financial services companies in Ireland.

**JG: Ok, excellent. Excellent. Now, it's again something you touched upon at the start, but it's always an interesting question, I think, is do you think FinTech will ultimately collaborate with or complement the traditional service providers or are they going to completely disrupt the industry? Again, it's an opinion more so.**

SH: Yes, it depends. This very much depends on how the existing companies embrace new entrants to the market and also how our regulatory structures interact with them. I think the intelligent thing for the sector to do would be to collaborate. Competition is good and we need competition, and the more competition we have in terms of the delivery of financial services for the benefit of the customer, the better. But I also think it would be a very naïve industry that would ignore the reality of FinTech, and I don't think there are too many naïve people working in the industry. So I think they're more likely to invest themselves in FinTech and also to work in collaboration with new young companies, and in my role with IFS 2020, I'm seeing a lot of existing industry giants, you know, wanting very much to work in supporting new, you know, and being seen to be supportive of new Irish start-ups working in the space.

So I think it's likely to be more collaborative, but it very much depends on the attitudes of companies and it'll vary from company to company. If a company chooses to kind of put its head in the sand and pretend this FinTech revolution isn't happening, I think it'll be left behind and then it will find that it won't be able to keep up with the competition.

**JG: Sure. Excellent. That was great. What do you feel is the biggest issues that FinTech will have here within Ireland?**

SH: I think there's a couple. I think lack of start-up space is a problem. I think that's the first problem. I think the need for more accelerator programmes so that you have

that great new idea, but you can take it to the next level and I think the availability of funding. We've had a banking system that in the past has been used to providing funding for bricks and mortar, but now that it'll have to provide funding or we need people to provide funding for the great new idea, for intellectual property nearly, is a different skill set maybe.

So they're three issues that we've identified in IFS 2020 that we need to overcome and what I want as minister is to be able to talk to the people delivering FinTech in Ireland, so I've set up a new FinTech kind of representative group with Enterprise Ireland, where companies, big and small, in the FinTech space are working together and networking, and so that I have a sounding board. I'm working with industry to deliver more accelerator programmes. We are looking at ways of identifying start-up space and we've made some progress on that. We saw Dogpatch expand with Ulster Bank recently in terms of the provision of more start-up space in Dublin, and in terms of funding, things like the Strategic Banking Corporation of Ireland, the SBCI, who I've had meetings with. I mean they're obviously available to provide funding to start-ups and so is the ISIF, the Irish Strategic Investment Fund, in terms of commercial products.

So when I was talking to particularly Irish start-ups and some of the people that you've met too, and I was asking them, you know, 'What do you need and how can we make Ireland a FinTech kind of hub?' Things like availability of start-up space, access to credit and more accelerators were kind of three of the messages I heard loudly and clearly. But we really believe in the FinTech offering that we have in Ireland. There's a competition going on in the world at the moment to become a FinTech capital and I really think Ireland is there competing, and it's competing with cities like London, Berlin, Hong Kong. Paris to a degree is now getting involved in this space and obviously there are some cities in the US as well. And we have a lot going for us here, but we just need to try and build on some of those fundamentals.

**JG:           Ok. In terms of I suppose the IFS 2020 strategy, which obviously is one of your main focuses, can you tell me a little bit more about that or how it's going to impact on FinTech or how it's going to support it?**

SH:           Yes. IFS 2020 I suppose is the government's new policy that we launched this March to basically do two things – to ensure that we continue our reputation as a country as a great place to deliver international financial services and secondly, to build on the number of people directly employed in the sector. As I was saying to you, you know, back when people had the idea of creating the IFSC and all that at the end of the '80s, I think there were three companies working in IFS and they were providing employment for roughly 60 people. We now have more than 35,000 people working in the sector. Of that 35,000, more than 12,000 are working in locations outside of Dublin. A third of the employment is now in Irish-owned companies, so it's not just about Citi and, you know, State Street and all these people coming in to Ireland and setting up presences, though that's important, but it's also about Irish companies creating an ecosystem and competing themselves.

So IFS 2020 sets out a number of tangible actions that government will take, will work with industry to make sure that we're still a good location. So it has actions in relation to collaborating with universities, bringing our industry and our universities together to identify the future skills needs. It talks about holding an IFS summit here in Dublin every

year where we can bring in global decision makers, policy makers. It looks at a banner brand so that instead of us all selling Ireland as a location to do IFS or FinTech specifically, whether you're the Irish ambassador of your country, the Minister of State, an industry body, you can all sell under the same banner brand.

It puts in place new industry liaison structures and for the first time in the history of IFS, it creates a project delivery office for the strategy and the Department of the Taoiseach and we have a high level implementation group, which I chair, which has the Secretary Generals of all relevant government departments, Finance, Foreign Affairs, Public Expenditure, Education, the head of the IDA, the head of Enterprise Ireland. I'm forgetting one or two. The Secretary General of Foreign Affairs, all on it so that Ireland Inc is speaking with one voice and rather than being sent, you know, that's an issue for Foreign Affairs, that's an issue for Education, we have all the players sitting around the table together.

So the strategy is, I suppose, government saying to the sector and to industry and to the Irish people that we believe this is a sector that can create more jobs for Irish people. And I'm really excited that it doesn't just say IFS and FinTech. It's all about big foreign companies because we want to keep attracting big foreign companies to Ireland, but I'm really passionate about recognising the fact that there are so many young people and not so young people setting up businesses in this country that have the great new idea. And I want to make sure that the likes of the Collison brothers, who set up Stripe, if there's another set of Collison brothers, that they can stay in Ireland and that they realise Ireland is a great place to do it. And I think the strategy hopefully says to industry and to people working in FinTech, 'Ireland is really serious about making ourselves a premier location.'

**JG: Sure. Excellent. Thanks very much.**

SH: Not at all.

**JG: The last one then, Minister, probably really is around regulation. We know that healthcare is the most regulated industry in the world. Financial services then fall in second behind that. What can we do in terms of regulation? Is it good to keep the barriers down low or is it something we're going to focus on in terms of the FinTech industry?**

SH: I think we're obviously living in a changing regulatory environment where a lot of our regulation is now coming from Europe. So you know, what the Central Bank of Ireland does on Dame Street is often dictated by what's been agreed in Europe, so it's very important that Irish industry and that the Irish government is aware of developments that may or may not be happening in Europe or being talked about in Europe and get in and make the Irish viewpoint known at that stage, rather than waiting for regulation to become a reality and then giving out about it after it's already been decided.

I think it's really important that we have strong regulation. We saw what happened in this country when we didn't and it cost a lot of people jobs, their livelihood and maybe even their children living in this country. But at the same time, it's important that there's a kind of common sense to it and that industry has an opportunity to interact with regulatory structures, to receive information and to exchange viewpoints.

One of the things in IFS 2020 is that the Central Bank of Ireland will produce operational metrics, which are basically what I call, you know, making sure it's business-friendly. So it's independent. The Central Bank is completely independent of government, as regulation should be, but it's to basically make sure that our Central Bank, you know, if you're thinking of setting up a FinTech company in Ireland or Britain, you'll be able to see, well, the Irish Central Bank can make a decision on my application in this amount of time and that compares well to Britain or France, Paris or Berlin. So it's to make sure the Central Bank is business-friendly, is responsive, is not a promotional vehicle for Ireland, but is an information-giving vehicle. And that's something I want to work with the industry and with the bank to make sure we get it right.

**JG: Excellent. And lastly then, Minister, in terms of focusing on the dissertation, is there anything else you could recommend in terms of the FinTech space or area that I should be looking upon that may help towards the findings?**

SH: Yes. I mean I think there's a lot of different players in this space and I think you're undertaking an interesting study at a really interesting time because as I say, it's very much a developing area at the moment. I think this is an issue that is occupying the minds of senior executives in this industry, right throughout the globe. Where is this going to go? You know, how is my business model going to change? How are we ready for disruptive change? Our colleges and our universities are already thinking, 'How do we make sure we use the graduates and collaborate with industry?' Enterprise Ireland is thinking, 'How do we make sure the Irish-owned companies are positioned so that Ireland can create its own indigenous industry in this space?' IDA is thinking, 'How do we attract in the big FinTech giants?'

So there's a huge amount of players and I think each of them has a different perspective. And you've already done this, I suppose. What the large players are doing to respond is one element. What the new young competitors are doing to compete is another. And then what we're doing as a country to make sure we've a good ecosystem for FinTech to thrive. They're probably the three areas, with regulation maybe as a kind of satellite. And I'd say it sounds to me like you're covering them all, but if I can provide you with any more information. I mean IFS 2020 is up on the Department of Finance's website, but if you've any difficulty accessing it or getting it, there's also a couple of videos explaining it with stats and stuff -

**JG: Excellent.**

SH: - you know, outlining what Ireland has in terms of IFS products. But if there's anything else, come back to me. Universities might be an interesting thing, you know, in terms of 'What are they doing in our universities, you know, to make sure our graduates are FinTech-ready?' might be another one.

**JG: Excellent, Minister. Well, listen, I appreciate that. Thanks very much for your time, for all your help on that.**

SH: Keep in touch and if there's anything I can help, just drop us an email back. If there's any information you need and if I have it or I can get it, I'll certainly send it on to you. Is that all right?

**JG: Appreciate that, Minister.**