Is Government Regulation Perceived to be a Barrier to IT Innovation in the Finance Sector?

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September 2012
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Acknowledgements

There is no amount of thanks that can repay the patience and support of my wife Jean and my son Brian who gave up 2 years of evenings and weekends to get me to the finish line of this master’s degree.

I also owe a debt to the lecturers of Dublin business school who provided me with the critical tools to not only complete this dissertation but to advance in my career as well.

Finally particular thanks must go to Patrick O’Callaghan who supervised this dissertation and provided invaluable advice and guidance.
Abstract

The intention of this dissertation was to explore the financial regulatory environment and analyze whether or not it creates a suitable ecosystem for the fostering of IT innovation. The literature suggested that IT experienced a great deal difficulty in delivering innovative solutions to business requirements with a large proportion of their budgetary and manpower resources tied up in meeting regulatory requirements and dealing with a variety of auditors both internal and external. Furthermore the literature indicated that the high level of complexity of regulations as well as their ambiguity and sometimes conflicting requirements meant that for IT dealing with regulations in a coherent and efficient manner was difficult. All of this seemed to leave IT with very little room to deliver solutions in an innovative manner. On the other hand the literature also suggested that there was some benefit and competitive edge for financial organizations to meet regulations faster or better than competitors.

The research however paints a less clear cut picture. It suggests that the budgetary and manpower constraints alluded to in the literature may not be as pronounced or crippling as they might seem. While there is a great cost to the business for regulatory compliance this cost lies with the business line which needs to enact the regulation not with IT. While IT might enact the solution they bill out the cost internally to the relevant business line. The question is also posed in the research as to whether there is a requirement for IT to innovate at all. While there is certainly a requirement for them to support innovative solutions developed by the business for customers the regulatory environment is not conducive to non-standard or boutique solutions which have the potential to increase operational risk and in turn regulatory scrutiny. Having said this much of the research does support the conclusions made in the literature with IT having difficulty
understanding complex regulatory requirements and a lack of support from both internal and external sources to do so.

While there is certainly a requirement for innovation in the finance sector as in any other industry the environment is quite hostile to change or heterogeneity of any kind. This leaves IT with a very challenging task.
Introduction
Without continual growth and progress, such words as improvement, achievement, and success have no meaning.
-- Benjamin Franklin

Background and Definition
Innovation is a central part or any organisations strategy and its drive towards competitive advantage. Johnson, Whittington & Scholes (2011: p.28) refer to it as a key dimension in strategic management. Some go so far as to suggest that the process of strategy formation itself is an ‘innovation process’ (De Wit & Meyer, 2004: pp. 120 – 121). One section of business which is almost considered to be synonymous with innovation is IT. If you look at Porters value chain it can be seen that technology development is a support function that has linkages to all of the primary value adding activities (Johnson et al., 2011: p.98). Whether the innovation within an organisation is R&D/product based or process based IT will play a vital role in driving it.

In terms of supporting R&D innovation IT can supply many tools to aid in the design and testing of new products. For example Computer Aided Design (CAD) has given companies the ability to create virtual prototypes for testing, speeding up the R&D phase for many products and allowing more precise technical designs down to the nanometre scale.

In terms of supporting business processes innovation IT can help organisations to create robust processes by amalgamating all of the data in a company in a coherent manner and help to make processes common across large global organisations by supplying common platforms with global communication (Callon, 1996: p. 119).
These are of course idealised views of how IT can drive innovation. There are many cautionary tales in the business world showing how innovative IT solutions have gone so far as to bring companies to bankruptcy (Davenport, 1998) so it stands to reason that such a highly risk averse sector as banking would be cautious when it comes to innovation. Furthermore Johnson et al. (2011: p. 36) suggest that any organisation with a great deal of rules and regulations will inevitably generate less innovation. While they were referring to organisations which had imposed their own bureaucracy this idea can be easily translated to the rigid rules structure enforced on banks by industry rules and regulations.

**Aim and Objectives**
The goal of the dissertation, titled: ‘Is Government Regulation Perceived to be a Barrier to IT Innovation in the Banking Sector’ will be to look at the stringent regulatory framework in which organisations in the banking sector operate and identify how these regulations might facilitate or impede IT’s ability to add value through innovation to these firms. After analysing the key arguments for and against IT’s ability to innovate and still support a finance organisations compliance structure in the literature review the key objective of the primary research within the dissertation will be to understand if these theories stand up in the real world. It is important to understand if the stakeholders in this argument – IT and compliance/operational risk managers feel the operational constraints caused by government regulation alluded to in the theory, and if they think that the suggested solutions to these constraints are actionable and could in fact exist in the wild.

As most major financial institutions act on the global stage they can be subject to regulations imposed in a variety of states regardless of where their parent company operates. Because of this the regulations examined in this document will not be narrowed to those of any specific country.
The following regulations will be reviewed:

- The Sarbanes-Oxley Act
- The Markets in Financial Instruments Directive
- The European Data Protection Directive
- The Dodd-Frank Act
- The EU Cookie Directive
- The Banking Secrecy Act
- The Basel Accord

**Approach**
Each of the regulations above will be analysed in terms of how they impact IT’s ability to innovate. This will build a picture of the challenges facing IT in the finance sector caused by regulatory requirements. The analysis of these regulations will be used to develop a picture of the current hypotheses surrounding the subject and its prevalent theories. This information will then be used to build a research framework centred on interrogating the aforementioned theories and hypotheses as they are perceived by senior IT and compliance professionals in the finance sector.

**Organisation**
The content of this dissertation will be presented in as clear cut a fashion as possible. The literature review and data analysis will be clearly demarcated with one following clearly on from the other.
Scope and Limitations of Research
There are several variables which will limit the usefulness of the dissertations research.

Firstly limited availability of research subjects prevents the use of quantitative research, because of this to a large degree the results of the research is subjective to the interviewees. The author has endeavoured to get a balanced cross-section of stake holders to balance the argument but a larger group of subjects would have been preferable in order to weed out individual bias.

Secondly, as will become clear later in this document the subject of government regulation is quite a polarising issue in the finance sector. This means that getting an accurate and honest answer out of interview participants may be difficult. Furthermore because the research is about the subject’s perceptions answers will be difficult to verify. While the author has gone some way to mitigating this by guaranteeing interviewee anonymity it is still something readers should be aware of when reviewing the dissertation.

Finally there is limited time and resources available to the author. This has forced some compromises to be made in terms of how research is carried out.

Despite these limitations the author hopes to create a useful piece of research opening the door for others to further analyse a complex and often politically charged subject which has a great deal of impact on the finance sector and is of great concern to all banks from the board level downwards.

Major Contributions of the Study
The linchpin of this dissertation is the findings of NESTA a former UK government body which provide a yardstick against which innovation in financial organisations can be measured. As will be expanded upon later in this document the traditional methods for measuring innovation would
show banking as quite a low innovation sector. Without the framework provided by NESTA it would not be possible to quantify government regulations impact on IT innovation in banking as there would be no clear measure of the sectors innovation output.

Recent work by Joe Tidd and John Bessant on the broad subject of organisational innovation as well as major contributors to the field such as Joseph Schumpeter while not regularly referenced in this document contributed greatly to the authors understanding of innovation, its impact on organisations and its key influence in the continued prosperity of any firm.
Literature Review

Common Facilitators/Sources and Barriers to Innovation
Before focusing on IT in the finance sector there are facilitators and barriers to innovation which are common across a variety of sectors. It will be useful to identify these and later discuss how government regulation affects them for better or worse.

Common barriers to innovation include: financial aversion to risk taking, lack of organisational expertise, risk aversion, business infrastructure/administration (bureaucracy) and poor communications (Nečadová & Scholleová, 2011). Many of these barriers have become more pronounced during the current economic downturn particularly in the finance sector. Companies are more inclined to ‘sit’ on capital rather than invest it in projects which may not guarantee a return. Also companies that may have been risk takers in the past but have been ‘burned’ by an economic downturn tend to work to avoid being damaged again. Having seen the failures and bankruptcies of competitors they focus on avoiding the same fate (Yorton, 2006).

Tidd and Bessant (2009, p. 131) suggest that the influences that stifle innovation come from the organisations environmental factors and perpetuate a culture lacking in innovation. They list some of these factors as: dominance of restrictive vertical relationships, poor lateral communications, top-down dictates and formal restricted vehicles for change. All of these are common aspects of a large banks organisational environment. Organisational hierarchy is usually large and complex with major decisions always managed from the top of the house. Different business lines are usually siloed and unwilling or in some cases (because of regulatory requirements such as Chinese Wall rules) unable to share information. And finally change is always managed in a very formal and restrictive manner.
Overcoming these barriers and facilitating innovation would require a huge cultural shift within any established financial organisation.

This leads on to the question of whether companies as large and unwieldy as today’s major financial institutions can enact that kind of change. Hannan and Freeman (1984) in their structural inertia theory suggest that there are a variety of factors (both internal and external) that affect a firm’s ability to enact change. The primary contributors to structural inertia are a firm’s size and age. As a firm develops over time and increases in size it becomes further institutionalised, formalised and inflexible. Because of this more mature companies tend to have difficulty enacting change particularly when this change needs to happen quickly in times of environmental turbulence such as that of the recent banking crises.

**The Difficulties in Measuring Innovation Within the Banking Sector**

In order to clearly identify what would be a barrier to IT innovation in the banking sector it will be important to identify what kind of innovation is carried out by IT in that sector.

Most major studies geared towards measuring innovation such as the Frascati Manual (OECD a, 2002) and the Oslo Manual (OECD b, 2005) often take R&D inputs and outputs to as a metric for innovation. The Frascati manual defines R&D as work towards creating and using knowledge to ‘devise new applications’ (OECD a, 2002: p. 30). This suggests two things, first that R&D is intentional work towards the resolution of a clear goal and second that something measurable will be created from it whether that is knowledge or a new product, process or service.

Using this metric when looking at innovation in the banking sector would however be problematic. The National Endowment for Science, Technology and the Arts (NESTA)
(formerly an independent non-departmental government body in the UK but now functioning as registered charity with endowments from the UK national lottery following the dissolution of a variety of quasi autonomous non-government organisations (QUANGOs) and advisory bodies due to UK governmental budgetary restraints in April 2012) reported the R&D spend in the UK banking sector for 2005/2006 to be £705m GBP which is an R&D intensity of just 0.9%. They in fact suggest that the only reason this figure was picked up at all was because of new European reporting standards that required a more clear disclosure of R&D spend in annual accounts rather than any validity in the Frascati Manuals metrics (NESTA, 2007).

Despite these apparent low indicators for innovation the banking sector is known to be profitable (Lloyds banking group posted a pre-tax profit of £2,212m GBP in 2010 (Lloyds Banking Group, 2010)) and if as stated earlier innovation is a key driver of competitive advantage then there must be innovation carried out in the banking sector which the established metrics are not capturing. NESTA (2007) suggests that much of the ‘hidden’ innovation that occurs in the banking sector is based around innovation in back office processes such as cash transfers and loan management, this process innovation is however usually supported by technology. Often this technology is developed by external vendors so while it might be supporting an innovative process and the bank would certainly have spent a great deal of money purchasing and implementing it, the spend would not be considered an R&D or innovation input by the Frascati Manuals standards. This short falling in the Frascati Manuals framework is also noted by Miles (2007) who suggests that a great deal of innovation occurs outside its definition of R&D.

This suggests that IT in the banking sector is not overtly innovative in and of itself but rather acts as a foundation on which innovative processes can be laid; it is not an initiator but a facilitator. With this in mind in the following sections the impact of government regulation on IT innovation
in the banking sector will be analysed based on how these regulations affect the ability of IT to provide platforms which can facilitate process innovation in a speedy and efficient (in terms of both cost and quality) manner. In particular their effect on IT budgets and resources will be analysed.

**Sarbanes-Oxley (SOx)**
The SOx act was enacted in 2002 following a series of corporate scandals in the U.S. to address deficiencies in financial reporting and to hold senior executives ‘individually responsible’ for a company’s financial records (Comprehensive Consulting Solutions, 2005). In the 10 years since it has been enacted SOx has left people in both the academic and professional world divided in regards to its effectiveness. Some suggest that SOx has a ‘chilling effect on risk taking’ lowering spend across the board particularly on R&D (The Economist, 2007) others however suggest it significantly improves financial reporting relevance and reliability (Singer & You, 2011) and that while some consider it an obstacle to their business it is in fact an opportunity (Comprehensive Consulting Solutions, 2005).

Both of sides of the argument make valid points. On one side Mazzucato and Tancioni (2008) suggest that there is a link between innovation (R&D intensity) and ‘volatility’ of market returns. It could be suggested that a mature sector such as banking which would equate any kind of volatility with risk would have seen an even greater effect on risk taking than other sectors as a result of SOx legislation. This kind of reduction in R&D spend would mean less money going to a banks IT budget for the purposes of innovation. Furthermore limiting their IT units ability to innovate would restrict their ability to contribute real value to the firm. This would relegate IT to a cost centre for the organisation leading to ever tighter budget constraints as banks would be more inclined to allocate funds to business units that are clearly delivering value. This could
potentially leave IT with very little room to accommodate the bank in developing new and innovative processes as they would be focused exclusively on ‘keeping the lights on’. On the other hand it could be argued that the budgets for these kinds of innovation should not be in the hands of the IT department but rather the business units they support, the funds being made available to IT on a project to project basis.

On the other side of the argument SOx’s internal control requirements act as a framework which can be used to let IT show a clear picture of the quality of their system controls to auditors both internal and external thus supporting the financial reporting framework of the organisation. It enforces what could be considered to be best practices across (among others) business continuity management, logical access control, project management and functional requirements (Comprehensive Consulting Solutions, 2005). However while this is appealing it leads to two potential issues. Firstly, a great deal of an IT departments resources can be taken up both carrying out their own regular reviews/testing of the controls and with audits carried out by both internal and external bodies. A bank for example could potentially expect an audit from an internal body, a company appointed external body such as KPMG and a government body such as the central bank all in a single year. Some even go so far as to call SOx ‘a blank cheque for auditing firms’ (Cocheo, 2005). Secondly, while SOx creates a good control framework it also gives IT departments the opportunity to create a false picture as they would know exactly what to expect auditors to focus on (Comprehensive Consulting Solutions, 2005).

While even the authors of the SOx act have their doubts as to its effectiveness with Michael Oxley saying of its fast track into law “Frankly, I would have written it differently” and there are mixed reports as to whether it helps or hinders a firm. It is certainly clear that while SOx has led to a reduction in R&D spend and in IT budgets particularly in the banking sector it has also
created a solid framework for IT risk controls and has given non-technical auditors a clear way to evaluate technical controls. However the other side of the argument is that there is a question mark over whether R&D budgets should be in the hands of the IT department considering the manner in which they support innovation within a bank rather than directly initiating it, there is also the question over whether the risk control framework is open to exploitation and whether it creates a great deal more work for already stretched IT departments requiring work to often be duplicated or repeated for audits originating from different sources. Furthermore if Sox is examined in terms of how it impacts the common facilitators and barriers to innovation and an organisations ability to enact change it is clear that in the banking sector more so than others it compounds an already restrictive environment increasing risk aversion and bureaucracy further increasing an already ‘glacial’ sectors structural inertia.

**MiFID**
The Markets in Financial Instruments Directive (MiFID) enacted in 2007 is a European legislation governing organisations who undertake the buying and selling of shares, bonds, derivatives and other financial instruments (Kemp, 2007). Much like SOx while MiFID does not seem to impact IT on its surface, as a key support function within the banking value chain MiFID has a great deal of implications for IT.

MiFID requires transparency in trading of stocks outside of the stock exchange. This leads to requirements for IT to gather and store much more data from their trading applications and retain it for an extended period of time. This could lead to IT in companies coming under MiFIDs scope having to store up to four times more data and in the cases of organisations depending on legacy IT architecture upgrades and changes to core systems would be required (Bartram, 2006).
Getting banking systems compliant with MiFID puts further strain on already stretched IT departments, this is further compounded by the reluctance of organisations to allocate resources to something that does not generate profit (Allen, 2007). Even more difficulty is caused by IT having to deal with complex regulatory frameworks outside of their area of expertise which even experts refer to as a ‘legislative labyrinth’ (Kemp, 2007). Furthermore at the time of its implementation there were very few guidelines available for MiFID’s implementation (Bartram, 2006) leaving even compliance professionals in the dark.

Much like SOx the impediment of MiFID to IT innovation is one of resource allocation. Expanded data retention requirements means IT must spend more of its budget on enterprise storage solutions. SOx’s business continuity requirements mean that this data storage will have to be replicated at multiple locations with various redundant systems all of which comes out of the IT departments resources which could otherwise be used to support innovation across the organisation. In fact according to 2008 figures spending $2,500 USD on a server usually meant an additional $8,300 to $15,400 on facility costs such as power and space not to mention other factors such as security, backup, redundancy, administration, technology lifecycles, changing software and hardware and the effects of mergers (Sergeant & Sergeant, 2010). Also the data transparency requirements of MiFID means that IT departments would need to use their budgets upgrading trading systems where no new functionality is added from a usability standpoint and no extra value is added to the company in terms of revenue generation.

It has however been suggested that compliance with MiFID can lead to competitive advantage in banks that are not just MiFID compliant but are ‘pro-MiFID’. Buliard (2008) suggests that in organisations that implement MiFID consistently and thoroughly (giving IT the necessary resources to upgrade and optimise systems in the process) the customer information that MiFID
requires banks to hold helps asset managers to build better customer profiles and in turn better tailor services and allocate resources to these customers.

**The European Data Protection Directive**
The banking industry in particular holds and processes great deal of customer personal data and so they more than others need to be mindful of data protection laws in countries that they do business in. The European Data Protection Directive regulates the maintenance and movement of personal data in the EU. While it could be suggested that secure personal data would be a qualifier for customers, (i.e. a fundamental expectation for the banks services and so vital to maintain) there are nuances to the legislation which can be costly for a banks IT department. If we take the securing of customer personal data as a given the key aspect of the European Data Protection Directive is its requirements around where data is located and where processing takes place. The directive only allows personal data to be managed in countries it considers to have an equivalent level of data protection to the EU which usually means 1st world or developed countries (Bennet & Raab, 1997). This leads to two major issues for IT in banking. First it limits where they can locate data processing centres forcing them to developed countries with more expensive facility, utility and manpower costs putting yet more strain on IT budgets. It also limits how they can innovate. In terms of adopting distributed or cloud computing for example a bank could not make its customer data vulnerable to compromise by developing any kind of public or community cloud (NIST, 2011) but would rather have to go down the route of a private cloud which would be prohibitively expensive and difficult to justify to the business.

While data protection legislation clearly impacts ITs ability to innovate in a similar fashion to the other regulations covered the consequences of not complying causes far more harm than the potential innovation lost. Reputational loss could be huge with surveys suggesting brand damage
could be between $184m to $330m (Ponemon Institute, 2011). Furthermore fines can be extremely high with the UK FSA fining Zurich Insurance £2.27m in 2010 for a data breach in which 46,000 customers’ personal data was ‘lost’ during a data transfer despite the fact there was no indication the data actually fell into an external parties hands (FSA, 2010).

**The Dodd-Frank Act**
The Dodd-Frank Act; signed into law by U.S. president Barack Obama in 2010 implementing financial regulatory reform in response to the recent recession is without doubt one of the broadest and most far reaching change to U.S. financial regulation since the great depression. The act has increased the funding, scope of power and authority of financial regulators as well as creating a variety of new regulatory bodies significantly increasing the number and granularity of regulatory objectives the U.S. financial sector is subject to (The Harvard Law School Reform on Corporate Governance and Financial Regulation, 2010). This act has had a profound and long lasting impact on many aspects of the finance sector, particularly information technology and data management.

With increased regulatory reporting requirements will always come a demand for a greater amount of data to be maintained, an increased requirement in creating reports from this data (both batch and ad-hoc) and greater scrutiny of the quality, accuracy and uniformity of data across various business lines. Furthermore Costanzo (2011) suggests that as the regulatory burden increases compliance officers will begin to look more and more to information technology as a solution for generating reports that they no longer have the people resources to generate manually.

Tim Ryan, CEO of the Securities Industry and Financial Markets Association (SIFMA) has said that Dodd-Frank will bring ‘massive changes in terms of technology’ and that ‘virtually every
new regulation brought about by the Dodd-Frank Act is going to require new technology solutions’ (Steinert-Threlkeld, 2011). Implementing this kind of change while improving the quality and accessibility of data that might not be 100% reliable or accurate (the Risk Management Association of Philadelphia’s 2009 survey on data quality indicated that 56.8% of firms in the financial services industry felt their data quality was average or worse (Credit Today, 2010)) would be a daunting task for any CIO.

The impact to innovation that Dodd-Frank is going to have will come from several sources. First is data storage costs, as mentioned previously the requirement to replicate an increased amount of data across multiple locations will inevitably impact an IT departments budget. Many organisations do not understand this until the cost becomes so inflated that it begins to become unacceptable (Bone, 2011). While the costs of data storage has significantly decreased in recent years the sheer amount of data collected and retained has skyrocketed. In fact Tallon (2010) suggests that 25% of non-discretionary IT spending goes towards information management and infrastructure costs which has the knock-on effect of restricting ITs ability to become involved in innovative projects (Tallon, 2010).

Another obstacle to IT is the sheer size and complexity of Dodd-Frank. The act itself spans 848 pages and mandates 387 rules from 20 different federal agencies (Costanzo, 2011) as noted by Jonathan Macey of Yale Law School ‘Laws classically provide people with rules. Dodd-Frank is not directed at people. It is an outline directed at bureaucrats and it instructs them to make still more regulations and create more bureaucracies’. Even guidance on the rules outlined in Dodd-Frank (which can sometimes amount to almost 300 pages for 11 pages of rules) are described as ‘unintelligible any way you read it’ even by pro Dodd-Frank bankers (The Economist, 2012). Much like MiFID the question must be asked: How can IT be expected to understand Dodd-Frank’s requirements and implement the required solutions when those who should be experts on the subject have difficulty understanding it? This means IT will need to expend man hours understanding the requirements of the act possibly also having to spend money on consultants and so on as well. In some cases sections of the Dodd-Frank act have yet to be defined or clarified leaving organisations in the dark about requirements. For example banks with $10 billion or more in assets will come under the scope of the Office of Financial Reporting (OFR), an agency that will gather information from banks for analysis with the intent of monitoring the financial stability of the finance sector. The OFR however has yet to define its reporting requirements (Costanzo, 2011) meaning that while it would be wise for IT to work on improving its data management which as mentioned previously may not be of a very high calibre it will be difficult to secure funds outside of its own budget to meet requirements which have yet to be specified.

Finally it must be considered how Dodd-Frank will impact on the abilities of banks already creaking under regulatory pressure to broadly facilitate innovation and enact change. Much like SOx, Dodd-Frank creates further bureaucracy and aversion to risk taking. It also further restricts
the organisational and strategic structure of banks contributing even more to structural inertia. Furthermore it puts a great deal of authority in the hands of regulators outside of the business. While Dodd-Frank is considered by many to be a cure to the imprudent lending, fraud and regulatory oversight failure which lead to the 2008 banking crisis (Docking, 2012) it cannot be denied that it has also added to the challenges to innovation already faced in the finance sector.

It must be considered however if there is an opportunity to be found in the implementation of such a far reaching set of new regulations. Can implementation of Dodd-Frank’s rules in a faster and more efficient manner lead to competitive advantage? CIOs and technology officers already working closely with Risk and Compliance will find themselves with a head start. Particularly in banks that have a more proactive, strategic approach to compliance integrated into the business (Constanzo, 2011). It could be also be suggested that the profile and importance of Dodd-Frank has raised the visibility of risk management right up to senior management and board level. CIOs should be capitalising on this to give proposed projects legitimacy and to consider how they can find innovative solutions to enact new and reworked processes required by Dodd-Frank. Rather than being an obstacle to innovation, thoughtfully managed implementation of regulation could in fact spawn IT innovation. Bone (2011) for example suggests that setting up automation for the Security and Exchange Commission’s (SEC) new whistle-blower requirements coming out of Dodd-Frank could assist in a quick and easily managed resolution of investigations reducing regulatory and reputational risk. Bone goes on to suggest that rather than looking at Dodd-Frank in its daunting entirety, if CIOs break it down into manageable risk based projects the change the act requires would be much more controllable. It could also be suggested that breaking down the acts requirements into individual projects there is greater scope for identifying opportunities for
IT to provide innovative solutions to the businesses problems whether they are meeting new regulations or modifying existing processes to meet new standards.

**The EU Cookie Directive**
The 2003 EU Privacy directive was amended in 2009 requiring user consent for the storage or access of information on a user’s ‘terminal equipment’ (computers, laptops, tablets, mobile phones). This brought about what is now commonly referred to as the ‘EU Cookie Directive’ as it expressly prevents the storage of cookies, a small file downloaded to a website users device to allow the website to recognise that users device without their consent (ICO, 2012).

While this piece of legislation is not specifically directed at financial institutions and does not impact on the day to day internal operations of such businesses it does impact how they interact with their external customers particularly in the provision of services such as internet banking.

There has been a great deal of inconsistency in the guidance being given by different countries and bodies throughout Europe particularly around specifically what action implies consent. While some bodies suggest that a user setting his or her browser to allow cookies implies consent other bodies warn against this and suggest that more explicit approval is required such as the user agreeing to a terms and conditions pop-up upon accessing a web page for the first time (Lovett, 2011).

This regulation affects IT’s ability to innovate in a number of ways in the banking sector. Like many of the regulations discussed in this document making the necessary changes to bring existing websites into compliance will be a further drain on IT’s resources. Some companies have suggested that modifying their existing web infrastructure to inform users and gather consent could take 6 months or more to implement (Lovett, 2011). While 6 months may seem
like a long time to implement considering how simple it would be to gather a user’s consent thought would have to be given to people who do not give their consent. Cookies are used in the majority of websites to improve user experience such as remembering language and font settings and decisions made on the site such as adding an item to a shopping basket on an e-commerce site or preparing to transfer funds on an e-banking site. While there is an exception for functionality on sites where ‘storage or access is strictly necessary for the provision of an information society service requested by the subscriber or user’ (ICO, 2012) it is nonetheless a difficult feature to enact. So much so in fact that the UK Information Commissioners Office (ICO) decided to withhold enforcement of the law for a full year to allow companies to ‘get their house in order’ (Data Privacy Monitor, 2011).

With the industry in confusion regarding the inconsistent and sometimes conflicting guidance on the rule it is difficult for IT to get the necessary funding and resources beyond its own budget to implement this regulation despite likely coming under pressure from Compliance to do so as it is unclear exactly what implies user consent and what can be done for users who decide not to give consent. In addition, like many regulations discussed in this document there is no clear business value or benefit to compliance so it is likely to contribute further to the businesses view of IT as a cost centre. On the other hand there are potential fines for non-compliance of up to £500,000 GBP in the UK (along with potential reputational damage) which could help persuade business to make funds available to IT to enact compliance.

**The Bank Secrecy Act (BSA)**
The BSA also known and the Anti-Money Laundering Act (AML) was passed in 1970 and legally obliges banks to know their customers business, the source of their money and what would be considered common transactions for these customers. The bank is compelled to report
and in some cases refuse to conduct transactions it finds suspicious. This is done by filing Customer Transaction Reports (CTRs) and Suspicious Activity Reports (SARs). This act has been updated and amended several times within its lifetime, most notably by the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act (USA PATRIOT) which required banks to establish AML programs that included: ‘the development of internal policies, procedures and controls; the designation of a compliance officer; an on-going employee training programme; an independent audit function to test programmes’ (Joseph & Roth, 2008).

As can be imagined such an act has huge implications at every level of a banking institution with potential legal repercussions aimed at both the bank and any individuals involved in allowing any kind of banking transaction that directly or indirectly funds terrorism or criminal enterprise including fines and jail time. The amount of continued organisational effort required to comply with this act has been described as nothing short of ‘resource sapping’ (Costanzo, 2011). Compliance with the BSA goes beyond good due diligence in on boarding a customer. It requires the integration of a control system framework throughout banks monitoring the transactions of every customer across every line of business, measuring inherent risks and implementing risk mitigation where appropriate (Raghavan, 2007). With many compliance teams in banks overwhelmed by the workload placed on them by the BSA (SAR logging increased by 600% between 1997 and 2006 and CTRs filed annually hit 13 million in 2007. Most mid-sized US banks now employ at least 3 full time compliance analysts dedicated to BSA/AML (McVicker, 2007)) many are looking to IT to provide automated solutions (Costanzo, 2011). So costly are some of the IT solutions in place to meet BSA regulations some banks have gone so far as to apply for patents for solutions relating to, among other things: ‘Detecting suspicious financial
transactions for the purposes of complying with the BSA and USA PATRIOT Acts; Identifying relationships amongst independent elements in SAR databases; Screening customers against anti-terror databases; And generating risk quotients using algorithms that consider regulatory risk’ (Venulex Legal Summaries, 2004).

The restrictions that regulations like the BSA and the USA PATRIOT put on banking innovation go beyond IT and touch all parts of the organisation. As these acts hold not only individuals involved but board members liable there would be little difficulty in gathering the necessary budget and resources to facilitate compliance but it does add further complex, rigid processes to and already inflexible industry. Adding layers of bureaucracy with no direct business value, draining resources and leaving not just IT but every line of business struggling (between running AML processes to comply with the BSA and dealing with both internal and external auditors) to maintain business as usual rather than looking to expand or improve processes innovatively.

Even compliance managers have stated that the sheer workload of BSA compliance has restricted their ability to maintain compliance with other regulations (McVicker, 2007). Advocates of the regulation on the other hand would say that the value is in preventing the funding of crime and terrorism and avoiding the fines and potential jail sentences that can come with non-compliance. Many advocates also believe that the BSA’s provision of a solid foundation for enterprise-wide risk management can in fact lead to competitive advantage particularly against competitors in the same industry but not under the BSA’s scope (i.e. not doing business in the U.S.) (Raghavan, 2007).

**Basel I, II & III**

Known collectively as the Basel Accords Basel I, II & III are recommendations on banking regulations issued by the Basel Committee on Banking Supervision (BCBS) which consists of
representatives from the central banks and regulatory authorities of the G-20 major economies. While the BCBS has no authority to enforce its recommendations most member countries as well as others tend to implement its policies (Bank for International Settlements, 2009).

A key aspect of the all of the Basel accords is the introduction of more robust risk management practices particularly in the area of operational risk. As can be seen in the illustration below information technology is considered a key element in managing operational risk.

Framework for Managing Operational Risk (Fischer, 2008)

Fischer (2008) suggests that there are 10 guiding principles for operational risk management related to Basel.

- Operational risk awareness
- Internal audit requirement
- Management policies, processes and procedures
- Risk assessment
• Risk and loss monitoring
• Control and mitigation policies, processes and procedures
• Business continuity management
• Framework for risk control and mitigation
• Independent evaluation
• Disclosure

Buying into these principles in any serious manner would require a huge investment of time and resources by any group within an organisation that it touched upon. It was in fact projected that between 2003 and 2007 the IT cost of developing operational resilience in US banks would increase from $736m USD to $1.1bn USD because of the control requirements of regulations like Basel (Raghavan, 2006). These principles when considered with the preceding regulations outlined in this document also highlight the huge amount of overlap between various regulations. Despite requiring separate internal audits and external evaluations many of the requirements are quite similar leading to work being repeated needlessly by many IT departments who do not have a clear understanding of the regulatory requirements or the ‘big picture’ in terms or the organisations regulatory and risk strategy.
Research Methodology and Methods

While it would be expected that regulation would act as an obstacle to IT innovation in the banking sector by limiting the ability to enact change, and tying up IT budgets and resources in the creation of systems and processes simply to meet regulatory requirements rather than to create competitive advantage surprisingly this seems not to be the case for all organisations. In some cases there are organisations which excel because of these regulations rather than in spite of them (Buliard, 2008; Comprehensive Consulting Solutions, 2005). The key to this difference seems to be what Buliard (2008) identifies as companies that are regulation compliant versus those that are ‘pro’ regulation. That is companies that enact regulations to simply ‘tick the box’ and companies that build the regulatory compliance into their culture and into the core of all of their efforts towards innovation and competitive advantage.

The intention of this research will be to look at these two views on banking regulation and try to gain an understanding from industry professionals both in banking IT and Compliance/Operational Risk as to whether they feel the pressures which the literature review suggests government regulation exerts on IT innovation and if this idea of a ‘pro-compliance’ organisation could exist and thrive in the wild.

Before detailing the methodology which will be used in the dissertation it will be important to disclose the author’s industry background as it has in many ways influenced the research framework. The author is an IT professional of 14 years, the majority of which have been spent working in the finance sector. He is currently a senior IT analyst for Wells Fargo Bank International, a wholly owned subsidiary of Wells Fargo Bank N.A. and their primary business instrument in Europe. As such the author is heavily enmeshed in the subject matter of the dissertation. Many of the decisions made in developing this research methodology are based on
the authors understanding that any perceived bias on his part may threaten the reliability and validity of the research (Saunders et al., 2007, pp 149 – 150). It is the intention of the author to demonstrate transparency and the upmost ethical standards throughout the research and the foundation of this will be in the methodology.

The manner in which the research is carried out will also be influenced by many external factors (Saunders et al., 2007, p. 135). Because the author will be carrying out the research alone, whilst working in a full time job, using his own limited funds and will need to submit the dissertation by September 17th 2012 the type of research avenues available are limited.

Saunders et al. (2007) suggest applying a research onion approach in order to appropriately design a methodology which provides a robust as possible avenue of research given the practical difficulties any researcher can face. They split the research onion approach into five segments: Research Philosophy, Research Approach, Research Strategy, Time Horizons and Data Collection.

While there is no approach to research that is better or worse than another, without interrogating the underlying reason for your choice of data collection and analysis techniques there is no way to know if the approach carried out was the most efficient one considering your requirements and resources. It is the foundation upon which your research stands.
Research Philosophy
When carrying out research you are attempting to add to the body of knowledge. The way in which a researcher perceives knowledge is often subjective and contextual. A research philosophy can help represent the researchers’ perception. While the research onion identifies 10 philosophies there are 3 that give a clear picture across the spectrum of thinking: Positivism, Interpretivism and Realism. Each provides a well defined view on how knowledge is perceived or as Saunders et al. (2007, p. 102) define it the researchers ‘Epistemology’.

Positivism
Positivists believe that the only way to produce valid data is through the statistical analysis of clearly measurable and quantifiable phenomena, because of this it lends itself well to a deductive research approach. This method is highly structured and has its roots in the natural sciences
where scientific reason and ‘law-like generalisations’ are often applied (Saunders et al., 2007, p. 103).

**Interpretivism**
At the other end of the scale from Positivism is Interpretivism which promotes the idea that people are ‘social actors’ and that the complex interactions between humans cannot be measured in any structured way. It is suggested that Interpretivism lends itself best to business and management research where one is often analysing business circumstances driven by individuals in unique and complex situations (Saunders et al., 2007, p. 107).

**Realism**
Realism takes a more balanced view sitting between Positivism and Interpretivism. While it has its basis in the statistical analysis of measurable and quantifiable phenomena it suggests that the meaning and relevance of this data can be subjective when observed by a human. (Saunders et al., 2007, pp. 104 – 105)

The research philosophy what will be used for this dissertation will be Interpretivism. As the subject of the research is concerned with how individuals within an organisation perceive the impact of quite complex government regulations on their departments, Interpretivism will lend itself well to gaining an understanding of how humans interact with both each other and the legislation. The author also feels that by adopting this research philosophy he can keep his own involvement with the subject matter at the forefront of his mind and gain a better understanding into his own feelings on the subject.

**Research Approach**
Saunders et al. (2007, pp. 117 – 119) suggest that there are two approaches which can be employed in data analysis; Deductive and Inductive. They go on to impress the importance of
identifying a research approach as it will aid in creating a foundation upon which ones research design and particularly data collection techniques can be based.

**Deductive**
Deduction has its roots in scientific research and lends itself well to identifying the causal relationship between measurable variables. As mentioned previously this is why it lends itself well to a Positivist research philosophy. Saunders et al. (2007, p. 117) lists five stages for Deductive research:

1. Deducing a testable hypothesis from existing concepts or theories.

2. Articulate the hypothesis in operational terms.

3. Testing of this operational hypothesis.

4. Examine the outcome of the testing.

5. Update the theory in light of these findings.

**Inductive**
Induction is a more flexible approach in which Saunders et al. (2007, p. 118) suggest that unlike Deduction where data follows theory the opposite is true. Induction is more concerned with humans, their behaviour and the context in which they act.
The research approach that will be used for this dissertation will be Inductive. The research question is concerned with people’s perceptions and how people interact with complex legislation in a politically charged working environment so an Inductive approach should support this. It also marries well with the author’s Interpretivist research philosophy.

**Research Strategy**

The research strategy is the approach which will be applied in the dissertation in order to answer the research question outlined in the introduction. Saunders et al. (2007, p. 135) suggests however that the choice of research strategy will not just be influenced by the research question but also by the authors research philosophy and approach and the resources and time available to him/her. The strategies Saunders et al. suggest are: Experiment, Survey, Case Study, Action Research, Grounded Theory, Ethnography, and Archival Research.
This chapter has already covered the author’s research philosophy and approach as well as the limited resources and time available due to his full time job and the submission deadline of September 17th for the dissertation. With all this in mind the research strategy used for this dissertation will be Ethnographic. As is implied by the title of the dissertation the author is concerned with industry professionals perceptions of how government regulation impacts IT innovation in the finance sector. Saunders et al. (2007, p. 143) suggests that adopting such a strategy will allow research of a subject in the particular context that it occurs and allows insight into the perspectives of those involved. While it is suggested that an ethnographic research strategy can be quite time consuming as ‘the researcher needs to immerse themselves in the world being researched as completely as possible’ (Saunders et al., 2009, pp. 142 – 143), as mentioned previously the author has been working in the finance sector for an extended period of time. Already being immersed in the subject environment it is hoped that the requirement for extended study will be reduced.

**Research Choice**  
Saunders et al. (2007, pp. 145 – 147) suggest that within the numerical (quantitative) and non-numerical (qualitative) realms of data collection techniques there are several analysis procedures that can be undertaken:

**Mono Method**  
This is the use of a single data collection technique and analogous analysis procedure.

**Multiple Methods**  
This is the use several data collection and corresponding analysis techniques.
**Mixed Methods**
Similar to multiple methods, mixed methods uses several data collection and analysis techniques. Unlike multiple methods though, mixed methods does not limit data collection techniques to equivalent analysis techniques but rather allows quantitative data to be qualitised and vice-versa.

For this dissertation the author has decided on a mono method of research. The reasons for this will be further expanded on in the data collection section below.

**Time Horizons**
Saunders et al. (2007, p. 148) suggest two time horizons for research; Cross-sectional (a ‘snapshot’ taken of a particular time) or longitudinal (a representation of events over a period of time).

As mentioned previously there is a deadline of September 17th 2012 applied to this dissertation and the author has limited available time due to work and family commitments. Because of this there is little choice except to follow a cross-sectional time horizon. Despite the variables impacting on the authors decision however since the intention of the dissertation is to analyse current perceptions this time horizon in fact suits the research question.

**Data Collection and Analysis**
As stated previously the purpose of this dissertation is to identify how banking IT and compliance/operational risk perceive government regulations impact on IT innovation in their sector. From this respect the dissertation is what Saunders et al. (2007, p. 134) refer to as a descriptive study. The intention however is to take the research further using the descriptive research (the subject’s perceptions) as a groundwork for some further exploratory study (Saunders et al., 2007, p. 133) gaining some insight into the nature of the challenges facing the subjects and what can be done to mitigate them.
Due to the fact that innovation is often driven in organisations from ‘top of house’ (Tidd & Bessant, 2009) and that non-compliance of financial industry regulation can lead to jail time for senior executives (Entrust, 2012) the subjects that the author will need to examine for this dissertations research will be a small population group with limited time available. Because of this the author will be solely making use of qualitative data collection techniques as there is an insufficient sampling population of subjects to allow any useful quantitative analysis.

**Primary Data Collection**

Compliance and government regulation can be a thorny issue and it will be easier to get more honest responses from an in depth interview rather than a questionnaire. When faced with a questionnaire executives will be more inclined to give answers that tow the company line and be seen to be supportive of government regulation. In a live meeting scenario it will be possible to be more probing with questions and potentially coax more useful information from the subject. Also it will be possible to observe the subjects body language and other indicators which could lead to a greater understanding. The interviews will begin with an administered questionnaire in order to give some structure and comparability to the different interviews but will then move into a more open format to gain clarity on the questionnaire questions and to gather further information. In order to again ensure more honest discourse it will be necessary to guarantee some degree of anonymity to the interview subjects, the interview will be recorded for the purposes of transcription and then the recordings will be deleted. During the transcription any specific mention of the subjects company will be amended to ‘my organisation’ or something similar. Interviewees will also be supplied with questions in advance of the interview to allay any concerns interviewees might have of being ‘cornered’ with unexpected questions.
Subjects have been gathered through the author’s finance industry contacts and through a request for introductions through the American Chamber of Commerce.

The subjects of the interviews and mini group will be evenly split between the two key stakeholders in the research questions argument compliance/operational risk executives and IT executives in the finance sector.

The following subjects agreed to one to one interviews. All work for multinational banks which function across both the wholesale and retail finance sector (their names have been omitted to preserve anonymity):

Chief Compliance Officer Ireland

Head of International Service Delivery

Director of Operational Risk

Head of EMEA Service Delivery

Technology Relationship Manager – India

Chief Risk Officer Ireland

Due to the various locations of these individuals it may be necessary to carry out some of the interviews by telepresence.

**Ethical Issues**
Some of the ethical issues surrounding this dissertation have been outlined in the Primary Data Collection section above. It will be vital to ensure the anonymity and good faith of the interview participants.
On top of this the author understands that by carrying out solely quantitative research there is a high risk of researcher bias especially since as an IT professional in the finance sector he is enmeshed in the argument himself. Researcher bias is an accepted risk of all quantitative research and it is vital to acknowledge it, accept that it will likely occur and take efforts to mitigate against it. By taking an interpretivist philosophy to the research the author hopes he will demonstrate right from the beginning that he understands that objective research may not be possible. In order to make the dissertation a useful document it will be vital for the author to adhere to the highest ethical standards and ensure that the validity and reliability of the data is clearly communicated.
Data Analysis and Findings

There are several questions which arise from the preceding literature review which will form the backbone of this data analysis. This section will be split into several sections addressing each of these questions put to the interview subjects outlined in the research methodology section above (see Appendix I for full interview transcripts). The primary theme of these questions will be to identify in what regard compliance is held by IT and operational risk/compliance professionals in the finance sector, how compliance regulations are addressed within their organisations, what level of support IT get from operational risk/compliance and vice-versa, what level of support both groups get from the business as a whole, how government regulation impacts on resource availability for IT and finally how all of these issues impact IT’s ability to add value to the organisation through the support of innovative processes and projects. Some of these questions look for details on how IT groups are affected by regulations. These questions are put to operational risk/compliance interview subjects as well as IT ones in order to gather their perception of regulations impact on IT. Operational risk and compliance are the businesses arm for implementing regulatory requirements; it will be important to know if they are mindful and sympathetic to the challenges and difficulties faced by IT in implementing regulatory policies.

While the details gathered during this research are quite subjective and are by and large simply the opinion of a small cross section of IT and operational risk/compliance professionals the author believes that some of the results vindicate the research methods used. As suggested by one operational risk director interviewed the difficulties arising from compliance and regulatory issues are primarily a management and cultural issue rather than a legislative or process issue. Such issues are difficult to quantify as they are at their heart about the interplay between individuals and groups and the regulatory environment. It will be different for each organisation
depending on its culture, management structure and the individuals involved. Because of this the truly pertinent information on this issue is based on individual’s perceptions and understanding which would be difficult to measure in a quantifiable fashion. As mentioned when outlining the research methods of this dissertation the research is about people and the context in which they act; that context being in this case the regulatory environment and the organisations culture.

The absence of references in this section should also be addressed. All information in this section is based upon statements made during the research interviews conducted by the author. Some of these statements may not be 100% accurate or may not be true across the industry however the goal of this research is to measure how government regulation is ‘perceived’ in the finance sector even if some of the statements made are not materially true the subject believes this to be the case and since they are senior decision makers in financial organisations this makes for a clearer picture of the organisational environment.

**What challenges do IT in the finance sector face in order to meet with compliance requirements?**

The intention of this question is to gain an insight into whether the challenges indicated in the literature review are truly felt by people within the industry and how they are perceived and handled. While there were some varying views from interview subjects on this question two broad themes emerged which will be outlined and addressed in turn.

**The complexity and lack of clarity of regulatory legislation**

There is a concern particularly from IT professionals interviewed that when new regulatory requirements are drafted that little consideration is given to the potential costs and difficulties that will arise from the implementation of these new regulations. In some cases this lack of understanding of the technical requirements behind a regulatory solution can further compound the operational risk it was seeking to mitigate. One interview subject – a technology relationship
manager for the India region – gave the example of a new UK Financial Services Authority (FSA) requirement for FSA registered banking employee’s mobile phone conversations to be recorded and archived in order to further crack down on market abuse. When the FSA stipulated these requirements the subject’s organisation (and most others it could be assumed) did not have an in-house solution to enact this requirement and so 3rd party vendors had to be brought in to come up with a solution. The solution that was put in place worked at a basic level however it also caused delays in making and receiving calls and increased the frequency of calls being dropped. Because of this employees were unhappy with the solution and some not understanding the implications of what they were doing sourced private mobile phones for themselves and began using these for business calls. In this way a solution which was meant to allow further granularity in the management and documenting of financial transactions led to even less control and the risk of fines or further regulatory scrutiny for the firm. There is also a concern among both IT and compliance/operational risk subjects that this lack of understanding goes the other way. As mentioned in the literature review of this dissertation government regulations are often complex and labyrinthine using terminology and language that is not familiar to IT professionals. One subject – an operational risk director – suggested that when faced which these complex regulations IT goes into what he refers to as ‘project mode’ in order to couch these requirements within a framework that is familiar to them. They look for business requirement documents (BRDs) and so compliance and operational risk need to try and interpret a requirement from the regulations that satisfies IT’s understanding. He suggests that in this translation from a risk management to IT language there is a gap leading to the IT group developing a solution which is precisely what was asked of them but is not in fact what the organisation needs. In this respect the challenge comes from both IT and compliance/operational risk. IT understands the
technology but not the regulations and compliance/operational risk understands the regulations but not the technology and so there is a lot of noise in the communication between the two groups.

There is a definite feeling particularly among the technology subjects interviewed that there is as one subject put it: a new discipline emerging in IT which revolves around the understanding and execution of complex regulatory requirements. Some feel that while the amount of time and effort IT are putting into meeting regulatory requirements is increasing every day many IT professionals lack the tools to understand and appreciate the complexity of the regulations and how they fit into the organisations operational framework. A requirement has been voiced for a group within organisations to bridge this gap in understanding. A technology operational risk/compliance resource who has a good understanding of the complexities of both the technology and regulatory world who could act as an intermediary between compliance/operational risk and IT. It is interesting to note that one of the interview subjects based in their organisations head office in the USA had such a resource available to them however another subject interviewed from the same company but based in the UK did not have this resource available to them. This seems to legitimise the idea to a certain degree as there is precedent of such a role being in place in a major US financial organisations’ domestic offices. The reason for resource being unavailable to non US offices is likely purely a financial one, as implied by several of the research subjects when a financial organisation moves outside of its domestic market and into the international market the business will of course give a high level of focus to local regulatory requirements but for technology that focus will be limited and will only increase as the size of the operation in that region increases. It is likely that the reason these
resources are not being seen outside of domestic offices is because IT cannot justify the budget in smaller regions.

The lack of clarity in regulatory legislation was also cited as a significant challenge by interview subjects. Some suggest that regulatory requirements are often lacking in specifics. There is a tendency for them to be quite interpretive. While an employee may understand a regulation as it has been interpreted and enacted by their own organisation in a different one the interpretation of the law and the actions needed to comply with it could be quite different. MiFID is given as an example of this. It requires you to retain ‘data’ for 7 years but it seems to be left up to organisations to define what ‘data’ is. One organisation might take it to mean transactional data while another might take it to mean customer information or emails as well. This leads to a confusing environment where it is difficult to leverage best practices as there is no uniform understanding of the regulatory requirements and so different organisations are enacting different solutions which comply with their interpretation of the law. Some interview subjects have indicated that regulators need to be either clearer in their requirements or need to highlight organisations which have met what they feel is the best spirit of the law so that they can be emulated.

**Data quality, integrity and classification**
The second theme which emerged during the interviews that of data. The quality, integrity and classification of data was raised as a concern by almost all of the interview subjects.

It is agreed by some of the interview subjects both from the technology and compliance/operational risk areas that policy makers are quite limited in their view and understanding of what data is and where it is located. It is further suggested that in this respect the technology may have surpassed the legislative framework. Regulations often make two faulty
assumptions: that an organisation's data is located in the same regulatory jurisdiction as their offices and that all data is the same. They do not take into consideration what one interview subject referred to as the ‘unified communications framework’ in place at most financial organisations today. Data is rarely if ever stored in the same location as an organisation's office, they can be stored in data centres located anywhere in the world and the information in those data centres can in turn be transmitted to anywhere else in the world by email or any number of data transfer methods. While regulations and those auditing them have a good understanding of the kind of structured data common to transactional banking applications which is clearly defined in both its arrangement and function there is a growing trend towards more unstructured, ad-hoc communication data in organisations as communications platforms increase in scale and complexity. More often now the regulators need to contend with what one interview subject referred to as ‘loose’ data generated by emails, instant messaging and even ad-hoc databases. The policy makers seem ill equipped to understand this kind of data seeming either to be unaware of or ignoring its existence. It seems to be agreed by most interview subjects that when it comes to this kind of data many financial organisations may be breaking the spirit if not the letter of the law. Some question whether it is in fact possible to manage this kind of ‘loose’ data and if organisations will be able to comply when the regulations catch up with the growing trend towards global/virtualised data management.

The quality of the data being used for generating regulatory reports is also a concern. One interview subject suggests that investment in data warehousing is a continuous cycle in financial institutions. He suggests that soon after a data warehouse solution is put in place the quality of its data declines and that once it does it cannot be undone. Meaning that a particular data warehouse is the focus of the organisation for a period of time and then data quality declines leading to the
creation of a new warehouse this leads to organisations with data fragmented across multiple warehouse which often hold dated or inaccurate data.

The two themes discussed above seem to be common concerns across the industry and are clearly understood by both compliance/operational risk and IT professionals. Most seem at a loss as to how to tackle these issues as the causes often lie outside of their sphere of influence having their roots either in the legislature or in their organisations or sectors cultural paradigms. How these issues impact IT’s ability to find innovative solutions to regulatory issues and facilitate emerging innovative projects is clear. Resources are monopolised in supplying solutions to poorly defined and in some cases poorly thought out regulatory rules. As suggested by interview subjects on both the IT and compliance/operational risk side of the issue IT prefer to work to a clearly defined set of requirements. Government regulations are clearly a subject outside of their comfort zone and while there are a growing number of IT professionals (the author included) who have identified this gap and taken an interest in updating their skill sets to fill it at the moment this disconnect is quite apparent. This lack of understanding leads to increased lead times on projects and as mentioned previously the organisation getting what it asked for but not necessarily what it needs to fulfil regulatory requirements. On top of monopolising IT’s resources this will also affect the relationship between IT and the business. The business will be less likely to engage IT on innovative projects if there is a history of IT failing to deliver on regulatory requirement projects.

**How do meeting compliance requirements effect IT’s overall operating budget?**
When this question is looked at in the literature review there is a great deal of reference in journals and other published works of CIOs and other IT professionals complaining about the increased pressure their budgets come under in order to meet regulatory requirements and while
the cost to the organisation cannot be denied the results of this research puts a question mark on where that cost should or does ultimately lie.

There are many aspects of government regulation that add on cost to the business. The business continuity requirements of SOx (depending on how they are interpreted) for example could mean adding what one IT interview subject refers to as the cost of an entire second office space and related infrastructure that may not ever get used. Many of the interview subjects in both the IT and compliance/operational risk area have also stated that in recent years with the increasing fines and other penalties being levied against organisations for non-compliance that financial organisations are taking requirements a lot more seriously than they used to and are not simply following the letter of the law but putting in robust solutions and processes sometimes going beyond what is stated in the regulations. To remain with the example of business continuity this could mean having a fully functioning hot-site rather than sending staff home to work from laptops. All of this costs money of course but where does this cost lie and does it impact IT’s budget to the point that it would prevent them from becoming involved in or kick starting innovative projects? The answer given by most of the interview subjects is that many of these kinds of costs are baked into and organisations operating budget and because of this do not exclude IT from involving themselves in emerging projects. It has also been suggested particularly from interview subjects on the compliance/operational risk side that if an organisation moves into an area which requires new IT systems or processes in order to meet with regulatory requirements than that is the cost of doing business and that cost should lie with the business line that has moved into this area and not with IT.

Because of this all of the interview subjects seemed to agree that when facilitating or supporting an innovative project that the funds for that project should come from the business line enacting
it and not IT and that IT’s ability to develop innovative solutions is more limited by when they are brought in on the project and the timescales they have available to work in than the availability of funds from their own budget. While the business seems to understand the importance of bringing in IT on compliance related projects relatively early particularly in what one interview subject refers to as risk centric cultures it is common for IT to be surprised by project requirements related to new business drivers. And these are precisely the projects where IT would have an opportunity to provide innovative solutions if they were involved at the right time.

**How do meeting compliance requirements effect IT’s manpower resources and ability to support emerging projects?**

Leading on from the conclusions of the previous question if the key to IT’s ability to support emerging projects is the timing of when they are brought onto these projects rather than available funds then manpower becomes a key resource. The impact of complying with government regulations on IT’s manpower is undeniable. As one IT manager put it: ‘My infrastructure engineers don’t manage servers... servers manage themselves. [They] spend their days running remedy reports, looking at adding new layers of control products onto servers’. He goes on to suggest that because compliance sits apart from the business and often has a high degree of organisational authority (particularly following the recent banking crisis) their requirements often supersede on-going work on other projects tying up key resources and impacting IT’s ability to deliver project requirements in a timely manner. Difficulties are further compounded by the ad-hoc nature of projects and again when IT is brought on board. There seems to be an issue implied by some interview subjects that IT is not engaged early enough in the project lifecycle. This seems to occur with both regulatory requirement projects and new business services projects. In both cases it seems that IT is not engaged soon enough to marshal the right
resources to contribute to the project. This seems to lead to IT having to hire on project managers and business analysts at an inflated cost to meet these project requirements and when the project winds down these staff leave the organisation taking their knowledge with them.

One interview subject – a head of international service delivery – suggests that while the upfront direct allocation costs of a project are significant the on-going indirect costs of maintaining the related technology (and the manpower that requires) is an equal if not greater cost. She suggests that ‘the technology costs are all upfront but the people costs are perpetual’. Having said this like budgetary costs the final costs for the support of these systems lies with the business and not IT. As this same subject suggests the projects costs both direct and on-going ‘get pushed out to the business 100%. The technology operations group is a cost centre not a revenue generator’. The business then factor the cost for this into their product pricing.

With this in mind while the budgetary impact of implementing IT solutions for regulatory requirements seem quite limited the impact on manpower requirements is not as clear cut. While the cost in terms of paying for services ends up with the business there is still indications of a strain on manpower resources. Particularly in the current economic environment with IT departments consolidating in order to reduce costs and in turn their impact on revenue it seems that IT would be forced to either limit their scope of involvement in some projects or employ external consultants which as mentioned above would be costly and ultimately of limited value as the consultants knowledge would leave the organisation once the project wound down and IT would still be left to support the resultant system or process in perpetuity.
How do IT and financial organisations as a whole benefit as a result of regulatory compliance?

There seems to be some strong evidence in the literature review that it is possible for financial organisations to develop a competitive edge by being ‘pro’ compliant and developing a rigorous compliance culture. On this particular question all interview subjects were in agreement. Particularly following the recent financial crash there was a great deal of competitive advantage to be gained out of meeting compliance requirements in a faster, more thorough and robust manner than competitors. Particularly in an environment where such enormous potential fines could be levied against organisations (HSBC have recently set aside $700m for fines in the US for breaking anti money laundering laws (The Guardian a, 2012)) that fail to meet compliance standards and of course potential legal actions taken not just against the organisation but against individuals organisations are becoming more diligent when it comes to meeting government regulations. Some interview subjects suggest that the lack of clarity and interpretative nature of many regulations allow organisations to meet the letter of the law while not necessarily meeting the spirit of the law and that this kind of loose interpretation of regulations may have damaged these institutions during the recent financial crisis. They go on to suggest that in the last 5 years organisations are taking regulatory requirements much more seriously and that often seek to exceed the literal requirements of the regulations. One subject – a head of international service delivery – using her own organisation as an example suggested that organisations who were very risk centric and took regulatory requirements very seriously before the banking collapse were left in a very strong position: ‘if you look at today’s competitive landscape my organisation is in fabulous standing in my opinion largely because of how we look at compliance and risk so it’s becoming a differentiator. We are trusted, we don’t get in the middle of scandals and by having such a rigour around risk we are able to protect our customers and their financial information.'
We’re not the bank that’s going to be losing billions of dollars because we didn’t have the right safeguards in place. We work really, really hard to be able to make that statement’. This statement seems to suggest that there are reputational as well as stability benefits to be gained from compliance however as noted by another subject – a chief compliance officer – sometimes this can cause competitive challenges. He suggests that part of the reason for the collapse of the Irish banking system was banks realising savings from loose interpretation of compliance requirements and in turn passing some of those savings over to their customers in the form of reduced interest rates etc. this in turn drew more customers to them and other banks were forced to employ the same practices to compete. In this respect it seems that poor compliance can be a contagion particularly within a regional banking sector.

A director of operational risk suggested that the increased data integrity was an important advantage derived from regulations such as Basel II. As regulations such as this had a requirement for accurate reporting it forced banks to revaluate their data management principals and create a better managed and more structured environment for their data. Other subjects cite the improved controls they are required to put in place such as redundant data solutions and business continuity solutions. They suggest that while in these cases their hands are being somewhat forced they are very necessary systems that not only provide much needed backup but also demonstrate to customers both internal and external that IT and the organisation as a whole value their custom and understand the importance of the safety and security of their data. As mentioned by one subject – a chief risk officer – more and more cash is now moved around by wire transfer. With this in mind a robust and secure system for managing these systems is vital. Recent system failures in Royal Bank of Scotland and in turn Ulster Bank show how a failure in system redundancy and change processes can impact a bank’s ability to deliver for their
customer and can in turn lead to legislative repercussions and possibly more damaging: reputational damage (The Guardian b, 2012).

While financial organisations are clearly benefiting from strict regulatory compliance at the moment it is implied by some interview subjects that that was not always the case. If we take the chief compliance officers statement above it seems to suggest that before the banking crisis financial organisations were seeing an increase in revenues by playing loosely with regulations (a side effect of their interpretive nature). It is entirely possible that organisations could return so such a state in the future and in that kind of a situation banks that continue to implement regulations to a high standard may be the ones at a disadvantage, in fact one interview subject – a chief risk officer – implied that over compliance can be detrimental to profit margins and that a balance must be struck. As stated by one subject however – a head of EMEA service delivery – the ‘greyness’ of the regulations means that it is difficult or impossible to gauge whether a bank is simply following the letter of the law or is in fact taking regulation seriously and employing it in a thorough and responsible fashion. As he puts it ‘everybody is a good driver until they crash’ and so it must be asked if there will be a time when banks will return to the less honourable business practices of the past, not just striking a balance but abusing the system for short-term gains.

When it came to whether specifically IT in a financial organisation could benefit from compliance the answer became less clear. While some subjects agreed that the restrictions placed on IT by compliance requirements could allow IT to create innovative solutions and that they may be able to address software and infrastructure challenges they have by embracing a new regulation (for example IT may have difficulty in getting a budget to refresh a particular system but a new regulatory requirement may give them a strong business justification to do so) they
should not be the ones benefitting from regulatory compliance it is the business that should and does see the benefits.

**How do IT and financial organisations as a whole suffer as a result of regulatory compliance?**
The literature review seems to cite a laundry list of challenges and difficulties brought up by regulatory requirements however many of the interview subjects were less willing to expand on the negative aspects of compliance. It was possible to gather some useful information nonetheless. Subjects tended to have difficult answering this question directly but points made while answering other questions build a reasonably clear picture of the challenges faced.

Particularly when the potential repercussions of non-compliance are considered such as the recent HSBC AML breach mentioned previously there is a great deal of ambiguity in regulations. With organisations coming under greater regulatory scrutiny and the interpretation of regulations being so subjective there is the risk that an organisation could well find itself in breach of policy when they come under the microscope of a regulatory audit even though they themselves in fact believe they are in compliance. As one subject – a head of EMEA service delivery – put it: ‘If you look at my organisations rep offices they are all accessing data in the US… it that legal? I don’t know. We probably do 101 things that are not right but I don’t think the regulation is written with the way we implement technology currently in mind’. This statement clearly shows that there is some concern about the legality of financial organisations IT compliance setups at quite a senior level. Not because of intentional breaches but because of ambiguities in the regulations and a lack of understanding of the IT implications of those regulations. Particularly in a world where technology is moving at breakneck pace it seems quite unlikely that the legislative environment can keep up with new technology. Examples cited by interview subjects of this is the growing virtualisation of data and the build-up of unmanaged and
unstructured data in organisations such as email, instant messaging and voice recording as their communications platforms mature. Since the regulations do not account for the technologies related to these examples financial organisations are left in a difficult position. They need to leverage the most suitable technology available in order to deliver quality services to their customers but regulations do not account for these technologies leaving organisations in a grey area where they may or may not be in breach of regulations leaving them open to potential fines or worse.

The side effect of this as put by one subject – a chief risk officer – is that financial organisations are less inclined to adopt new technologies than firms in other industries. If they are employing technology that leave them operating in a regulatory grey area then they prefer to have to comfort that most if not all other financial organisations are using the same technology so that if regulators do raise questions about the technology in some way breaching regulation it can be justified as a commonly used technology in the industry. This of course means that in the financial sector when it comes to the development and implementation of new and innovative technology there is no such thing as first mover advantage. The advantage is actually seen as being close to the last mover so that the technologies use can be justified to regulators. This unfortunate paradigm of the industries culture has a profound effect on innovation making it difficult if not impossible for IT within a financial organisation to create something truly new further giving credence to the idea stated in the literature review of this dissertation that IT in the finance sector is not innovative in and of itself but is rather a facilitator or as one interview subject put it an ‘enabler’ of innovation supporting the creation of innovative products and processes for the business.
Whether any particular regulation has a truly negative effect on the financial industry is difficult to measure. Without (as one subject put it) sufficient ‘historical perspective’ it is difficult to say with any certainty whether the financial sector profits or suffers from a new regulation. It will only be with the benefit of hindsight that we can really gain an appreciation of this.

What level of support is there available to IT in financial organisations to understand and enact complex regulatory requirements?
The conclusions drawn in the literature review seem to suggest that there is a knowledge divide between IT and compliance/operational risk teams. As suggested by one subject – a head of EMEA service delivery – there is a tendency for compliance groups to pass off the fulfilment of any regulatory requirements which have a technology flavour over to IT groups. The IT groups however are outside of their comfort zone when dealing with such regulations due to their ambiguity. IT groups prefer to function within clear absolutes and well established frameworks. They have difficulty in implementing these regulations because they do not feel it is their place to interpret the requirements. The intention of this question is to discover if there is any support for IT within financial organisations to understand these regulations.

The answer to this question seems to come with some qualifiers. While initially it seemed to depend on the organisation as to whether there was a suitable line of support available for IT two subjects from the same organisation: a head of international service delivery based in the organisations US head office and a head of EMEA service delivery based in the organisations UK branch office gave different answers. The subject based in the US head office stated that they had a technology operational risk team which was located throughout the organisation and liaised regularly with the risk and compliance teams that were in turn in contact with policy makers and that this group worked as an intermediary between IT and compliance (with experience in both fields) to help IT understand regulatory requirements and how meeting these
requirements fitted into the organisations overall strategy. The UK based subject on the other hand stated that no such support existed for him and his teams. When this is taken coupled with the statement by another subject – a chief risk officer – that banks (particularly US ones) who move out of their domestic market and into an international one tend to just assume regulations are the same as in the US there seems to be an implied disconnect between the level of support and focus on IT compliance in domestic and international locations. The reason for this is likely a financial one, as stated by the UK based head of EMEA service delivery: ‘most banks will if you like weight the resourcing they have around the number of people so the more staff or business you do in a particular region the bigger the likelihood that you have more focused compliance resources’ however he goes on to say ‘but even then generally my experience has been that risk and compliance is still very much business/operationally focused, it’s not data/technology focused’. This seems to suggest that for some organisations there is a lack of will on the technology side outside of domestic operations to put the necessary resources in place to support IT’s understanding of regulatory requirements.

This lack of support would of course put an undue amount of pressure on IT’s resources as they would be expected to weigh in on matters outside of their realm of expertise and since this would likely be beyond the business as usual requirements of IT and outside of any project it means that IT would have to find the time and resources to research this outside of their operating/resource budget which in turn would hamper their ability to support emerging innovative projects forcing them to (as mentioned previously) bring in external consultants at an inflated cost. While this cost will not impact IT directly it is an extra cost to the business on top of the fact that the resources will leave the organisation taking their knowledge with them after the project wraps up.
What level of support is available to compliance/operational risk to understand the technological aspects of various regulations?

As has been implied throughout these research findings and throughout the literature review there is a lack of understanding among policy makers and in some cases compliance and operational risk of the technological implications of many regulatory requirements. The intention of this question is to identify if there is any support within financial organisations to aid compliance and operational risk professionals in understanding the technological aspects of various regulations.

The majority of subjects including all of the compliance/operational risk ones agree that there is no clearly established mechanism within their organisations to help in the understanding technological compliance requirements. There is a certain amount of trust from compliance subjects that policy makers take on the advice of subject matter experts when drawing up regulations to ensure that there are no major adverse impacts technological or otherwise to the implementation of new regulations. Technology subjects however when looking at recent regulations question whether this is the case or if the opinions of these subject matter experts is in fact taken on board.

There is however a non-formal channel of support implied by compliance/operational risk subjects where there is an open door with IT in terms of asking questions to clarify the technological requirements of regulations. The subjects seem to feel that there is a willingness from IT to partner with compliance and help in any way they can. This kind of informal support raises risks of its own though. Government regulation is as mentioned previously outside of IT’s realm of expertise and some subjects on the IT side question whether it is their place to advise on
such matters. Also without the safety net of a formal system to request advice there is the risk of compliance receiving incorrect advice or misconstruing advice given. Furthermore because this line of support is informal there is no established budget or resource in place to manage it and so it is again taking away from IT’s available resources for support of emerging innovative projects.

This issue seems to be systemic across most financial organisations. There is a great deal of focus at the business/operational level in the management of regulatory compliance but the technology side does not receive the same level of attention.

What aspects of the current compliance/regulatory structure could be changed to facilitate IT innovation in the finance sector, without of course impacting the integrity of these laws?
With the challenges and difficulties outlined in the previous questions the intention of this question is to identify some of the key suggestions the subjects have to change or improve the regulatory environment to foster greater IT innovation in the finance sector.

Tighter management of regulations within organisations and a more compliance friendly culture
For some interview subjects the fact that their organisations have a highly risk centric culture where management take their regulatory responsibilities very seriously is considered to them to be a competitive advantage. Those in organisations that take a less focused view on compliance say this is something they would like to see. They suggest that many of the challenges organisations face because of regulatory requirements can be mitigated to a great degree by proper focused management. Issues such as repeating the same reports multiple times for different regulatory reports for example could be solved by management taking a serious holistic view of their organisations regulatory functions. As suggested by one subject – a director of
operational risk – banks cannot continue on their current road of taking a laissez faire attitude with their compliance management paying ever increasing fines to regulator. There needs to be a change in how compliance is addressed before what he refers to as the industries ‘tobacco moment’ occurs and such organisations are left behind as the industry drastically changes to a more streamlined compliant environment. Other subjects suggest that organisations are making this change already with as one subject put it the pendulum swinging from an attitude of meeting the letter of the law and no more to using the ambiguity of the law to set the bar as high as possible in terms of compliance quality. In an organisation with such a well-managed compliance framework not only would IT’s major issues around the ambiguity of compliance requirements be solved but there would be more room for them to deliver innovative solutions to regulatory issues as the organisations understanding of these rules would be clearly defined at the top of the house so the business requirements would be filtered down to IT in a clear and succinct manner.

Such an organisational framework would also allow for regulatory requirements outside of a banks domestic market to be managed in a much more efficient manner giving regional IT the same level of support that interview subjects seem to suggest is available in domestic offices.

A consultative section within regulatory bodies to act as a point of contact for industry technology issues
There seems to be an understanding among the interview subjects that it is an unavoidable fact that legislators have limited business, financial and technology expertise and also that as mentioned throughout this research there is a great deal of ambiguity in regulatory policy. Because of this subjects have suggested that it would be useful to have a group within regulatory bodies whose responsibility was to give clarity to IT in financial and other organisations around the technological requirements of various regulations. They could do this in several ways. Firstly
by acting as a direct point of contact for specific questions, secondly by publishing best practice
documents highlighting solutions that existing organisations have put in place that they feel best
meets the spirit of the law and thirdly by recommending and approving vendors that can supply
solutions to meet regulatory requirements. This body could also act as a gauge for regulators as
to what technological aspects of new regulations may be causing difficulties or concern for
organisations perhaps giving them details they could use to amend these laws or to prevent
similar issues in other laws.

Such a suggestion seems to suggest that the perception that financial organisations need to take
regulations more seriously (implied in the previous idea) also cleaves the other way. There seems
to be a need for regulatory bodies to take ownership of the regulations they draft and to partner
with the industry providing support and helping them ensure that the regulations are applied in
the best spirit of the law.

A more refined, globalised regulatory structure
While there is an understanding among all subjects that the current geopolitical reality would
likely make this impossible in our lifetime; as organisations become more global in their
business and their systems there is in turn a need for regulations to follow suit. This is something
that is happening to a certain extend with countries in the EU and with countries coming under
the Basel accord. The usefulness to all organisations not just financial ones of more standardised
or refined global regulations is not hard to see. From the point of view of this research any
refinement of regulations taking for example 50 discrete rules on a topic down to 10 without
diluting the intent of the law would help both technology and compliance/operational risk in
understanding not just the word but the intent of the law. Removing the bureaucracy from the
regulatory framework could go a long way to removing room for interpretation or ambiguity.
Making regulations across different regions at least broadly similar would also mean that regional IT groups could take greater advantage of the resources available to their domestic colleagues to understand and enact the technology requirements of various regulations.
Conclusions

While it would be expected that regulation would act as an obstacle to IT innovation in the banking sector by limiting the ability to enact change, and tying up IT budgets and resources in the creation of systems and processes simply to meet regulatory requirements rather than to create competitive advantage surprisingly this seems not to be the case for all organisations. The literature suggests that in some cases there are organisations which excel because of these regulations rather than in spite of them (Buliard, 2008; Comprehensive Consulting Solutions, 2005). The key to this difference seems to be what Buliard (2008) identifies as companies that are regulation compliant versus those that are ‘pro’ regulation. That is companies that enact regulations to simply ‘tick the box’ and companies that build the regulatory compliance into their culture and into the core of all of their efforts towards innovation and competitive advantage. The research seems to bear this out although it seems that the potential benefits or losses are difficult to quantify and often will only be seen in hindsight.

Having said this however some of the challenges alluded to in the literature review do not seem to be felt by the subjects interviewed for the research. While the literature would suggest that IT’s budget comes under a great deal of pressure in order to deploy and maintain compliance solutions the research would suggest that such budgetary requirements are known costs baked into IT’s budget at the beginning of the financial year and that as IT is a cost centre these costs do not ultimately lie with them but rather with the business lines that need to implement the regulation. If an organisation is unwilling to spend the funds to meet regulatory requirements in a particular industry area or region then the conclusion made by most of the interview subjects is that the organisation should not be doing business in that area or region. That being said there is some indication of budgetary strain coming from informal compliance and operational risk
requests not specifically tied to a project or business line budget. In this case it could be seen as ‘death by a thousand cuts’ with IT’s time and budget being taken up by many small business requirements and perhaps a few that seem small on the surface but in fact turn out to be more involved when tackled.

The idea suggested earlier in this document that IT does not produce innovation in banking itself but rather supports the creation of innovative processes for other business units (or internal customers) is somewhat borne out by the research. Many of the interview subjects agreed that in banking it is not the function of IT to be innovative but rather to act as a supporter and facilitator for the business. It is however interesting to note the disparity between technology interview subjects and compliance/operational risk subjects opinions on how this support is delivered. Technology subjects believing as suggested by the literature review that there is room to provide innovative solutions in the way they support the business and compliance/operational risk subjects indicating that the regulatory environment does not allow for anything new or outside the standard as non-standard or boutique solutions increase operational risk and regulatory scrutiny as regulators do not understand different or new technology solutions.

The budgetary and manpower constraints caused by regulation which are alluded to in the literature do not seem to be experienced. While subjects agree that there is a huge cost to the business in meeting regulation it is agreed particularly in the face of the huge fines and reputational damage non-compliance can bring that it is a necessary cost of doing business. It is however also generally agreed by the subjects interviewed that this cost does not lie with IT but with the business as a whole. IT would tend to bill out the cost to the relevant lines of business that are incurring it meaning that budgetary constraints should be non-existent. Manpower costs on the other hand do seem to play a factor. It is agreed by most of the interview subjects that an
increasing proportion of IT staffs time is taken up with the ongoing management of regulatory processes; generating reports, managing backup systems, dealing with auditors and so on. All in all however the research indicates that these requirements are not as crippling to IT as the literature suggests. With this in mind the question arises as to if IT management are creating the impression of resource and manpower constraints in order to secure increased budget and headcount using regulation (a current industry buzz word) as the tool to do so. With the research for this dissertation being interview based and quite subjective and without unrestricted access to IT budget records it is difficult to say.

All of this evidence seems to point to the conclusion that the divergent views regarding the usefulness of regulation in the banking sector and its impact on IT innovation are quite subjective and dependent on how an organisation treats and manages regulatory compliance not just at an IT or business unit level but rather at a strategic and cultural level. In the literature while some say ‘we are spending too much time on internal controls and not enough on banking’ (Cocheo, 2005) others feel a robust control framework is vital to their business (Raghavan, 2007). The research seems to bear this out with interview subjects indicating that depending on the culture of an organisation regulations can be interpreted and enacted in different ways and to different standards of quality, what is interesting to note though is that most of the interview subjects believed that their organisation had best in industry regulatory practices. While none of the subjects interviewed worked for organisations with any recent or major compliance breeches the question must be asked as to whether there is a degree of bias intentional or otherwise in making that statement.

There are some cases in which the difficulties are more pronounced than the literature would suggest. There certainly seems to be a difficulty in interpreting regulatory requirements by IT.
Some of this is due to the lack of expertise suggested by the literature but there are also complaints that the regulations are not just complex but also in some cases (perhaps purposefully so) ambiguous. There also seems to be a lack of understanding with policy makers of the technical implications of regulatory requirements. This all leads to a great deal of unnecessary effort on the part of IT to implement regulatory requirements which may or may not 100% meet with the spirit of the law depending on how they were interpreted. On top of this IT, whose function should be to support the business is sometimes required to interpret these requirements something which is not entirely within their remit. There also seems to be varying degrees of support and understanding of regulatory requirements within an organisation particularly when comparing domestic and international operations. This is an interesting factor which did not arise in the literature review and adds significant challenges for regional IT resources.

Regardless of some of the discrepancies between the findings of the literature review and the primary research it is clear that financial organisations work in a complex regulatory environment which is not suitable for the fostering of innovation. There is certainly room for IT to innovate in terms of delivering solutions to regulatory issues and supporting business lines who are developing innovative product offerings for their customers but there is a lot that could be done to help IT deliver even more. As mentioned in the final question of the primary research an organisation with a strong focus on compliance management that takes regulation seriously and partners with both internal groups and has available groups within regulatory bodies to partner with as well should be able to amplify the amount and quality of the limited IT innovation they are able to carry out. This would of course require a sea change in the way both financial organisations and policy makers address regulations but as implied by one interview subject – a director of operational risk – there is likely to be a change in the banking industry
where organisations like Goldman Sachs and JP Morgan (i.e. banks as we know them) will be a thing of the past and this cultural paradigm shift towards a greater level of compliance management and understanding could well be part of that change.
Recommendations for Future Research

The results of this research have been quite compelling and in some ways diverge from the conclusions derived from the literature review. Unfortunately due to the unavoidable research limitations the author was forced to work under it is difficult to ascertain how valid the information derived is. As a tester for the current financial regulatory environment the research has certainly gleaned some useful information. However further research working out from under some of the research constraints this particular project was under could provide much greater insight. A more longitudinal time scale for research with a greater sampling of interview subjects would be helpful. A study tied to a particular incoming regulation following it from drafting to implementation and beyond with access to people on the legislative side as well as an organisation affected would lead to a compelling piece of research delivering useful results to both financial organisations and legislative bodies as to how regulations are enacted and what can be done to improve the process both in the drafting and implementation. This kind of research would of course require both increased financial and staffing resources and would likely need the sponsorship of both a government and organisational body in order to get the kind of open access required to make it a success.
Self-Reflection on Own Learning and Performance

Rationale for Undertaking MBA (Information Systems)

While I have never felt that lacking an MBA would prevent anyone of sufficient drive to advance within my sector I do feel that there is a language or dialect spoken within organisations (particularly financial ones), one that has its roots in the MBA. This language always seemed to me to aid in the dynamics between people from very different cultural and skill backgrounds. It struck me very soon after I started in my first IT role in the finance sector that the people engaged in the ‘MBA dialect’ were the ones that contributed to the organisation in a regular and real way. I always wanted to be a part of this, to be more than just an employee but rather a partner in the business. I wanted to understand my place in the organisation, how I fit into the overall corporate strategy and how I could influence and contribute to it.

I also hoped that the MBA would facilitate in me developing new contacts and relationships both within my own and other business sectors. As can be seen from this personal SWAT analysis carried out earlier in my MBA I had a strong foundation of technical skills but my business knowledge was shallow at best.
## Personal SWOT

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
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<tbody>
<tr>
<td>Strong technical expertise</td>
<td>Weak business knowledge</td>
</tr>
<tr>
<td>Good interpersonal skills</td>
<td>Career goals limited by family commitments</td>
</tr>
<tr>
<td>Family</td>
<td>Difficulty seeing the organizational big picture beyond my own job/department.</td>
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<table>
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<tr>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chances to network and make contacts</td>
<td>Poor local and global economy</td>
</tr>
<tr>
<td>Chance to view the business world</td>
<td>High number of MBA graduates on the market.</td>
</tr>
<tr>
<td>outside of technology. May realize new career path?</td>
<td>I can become over focused on one thing and can sometimes work on that to the detriment of other things.</td>
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I always understood that IT, particularly in the finance sector was becoming more and more entwined with the business and was no longer siloed. I felt that it was vital to my career to be able to straddle the business/technology divide and act and a strong partner for the business. That meant having a good understanding of the business goals and objectives and how IT could contribute to them.

With this in mind, earlier in my MBA I created the following table identifying the skill sets I wished to develop by the time I had finished:
<table>
<thead>
<tr>
<th>Skill Set</th>
<th>Rationale</th>
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<tbody>
<tr>
<td>Broad business knowledge.</td>
<td>Developing a broad understanding and interest in the business world will allow me to interact more easily with other business managers and may aid in developing professional relationships and contacts outside of my organization.</td>
</tr>
<tr>
<td>Critical thinking and decision making.</td>
<td>At an MBA level you are encouraged to not take what is presented to you at face value and to interrogate the information you have been given in order to ascertain its validity. This will be a vital skill to aid in decision making in the work place.</td>
</tr>
<tr>
<td>Ability to make decisions with imperfect information.</td>
<td>Many of the arguments presented at MBA level do not have a clear right or wrong. In strategic management it is important to make the best possible decision with limited or imperfect information. It will be key for me to develop the skill and confidence to make these decisions.</td>
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</tbody>
</table>
Ability to think strategically.  
It is vital that I understand my place within my organization and how I contribute to its overall strategy. Taking a blinkered view of my job will be a barrier to me progressing in the organization and will prevent me from seeing the big picture when making decisions.

Key Skill Areas Developed During MBA
What follows are several key skill areas I identified earlier in my MBA as key goals I wished to reach at the end of my 2 year part-time course. At the beginning of the course a lecturer told my class that an MBA should change a person, that the person handing in the dissertation at the end of the 2 years should be an improved person not just academically but personally. I kept this in mind when considering these skills and leaned towards skills that would be more a result of personal improvement rather than academic labour.

Interpersonal Skills
- Be more comfortable with the idea of networking and developing industry contacts.
- Confidently involve myself in conversations on business matters rather than staying in my technology comfort zone.

It has become more and more clear to me that especially when it comes to more senior roles that positions are more commonly filled through industry contacts than through the usual channels of job listings and recruitment agencies. This kind of ‘schmoozing’ and networking has never sat very well with me though; I have always seen it as a waste of time. There is however clearly some value to it. I have already made quite a few contacts within my MBA course and have
started making use of the social networking site LinkedIn to reach out to contacts both within and outside of my current business. I have also joined ‘alumni’ groups on LinkedIn for many of the companies I have worked with in the past to reach out to old colleagues.

**Critical Skills**
- Be comfortable in making decisions with imperfect information.

- Be able to see the big picture – how an issue affects the firm and not just myself or my business line.

- Become better at identifying how seemingly unrelated organizational matters are linked at a strategic level.

One vital skill which I have developed significantly over the course of the MBA is the ability to be critical about information provided to me and to understand it within the overall context of a particular scenario. Reviewing case studies is the primary way in which I was able to develop this skill. Being presented with matters that applied to real world situations appealed to me and then gave me a foundation on which I could then branch out and review academic texts. This technique supported my learning style and also helped me to learn about organizations outside of my own industry such as pharmaceuticals and textiles.

**Personal Management Skills**
- Manage a suitable balance between work and family life – Manage my time effectively.

- Motivate myself to push for expanded responsibilities even though they may be outside of my comfort zone.

It is important to me that no matter how hectic my working schedule is that I can still make time for my family. Working to strict project deadlines, studying for exams and attending evening
classes while going to work in the day time and having a 2 year old son has helped me develop a schedule that I feel comfortable with in terms of how much time I can dedicate to my family. Also there are times when I don’t apply for a position because I feel I am not 100% qualified for the role. The MBA has given me a broad business understanding which may not make me more qualified for some roles but does allow me to speak confidently on a broad range of business subjects which makes me more confident for applying for these positions.

**Research and Investigative Skills**
- Be able to critically review scholastic, journalistic and internal/company material.
- Be able to apply information from research in real world situations.

An important part of any MBA assignment is the ability to critically review the subject matter and arrive at intelligent solutions based on it. Looking back on my first assignment for this course and comparing it to later ones I can see that there is a clear improvement here; going from the undergraduate style of detailing the key principles of a subject to the MBA style of interrogating these principles and suggesting alternative points of view as well as applying them to real world situations. This will be a vital skill for me as I progress my career not just in reviewing academic texts and applying them to business situations but also company presentations. Being able to critically analyze the merits of reports and potential projects will be essential.

**Development of Learning Style**
In order to paint a clear picture of how my learning style has developed and improved over the duration of the MBA it will be important to briefly outline my academic history.
Following my leaving certificate in 1996 I enrolled in an undergraduate degree in software engineering at Dundalk Institute of Technology. I had a great deal of difficulty settling into the course, I found absorbing the course material to be a struggle. After the end of my first year I worked as an end user support IT technician in IBM for the summer. I found that I got a lot more out of on the job training than academic courses and decided at the end of the summer to stay on in IBM rather than complete my degree. I continued to work in the IT sector for several years after this and always discounted academic qualifications feeling that on the job experience was more useful. I eventually reached a stage in my career where I felt it was important to start developing my soft/people skills. After much consideration I returned to college to complete a full time undergraduate degree in applied cultural studies. It was during this course that I began to successfully develop my learning style (although at the time I was unaware of the theory behind it. I am an extremely visual learner. I retain information best not by taking notes and rereading them but rather by compiling information into diagrams that I can understand also practical examples and projects allowed for a much easier learning experience for me (Felder, 1993). I realized this is why I felt more comfortable with on the job learning than academia. I discovered that I had broken out of the mindset that rote learning was the only option available to me and that I could excel in the classroom as well as the workplace.

During some introductory lectures at the beginning of the MBA the theory of learning styles was discussed. When I realized that this was something that was quantifiable and measurable I thought it would be useful to identify my own learning style to get the most out of the MBA. The amount of reading the course involved concerned me and any tool I could use to make this easier for me was very appealing.
I found a learning style questionnaire online and filled it out:

Results of Learning Styles Questionnaire (Felder-Silverman model):

http://www.engr.ncsu.edu/learningstyles/ilsweb.html

Results for: Edward Kelly

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The results of the test did not come as a surprise however the implications of these learning styles and the advice given to show how a highly visual, active and intuitive can help themselves to excel as students was extremely useful to me.

Being a very active learner I made sure that I involved myself in discussion and problem solving activities during class time as much as possible. I also took the time to discuss subjects with other students outside of class. While my family and work commitments limited my availability to study with a group which is suggested as ideal for active learners being aware of my limitations meant I could compensate to some extent while studying alone by trying to place theory in real world situations and discussing subjects with family and work colleagues.
As an intuitive learner I found the open discussion that made up many of the MBA lectures to be ideal for me however I did run into difficulty with the financial management subject where rote learning of accounting formulae was required. Knowing that my learning style would make it difficult for me to deal with the repetitive learning this subject required I endeavored to link the work to real world situations by downloading investor relations packs and applying the formula to real company’s accounts taking time to consider what the numbers meant for the company in real terms.

I also found that many of the techniques suggested for visual learners such as creating diagrams and flow charts rather than hand written notes was something I was already doing.

Finally, although not at the extreme scale of the other styles my moderate leaning towards being a global learner helped me understand that it is important for me to understand the big picture and how what I am learning relates to what I already known was useful in helping me tackle what seemed initially like overwhelming workloads with no context to me.

Identifying my learning style has allowed me to better process the condensed high volume of information required for an MBA course (particularly a part-time one) not only memorizing data verbatim but also developing a broad understanding and critical opinion.

**Conclusion**

As I mentioned earlier I felt there was a language spoken in my company which seemed to have its roots in the MBA. I am not entirely sure if this is the case now. While the MBA certainly helped my colleagues develop similar skills I believe now that it may be a shared interest in the business world that I was actually missing out on. I now regularly share discussions and articles with other people in my organization and can speak confidently about them. This has in-fact
allowed me to develop relationships with many senior people in my company significantly raising my profile. IT is often forgotten until something goes wrong so if senior executives know who I am, what I do and that I have a broad understanding and interest in the organizations overall strategy and objectives this can only help my career.
Bibliography

Books:


Journals and Articles:


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Appendix I
The following interview transcripts are translated from hand written notes taken during the interview. The conversational tone of the interview has been preserved as much as possible. The broad topic questions were supplied to the subjects in advance of the interview.

Key:
I: Interviewer
S: Subject

Interview 1:
18/07/2012

Subject: Director of Operational Risk – Multinational US Financial Institution

S: Your title and thinking seem to come very much from an IT perspective. Define innovative? iPads are innovative to Apple, Dodd-Frank and central clearing is innovative to banks so it depends on what you think is innovative… but that’s an opening statement.

I: OK, some of these questions are geared towards IT people, some of them are geared toward IT people, some are geared towards compliance/operational risk people but the research is around perception so it will be useful in these cases to understand how compliance/op risk people see how IT is affected.

What challenges does IT in the finance sector face in order to meet with compliance requirements?

S: Well it would have to be understanding the requirements and I think the risk is that IT simply go into ‘project mode’. So they rely on BRDs or PIDs or whatever other stage in a system development lifecycle in order to build this system and it’s like: ‘We’ll build what you ask us for’ and so the questions are very directed at that. So compliance and op risk and risk management in general are having to look and interpret a requirement from a regulatory perspective into a requirement that would satisfy an IT understanding. The gap or potential risk there is that you get what you asked for rather than what you actually wanted because of this translation from a risk management speak into an IT speak. So I think that is a challenge for both sides of the equation.
I: It has been said of MiFID that it is a legislative labyrinth and the same accusation has been levelled at Dodd-Frank for example the Volcker rule is 11 pages of rules but translation/guidance for this is 300 pages long. Do you think the challenge as well in some cases is op risk and compliance don’t really have a clear picture of what they need either?

S: Absolutely, it’s both sides. I mean if you take some of the European legislation it tends to be much clearer. The US side tends to be more complicated/convoluted but most of these things can be broken down into workable solutions if everybody engages the problem and also potentially the opportunity as opposed to seeing it just as a compliance exercise which has to be met. I mean Dodd-Frank can and will create opportunities for banks. It will also create cost and issues, it depends on what view you take on these requirements.

I: Jumping ahead I did have a question about the potential benefits. It’s been suggested that there is the possibility of creating competitive advantage through compliance, for example being able to apply compliance requirements quicker and better than other organisations or for example it as suggested with MiFID the requirement for increased transparency and the requirement to store this new information suddenly give you more useful information to mine about your customers.

S: Well I think it’s interesting you use the word compliance I would divert away from that and call it legislative management. But let’s take MiFID, Basel II/III, Dodd-Frank or anything like that. It does create opportunities. One of the biggest challenges banks faced for Basel II was data quality/data integrity. Having good data integrity could provide you with competitive edge or competitive advantage as you call it that you may not have so in some ways the requirement for Basel II for having capital calculations for your credit and market capital created this demand, this insistence for data quality which can in theory improve the quality of your risk management pricing.

I: And do you feel having worked for European and US banks that there is a difference in data quality?

S: I don’t know if different is the word. Both of them are very poor.

I: It’s interesting you say that. There was a study in 2009 in the US that stated that nearly 60% of financial institutions felt their data quality was average or worse. Because of this there is a concern that some firms might not be able to meet certain new regulatory reporting requirements.

S: Well if you look at what challenges chief risk officers face. The number one challenge they faced (pre-crisis at least) was data quality which was consistent with what I expected to see… it was so far out in front though that was a surprise.

You see what happens is systems are designed to do one thing.. or multiple things.. and then there are patches added onto it or the human side comes into it and the culture maybe is not so concerned with data quality because all you are trying to do is get these 3 or 4 core pieces in so
the other pieces which may have added value in terms of data quality are not maintained and as that happened over time it can never be undone. So then what you do is... banks are building data warehouses so there’s a system talking to a system and that becomes the focus for a short period of time and then that quality drops off because it loses its momentum. So what I’m finding... in all the banks I’ve worked for is this continuous investment in data warehouses.

I: And that’s something that has been pointed out. This is part of one of the challenges for innovation that I have noticed and that’s that IT resources are being routed into this kind of stuff. While the cost of data... the cost of hard disk space has gone down the amount of space being used has skyrocketed. Also what I think seems to be compounding it is SOx and other regulatory requirements for redundant data. So you’re not just buying 1 hard disk you’re buying 4 hard disks.

S: You see I don’t buy that SOx should demand anything really because SOx is just about internal control and being able to stand over your financial reporting. Well sorry but you should be able to stand over your internal controls and financial reporting irrespective of senators Sarbanes and Oxley. This is my stance on this. Now what happens is that people develop siloed approaches to compliance and risk management which then create this overlap and duplication and inefficiency but that is really by direction at the very top of the house and lack of coordinated approach to a control environment or good business practice.. allowing the chief risk officer to do one thing the CIO another, the CFO something else without approaching these in a coordinated fashion. So it’s not the regulatory demands it’s the interpretation and the siloed approach to implementing these demands which is causing the problems.

Is that controversial?

I: No, that links with what I’ve found. That banks tend to be... one of the key barriers to innovation is structural inertia and bureaucracy... and banks tend to have both in spade loads. Some of that is cultural some is regulatory... you know Chinese walls. But yes certainly there’s a lot of inefficiency there. Do you think it’s possible for a large established organisation to change?

S: The problem is... it depends. Organisations can improve bottom line in two ways. They can increase sales/revenues or they can decrease costs. Maybe if they looked to remove these inefficiencies and bureaucracies and target actual management as opposed to compliance, reinforcing core management principals potentially they could yes.

I: So viewing it not as a compliance issue but as...

S: A management issue... I mean and organisation does not exist in its own world. It has to operate in markets. If the markets require standards or adherence to particular things well that’s the market you operate in. If you don’t want to do it get out of the market. So look at it, learn from it and manage it. Don’t just be compliant with it.
I: So you think there’s a difference between organisations that are compliant and organisations that are ‘pro’ compliance?

S: Yes… well maybe organisations that are compliant and organisations that are managed ort are managing compliantly. Maybe that’s the difference… the word management in the middle of it. Because I think Barclays may say it was compliant but could you argue that it was managerially compliant? The same could be said of HSBC and its recent BSA breach.

I: Is that linked to culture and corporate social responsibility to a certain extent in that some people would see that regulation and laws are societies way of imposing a structure on organisations and the organisations job is to live up to those requirements to the letter and no more and their job is to find ways around it.

S: I’m not keen on CSR… obey the law… obey the law and pay your taxes. What you should have is that the requirements and the compliance regulatory activity need to reflect the spirit as much as the letter of the law and make sure these mechanisms are appropriately in place and compensation strategies of banks need to reflect the regulatory requirements not just business requirements.

I: We have covered this a little already but how do you think meeting compliance requirements affects IT’s overall operating budget?

S: I don’t know how this works but let’s think about this. Finance come along… let’s take SOx… finance come along and say they need to adhere to SOx… we need to do x y and z … and they start costing it all up and it’s going to cost 100 million dollars to build out a SOx compliance framework over which 50 million is needed for IT development, Would IT have gotten that 50 million if this project had not kicked off, Does that 50 million come from the IT budget or the finance budget which finance obtained from the board so the challenge there is that all organisation are run on a budget and rightly so. So its whose voice is loudest at the table that gets the budget allocations so if you’re saying that there is a 500 million pot for development or additional spend this year and if there are a bunch of projects that are regulatory requirements so we have to do this to operate in the markets we operate in that budget gets smaller and smaller. So if the IT department say they need to upgrade the email or whatever it’s not that their voice is not heard but that the money has been spent before it got to them so what you need to have is that IT need to be able to develop strategies to get… not necessarily its innovation budget but its effective maintenance budget at the table at the same time as all of the other demands so that it gets allocated its share of the pie.

Also potentially the cost of IT which is still quite a large labour intensive exercise… and people don’t necessarily see the tangible benefits of IT… it’s in the background… it’s just there. You only notice it when it’s not there and the fact is it’s very rarely not there so you don’t really see where the money is going and that can be a challenge for IT.
I: Coming out of that there are a couple of things. It’s been suggested that this compliant that forking out for regulatory systems is sapping IT’s budget... there are a couple of questions coming out of that.

First of all, because innovation in banking tends to be around supporting processes, how often do you see it that IT are paying for these innovative projects or the business line that’s benefiting from it?

S: Well ok, what is the purpose of the bank? Is it to employ IT people or is it to generate a return for its shareholders? It might be controversial talking to an IT person but I will go with generating a return for shareholders. So how do you enhance and deliver better returns for your shareholders? It’s more often than not going to be developing innovative products for your customer... so I mean retail banking internet application … that is designed to make banking easier (in theory) for the customer. Why? Because you want to enhance the customer experience, increase your profit etc. You’re not doing it to show how innovative you are at IT. If you were then go join Google or Apple because that’s not your role. So to say that the IT budget is being stripped by business lines trying to create innovative products for customers… well that’s the way it should be.

I: That makes sense, the function of IT is…

S: … as an enabler.

I: How often do you think IT really get a look in on the development of these processes and on the development of systems for compliance... when do they get brought to the table?

S: Well that goes back to the first part… sometimes they get brought in too late, sometimes too early. It a difficult one to pick when to get people involved. If you kick off too early you can lose momentum, if you kick off too late you actually put enormous pressure on people and that’s when you get the quick fixes without the strategic solution. So it’s very difficult and I don’t think there’s an easy answer to that. It really needs to be down to the culture of the organisation... how involved… do we see this as being ‘were all pulling together to create value for the customer’ or do we have individual business units doing their own thing until the very last minute getting approval, guidance engagement etc.

I: Do you think that if IT were brought in at the ‘right’ time... at the kind of time that they could suggest potential ways of doing things or potential systems for doing things that they could add greater innovation to a project.

S: There’s no doubt that bringing people in at the right time whether they be IT, compliance, risk or process people like operations or even front desk. Everyone who has to support it needs to come in at the right time. The challenge is knowing when to bring them in and that may be down to your PMO aligning itself with the objectives of the organisation and understanding…
Take Dodd-Frank, they’re still writing the rules. In the mean time you have to be ready. Also when you say bank what do you mean by bank. Do you mean like a retail bank or do you mean a bank like Citigroup or JP Morgan? Or do you mean financial institutions like GE? There’s no one size fits all in this so if you’re JP Morgan well you may be looking to become a central clearing broker for to comply with Dodd-Frank so it’s a business opportunity for you. But if your not and you need someone to clear your derivative transactions then you may need to see Dodd-Frank as a cost. So it really depends on what side of the requirements you’re on.

I: How do you see IT’s manpower resources affected by compliance requirements?

S: It’s an interesting one... why do you have IT people? Why do you have anybody? Because people are one of the biggest costs you have. You don’t want too few or too many... and what it the optimum? So you have a resource and you have your day to day activities.. LAN, backups... typical important but in the background IT activities. They have a cost associated with them. Then you have your ad-hoc projects, given that they are ad-hoc you don’t know how many you have upcoming and PMOs and BAs are not cheap. You don’t have them stacked up in the wardrobe to pull out when you need them. So what you end up doing in bringing in consultants and what you’re doing is actually paying over the odds. And then when they leave the information leaves the organisation. It’s an interesting one and it really comes down to good management... to be able to say we need to be able to do x, y and z.. then IT need to be able to deliver x, y and z... but sometime IT get caught up in their own bureaucracy and don’t recognise or don’t communicate the steps in the SDLC so what people see as roadblocks… you call them milestones. And they’re very important milestones because otherwise you end up spending money and getting a complete dog out of it. So I think IT needs to see itself as part of the solution and not the butt end of it. IT need to communicate this up the channels though… that they are part of this so when things are coming to the table you have good communication from the start… so say if you need to do this in Q4 you need to tell me so I can prep my people to be able to deliver it for you. You can’t just come to me at the end of September.

I: So it’s really around... again... management and communication.

S: Yes

I: I want to go a bit more into how IT in financial organisations as a whole benefit as a result of regulatory compliance. I know we touched on it briefly. Do you think... in your experience… is it something that’s really happening? I read a lot about it in theory that firms can gain competitive advantage if they’re doing it right but is it really happening in the wild? Can a bank really do that?

S: OK a couple of things. So the question was how do IT benefit from this.
I: and the firm as a whole.

S: Well IT shouldn’t benefit from it. Your organisation should benefit from it. IT might be able to address concerns or challenges that they have in their infrastructure and software by embracing this new opportunity and so forth. Can organisations generate benefits? Absolutely, I 100% agree with that and I see it. So if you take Dodd-Frank… Dodd-Frank is creating opportunities. Now it’s initially going to be a nightmare for the industry because of the clearing requirements and margining and all that. But it creates opportunities for banks to say ‘right if there is this demand for extensive use of margining maybe we could develop an IT system or a service that enables our customers to manage their collateral or margining as efficiently as possible. So absolutely, there is opportunity for financial institutions in all regulatory requirements and IT can play a role in meeting these requirements. I think where IT maybe lets itself down is where it allows… and maybe this is the innovative piece… you buy in a piece of software which is built for the market and the business says it wants to do x, y and z please configure this for us. IT should say NO this is the system because if you configure it to the extent that the bank think it should be configured potentially your creating problems down the road. If the supplier comes out with a new version you can’t just simply upgrade because you’ve configured the hell out of it. So you fall further and further behind the upgrade curve because you’ve configured it so much and IT says ‘We have to upgrade now… it’s 5 versions old… it’s going to cost millions’ and the business units tell IT ‘this is your problem, you’ve let this happen’.

I: Do you think in some cases that’s something that leads to a bad reputation for IT. That they’re seen as almost purposefully creating this cottage industry for themselves?

S: I think so and I think that they are partly responsible. IT should say ‘were not changing this system’ and not budge unless its… not a good reason.. an outstanding reason. The bank needs to change its processes because banking is fairly homogenous. If we need something slightly tweaked to meet this competitive advantage we talked about we want it built into the system by the supplier so it can be upgraded more easily. So the upgrade needs to... maintenance of the system needs to be considered as part of the SDLC and I don’t think it is.

I: It’s been suggested that the implementation of these kind of ERP systems like SAP or PeopleSoft where IT departments don’t allow them to be tweaked as the business see fit is removing the opportunity for innovation because everyone is essentially using the same system?

S: Again it’s innovation for what purpose? Innovation to have multiple processes across an organisation? I’m not sure if that’s sensible. Innovation to create opportunities for the customer to leverage? That’s a different thing. So I think if you want to remove cost you standardise as much as you can in the bank itself. Why should one part of the organisation process something differently then another part? You need to stop... you do it this way and that’s just it. And that’s a
people thing that needs to be forced from the top but innovation towards customers that’s where you differ because that’s where the income is not the costs.

I: In your experience what level of support is available to IT in financial organisations to understand and enact complex regulatory requirements?

S: I would think none directly. They don’t say ‘oh we need to allocate resources to educate IT’. I don’t think I’ve ever heard that statement. The drivers or the sponsors of the requirement will speak but they’ll speak to a bunch of people – this is the pitch, this is what we need to do, this is why we’re doing it. And maybe they use language which is very targeted at their audience without fully appreciating that everyone may not be up to the same speed as everybody else so IT can sometimes be left to their own accord to go and read up and interpret. The risk there is should they be doing that? Because they may have a different interpretation of it and that might cloud their reading of the BRD when it eventually gets to them or whatever document starts the ball rolling. This can then cloud decisions all the way through so I can see it being a problem. But it’s not just a problem for IT, I think it’s a problem across the board. People are not communicated to effectively on what the requirements are and how the institute is preparing to meet and take advantage of those requirements. So what you have is that IT say ‘Oh we need a warehouse’ and go down the road of building a warehouse and this warehouse could be fantastic and provide great opportunities for everybody else but because its clouded with this requirement no one ever sees the context of IT get frustrated because no one is using their work, but it was not asked for in that context… it misses an opportunity to leverage because it’s all siloed.

I: So you think this kind of feeds into what you were saying about management of compliance… no one’s seeing the big picture. IT are told build a warehouse but they’re not told build a warehouse because of a, b and c.

S: And then they could come back and say well if we added this bit of information or feature in we could help finance out because they’re trying to do something similar... but no that’s their issue so finance build their warehouse and then you end up with a load of warehouses with inconsistent data.

I: And switching it around what level of support do you think is available to compliance and operational risk to understand the technical aspects of various regulations?

S: Reaction to any regulatory requirement should be a coordinated response. If there is a technological aspect to a regulation it should be farmed out to the subject matter experts (IT) for a suitable response. It shouldn’t be specifically operational risks or compliances problem but rather a coordinated response from the businesses operations.

I: And that’s the way it should happen. In your experience is that what really happened?
S: No it not. In the same way SOx was deemed a finance thing, Basel II was deemed a risk thing and MiFID was considered a compliance thing there are inefficiencies, duplications and lack of coordination across the enterprise.

I: Do you think this lack of coordination is compounded in organisations with a global presence? A good example is the cookie directive. You have a US organisation with small presence throughout Europe. They go to their web team based in the US and ask them to make the necessary changes to their websites to comply with the directive. Because Europe is such a small part of the business it is pushed to the back of the queue because the development team either don’t understand or care.

S: It happens absolutely but that’s because it’s seen as an IT issue where the European business should be saying ‘we will not be able to do business, we will not meet our objectives, we will not be able to make to money we need to make because we won’t be able to provide this service to our customers. Parent – guys in the states you need to help us solve this problem’. So it needs to become the CEO of the region talking to their boss in the states. It can’t be an IT to IT request it has to be a business to business request.

I: So it’s as you said... putting it bluntly... either support it otherwise why are you in the region doing business in the first place?

S: That’s exactly it.

I: One thing that comes up as a key drain on IT resources is auditing of the variety of regulatory controls IT have in place. Any single IT group could expect within a few months an audit from an internal body, from an externally appointed body and from government regulators. How is that addressed in the industry?

S: Badly... I think people make it more complicated than it needs to be. How I view this – and I don’t mean to sound like a soap box – it comes back to the organisation. The organisation is required to run its business in a fully compliant manner with whatever rules and regulations there are. So it needs to define them and place ownership for their responsibility at the first line of defence. So the first line – IT sit on the first line for certain activities and the business sit there too. If you build a risk control environment that enforces that – your responsible show me how you’re doing it. You can build a second line of defence that monitors and oversees and provides guidance to the front line as to what needs to happen and that can involve testing. So why can’t IT test itself like an internal audit function, but not an internal audit function? And then you have the 3rd line of defence which is your external independent testers of which internal and external audit are a part. So if you build the framework in such a way that you can leverage your testing carried out by the second line of defence then when audit come in they can almost test the testers and not test the front line again. That doesn’t happen but that’s how you should do it.

I: So mostly you would agree it is left to the front line or IT people to deal with that?
S: Yes, it’s a huge drain on resources and sometimes you have the 2nd line of defence who haven’t been geared up to do the oversight they should be doing and they are complaining ‘Why are you auditing us? We don’t own the risk.’ So audit need to understand their role in all this and understand what the risk control points are which I don’t think they do.

I: Its suggested that when you have a clear control framework in place you are enabling non-technical auditors to review technical controls but there is also room for manipulation on the part of IT as they know in advance what the auditors will examine. Do you think this is the case?

S: Potentially... it’s human nature, if you were about to be audited you are going to try and put your best foot forward and direct the conversation where you want it to go because you want to protect yourself which is fine. If you manage your business effectively though you shouldn’t need to do that. Now that’s all very pie in the sky but it’s true if you just do it properly then when audit come in and say ‘How are you? What problems do you have?’ you say ‘These are the things I’m worried about and this is what I’m doing about them’. If that’s your start of the conversation it’s more effective than trying to argue an audit point weeks down the road.

I: What aspects of the current compliance/regulatory structure could be changed to facilitate IT innovation in the finance sector without impacting the integrity of these laws?

S: I don’t think they necessarily should. Where you need to be careful is you may dilute the integrity of the law or what it’s trying to achieve and being overly descriptive can sometimes do that but at the same time if you leave it to open it may lead to results you don’t intend.

You see is it really IT innovation? I’m still struggling with this angle. These are not IT companies, they’re not meant to be innovative in IT. They’re meant to be innovative in their product design and that design may require innovative IT solutions but it’s not driving the product solutions, it has to be the other way around. And then it simply comes down to return on investment. Do you want to generate this new business opportunity? It will develop x in sales, it will cost y. If that’s a return worth doing IT should get the money. If they don’t get the money it’s not because of IT or regulatory requirements it’s because of the business objectives.

I: There’s clearly a lot of doubling up and repetition when it comes to meeting regulations. There’s also some conflicting regulatory requirements. Do you think that there is room for some sort of overarching control framework that would broadly bring you in line with most regulations or do you think that is possible?

S: Well 100% yes. It’s called management. Managers are there to manage the business on behalf of the shareholders not on behalf of their own bonuses or some social responsibility. So manage it, paying fines of 100s of millions to regulators is not efficiently managing your shareholders business. So that’s what we need to get back to, just managing the business.

I: You don’t thing that’s happening at the moment?
S: Well, no. If you read the newspaper everyday there’s another bank being fined for not managing their business on behalf of their shareholders.

I: Do you think that rather than seeing meeting regulations as the cost of doing business they see the fines as the cost of doing business?

S: Potentially, but that’s a very scary place to be. The fines are getting bigger as far as I can see and these banks are still profitable despite the fines. Well what you’re doing is potentially creating the tobacco moment for the industry where the game just changes and financial institutions as we know them now change completely.

I: And what way would you see that happening? Something like the recent like the recent emergence of crowd sourced lending?

S: Well probably nothing less communist but it may not be as Lehman Brothers or Goldman Sachs as we are currently experiencing.
Interview 2:  
23/07/2012  
Subject: Technology Relationship Manager – India– Multinational US Financial Institution

I: What challenges does IT in the finance sector face to meet compliance requirements?

S: I’d say one of the main challenges is that the finance regulators put in policies on what they require without truly understanding what the technology solution for that will be and not really taking that into account. A perfect example of that is the recent requirement that all FSA registered people’s mobile phone conversations had to be recorded. When the FSA stipulated
that as a requirement my organisation (and most I would imagine) did not have an in-house solution to do that and so 3rd party vendors had to be brought in to come up with a solution and when they did, while the solution works it’s not the thing that the users would like it to be and they find it frustrating to use the technology because its adding unnecessary delays to phone calls, sometime phone calls don’t get passed through because the backend technology where the call has to be routed to first for the recording to be kicked off sometimes doesn’t accept the call and so the whole call gets dropped. So things like that where they have put in a regulation to say ‘right this is mandated from this date: all mobile telephone conversations have to be recorded, at least the mobiles of regulated users (ones that are registered with the FSA)’ they don’t consider what that will look like from a technical perspective.

I: Do you think that in situations where that happens that the scope for operational/compliance risk to be further compounded because you have a botched solution in place?

S: Absolutely, 100% because a trader who wants to make those calls, who relies on those calls being connected first time and within an acceptable period of time without understanding the full implications will think to themselves: ‘Well I’ll just go buy my own mobile and not use the company mobile’, in which case we’ve lost all tracking of that call ever being made. At least if it’s made on a company mobile we can get the itemised bills from our carrier and review all the itemised calls for trader x and we can see that this call was made to this number albeit it wasn’t recorded. Once the trader gets so frustrated with the technology that they decide to then go and buy their own mobile phone and conduct business on that then were in an even bigger hole.

I: Do you think that lack of understanding goes the other way as well? For example with MiFID even legislative people who should understand the regulation consider it labyrinthine. Do you think there’s a problem where IT people don’t fully understand the legislation they have to implement?

S: Absolutely. And I think that comes from, first the complexity around those laws. They’re not written in a language that your everyday technology person is going to understand. So then the question is; is it up to your internal compliance department to decipher that and break it down into terms that you understand and explain to you what it all means or should it be written in a more friendly language that more people can understand and as you say less of a labyrinth. Because, I understand maybe one or two parts of MiFID which I feel are relevant to… well let’s put it this way the only time I’m ever going to go and refer to a MiFID document is if something comes up and I feel I need a reference point to understand what it is and then I’ll have to go through them and then it will be down to my interpretation of the language.

I: Do you feel to a certain degree that this is more of a management issue than a legislative issue in that compliance or the stakeholder in the company so for example finance for SOx should be explaining this to technology in a way that’s understandable?
S: Maybe, I would probably take it a step further there and say that maybe there should be a technology-compliance officer who would understand… not fully understand both sides but have an understanding of the regulatory side and be a representation for the technology side as well. If you were to take one of the compliance officers and ask them to break it down to us I think they would find that challenging so to take it a step further and have a technology compliance officer, someone who has come from a technology background and have maybe moved into that space… who can bridge that divide with an understanding of both would probably be a better way to go.

I: Do you think that’s one of the challenges we are looking at? That ‘when are IT brought in on this?’

S: Yeah, from my perspective whenever something like an FSA regulation comes down the compliance officers we have only want to look at it from a business risk perspective and that’s their primary focus: ‘What does this mean for the business?’ and then how the technology supports that is always an afterthought.

I: So to take your example of mobile phone recordings if technology were brought in at an earlier stage then their concerns could have been raised at that stage rather than it being pushed down as a requirement from the business out of the blue, very late in the game.

S: Well I think the challenge there is even if… and I think on that one we were involved fairly early on… even then the challenge is if the FSA has put in a deadline and there’s no really good solution out there then you’re forced to go with a mediocre solution just to meet that deadline. Alternatively I suppose there’s a channel of communication between us and the FSA to say we aren’t going to be ready by this date but here is what we have done so far to try and meet that and I think in some aspects with the FSA if they can see that you have shown willingness and that you are trying to get to that point then they may possibly give you some leeway on those dates. But then again it comes down to the fact that there wasn’t a robust solution for this in place.

I: Moving on… How does meeting compliance requirements affect IT’s overall operating budget? How much of IT’s non-discretionary spend do you think goes on meeting compliance requirements?

S: So if I understand the question correctly then I think everything around backup and retention so the requirement to have backup tapes, have them stored off site for a period of time and then have the technology in place to be able cycle that… it obviously takes up a significant amount of budget. We but in enterprise tape storage… all that which is quite a significant cost and as far as I can tell all of those requirements are down to compliance requirements. That we have to have the data stored, we have to be able to recover it within a certain time frame and we have to have it stored for a period in a fire safe location or whatever. And then that all flows into the BCP. Obviously as a financial institution we have to be able to demonstrate that we can recover in a disaster and part of that is the budget that goes into having a BCP site and all the technology replicated to that BCP site and you need to recover all the data to that BCP site. And all of that...
while we don’t necessarily do it in the guise of regulatory compliance but business continuity the root of that requirement is the fact that as a financial institution we have to be able to recover and keep supporting our businesses in the event of a disaster.

I: Exactly, and that’s kind of where I was going with it. SOx requirements for data retention and data redundancy are quite specific and over the past decade or so the cost of storage has gone down in price but the amount of stuff we store has skyrocketed. SO you think there is a significant portion of IT’s budget that would of towards that?

S: Yes I would say so. I mean obviously BCP sites don’t come cheap and at the end of the day until we ever invoke a BCP scenario in full its almost a throwaway budget… it’s a dead cost. We’re not benefitting from it in any way. Having this whole almost replicated infrastructure footprint costs firms a huge amount of money and it’s all in the name of recovery.

I: And do you think that because IT’s resources are funnelled primarily towards that kind of stuff do you think it effects IT’s ability to support and facilitate other innovative projects within the organisation?

S: I wouldn’t say so. No I don’t think so, because I think that’s just an accepted annual cost regardless of that the business is doing, regardless of what technology is doing this is going to be a base cost year on year. So I think that’s already baked into all budgets and I don’t think it precludes you from doing any other work. So I wouldn’t agree with that no.

I: How do you feel meeting compliance requirements effects IT’s manpower resources?

S: Just supporting the BCP environment?

I: Yes and the day to day of that and other systems in place to facilitate regulatory compliance.

S: I don’t think it necessarily does. I don’t think it’s a big strain on things because its effectively as if you had another office and so any management and support of that environment should be handled the same as if it was another office on the network. We don’t find that it has negative impact on our teams. I wouldn’t say it’s a burden or gets in the way of doing other projects. Maybe just the initial setup of it is a significant piece of work to get it setup and obviously since these locations need to be geographically removed from your office every time a new server goes in means travel. I don’t think that gets in the way of doing other projects or other innovative stuff.

I: How do you feel that IT and financial organisations as a whole benefit as a result of regulatory compliance?

S: Well obviously one of the things is the ability to recover so we know as an organisation that while it’s because our hand is being forced in that direction by compliance and regulations at least we know that we can always look after our customers so from a perspective of our client
base it’s a good thing. It shows we have made the investment and while it may be because we have been forced to we can spin it a different way to the customer saying that this is because we value your custom and want to make sure you have an uninterrupted service 24/7. So in that case its pretty good.

I: Do you think that it creates a framework in which IT can operate in that it gives everyone some standardised rules to work towards.

S: Yes absolutely. Your right it definitely does because we know every time we implement a new piece of technology it has to fall within the guidelines of the compliance rules and also then how we then use that technology… we can work that into our handbooks as end user guides on good and bad use of technology. So yes I think it does provide that framework. It also helps us on how we dictate to our users the use of that technology always in the back of our minds knowing that however that technology gets used at any time it could come under the microscope of a government body and that could have a significant impact on the business.

I: Leading on from that do you think having such a clear framework is open to abuse as it allows IT to know to a degree exactly what would be checked during such an audit?

S: I’m not sure that’s the case because I think whenever we have auditors in they have often come from that very same background and so they know the tricks that can be used and I think they interview and check through such a cross section of people that any inconsistencies will soon be brought to light. Again all that helps us in that we know that if we have to have a very secure operating environment in that we can’t just give domain admin out to anyone because of the access it would give them all data and information. It gives us very strong and strict guidelines of how to manage our security as well.

I: Do you think… potentially in a pretty short space of time IT could come under an internal audit, an audit by a government body and externally appointed organisation.. do you think there is an effect on resources in terms of meeting those audit requirements?

S: Definitely, I think having auditors in is a huge overhead because of the dedicated time you have to give them and that does clearly take people away from their day jobs and the audits tend to go on for a sustained period of time. It’s not just a day or two, it’s a couple of weeks. IT middle management in particular are more or less taken out of the picture for that whole period because they have to be 100% dedicated to the auditors that are in. So yes that definitely is a resource overhead.

I: Do you think there’s a solution to that? Do you think there is a better way doing that then auditors coming in and IT essentially being on the front line for a certain amount of those requirements?
S: I don’t think there is a better way to do it. I think by the very nature of what they do that the audit has to be as random as possible with the minimum amount of notification so I don’t think the answer is to say: ‘Tell us every audit were going to have over the next 12 months so we can plan for it’. I think that defeats the object. So I’m not sure there is a better way of doing it and clearly the business relies so heavily on technology these days… I mean it couldn’t function without the technology so the technology portion of the audit has to be at the front line.

I: How do you feel that IT in financial organisations as a whole suffer as a result of regulatory compliance?

S:… I’m not really sure.

I: Well to give you an example to get the ball rolling there are complaints that as regulatory requirements pile up more and more pressure is put on compliance groups to meet those requirements and due to limited resources they are now tending to turn to IT for technology solutions further stretching already stretched IT manpower and budgetary resources.

S: I’m not necessarily sure that every time something like that comes up that the budget has to be provided by technology. I think the business has to take ownership of that if that’s an area where they want to operate in and part of the rules of operating in that specific trading area or functional area of business is that they have to meet a new compliance or regulation then the business has to fund that as part of their budget to setup that new business operating model. And as part of that they should come to technology and say ‘here is something we need to do and it’s going to require setting up 10 servers with this new piece of software or hardware because we have to fit into certain guidelines’. I think all that has to be budgeted. The resources, the technology budget has to be put in as part of that project of setting that business up in the first place.

I: So you feel if the business wants to work in that area then that’s the cost of doing business.

S: Exactly.

I: And do you think that when the business comes to you with a requirement like that, that there’s room within facilitating that requirement for IT to be innovative in the solution they deliver?

S: I think so. Given enough time then definitely but it’s that challenge isn’t it? It’s the time aspect of it, it’s… when is IT brought in to give their opinion or to give their input into that or is IT brought in at the 11th hour where they have to go out to the market and buy whatever botched off the shelf solution there is to meet the deadline because they haven’t been given enough notification.

I: Do you think that really comes down to the culture and compliance management within an organisation?
S: Yeah I think so. I think again it comes down to the fact that the realisation while it may be happening slowly is that everything has a technology aspect to it and the sooner that they see it from both a business and a technology solution perspective the better the solutions will be.

I: Yes, I recall… I was reading an article that the CEO of Goldman Sachs during an investor relations meeting said that they were an technology company not a financial institution and that their job was to deliver technology solutions to their clients.

S: Right.

I: What level of support do you there is available to IT in financial organisations to understand and enact complex regulatory requirements?

S: I don’t know. My immediate answer would be that I don’t know if there is any available and that were just given a problem and told to go and solve it. If it does exist I’m not aware of any channel that we could have with the FSA to say ‘Well help us here. What have other companies done or what’s your guidance on what the right technology solution would look like?’. My understanding is it’s… here’s a problem and find a solution for it.

I: Do you think that it would be useful to have that kind of support?

S: Most definitely because then without having to go and find out yourself you could have a channel within the people who are writing the regulations to say: ‘Right here’s a new regulation, here’s when it needs to be enacted buy and by the way here are some companies who can provide a solution for it’ or ‘Here’s what other institutions are looking at’ and that way at least you can be confident in that what you’re doing is seen as almost an industry standard rather than each bank going out and creating their own.

I: Which seems to be the case considering some banks go so far as to patent their solutions…

S: … and then sell it to other organisations for the same problems.

I: Just flipping this around what level of support do you think is available to compliance and operational risk to understand the technological aspects of various regulations?

S: From the FSA or from us internally?

I: From us internally… for example the op risk and compliance groups here would be fed information on an upcoming regulation. Do you think there is ever any clear line of support to help them understand the technological aspects of those regulations?

S: I think their first point of contact would be the technology manager and I don’t know if the level of support that he would provide is what they would possibly need because it would be something he would have to go out and investigate himself. Again it draws me back to this whole compliance /technology officer who can be that bridge between the two and who would have that
understanding and would be able to work with the technology manager to come up with a stable solution.

I: Last question, what aspects of the current compliance and regulatory structure do you think could be changed to facilitate IT innovation in the finance sector without of course impacting the integrity of those laws?

S: So when you talk about the structure there you’re talking about my organisation?

I: To a certain extent the structure of the organisation but also existing regulatory requirements such as SOx and Dodd-Frank and MiFID. An example I suppose would be there’s a complaint that different regulations are requiring sometimes requiring conflicting standards or duplicate reporting.

S: I would have a consultative body with the FSA where they bring in representatives from each of the financial institutions to talk about these challenges and try and streamline their requirements. So along the lines of where one regulation says we only have to hold data for 14 days and then MiFID says you have to hold it for 5 years yet none of them I believe are true rules it’s just guidelines and how do you interpret those guidelines?

I: So you think that what would be generally helpful at a company level is a technology representative with their feet in compliance and regulation then at a higher almost government level that there would be a voice there for technology as well.

S: Yes, and maybe these sessions do happen I am not aware of them and if they do then they need to be more openly pushed. I think when the regulators are trying to come up with the idea for a new regulation maybe have a consulting body to say here are the implications of enacting what you think needs to happen. Is there something out there today which could help organisations meet this requirement or would it have to be engineered and what is a realistic timeframe to have that engineered? Rather than the FSA just saying here’s a new regulation and this is when we want it implemented by without understanding that the implications of that are to the various institutions that have to apply that policy.

I: And do you think that part of the reason that that might happen is that often these kind of regulations... and excellent examples are SOx and Dodd-Frank... come as knee jerk reactions to events in the banking industry such as the recent financial collapse. These regulations often get rushed through without really consulting with the right people.

S: I think you’re absolutely right. Let’s be honest everything the government does is generally down to a knee jerk reaction to a new problem. But I think they should learn from that and say ‘OK we has a knee jerk reaction, we implemented this policy. Institutions had to rush in a solution and that solution may or may not have been the right way to go about it however had we taken a more consultative approach and given it a longer lead time then maybe the end result
would be a lot better and meet the true requirements of the legislation a lot better than they have’.

**Interview 3:**
24/07/2012

Subject: Head of EMEA Service Delivery – Multinational US Financial Institution

I: What challenge does IT in the finance sector face in order to meet compliance requirements?

S: I think one of the first challenges for me is understanding and getting any sort of clarity around what the requirement is. Most organisations don’t have groups that maybe focus on specifically technology compliance issues. You have very focused groups around business compliance but from an IT perspective… as an example data retention, email records… the policies are written in a very grey way typically so a lot of policies will refer to ‘data’ but
then all organisations break down their data so you end up with 20, 30, 40 different categories of data and each one may have to be treated slightly separately. So for me any IT request is very simple: you start off with a requirement you then plan, you build it, you implement it. When it comes down to anything to do with risk quite often your requirement is not really understood.

I: And do you think the reason for that might be that IT aren’t brought to the table as early as they should be?

S: No, I don’t think it’s really so much of an IT issue. I think it’s more around the policy makers typically don’t really have a clear understanding of the implementation aspects of what they write.

I: I see and do you find sometimes as well that some of the requirements are conflicting?

S: They’re ambiguous I’d say. So typically… it’s interpretive and when you have something that’s interpretive banks typically go one of two ways... and it’s quite interesting actually… if you look at the credit crisis of the last 3 or 4 years a lot of that has been because grey has been interpreted as can do by a lot of institutions where as my organisation typically (and this is interesting) takes the exact opposite approach normally which is why were so slow to do anything… anything grey for my organisation is a don’t do. Some banks can use grey as an opportunity to do things maybe they shouldn’t be doing. So my organisation for example… if you look at our data retention policies we have implemented a policy that is probably way in excess or outside of what is required. And it’s a good example, MiFID may say you have to keep data for 7 years but were only keeping our email data for 3 years… where are we with that? Is that because it’s not considered transactional data? MiFID hasn’t made it clear what sort of data it’s talking about. Any data that relates to a client conversation... a client bill… that may have to undergo different archiving criteria for example. I think generally it’s the lack of understanding or clarity around what you’re having to do that makes it hard to really operate.

I: And talking about data do you think that when you are trying to enact this kind of stuff that data quality is an issue? There was a survey done in 2009 that said that 58% of US finance companies CIOs considered their data quality to be average or worse and that effected what they were able to do in terms of retaining data in line with regulations.

S: I think the key there is… I wouldn’t say so much data quality… its more about data organisation. If you have a structure around your data then you can police it and we do that very well in technology through structured databases, through folder structures… we don’t just have everything dumped everywhere but then you do get into this grey area when you look at the increasing amount of what I’d call unmanaged, conversational, casual data in an organisation. Every time you open up email, communicator, general shared drives that sort of thing… anything you do… if I’m inputting an transaction into IBIS or whatever that’s fine, that’s very clean, very structured you know that that data is only IBIS data and there nothing else mishmashed in with it right? So you’ve got a very clean view of what that is and if there’s any regulation you want to
apply specifically you can do that right? You know who the customers are, you know what the
data is… you’ve got structured data, no problem. But interspersed with that you may have mail
conversations or IM conversations or other documents just flying around. They’re what I’d call
loose… how do you manage that? You can’t, you can’t manage every email you send. You can’t
manage every message. And add into that voice conversations. And the policies I think are still a
bit archaic in that they assume everything is very structured in technology whereas actually as
you get more into it… you look at comms, you get into the cloud… a unified communications
platform where everything is a bit of a mishmash right? It’s very hard to control it. SO that for
me is probably where the challenge is… and on the other side of that then we don’t have
compliance and legal people (in my bank anyway) who have any idea or any experience of data
regulations. We don’t have specialists in region.

I: There was a question I was going to ask a little later but I think its relevant now. What level of
support do you think is available in financial institutions to compliance and operational risk to
understand the technical requirements of the regulations that need to be enacted?

S: It can obviously vary from bank to bank. If I look at my organisation one has to be concerned.
We are a very US centric bank and have no idea of those sort of issues in international. You may
have to sort of regionalise it… you need to match your skill with the location so if you’re in a
bank and you’re dealing with maybe 50 different jurisdictions or maybe more globally how do
you manage it. You basically get into doing a risk based managed approach to it. So you say
‘Well we have this stuff in Egypt but we can’t really afford to pay full time compliance or legal
bods out there’ so you may take a bit of external council but that’s very interpretive generally. So
the policy doesn’t change, it doesn’t matter if you have a 1 person or 1000 person office but most
banks will if you like weight the resourcing they have around the number of people so the more
staff or business you do in a particular region the bigger the likelihood that you have more
focused compliance resources but even then generally my experience has been that risk and
compliance is still very much business/operationally focused, it’s not data/technology focused.

I: And do you think it would be useful in that kind of a situation to have a presence in the
company that was part technology, part compliance. Somebody to liaise between the two
groups?

I: I don’t think they need to liaise. I think it’s important that there is somebody with a strong
technology/compliance or data/compliance background… in my organisation we have those
people but we are quite a US centric company despite being global and these people don’t think
outside the US… they don’t have the exposure. I think it’s just a matter of having people in an
organisation that understand and have exposure to that speciality. And what surprises me is that
you would have thought that… the information… if I do study for one bank, if I understand data
compliance – the ins and outs across the board. What’s good for one bank should be good for
another bank right? But it’s very hard or at least I have not been able to tap into say 3\textsuperscript{rd} party
knowledge or opinion… you would have hoped that you could have actually paid 5000 pounds
or whatever to get your UK data compliance black and white off the shelf of what you can and can’t do. It doesn’t exist from what I can see. Every bank still operates in a very interpretive manner which is quite strange… you would expect some similarity. I think it all boils down to: policy is grey quite often which leads to a lot of variation and interpretation of that policy so someone coming from one bank into another bank… their view may be treated totally differently. So you get a compliance office in bank A saying you must do this or that. Their risk process will disagree with that saying ‘it’s ambiguous… we’ll go this way’ but if they go to another bank it could go totally the opposite way. That compliance person has the same view right? It’s like legal people, they have an opinion… different banks will just interpret it in different ways depending on how they manage their risk. I might be wrong, I haven’t read through data regulations in detail but from what I’ve tried to find out when it’s come to issues around data compliance it’s a very grey area sometimes.

I: Yes and that’s the point of these interviews it’s about perception and your view. How do meeting compliance requirements affect your overall operating budget?

S: It’s hard to answer because I don’t see or control that. I would say a significant amount though. It’s hard to know what we spend our money on… my organisation spends a lot more on risk based remediation than some other banks because it sets its internal bar very very high.

I: Well if you look at what organisations spend on BCP sites, data remediation – replicated servers, backup tapes. Would you see that as spend for meeting compliance requirements or is that spend for business as usual?

S: I think for me things like BCP… sometimes its regulated compliance, sometimes it’s pure operational need or want…

I: There’s a requirement in SOx for some sort of business continuity solution… how far you ratchet up that solution… do people work at home with laptops (a cheap option) or do you setup a hotsite (a more expensive option)… where does that decision happen?

S: That’s a good example, it comes back down to the interpretive side of it. SOx will say theres a requirement to have a business recovery… what does that mean? You can interpret that 101 ways and that comes back to… lets wind the clock back… I would certainly say over the last 5 years, maybe more the pendulum is moving from banks interpreting compliance requirement as ‘let’s do the absolute minimum’ to ‘let’s take this a bit more seriously and up the ante on how we interpret this’ so you will find that banks have gone from 2%-5% of coverage seats in a DR site now we may be looking at 10-15% which is still woefully low but because you’re not told you have to be able to sustain your business… 50%, 70%... how do banks want to interpret it. Some banks may not want to maintain business… they might shut down if they have a DR event other banks may say they want to run 100% throttle. You can interpret those requirements anyway you like but most banks are raising the bar themselves around interpreting those requirements more accurately and realistically rather than using that greyness to as little as possible or take as much
risk as possible. I think the pendulum is moving to say ‘let’s use that grey to set our bar higher’. I think internal people are using that greyness to pressure the board to raise the bar not lower the bar to take less risk rather than more risk.

I: Do you think that in some ways particularly now that there’s more of an emphasis on compliance that IT and financial organisations as a whole are benefiting from it. Do you think that by being compliant organisations can develop competitive advantage by being more compliant or enacting regulations faster or better than competitors?

S: The answer to that must be yes. It’s interesting how it may manifest itself. As an analogy everybody is a good driver until they have a crash so you don’t really know… every bank can say they are compliant and a client wouldn’t know if I compare BoA to JP to Citi how do you know? It’s only when a bank has a crash in that area that clients may scrutinise that… there’s no way of rating a banks internal compliance is there?

I: Not that I’m aware of.

S: You don’t get a rating around how good or bad you are.

I: You can get a SAS 70 done or meet ISO requirements or something like that…

S: Yes but all banks do that and they’re all the same so what does that mean? A lot of it’s a self-certify thing. SAS 70 auditors never look at data compliance issues or anything like that. They look at process typically but they are very poor at looking at regulatory data compliance. Is there such a thing as a specific regulatory data compliance/technology compliance audit?

I: They tend to be auditing against what the organisations interpretation of the regulation is?

S: Yes, most auditors are auditing against your internal processes typically. But they never step back to say is that correct in the first place? They’ll say ‘do you maintain backups?’… ‘Yes’… they don’t dig into your management of those backup or the policies because they themselves probably don’t understand what the requirement is.

I: So you reckon it’s a little grey from the regulatory side and then they might have difficulty with their technological understanding of it as well?

S: Absolutely, this whole thing of things being grey is a key problem.

I: Do you think that maybe to a certain extent that fuzziness in the law was something banks wanted or lobbied for?

S: I don’t think the banks would have lobbies for it. I just wonder if the people that write the policies ever jump the fence and work on the other side. You need to have exposure on both sides to really get a feel for the issues. When you write something you really need to hand it to someone else and ask ‘can you understand that?’ and I don’t think from an implementation point
of view that happens. Another example is if you look at tax… it’s exactly the same, it’s so
interpretive of what you can and can’t do… it’s just hard. You don’t have a solid requirement. I
would… the best thing for anybody in technology is just black and white. You can do this you
can’t do that but the worst thing is just having an idea, a notion because everybody will have a
different view on what that should, can or can’t or needs to be. And that’s what gives us the pain.
And we are spending an increasing amount of time and money and effort on compliance/risk
related activities, that’s for sure. And I don’t know whether its 5 or 10% of our budget but I think
we can safely say without doubt the amount of time technology - certainly on the infrastructure
side – On risk and compliance related activities is significantly increasing.

I: And how do you feel that meeting those requirements is effecting your manpower resources in
terms of your ability to support emerging projects and other business requirements.

S: Significantly, for example we are right in the middle of two M&A integrations, some office
moves yet I get more mails every day about windows audits, RBR or… its intense the effort
people put into it and the compliance regime seems to just cut through everything. It’s not neatly
dovetailed into the organisation and I guess the organisation isn’t structured to accommodate it
because really we should have people on the infrastructure side that are dedicated to supporting
risk and compliance based activity and were not. SO your trying to do business as usual, your
trying to do projects and then you have compliance and risk cutting across all of that. It’s just
added if you like another discipline. If you look at technology you’ve got your hardware,
software, applications, infrastructure but now there’s this huge new area. My infrastructure
ingineers don’t manage servers... servers manage themselves. My SA’s spend their days running
remedy reports, looking at adding new layers of control products onto servers. It’s a new
discipline and its quite interesting as it’s just so new. I think we’re looking at a generation of
people that aren’t tooled up.. they haven’t come through this type of discipline so therefore its
quite hard for them to understand what on earth it’s all about. I think you’ll find we’ve got not
enough focus and skills on the actual support side itself from a compliance or legal or regulatory
point of view. We don’t have people who understand the technology-compliance issues very
well, they’re not focused around them. If you talk to anybody in compliance… none of them
have got a specialism in data or technology. They’re great around business compliance… AML
or whatever but if you ask them ‘what’s your view on data privacy issues?’ or ‘what’s your
record retention view?’ they wouldn’t have a clue.

I: … and it’s kind of left to IT to sort out?

S: It is but that’s where we need to be careful because I think most technology people wold say
’that’s not my domain’ and it goes back to this: My background is in managing and providing
infrastructure support and providing application support I cannot express a view on the actual
compliance or on the interpretation of a regulation. So most technology managers are not skilled
or tooled up to perform that role so they rely on… so heres the gap, the business relies on
technology to have that skill and we don’t. Technology is sort of saying ‘that’s not for me, I’m
expecting you to provide that interpretation. Tell me what to do’. So technology are sitting there saying ‘tell me what to do’ and the business are saying ‘your technology you should know’… you know what it’s like, if it’s got the word technology in it your assumed to be the expert – I’m not. I think its if you like in a way best describes as… there’s a new bubble growing in certainly financial institutions which intersects technology, business, legal compliance, risk and the skills for deployment and interpretation need to be in that bubble not the technology bubble. Technologists should be implementing and managing not necessarily interpreting regulation. You may find a few technologists that do get out there… for example what you’re doing, you’re showing an interest in this whole area and maybe you are if you like the embryo of a new breed of technical people because that’s a skill and a area that we just don’t have.

I: Do you think that kink of knowledge could be a job requirement for technology people in the finance sector in the future?

S: Absolutely, we see operational risk is already a big part of an organisation. Technology risk tends to sit in the technology side but in that case we are managing very clearly defined risks or risks that are just 100% technology related. For example intrusion risk management or virus risk management or access controls are things that… the actual root of the problems is technology itself. Therefore you can manage that from a very technology focused area. Where it comes into this interpretive thing again (and I’m sorry for going back to it so much) but as soon as there is some form of interpretation required then you get into a non-technology driven aspect.

I: What aspects of the current compliance and regulatory structure do you think could be changed to facilitate IT innovation in the finance sector without of course impacting the integrity of those laws?

S: Well I think most banks have a strong remediation culture in them, typically were always remediating risk after the crash has happened. SO were all very good at doing thing after the event but it’s hard to… can technology and innovation… is there stuff out there that could be helping? New platforms, new means of data tagging or archiving or storage. There must be things out there that ultimately would help. It’s interesting, some of the technology innovation itself is also creating more grey matter. As we virtualise more, as we go for maybe cloud based environments that makes things from a regulatory view very hard. Because then you separate the physical from the logical so innovation… well I don’t think the regulators sit down and follow the trend and say ‘our regulations should take into account where technology is currently heading’. It’s quite parochial in its approach, its regional, its country, its jurisdiction based. But then your technology assets are not.

I: And do you think there’s a risk that technology could exceed the regulatory and compliance structure?
S: I think it probably already does. I think in most banks and financial institutions where you have such a diversified portfolio of assets and services that it’s hard to think that you’re not breaching regulations somewhere all the time.

I: When you were mentioning regionality there do you feel that being based in the UK you are focussed on FSA regulations whereas your head office group based in the US would be more concerned with US regulations and be pushing that down to your group?

S: That’s very much the case in my organisation. The whole emphasis is on US regulation so the will and the want to understand local regulators is not very strong. Its strong from the business side but not from the technology side. Getting back to your question on what could be changed… I think to me it’s all around the regulators – from my point of view – parochial view of the world. I don’t think when they regulate they take into account the typical global-virtual nature of what most banks do. I think that a lot of the policies should address the issues of classification, location, purpose specifically.. I just feel there are very few places that are accessing local data. If you look at my organisations rep office they are all accessing data in the US… it that legal? I don’t know. We probably do 101 things that are not right but I don’t think the regulation is written with the way we implement technology currently in mind.

I: So you think there needs to be a greater emphasis on classification and location of data and how data is managed?

S: I think there needs to be a much better awareness of our typical global infrastructures and then if a policy maker has that map in front of them would write or word the regulations in a more clear manner. As soon as I read any of this stuff… you can ask 101 questions. Like everytime you read the work data: ‘What do you mean by data?’. They just don’t seem to write it with any comprehension that it’s not as simple as that. We don’t operate in a world where I’m in England, my users are in England, my data is in England and I’ve only got one type of data. So if you like, I think as organisations become more global doesn’t the compliance need to become more global as well? The US for example… all of the application access for people in my organisations branches is back to data centres in the US. Do you honestly believe that the guys in the US when they look at IBIS or Calypso data consider that they have people in 20 locations inputting into this database each with maybe separate requirements around data protection, archiving, BCP SLAs? No they don’t… is that wrong? I don’t know the matrix becomes very complex right? You get into this sort of out of sight out of mind scenario when you’ve got remote cloud type data which is a worry. So you’ve got an applications that’s located, owned and managed by a team in the US and you’ve got people here or in other places accessing it. Each of those may have a different view on the regulatory requirements of data or access into that application. Maybe the regulators don’t care but the regulations are so grey we don’t really know.
Interview 4:
25/07/2012

Subject: Head of International Service Delivery – Multinational US Financial Institution

I: What challenges to IT in the finance sector face in order to meet with compliance requirements?

S: Well I think there’s a couple of things. Like most of the things we do it’s really about balancing the drivers. So what I mean by that is when we do solutioning we have to balance out what the business need is, what the operating efficiency factor… you know… operating expense implication is. What does it mean from a longer term strategic planning perspective. As you
know when we think about this its multi-dimensional. My organisation has internal company risk policies and they’re more stringent than any government regulation and then we have regulatory drivers or pressures. So in terms of the challenges it really about making sure that we are considering all of these drivers when we solution. Compliance requirements actually just become one of the drivers.

I: OK, and do you feel that in that kind of a situation that you are always necessarily brought to the table at the right time to do that kind of balancing or do you feel that sometimes IT are brought in at the last minute and just given a problem to fix rather than being fully engaged?

S: I would say that is always going to happen but generally speaking if you’re talking about compliance requirements that rarely happens. And the reason is because my organisations culture is very risk centric so we have a lot of resources whose job is to make sure we really understand the evolution of compliance requirements, new laws and all those kind of things so it can happen but it happens more often with a business driver. The common thing is we do get surprised by new business drivers… that’s just normal IT… but we don’t get typically surprised by new compliance requirements because there is just a huge amount of focus on that. The exception would be if a country passes a law and we don’t have a huge presence there and we weren’t really focused on that we could get surprised.

I: And do you think that’s a strength that specific to your organisation or do you think that’s something common across the board in banking institutions?

S: I think my organisation is a leader in this area without a doubt. I think other organisations are moving in that direction because they have to. So as a use case perhaps… all you have to do is read the papers. I would throw out there: Barclay’s Libor, HSBC’s lax terrorist compliance so my organisation is absolutely passionately in the lead in this area but that’s the direction for all financial services. Every time there is a scandal it will result in new compliance regulations and they will adapt and adjust.

I: I agree, especially if you look at HSBC, they are potentially looking at a fine of 1bn dollars which is huge.

S: Exactly and so my organisation is like obsessive compulsive about risk because that’s just our company culture but the industry is moving in that direction because they have to. They’re being forced to.

I: With that in mind how do IT and financial organisations as a whole benefit as a result of regulatory compliance? Do you think that the way in which your organisation goes beyond simply being compliant with the letter of the law and being really pro compliant and having it worked into your organisations culture could potentially lead to a competitive edge for the organisation?
S: Absolutely, and if you had asked me this question 5 years ago I might have answered differently but in today’s markets this is a huge competitive advantage because if you look at today’s competitive landscape my organisation is fabulous standing in my opinion largely because of how we look at compliance and risk so it’s becoming a differentiator. We are trusted, we don’t get in the middle of scandals and by having such a rigour around risk we are able to talk protect our customers, their financial information. We’re not the bank that’s going to be losing billions of dollars because we didn’t have the right safeguards in place. We work really, really hard to be able to make that statement. And the other side of that is I do believe that because we have to adhere to regulations it’s forced us to be more innovative… it’s another pressure that drives some innovation as well.

I: Could you give me an example of some innovative projects that might come out of regulations.

S: That really depends on the company, its culture and how it manages regulations. Usually the innovation comes when you have to meet a business need and you work internally and with your vendor partners to architect a solution that meets the need. It where IT adjusts the way technology is deployed to meet regulatory requirements and that ends up having greater lift either through an operating expense reduction or the product we are able to offer to our customer.

I: How do meeting compliance requirements effect IT’s overall operating budget? Does it have an impact on the non-discretionary spend of IT?

S: Absolutely, we have projects we have to do in response to regulatory drivers and that absolutely has a big impact. On the other side because this response is institutionalised if you will its factored into budget planning so it’s not a big surprise every year but it is a big part of our budget.

I: Do you think as regulations like the BSA expand and evolve and the requirement for more and more data storage is required… do you think data storage, management and redundancy is a major part of that budget?

S: Yes, I think you have to be careful though in that regulatory changes are major drivers to operating expense growth and that naturally puts a pressure on net revenue but I don’t think data requirements by itself is the lions share. It’s a big part but you have to match whatever the pure technology solution to the regulatory requirements is with the associated management of that and that actually can be as big or bigger. For example we’ve got to manage or store data for a longer period of time on the other side of that there is always the policies, people and processes to manage that. And that can create these big organisations and their sole responsibility is managing the compliance of that data.

I: So the impact is more on manpower resources than operating budget?
S: Well it all impacts the operating budget. The first and most obvious cost to me is with the technology solution but I would say the people and processes you have to add to manage this going forward are a bigger factor. The technology costs are all up front but the people costs are perpetual.

I: So would you say that when a business moves into a new area which requires new regulatory compliance which requires some sort of an IT budget that cost lies with the business but when it comes to the ongoing manpower costs to manage and maintain this solution does that cost end up sitting with IT?

S: Well if you think about it from a company perspective nothing sits with IT. If you look at my organisation, all of our costs are pushed back out to a business line. Some of that is direct allocation of costs like 1st year project costs and some is indirect or ongoing costs these all get pushed out to the business 100%. The technology and operations group is a cost centre not a revenue generator. So when I meet with the business quarterly I have to give them a breakdown of their costs so when there’s a new regulatory requirement and we as a company figure out what that’s going to cost we then tell the business what their direct and ongoing costs will be and they have to factor that into their product pricing.

I: Do you think that IT and financial organisations as a whole suffer in any way as a result of regulatory compliance?

S: I wouldn’t say suffer. I would say there’s an impact and the question would be when we look at this from a historical distance would we say that the impact was positive or negative from a holistic perspective. I think it’s important to understand that [my organisation] doesn’t consider this. We don’t consider it from any one perspective… an IT impact or a business impact… because it’s all one. Its ‘what is the impact to the organisation’. Certainly there’s an immediate and direct impact in terms of how much of our operating budget do we need to allocate to address those but on the other side there are positive impacts as well, the ones that we’ve talked about. So I don’t think at this juncture I could weigh in on whether it’s positive or negative because I think you have to have some distance from a historical perspective to weigh in on that but it definitely has some kind of an impact. Both a positive and a negative one.

I: And have you found that over the last decade or so as banking regulations have become more stringent and more and more pressure is put on compliance groups to meet their requirements for example the suspicious activity reports compliance need to log as part of their AML function that they turn more and more to technology to meet these requirements without increasing their manpower resources?

S: Absolutely, we are constantly looking at how we can be more efficient and still meet whatever the requirement is. It’s: what’s the requirement? Then what is the most efficient way for us to meet that? And it’s probably worth noting that when we do that we do it very much in
partnership with the regulators to make sure whatever efficiency changes we would like to deploy we are still meeting the intent of the regulatory requirement?

I: And do you think that that is another way aside from supporting the business that IT can be innovative as well? In finding those kind of efficiencies?

S: Yes. It’s easy to look at this and say the compliance is a burden and actually there’s a fine line. You have to consider and have some faith that the regulatory requirements are healthy, that there is a good reason for it. I think the danger is that if a regulation is introduced and it doesn’t have value that’s kind of a scary proposition. We will obviously adhere to it regardless but that’s the kind of danger with new regulations. Its: what are they solving? But we will continue to innovate and that space and meet whatever the demand is regardless of the source or inspiration of the regulation itself.

I: Do you find that often major regulations are brought in as a reaction to some major event in the industry. If you look at SOx or Dodd-Frank… usually it’s a reaction to an event. And these regulations… in the heat of the moment… tend to be rushed through. Michael Oxley for example mentioned about SOx regarding its rush into law that he would have done things differently. Do you find that there’s ever any room to learn from the mistakes of these laws, go back and say ‘we may have rushed this in and while it is obviously needed and valid that it needs to be reviewed and we need to provide clarity and help around it’?

S: Well, this is where you have to consider how many countries there are on the globe. Every country… the way that they legislate is different so I don’t know if I can give a sweeping response to this but I can speak from a US perspective and maybe a European one. First we work to be engaged from a legislative perspective in terms of understanding what is being crafted and providing thoughts on impact. Once a regulation is passed it’s not normal for that regulation to get adjusted. In fact it’s like taxes, once the implement a tax it’s yours forever. However I have seen regulations repealed and adjusted it’s just not the norm. So I think that’s actually the danger – and this is my personal opinion – when a regulation is implemented the people that work in the legislative bodies in whatever country… they are legislators, they’re not IT people, financial services people or business people and so while they get input from experts these are legislators. They will implement the legislation as they see fit for better or worse and I just rarely see these regulations adapted once they’re in. It does happen but it’s not an everyday occurrence at all.

I: And do you think because there is that difficulty in repealing these laws that is why they often have so much ambiguity and grey in them. Allowing them to be open to interpretation allows some looseness in what may be for want of a better word a poor law?

S: I think that is very dependent on the country. If I compare and contrast between the US and India. Indian laws are the most ambiguous I have every run into, it allows them to enforce or not enforce depending on what is going on. That’s really hard to manage to. I would say US and European regulations are much less ambiguous however they probably still have some ambiguity
but the comment you just made about companies interpretation: that I believe is very much based on the company’s tolerance level. So the regulation is the regulation but a company’s culture around dealing with regulations could lead them to view it as more ambiguous than it really is or less ambiguous than it really is based on their culture.

I: So maybe a lot of organisations that complain about these kind of issues with regulation (and I would take your organisation to be an exception to the rule) they tend to be more of a cultural and compliance management issue rather than a problem with the legislation itself.

S: Yes and a good example of this is the recent major merger my organisation went through. When two companies come together with a very different risk tolerance lever you can spend years changing things to align to the new risk profile and I constantly run into vendors who – and we have very stringent internal policies that are not even regulated – say ‘you don’t really have to do that’ or ‘JP Morgan isn’t doing that’ and we don’t listen to that at all. That created unique challenges because we always take the conservative analysis.

I: I was interviewing someone else who made a similar comment. If you look at other organisations so – JP Morgan is doing this and BoA are doing that then very similar to what happened in Ireland you get one organisation that takes a pretty loose view of the rules, makes a lot of savings, passed those savings onto their customers in some way which in turn leads to them acquiring more customers and then other organisations are forced to follow them down that slightly grey path. Then you end up with the kind of banking collapse we seen in the last few years.

S: Yes, and this is where I’m quite proud to say – well it’s almost like being a parent. Your kid will say so and so’s mom is letting them do this and I say I don’t really care what other parents are doing that does not affect my decision. My organisation has a stringent culture and when a vendor or someone on my team says to me so and so is or isn’t doing this… we don’t care.

I: And what level of support do you think is available to IT in the finance sector to understand and enact complex regulatory requirements?

S: Yes absolutely, my organisation has a dedicated operational risk team in technology and their job is to work with corporate legal and risk teams who are working with the legislators and its their job to make sure we understand not just what we need to do but why we need to do it and then if we have any questions about how we can do it.. that’s what they do. They’re also the ones that are constantly looking at what we’re doing and questioning.

I: Do you think that’s unusual in comparison to other institutions?

S: I think other institutions have risk teams. I think we probably have a very robust risk structure compared to other companies – yes.
I: Technology people from other companies, when I ask them what they would like to see changed within their organisation to help them meet regulatory requirements they often say if they had a group or person within the organisation that had one foot in the compliance world and one foot in the technology world that was able to translate regulations into a language they understood and allow them to see the larger picture involved in implementing these regulations – that would be something they would find useful. This gave me the impression it was not something you would see very often.

S: That’s very interesting – absolutely we’ve got a large risk group at the technology operations group level and then every single division and down have assigned risk folks. We are very well staffed there I think.

I: Going the other way. What kind of level of support do you think there is available to compliance and operational risk to understand the various technological aspects of regulations?

S: Well as I mentioned we have technology risk groups these folks along with the risk people on the business side as well we are embedding in every single functional area in the company so technology and operations risk and on down and the people who are staffed in those positions have both disciplines. They’re people who have technology backgrounds and they have risk backgrounds.

I: Finally, what aspects of the current compliance and regulatory structure – not necessarily within your organisation but in the compliance/regulatory risk environment as a whole – would you like to see changed without of course impacting the integrity of the laws?

S: That’s a tough question. What could be changed from the regulator perspective or from our perspective?

I: I think both – overall.

S: That’s a difficult question. If there were fewer constraints around the geo political reality then – and this of course couldn’t count towards private data but if there was a global data consortium of some kind. Unfortunately I don’t ever see it happening because data is very much a national issue and countries look at things differently and are going to enact legislation based on their countries factors. I think it would be a step in the right direction if we could get to some kind of regional consistency and refinement in terms of regulation which I see from the EU etc. Regulation is very heavy in terms of volume of discrete requirements and if there was a way to refine that to still meet the intent but rather than having 50 regulations on a certain topic you had 10. Do you know what I’m saying? I do think there an efficiency between groupings of country if you think of outliers… I call them this not in a negative sense but if you think of Brazil, Thailand, Russia, India… they don’t … achieving that level of consistency in my lifetime would probably be a stretch but it would solve a lot of problems, consistency would make a huge difference.
Interview 5:
25/07/2012

Subject: Chief Compliance Officer – Multinational US Financial Institution

I: What challenges do IT in the finance sector face in order to meet with compliance requirements?

S: Well I can’t speak on behalf of IT.

I: What I mean is – when you are liaising with IT what difficulties do you perceive them as commonly encountering?

S: Well in order to comply with our rules and regulations we need information – we rely a lot on management of information and that’s were our connection is with IT I suppose. To make sure we have adequate information and processes in place so if we have to scan customer lists to
check for sanctions we can comply with our regulatory obligations. It’s important that we have
good systems we can rely on – more on the finance side where they need to do regulatory
reporting but compliance as well. We rely on a lot of the source systems IT manage and maintain
to build our reports.

I: On information gathering – do you think that particularly when a new regulatory reporting
requirement comes along that quality of data is an issue? A recent survey of US CIO’s indicated
that the majority felt their data quality was average or worse.

S: Data integrity is a big issue for my organisation. This tends to get grouped under a financial
crime officer these days as it has implications for reporting suspicious transactions to authorities.
Data integrity is the foundation – source of your reporting. You rely on the data for your P&L,
your balance sheet… not just personal data but numbers on transactions and so it would be one
of the more challenging areas. How do you wrap controls around data integrity? Its input,
protection of the data…

I: Do you think that as technology has been developing and emerging over the last decade or so
that in some ways the technology has overtaken the regulations in terms of – now we have a lot
of virtualisation of data so and organisation could be located in Dublin but its data could be
located in multiple locations globally whereas the regulations tend to be a bit localised. They
assume your data is in your office in the country in which you do business when it’s usually not
that simple.

S: Yes that’s definitely the case. We’ve looked at that recently in my organisation from a data
protection standpoint. If you need your head office in the US to have access to your data you can
have problems. If it’s in the EU it’s no problem because we all subscribe to the EU data
protection directive so it’s only when the data is maintained outside the EU – there are still safe
harbours though like Japan, Canada, the states… they’re deemed to have equivalent data
protection standards so you can store your data there but you must have a written agreement with
them that they will safeguard the data. That’s one of the challenges of protecting your data.

I: So it’s not as simple as saying ‘OK we have a safe harbour agreement with this country so we
can store our data there. There is a certain amount of bureaucracy you need to go through before
moving the data?

S: Yes, there are what you call EU model contracts that need to be signed up. Pre drafted
agreements which are acceptable so that if anything goes wrong with the data your organisation
is covered.

I: How do meeting compliance requirements affect IT’s overall operating budget? Do you think
that these regulations in place for safe harbour and so on – the fact that they tend to be in more
developed nations whereas the business might be considering putting their data centres in
cheaper locations with cheaper labour…
S: Such as India?
I: …exactly. That it adds on cost to IT?
S: To meet the regulatory requirements?
I: Yes
S: Yes but if you did set up shop there you would likely be looking at significant extra cost to safeguard your data in that country to get around its deficiencies. You would have to create the standards yourself if the country itself does not have the requisite protection law so either way there is additional cost for the IT function. I’m not sure if many companies would put their data in a country like that.

I: In your experience do you think meeting compliance requirements – whether that be putting the technology in place to meet requirements or dealing with auditors and so on – Do you feel that would engage a large proportion of IT’s manpower resources?

-long pause-
S: Do you mean in terms of onboarding new businesses?
I: Well to give an example if you look at the EU Cookie Directive, there was a certain degree of work that needed to be carried out by technology to setup and meet those requirements and then on an ongoing basis support those requirements. Do you think that monopolises a great deal of IT’s manpower resources.

S: That’s a good example – yes those sort of regulations would. I don’t know how many of those would affect IT so directly like that. I suppose the Electronic Communications Directive, the E-Money Directive… anything that involved the method of communications. Web site law, intellectual property maybe… all of those would have an impact on IT resources… manpower and cost. It depends on the kind of business the financial organisation happens to be in.

I: Do you think that as these new regulations start to pile on, things like logging SARs for the Banking Secrecy Act and so on… as they begin to monopolise the manpower resources of compliance more and more do you think that it is becoming more common for compliance to look to IT for a technological solution rather than throwing more manpower at the problem?

S: Not really, if it was anything it would be storage. You can have a lot of SARs but you don’t really need an IT solution for that, it’s just filling in forms but maybe the storage of it…

I: And what about indexing and maintaining…

S: Yes, scanning, indexing and storage, archiving, retrieval. I don’t know it depends on the volume.
I: When there’s requirement for that kind of enterprise grade storage with IT being a cost centre and Compliance in much the same position where does the budget for that storage come from? Is it pushed to IT or does Compliance go to the business and say ‘We need X amount of money’?

S: Compliance wouldn’t go to the line of business for an expense of that sort. It’s left to IT or other business support functions to work it into their budgets. Although in comparison to other parts of the business Compliance does not generate that much paper.

I: Do you think that’s how it should be? If the line of business needs to comply with a regulation in order to function in a specific region or market then that’s their cost of doing business and that cost should be sitting with them?

S: Yes and definitely not with IT because like us IT should be billing out its costs to the line of business depending on how much time you spend. I don’t know if that’s the case in your organisation. It should be allocated to the line of business and most support functions would bill the cost back through SLAs and so on.

I: How do you see IT and financial organisations as a whole benefitting as a result of regulatory compliance? Is there competitive advantage to be had in being compliant, more compliant than others or getting that compliance in place first?

S: The answer to that is definitely. Not too many years ago people would have looked on Compliance as a cost centre – they used to joke about it as being the business disruption department and now as you can see from all the fines and reputational risk banks have suffered as a result of breeches – HSBC may be fines upwards of 1bn$ for AML failings – the financial company would certainly benefit from compliance. The lack of fines, the lack of onsite inspections (peoples time being taken up by more regulatory intrusion). And it’s not just the fines there’s the reputational risk so financial organisations would definitely benefit. I’m not sure about IT and how they would benefit from the bank being in compliance.

I: Do you think it gives IT a strong argument for much needed infrastructure upgrades and maintenance that might not happen without compliance and regulatory requirements driving the budget request?

S: Yes, definitely. If we have to comply with something and need to upgrade or implement a system to do so but at the end of the day the benefit there is still to the business and not IT directly.

I: Do you think there’s room for IT to be innovative in the solutions they supply for compliance issues?

S: I suppose there could be room for that. I don’t know how you could be innovative without knowing what the regulations were. If I came to you and said we need a solution – for example
sanctioned screening if I said I had a whole bunch of customers and I need to compare those to my sanctions list.

I: So do you think the key to that is when IT is brought on board?

S: Yes, and early on in the process not later. And often IT is not involved at the early stages. There’s probably not a lot of interface between IT and Compliance in developing solutions.

I: If you were to compare an organisation that was like that and one where IT was involved at an early stage, do you think that other organisation would potentially be able to supply better solutions?

S: Well yes I can see an advantage there. Definitely IT should be involved at an early stage when there are major requirement in the pipeline. For example this new US tax act FATCA. I don’t know if there is an IT requirement there but I know in my organisation IT are involved at top of house in the project but not at a subsidiary level… although there might not be an IT requirement in that particular law so it might not be a good example but if there was anything it should really be run by IT but managers don’t always think about doing that.

I: Do you think that the synergy that would seem to be useful between IT and Compliance is not always there because of an issue with the compliance management and culture of the organisation. That there is a tendency for IT to be siloed off from the rest of the organisation? One thing that has been highlighted by the technology people I have interviewed is that as compliance and regulation becomes more and more important (as you said banks are taking it more seriously) they have suggested that there is a new discipline in IT that established IT people have yet to grasp and that is an understanding of compliance and regulatory requirements and speaking that language with people. Some have even gone so far as to suggest that it would be useful to have a representative or line of communication somewhere in the business who had one foot in the compliance and technology world. Someone who could translate compliances requirements from often cryptic laws –like MiFID– into a language IT can understand so they can see the big picture and not have people just come to them saying ‘here is a problem, give me a solution’ but rather having a more holistic understanding of the request. Do you think that’s the case?

S: That there should be someone in compliance who can communicate with IT on technical matters?

I: Yes and that there is also a requirement for IT to now have a greater understanding of regulations themselves. That there should be more synergy between IT and the business.

S: Well MiFID is a good example. It requires an increased level of transparency in trades which means more data needs to be stored and more solutions need to be available to call up that data in the form of reports and IT would certainly need to be involved at a very early stage and
understood the wider picture you could maybe have a bilateral solution rather than being asked for bits and pieces – deliverables for the overall project. So yes IT should be involved early and they should if possible have the full picture available to them. We tackle this in my organisation with the NIC (New Initiatives Committee) – any new product or system we implement goes through the new initiatives committee of which a representative from IT is a member and IT would be included and could contribute at this stage through the due diligence forms we use where IT can raise any systems issues or challenges they might foresee. New products always require a technology solution, there’s always some part of it – particularly in my organisation, there are so many systems… so it’s happening there as part as IT change management and development. But there could always be more crossover and involvement.

I: Do you think it’s a side effect of the way banks are that they are quite heavily structured and bureaucratic and because of that that crossover doesn’t happen as easily as it should?

S: Well if you as an IT person get a request and you ask ‘what’s the wider picture?’.. if you had a request from one person but you know that that linked into another team or line of business and that you could benefit them as well… maybe it’s up to IT to pursue it a bit more. And going back to the other thing you said… the question about the benefits of being in compliance there’s regulatory arbitrage now… well that’s a different thing that’s where Europe would have an easier regulation on something than the states would… what I meant was there are benefits to being in compliance and being a good corporate citizen and all that because you have less oversight from the regulator and less intrusion, less fines, your reputation goes up and you therefore attract more business from high class clients who want to deal with banks that are in compliance… there’s benefits to being regulatory a good citizen.

I: And do you think here are situations where IT and financial organisations as a whole would suffer from pursuing greater regulatory compliance?

S: Well there is a burden.. they do suffer but they have no choice they have to comply but they do… more staff, more requirements… both IT and the bank as a whole. It’s just a budget thing… more work, more manpower requirement that’s why compliance is the most popular hiring area at the moment in EMEA. They are in demand because banks need to beef them up – regulators demand that banks beef them up so there a cost to the bottom line to being in compliance but there’s a bigger cost to being non-compliant.

I: So you think if you need to do business in a realm which comes under whatever regulatory rule then that’s the cost of doing business.

S: Yes, well you could argue that someone down the road is doing that and so they are able offer a cheaper interest rate to clients… but the whole culture has changed from 2007 anyway… that’s how certain banks in Dublin got ahead of other banks and the other banks had to follow them to keep in business but of course you can see what happened by following that track. Everything collapsed, there were short term gains for some at the time but now you can see what the
outcome of it is. Can you point to a benefit to the banks who played by the rules? Hopefully they have gotten more business out of it…

I: What level of support do you think there is available to IT in financial organisations to understand and enact complex regulatory requirements?

S: Well there’s probably very little, I have never been asked for support by IT but then I have never really asked them for solutions to anything. How do you mean exactly.

I: Let’s say for example IT had to enact some sort of requirement – let’s say MiFID’s data retention requirements – and they needed clarity on the requirements? What kind of support do they have to understand and interpret those requirements?

S: Well for my organisation there is nothing formal… I mean my door is open and the support is there if IT need it but there is nothing formal in place if a new reg came out. Of course individuals get training if a new reg comes out but that’s on the regulation. If you are talking about it in terms of developing a solution to implement the regulation…

I: Do you think the difficulty there might start with when the regulations are written. They’re not written by technical people. The people who write them don’t necessarily consider the technical ramifications of what they are asking for…

S: Yes they’re draftsmen – EU people – they’re lawyers, bureaucrats…

I: Exactly, so when it comes to compliance resources explaining that to IT it’s the same problem. They understand the business ramifications of it and how it impacts the business but not necessarily how it impacts technology.

S: Well that’s true but the support is there if IT need it. If something needs to be implemented that IT needs to understand it will usually come in the form of a business requirements document.

I: Yes the requirements usually come as a BRD but again is this not IT being given a problem and told to fix it without seeing the bigger picture? It’s not a resource to give IT to opportunity to get a better understanding of the regulation and potentially offer a more elegant solution.

S: Well the resources are the compliance people themselves. But I do see where the gap is, having said that it’s not often I would go to IT to create a solution to implement a regulation. I might have asked IT where data is stored if we needed to get at it or if there were controls in place to manage and secure it. But going back to your question on whether there should be a liaison between Compliance and IT… well that would be ideal but I would imagine banks would say ‘we don’t really need that, it’s a nice to have but we can’t afford it. We’ll just have the compliance people talk to the IT people’ and that’s generally what happened you know?
I: Do you find – flipping it around – that there’s decent level of support available to compliance and operational risk people to understand the technological aspects of regulations?

S: It’s funny, I was looking at a sanction screening issue yesterday and I was trying to get to the bottom of it – if our on boarded customers were continually screened for sanctions. I spoke to technology people, ops people, even compliance people and I couldn’t get a straight answer – well I get a straight answer but it’s in their particular area they’re siloed as you say. But that’s not to say I think I get a bad service from IT, I think they do a good job explaining but of course I’m not an IT person. It’s two different disciplines and I think the onus is on each side to understand the other in order to get the full picture and I have never found it to be a weakness. You learn from dealing with the other group… when they are saying something what they actually mean. You learn the issues that can happen.

I: So you think the key is open communication… an open door?

S: Yes, it would be nice to have someone in the middle who knew both but lacking that it’s about open communication.

I: Do you think a strong compliance culture can help with this? If your organisation is not simply compliant with the letter of the law but is pro-compliant and has it ingrained into their culture and interactions?

S: Well there is certainly an advantage for people like me. If that’s pervading and the culture is there then I don’t have to knock on doors and convince people. Compliance has a front seat, it’s in people’s performance directives there’s no resistance.

I: Just to sum it all up – and we touched on this a few times. What aspects of the current compliance and regulatory structure could be changed to promote IT innovation in the finance sector without damaging the integrity of these laws.

S: It’s a difficult one… I don’t know is the short answer. The law is the law and we need to comply even to ones we might think are poorly considered. The only thing we as an organisation can do is make more resources available to meet the requirements.

I: Not a very elegant solution.

S: No but I don’t see any other option… I think maybe post implementation reviews of regulations would be useful. They did it for the 3rd Anti Money Laundering Directive and they analyse all that and then I guess when they bring in the 4th Anti Money Laundering Directive they improve on things.
Interview 6:
27/07/2012

Subject: Chief Risk Officer – Multinational US Financial Institution

I: What challenges does IT in the finance sector face in order to meet with compliance requirements?

S: I think the first thing I would reference in the IT sector is a historical data point that may be helpful to couch how I view it. The government is a big buyer of IT and they buy in bulk and they can move a market in that sector. Early in the development of the IT industry the government bought Wang products – I don’t know if you remember Wang products? It took forever to get off of Wang and onto another IT system so when there is an initial outlay whether it’s by the government or an industry it’s a sunk cost. So there has essentially been a drive towards taking existing systems and modifying them. The way I view that from an investment standpoint is that it’s almost as if you are comparing an MPV analysis where your just counting future cash flows back at a discount rate and comparing that valuation or investment decision...
making with an option value analysis where an option value is much more IT the way I look at it because IT is a platform. The whole platform can change – it’s like Beta and VHS – if you buy the wrong platform you’ve just thrown away a lot of money. So a lot of people are reluctant to change platforms. In the regulatory environment if you don’t have a platform that’s consistent with what the regulator is used to seeing then you run the risk that you’re going to be an outlier. If you’re an outlier in a regulated industry people look at you differently. So there’s almost a built in bias towards existing technology. There’s almost a herd effect. So the question is how do you introduce new technology and that’s where I bring in this idea of option values and platforms and that if you pick the wrong platform what happens? One of the questions I always ask is in the market place where I am who has the best systems, best practices and why? In the regulated industry – especially in the banking industry – there’s been a fair amount of consolidation. If you’re a winner on the consolidation side you’re an acquirer. So my position with my organisation is if we’re going to be an acquirer one of the things we’ve got to be looking at is acquiring technology to meet future needs. Now having said that a lot of it is dependent upon what the normal IT is for a particular industry.

I: Do you think that – it’s been suggested that – regulators and policy makers tend to have quite a parochial view when they look at policies. It’s about the region and the specific area that a business is in so for example you are in the republic of Ireland so it’s assumed that your servers and data are in the republic of Ireland and that we only have one type of data. It never really takes into account the growing trend – as technology develops – towards virtualisation of systems. Because of that there is a feeling that the regulations are being left behind by the technology. That the technology is pulling ahead of it.

S: The issue I see with that is that as the technology expands and essentially gets ahead of the regulation the issue for the regulator becomes operational risk and so… the regulator is always concerned if you are going to make this leap from one technology to the next how do they know that is has the same dependability as the existing technology. In the existing technology you can look back over the last five years and say we only had X number of operational risk events and so the existing system can be benchmarked. When you bring in a new system you create operational risk. Number 1 you’ve got to train people, number 2 you’ve got to have backup for it, number three you’ve got to demonstrate it works and you’ve got to test it, number 4 you’ve got to convert over to it and all of those contain operational risk. Regulators are very risk averse particularly when you’re dealing with money and more particularly when you’re dealing with regulated institutions where you have individual depositor’s money that’s at risk. Particularly where the individual deposit at risk is insured by that particular government. Ireland I think is a little ahead of the curve in this as Ireland has almost always been a trading import/export kind of place. It’s always been globally focused, it’s always been focused on things like multiple currencies. So Ireland is ahead in thought processes that lead to the selection of various technologies. For example, the US has the largest consumer market in the world, it’s very English centric language wise, it’s also very US dollar centric. So when you have a large market
like the US the system you implement are almost always going to be US, US dollar centric they’re not nearly as complicated. When you come to a place like Ireland or the UK you have multiple issues that don’t exist in the US. There’s more of a challenge, there’s also a greater appreciation within the regulatory framework to address that kind of thing. And one of those appreciations is with respect to systems.

I: As you mention there do you think it’s a challenge for global companies that are primarily based in the domestic US to deal with international regulations. For example if you had an organisation with a large presence in the US, most of their technology management happens in the US. In the international region there is a limited technology support presence but it’s not as big as in the US. Do you find in those kind of situations that not as much attention is given to international regulatory requirements as is given to US ones? Not by the business who will give a high priority to the regulatory requirements of whatever region they do business in but do technology give it as much weight as they probably should?

S: Technology has not been traditionally been given as much weight. I think that on a go forward basis it will be given more weight and the reason I say that is because technology is running into the same barrier to entry that trade has historically had to deal with. Technology is also running into the fact that you have various copyright and patent issues. Particularly where patent rights are not respected or the patents or trademarks are stolen. It also has to deal with the size of the company because IT companies as they get bigger and bigger they become more oligopolistic than free competition so you end up having barriers to entry into places like the Eurozone and the classic example there is Microsoft. Where you have a common currency and regulatory regime it’s less of an issue but I think is more of an issue in the EU and FSA UK context but again that kind of feeds into the technology. Not only do you have the regulatory industry in the financial sector impacting financial systems technology you have barrier to entry on a country by country basis and also on an EU wide basis. An its not just applicable to the EU, if you go to Asia those economies are not quite as developed. IT systems are not as refined and the surprise I had there is Japan. Japan as state of the art they are in engineering and electronics you would think that the banking industry there would be very high tech and it’s not. Which is kind of interesting.

I: And do you think that sometimes US companies get a shock when they move into those kind of countries? For example a US bank might setup a rep office or a branch in Johannesburg and potentially would be expecting to see the same level of systems and service there that they would expect at home.

S: It depends on the company and it depends on how long they have been international. I think that the financial industry has not been traditionally international but it’s getting more and more so. But again when you come back to regulatory issues and whether they are impediments or whether they’re helping the classic one is the data protection act in the EU. SO to the extent that you have say a US subsidiary in Frankfurt the German authorities may not want them sharing
information with either affiliates or the parent that is subject to data protection. Now having said that there may also be issues with the level of sophistication for firewalls and protecting confidential information. There have been a number of situations where some of the credit card companies in the US have had their firewalls have been breached and customer information has been obtained by third parties. Now that has its own implications in the US but if you multiply that and say it happened in the US and oh by the way the technology is the same as what is use in Europe and the Frankfurt subsidiary of this US company has the same issue then you have a knock-on effect. And so what that does is it encourages additional regulation either at the regional (in the case of the EU) or the national level which may disallow data sharing. And so what you do there is you have changed the dynamics in a number of different ways. Number one you have increased the cost of doing business, number two you have increased the cost of monitoring, number three your required to have internal firewalls where they may not be appropriate, number four you may have to develop different technologies based upon those barriers to entry – based on consumer protection laws – so there’s a wide variety of things. One of the things I find interesting is that American companies when they do business overseas and they don’t have a significant international presence… they always assume that the country in which they do business is just like the US except they speak a different language maybe.

I: It’s interesting that you put it that way. Do you think that… you mentioned that regulations are put in place as a reaction to an event and that’s often the case. Sometimes it’s a major event such as Dodd-Frank following the financial crisis and SOx after Enron. Do you think however that sometimes in the rush to put these regulations in place and be seen to be doing something that the regulators and policy makers don’t take the time to consider the potential technical implications of what they may be asking firms to do and secondly how much it will impact organisation bottom lines?

S: I guess the way to answer that is to turn the question on you: How many of you colleagues and contacts that have gone through an educational process that focussed on technology and technology implementation have gone to work for the government? And I think the answer is not that many and part of that is the function and role of government but part of it is the fact that people who are attracted to technology usually have a strong math and science background and in my experience those are not the kind of people that end up working for the government. So I think there’s a disconnect in the aptitude and the interest in technology in government and I think it’s only recently – 20 years maybe – that private industry have appointed something like a CIO or CTO. I don’t know... I mean in the US if you were to go to the department of information technology there isn’t one. The thing with government is that they build upon existing bureaucracies and so to change those bureaucracies is a monumental task to the extent that you don’t have a government that has attracted talent that would recognise that there’s an issue, coupled with the bureaucracies that are already in place, coupled with the knee jerk reaction to address issues and be more reactive, coupled with the fact that business are only in the last 20 years have focussed on technology. I think you have a real disconnect between the public sector
and the private sector in technology and getting back to the financial industry if try to change you platform – let’s say you went to some kind of virtual platform the first thing the regulators going to say is ‘how can I track you?, how can I monitor you?, how can I regulate you?, how can I manage you from an operational risk standpoint when I barely understand the technology you have today let alone this technological leap you want to make?’ And that where I think it impacts the banks. The banks need to be more flexible, they need to be able to take solutions that are provided because more and more of the financial services are done technologically. I mean there’s a fair amount of currency in the system whether its Euros or Pounds but what about wire transfers? I mean there’s exponentially more wire transfers and all that is done on technology. Well if you have a system that’s setup it’s got to be common to everyone or it’s not going to work. So when it’s common to everyone the regulator gets comfortable, when you try to make a move from that to another technology… for example Clearstream, if you were to take all of your payments out of Clearstream and said ‘you know what? We’ve got a virtual technology that’s 1000 times better than Clearstream’. That may be true but now you’ve got to convince everybody who’s a member of Clearstream to do it which requires financial dedication, resource dedication, intellectual capital and human capital. And then you’ve got to convince all of the regulators that this exponential leap is actually safer, or better, or more easy to manage and regulations and regulators and bureaucracies are all reactionary and not forward looking and so I think there’s a real disconnect there and it comes back to this difference between discounted cash flows versus options analysis. Another example… if you were to implement some kind of virtual system and the regulator came to you and asked for you data tapes and you said ‘data tapes? We haven’t used data tapes in five years’ the regulator might then ask ‘well give us access to what you’ve got in cyberspace’ and you might offer to give them access to your systems to which the regulator will likely reply ‘I don’t understand your system, I don’t have a way to access it and none of your competitors use this system. Why should I accommodate you even though it’s a better system?’

I: Do think that meeting these compliance requirements has an effect on ITs overall operating budget? Do you think there’s a lot of non-discretionary spend in IT which goes on meeting compliance requirements?

S: A lot of it is going to meet the compliance requirements. I would say even more is being invested in anticipation of future regulations and that’s where you come back to making sure that the technology you have is robust enough to meet a dynamic market and you don’t know where that market is going… intuitively you know it’s getting more regulated. You don’t know how it’s going to get more regulated. You don’t know what’s going to get regulated. The classic example there is derivative products, derivative products were treated like private loans… they still are really and then the question is do you put them on an index? Do you put them on a centralised system like you have with stocks and bonds and then the question is if you do that what are the implications? Well first of all there’s privacy implications, second of all there’s regulatory implications, thirdly there’s technology – what technology do you choose to get all this stuff on
the system? So then you have companies trying to anticipate all that… and let’s say Microsoft doesn’t get the contract, it goes to Apple and all of your systems have been invested in Microsoft and so now you’re in a situation where – what’s the switching cost? Is there a switching cost? Can you modify it? And it’s just really trying to anticipate the next level of regulation and trying to anticipate the next level of information system technology that needs to be invested in to address that. Now I’m not an information technology person but I would guess that companies invest in multiple technologies at least on a testing basis to see what is out there before they make selections. So when you talk about the cost of doing this stuff part of the cost is the time element because you have to review all this stuff and as the time evolves you make a selection on the technology. I think most people have taken the position of not investing in new technology but modify or retrofit existing technology. Why? Because of the issues we discussed earlier of being in a regulated environment. So what ends up happening in a regulated environment is the technology systems available are not nearly as advanced as in other industries. There is a benefit to regulation though and the benefit is that there is some level of standardisation so while I keep talking about moving from one platform to another one of the things regulation will give you is it will require a mandatory, standardised, minimum level of information services. The question is whether or not that’s adequate. I think the latest that we saw with Ulster Bank where they couldn’t track payments for a week. That I think is… I’m surprised it didn’t send off more of an alarm bell in the industry then it did because quite frankly if you can’t trust a bank to track payments that’s a pretty fundamental issue.

I: Do you think this ratcheting up by organisations to anticipate future regulation and to meet new regulations as quickly as possible is more of a recent thing as regulations have gotten tighter and the recent fines a lot of companies have been faced with like HSBC recent AML breech. Do you think that as the cost of fines has gone up and regulations have gotten tighter that this is something that’s recently come about? Would you have seen it 5-10 years ago?

S: I think it actually makes the matter worse because if you think about it if you have a possibility of getting a fine you want to make sure… if the reason for the fine is technology based you want to make sure that your technology is the same technology as everyone else in the industry and the reason for that is if it was a technology issue and you turned around and said that Bank of America, Wells Fargo, Bank of Ireland, JP Morgan, Bank of China all used the same systems and therefore we should not be penalised that’s a different argument to a regulator then saying ‘we have this new technology and oh by the way there was one blip and we apologise’ and then nobody else in the market has selected that technology the regulator may conclude that you have picked the wrong technology and therefore you have responsibility because you made an error in selecting the technology. So I think it creates even more of a herd mentality so when you say we can invest $50m to upgrade the technology and somebody who recently upgraded their systems gets a fine for $500m the business will ask why they should invest $50m in new technology when there’s a possibility that they could face a $500m fine.
I: So there’s a view in the banking sector that there is not such a thing as first mover advantage? It’s more like last mover advantage?

S: Exactly it’s more second or last mover advantage. In fact one of the things I always ask is whose got best practices for technology, whose got best practices for risk mitigation and the reason for that is if we’re going to be in acquisition mode I don’t want to go out and acquire something that’s going to need me to fix the technology piece because as an acquiring institution you’re going to have technology from the acquirer and technology from previous acquisitions because it’s so costly to upgrade and standardise for one company and again people don’t focus on that. They are more than they used to though. Now you’ve got large organisations like Citibank, like HSBC where a lot of the IT is decentralised and so it makes it very difficult for combined reporting up and it makes it very difficult to have control over the IT given the number of systems that are involved,

I: Do you think as well as operating budget that meeting compliance requirements in the finance sector affects ITs manpower resources and ability to support emerging projects?

S: Absolutely, and I think the example here is that the role of IT has changed and will continue to change. The role of IT in the financial industry as I see it is more service to the ultimate user rather than designing systems. All that’s outsourced. Is it better than it used to be? I don’t think so because in the old days it took a longer time to draft a document and it took longer to Xerox and it took longer to get information out. Now information is instantaneous, documentation can be cut and pasted. You are more into virtual technology and that brings with itself additional issues. Privacy being the primary example. The other issue is what if the system shuts down? You may have the best system in the world but when it shuts down you need a backup. Should every financial organisation have two systems and run them simultaneously? On the outside change one of them breaks down? I don’t think that’s feasible and so a lot of the emphasis for IT now is to make sure this one system works.

I: Considering what you have said in terms of IT being a service to the user and systems design being outsources. Is there a need for IT in the finance sector to be innovative at all?

S: I think the answer is it depends on the political system and I think it also depends on the political systems priorities. If you’re in a political system you have to decide what the priority of the system is. If the priority is health and human services, social expenses, taking care of poor people, national defence… all of that. If you weigh those issues against regulating a financial industry more likely than not I think the stuff that impacts people on a day to day basis particularly as it relates to redistribution of income or social obligations the government is going to put more money into social obligations than IT for the financial industry. Is that the right decision? That’s up to the electorate to decide what they want out of their government. But that’s a leads into the question you asked. Is there a banking purpose? That’s also a political decision because the private banking industry should be profit motivated. From a social obligation
standpoint it should be providing liquidity to the system and in some situation like Germany which is a mercantile oriented government. They facilitate export for private industry. One of the ways they do that is they control the banks and the way they control the banks is that they take active ownership in the bank and direct it to make sure credit is made available so that German industries have cheap access to cash to be able to keep the engine of exports going. So that’s very different than if you look at an economy like Spain. The Spanish economy is very different from the German economy and so they Spanish banking economy is very different too. Spain would never proactively encourage banks to do the sort of high value engineering type exports. It’s more exports of commodities, its tourism.. its very different so the banking industry is very different. It’s much more parochial in Spain than Germany and that brings us back to the Irish experience. The Irish experience is it’s a trading country. It’s import and export, sort of a hybrid between Germany and Spain. Now that doesn’t address the 2005 – 2009 financial crisis, that’s kind of a different discussion.

I: Coming back to what IT’s role should be. It’s been suggested by some that there is a new disciplinary requirement emerging in IT, particularly in the finance industry and that’s for IT people with an understanding or appreciation of regulatory policy and there is a feeling that more established IT people are less likely to understand or appreciate the regulatory requirements and environment particularly as the industry becomes more and more regulated.

S: I think the answer to that – my answer to that is that it would be kind of unintuitive to me because the longer somebody is in the IT industry the more comfortable they are with existing technology and modifying technology in incremental ways which I think is very consistent with the regulatory approach so I would say that IT people in the industry for a longer time would be predisposed particularly in banking to finding incremental existing system solutions rather than a radically new idea. People who are just new to technology will generally want to take their more up to date education and information and apply that to a situation which would show a very misguided view of the regulatory environment.

I: How much support do you think is available for IT in financial institution to understand and enact complex regulatory requirements? Not just to be given a problem and be told to go and fix it but to understand the regulation in a holistic way and understand how it impacts the organisation and its strategy.

S: Put yourself in the shoes of a CEO for a major financial institution. You have a budget and it goes across various areas. You have a new complex regulation that is coming out that impacts your IT. Its covering your reporting and a lot of your operations. Part of your budget is for new systems, part of your budget is for political contributions to influence what regulations are put in place and when they’re put in place. Are you going to immediately go and invest in technology or will you go and start lobbying and get someone who is in a position to delay implementation of this regulation. You don’t need to answer that question because empirically what we have seen at least in the US and in the EU as well is that people are lobbying politicians to defer the
implementation of this stuff. It’s certainly happening in the UK, in the US. I don’t know if it’s a prominent in the Eurozone, the reason I raise it though it because people are trying to… you know if you have to make a switching cost or investment the longer you can delay the initial investment the better your financial performance is going to look. Particularly if you end up being successful and the law ends up never being implemented. Dodd-Frank is a classic one, only 30% of it has been implemented and the law is 3 years old. Why? Because a lot of financial institutions including institutions that have historically not funded political action committees and have not been active in the lobbying area are putting more and more money into lobbying so they can defer cost. They can make the argument that these things are crippling investment particularly now when they are trying to jumpstart the economy. If you start layering on regulation and you start to look at all the systems that need to be amended to address those – particularly as you said earlier, if it’s a grey area you don’t know how to address it. There are a number of solutions other than fixing the technology.

I: So what you’re saying is that maybe it’s not IT’s place or job to holistically understand the regulation particularly since the company may be working towards having that regulation deferred in some way?

S: The point I’m making is that to the extent that there are other options and you have a decision to make you may want to defer the time period of when you want to make a decision because then you can defer the time when you have to start spending money. Once you do that the question is how much money gets allocated to IT and the answer is that it gets deferred out and interim solutions are put in place in the meantime. Those interim solutions may end up being more costly at the end of the day but they’re incremental and you’re deferring the time when you have to make a decision on a major technology switch. I look at technology from a risk perspective and the two things you need to know about risk is standard deviation and mean that’s all you need to know. Where I view technology is that it provides you the mean, that’s where technology ought to shoot for. Regulation goes up and down, most of the time it goes up so maybe the mean gradually increases but the standard deviation is where the risk is. You want to have technology that’s robust enough to be at the mean but makes sure that the standard deviation is never violated.

I: So you think that regulatory deviation could be considered another kind of volatility which the organisation needs to avoid just like market volatility.

S: Yes and as soon as you have that volatility your standard deviation gets wider and in turn your risk increases and as your risk increases there are a couple of things you can do. You can either address the risk by investing money to bring the standard deviation down, you need to make more money, cut costs… you need to do something to bring the standard deviation back down. One of the ways to do it is to invest in lobbying because it will reduce the immediate impact of regulation. Ultimately you may end up with the same regulations but they may be deferred for 1, 2, 3 years.
I: How do you think IT and financial organisations as a whole benefit as a result of regulatory compliance?

S: That’s a tough question, I think the way I would look at it is as part of a pyramid. One corner is creativity, one is compliance and one is customer service. You need to make sure you adequately address all of them but that given where you are in the business cycle and the status of your competitors you need to be leaning more one way than the other but if you go too far… if you’re the most compliant lender in the industry your probably not very profitable. If you’re the least compliant you might have the most customers but guess what? You could get shut down. SO there’s that kind of dynamic that swings back and forth.

I: So you’re kind of looking for a balance between regulation, profit and customers?

S: Well it gets back to the political system. If you have a private industry with banks and there’s no government involvement in supporting the banks through deposits or credit enhancements (bailout). If there’s none of that then less regulation is required. Why? Because there’s less taxpayer money at risk, it becomes more of a competitive market place. Now having said that if you have that situation which you have in some Asian countries the problem is that if you start lending internationally you are competing with banks that are supported by their sovereign. If they’re supported by their sovereign then the cost of funds will automatically go down. So you have a disadvantage on the cost side so as we go more towards an international economy that will be problematic. I think what you’re going to see is a significant movement away from globalisation. It’s been talked about a long time as a trend but if you look at it historically it happens sporadically it’s not a streamlined upward sloping curve. It pretty sporadic and a lot of that is because of government regulation.

I: How do you think that IT and financial institutions as a whole suffer as a result of regulatory compliance? You have kind of answered that question in a way, as you have mentioned being overly compliant can hurt profits.

S: Well here’s an interesting question for you. In the financial downturn the financial industry got crushed for a lot of different reasons. Would that have turned out differently had they been more regulated? Everyone seems to think they would have been better monitored but would it have changed the result? There has been increased regulation in the banking sector in the US since the 1920s. This downturn in 2008 was worse than anything since the 1920s. Has increased regulation helped there? Another interesting question that can be raised is during the crisis there was a tremendous amount of liquidity needed for the system and people were looking for participants to provide that liquidity. Who do you think had the most liquidity to supply the system but couldn’t or wouldn’t. Obviously the sovereigns ended up stepping in but the companies that had the most money, corporate credit and firepower were in the technology industry. Can you imagine if Microsoft or Apple stepped in and bought the banks?
I: It’s interesting you say that because there was a stage where Apple was sitting on more cash than the US government.

S: Exactly. So was government needed? Well the two industries technology and finance are very different but if Apple had stepped in and made that investment they would have had something to do with their money and they could have exited the market as soon as the economy stabilised. That would have been a private industry solution, would it have been politically palatable? Probably not but I find it interesting they could have. But to get back on track no one wants to be in a highly regulated industry, no one wants to be over regulated or you end up like a utility and I think that’s where the financial industry ends up.

S: What aspects of the current compliance and regulatory structure do you think could be changed to facilitate IT innovation in the finance sector without of course impacting the integrity of those laws?

I: I think… and this might sound silly but I think the main thing we need to understand is that a simple solution is the best solution. I don’t think regulators always understand that and so I would say to the extent we can get simple regulatory solutions rather than comprehensive, complicated regulatory solutions I think that would go a long way. I think it would help companies plan their IT investments. It would encourage IT investments because if it’s a simple solution… you might have a more robust way of dealing with simple issues than complicated issues. Now what does that mean if you cut through it all? I think it means less regulation which might fly in the face of everything that’s going on in the market place regardless of what country you’re in but there you go.