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The future of regulatory management: From static compliance reporting to dynamic interface capabilities

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The future of regulatory management: From static compliance reporting to dynamic interface capabilities

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ABSTRACT

Historically, businesses have treated regulations as a necessary evil, and thereby managed them by reactive and siloed approaches towards minimum compliance. In this article, an approach for "future regulatory management" is presented. From an overview of how regulations have evolved over time, an analytical framework is applied to outline the capabilities required for managing regulatory change in the future. In addition, we offer five design principles that will give firms a chance to innovate with regulatory change rather than just continue to fight with compliance requirements. Instead of being viewed as "the perpetual ogre, the bad guy who is against good things" [Levitt (1968)], you could be the company that customers turn to as a role model.

1. THE FUTURE DEMANDS NEW CAPABILITIES TO MANAGE EVOLVING REGULATIONS

Since the financial crisis of 2008, discussions about regulations have focused on the increasing burden and the difficulties companies face in remaining compliant [Arner et al. (2016), Gerlach et al. (2016)]. There is nothing new in that perspective. Businesses have always treated regulations as something that needs to be avoided or minimized [Levitt (1968)]. Flagrant examples of avoidance include food poisoning, workplace safety, and even child labor [Minzberg (1984)]. Instead of viewing regulations in a positive light and being proactive, companies tend to implement regulations in silos, be reactive, use checklists, and apply point technology solutions [Freij (2017)]. Some financial institutions continue to evade regulations through the use of the so-called "shadow banking" [Worstall (2015)], spending resources to avoid rather than embrace and implement new regulatory requirements. To change the approach to managing regulations, companies need to look beyond executing strategic political management [Oliver and Holzinger (2008)], engaging in regulatory avoidance [Fox-Wolfgramm et al. (1998)], and influencing authorities via regulatory capture [Dal Bó (2006)]. A new set of guiding principles for building capabilities is needed. Instead of a burden, regulatory change can be seen as a trigger for radical innovation [Bieck and Freij (2010)], creating opportunities for "first mover advantages" and innovation [Lopez and Roberts (2002)].

This article will look back at the history of financial regulations and attempt to apply innovation theory to understand its implications [Fagerberg et al. (2012)]. Innovation is rarely considered by managers (and researchers) when discussing regulations [Frame and White (2004)]. By using innovation as a starting point, firms can manage the implications of regulations in a strategic manner to generate value and advantages vis-à-vis competitors. In order to direct such efforts, six capabilities are outlined to support the strategic and operational management of the impact of regulatory change. These capabilities form the basis for creating a strategic regulatory management function. By acquiring, nurturing, and executing these capabilities, firms and regulators can view the financial services industry not as internal silos based on single products and processes, but instead as a dynamic ecosystem with interconnected institutions [Jacobides et al. (2014)].

Understanding how regulations evolve, and how companies address them in different ways, will help both regulators and managers make better decisions in the future, hence avoiding repetitions of previous crises [Jacobides and Winter (2010)].

2. AN ANALYTICAL FRAMEWORK TO UNDERSTAND THE IMPACT OF REGULATIONS

The events depicted in research on regulatory change underscore the importance of viewing regulations as a source of change and the need to understand their impact, as well as any requisite response. The complex dynamics involved when regulations change mean that they need to be viewed and managed as new tasks. Firms are exposed to a variety of challenges as they move from grasping the impact of a regulatory change on operations to the corresponding implementation of the requirements. The complications associated with implementation are due to the fact that "changing regulatory requirements are creating a derived, albeit uncertain, demand" [Pilkington and Dyerson (2004)].

2.1 Firms face difficulties in implementing regulatory change

The complex implications of a change in regulation make it difficult for firms to manage the implementation of the corresponding requirements. Regulatory change creates different types of new requirements [Abernathy and Clark (1985)], influences the role of new and existing products and services, as well as how they are connected [Henderson and Clark (1990)], and results in new processes that affect the role of internal and external providers and the interfaces between them [Jacobides and Winter (2005)].

The ways in which regulatory change influences firms has been observed in various industries. In radio broadcasting, regulatory changes gave new firms a chance to enter the market by exploiting new products, processes, and technology [Funk (2015)]. In the mobile internet market, regulations have influenced how firms introduce new services into the market [Tee and Gawer (2009)]. Similarly, regulatory change in the financial services industry has led to launching new products and processes [Jacobides (2005)].

2.2 Influence of regulations on management tasks

Research on regulatory change, and its implementation, point to three management tasks that describe the challenges firms face. The first task is to understand the industry dynamics. This task describes how the logic of an industry can be affected by regulatory change. The second task is to consider the relative position of firms [Funk (2015)]. The change in industry logic provides options for firms to find new roles in the value chain. The third task relates to integration of operations, in the form of arrangements within and between firms [Jacobides (2005)]. Examples of implications in this category include new products and processes, new sourcing arrangements, and new forms of collaboration.

2.3 Areas of actions when regulations change

Actions in relation to regulations and regulatory change are examined in studies investigating how the operations of firms are impacted. The implications can alter the focus of attention of a firm or business operations [Teece (1986)] by introducing significant modifications to products, processes, and technology (Figure 1). The evolution of regulations can prevent firms from implementing products and services as intended [Penrose (1959)].

Regulatory change impacts operations because of the associated implementation of new requirements. Impact has previously been noted in such areas as product development [Brown and Eisenhardt (1995)], customer and user requirements [Oliveira and von Hippel (2011)], and evolution in technology [Anderson and Tushman (1990)]. Internal research and development activities can look to regulations and changes in regulations for guidance and evaluation of new solutions [Nelson and Winter (1982)]. The role of customers and users in the market is also modified when regulations change, since their requirements might be updated, and firms translate these requirements and integrate them into product and process offerings [Richard and Devinney (2005)].

Table 1: An analytical framework to understand the impact of regulations

	PRODUCT DESIGN	PROCESS ORCHESTRATION	TECHNOLOGY PLATFORMS
Industry dynamics and logic			
Firm role in value chain			
Integration in operations			

3. EVOLUTION OF FINANCIAL SERVICES REGULATIONS

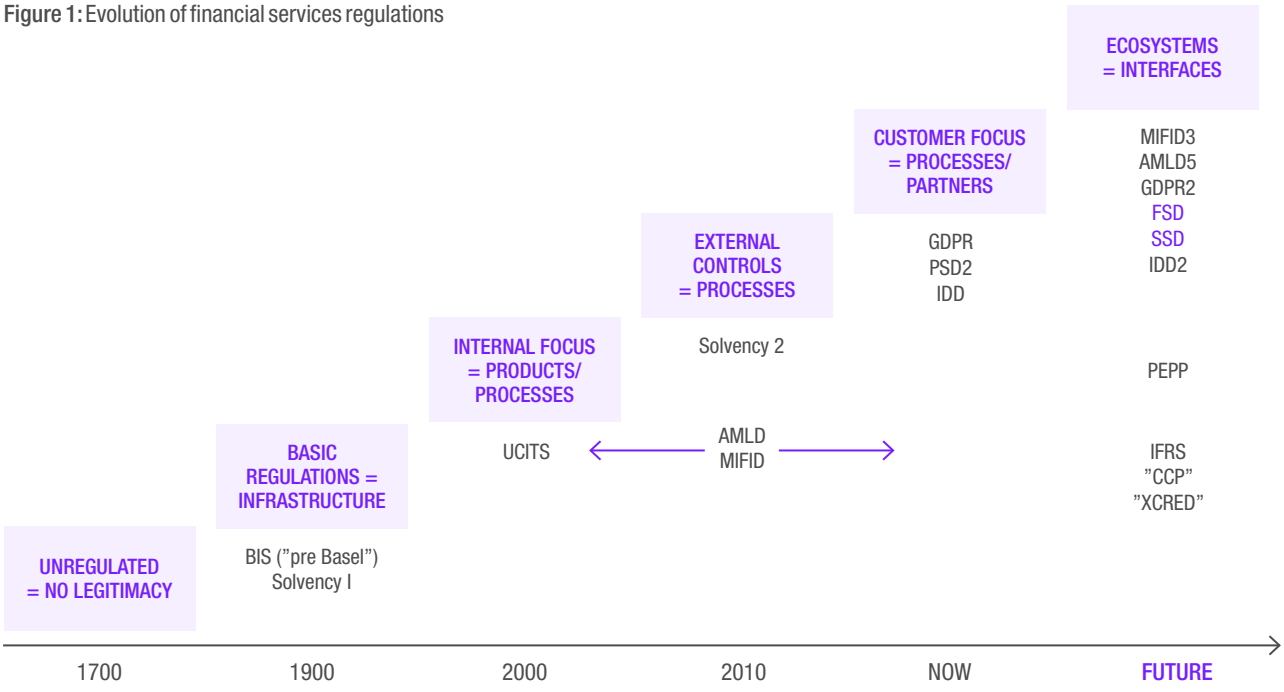
3.1 Current state of the debate on financial services regulations

Financial services executives have in recent years been complaining that the industry is “under assault by regulators” [Son (2015)]. This is an industry in which regulations and regulators frequently play a significant role in the evolution of firms and how they manage their business.

How firms view regulatory change in the financial services industry could be compared to “watching an arms race, a contest in which the rules get ever-more complicated as well-resourced banks try to outflank regulators and regulators try to catch up” [Wessel (2012)]. As this article is written, a typical financial institution is dealing with around 40 different regulatory changes [Moreno (2014)]. Most of these regulations are implemented at a central level in the firms, as well as by each business unit and local subsidiary. The complexity of the combined regulatory pressure could lead to the existence of up to a thousand different projects in each firm, where the potential benefits might reside in the individual project or in the combination of steps to implement two or more regulatory changes.

It should be added that while most of the public ire has been focused on banks, major insurance companies have also needed to be bailed out, such as AIG in the U.S. [Harrington (2009), Klein (2012)]. Due to these events, the insurance industry is subject to a growing list of regulatory changes as well.

Figure 1: Evolution of financial services regulations



3.2 Historic evolution of the financial services industry (and its regulations)

It can be argued that the first modern financial services organizations emerged as a result of the industrial revolution in the 18th century. The introduction of salaried labor drove their establishments so that available money could be deposited and withdrawn. At this time, institutions such as "widow and orphan funds," mutual fire insurance associations, and collective savings banks were largely unregulated [Lindmark et al. (2006)].

With financial firms growing larger, basic regulations to assure a fundamental infrastructure were introduced throughout the early part of the 20th century. This included the establishment of the Bank for International Settlements, as well as the introduction of Solvency 1 for insurance firms. The question asked here was: "Do you have the basic funds and structure required to support your business?" Firms needed to report balance sheets, income statements, capital reports, and cash flow analyses.

In another phase, moving into the 21st century, focus moved to better understanding of internal products provided and processes performed. Disclosures were demanded to cover more than the pure financial risk, and started to cover larger parts of internal operations. The introduction of regulations such as UCITS [De Smet (2012)] and MIFID1 contributed to an increased understanding of what firms offered customers and how the offer was presented.

In order to further shed light on how financial firms acted, the next area of focus was an extension of regulations towards external processes. This requirement came in the shape of regulations such as AMLD4 and MIFID2, where not only internal activities were scrutinized but also links to parties such as agents, intermediaries, and network connections were assessed.

The most recent evolution of regulations introduces a core of customer focus. A common theme is articulated as "consumer protection." Regulations such as the General Data Protection Regulation (GDPR), the second Payment Services Directive, and the Insurance Distribution Directive all emphasize the importance of protecting the customer against misuse of data and profit maximization from the financial services providers. This also includes increased scrutiny of the role of salespeople and advisors.

The coming era of financial services regulations will introduce further complexity through increased focus on ecosystems and interfaces. We might see a coming generation of regulations extending the demand for control across firm boundaries (could appear as, for

example, MIFID3, GDPR2, AMLD5) and further "open financial services" regulations (could be variants of PSD2 for funds and insurance in the form of Pan European Pension Products (PEPP) – opening for full flexibility and account transfers across the E.U.). On top of this added complexity, we will see additional evolution of basic reporting requirements (examples include new issues of IFRS, increasing counter-party reporting, and detailed reporting of credits given, like Anacredit). Finally, there are complex themes emerging on regulating fintechs [Alvarez (2017)], crowdfunding, sustainable investments/fiduciary duty, and the entire "digital economy" initiative from the E.U. (covering big data and internet of things).

3.3 Regulation, de-regulation, or re-regulation?

Will regulations for financial services increase or decrease (or even stay the same)? Many are hopeful that deregulation is on the cards and will lower the burden on the industry [Paletta (2017)].

It should be said, however, that the term "deregulation" is slightly misleading, since the removal of a regulation usually involves its replacement by another that may be perceived as allowing more (but for some actors less) innovative activities. Further, to characterize an industry as "regulated" or "unregulated" [Wiseman and Catanach (1997)] might be an oversimplification, since no industry is devoid of regulation. The level of regulation per se is of less importance than the implications of regulatory change. Firms will have difficulty forecasting the direction of change [Grasshof (2015)], hence preparation for the change is what will make firms able to consider novel actions.

As outlined above, the evolution of regulations over time (from unregulated to a focus on ecosystems and interfaces) has gradually evolved from internal implementation issues with a major focus on technology to a more complex issue of industry dynamics across functions in the entire company. As such, the different eras of regulatory development can be related to the analytical framework presented earlier. This historical picture forms the basis for identify six overarching capabilities for regulatory management.

Figure 2: Evolution of regulations in the analytical framework

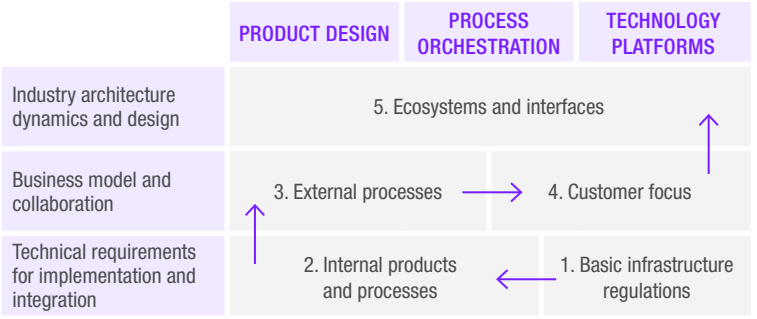
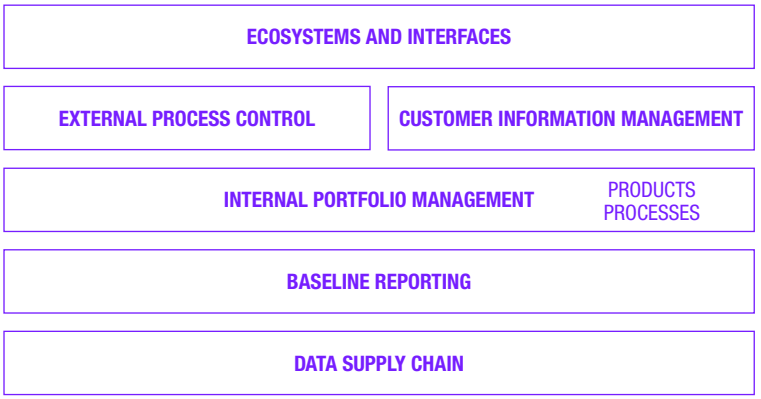


Figure 3: Capabilities required to capture value from regulatory change



4. CAPABILITIES REQUIRED TO CAPTURE VALUE FROM REGULATORY CHANGE

Based on the theoretical foundation, the analytical framework, and the observed historical evolution, six capabilities are identified to support the management of regulations and regulatory change in the future. The capabilities range from providing baseline reporting to the management of ecosystems and interfaces. Each capability contains a number of underlying functions, and examples of those are given below.

4.1 Data supply chain

As a foundation for future regulatory management, and any change that will impact the business, a platform to achieve commonalities across different business units and regulatory requirements is valuable. Financial services companies can be seen as a type of information processors and data handlers [Jacobides and Winter (2005)]. If the basic manufacturing facility for data and information is not in place, it will be difficult to deliver high quality products and services to customers and partners.

Underlying functions to the data supply chain includes design of standardized data feeds, the use of artificial intelligence and machine learning, ETL (Extract, Transform, Load) processes for data, development of data lake(s), and an underlying and supporting ontology (including data models and glossaries).

4.2 Baseline reporting

The fundamental reporting of the status of a business is the essence of a modern functioning capitalist society [Baldwin (2008)]. A financial services firm is subject to additional scrutiny due to the responsibility to manage "other people's money." Increasing levels of oversight have evolved across the introduction of Basel 1, 2, and 3 [Jones (2000)] as well as the corresponding insurance regulations Solvency 1 and 2 [Klein (2012)]. Recent developments have been triggered by the requirements from EMIR in securities processing.[1]

Baseline reporting includes functions to report on topics such as financial statements, risk management, credit data, and counterparties.

4.3 Internal portfolio management

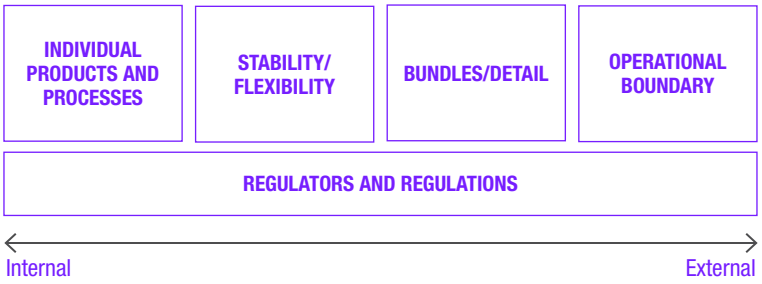
A portfolio with a range of internal processes and products needs to be managed as part of several regulations. This is applicable for fund products under UCITS, PRIIP, and also numerous local product centric regulations. Processes are central to earlier versions of AMLD and MIFID and parts of the Solvency 2 and Basel 2 and 3 accords.

For products, requirements should support product approval, performance management, and component sourcing. Process capabilities can include robotic process automation, process optimization, and performance management.

4.4 External process control

The increasing importance of regulations not only covering the internal company scope, but also looking at the process beyond the boundary of the firm, increases the need for standardization [Hülsse and Kerwer (2007)]. The complexity and severity of not managing this context is increasing [McIntosh (2016)]. Regulations, such as AMLD4, MIFID2, as well as sections of Basel 3 and Solvency 2, contribute to the change in scope.

Figure 4: The capability to manage interfaces



Quality assurance, fraud management, and business process optimization are examples of functions needed for this capability.

4.5 Customer information management

Taking the next step in evolving regulations, the need to have capabilities to support customer information management should be considered. The functions here are not the same as those needed in a market oriented CRM capability (but there are certainly overlaps and synergies). Functions needed are crowdsourcing, 360 view (both from the inside and the outside), and customer journey management.

4.6 Ecosystems and interfaces

The future of regulatory change in a coming generation is expanding into the need to manage ecosystems and interfaces. The prediction is that further regulations will appear in what follows PSD2 and GDPR. In addition, continued dynamics in flow across country borders will be seen (as an example the emerging discussion about pan-European pensions, PEPP, can be put forward).

Functions required in this capability are: API management, business model innovation, alliance management, and co-creation.

The journey over time that resulted in defining the capabilities needed for the future management of regulations point to the need to understand and manage interfaces. An excursion is, therefore, made into how a capability to manage interfaces could be described.

[1] TradeChannel, 2017, "New RTS and ITS for EMIR published," January 25, http://bit.ly/2tx1IGz

4.6.1 THE CAPABILITY TO MANAGE INTERFACES[2]

The aforementioned six capabilities are outlined for successful management of historic, current, and future regulations and regulatory change. The inherent functional requirements inherent span from individual and internal products and processes to the management of the operational boundaries of the firm. The nature of these capabilities is in turn dependent on the design of a capability to manage interfaces.

When the new requirements from a regulatory change are implemented, the implementation serves as a new basis for addressing the next round of regulatory changes. In the current business environment (certainly in financial services, but also in other sectors such as the automotive and transportation), the queue of regulatory changes is mounting, so it is likely that a constant flow of regulatory changes will need to be managed.

A challenge in managing interfaces is that they are generally invisible, functioning as links between the (more visible) interacting parts of a system that they support. The detection of interfaces emerging because of increased integration from the impact of regulatory change is a step towards treating the interfaces as just as visible as the parts (products, processes, and technology) that were connected. In the course of establishing a design (which could be a new product, process, or technology), "the detailed interface specifications... need to be set in advance and known to the affected parties;" hence it is important that "interfaces are visible information" [Baldwin and Clark (2000)]. Interfaces describe in detail how functions in a system interact, including how they will fit together, connect, and communicate [Baldwin and Clark (1997)]. Interfaces are thereby required for integration to be established on different levels.

4.6.2 INTERFACES WITHIN INDIVIDUAL PRODUCTS AND PROCESSES

The initial action taken by firms after a regulatory change is to ensure that the basic compliance requirements are met. New features are added to products based on the content of the regulation. Processes will require new steps to fulfill the requirements from the changed regulation, or alternatively new processes may be implemented. Integration and corresponding interfaces within individual products and processes developed may include links between different product components and individual tasks in the new process. The function of the interfaces in an individual process is to facilitate handovers across different units or departments involved in the process. Attention to interfaces even within individual products and processes is needed, since the requirements arising from the regulatory change can be of a different nature from what the firm has been accustomed to managing before the change.

[2] This section is based on a more detailed outline in Freij (2017).

4.6.3 THE BALANCE BETWEEN STABILITY AND FLEXIBILITY REQUIRES INTERFACES

Following the initial actions taken to meet the requirements within individual products and processes, increased emphasis is placed on integration between the new products and processes and the existing ones. When the combination of new and existing products and processes demands flexibility, but also needs to maintain the previous stability, an increased focus on the impact on associated technology interfaces is required. In this stage, additional actions can be taken concerning product management to balance flexibility and stability in both new and existing products. The exposure of new functionality in products introduced in response to a regulatory change creates a risk that customers will lack understanding of the new offerings. Actions are taken here to determine to what extent the available products from before and after the regulatory change should be presented as joint offers to the customers in the market.

4.6.4 INTERFACES TO INTEGRATE BUNDLES AND DETAILS

A regulatory change introduces the need for products, processes, and technology to be broken down in more detail or, alternatively, allows options that are more aggregated than before the change. One approach to deal with aggregating detailed parts of a solution is bundling, where the firm decides which combinations of products, processes, and technology to provide. The level of balancing between bundles and details depends on the requirements in the regulation. The development of interfaces in the evolution towards increased integration after a regulatory change is necessary to maintain a balance between bundled solutions and the introduction of products and processes that are broken down and presented to customers in more detail. When an existing process for a bundled offer towards customers is integrated with a new process that (conversely) breaks down customers' options into more details, interfaces to integrate the two different processes are facilitated to manage the implementation of new requirements.

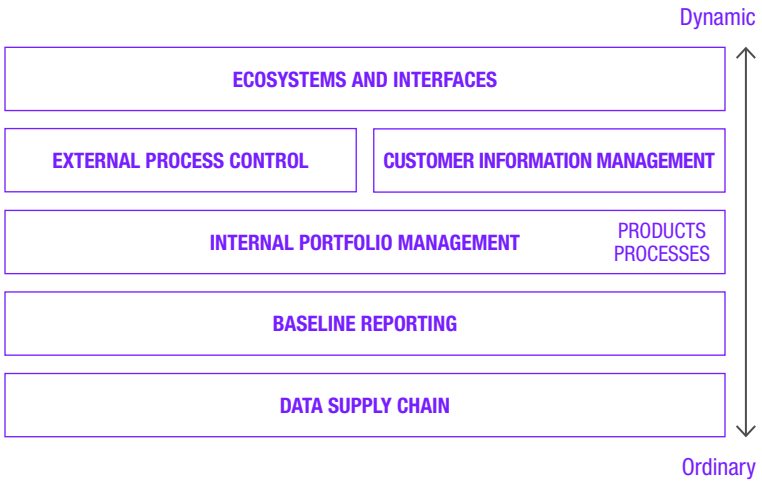
4.6.5 OPERATIONAL BOUNDARY INTERFACES

Towards the end of the evolution after a regulatory change, the focus turns to interfaces that address the operational boundary between the firm and adjacent actors. As new products, processes, and technology are integrated with existing offerings, customer involvement increases since the customer has more options to choose from. Customers are also more involved in the decisions related to the configuration of the offering based on products and processes so as to provide more flexibility as a result of the regulatory change. The need to integrate customer requirements in the products that previously have been managed only internally gives rise to new sequences of tasks (and also new tasks). Furthermore, new information is needed to match the customer's functionality requirements to the products provided. In addition, customers demand information about their specific situation and how it relates to their engagement with the firm and its products. Hence, it is not sufficient to communicate the same general product information for all customers. The increased focus on customers is due to the options available for them to make selections within the products available, which has associated repercussions for the management of product support processes and distribution. Tasks that match customer requirements may be performed with a higher or lower frequency (e.g., daily instead of yearly, or vice versa) as a result of a regulatory change.

4.6.6 INTERFACES TO UNDERSTAND REGULATORS AND REGULATIONS

After a regulatory change occurs, firms attempt to understand its implications and define their approach to implementing the new requirements. Each firm needs to understand relationships to other current regulations and what parts of the organization are influenced to determine its approach to implementation. In addition to considering the regulatory change in itself, the forces behind it also form part of the understanding, since

Figure 5: Capabilities to manage regulations range from ordinary to dynamic



differences in the process leading up to the regulatory change influence the actions taken by individual firms. These forces include lobbying, political desires, deregulation interests, and customer requirements. Competitors could act to infuse requirements related to specific products, processes, and technology into the regulatory change. If one's own firm has been involved in the activities leading up to the regulatory change, such activities form part of the understanding of the context of the change. Also, the views of political actors and customers will be reviewed to grasp the potential influence of the change.

4.7 An intricate balance of regulatory change: ordinary and dynamic capabilities

A regulatory change has two contradicting implications for firms, in that it can both create restrictions and open up new opportunities for changing the position of the firm. As has been noted, firms that manage to deal with the impact of regulatory change are in possession of the capability to manage interfaces.

Capabilities have previously been categorized into two types, ordinary and dynamic [Teece (2014)]. An ordinary capability is the basis for performing administrative tasks, such as compliance with regulations. A dynamic capability is applied to manoeuvre in a changing business environment and to orchestrate resources. The capability to manage interfaces as applied by successful firms after a regulatory change spans a range from ordinary to dynamic, which presents a difficulty for the management of new requirements. Regulations demand administrative capabilities to comply in an on-going operation, but when regulations change, the required capability shifts towards an entrepreneurial emphasis due to the intricate influences presented [Penrose (1959)]. The capability to manage interfaces is thereby related to the possession of institutional assets needed to manage the relationships with regulations and regulators.

The capability to manage interfaces is, therefore, both ordinary (administrative) and dynamic (entrepreneurial). Firms in possession of the capability to manage interfaces are better prepared to manage shifts in focus from pure compliance to understanding the impact on new products, processes and technology.

Moving forward, when summarizing the historical impact (and potential future requirements) of regulations and the capabilities and functions articulated above, five design principles are defined for the future of regulatory management.

> "There is an opportunity for financial services actors to harvest more value from regulatory implementations by applying a proactive, holistic, and constructive approach."

5. FIVE DESIGN PRINCIPLES FOR REGULATORY MANAGEMENT OF THE FUTIRE

There is an opportunity for financial services actors to harvest more value from regulatory implementations by applying a proactive, holistic, and constructive approach. When reflecting the historic development and the current initiatives in the pipeline, five design principles are identified to guide improved management of regulations in the future. The principles are: 1) digital economy grade data quality, 2) instant counterparty management, 3) full API connectivity, 4) customer interaction leverage, and 5) regtech plug-in architecture. The principles need to be addressed in their own right, but also constitute the building blocks of a strategic regulatory management function for the company.

5.1 Digital economy grade data quality

The maintenance and evolution of data to support the increased demands of baseline reporting will continue and will also be extended. The introduction of new accounting and reporting standards through IFRS (including IFRS9 for financial instruments and IFRS17 for insurance contracts) is one theme in this domain. Another is the further need for reporting on detailed credit positions (such as AnaCredit). In addition, the requirements for keeping reporting constant and flexible is increasing (see, for example, the Capital Requirements Directive no 4). It is both a matter of showing the numbers in static form, as well as providing

dynamic solutions for regulators to undertake their own analyses. One tangible example of this development is found in Austria [Wolf and Huber (2017)]. In addition, quality of the data needs to improve, where examples have demonstrated the need for improvement (e.g., in Sweden, where the supervisor "identified extensive quality deficiencies in the reporting of insurance firms").[3] Further, firms need to provide data lineage to show where the end result of the data reported comes from. This requirement is similar to when textile manufacturers needs to be aware of where their goods are produced (and if, for example, child labor is used in their production).

The increased focus of processing data and information is driven by, and inherent in, regulations such as BCBS239, GL44, Basel 3, Solvency 2, and GDPR. This drives the need to establish the capability for a data supply chain platform. Advancing data quality towards "digital economy grade" will be demanded to meet requirements of current (GDPR, PSD2, AMLD4, MIFID2, and EMIR) regulations better. In the future, for emerging regulations (such as, ePrivacy, other API driven regulations, AMLD5 – 6, and a potential revision towards MIFID3) the heightened threshold for data quality is simply a must-do.

5.2 Instant counterparty management

Over time, the gradual need to manage relationships with (and report on the status of) counterparty arrangements has grown. Implications of not having such arrangements in place were very visible in the wake of the 2008 financial crisis [Harrington (2009)]. Since then, the complexity of the "everyone-to-everyone" economy, with business and financial relationships has accelerated further. The increase in requirement in reporting data about counterparty exposure is, therefore, a second design principle for the future of regulatory management. The requirements are visible in, for example, Central Counterparty provisions under EMIR. The building of platforms for technical security and reliability can support the need for managing systemic risks in the financial services industry [Lopez (2017)]. The requirements are also driven by reduced cycle times in financial transactions [Abel (2016)] and the emergence of increased transparency in the ecosystem [Lenz (2016)]. Increased demands for understanding who are involved as counterparties in your business are in sight as a result of ESG (environment, society, governance) and the related sustainable investment policies [Rust (2017)]. Hence, solutions and systems need to be designed with the goal of always being able to determine the actors involved in any transaction.

5.3 Full API connectivity

Regulators and consumers have started to see the need for more transparency in the financial services industry. In 2018, a first step is taken for financial services firms to become significantly more open with regards to client data. This drive relates to both product and transaction data as well as personal data. Products and transactions are getting more open by the introduction of PSD2, which prescribes requirements to give other actors in the ecosystem data about what your customers have been doing. The management of personal data is entering a new phase with the launch of GDPR.

In the aftermath of implementing both PSD2 and GDPR in 2018 there will be two issues to consider. The first is operational, where a need to handle incidents and claims will surface. An assumption is made here that there is a lack of preparation with regards to the requirements outlined, and that there is significant scope for interpretation of regulatory requirements. The second is strategic, and relates to the need for the management of interfaces and ecosystems to be elevated. New functions and tools for the evolution of business arrangements need to be put in place [Jessel (2016)].

When APIs are increasingly published and connected, new forms of business can be executed [Egner (2017)]. Here banks and other financial institutions could engage in creative business models. One example of such models is to establish a position as "quality controller / certification authority" of data and relationships.

5.4 Customer interaction leverage

A mantra in regulatory and risk circles in recent years has been "know your customer" (KYC). In essence, the notion of knowing your customer is positive, and should lead to dedication and energy from financial services firms. Currently, on the contrary, the view of "KYC" is a burden of populating forms and asking numerous questions from the client. In the future, when continued operationalization and integration of processes related to MIFID2 and AMLD4 evolve, the data captured about the customer will need to be "collected once, used multiple times." This design principle further enlightens the need to better

[3] Finansinspektionen, 2017, "Reporting of insurance firms (summary)," November 7, http://bit.ly/2FCYwbQ

orchestrate processes connected to the relationships with customers. Included here is the ability to combine insight that is needed for requirements to report on, for example, money laundering with offering of better solutions to customers in terms of products and services. An important task here will be to better align regulatory compliance investments with customer relationship management initiatives. A driver is the increasing amount (and complexity) of big data, where needs are imminent to better make sense of massive data sources [Sidhwani (2016)]. Customer interaction leverage implies that data should be captured only once and then published across products, processes, platforms, and interaction points. This can significantly improve the depth and quality of financial advice, and allow for an efficient coexistence of supporting technology and human-centric relationships [Davenport (2017)].

5.5 Regtech plug-in architecture

To support the requirements to better manage the impact of regulations and regulatory change, "regtech," which is emerging on a larger scale as a spin-off from the fintech scene [Larsen and Gilani (2017)], has evolved. The growth in regtech solutions, providers, and technologies show indications for promises but also challenges [Weber (2017)]. Here, both incumbent technology actors, as well as new entrant entrepreneurs, offer solutions for one or more of the capabilities outlined above. Technologies are both established (such as analytics and process automation) but also emerging (such as artificial intelligence, machine learning, and blockchain) [Treleaven and Batrinca (2017)]. An imperative for building future capabilities will be the utilization of potential solutions offered by the regtech ecosystem. Financial services firms seeking to benefit from regtech solutions should develop an architectural vision and plan for which capabilities need support and how to integrate regtech components in their current and future solution architecture. A regtech buyer should also consider potential generic reuse and not just buy for point compliance. In order to do this, an approach based on functional match, architectural alignment, and reuse is fundamental to success [Butler (2017)]. Hence, we can avoid duplication in capability delivery and technical functionality. Each firm collaborating with regtechs should have a clear view of where the solution should be plugged in, from both process and functional / technical architecture perspectives.

CONCLUSIONS AND RECOMMENDATIONS

Changes in regulations, and associated requirements, will continue to play a significant role in driving innovation, changing the industry structure, and forming a large part in the investment budget of financial services firms. What can firms do to get more leverage from their investment, and also promote their business positions? Three actions are proposed here: 1) establish a function for strategic regulatory management, 2) consider innovation effects in every regulatory project, and 3) follow the five regulatory management design principles identified.

To establish and operate a function for strategic management of regulations, the focus should be on acquiring the six capabilities outlined earlier. To understand how to develop these capabilities you first need to investigate the historic approach taken by your company in relation to implementing regulatory requirements. You can refer to the historical evolution outlined in this article. In this step, you should also consider the business strategy, business model, and priorities of the company. Secondly, an analysis of a selected number of past, current, and future regulations, relative to your status under each capability should be performed. Thirdly, the identification of gaps to bridge (and the value of investing in them) needs to be performed. In the fourth step, you investigate and discover the "regtech" ecosystem to identify potential partners and solutions by considering capabilities supported, regulatory coverage, and enabling technology. After these four steps are performed, you can create a roadmap, an action plan, as well as a list of quick-wins to be realized on the road towards "regulatory management of the future."

Organizations that adopt the ideas outlined in this paper will benefit by making more efficient investments into meeting regulatory requirements. In addition, they will find directions for capturing value in the fast-changing industry landscape. Finally, they will see clearly that there is no contradiction between innovation/digitization projects and compliance projects. Instead, the realization will grow that the two seemingly contradicting investment streams support the same goal in the long run – satisfied and profitable customers. The framework presented here can guide both firms and regulators to better understand the actual effects of technological innovation and the real effectiveness of financial services regulations [Kane (1981)]. In the end, the hope is that society stops looking at financial services firms as "the perpetual ogre, the bad guy who is against good things" [Levitt (1968).]

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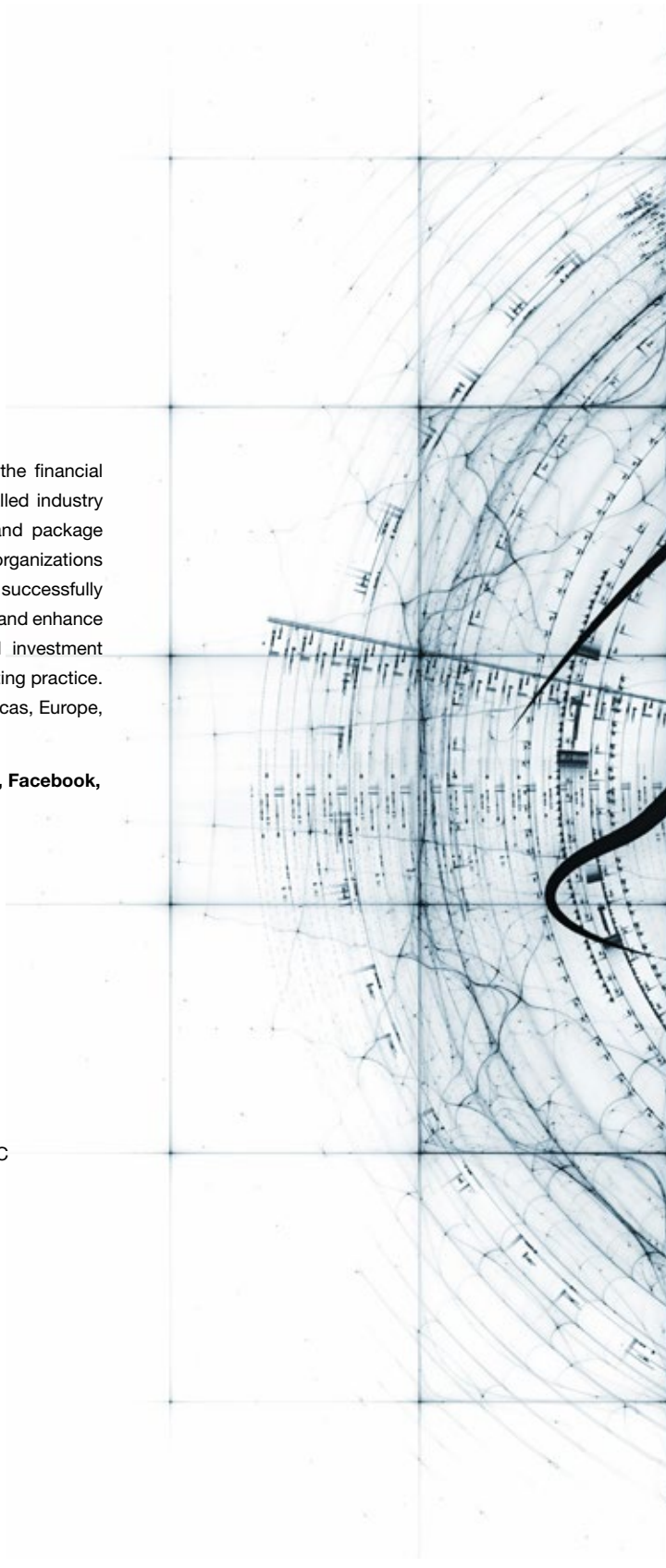

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