



FRTB: Better Get Your Skates On

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FRTB: Better Get Your Skates On

Risk Reward Ltd CEO Dennis Cox pens a critical review of the new BIS FRTB Paper, the challenges banks face in meeting its requirements & notice to get your FRTB project preparatory skates on

If you have been following the approach taken by Risk Reward Limited over recent years to the developing regulatory framework you will see that we have been broadly supportive even when the mathematical techniques applied by the regulators has been at best questionable. We have followed the standardised approach to credit risk which probably reduced the quality of credit risk management. We have followed the operational risk capital calculation and approaches which required unnecessary and pointless analysis of loss data. We have even followed Basel 2.5 which both confuses stress risk and adds figures together which have nothing to do with each other.

In considering the balance of these requirements the increase in requirements for quantitative risk management and governance becomes clear. As a quantitative risk management house we of course welcome this but want the metrics to add value to management, not result in unintended consequences.

Now there is **FRTB, the Fundamental Review of the Trading Book**. Until this paper all the materials that have been produced by the Bank for International Settlements (BIS) have been intelligible to banks and risk management functions so long as they have at least some quantitative staff. Increasingly it has become difficult to explain these to the Boards, internal audit and control staff. The consequence of this has been that the Board and senior management have limited ability to understand the levers that impact the production of these figures.

What has become increasingly difficult is not totally impossible with the advent of the Fundamental Review of the Trading Book which changes the calculation of the risk calculation for the trading book including currency risk.

The People

Many banks will not have anyone that can do the calculations or even reading the paper. The problems of Value at Risk (VaR) had been well documented, but most of these have resulted from the BIS using single illogical VaR values as opposed to calculating the area under the curve supplemented by maximum potential loss which is the real basis that should be applied. By replacing a difficult concept with an impossible and illogical concept this time there are significant

problems. Firstly, from our modelling we have doubts that this calculation will properly calculate the capital risk requirements.

Secondly there are often not the people to calculate, assess, view, validate or control this. They just may not exist.

The Timetable

Firms have three years to implement these complex rules. The project will commence with conducting a gap analysis and quickly banks will recognise that they will require new systems to populate as well as cleansed data. Do not underestimate this project. From our first reviews three years is likely to be extremely tight so the timetable will likely be extended.

The Approaches

There are two main approaches included within the FRTB paper. Probably only a few if any firms will seek to adopt the more advanced approach in the next 10 years. It has a level of complexity that cannot be justified for the limited amount of capital that it is calculating and again; it seems doubtful that it even comes up with a sensible metric. Accordingly, in the rest of this article the focus is purely on the standardised approach. Notice is hereby given it too is not in any way simple.

Risk Sensitivities

Even in the standardised approach risk sensitivities need to be calculated. In market risk you tend to think that we have high quality long run data – but do we? The economic cycle of the last 50 years has come to an end and we have been essentially in an interest rate declining environment since 1982. That means that all the data we have is based upon this interest rate declining environment and application to the end of the cycle period as well as the future interest rate rising environment is at best brave. The consequence of this is that firms will need to critically assess the instruments and markets where they require information and try to synthetically design appropriate data. No easy task.

The banks also must calculate delta, vega and curvature sensitivities. At present we have non-normal yield curves as we leave the trend of downward interest rates. The short-term decline in interest rates within the next year will in our opinion promptly reverse leading to the upward interest rate environment and this of course will change yield curves. At present it is not possible to calculate the required curvature sensitivity with any level of precision.

Scope and Scale of the Change

Currently there are around 200 – 400 calculations to do for a bank. Under these new rules this moves to perhaps 12,000. That is not our estimate but is a well established market estimate. At 200 you may well use Excel or other techniques to do the modelling, relying on manual intervention. At 12,000 you need a system, a thoroughly tested well understood system. Few banks have this.

You will need to reconsider both your treasury and ALCO modelling systems as well as how this interacts with your core banking systems. You will need to validate elements sitting on reconciliations and assess the impact they will have on the capital calculations. This will mean changing both treasury and core systems as well as regulatory reporting. Curvature risk is a completely new calculation and requires recalculation for every instrument.

There is also a requirement to bring this into P&L calculations so changes to management and financial reporting will also ensue.

Reporting

A likely scenario is that most banks will need to change the way that they record and hold risk data. At present many firms still think Excel can be used for modelling. This article hopes to make clear that those days are over, if they ever existed. Banks will need to consider the data they have and need in depth and then design flexible data systems to hold this new risk data.

This is coming into force during the interest rate rising environment, an economic climate that is negative and in which non-performing loan rates tend to increase pressuring credit capital. Bringing in a way of calculating market risks which probably will only increase or decrease market risk capital by around 0.20% for most banks seems a rather expensive and unnecessary cost at this stage.

Getting Ready

You will need to find your advisors quickly. Given that this is being implemented globally at the same time there will be insufficient advisors to go around hence staff training needs to be promptly acquired and supporting consultants identified. Click [here](#) to view a sample programme to get started

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Innovative Bank Internal Audit

Dennis Cox FCA, CEO of Risk Reward Ltd, talks about its principles, approaches, implementation, reporting & why its just more fun

Internal audit has been changing for many years, from an inspection function looking for errors to an increasingly risk - based function seeking to add value. This development has been at best uneven and has overlapped with a number of other key initiatives. These include:

- The **development of standards** for internal audit in banks by the Bank for International Settlements (BIS)
- **Increasing complexity** including model usage
- Developing **risk management and internal control functions** increasing the scope of the second line of defence
- Developing **model validation** units in accordance with rules and regulations
- An increased focus on **stress testing and scenario modelling**

All of this has provided challenges for internal audit and an innovative function will both grab these opportunities and seek to add greater value to their firm.

Implementing Innovative Bank Internal Audit

One of the biggest challenges for internal audit is to move from being the unit that criticises people for making mistakes to becoming a unit that **adds value through innovative internal audit techniques**.

Not all losses are issues for internal audit. If management designs an approach anticipating a level of losses as a consequence, the existence of these losses is hardly an issue for internal audit. It is only if there is a divergence in loss incidence from the historic norms that this will come into play.

As an internal auditor you can never change the past. Mistakes will have been made and investigated by the second line of defence (either internal control, management or risk management, or a combination of the three). This is not a role of an innovative internal audit function which is instead focussed on **designing efficient and effective controls that lead to a loss profile**

consistent with management's expectations. This **auditing to future approach** focussing on preventative controls and leading indicators lies at the heart of innovative internal audit.

Approaches to Adopt

Innovative bank internal audit adds value to the business. It seeking to think through the nature of the control environment and identify areas where improvements and changes can be made successfully. It is a collaborative function which improves profitability or goal congruence. While providing input into the design and implementation of controls and processes it will always focus on the bigger issues regardless of the politics that go with them, avoiding what might be referred to as career limiting audit findings.

It thinks more about the planning and approaches to be adopted. The walkthrough is no longer just checking that the business is conducted in accordance with policies and procedures. Rather it now considers the control and process approach being adopted and seeks to identify how this could be made more efficient and effective. It is often in resolving the efficiency decision where the greatest values could be added.

The **risk-based approach is always about doing more of what adds greatest value** reducing work in other areas. Through careful planning and consideration of the overlap of audits a much more efficient approach to audit can be achieved.

Data Mining and Techniques

Increasingly the expectation is that internal audit will identify both fraud and money laundering activities within business units. **Internal audit needs to maintain healthy scepticism regarding the likelihood that staff are acting in accordance with ethical standards.** They also need to utilise modelling techniques to assist them in obtaining the level of assurance that they need for their purposes. Such data mining techniques need to be applied in those areas which are most susceptible to inappropriate activity being conducted and where the greatest impact on the business could occur.

Internal audit needs to ensure that such findings are delivered in a way that management can easily synthesise. Innovative internal audit is always focussed on delivery outcomes and change since without change our role becomes pointless. Indeed, **working with management to identify solutions to the problems raised lies at the heart of the approach to be adopted.** This is not about conflict or them and us. We are all part of the same protective story aiming to ensure that management can sleep more comfortably at night. Comfortable in the knowledge that the control framework meets the demands of the governance framework and ensures achievement of goals and missions.

Risk- Based Internal Audit

The application of risk- based internal audit is essentially mandatory for bank internal auditors within the statements issued by the Bank for International Settlements. This needs to be based upon the risk appetite statement agreed by management and embedded within the business through both correlation of risk modelling and cascading risk to the level of the control.

At a unitary level if a failure of a control could lead to a unitary risk appetite being breached then this becomes a high-risk issue by definition. This is no longer open to discussion. The risk registers that are used by internal audit are maintained within the business under the guidance of risk

management. These are audited by internal audit but are not replaced or replicated. By providing clarity on this the arguments that may have ensued are no longer relevant.

Risk- based internal audit ensures that internal audit focuses on the big issues, auditing through the control function and identifies areas where value can be added through improving systems and controls. This could even mean removing controls which are no longer cost effective, something many internal audit functions finds difficult to consider.

Innovative Internal Audit Reporting

The innovative internal audit report is **easy to read and clearly leads to action**. It is the key delivery product for the audit function and is provided to different audiences each requiring different delivery. This takes planning and design to achieve. It should be an interesting document where the time of hard-pressed senior management is not wasted ploughing through oceans of irrelevance to identify matters of substance. Through copious use of annexes and the inclusion of matters from other audit reports relevant to the reader a greater auditee fairness is achieved.

It is positive, including colour and design and incorporating illustrations where necessary to enable the reader to appreciate the importance of the issue raised. Too many good audits are ruined by poor delivery.

Conclusion

Innovative internal audit is a *change- in- thinking* approach. It is more enjoyable for both the auditor and the auditee and adds greater value to the institution.

Proper training can support learning needed as to what this means in greater detail and how auditors can move your audit function to take advantage of the opportunities that present themselves.

For more information please click [here](#).

*Dennis Cox BSc FCA FCSI
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Outsourcing EBA-Style

Dennis Cox BSc FCA CFSI, CEO of Risk Reward Ltd, talks about the latest EBA paper, key requirements, relationships, due diligence, reporting & why outsourcing just got more expensive

The European Banking Authority (EBA) have recently published their guidance on Outsourcing for implementation by 30 September 2019 (new arrangements) and 30 December 2021 (review of existing arrangements).

A paper on outsourcing at first glance might seem to be a benign annoyance requiring limited time. **Do not underestimate this paper.** All firms within the scope (institutions, payment institutions and electronic money institutions) need to comply with these rules.

First up: this is a major change project and both analysis and reporting need to be undertaken. All firms need to appoint a project owner and identify the project resources. The outcome is clearly a Board responsibility with requirements for reporting to Boards, so Board members need to take note of this.

Key Relationships

The paper focusses on the identification of critical or important functions and sets out criteria which would apply to these. It also highlights the type of outsourced relationship that would not be included within the definition highlighting cleaning and the provision of data services, for example. However, it then sets out criteria that should be applied to all such cases anyway.

Of course, to be able to identify key relationships falling within the criteria there is a requirement to have a register which includes all outsourced relationships. This must include relationships where roles are undertaken by another part of the Group.

The Register

Once you have worked out all the relationships, you then need to identify which of these are critical. There are then a broad range of requirements setting out what needs to be recorded for all outsourced relationships whether critical or not. These include:

- a. a reference number for each outsourcing arrangement;
- b. the start date and, as applicable, the next contract renewal date, the end date and/or notice periods for the service provider and for the institution or payment institution;

- c. a brief description of the outsourced function, including the data that are outsourced and whether or not personal data have been transferred or if their processing is outsourced to a service provider;
- d. a category assigned by the institution or payment institution that reflects the nature of the function which should facilitate the identification of different types of arrangements;
- e. the name of the service provider, the corporate registration number, the legal entity identifier, the registered address and other relevant contact details, and the name of its parent company (if any);
- f. the country or countries where the service is to be performed, including the location of the data;
- g. whether or not the outsourced function is considered critical or important, including, a brief summary of the reasons why the outsourced function is considered critical or important;
- h. in the case of outsourcing to a cloud service provider, the cloud service and deployment models, and the specific nature of the data to be held and the locations where such data will be stored;
- i. the date of the most recent assessment of the criticality or importance of the outsourced function.

For critical relationships there is further information required including:

- a. the institutions, payment institutions and other firms within the scope of the prudential consolidation or institutional protection scheme, where applicable, that make use of the outsourcing;
- b. whether or not the service provider or sub-service provider is part of the group or a member of the institutional protection scheme or is owned by institutions or payment institutions within the group or is owned by members of an institutional protection scheme;
- c. the date of the most recent risk assessment and a brief summary of the main results;
- d. the individual or decision-making body in the institution or the payment institution that approved the outsourcing arrangement;
- e. the governing law of the outsourcing agreement;
- f. the dates of the most recent and next scheduled audits, where applicable;
- g. where applicable, the names of any sub-contractors to which material parts of a critical or important function are sub-outsourced, including the country where the subcontractors are registered, where the service will be performed and, if applicable, the location (i.e. country or region) where the data will be stored;
- h. an outcome of the assessment of the service provider's substitutability (as easy, difficult or impossible), the possibility of reintegrating a critical or important function into the institution or the payment institution or the impact of discontinuing the critical or important function;
- i. identification of alternative service providers;
- j. whether the outsourced critical or important function supports business operations that are time-critical;
- k. the estimated annual budget cost

This is no minor task.

Due Diligence

Before entering into an outsourcing arrangement and considering the operational risks related to the function to be outsourced, institutions and payment institutions should ensure in their selection and assessment process that the service provider is suitable.

With regard to critical and important functions, institutions and payment institutions should ensure that the service provider has the business reputation, appropriate and sufficient abilities, the

expertise, the capacity, the resources (e.g. human, IT, financial), the organisational structure and, if applicable, the required regulatory authorisation(s) or registration(s) to perform the critical or important function in a reliable and professional manner to meet its obligations over the duration of the draft contract.

The level of monitoring of the relationship has also increased and is specified again with regular reporting obligations.

Meeting the Requirements

There is a lot to this paper, and no doubt it will result in changes to outsourcing relationships. Reporting, contingency planning and contracting, are addressed in depth in this paper.

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Is Artificial Intelligence the future of Risk Management?

In this article Risk Reward Expert and former CRO, Virtu Financial Dudley Nichols explores the expanding role of AI for risk in financial institutions and whether banks and FIs should adopt to compete

As we enter 2020, and computers get ever more powerful there are a growing number of advocates for using AI models in risk management replacing some of the more traditional approaches.

AI is already being used extensively in the finance sector. Lenders are using it to calculate credit scores and banks are using it to detect fraud detection and market manipulation.

Investors have been investing heavily in recent years in computer driven hedge funds betting that advances in Artificial intelligence and big data give these funds an advantage over human traders or decision makers. Most hedge funds may be using AI in some form now to make predictions.

Is the next logical extension to use it fare more extensively firmwide for risk modelling and is it a good thing?

What is Artificial Intelligence?

Kaplan and Haenlein define Artificial intelligence (AI) as a “system’s ability to correctly interpret external data to learn from such data and to use those learnings to achieve specific goals and tasks through flexible adaption”.

The rock -paper -scissors game shows the basic principals of an adaptive artificial intelligence technology.

Try playing Rock-Paper- Scissors against a program that uses AI and you will almost certainly lose over many games. The system learns to identify patterns in a human’s behaviour by analysing their decision strategies in order to predict future behaviour. As a human you make decisions which are not random and the computer will learn your behavioural characteristics to make better decisions. Now this is only one simple form of AI and what is AI - as opposed to what is a machine task or what

could be considered simulations - is often disputed.

How can Artificial Intelligence models be used in Risk Management?

AI can be a valuable tool in any form of risk modelling that uses data, statistics and patterns. Quant traders are using AI to make investment decisions and an obvious use of AI is in Market Risk modelling.

Value at risk models (VaR) use historical data over a different time period and based on instruments historical prices and relationships make predictions with a degree of confidence of the maximum amount that can be lost. It can be argued that a flaw in these models is that it looks at where we are now but not how we got here.

Historical volatility is considered as well as historical distributions but can AI add to Market Risk modelling by adding an extra dimension of pattern recognition. Take a simple example of a stock market that has risen 7 days in a row in a steady form, are you at greater risk from being short or long? Is the size of any potential move the same if the market had gone down 7 days in a row? A number of VaR models would probably say yes dependent on previous history or have a small bias in the way the market has moved but how many times do we go up or down 8 days in a row as opposed to a maximum of 7? Also has the risk increased of a larger down move if the next move is to be down?

In looking at most VaR models, the historical moves or relationships over a number of historical days are applied to current positions. The period chosen is normally over the last one to four years (ignoring Stress Var). Expected loss looks at the scenarios outside of the VaR. What would an AI model look at?

Pure cognitive AI models will basically make predictions based off pattern recognition. I will come back to which patterns on which data. Based off the patterns it sees and the historical patterns it has seen an AI model would be able to predict different outcomes and like a Historical Simulation model apply probabilities. Arguably AI models which use pattern recognitions do the same thing as historical simulation type models it looks at historical scenarios but every time prices change it chooses a new set of scenarios from different points in time of what it considers the most appropriate set. It chooses the historical periods where the patterns were most closely resembled which may or may not have been recent and ignores patterns it does not think relevant. In taking into account how you got to where you are, as well as the volatility you can derive a better series of scenarios with expected probabilities. From there you can calculate your potential gains or losses. This would appear to be a step forward.

AI models are always adapting as well. Once a market opens, if historical patterns are being followed the probabilities will be changing all the time. Even if you have not done any new trades your risk has changed.

Those arguing against AI models at this point might say yes but, the current pattern of events is being driven by a set of circumstances different to previous times and therefore you cannot be so sure that a different pattern might not evolve.

A big difference between AI models using pattern recognition and more traditional models is that AI can look at patterns over different time periods. So, it might make its prediction based not only on a more recent trend but medium- or longer-term trends as well

Another difference is that whilst traditional models will only look at a securities history to derive future predictions AI models may use patterns observed in other securities to derive predictions. It is an advanced piece of work to determine where cross data can and cannot be used but if say patterns were seen in growth stocks 10 years ago, then these may be valid in making predictions on today's growth stocks. What you then have is a far more extensive database to draw conclusions

from.

So, can AI models be extended beyond use data analysis and pattern recognition. The answer is yes. They can be easily adapted for example to incorporate economic announcements or company earnings dates. Possibly some specific events as well. In taking account of events it can look at periods where similar type events occurred.

Can they be adapted to take account of changing human emotions, and should they? Again, the answer is yes (humanistic AI models are used in various fields). You need to think carefully however how to add this component such that it does not invalidate the AI analysis in the first place.

This also brings us back to what is the best use of AI models? Within a Market Risk Framework, risk managers are looking at normal risks often represented by VaR, lower probability scenarios which may be represented by expected losses and scenario analysis and extreme stress scenarios. AI may be able to derive superior models of normal risk but is that our biggest concern?

Extreme stress events are of course very rare and somewhat unpredictable. How many times the last few years have analysts produced charts saying this pattern is just like 1987, in theory saying a 1987 crash is likely to happen only for the market to carry on. Most recently we have seen a sell off which in magnitude was similar to 1987 but over a month not two days.

Can AI predict a seemingly unexpected extreme stress event more likely where humans cannot? If unpredictable it would appear unlikely. Did AI models predict the large sell off's in December? Evidence from the computer driven hedge funds suggests that they did not perform well in December and their returns are not consistent. Historical patterns suggested a far higher probability of markets stabilising then recovering after they had declined 10% than selling off further.

What about the less extreme but still larger more plausible scenarios, can AI models determine the likelihood of larger moves occurring? In theory yes, providing there is precedent somewhere. A number of larger moves though still are as a result of a catalyst and are often dependent on the human psyche at the time. If the human psyche can be determined by market moves prior to the event then AI models are taking this into account or possibly the model can be enhanced by confidence type factors.

Some large moves are predictable, if outcome A happens then the result will be X, if outcome B then Y. Look at Brexit as an example and the foreign exchange moves. Could an AI model through pattern recognition and other signal-based recognition have predicted the outcome of the Brexit vote or last US Presidential election? If the answer is yes then this might be a good use of AI models to predict the probability of an event and allow risk managers to determine expected market moves based off observed sentiment.

Ultimately outside of known events should we be concerned about what the catalyst is or could we use AI models to predict based off recent moves if there were a catalyst of any kind whatever the likely magnitude of move or range of moves might be?

The same principles can be applied to operational risk trends, credit risk trends and even liquidity risk. As patterns emerge then AI models can be better equipped to spot trends, spot the unusual and provide warning signals.

There are clearly a range of different ways that AI can be used to make predictions and determine probabilities. Specifically, on both the financial data itself and on event probability. Ultimately it seems computers eventually beat humans as they learn. So, should we not all be investing in AI risk models?

Is Artificial Intelligence the future of Risk Management?

Computers keep getting infinitely more powerful capable of interrogating larger databases but if you have a portfolio with 50,000 or 100,000 or more different instruments / exposures then trying to determine all the relevant patterns in a short period of time is still close to impossible without using some sort of factor or principal component analysis. Then as discussed there is the overlay of event risks. One of the greatest advantages of AI is that it adjusts as patterns emerge. If you cannot run in real time then this advantage is somewhat taken away. Is the cost justifiable?

A partial high-level form of AI can be applied at a holistic level with mathematical modelling of the likely range of events. Just predicting the probable movements of the S&P 500, with a form of beta analysis and specific risk analysis is a start.

As computers speed up even more and researchers work out how the data can be applied effectively then eventually this problem will reduce. Then subject to back testing it is a matter of time before we see risk system vendors advertising their new superior models.

In the mean-time a simplified form of AI might determine an environment. Anyone using unweighted historical data from the last year or even four years right now to predict market moves is likely to be understating risk. An AI model could look at recent patterns to determine the most relevant historical period or periods of data to use. There again isn't this what stress VaR is for?

Using AI to predict stress event probability has possibilities and no doubt as we store and cross reference more data then it may be possible to determine that either a significant market event is more probable or the size of a market move should an external catalyst occur. Then there is also the possibility of cross-referencing market data patterns into credit, operational or liquidity calculations. Banks are already making some lending decisions based off AI analysis but it is largely still at an individual level. The next stage is undoubtedly to look at portfolio risks, trends in defaults and predictions of cross defaults.

AI is becoming better at identifying fraud risks through pattern recognition and to the extent that data is available then it will be applied to a spectrum of operational risks. Just like in market risks however, how good is it at spotting extreme non-normal risks? If we never know then it is likely very good otherwise one-day we may find out not so good.

Can AI models become self-defeating and increase risk?

More and more aspects of finance are being automated, often at the expense of humans. AI is a natural part of this but is it a good thing?

The World Economic Forum in August reported that the use of AI could significantly introduce troubling systematic risk. Automated High Frequency trading has led to runaway trading events such as the flash crash and as auto-investing based off AI is increasingly used then the chances of such events increase.

An observation in the trading community in 2018 was how hard it is to generate Alpha. Some Investors still trade off fundamentals and may view things over longer periods but as more traders use larger data sets and move from signal based to AI type predictive models, then everybody is trying to do the same trades. This can make predictions come true but also lead to too much one-way positioning. When a pattern is broken it can lead to a 'non-logical' event.

As we know financial history is littered with examples of when genius goes wrong. If risk models are

based on exactly the same predictions traders are using then they are not playing the devil's advocate role they are somewhat supposed to and significant event risk may be understated. As AI gets used more extensively will it lead to greater or different risks? If used solely for credit analysis will it lead to discrimination against certain groups of people? As the World Economic Forum notes if large groups of people access the same data on the cloud as well a cyber security event has even greater systematic risk.

Just as machines learn about human behaviour then humans can learn about machine behaviour. Traders can learn how to drive a pattern forcing AI models to make decisions. Fraudsters if they understand how the pattern recognition works, will work out, at least for a while how to stay within a normal pattern. Then does the machine learn that things can be too normal or too unusual and ignore them.

In the immediate future there is no doubt that the use of AI will grow in the financial industry and in the long term significantly. It is hard to see why this will not include risk modelling or risk analysis. In the immediate future it's use may grow slowly:

1. Right now, it is still somewhat in its infancy and therefore it is expensive.
2. The end of 2018 reminded everybody that the world and financial markets are unpredictable. Relying on mathematical predictions of the future is fraught with danger.
3. Regulators will need to accept the use of AI modelling and work out how to police it.

Longer term nobody wants to be seen to be behind the times. You cannot be criticised for using what is considered the best or the fastest. As financial institutions achieve success with AI then others are pressured into using it. More significantly could pressure from technology companies force banks and financial institutions into using it to ward off the threat of a Google Bank?

As AI is used more extensively within finance including risk management it needs to be used wisely. A risk manager should recognise AI limitations like any other Algorithm and be prepared to think outside of the proverbial or in this case more literal box. AI is like leverage, used the right way it can provide many benefits but used incorrectly it can multiply errors many times over.

As Jesse McWaters of the World Economic Forum notes financial companies should not be too eager to simply replace staff and that human skills will remain important even as automation becomes more widespread.

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The New Product Intervention and Product Guidance Rules (PROD)

These UK FCA rules came into force on 3 Jan 2018 as the UK implemented MiFID 2, so essentially have a wider application than just the UK. Known as PROD they require that product manufacturers (refer to as product providers) and product distributors (referred to as product advisers) have systems and controls in place to design, approve, market and manage products throughout the product's lifecycle to ensure that they meet the legal and regulatory requirements.

The UK financial industry has been saddled with a range of issues over recent years not the least of which has been the pensions mis-selling fiasco. This issue has severely impacted the financial results of many firms; accordingly, the introduction of regulation was both necessary and timely.

In terms of obligations at its most basic the onus is on the product manufacturer to outline which type of client their product is designed for, whereas the product distributor takes responsibility to whom the services are delivered.

Basically, this is all about due diligence and while there is not detailed guidance within the regulations, the objectives are clear cut. The analysis commences as follows:

Client Segmentation

The initial analysis commences with client segmentation. This is required for any business anyway to identify those clients that yield the greatest return or where the firm has a niche advantage to enable them to succeed.

This segmentation needs to focus on what meaningfully differentiates risk within the client population, taking account of the customers' expectations, assets and needs. Clearly some of these factors will be qualitative whereas others are quantitative – but nobody said this was supposed to be easy. Only when you have this analysed can it be appropriate to move towards showing whether the population segment is likely to have a need for a specific product.

Target Market

Firms already have target market analysis identifying the types of clients that are most likely to be responsive to a particular product or service. Under PROD this is taken a bit further and will look to understand the nature of the suitable client. This will include an assessment being made of their financial knowledge and experience. It also needs to consider their ability to withstand losses or the customer's risk appetite.

We all know clients tend to want the same thing, a high return at no risk. Many say they can suffer losses, yet when such losses occur there is an unwillingness to accept or a surprise element that is a concern. This needs to be properly assessed and documented. There also needs to be a clear understanding as to the customers for whom the product is unsuitable. Remember you cannot sell customers products that are not suitable for them. In many ways again you would not need regulation to make this clear. If you sell a customer an unsuitable product it would likely lead to a complaint anyway and the customer being compensated in some way – responsible and successful firms will not likely do this.

Product Governance

Product manufacturers are required to regularly review the products and services that they have developed to ensure that they remain fit for purpose. At the same time product distributors need to make sure that they fit the needs of their target market including its characteristics and goals. Of course, as this is conducted the distributors may well identify clients that are now in the wrong product and this will lead to them taking actions to prevent either complaints or rule breaches.

So, what should the product manufacturer actually do? Researching the market, looking at competitor strategies and stress testing both the markets and the customer segmentation analysis all seem to be required. Reports need to be generated highlighting that this has been successfully completed to be provided to the governance committees of the organisation to ensure that there is full senior management responsibility and that an audit trail is retained. This is going to need economic as well as market and business analysis, none of which is likely to be easy to obtain or complete.

In looking at the operation of the product and how it works in practice the firm will need to consider the return that the product achieves (or will achieve) as opposed to the risks that exist. This will include taking a view, where necessary on a range of external factors including market volatility. That these rules are coming in while the UK is under a Brexit trajectory uncertainty and a range of international elections all makes this even harder than would normally be the case. You would expect senior management to keep close monitoring of product performance to ensure that the results and the indicators or performance criteria remain aligned.

Financial History and Strength

Throughout the regulations that are being implemented, whether MiFID or Outsourcing, for example, the importance of financial strength is being emphasised. It is here within PROD where the financial strength of the manufacturer needs to be properly assessed. Other matters that need to be considered are the concentrations that might exist, the behavioural liquidity risks under stress and anticipated inflows and outflows that could undermine the product.

It needs to be recognised that this focus on financial strength is likely to be detrimental to new entrants and could form a barrier to competition leading to a flight to quality. If this is the unintended consequence that an amendment to the regulation will be likely to ensue.

Systems and Processes

The end point of sale issues which arise either at sale or subsequently need to be considered. This is not only the controls and processes that the product manufacturer applies at point of sale as we have discussed already, but also how complaints will be handled efficiently and effectively. These could also occur as the financial product reaches maturity, so some awareness of the continuing risks and controls needs to be considered.

As always, this discussion is limited to a few of the issues which are included within PROD. What is clear is that firms will need to take these rules seriously and look to ensure that there is adequate documentation ensuring compliance. Senior management need to be made aware of their responsibilities in this regard through Board meeting debriefs, training and presentations and these needs to be clearly documented within the information provided to them. Internal audit and the second line of defence need to align their scope and processes to ensure that such matters are addressed efficiently and effectively. There is a lot to this project and the new processes will be ongoing throughout and beyond the end the sales cycle of products until they are fully closed out. But the gains are clear for any firm – there should be less mis selling and never again a problem such as the PPIU crisis.

Debriefs for the Board and senior management plus training for product teams is available from Risk Reward Ltd. Please [click here](#) for a rapid response or contact Dennis Cox at DWC@riskrewardlimited.com.



Rebuilding Confidence in the Financial Services

The nature of the financial economy has never been under greater scrutiny. With high profile failures colouring the judgement of the population including politicians and regulators, it is important for the industry to both learn the lessons of the past and change to achieve the level of trust that is necessary for effective functioning.

Much has been written about the failures of the few that have tainted the views of the many. It is important for the market to be assured that these cases were essentially isolated and that the ethical standards of most of the financial services industry have not been compromised. This is true in our industry just as much as it is the case in all other industries from manufacturing to accountancy.

As we cannot change the past, we can change the future. The more that commentators focus on raising the profile of past mistakes, the more that they have the impact of reducing trust in our industry. What is needed are solutions to the problems that are faced which can be implemented efficiently and effectively. That is not going to be easy. This article considers what can be achieved and the impact that this is likely to have.

The Changing Model

The model of financial services is changing rapidly. Some of this is driven by changing regulation and other parts are driven by customer demand. New competitors are entering the financial landscape and some of these are coming with brands that are well known and trusted. The costs of both competing and meeting the regulatory requirements are difficult to balance. Shareholder value will dictate that some of the current market participants will find it increasingly unprofitable to remain in some of the markets where they are currently active.

Historically the branch network and infrastructure of the banks was seen as a barrier to new entrants. These barriers no longer exist in an increasingly automated world where the historic costs of a branch network could be seen as prohibitive. New entrants will come with cash and reserves, resulting in their being interested in income generative activities only. One consequence of this is likely to be the end of so-called free banking and a lack of demand for deposits. Another will be

increased speed of processing as historic waiting and checking periods are essentially eliminated.

Financial institutions will need to carefully assess their business models to rise to these challenges. This will include reviewing how they are financed and ensuring that the structure of their firm does not have the impact of rendering them uncompetitive. Systems and controls, not least to identify financial crime and fraud, will need to be built into real-time algorithms that are reliable and tested. However, the conundrum of dealing with multiple levels of controls while enabling ease of use will be a recurring theme.

The Changing Regulation

Much of the regulation that has been implemented in the last few years has been a response to the problems that have been identified. The revised senior managers regime, the new product rules and the revised money laundering directive are all part of this. **What the industry and the regulators need to do is communicate to the general market what has been done to change the industry to meet forward thinking demands.** The limited understanding of these changes even within the industry and with financial commentators is a constant source of concern.

We need to ensure that these changes are really implemented, and the regulator clearly has a major role to play in this regard. It is right that failures should be acted upon and action taken, but the number of responses that are being implemented at the same time also increase the risk that change itself becomes a major concern. This needs to be managed with the greatest of care. These changes need to be effectively communicated. Problems do not exist throughout the industry although there is the public perception that they do. You deal with perceptions through effective communication, not necessarily by damaging the ability of the industry to achieve the goals society sets for it.

The level of capital and liquidity that the financial institutions are required to now hold does not serve as a measure of an increase of trust in those firms. Most people do not understand terms such as risk weighted assets or capital adequacy. They likely do not fathom the role of stress tests and recovery and resolution plans and probably do not read them. Consequently, **increasing trust cannot focus on such matters, rather it is needs to focus on behaviours and actions.** Indeed, to increase the efficiency of the market bringing back an element of the losses of the few being picked up by the many is likely to be required.

Remuneration Policies

Much concern has been expressed globally about the role of shareholders in holding Boards to account. It needs to be recognised that not all banks and asset managers are publicly listed companies, and many have dominant shareholders. The regulations published by the Bank for International Settlements already state clearly that remuneration policies should not encourage inappropriate risk taking. We need to see these remuneration codes being adopted globally through the implementation of suitable regulatory standards, rather than listing rules to be effective throughout the industry. It cannot be justifiable that levels of bonus can only be achieved based upon short term goals.

No one is advocating adding more people to boards of regulated firms to represent single interest groups. That will be detrimental to the achievement of goals and missions which as part of the ICAAP process are already reported to and essentially approved by regulators. Rather the role of the non-executive directors should be both supported and enhanced to ensure that they meet the demands that the rules currently in place set upon them. By appointing an independent risk specialist on every regulatory Board as opposed to a finance professional the risk assessment conducted by the Board aligned to its risk appetite will be subject to the required level of

independent scrutiny. This opinion is that such a decision will provide the necessary additional oversight required.

The financial industry is a long-term business where short term decisions can impact long term success negatively. Accordingly, remuneration policies need to reflect this, and appropriate performance attribution analysis conducted leading to the true worth or value added being identified. Compliance with this code should form part of the annual report and accounts of the firm and be independently opined upon.

Increased Automation and Artificial Intelligence

As firms are increasingly concerned that rules are being breached or that bias is creeping into the way that they are working, this has led to an increased use of automation. Who has not had a negative experiences of automated call centres whether they are related to credit card companies, banks or telco businesses? The challenge within the financial services firms is that while such automation ensures that there is no bias and rules are complied with, much of the public loathes the process leading to a further erosion in affection and trust.

As payments are increasingly being made real time and new payment platforms or messaging systems introduced, **the march of the real -time world is relentless**. Part of this is regulatory driven and part customer driven – little has been industry driven. The advantage for the customers will be that costs of payments will reduce. The negative consequence is that controls will need to be preventative and leading replacing detective and lagging processes and procedures.

Providing customers with the level of security that they need with a process of systems and controls commensurate with their expectations is always likely to be difficult and is sure to lead to complaints. Many use a mobile device for payments yet have never checked whether it has already been infiltrated by third parties. Others rarely if ever change passwords. There is only so much any industry can be expected to achieve and indeed the education referred to earlier must be part of the solution to ensure that consumers appreciate the problem.

Corporate Governance

To meet these challenges is an opportunity for any firm. Those that can develop a business that is sustainable in the medium term, meeting the needs of their target market efficiently and effectively are more likely to succeed. Indeed, increased long-term shareholder value is likely to be the consequence of these changes, rather than being the driver.

The economic environment and the speed of change render a requirement for higher quality senior management. Management need to critically analyse themselves to identify areas where additional skills are required and then either bring them in or acquire them. Reporting to senior management needs to be reviewed to ensure that it no longer purely focuses on the short-term view but at least the five-year view aligned to the ICAAP. Risk management and compliance functions need to actively ensure that the necessary monitoring is in place to provide senior management with the levels of assurance that they require.

Financial Reporting

Currently the financial statement that companies prepare are most suitable for the tax authorities. They do not include many of the assets which a firm has, for example its clients, products, intellectual property and skills. **If these are the true values of the firm, then none of them are clearly shown in a consistent basis in current accounting and consequently are not audited**

by external firms.

A review is required to reconsider the role of statutory accounts to enable them to meet the varied stakeholder requirements. Societal measures should be included within this analysis as well as a valuation applied to what are currently referred to as intangibles. This would then lead to a series of audited scorecards, with the existing tax accounts being relegated to a lower priority. If these processes are to be adopted, then they need to be standardised and generally accepted. Such transparency will likely lead to improved ethical behaviour, but again in the longer term will also lead to increased shareholder value.

Education

It is perhaps surprising to the general public how few people working in financial services are qualified in a relevant topic. There are professional trade organisations and bodies providing qualifications that are of real value. (Noteworthy is the important work conducted by the Chartered Institute of Securities and Investment in this respect.) Banking and finance professionals, managers and staff do need quality accredited qualifications and to achieve them training solutions readily available with the regulator providing the necessary impetus leading to their take up.

These qualifications need to focus **not only on technical issues of banking** (whether investment banking or commercial/retail banking), asset management, wealth management, treasury and insurance; **but also, on ethics and regulation**. Indeed, a *compulsory* qualification addressing these latter issues should be required for all approved persons.

Education should not just be limited to members of the industry, however. Society should accept some level of responsibility for its role. It is perhaps surprising that our education system is happy to explain the role the Romans played and the industrial revolution yet does not explain why a pension is important or the role of insurance. Higher investment in financial literacy should ideally form a part of the general curriculum for all schools, leading to more intelligent purchasers – surely the greatest of all financial societal economic controls.

This article is intended to be part of the current industry and societal discussions surrounding trust and integrity in the financial and as always, any comments are gratefully accepted.