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IRSG Opinion on the Use of Big Data by Financial Institutions

This opinion is prepared by the Insurance and Reinsurance Stakeholder Group (IRSG) and responds to the specific questions set out in the Joint Committee's Discussion Paper on the Use of Big Data by Financial Institutions (JC 2016 86).

1. Description of the phenomenon

1. Do you agree with the above description of the big data phenomenon? If not, please explain why. Please, also mention whether you consider that other characteristics are relevant to understand the use of Big Data.

The big data phenomenon is captured well in the description.

However, one should be cautious with the assumption made in point 7, suggesting that there is an active demand from consumer for new types of services incurring the use of big data in financial services.

In this perspective, there is a big difference in the situation where a consumer makes an informed choice to use a service which uses personal data such as telematics and when they are unaware that it is being used, either because the firm is collecting this through social media or because it was through 'tick box' permission.

2. Which financial products/activities are (likely to be) the most impacted by the use of Big Data and which type of entities (e.g. large, small, traditional financial institutions, fintechs, etc) are making more use of Big Data technologies? In light of ESAs objective to contribute to the stability and effectiveness of the financial system, to prevent regulatory arbitrage, do you consider that there is a level playing field between financial institutions using big data processes and those not using them (e.g. because they do not have access to data or

the IT resources to implement big data processes) or between financial institutions or potential new entrants (e.g. Fintechs) using big data processes? Please, explain.

In insurance, the increasing use of big data will to some extent impact all financial products and activities. More specifically, underwriting and claims handling in lines of insurance of insurance with a strong behavioural component and marketing practices are areas where we expect the biggest changes.

Large financial entities and fintech companies might have an advantage over smaller entities in the initial use of big data processes, which could lead to issues of competition, but this can be said of almost any topic where economies of scale play a role, and smaller companies can have other advantages such as an ability to adopt new technology and business models faster and less IT legacy constraints.

In the light of promoting stability and effectiveness, instead of purely focussing on the mere access to data, the foremost questions ESAs will need to monitor is whether there are types of data which are allowed within existing regulation but are a) against the interests of consumers or the wider society or b) require greater disclosure and/or clearer approval from the consumer.

Consumer representatives within the IRSG also call for a broader discussion about which types of data should be allowed from an ethical point of view.

3. Do you offer/are you considering using big data tools as part of your business models? If so, please briefly describe: i) what type of entity you are, e.g. long established, start-up, a product provider, an intermediary, ii) the service you provide, iii) the nature of your clients; IV) your business model; V) whether the big data tools/strategy were developed by an external company or internally and whether you have related agreements with other entities (including non-financial entities); VI) what are the types of data used (personal, anonymised, used data, statistical data, etc; VII) the size of your big data related activity and/or forecast activity (e.g. to what extent are business decisions already taken on the basis of big data analysis; what other business actions could be based on big data in the future)?

Industry stakeholders consider leveraging data through analytics, for predictive and risk modelling, for example, as core to their business model from the start of insurance. However, big data allows elevating such analysis to a fundamentally higher level and across many different aspects of their business and as such represents a strategic differentiating factor for companies. These could include improved market and customer base analysis, the design of new generation products, process automation, improved fraud analytics and pricing & underwriting sophistication.

In their data strategy, privacy and security by design and by default approaches are being developed. Both personal data and anonymised data are being used.

Industry stakeholders acknowledge that the potential impact of big data tools is very significant, but at a very early stage of development and therefore the final impact on the business model, and both benefits and potential risks for the consumer cannot yet be judged fully.

4. If you are a consumer or consumer organization, do you witness any of the uses of big data? In what fields?

According to consumer representatives within the IRSG, the "pay as you drive" car insurances and "pay as you live" health insurances are examples of the increasing use of big data. Next to this, online marketing & advertising is becoming increasingly personalised, suggesting an increasing use of big data.

There is evidence that big data is being used across the whole product lifecycle, in pricing, product design, marketing, distribution and sales, claims handling and fraud detection. While firms underlying pricing models have not changed fundamentally, they are increasingly using additional internal and external data to supplement the information they receive from consumers. The most developed example of big data in retail GI is a car-based telematics devices, but retail GI firms are also exploring using telematics in other areas such as in the home.

It must be noted that the notion of consumer encompasses corporate clients/buyers who, like their retail counterparts, are experiencing the influence of Big Data tools on their risk management practices.

Big data is bringing a new perspective of risk approach where conventional procedures of risk management (including the use of Risk Management Information Systems (RMIS)) are being replaced with advanced instruments for risk identification, measurement and monitoring, which are made possible thanks to the huge quantity of data available anytime. Big Data is also improving the decision-making process about risks by executive management.

IT tools, such as governance, risk management and compliance (GRC) software, are playing a more significant role in supporting risk management activities. While IT/GRC tools are mainly used for reporting activities such as maintaining risk registers, risk mapping and risk dashboards, it is encouraging to see that they are beginning to support activities such as scenario analysis.

This development reflects the changing character of risk. As non-physical or intangible risks, such as brand and data, increasingly make up the bulk of business assets, the value of intelligent scenario analysis and data collection analysis, supported by IT/GRC tools, will also increase. This is an area where risk managers can develop expertise and contribute to their organisations.

6. Do you agree with the above short description, non-exhaustive, presentation of some of the main applicable requirements? If not, please explain why. Please also mention whether you consider that other legal requirements are essential and should be mentioned

We agree with the applicable requirements.

Additionally, we would like to point out that broader human rights and anti-discrimination legislation could come into play when using big data analytics[1].

7. Do you consider any of these regulatory requirements as unjustified barriers preventing you from using big data technologies? If so, please explain why. Please, also explain whether you consider that further regulation (including soft law/guidance, etc, and insofar as it falls within the scope/remit of the ESAs) should be introduced to facilitate the use of big data technologies.

The consultation paper describes the extensive regulation currently in place covering big data related issues. However, as big data technologies are introduced progressively, regulatory requirements should be upgraded if there is a proven need.

For example, in the future some principles coined by the GDPR might need further clarification, including soft law and guidance provided by Article 29 working party/EDPB to avoid duplication regulatory requirements. Principles like purpose limitation, explicit consent, and the right to be informed about (and object to) automated decisions are crucial to make big data analytics work in the interest of both consumers and industry stakeholders.

[1] Exemplary is the prohibition to discriminate based on gender, following the Test-Achat case.

2. Potential benefits and risks for consumers and financial institutions

8. Do you consider the potential benefits for consumers and respectively financial institutions to be accurately described? Have you observed any of them in practice? If so, please, provide examples. If not, please, explain whether you are aware of any barriers that may prevent the above potential benefits from materializing?

In general, the potential benefits for consumers and financial institutions are well described. However, the extent to which they, or indeed any of the risks, will materialize remains uncertain.

Tailored insurance policies and more personalized premiums can, in theory, lower the cost for low-risk policy holders, while some evidence suggests that high-risk policy holders (e.g. young drivers) have better access to car insurance.

One additional benefit of the use of big data which is not mentioned, is its usage by supervisory authorities. Algorithms could be e.g. designed to test other algorithms for bias, discrimination, or other principles.

In general, big data analytics should be designed to work in the interest of consumers. That way financial institutions will also benefit from more engaged and better informed customers, buying more tailored and personalised products. But the emphasis must be on consumer protection and 'putting the customer first'. If not, there is a danger that consumers will either be unaware of the benefits of big data or be mistrustful of its use.

European businesses, as corporate clients of insurers, will also be impacted by the innovative products developed by the insurance sector through the massive use of Big Data tools. Having professional risk and insurance managers in place could certainly support European organisations to ensure a constructive dialogue with the insurers and make the best out of these new benefits while mitigating the risks.

It is important to ensure that European industries continue to benefit from the best possible access to insurance solutions and capacities to protect their assets and remain competitive globally in their operations.

9. Do you believe that big data processes may enable financial institutions to predict more accurately (and act accordingly) the behavior of consumers (e.g. predicting which consumers are more likely to shop around, or to lodge a complaint or to accept claims settlements offers) and do you agree with the description of the risks identified for consumers and respectively financial institutions? Have you observed any of these risks (including other risks that you are aware of) causing detriment to consumers and respectively financial institutions? If so, in what way? If not, please explain why. Please,

also mention whether certain risks for consumers and financial institutions have not manifested yet but have the potential of developing in the future and hence need to be closely monitored by Supervisory Authorities

In general, we agree with the potential risks identified in this paper.

In the insurance area, the individualization of risk profiles does present some potential concerns for the principle of solidarity and risk pooling, and on individual premiums, potentially affecting badly more vulnerable consumers. The use of micro risk assessments means that there is a risk that some people may not be served at all. We would like to invite EIOPA to closely monitor this evolution as this not only could affect consumers but also current business models.

One additional risk worth mentioning is the possible exclusion or discrimination of privacy-minded consumers, unwilling to give sensitive private information (e.g. geolocation, wearables). Industry stakeholders argue such consumers need to accept they may not benefit from discounts because their risks are more difficult to assess than those choosing to share more information.

Recognition must also be given to the basis of insurance that requires risks underwritten to be random and to avoid "adverse selection". Therefore, asymmetry of data access that allows consumers to buy insurance based on data they have access to but to which insurers are not allowed or able to access also needs to be monitored.

Concerning price discrimination based on a range of non-traditional factors (e.g. online behavior, social media metrics), research in the United States shows that half of large insurers are using it, triggering in some cases regulatory invention[2] where inappropriate use of data was found. In this context, we call for a close monitoring of this specific risk.

Industry stakeholders argue that care must be taken to avoid that any monitoring put in place to assess if/how the potential risks are evolving, do not themselves create barriers for innovation by creating significant costs or operational complications.

10. Is the regulatory framework adequately addressing the risks mentioned above? Bearing in mind the constant evolution of technologies/IT developments and that some of the above mentioned regulatory requirements are not specific to the financial services sector (e.g. GDPR), do you think further regulation is needed to preserve the rights for consumers of financial services in a Big Data context? Please, explain why.

The current regulatory framework, especially the GDPR, sets out good principles to address the risks stemming from big data. However, the increasing complexity of big data analytics

[2] https://www.treasury.gov/initiatives/fio/reports-and-notices/Documents/2016_FIO_Consumer_Report.pdf, p5

and its effect on market outcomes may require further clarification in the future in the specific area of financial services.

The regulatory framework will also have to be clear on the issue of ownership of personal data as this crosses different regulatory boundaries. Consumers are generally unaware that personal data such as that gained from social media activity is being used to make decisions about the outcomes of claims and even sold to third parties and regulation. Even though this may touch various regulators this must be addressed.

More in general, consumer's access to basic financial services should not be impeded using big data analytics. More specific market intervention measures might be needed over the longer term to accommodate this.

11.Do you agree that big data will have implications on the availability and affordability of financial products and services for some consumers? How could regulatory/supervisory authorities assist those consumers having difficulties to access financial services products?

Big data analytics can have benefits which can make financial products more widely available and affordable, but could also have a major negative impact on the affordability of insurance products, especially for vulnerable or digitally illiterate consumers

According to consumer representatives of the IRSG, specific product/price regulation might need to be envisaged (e.g. restricting the scope of individual risk based pricing) by supervisory authorities to mitigate these risks. Given the significant adverse impact re-purposing of personal data could have on consumers' ability to access general insurance products, they also suggest the ESAs to consider legislation that stipulates the use of big data for the calculation of insurance premiums should be subject to the consumer's explicit consent.

Industry stakeholders point out here that there is significant current regulation covering big data related issues and therefore there at the current time no regulatory steps are needed ESAs should continue to monitor the market, as these developments are at an early stage with benefits and risks unclear.

12. Do you believe that big data processes may enable financial companies to predict more accurately (and act accordingly) the behavior of consumers (e.g. predicting which consumers are more likely to shop around or to lodge a complaint or to accept claims settlements offers) and could therefore compromise the overarching obligations of financial institutions to treat their customers in a fair manner? Please explain your

response.

As set out in our response to Q9, big data analytics will provide more risk and behavioural insights of consumers. Monitoring will be needed to ascertain whether this not will compromise their obligations to act in the best interest of their customers.

For example, data on an individual customers' propensity to shop around could be used to inflate prices for loyal customers.

13. Do you agree that big data increases the exposure of financial institutions to cyberisk? If yes, what type of measures has your institution adopted or is going to adopt to prevent such risks? What could supervisory/regulatory authorities do in this area?

Huge volumes of data and multiple data flows may lead to an increase of risk of potential data breach. As we are talking about very sensitive (consumer) data here (purchase history, financial situation, geolocation etc.), cybersecurity should be given utmost priority.

Therefore, firms should invest firmly in effective countermeasures, including improved risk management, detection strategies and awareness.

Cyber security requires an enterprise-wide approach and the implementation of an Enterprise Risk Management (ERM) methodology would support the identification, collection and assessment of risks linked to the use of Big Data.

The ERM is common practice in large European groups; it is a well-established methodology that allows the assessment and the treatment of all significant risks threatening the organization's objectives

An ERM approach, conducted by certified risk professionals, ensures that the risks are considered beyond the IT function, i.e. for all the operational functions, and from top to bottom of the organisation.

The management of this new type of exposure should be reflected in the governance of these institutions, notably by being on the agenda of the Audit and Risk Committees which are supporting the Board.

Next to this, the upcoming GDPR is raising the bar and the requirements on any companies dealing with customer's personal data, in terms of security and obligations following the detection of a data breach.

14. Would you see merit in prohibiting the use of big data for certain types of financial

products and/or services, or certain types of consumers, or any other circumstances?

At this stage, existing regulation provides the necessary protection and there is no specific area where there is a clear need for, or benefits of, bans. But, as stated before, supervisory authorities should be monitoring the potential detriment of the use of big data.

If certain parameters in big data analytics are shown to create consumer detriment then actions including possible restrictions, bans etc. should be considered.

15. Do you agree that big data may reduce the capacity of consumers to compare between financial products/services? Please, explain your response.

There is indeed a risk that increasing personalisation of offers will decrease comparability as different providers could use different datasets and algorithms for similar offers. However, ability to shop around has increased and may increase further as can be seen by the rise of comparison sites.

16. How do you believe that big data could impact the provision of advice to consumers of financial products? Please, explain your response.

Big data tools (such as automated advice) could help giving consumer access to more tailored and personalised advice. However, there is a thin line between targeted sales & marketing and providing real advice with the corresponding regulatory protections, which should be kept in mind. Increasing on-line distribution of financial services, assisted by big data analytics, could be further blurring this line.

The key here is who is taking the liability. If 'advice' is being provided through algorithms but the service provider is accepting the liability in the same way as they would accept liability through face-to-face advice then so be it. However, if online or automated advice is simply a sales journey with the customer shouldering all the responsibility for the sale, this must be made absolutely clear. Currently these online services are not always clear what type of service they are offering.

17. How do you believe big data tools will impact the implementation of product governance requirements? Please explain your response.

The requirements on Product Oversight and Governance (POG) introduced within the European IDD framework demands for a careful identification of the client target market and

a risk-based approach applied during the whole product life-cycle including the distribution activity. To fulfil the requirements on product governance Big Data tools could support profiling and targeting customer needs for product development purpose and monitoring of products and distribution performances in time.

18. How do you believe big data tools will impact know-your-customer processes? Please, explain your response

Big data analytics could enrich current Anti Money Laundering and Counter Terrorism Financing processes (for Know-Your-Customer and Transaction Monitoring). This could help with fraud prevention and identification of anomalous elements of behaviour in insurance policies (e.g. if the same person is the policy holder, the insured, the beneficiary, and/or the beneficial owner in many different insurance policies).

However, accuracy of the data will be key. If incorrect assumptions are made or algorithms that have perimeters too widely set are used, consumers could be falsely accused of fraud and claims or access to products denied for spurious reasons. Care will have to be taken to ensure the 'human' factor is taken into account in assessments.

3. Possible evolution in the market

20. What are the greatest future challenges in the development and implementation of big data strategies?

We believe that data ownership and the issue of consent is one of greatest challenges that must be addressed in the development and implementation of big data strategies. Consumers are unclear, currently, when they have given consent for their data to be used and for what purpose. It is also unclear when that permission expires, if it does. In addition, once permission has been granted who then owns the data? Does data that is publicly displayed, such as that on social media, have different ownership issues?

Overall, the use of big data has huge moral and ethical implications which must be considered in any future strategies.

21. This Discussion Paper refers to a number of measures and tools meant to ensure compliance with conduct and organizational regulatory requirements as well as data and consumer protection rules in the context of big data analytics. Are other measures and tools needed? If so, what are they and what they should cover?

The increasing use of big data tools is set to affect market outcomes substantially in the insurance area. Both firms and consumers could benefit from big data tools, but risk new forms of detriment at the same time.

Supervisory work in this area will therefore need to focus on understanding what Big Data should and can do and what are its limitations. It should monitor for signs of customer detriment from the identified risks in this Discussion Paper, and especially the risk of unfair discrimination and unequal access to basic financial services.

22. How do you see the development of artificial intelligence or blockchain technology in connection with big data processes?

The blockchain technology appears to have potential to improve the security and quality of data used in the context of big data analytics.

Artificial intelligence can add an extra layer to big data to tackle complex analytical tasks, reinforcing both the potential benefits and risks of big data analytics.