Chapter One

By

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I hereby certify that this project and supporting documentation which I now submit for assessment by the Department of Computing, Institute of Technology Tallaght, on the programme of study leading to the award of

**B.Sc.(honours) in Computing**

***is entirely my own work, except where acknowledged, and has not been submitted for assessment for any academic purpose other than in partial fulfilment for that stated above.***

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Fidelity Investments is a privately held company and one of the largest mutual fund and financial service provider in the world. Fidelity has around 45’000 employees worldwide. According to Fidelity by numbers (2016) as of June 30th Fidelity Investments have 20 million individual investors and 23 million brokerage accounts. They complete 466’000 commissionable trades per day with an astonishing 5.4 trillion dollars customer assets and 2.1 trillion dollars of global assets.

Fidelity’s history goes back as far as 1930 when Edward C. Johnson the 2nd took over the Fidelity Fund. In 1943 he founded Fidelity Management & Research Company to act as investment advisor for the fund. Edward managed the company for 30 years, his approach to investing used his belief in active investment management would allow him to outperform their competitors. Edward’s focus on long-term investment strategies and his belief in integrity and his conviction that his associates should take intelligent risks helped Fidelity gain a reputation that stands to this day.

After Edward C. Johnson the 3rd took over in 1972 Fidelity started to diversify its business with new industry-leading products and services. Between the 1970’s and 1990’s Fidelity grew in the market and became one of the market leaders as they gained a reputation investors could trust. As many of the markets competitors started to become publicly owned companies Johnson the 3rd believed that Fidelity should stay a privately owned company. This allowed Fidelity to invest in the innovative infrastructure that lead to the company’s growth.

Fidelity has some of the most important firsts in their past. These firsts gave them key features to provide the best customer service in the market. Fidelity where the first firm to use a free 1-800 number to sell directly to customers over the phone. They were the first firm to have a presence online in 1995. This innovation has lead Fidelity to keep innovating online tools to keep providing the best customer experience when it comes to their financial security.

All of Fidelity’s innovation is being used to advance the markets usage of technology to interact with their customers. This has lead Fidelity Investments to not only be seen as financial services company but they can also be seen as a technology company.

This need to keep innovating to stay ahead in a very competitive market has led to the creation of the Fidelity Labs. This is their innovation department that want to look ahead to the future and try work with other dominant figures to create a better financial future. All this is evident in Fidelity Labs mantra “At Fidelity Labs, we don’t accept the status quo. We’re debating, experimenting, researching, teaching, and collaborating on new ideas to help people live better financial lives.” (Fidelity Labs).

Due to strict security restrictions within the company I am not permitted to discuss the management structure of the company. But I can give an overview of my department. I work in the workplace solutions this department is responsible for all workplace investments an example of this would be work place pensions. My department has a clear hierarchal structure.

In my department I am the on the lowest level in the chain along with one other intern. I personally report the Director of Architecture, this is a one to one reporting relationship. I am the only associate managed by the Director of Architecture this is a unique reporting relationship in the department. This is due to the large number of projects this associate works on within the department.

My manager the Director of Architecture reports to the Director of Software Development. The associate in this position is the highest person in our part of the department’s chain in the Ireland location. The department has four teams that work together to maintain and develop new software. Many of the teams have head who the team members report to and these head’s report to the director of Software development mentioned earlier. These reporting relationships are all many to one as in many associates report to one head.

Since our department is involved in developing new tools and adding new features to existing tools IT plays a crucial part in our department. All associates in out department use a computer in their day to day work life. But IT runs deeper in the way we meet our project goals, since Fidelities technology departments are agile development focused we use project management tools to assign tasks for each sprint and these tools interact with many of the other tools we use in our department.

We use well known version control software for example we use repository systems based off the well know GitHub repository based system. The versions we use tie in with other tool we use to keep a standard organization structure throughout the departments projects. Due to security restrictions I cannot talk about software and languages I have seen within the department but I have found a job description on the Fidelity website that can allow me to give an idea of what we use within the department.

This job description is for a software engineer in the Workplace Investing department now known as Workplace Solutions department. This job description (Fidelity 2017) requires many technical skills and languages to be known some of which include Java EE, the Spring framework, REST web services/JSON, relational database skill for example Oracle as well as no-SQL databases. The job description also requires a knowledge of Tomcat as well as Linux server operating system.

In our department we use many types of IT infrastructure one of these has enabled us to combat a serious issue that arises with having offices spread across the world. This is the matter of contact while working with teams that may not be in the same geographical location as you. To combat this Fidelity has placed high-end video conferencing equipment in every meeting room through out every location this allows team to arrange meetings for all team members to be visually present in a meeting and to share screens.

When I first seen the system the befits seemed minimal, why not use a phone or instant message. This is where the ability to screen share or look into the room either associate is in. With a form of white board also in every meeting room the ability to brain storm and other team members being able to interact is curtail to maximise productivity.

The infrastructure in place allows for associates to phone in directly using skype on their computer and still see the screen share or phone in using their desk phone but they lose the ability to see any screen shares. This ability to call in using a desk phone is crucial to daily scrums/stand ups which is a vital part of the agile development process.

If a member of a team is working from home or another office location a team can arrange a phone meeting where any member can call in to participate in the scrum.

This platform has been used in every meeting I have attended so far during my time in Fidelity. This has allowed our department to combat a strategic challenge that seems small but has made a much larger impact than one would expect.

Stephanie Kavanagh and I arranged to interview the same person from Fidelity Investments to see what role IT plays in their department. We interviewed a corporate actions representative from the operations department. This department is in charge of following up with trades completed throughout the day. IT doesn’t play a major role is this departments day to day operations as they have not upgraded their systems in a long time.

They have very manual processes for the tasks they have throughout the day. This is to insure data protection stays at the standard they expect. If data isn’t protect at the correct standards Fidelity’ reputation could be tarnished as well as financial repercussions. Fidelity could be fined for poor data protection as well as a financial repercussion with stocks. The operations department has a underlying backbone which stores all the data on their customers and trades, this data is only accessible by this department.

This underlying system is very old and is in the process of an upgrade. This upgrade is meant to allow the users to access more data quicker and more efficiently. This new system is meant to reduce the manual processes of retrieving data by 40%. Although this is seen as unrealistic within the department as the data protection is too strict.

To use these systems and to complete many of their tasks the departments associates each have a laptop. With these laptops associates can access this database they also have access to roughly 50 pieces of software some of these where created in-house by the EXTRAC department. This is a software development department which look to increase a company efficiency. While many of the other pieces of software used by the operations department are vendor specific for example if an associate works with a particular bank frequently they have access to that banks software that might enable an associate to complete their task in a more efficient way but still keep the standard that Fidelity expects.

It does have a role to play in the operations department to allow them to meet their business objectives but according to the corporate actions representative we meet maybe IT could be implanted a little better to reduce the amount of manual processes they still have to do to complete their day to day tasks.

With how technology has advanced new challenges have arisen that Fidelity must face and create solutions to stay where they are in the financial industry one major challenge that has arisen because of o advanced technology has become is the use of robot advisors. These are exactly as what it sounds like these are computers that provide financial management services online or on mobile devices.

These systems drastically reduce the amount of human interaction and are very quick and efficient in what they do. Thus many millennials are looking to these robot advisors to do their financial management because of their efficiency and lack of human interaction. These robot advisors use specific rules and algorithm’s to provide their users the best possible stocks and solutions to allow their clients make significant financial gains. Fidelity noticed this trend and had to do something about it.

If more and more millennials are looking towards robotic advisors this reduce Fidelity’s future customer base. Fidelity’s solution to this problem was to create their own robot advisor this service is called Fidelity Go. According to Fidelity this service can be described as “is a unique combination of a professionally managed portfolio, an easy-to-use digital dashboard, integration with Fidelity's broader investment tools and services, and an all-in costthat is among the lowest in the industry” (Fidelity 2016).

Although there are many of these services available for consumers to use for example Betterment which was founded in 2010 and has roughly 7.3 billion dollars’ worth of assets under management. Although there are countless others like this service, I believe Fidelity will huge success in this area as they have a well-earned reputation behind anything they do in the financial industry.

From reading reviews of Fidelity Go’s services it is obvious that it is not only Fidelity’s reputation that is a selling point but it is also low cost to use this service. One review from NerdWallet (2017) gave the service a four start rating out of five highlighting the fact it has a lower than average service charge on their services within the tool.

This shows that Fidelity can get passed any challenges the industry faces hence why the company has risen to its place and stood the test of time. It is evident through seeing Fidelity’s structure and history shows that Fidelity Investments is the type of company that will continue to innovate and change how we deal with our financials in the future.

References

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