

Compiled Comments on Issues Paper on the Increasing Use of Digital Technology in Insurance and its Potential Impact on Consumer Outcomes

01-Aug-18 to 06-Sep-18

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
Q1 General comment on the draft Issues Paper				
1. World Federation of	Belgium	No	WFII appreciates the opportunity offered by the IAIS to comment on the draft Issues Paper on the Increasing Use of Digital Technology in Insurance and its Potential Impact on Consumer Outcomes.	Noted

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Insurance Intermediaries			WFII welcomes the fact that the IAIS considers the impact of the increasing use of digital technology by incumbent market players and insurtech start-ups on consumer outcomes and insurance supervision. WFII welcomes the advent of financial technology in the insurance industry. In the insurance value chain, for years insurance intermediaries have harnessed technology to optimise the speed, fluidity, efficiency and traceability of the transactions. While technology is an integral component of the functioning of intermediaries with respect to the customer-insurer relationship, intermediaries add to the customer interaction the human factor by giving their personal touch in terms of advice and service and by optimising the insurance process. For many years, most insurance intermediaries have been "InsurHybrids" through combining technology and human interaction. The customer can choose a range of services and experiences via a wide variety and combination of tools and systems (apps, web, telephone, face-to-face meetings). This way, insurance intermediaries' activities (product development, distribution, advice and claims administration) keep the insurers under competitive pressure and help create trust in the market. It is WFII's view that digitalisation brings new opportunities and new risks. The role of intermediaries is to leverage the opportunities and risks brought on by innovation to better serve the consumers' needs. The role of regulators and supervisors is to safeguard that this digital development, with all its benefits and potential risks, takes place in an appropriately regulated market. In such a market, the regulatory and supervisory framework is medium-neutral and respects a level playing field for all market players. Firms providing intermediation services should be regarded as insurance intermediaries or distributors and they should be regulated as such, irrespective of the medium or techniques they use to deliver such services. It is therefore necessary to put emphasis on the activity-based approach and to ensure that insurtech firms are not treated by the regulator/supervisor differently than non-insurtech firms or "less" tech insurance intermediation companies. It is WFII's view that regulators and supervisors should keep a neutral and objective position (activity-based/level playing field) with regard to all acceptable business models. The constantly innovating variety of combinations of "customer experiences" and "services" available in the insurance distribution and insurance services market offers a wide range of choice to consumers in a very competitive insurance market. Accordingly, it is of utmost importance to ensure a level playing field in terms of governance requirements and expectations from the regulators and supervisors. This means that the same rules should apply to the same risks and activities, following an activity-based approach. WFII suggests to insert more clearly in the Paper this concept of activity-based/level playing field as to ensure that there	

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			is fair competition between incumbent market players and non-traditional market entrants. The Paper correctly recognises the need for supervisors to engage with the insurance industry in monitoring the digital developments. We believe that supervisors and regulators should engage in constant and consistent dialogue with market actors and operators. As pointed out above, intermediaries are leaders in the development and use of technology-driven business models and innovative tools to serve their clients. Therefore, WFII, in coordination with its members around the world and the intermediation sector in general, actively participates in this debate on how to best take the opportunities provided by technology and at the same time how to mitigate the associated risks in a quick and drastically changing world. In summary the starting point of our sector in this debate is the following: 1- Insurtech is an evolution, a tool that holds the potential to bring great changes to the marketplace, and allow for better, smarter, faster services and products to our clients. The principal challenges posed by insurtech are the speed at which the change is taking place and the time it takes to develop and incorporate the progress into the market and regulatory system. Insurance innovation of all kinds can only be built on the foundation of an appropriately regulated market. Regulators should focus on supervising to a set of rules based on the concept of level playing field and designed to achieve excellent consumer outcomes regardless of the medium by which any service is delivered. InsurtTech's progress in countries around the world will largely depend on the culture of innovation, the level of insurance sector development, the adoption of technology, and the flexibility and adaptability of the insurance regulatory structure. 2- Regulation should encourage and promote innovation that benefits consumers, not stifle it. To that end, regulatory reform efforts should focus on streamlining over-regulation, adopting a flexible approach to regulation so that innovation is allowed to develop, and ensuring a level playing field so that winners and losers are determined by the market rather than regulators. Insurance regulation should establish a framework to encourage development of tools that help us serve our clients, not burden the industry with overly prescriptive rules that inhibit innovation and change. The search for unnecessary over-regulation in the insurance services sector should not be limited to those elements which would be a barrier for insurtech firms in their development. Where there is overregulation, it should be streamlined. 3- Technology is an integral component for intermediaries acting as "InsurHybrids" in the customer-insurer relationship. For years, insurance intermediaries have harnessed technology to optimize the speed, fluidity, efficiency and traceability of transactions in the insurance value chain. A critical - and unique - component that	

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			intermediaries bring to this technological interaction is the human factor. Our industry is made up of firms large and small with hundreds of thousands of employees who serve individuals and businesses engaged in every walk of life. Insurance intermediaries are specialized in managing customer relationships in the insurance process. Marrying the personal interaction with, and understanding of, our clients wants and needs with technological advancement and innovation is an opportunity and obligation unique to intermediaries, and one that we welcome and encourage.	
2. Global Federation of Insurance Associations	Global	No	GFIA appreciates the opportunity to comment. Effective and efficient supervision requires a balanced approach that encourages and supports beneficial innovation but also assures compliance with applicable legal standards of conduct to prevent abuses. While a few sentences in the paper mention some positive impacts for consumers from innovation, the overall tone of the paper is negative toward innovation. Instead, GFIA would urge more dialogue between insurers and supervisors and the IAIS to achieve the proper and most beneficial balance. The paper should also discuss much more the effective efforts by supervisors and insurers to provide the right balance, including through regulatory sandboxes and other means to improve dialogue when innovation is proposed and implemented. Below are four guiding principles for innovation and insurance that GFIA wishes to provide to the IAIS in order to illustrate its views. GFIA requests that the IAIS considers these in finalising this and other documents: 1. Market participants want their products and services to meet the expectations of consumers in the digital age, especially consumer demands for new ways of interacting with service providers. 2. Public policy should endeavour to create technology-agnostic regulatory oversight that maintains a high level of consumer protection, and ensures market participants have the flexibility to react, adapt and innovate to improve products and services, and/or meet shifting consumer expectations. 3. Holistic and transparent regulatory changes need to occur across jurisdictions that will create environments that are proportionate and applied evenly to all market participants, conducive to innovation, and minimally intrusive on market forces so as not to unduly interfere with competition and collaboration.	The tone of the document was reviewed by the MCWG. It felt that the tone is not fundamentally negative but made some changes in a few instances. No change was considered necessary beyond what is already stated in the paper (in particular section 4)

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			4. As technology is reorganising the economy, insurance providers want to fulfill their traditional risk management and financial security function that is indispensable for the incubation and proliferation of those innovations that will make way for the creation of new economic and social realities.	
3. AIA Group	Hong Kong	No	AIA is pleased to provide comments on the Issues Paper on the Increasing Use of Digital Technology in Insurance and its Potential Impact on Consumer Outcomes (the "Issues Paper"). We support the ability to sell insurance digitally as this could lead to a greater number of products being made available to a wider population of consumers delivered in a more efficient manner. We have a number of comments below to the Issues Paper on this "fourth industrial revolution" however we would like to highlight two key perspectives as a provider of insurance products. First, we agree with the IAIS that digitalisation leads to a shift from distribution focused product design (supply-driven) to consumer-focused product design (demand-driven). In fact, it is important to note that sales (and not only product design) are also demand-driven as it is entirely up to the consumer whether to purchase the insurance digitally or not. A consumer does not have to purchase insurance digitally but could purchase it through an agent, through a financial adviser or broker, or through a bank or digitally, or not at all. In other words, the consumer could instead buy a product under the existing framework if he or she is not entirely satisfied in the digital sales process with the information being received on the product, with the conduct on the sale or for any other reason. The second comment we wish to highlight is that in offering a product digitally, this would just be another channel of distribution where the ICPs should similarly apply. There should not be any need for any change in the high-level principles. Customers would likely still consider as part of their purchase decision factors such as whether an insurer can remain solvent or whether the insurer is fit and proper to conduct insurance business or whether the conduct principles under ICP19 have been followed. Accordingly, our view is that while there is a need to observe ICP19, there should not be any overall change in the principles. It might be helpful to have guidance from a local regulator on very specific situations that may arise due to the fact that the product is sold digitally however we suggest that the current ICPs (including ICP19) should be appropriate for the circumstances. We believe customers can still be treated fairly. In fact, if the same processes are followed digitally as a routine, there should be an even greater certainty in compliance with regulatory requirements (and a record of it). Such processes for example would reduce the likelihood of the occurrence of any human error or likelihood for fraud. Overall, we see digitalisation as being beneficial to consumers and fostering this	Noted

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			development will help us serve our customers better. Accordingly, we suggest that the Issues Paper make clear that the digital sales are consumer-driven and consumers will still have a choice in buying insurance through other channels. Also, it is important to stress that this should not automatically mean that there needs to be any change in the ICPs or call for specific regulation. We look forward to the compiled comments on the consultation and participating in any further consultations or discussions.	Adding the suggested sentence in not considered necessary.
4. General Insurance Association of Japan	Japan	No	We, the General Insurance Association of Japan, are grateful for this opportunity to comment on the Draft Issues Paper on the digitalization of the insurance business model consultation (hereinafter referred to as "IP"). As pointed out in many parts of the IP, the use of digital technology can not only give rise to risks but can also be a solution or a help to ensuring consumer protection and the fair treatment of customers. Therefore, we agree with expressly stating that supervisors will need to balance the risks of new innovations against the benefits for policyholders and the insurance sector as a whole.	Noted
5. The Life Insurance Association of Japan	Japan	No	The Issues paper emphasizes a risk for the use of digital technology excessively and good practices are not mentioned sufficiently. LIAJ has a concern that it could lead to excessively restrictive regulatory approaches to innovation. Striking an appropriate balance between innovation and customer protection is important to increase consumer outcomes through the innovation and to minimize potential risks. We emphasize that close dialogue between supervisors and stakeholders and careful deliberation should be conducted.	Noted
6. Dutch Association of Insurers	Netherlands	No	The Dutch Association of Insurers would like to thank the IAIS for the opportunity to provide feedback on the draft Issues Paper on the Increasing use of Digital Technology in Insurance and its potential impact on consumer outcomes. The paper identifies the right topics. Our response addresses a few topics which we find important to share with the IAIS. Technology is a key driver for innovation in the insurance industry by both established insurers and new market entrants such as InsurTech throughout the entire value chain. Digitalisation offers benefits and opportunities for customers and the insurance industry, however it can also come with potential risks or challenges (for example how to apply Conduct of Business standards in a digital world). In order to foster innovation it is important to have a balanced regulatory approach towards the potential risks. In our view regulation and supervision should be activity-based (ie "same activities, same rules") in order to ensure that customers are effectively and equally protected	Noted

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			both when they purchase their insurance products from established insurers and from new market entrants. Dialogue is key and there is no need for new regulations. Many of the addressed benefits, opportunities and potential risks are also applicable in a non tech world. Technology enables insurers also to reach the unserved customers or self-employed, in a cost effective manner, and help them with their needs (retirement, disability insurance, etc.). In the Netherlands we have very positive experience with innovation. For a few years already there is an Innovation Hub which market participants can use when they would like to launch new tech based products or services. More recently the Dutch regulator has published a paper with a vision on Robo-advice. We support this approach.	
7. Swiss Re	Switzerland	No	Swiss Re appreciates the opportunity to provide feedback on the IAIS 'Issues Paper on the Increasing Use of Digital Technology in Insurance and its Potential Impact on Consumer Outcomes'. Overall, the structure of the paper is very good as it highlights the benefits of using digital tech, the related downsides as well as the regulatory challenges. Many of the risks highlighted in the paper can be also found in traditional insurance products that were developed before the onset of digitalization. This underscores our conviction that regulation should be tech neutral - to the extent that digitalization does not pose new or different risks then the need for additional regulation is questionable. We appreciate the inclusion of Section 4, "Supervisory Issues", in particular the consideration of the responsibilities of the supervisors. As mentioned in the paper, markets vie to attract new players - and the regulatory response to insurance innovation is likely to remain fragmented. Global standards setters need to step up efforts to increase international cooperation and collaboration on specific topics to allow globally implemented tech based innovation. As mentioned in Paragraph 93-96, international collaboration among supervisors is extremely important to avoid fragmentation and regulatory arbitration. This coherence of regulation on a global level is particularly relevant for the issues related to Cloud use (paragraphs 102, 103), where we see that regulatory fragmentation may impede the usage of the cloud on a global scale, which is likely to further impede innovation and a globally efficient IT set up. We believe that to facilitate the adoption of Cloud, regulators across the globe should adopt a transparent and consistent approach and a framework for mutual recognition. Requirements for legal entities to notify or receive a regulatory approval from each local regulator before outsourcing certain activities to the Cloud is unduly burdensome. Once the group supervisor grants a regulatory approval, other supervisors should recognise this supervisory approval.	Noted

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8. Lloyd's of London	UK	No	Lloyd's welcomes the opportunity to comment on this issues paper. We believe that the optimal approach to supervision is one that allows innovation to thrive whilst providing proportionate protection to policyholders. Regulatory sandboxes, such as have been used by the FCA in the UK, are a good example of this balance as they allow innovative firms to test their approach in an environment which naturally protects the policyholder and enables a degree of access to expertise.	Noted
9. ACLI	United States	No	The American Council of Life Insurers ("ACLI") strongly supports the IAIS's mission to promote innovation in the insurance industry. The proliferation of technology in every day life has enabled insurance companies to leverage these advances to provide crucial insurance products to traditionally underserved markets. ACLI strongly recommends that any additional guidance by the IAIS ensures a level playing field for all insurance companies, new-entrants and incumbents, and further provides consistent consumer protections. ACLI agrees with the comments from our colleagues at the Institute for International Finance (IIF) regarding the IAIS process with its numerous consultations this summer. We join the IIF in urging the IAIS to consider the length of comment periods. A mere 30 days is far too short for responding to a 34-page paper on a dynamic issue that may have a significant impact on insurance companies. We again join the IIF in urging the IAIS to provide as much notice as possible to enable stakeholders to provide meaningful and learned input.	Noted
10. Anonymous	United States	Yes	Thank you for the opportunity to comment on the "Issues Paper on the Increasing Use of Digital Technology in Insurance and its Potential Impact on Consumer Outcomes" ("Issues Paper"). We understand the Issues Paper is part of the International Association of Insurance Supervisors' (IAIS) effort to develop a global framework for jurisdictional regulators to identify and manage emerging and existing systemic risks that threaten the broader global financial system. We encourage the combined efforts of global regulatory bodies including the IAIS, Federal Reserve Board, National Association of Insurance Commissioners, U.S. State regulators, foreign insurance regulators and others to develop a group capital framework that leverages the existing highly effective regulatory capital frameworks in place around the globe while achieving the regulatory objectives of the IAIS. The strength of the local frameworks, including that which exists in the U.S., is a result of an evolved structure that coordinates over 50 states and territories, with a direct focus on individual insurance legal entities that must maintain adequate capital to protect underlying policyholders. The regulatory governance processes include requirements to review and approve insurance products before they are	Noted

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			introduced, insurance product pricing, inter-company transactions including insurance and non-insurance affiliates, and the authority to collect information used to monitor the underlying insurers for emerging risks, including systemic risks that can be identified and addressed proactively in an effort to reduce the risk of potential insolvencies and to protect the interests of policyholders. We understand that the IAIS' ultimate goal is a single ICS capable of producing comparable results across all jurisdictions for common sets of inputs. We believe this is an unnecessarily challenging objective. In contrast to a uniform computation of a narrowly defined measure, we believe a goal to produce measurements using local frameworks that are time tested to produce measures that achieve a comparable outcome is more realistically achievable. The outcomes we envision would be represented by designations such as "adequately capitalized" and not a precise capital ratio that aims to be fully comparable across jurisdictions. We believe this goal reflects the reality of different jurisdictional products, legal systems and regulatory requirements that do not accommodate a single global measurement framework. Moreover, even if one were required, it would be interpreted and applied differently around the world as the IAIS maintains no global enforcement mechanisms to drive global consistency. In summary, we believe the IAIS process should not replace the existing robust U.S. governance and supervisory measures or those existing in other jurisdictions, but rather should leverage and complement them by using their outcomes to indicate whether specific insurer or regional insurer issues are emerging which will allow regulators to identify emerging risks and how to best deal with them and contain them before they cause any larger systemic issues. I hope you find the responses and observations useful, and I am available to answer any questions or to provide further clarification.	
11. Cincinnati Insurance Company	United States of America	No	The IAIS wades into the realm of digital insurance with its "Issues Paper on the Increasing Use of Digital Technology in Insurance and its Potential Impact on Consumer Outcomes." The IAIS states that the purpose of this paper is to consider the impact of the increasing use of digital technology in insurance on consumer outcomes and insurance supervision in light of Insurance Core Principle 19 on Conduct of Business. In submitting this Issues Paper for worldwide review and comment through public consultation, the IAIS suggests that "guidelines are needed for an appropriate and responsible use of new technologies to safeguard the fair treatment of customers and promote advice and services that are suitable and affordable for the customer," which portends an expansion of ICP 19 into the	Noted

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			realm of digital insurance. As we have stated many times in similar sets of consultation comments, our company does not believe that the world needs a set of Insurance Core Principles (ICPs) and objects to the program under which the International Monetary Fund (IMF) grades the U.S. insurance regulatory system on its compliance with the ICPs. The core principles upon which the U.S. insurance regulatory system is premised have functioned perfectly for over 150 years and do not need an overhaul by the International Association of Insurance Supervisors (IAIS) or by its ostensible parent organization, the Financial Stability Board (FSB). Therefore, we object to the IAIS promulgating this ICP-premised Issues Paper, and would request that the IAIS withdraw it from further consideration. There is no need for the IAIS to craft a new international insurance code on the use of digital technologies in the insurance business, or to otherwise claim authority to regulate the use of digital technologies in the insurance business. The U.S. and other regulatory regimes are capable of regulating the use of digital technologies in the insurance business on their own without interference by the IAIS. Given the substance of this comment (that the Issues Paper should be withdrawn), we see no need to answer Q2-Q124.	
12. Center for Economic Justice	USA	No	We appreciate the efforts by the IAIS, generally, and the Market Conduct Working Group, specifically, to address insurers' introduction and use of new types of data and technology with increasing velocity and magnitude. We also appreciate the draft paper's recognition of some of the challenges to market conduct supervision and consumer protection posed by new insurer and intermediary practices based on big data, algorithms and digital technology. However, we are concerned with the structure and approach of the paper for several reasons. - The definition(s) and uses of the term "digitalization" are overly broad and non-specific with the result that numerous interpretations are possible. For example, one definition used by the paper is "the conversion of text, pictures or sound into a digital form that can be processed by computers." Such a definition could and does apply to activities conducted by insurers two and three decades ago. We suggest a more refined and relevant definition of digitalization for purposes of insurance supervision and the use of the term "big data / digitalization" in place of "digitalization" alone. See our definition below. - The structure of the paper conflates digital/big data technologies - big data, artificial intelligence, machine learning, data mining, digital access and deployment of data, analytics and products - with specific applications of these technologies - telematics, robo-adviser, price comparison sites, marketing, usage-based insurance	Noted The definitions used in the draft paper have been removed. The use of data will be subject of a separate paper under development by the MCWG.

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			and more. We suggest that an examination of the core technologies will yield insights into consumer protection and market conduct supervision regardless of the specific applications of the big data/digitalization. For example, insurers' use of insurance and non-insurance personal consumer big data will present the same consumer protection and market supervision issues whether the application is marketing, sales, product design, pricing or claims settlement. We suggest organizing the paper around core technologies is more efficient and effective. We suggest the following introduction and definition of big data/digitalization because the two are intertwined and because it is the use of big data and related algorithms that poses the challenge to consumer protection and market supervision. Stated differently, digital technology - the collection and deployment of information through digital devices - would not be a major issue if not for the massive amounts of data collected, quickly analyzed and subsequently deployed through algorithms. <i>There's been a revolution in insurance pricing, marketing, product design and claims settlement resulting from insurers' use of Big Data -- massive databases of new insurance and non-insurance, personal consumer information with associated data mining and predictive analytics and scoring models or algorithms. Algorithms are lines of computer code that rapidly execute decisions based on rules set by programmers or, in the case of artificial intelligence (AI) or machine learning, the models change automatically. Coupled with the increased volume and granularity of data is the digital technology to generate, access, process, analyze and deploy Big Data and associated algorithms in real time.</i> How do Big Data algorithms work in insurance? One example - a consumer shops online for insurance and goes an insurer website. By providing her name and address, the insurer now has access to a variety of insurance and non-insurance personal information about the consumer. By quickly tapping into these databases, the insurer can pre-fill an application for insurance to speed up and simplify the insurance purchase. The insurer might also tap into databases containing the consumer's employment history, financial information and social media use to score the consumer's propensity for fraud to help the insurer decide whether to write the policy or not. Or the insurer might use databases containing the consumer's web browsing and shopping data in an algorithm that simultaneously evaluates the consumer's price sensitivity with likely competitive options available to the consumer to determine the price the insurer will offer the consumers. As the sources and uses of ever-growing amounts of personal consumer information - insurance and non-insurance - by insurers grows quickly, it becomes	Considered but preferred to keep the current language of the paper. Noted

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			apparent why insurers' use of Big Data creates more than opportunities and challenges for insurers and consumers, but shakes the regulatory foundation of insurance market supervision and consumer protection to its core. 1. Insurers' use of Big Data has huge potential to benefit consumers and insurers by transforming the insurer-consumer relationship and by discovering new insights into and creating new tools for loss mitigation, resiliency and sustainability. 2. Insurers' use of Big Data has huge implications for fairness, access and affordability of insurance and for regulators' ability to keep up with the changes and protect consumers from unfair practices. 3. The current insurance regulatory framework generally does not provide regulators with the tools to effectively respond to insurers' use of Big Data. Big Data has massively increased the market power of insurers versus consumers and versus regulators. 4. Market forces alone - "free-market competition" - cannot and will not protect consumers from unfair insurer practices. So-called "innovation" without some consumer protection and public policy guardrails will lead to unfair outcomes. Why Insurance Is Different from Other Consumer Products Before discussing the regulatory challenges from insurers' Big Data use, it is important to keep in mind why insurance is different from other consumer products, why normal "competition" does not protect consumers and why the consumer protection requirements of insurance market regulation exist. 1. The insurance is required - by law and by lenders requiring protection of home or vehicle collateralizing the loan. 2. Contract is a promise for future benefits if an undesirable event occurs. If the product "fails" - the consumer learns the insurance policy won't cover the loss - she is stuck and can't purchase another policy that would protect her against a known loss. 3. Consumers have little or no information about the insurers' performance. Unlike other consumer products, there is virtually no information about how well the product performs. 4. Cost-based pricing is required by actuarial standards of practice and financial solvency. The requirement for cost-based pricing is to protect insurer financial	

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			condition and prevent intentional or unintentional unfair discrimination 5. There is profound public interest in broad coverage - failure or inability of consumers and businesses to access insurance has implications not just for individual families and businesses, but for taxpayers, communities and the nation. How Does a Supervisor Evaluate Whether Insurers' Use of Big Data and Digital Technology is Good or Bad? In order for supervisors to evaluate the benefits and harms to consumers of insurers' use of big data and digital technology, there must be public policy that identifies values to guide and desired outcomes to achieve. Values and outcomes that might guide a supervisor include: - Does the innovation promote and empower consumer for risk reduction, loss mitigation, sustainability and resilience? - Does the innovation empower consumers and promote more competitive markets/ - Is the innovation grounded in risk- or cost-based pricing and / or otherwise promote financial stability? - Does the innovation create greater availability and affordability of insurance? - Does the innovation help close the insurance gap - Does the innovation increase transparency and understanding of and improve the use of insurance products? - Does the innovation increase transparency of and consumer confidence in the insurers' and intermediaries' operations to the consumer - Does the innovation improve fairness in marketing, pricing, loss mitigation and claims settlement? - Does the innovation improve the interactions between the insurer or intermediary and consumer? Innovations that yield "yeses" should be supported, while innovations that yield "noes" should be discouraged. Please note, that there are numerous big data/digitalization innovations that are business-facing - improvements in the operation of the insurer or intermediary that do not implicate consumer protection. For example, there may be innovations that improve the interactions between insurers and intermediaries or between insurers and supervisors. Our value questions above are oriented towards consumer-facing innovations. Any discussion of consumer protection issues and market supervision regarding big data / digitalization in insurance must start with the potential for unfair discrimination due to biased data, biased algorithms and/or biased modelers. The fact that such unfair outcomes are likely not intentional does not alter the fact that ensuring fair	

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			and ethical algorithms is the fundamental challenge for insurers and insurance supervisors in the dawn of the age of big data / digitalization in insurance. As Barocas and Selbst have written in Big Data's Disparate Impact Advocates of algorithmic techniques like data mining argue that they eliminate human biases from the decision-making process. But an algorithm is only as good as the data it works with. Data mining can inherit the prejudices of prior decision-makers or reflect the widespread biases that persist in society at large. Often, the "patterns" it discovers are simply preexisting societal patterns of inequality and exclusion. Unthinking reliance on data mining can deny members of vulnerable groups full participation in society. Virginia Eubanks, in Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor, writes: America's poor and working-class people have long been subject to invasive surveillance, midnight raids, and punitive public policy that increase the stigma and hardship of poverty. During the nineteenth century, they were quarantined in county poorhouses. During the twentieth century, they were investigated by caseworkers, treated like criminals on trial. Today, we have forged what I call a digital poorhouse from databases, algorithms, and risk models. It promises to eclipse the reach and repercussions of everything that came before. We would also like to raise the issue of bundled products - protection products that include insurance and non-insurance products or services. An example of such a product today is travel protection which combines various insurance coverages with non-insurance services. We believe the future of insurance is in such protection bundles whereby a consumer doesn't buy insurance, but purchases a protection product which includes some insurance. For example, instead of home or property insurance, a consumer (or business) will be offered property protection which includes a variety of non-insurance monitoring and loss reduction services. We raise this issue because the bundling of insurance with non-insurance products or services into a protection package raises issues of consumer protection and supervisory oversight. For example, if the protection bundle is unfairly or deceptive sold, does the supervisory have oversight over the entire transaction or only the insurance portion of the transaction? We suggest that the rise of bundled products requires a corresponding increase in supervisor oversight over the entire transaction and product components.	Discussed under section 4

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13. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	Given the variety of issues surrounding technology and innovation, it is helpful that this paper focuses on specifics aspects of the insurance product cycle; however, in some place the paper goes off on tangents that are not particularly relevant or has examples that are not particularly useful. Suggest deleting material that is not particularly relevant so as to avoid distracting from the main messages of this paper. While IAIS Issues Papers are "primarily descriptive and not meant to create expectations on how supervisors should implement supervisory material" the way some text is drafted, it suggests expectations (such as "the insurer/supervisor will need to do xyz") so more appropriate language should be used instead. Suggest reviewing use of consumer, customer and policyholder to ensure the correct term is being used in the correct place.	Noted Noted
Q2 General comment on the Executive Summary				
14. Global Federation of Insurance Associations	Global	No	The Executive Summary is too negative towards innovation and therefore presents an unfair and even inaccurate picture. There is little mention of the benefits of innovation to consumers. To provide a more balanced summary, GFIA requests the addition of a sentence similar to the following: "Innovation enables more responsive and efficient provision of insurance and better customer service, more tailored pricing better reflecting the risk of loss, the ability to provide immediate feedback to improve safety, more competition and choice of product and provider, more rapid claims service and more effective anti-fraud efforts that will result in lower costs". GFIA suggests the addition of one or more paragraphs in the Executive Summary along those lines, to provide a fairer picture of the issues relating to innovation and the need for supervisory balance.	The MCWG disagrees with the view that the Executive Summary is negative towards innovation and presents an unfair and even inaccurate picture.
15. Lloyd's of London	UK	No	Although we appreciate the need for both sides of the debate to be explored, this section may rely too heavily on the negative aspects of innovation. It is important to note that customers can be provided with a wide range of benefits from their insurers' use of innovative technologies. For example, there may be applications with respect to fraud detection (thereby lowering premiums) and in enhancing the speed of claims payments.	Disagree
Q3 Comment on paragraph 1				

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16. Center for Economic Justice	USA	No	In place of existing text, we suggest the following. See general comment for explanation. 1. There's been a revolution in insurance pricing, marketing, product design and claims settlement resulting from insurers' use of big data -- massive databases of new insurance and non-insurance, personal consumer information with associated data mining and predictive analytics and scoring models or algorithms. Algorithms are lines of computer code that rapidly execute decisions based on rules set by programmers or, in the case of artificial intelligence (AI) or machine learning, the models change automatically. Coupled with the increased volume and granularity of data is the digital technology to generate, access, process, analyze and deploy big data and associated algorithms in real time.	The MCWG preferred the current text as this adequately captures the developments for the purpose of the paper.
17. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	Suggest deleting as this is covered by paragraphs 11 and 12 and it would be more effective to start with paragraph 2 describing the purpose of the paper.	Disagree. An Executive Summary will summarise the rest of a paper. This paragraph serves as an introduction leading to the purpose of the paper in paragraph 2.
Q4 Comment on paragraph 2				
18. AIA Group	Hong Kong	No	As stated in our general remarks, we recognise the importance of conduct of business so that customers are treated fairly. Potential customers would also likely take into consideration solvency, claims handling and other indicators of whether an insurer is fit and proper to conduct insurance business. As such, digitalisation as another sales channel should not be overly regulated. Some guidance could be helpful to address issues or concerns that might arise from reduced face-to-face contact, insufficient consumer understanding of the product or service or potential misuse of customer data however such guidance may be best given in the market by a local regulator rather than be embedded within the ICPs.	Noted
19. Center for Economic Justice	USA	No	In place of existing text, we suggest the following. See general comment for explanation. 2. The purpose of this paper is to consider the impact of the increasing use of big data / digitalisation in insurance on consumer outcomes and insurance supervision in light of Insurance Core Principle 19 on Conduct of Business. We also suggest addition of the following paragraph after paragraph 2. Regardless of the particular big data / digitalization application used by insurers' or	No change: the use of data will be the subject for a separate paper

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			intermediaries or the particular phase in the insurance transaction, there are key issues in consumer protection and insurance market supervision, including, but not limited to, transparency of data and its use to consumers and supervisors, fair treatment of consumers through non-biased data and algorithms and explicit public policy decisions regarding what data can be used for what purposes.	The MCWG prefers the current more neutral wording of this paragraph that is adequate for the purpose of the paper.
Q5 Comment on paragraph 3				
20. AIA Group	Hong Kong	No	One of the benefits of digitalisation is that it could potentially reach a greater number of consumers and be more inclusive. For example, tailored products could be offered to those who currently are not able to access insurance, possibly at a more affordable price.	Text added
21. Center for Economic Justice	USA	No	In place of existing text, we suggest the following. See general comment for explanation. 3. In respect of product design, big data / digitalisation has affected the nature of insurance coverage through, for example, on-demand insurance, usage-based insurance and insurance based on consumer-generated data from vehicles, homes or wearable devices. These are examples of new type of insurance products that can promote loss reduction, improve consumer and insurer risk management and increase insurance coverage. Telematics and usage-based motor vehicle insurance may provide data to insurers for pricing, but transparency is necessary to empower the consumer for loss mitigation.	Some of the proposed text is used.
Q6 Comment on paragraph 4				
22. AIA Group	Hong Kong	No	It is our view that the consistent application of a process programmed into the sales process can help ensure that the consumer receives the information required to make an informed choice on a digital sale, it should follow that in these cases there would be greater certainty in compliance with regulatory requirements and a record of it.	Noted. No change.
23. Center for Economic Justice	USA	No	In place of existing text, we suggest the following. See general comment for explanation. 4. In terms of marketing and promotions, big data / digitalisation will have an impact on the information provided or not provided to consumers. While big data / digitalization offers the potential to provide relevant information at the most appropriate times, there is also the potential for channeling consumers to or limiting	The MCWG prefers to keep the current language as this is more neutral and avoid a negative tone towards innovations.

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
			consumer choice to particular products or markets based on considerations other than the benefit of consumers.	
Q7 Comment on paragraph 5				
24. World Federation of Insurance Intermediaries	Belgium	No	WFII suggests to add and intermediaries in this paragraph and also to use wording such as may and change instead of will and improve (with similar changes in paragraph 43 and 44) 5. The use of social media enable insurers and intermediaries to better reach their target market. This may reduce marketing costs. From a customer perspective, social media can change customers' experience with insurance, for example in changing communications with the insurer and the intermediary. On the other hand, consumers may be "nudged" without being aware by being confronted with unsolicited offerings based on their use of the internet. There is the risk that customers are persuaded into buying products or add-ons that are not in their best interest.	Agreed to add "intermediaries" and changing "will" into "may".
25. AIA Group	Hong Kong	No	Whether a consumer is "nudged" depends on how the insurance sales process is being conducted. It does not necessarily go to whether the product can be offered digitally or not. At the end of the day, the customer still has the choice of buying the insurance or not and other channels of purchase would also be available to the customer.	Noted.
26. Center for Economic Justice	USA	No	In place of existing text, we suggest the following. See general comment for explanation. 5. Further regarding marketing as well as policyholder service and claims settlement, insurers' and intermediaries' use of social media offers the potential for insurers to better reach its target market or create new markets. Insurers' use of social media offers the potential to improve customers' experience with insurance by, for example in offering easier and quicker ways for the insurer and consumer to communicate.. On the other hand and as with big data algorithms, generally, social media applications may not be transparent to the consumer, resulting in consumers "nudged" without being aware by being confronted with unsolicited offerings based on their use of the internet. There is the risk that customers are persuaded into buying products or add-ons that are not in their best interest.	Most of the proposed text included.
27. National Association of Insurance	USA, NAIC	No	Third sentence reads a bit awkward; suggest "On the other hand, consumers may be influenced without being aware by receiving unsolicited offerings based on their use of the internet."	No change. The term "nudge" comes from the economic "nudge theory" and fits well in this context.

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Commissioners (NAIC)				
Q8 Comment on paragraph 6				
28. World Federation of Insurance Intermediaries	Belgium	No	WFII suggests to change the following wording: 6. A specific emerging sales method is the use of robo advice or automated online advice. This may potentially change accessibility of products to the customer.(...)	The term “will” seems correct in combination with “potentially”.
29. Center for Economic Justice	USA	No	In place of existing text, we suggest the following. See general comment for explanation. 6. Further regarding marketing and sales, another big data / digitalization tool is robo advice or automated online advice. By facilitating greater consumer understanding of certain products or reaching consumers who will only shop online, such tools may improve accessibility of products to the customer. It will however require proper design of underlying algorithms and adequate availability and use of customer data. Transactions by insurers can be traced and audited if properly supported by IT tools. Risks emerge when the type of customer or type of product require advice. The more so since the response to queries by the consumer is limited to the algorithm being used. Also, flaws in the design and operation of the algorithm can create a risk of misselling.	Some of the proposed text used.
30. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	Suggest revising and combining the fourth and fifth sentences: "Risks emerge when the type of customer or type of product require advice, in particular when the response to queries by the consumer is limited to the algorithm being used."	Agreed
Q9 Comment on paragraph 7				
31. Center for Economic Justice	USA	No	In place of existing text, we suggest the following. See general comment for explanation. 7. Another development for promotion and sales is the use of price comparison websites (PCW). As with other big data / digitalization applications PCWs may facilitate consumer shopping and create more competitive markets by empowering consumers. Or PCWs may lack necessary transparency, rely on biased algorithms and/or narrow consumer choice through algorithm-based channeling of consumers based on the compensation arrangement of the PCW with insurers. These can	Some of the proposed language used.

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
			provide automated suggestions or proposals on products, providers and prices based on input by the consumer. Increased accessibility of information and products is one of the benefits to the customer. There is however a risk of misselling as well as issues around transparency in respect of the identity and independence of the owner / operator of the comparison website.	
Q10 Comment on paragraph 8				
32. Center for Economic Justice	USA	No	In place of existing text, we suggest the following. See general comment for explanation. 8. Regarding marketing and sales, big data / digitalization offers the potential to provide relevant information to consumers in a useable manner at the relevant time. This will generally require development of information and information delivery mechanisms designed for digital devices. Beyond the provision of information, big data / digitalization offers the opportunity to provide consumers with decision tools - particularly important for complex insurance products. Insurers need to be mindful of the risk of misconceptions by consumers and therefore flaws in consent given by digital means.	Some of the proposed text used.
33. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	Last sentence, revise to "Insurers should be mindful..."	Agreed
Q11 Comment on paragraph 9				
34. Center for Economic Justice	USA	No	In place of existing text, we suggest the following. See general comment for explanation. 9. As big data / digitalisation changes the way insurance products are designed and distributed, supervisors will need to monitor these developments, engage stakeholders both within and outside the insurance industry and consider new supervisory responses to protect consumers' interests. Some of the key challenges supervisors face are developing new tools and skills for supervision of increasingly digitalised practices in all aspects of the insurance transaction -product design, marketing, sales, pricing, claims settlement, loss mitigation, consumer engagement. Other key supervisory challenges include improved monitoring of consumer market outcomes, supervision new types of firms, enhancing cooperation with financial and other authorities, safeguarding the supervisory parameters to prevent regulatory	The MCWG consider the current text of this paragraph adequate for the purpose of the Executive Summary.

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
			arbitrage and enhancing information security. We also suggest addition of the following paragraph setting out two additional supervisory challenges. See general comment and comments on later paragraphs for explanation X. Two additional supervisory challenges of big data / digitalisation in insurance are monitoring competitive practices and bundles of insurance and non-insurance products and services. Insurers' use of big data raises anti-trust issues if the companies providing data and algorithms are effectively engaged in collecting pricing actions with insurers. New bundled protection products raise concern over supervisory oversight of the non-insurance portions of the bundled product.	
35. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	First sentence, revise to "supervisors should monitor these developments"	Agreed.
Q12 Comment on paragraph 10				
36. ACLI	United States	No	ACLI disagrees with the IAIS on the need for supervisory guidelines. ACLI believes the currently regulatory scheme in many jurisdictions, including in the United States, provides significant consumer protections. Further, should the IAIS consider any further supervisory guidelines, with the rapid pace of innovation, any guidelines written to address the challenges with today's technology would simply be outdated in 5 years.	Noted. Text changed
37. Center for Economic Justice	USA	No	In place of existing text, we suggest the following. See general comment for explanation. 10. Supervisors' guidelines are needed for an appropriate and responsible use of new technologies to safeguard the fair treatment of customers and promote advice and services that are suitable and affordable for the customer. Questions to guide supervisors' considerations include: - Does the innovation promote and empower consumer for risk reduction, loss mitigation, sustainability and resilience? - Does the innovation empower consumers and promote more competitive markets/ - Is the innovation grounded in risk- or cost-based pricing and / or otherwise promote financial stability? - Does the innovation create greater availability and affordability of insurance?	The MCWG agreed not to include the list as this is too specific for the Executive Summary

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
			- Does the innovation help close the insurance gap - Does the innovation increase transparency and understanding of and improve the use of insurance products? - Does the innovation increase transparency of and consumer confidence in the insurers' and intermediaries' operations to the consumer - Does the innovation improve fairness in marketing, pricing, loss mitigation and claims settlement?	
38. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	Suggest making this broader; revise to "Supervisors should consider taking appropriate steps, such as issuing guidelines, to help promote responsible use of new technologies by insurers and intermediaries and to safeguard the fair treatment of customers."	Agreed
Q13 Comment on list of Acronyms				
Q14 General comment on section 1 Introduction				
Q15 Comment on paragraph 11				
40. Center for Economic Justice	USA	No	In place of existing text, we suggest the following. See general comments on overly broad definition of digitalisation and need to discuss big data / digitalisation as a unifying concept. 11. Described by some observers as the "fourth industrial revolution"¹, digitalisation is rapidly transforming societies and their economies. The velocity and scope of change is arguably unprecedented. It has the potential to disrupt almost every industry in every country.² The insurance industry is no exception. There has been and continues to be a revolution in insurance pricing, marketing, product design and claims settlement resulting from insurers' use of big data -- massive databases of new insurance and non-insurance, personal consumer information with associated data mining and predictive analytics and scoring models or algorithms. Algorithms are lines of computer code that rapidly execute decisions based on rules set by programmers or, in the case of artificial intelligence (AI) or machine learning, the models change automatically. Coupled with the increased volume and granularity of data is the digital technology to generate, access, process, analyze and deploy big data and associated algorithms in real time. For the purpose of this paper the term big data / digitalisation is used to describe the content and technology at issue..	Some of the proposed text has been included.
Q16 Comment on paragraph 12				

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
41. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following. See general comments regarding the distinction between the technology and applications of the technology. 12. As diagram one illustrates, rapid change is evident throughout the insurance value chain: from the design, underwriting and pricing of products, their marketing and distribution, through to claims processing and the ongoing management of customer relationships. The examples of big data / digitalisation technologies - machine learning and artificial intelligence, distributed ledger technology (DLT or blockchain - and applications - telematics, robo-advisers, peer-to-peer and platform business models - as set out in diagram one, are varied.. These are described in the Annex.	Some of the text has been included.
42. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	Suggest moving diagram 1 after this paragraph.	Ok but depends on the page break.
Q17 Comment on paragraph 13				
43. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following. Comment: We suggest presenting potential benefits and harms together to better articulate the issues and to avoid one-sided and unsubstantiated claims of benefits. We also object to the claim that big data / digitalisation leads to more accurate risk assessment. Many of the technologies in use, such as price optimization and socio-economic rating factors, do the opposite. In addition, more data and more complex models do not equate to more accuracy and supervisors should not be promoting this platitude. 13. The use of personal consumer data from sources such as telematics and wearable devices enable insurers to design and price products on the basis of new types of data for insurers. These new types of data offer the potential for more personalized consumer-insurer relationships based on loss prevention but also present the danger of opaque pricing based on factors unrelated to risk through technologies such as price optimization. Developments in artificial intelligence and machine learning offer the potential for automated advice and improved fraud detection but also present the danger of biased algorithms reflecting and perpetuating historical unfair discrimination. Comparison websites offer the potential to provide consumers with more relevant and timely information for specific purposes but also present the danger of limiting information and channeling consumers to favoured partners of the website. Big data / digitalisation offers the	Text changed.

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
			promise of speeding up processes, like applications, policy issuance and claims settlement, and lowering costs but also present the danger of disadvantaging consumers through increased information asymmetry between the insurer and the consumers.	
44. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	Suggest deleting "if they are independent" as non-independent comparison websites could still provide consumers with more information and understanding of products.	Agreed
Q18 Comment on paragraph 14				
45. Global Federation of Insurance Associations	Global	No	GFIA would urge the IAIS to take extra care to avoid imposing too strict restrictions on innovation beyond what is minimally required. Given the significance of the granularity issue, the IAIS should closely communicate with the stakeholders on this issue in order to have well-informed discussions about how best policyholder protection and insurability could be balanced.	Noted
46. AIA Group	Hong Kong	No	Our view is these risks are not particular to digitalisation. For example, whether consumer data is being handled properly is an issue that could arise in the sale of insurance under any method. Digitalisation in itself should not be overly regulated because of these risks.	Disagree. The specific nature of these risk from digitalisation are explained in the paragraph,
47. ACLI	United States	No	ACLI disagrees with the IAIS's categorization of the downsides of digitalization. While there are always inherent risks in any activity, ACLI does not agree that the rise of digitalization leads to any exaggerated risks. Regulation exists to ensure that consumers are given the full scope of information necessary to make an informed decision.	Risks are mentioned that are typical for the nature of digital processes.
48. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following. Comment: Reduced face-to-face contact or insufficient consumer understanding are not issues unique to or necessarily caused by big data / digitalisation. 14. Notwithstanding the great promise of big data / digitalisation to benefit consumers, businesses and communities, it does give rise to risks hat could undermine public policy goals as well as result in unfair consumer outcomes and, in doing so, be contrary to the Conduct of Business requirements in Insurance Core Principle (ICP) 19. These include potential impacts in the security and potential misuse of increasing amounts of consumer data, and potential exclusion for some consumers. The collection of data on policyholders may enable a more granular risk	Some of the proposed text is used.

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			categorisation that could potentially affect risk pooling principles and may lead to issues around affordability of certain insurance products, possibly even leading to exclusion. ⁵	
49. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	As the ICPs are requirements on the supervisor, the first sentence does not read quite right as digitalization itself is not subject to ICP 19. Suggest revising to: "Whilst digitalisation has the potential to benefit consumers, it does give rise to risks that could impact fair consumer outcomes which should be considered by supervisors in light of the requirements in Insurance Core Principle (ICP) 19.	Agreed
Q19 Comment on Diagram 1				
50. Center for Economic Justice	USA	No	In Diagram One, we believe that "usual based" is intended to be "usage based." We urge deletion of "and accurate" in "Big Data enabling more granular pricing." As explained our comment on paragraph 13, we disagree that more granular pricing equates to more accurate pricing. Platform business models are not defined until the last annex of the report. A description of platform business models earlier in the report would be useful. In addition, the discussion of platform business models on page 34 suggest that big tech companies invented platform business models. In fact, such models have existed for many years, including credit cards, for one prominent example. Further, large players in the "platform business model" arena have moved into ownership of the product as well as the connection. We suggest "continuous real time data enabling loss prevention partnerships" instead of focus on high value customers. We don't understand 360 degree view of consumers for consultants - are you referring to collecting and reselling consumer data? We believe blockchain serves to prevent fraud by eliminating fraudulent documents, as opposed to detecting fraud. Drones are used to assess risk and damage, not processes	Agreed re "usage based". Else, noted.
Q20 Comment on paragraph 15				
51. General Insurance Association of Japan	Japan	No	Although we can understand the necessity for supervisors to monitor consumer outcomes or to identify the risks from the use of digital technology to some extent, the description "managing the risks" should be deleted, as the meaning is unclear and it is likely to cause the misunderstanding that supervisors directly manage the risks of insurers.	Changed into: safeguarding policyholder protection.
52. Center for Economic Justice	USA	No	We suggest addition of "and likely in new ways " following "Supervisors will, therefore, need to monitor consumer outcomes carefully" 15. Supervisors will, therefore, need to monitor consumer outcomes carefully and	Text changed.

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			likely in new ways to ensure that supervisory regimes continue to facilitate the benefits to consumers from technology and innovation, whilst identifying and managing the risks. This is vital if the intent of ICP 19 Conduct of Business is to be met.	
53. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	First sentence, revise to "Supervisors should monitor consumer outcomes..."	Agreed
Q21 Comment on paragraph 16				
54. Center for Economic Justice	USA	No	We suggest addition of "big data and" before "digital technology in insurance." See general comments for explanation. 16. The purpose of this paper is to consider the impact of the increasing use of big data and digital technology in insurance. It will consider consumer outcomes and discuss what digitalisation means for insurance supervision. It is recognised that the impact of digitalisation may differ between jurisdictions depending on the legal frameworks in place	The use of data is the subject of a separate paper.
Q22 Comment on paragraph 17				
55. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following. Comment: It would be helpful to provide a more detailed description of the work plan and planned work products for big data / digitalisation. For example, what is the focus of the upcoming issue paper on use of personal and other information? What is the work product for pricing? What is the plan for examining issues with claims settlement and anti-fraud activities. We believe the most advanced and intensive uses of big data / digitalisation are in claims settlement / anti-fraud and pricing and the least attention to date has been given to issues in the claims settlement / anti-fraud sphere. It is difficult to understand what comments are appropriate for this issues paper without understanding the other IAIS work products in the big data / digitalisation arena. 17. This paper provides these considerations in the context of other IAIS work on fintech and insurtech.⁶ In the IAIS report "FinTech Innovations in the Insurance Industry"⁷ IAIS provided a general overview of significant innovations within the insurance industry.⁸ On [insert date] IAIS published an "Application Paper on the Use of Digital Technology in Inclusive Insurance". IAIS is also working on an	Text changed (see next comment)

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			upcoming "Issues Paper on the Use of Personal and Other Information in the Conduct and Supervision of Insurance". Accordingly, the focus of this paper is put on the product design and underwriting along with marketing, sales and distribution aspects of the insurance value chain. Other aspects, most noticeably pricing, will be addressed in IAIS's other work.	
56. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	The references to other IAIS papers should be moved to a footnote and reference to future IAIS work should be broad as this may change. Accordingly, suggest the paragraph be streamlined to: "This paper provides these considerations in the context of other IAIS work on fintech and insurtech. Accordingly, this paper focuses on the product design and underwriting along with marketing, sales and distribution aspects of the insurance value chain. The impact of the increasing use of digital technology on other aspects of the insurance value chain will be addressed in other IAIS material."	Agreed
Q23 Comment on paragraph 18				
Q24 General comment on Section 2 Product Design				
Q25 General comment on section 2.1 Digitalisation Impact on Product Design				
57. Center for Economic Justice	USA	No	We suggest Section 2.1 be renamed to: Big Data / Digitalisation Impact on Product Design based on our general comment that "digitalisation" is inadequately defined and that big data and digitalisation are intertwined in the technologies and applications discussed in the paper.	Disagree, data is the subject of a separate paper.
Q26 Comment on paragraph 19				
58. AIA Group	Hong Kong	No	It is important to remember that notwithstanding the availability of new types and lines of products, consumers would still be able to purchase insurance through traditional means.	Noted
59. Center for Economic Justice	USA	No	In place of the existing paragraph, we suggest the following. Comment: We suggest that consumer needs for insurance products are not changing with the advent of big data / digitalisation - consumers continue to need protection against catastrophic events and assistance in loss prevention. The changes resulting from big data / digitalisation are the products and methods of consumer interaction 19. Big Data / Digitalisation are dramatically changing all aspects of the insurance product cycle and creating the need for, and enabling, the development of new types and lines of products. Methods of insurer-consumer interactions are changing	Disagree. As describe in this section certain development such as shared economy do prompt new products or changes to their design.

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			in the digital age with a growing expectation for accessibility of new services and solutions in a variety of ways. Consumer trends and habits supported by new technologies, such as greater connectivity through wearables, smart phones and smart homes, and greater optionality through the sharing economy, create new opportunities for the methods of product design and products insurers design for their policyholders.	
Q27 Comment on paragraph 20				
60. Center for Economic Justice	USA	No	We suggest minor edits for clarification. 20. The changes driven by new technology create new risks and new opportunities for insurers and intermediaries. The need for new insurance coverages and new products is likely to grow. Big data / dDigitalisation brings opportunities to better serve customers and their changing needs, including but may also serve as abetter means to better reach underserved markets.	Disagree; the use of data will be the subject of a separate paper.
Q28 Comment on paragraph 21				
61. Center for Economic Justice	USA	No	We suggest deletion or further clarification of the second sentence of the paragraph. Comment: It is unclear why big data / digitalisation creates a challenge for insurers to meet consumers' growing needs. We are unaware of examples of insurers' inability to meet consumers' demand for products.	Disagree. There is a risk that certain insurers do not adequately or timely identify the changing needs of consumers (and lose market share).
Q29 Comment on paragraph 22				
62. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following. Comment: The discussion in this paragraph illustrates the need for using "big data / digitalisation" instead of just "digitalisation" because the discussion makes clear that the two are inextricably interconnected. We have commented elsewhere regarding the inaccuracy of the claim that more granular pricing equates to more accurate pricing. The example for artificial intelligence does not seem correct. The example describes the use of a big data algorithm using some form of facial analytics and other data. The essence of artificial intelligence - adaptation by the algorithm in response to interactions with the subject - does not seem to be present here. A better example would be robo-advising in which the algorithm prompts the consumer, reacts and responds with new prompts. We don't understand the description of telematics/telemetry and why the two are presented together. Telematics - in insurance - refers to the collection and analysis	Text changed.

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
			of consumer generated data (from a vehicle, home or wearable device) for pricing, product design and loss prevention. Telemetry seems like a different technology and should be discussed separately from telematics. 22. Big data / Digitalisation is impacting how insurers develop, design and underwrite their products. Advancement in technology may enable the development of more adaptable or tailored products and the creation of new protection, resiliency and sustainability products for which insurance is one part: - Big Data means more data for risk assessment which can enable more granular pricing, faster and more risk-specific underwriting and new loss prevention and loss mitigation tools and partnerships. - Artificial Intelligence may create new possibilities for risk assessment and underwriting.. - The IoT may create new products focusing on prevention or situational insurance, for example, a sensor will be able to monitor a household's water consumptions patterns, detecting potential leaks and interrupting the flow before the basement is flooded, thus preventing major damage and costly claim 9. - Telematics / telemetry: In the context of IoT, telematics involves telecommunications, sensors and computer science to allow sending, receiving, storing and processing data via telecommunication devices, with or without interfering with or steering of remote objects. Telemetry involves the transmission of measurements from the location of origin to the location of computing and consumption, especially without affecting control on the remote objects. - DLT may be able to seamlessly manage and instantly verify data sources. Smart contracts (i.e. programs that automatically execute the claim payment under pre-defined conditions stored in the blockchain) have the potential to be fully digital and fully automated products, as could be the case for agricultural parametric / index-based insurance.¹⁰ If this technology proves to be a viable tool, it could transform the insurance industry through a shared, transparent record of contract-related information, enabling all parties to have an immutable audit trail underpinning end-to-end underwriting and claims governance without the need for an intermediary.¹¹	
Q30 Comment on paragraph 23				
63. Global Federation of Insurance Associations	Global	No	Contrary to the last sentence, GFIA is not aware of any evidence that innovation has led to price increases, except for higher risk insureds who ought to pay more commensurate with their higher risk.	This paragraph has been deleted.

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64. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following. Comment: We suggest better explanation of the benefits and risks by explaining how the benefits or risks may come about. 23. These technological changes give rise to potential benefits and risks. On the one hand, empowered consumers will be able to tailor their insurance coverage and loss prevention activities specifically according to their needs. This may increase insurance availability and affordability of protection products by improving insurers' ability to manage risks. On the other hand, more opaque pricing and less transparent products and processes may make consumers more vulnerable to inappropriate products and prices..	This paragraph has been deleted.
Q31 Comment on paragraph 24				
Q32 General comment on section 2.2 Examples of Digitalisation Impact on Product Design				
65. Center for Economic Justice	USA	No	We suggest the heading be renamed to 2.2 Examples of big data / digitalisation impact on product design, consistent with our general comments.	Disagree: the use of data is the subject of a separate paper.
Q33 Comment on paragraph 25				
66. Center for Economic Justice	USA	No	We suggest "digitalisation" be changed to "big data / digitalisation" consistent with our general comments.	Disagree: the use of data is the subject of a separate paper.
Q34 Comment on paragraph 26				
67. Center for Economic Justice	USA	No	We suggest "digitalisation" be changed to "big data / digitalisation" consistent with our general comments. We suggest the example needs a bit more description. How does the app work to engage consumers?	Disagree
68. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	It's unclear what constitutes a "small specific change" or how the example box provided relates to product design. Suggest deleting this paragraph and either trying to find a place for the example box in the Introduction section or else delete.	Agreed. The box has been moved.

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
Q35 Comment on paragraph 27				
69. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following. Comment: There are many examples of traditional insurance products not associated with ownership of a good, including third-party vehicle insurance, renters insurance, travel insurance. We suggest the paragraph draw a clearer distinction between changes in traditional ownership to share use in the shared economy versus the need for new insurance coverages for new shared economy products. The discussion of personal or commercial use versus part time business is a non-sequitur. Again, there are examples of insurance covering part time use - rental car insurance is one. We suggest this paragraph be split into two to separately discuss the two concepts. 27. New sharing models are creating a unique challenge as traditional insurance protection and coverage may not align with the needs and approaches taken in the shared economy. The shared economy moves from individual ownership and use of a thing to shared use of the thing.	Text has been improved.
Q36 Comment on paragraph 28				
70. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following. Comment: The first sentence seems like an overstatement. 28. The availability of insurance coverage adapted to the needs of the participants of the shared economy is important for the further development of and acceptance by consumers of the sharing industry. To grow and adequately mitigate potential risk, participants - providers and users -- need appropriate insurance coverage.	Agreed
Q37 Comment on paragraph 29				
71. Global Federation of Insurance Associations	Global	No	In at least one country, insurance is on the vehicle and its drivers so the last sentence is not valid in all jurisdictions.	"Generally" added.
72. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following. Comment: We disagree with the gist of this paragraph. From our perspective, the development of insurance products for providers and users of ride-sharing, car-sharing and home-sharing services has been rapid - new products appearing over the space of just a few years. These are examples of rapid innovation and response by the insurance	Sentence added to clarify that indeed initiatives have been taken by the industry.

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
			industry. 29. At early stages of major ride-sharing, car-sharing and home-sharing products, traditional insurance products did not meet the needs of providers, platforms or users. The insurance industry quickly developed new and modified products to meet the needs of these participants and thereby promoted further development of these product markets. For example, drivers working for ride sharing businesses (Uber) and homeowners participating as a host in shared hosting services (Airbnb) have not always been able to find adequate insurance coverage. Traditional protections covering vehicles and homes did not extend to new businesses in the sharing industry where personal property is used in part-time business.	
Q38 Comment on paragraph 30				
73. Center for Economic Justice	USA	No	We suggest deleting this paragraph because it is repetitive - opportunity and challenges has been stated several times before - and provides no substantive information.	Agreed.
Q39 Comment on paragraph 31				
74. Center for Economic Justice	USA	No	Paragraph 31 is important and well-stated.	Noted.
Q40 Comment on paragraph 32				
75. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following. Comment: This paragraph benefits from a more specific description of the concepts. 32. Big data / digitalisation is already used in automobile insurance in the form of usage-based insurance (UBI). UBI has had a significant impact in terms of motor vehicle insurance product design and an even greater impact on motor vehicle insurance pricing. In terms of product design, a traditional motor vehicle insurance policy is joined with a data collection and analytics tool to capture data generated by the vehicle. In some cases, UBI product design includes various forms of real-time and after-the-fact feedback from the insurer to the consumers. In terms of pricing, insurers model prices based on vehicle-generated data based on the use of a vehicle by the insured - including where, how, when and by whom the vehicle is driven. UBI also produces data used in claim settlements to discover or corroborate the damage event.	Agreed to use most of the proposed text.

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
Q41 Comment on paragraph 33				
76. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following. Comment: This paragraph benefits from a more careful distinction between the technology used to collect the data and the ways in which those data are used. In addition, the last two sentences are better matched with the idea in paragraph 34. 33. In order to obtain data on the use of a vehicle, insurers use a variety of technologies - original equipment, add-on hardware or mobile phones - to gather data generated by the vehicle. The granularity of data collected varies from how many miles were driven when and where to more granular driving habits (e.g., acceleration, braking, turning speed)). This data allows insurers to establish more granular pricing and, in some cases, loss prevention tools personalised to the individual customer.	The distinction as suggested has been made by moving part of the text to the next paragraph.
Q42 Comment on paragraph 34				
77. Anonymous	United States	Yes	We suggest that item c) be revised to the following to more clearly align with the information security challenge discussed in paragraph 100 (updates included in all caps): c) use of data (e.g., as part of an investigation for the settlement of a claim, OTHER THIRD PARTIES TO WHICH ACCESS AND USE OF THE DATA HAS BEEN GRANTED);	Agreed
78. Center for Economic Justice	USA	No	Comment: The last two sentences of paragraph 33 are better suited as an introduction to paragraph. In addition, we understand that the structure of the paper is to discuss supervisory consideration in a later chapter, but the working group might consider including some of that discussion in this section as this section contains a description of the technology and applications, issues for insurers and issues for consumers. It is logical to include a discussion of supervisory activities in response to the insurer and consumer issues. Including some discussion here is particularly appropriate because the example provided is that of one supervisory response to the issues raised by the technology and applications. As currently structured, the AMF example seems somewhat out of place and with limited context.	Agreed
Q43 Comment on paragraph 35				
79. Lloyd's of London	UK	No	In order to accurately convey the advances that insurers have already made in this regard, we would recommend amending: "Insurers are trying to respond by	Agreed

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
			adapting product lines, pricing and customer service experience to connected insurance devices to result in on-demand insurance" to state: "Insurers are responding by adapting product lines, pricing and customer service experience to connected insurance devices to result in on-demand insurance"	
80. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following. Comment: The first sentence of the paragraph is filled with breathless generalizations about huge numbers of consumers and serves no purpose in introducing on-demand insurance. The second sentence conflates a host of big data / digitalisation activities of insurers - from more granular pricing to improved claims settlement - with on-demand insurance. A more direct description of on-demand insurance is needed. 35. Historically, most insurance has been purchased for a fixed period of coverage - typically six months or a year at a time. Insurers' systems and processes have been developed around this type of product and coverage, with a few exceptions, such as travel insurance. In response to both changing ownership models through the sharing economy in which a consumer may use a product or good for a limited period of time but not own the product, and changing consumer desires for coverage limited to more discrete time frames (such as insuring a bicycle only when being used), new market entrants and incumbent insurers are responding by developing new products and by adapting existing product lines, pricing and customer service experience to create on- demand insurance.	Agreed
Q44 Comment on paragraph 36				
81. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following. Comment: We suggest not using the phrase "tech-savvy." You don't need to "tech-savvy" to push buttons on a mobile phone. The point of mobile apps is to make the tool easily available to anyone with a mobile phone. 36. The key to on demand insurance is that it is temporal in nature. It provides insurancecoverage for specific periods of time that can be turned off and on. Users identify when they need insurance and get coverage for a specific period to meet that need. The ability to insure "moments" has offers consumers the opportunity to tailor coverage so that they only pay for coverage that they need and to quickly alter insurance coverage to meet changing personal circumstances.	Text amended
Q45 Comment on paragraph 37				

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
82. Center for Economic Justice	USA	No	Comment: As mentioned earlier, this is a good spot to discuss supervisory issues and options as a natural extension of the discussion starting with a description of on-demand insurance, followed by consumer benefits and dangers and by best practices for insurers. There is a hole where discussion of supervisory considerations to facilitate consumer protection should go.	Disagree. Supervisory issues are described in section 4 to avoid duplication.
83. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	Suggest streamlining this paragraph: "However, users need to be constantly engaged by actively turning their coverage on or off to obtain the benefits of on-demand insurance. Failure to constantly engage may result in being under or over insured. Insurers should be cognisant of this and build in controls to mitigate the risks they pose, which could include:"	Agreed
Q46 Comment on paragraph 38				
84. Global Federation of Insurance Associations	Global	No	Insurance is the transfer of risk and the price for that transfer should reflect the potential cost of the transfer. So, if higher risk insureds pay more, that is not a bad outcome. GFIA is also not aware of any proof of the outcome discussed in the last sentence.	Noted. The paragraph has been changed.
85. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following. Comment: While this paragraph contains useful information, it seems inconsistent with the description of the issues paper being limited to product design and underwriting. This paragraph again leaves the reader hanging for discussion of the supervisor's response to these issues. The sentence on reserving is out of place. Any issues with an insurer's ability to calculate accurate reserves are distinct from the discussion of lower-risk insureds leaving the traditional risk pool. On that last point, It is unclear why the last two sentences describe inequity. On the one hand, the paper attempts to repeat many times the ability of insurers to more accurately price, yet here that ability seems to create inequity. One might argue that consumers who benefit from on-demand insurance and switch from traditional coverage (as opposed to the more likely scenario of new consumers entering the market to take advantage of less expensive coverage options), is an example of more accurate pricing as the consumers who were overpaying stop subsidizing the consumers who were underpaying. Our point is simply that the last two sentences contradict the "more accurate" pricing comments - we suggest deletion of these sentence just as we have the "more accurate" pricing comments. 38. Insurers will also need to manage the prudential challenges on-demand insurance poses. As with any type of insurance, insurers offering on-demand insurance require a large enough set of measurable exposures to create an	Noted. The paragraph has been changed.

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
			effective risk pool. Collection and analysis of such data may be particularly challenging for on-demand insurance given the temporal and item specific nature of on-demand insurance. In addition to risk management and pricing challenges,	
86. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	First sentence, revise to "Insurers should manage the prudential challenges..." Last sentence, revise to "This may result in premium increases..."	Noted. The paragraph has been changed.
Q47 General comment on Section 3 Marketing, Sales and Distribution				
Q48 General comment on section 3.1 Marketing and Promotions				
Q49 Comment on paragraph 39				
87. AIA Group	Hong Kong	No	We acknowledge that ICP19 is a consideration when selling products digitally, as it is also important in the sale of products through traditional means.	Noted
88. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	When referencing ICP material, it should either be a direct quote, paraphrased in a way that does not change the meaning and/or include a footnote with the appropriate reference. This paragraph needs to be revised accordingly as this picks up part of what ICP 19.0.2 says, but not accurately.	Text changed
Q50 Comment on paragraph 40				
89. Global Federation of Insurance Associations	Global	No	The standard in this paragraph seems to be purely subjective. What is "adequate" information, for example. It is GFIA's view that if it accurately states facts and is consistent with applicable legal standards then it is sufficient.	The text is based on Standard 19.7 that uses the term "adequate", which needs to be applied proportionately. .
90. General Insurance Association of Japan	Japan	No	This paragraph requires supervisors to "apply to digital insurance activities requirements on transparency and disclosure that provide an equivalent level of protection to customers as those applied to insurance business conducted through non-digital means". We would like to clarify that only each jurisdiction's supervisor can judge whether the equivalent level of protection is met.	Noted
91. ACLI	United States	No	ACLI agrees with the IAIS that new entrants into the insurance marketplace should be required to provide similar pre-contractual and contractual information to those who provide life insurance by non-digital means. However, ACLI would caution the	Noted

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
			IAIS from promulgating new regulations and, instead, opt for updating existing guidance to comport with evolving technologies.	
92. Center for Economic Justice	USA	No	Comment: The examples seem out of place at the beginning of this section. The opening paragraph provides only a general caution. More discussion of the challenges and dangers before the supervisory examples would provide context for the examples. What were the problems these supervisors identified that led to the revised supervisory guidance? As mentioned above, a general structure to discussion of an issue might be description of the issue, benefits and challenges posed by the technology or application, consumer benefits and dangers, insurer benefits and dangers, and supervisory responses. In addition, we suggest minor edits for clarification. 40. Insurers and intermediaries should be required to provide timely, clear and adequate pre-contractual and contractual information to customers.¹⁵ Supervisors should apply to digital insurance activities requirements on transparency and disclosure that provide at least an equivalent, if not improved, level of protection to customers as those applied to insurance business conducted through non-digital means.¹⁶ Marketing and advertising through digital means offers new opportunities to inform and empower consumers but may pose certain additional challenges to insurance professionals and supervisors alike and command specific requirements or responses.	Partially agreed – text amended
93. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	Last sentence, it is unclear who "insurance professionals" are - does this refer to intermediaries? Insurers? Both? Additionally, suggest changing "command" to "may necessitate".	Agreed.
Q51 Comment on paragraph 41				
94. AIA Group	Hong Kong	No	Regarding the use of emerging technologies like Artificial Intelligence ("AI") in, for example, anti-money laundering / counter-terrorist financing ("AML / CTF") procedures in the sales process, we believe that it is imperative to shift towards a more principles-based system of regulation that provides insurers with greater flexibility in implementing such AML / CTF monitoring. For example, an AI driven AML / CTF solution used in the sale of digital products could be more effective in detecting suspicious money laundering / terrorist financing cases, however, the use of a rule-based approach may not be appropriate in these circumstances and audit trails may not be the same as those found in traditional AML / CTF systems.	Noted

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
95. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following. Comment: What is meant by "customer reach?" Is this paragraph discussing marketing, sales, distribution or some combination? It might be useful to define each term for purposes of the paper to articulate that the three terms are distinct. It is unclear how telematics is used 41. Insurers and intermediaries are increasingly focusing on ways to improve marketing, sales and distribution with the same big data / digitalisation technologies trends used in product design, pricing and claims settlement. . One outcome has been "targeted marketing" - the ability to develop specific marketing messages for individual customers or potential customers.	Noted. Text amended.
Q52 Comment on paragraph 42				
96. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following. Comment: Please delete "digitally savvy." One doesn't have to be savvy or a millennial to use social media. The examples used are not examples of social media campaigns. The three examples used are part of massive traditional advertising on media other than social media. There must be a better example actual social media campaigns targeting particular consumer groups. 42. The use of social media campaigns to relay promotional material is a common way of targeting particular customers who are active on social media platforms. Insurers are tapping into this market by using social media to make marketing seem less like "cold advertising" and more like information sharing, entertainment or "infotainment". Examples in the US include Gecko, Allstate's Mayhem, and Progressive's Flo, whose promotional mascots are instantly recognisable to insurance customers and who all have their own social media presence.¹⁹	Agreed
Q53 Comment on paragraph 43				
97. World Federation of Insurance Intermediaries	Belgium	No	WFII suggests to change the following wording: 43. Digital marketing may reduce the marketing costs of the insurer or the intermediary, creating savings that may be passed on to the customer. The use of big data may result in a better understanding of customers, which can inform personalised marketing and appropriate levels of disclosures.	Agreed
98. Global Federation of Insurance Associations	Global	No	GFIA strongly supports paragraphs 43 to 45 as accurately portraying some positive aspects of innovation.	Noted

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
99. Lloyd's of London	UK	No	We agree with the portrayal of some of the benefits of innovation here.	Noted
100. Center for Economic Justice	USA	No	In place of the existing paragraph, we suggest the following. Comment: The two sentences in this paragraph deal with different subjects. The first sentence is conjecture. Digital marketing may also improve marketing costs by adding another method of marketing, instead of replacing existing methods. Cost savings may be passed on to investors, not consumers. Digital marketing may lower costs for insurers, but raise prices for consumers because of the personalized price optimization. 43. . Big data / digitalisation may be used by insurers and intermediaries to develop new and deeper relationships with consumers offering the potential of more relevant information and disclosure. The same big data / digitalisation tools, however, may be used to exploit consumer vulnerabilities and biases through, for example, price optimization techniques.	The current text adequately covers the comments made.
Q54 Comment on paragraph 44				
101. World Federation of Insurance Intermediaries	Belgium	No	WFII suggests to change the following wording: 44. Greater availability of customer related data enable insurers and intermediaries to identify opportunities across the insurance value chain to reduce customer friction, increase efficiencies and change the overall customer experience through digital technology. Insurers and intermediaries can use enhanced customer experience as a marketing argument. For example, a Quebec start-up, Covera,20 based its marketing strategy on its digital solution that promises to break out of the standard insurance renewal process, identified as a common pain point for customers.	Disagree with the suggestion to change “improve” into “change” as the sentence described an opportunity to improve by using the phrase “enable insurers and intermediaries”.
102. Lloyd's of London	UK	No	We agree with the portrayal of some of the benefits of innovation here.	Noted
103. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following. Comment: The example needs further description. As currently worded, the last sentence provides no indication why Covera is an example of the point being made in the paragraph. The suggested edits are for clarification. 44. Greater availability of customer related data, increased analytics and enhanced digital deployment tools may enable insurers and intermediaries to identify opportunities across the insurance value chain to reduce customer friction, increase efficiencies and improve the overall customer experience. Insurers and	Agreed. Some of the text has been used.

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
			intermediaries can use enhanced customer experience as product differentiation used in marketing campaigns. For example, a Quebec start-up, Covera,20 based its marketing strategy on its digital solution that promises to break out of the standard insurance renewal process, identified as a common pain point for customers.	
104. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	Second sentence, it is unclear what "a marketing argument" means.	Agreed. Text has been changed.
Q55 Comment on paragraph 45				
105. Lloyd's of London	UK	No	We agree with the portrayal of some of the benefits of innovation here.	Noted
106. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following for clarification. 45. Big data / digitalisation creates greater opportunities for insurers to increase interactions and communications with consumers throughout the life of the policy. Instead of person-to-person contact limited to policy application and claims, big data / digitalization tools can inexpensively trigger and generate communications for a variety of purposes targeted to the individual through mobile and other internet-connected devices.. For example, some insurers have started to provide customers with prevention tools, such as a free water and humidity detector that sends an alert by notification, text message or email if it senses a problem. Such initiatives are part of the new digital brand marketing strategy. These tools are not designed to provide data for determining premium or coverage, but rather to attract and retain customers.	Disagree. The more detailed issues around the use of (Big) Data are the subject of a different paper. The current level of detail of this paragraph is therefore kept as it is now.
Q56 Comment on paragraph 46				
107. AIA Group	Hong Kong	No	Even if a customer is "nudged", digital sales are a demand-driven method of sale and the customer would have a choice of purchasing or not and if the customer is concerned with purchasing insurance through digital means, a customer could purchase insurance through traditional means.	Noted
108. Anonymous	United States	Yes	The example in the second sentence does not seem to relate to the risk discussed in the first sentence. We suggest narrowing the example to situations where a	Text has been changed to address the comment.

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
			customer is not aware that they are being targeted. For example, Google and Bing search results already make customers aware of advertisements purchased by businesses. In those instances, Google and Bing label the advertisements with the word "Ad" and places those advertisements at the top and/or bottom of the search results.	
109. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following. Comment: Advertisers have long used techniques to target consumers without consumers "being aware" they are being targeted based on information obtained about the consumer. For example, insurers and other financial service providers have long targeted consumers via direct mail campaigns based on consumer credit information. This paragraph needs to better tie the problem to the big data / digitalisation technologies. 46. Marketing campaigns through social media platforms, mobile and other internet-connected devices based on big data / digitalisation technologies and applications increase the danger of consumers being targeted for or channelled into particular products based on highly-personal data and questionable criteria. These increased likelihood of these dangers results from more granular consumer data and greater use of complex algorithms, as well as the increased ability of insurers, intermediaries or other third party marketers to channel consumers by limiting relevant information and highlighting information designed to produce certain actions by the consumer. . There is often a lack of transparency in the existence and purpose of these practices.	Disagree. The suggested text goes beyond the essence of his paragraph and would make it difficult (too much detail) to read.
110. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	Second sentence, suggest revising to "may influence the customer" as some readers may not understand "nudge".	No change. The term "nudge" comes from the economic "nudge theory" and fits well in this context.
Q57 Comment on paragraph 47				
111. Anonymous	United States	Yes	We suggest the addition of an example of the targeted marketing that could cause confusion for customers.	Disagree. Not considered necessary for understanding the text.
Q58 Comment on paragraph 48				
112. Global Federation of	Global	No	GFIA is not aware of any proof of this negative outcome.	Noted.

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
Insurance Associations				
113. ACLI	United States	No	ACLI rejects the IAIS's assertion in this paragraph. Here the IAIS seems to put forward an unsupported, overgeneralized concern of how digitalization may lead to a knowing everything about a person. Without further evidence here, we recommend deletion of this paragraph.	Disagree, although the text has been nuanced. The risk described should be taken seriously even without evidence.
114. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following for clarification. 48. Digital marketing and mobile based applications could also be used to take advantage in real time of individual circumstances, such as when an individual's need or vulnerability is heightened. In the context of insurance, where an intangible product is intended to mitigate personal fears, this type of emotional framing may pose a real concern. In addition, big data / digitalisation allows insurers, intermediaries and third party marketers to identify and exploit vulnerable situations such as life events requiring urgent action or product purchase by the consumer	No change. The use of data is the subject of a separate paper.
115. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	Suggest deleting this paragraph and the example box. While interesting, they do not seem particularly relevant for this paper.	Disagree.
Q59 Comment on paragraph 49				
116. World Federation of Insurance Intermediaries	Belgium	No	WFI suggests to change the following wording: 49. Even though the prevention tools mentioned in the previous paragraph can change the interaction with and provide value to the customer, they can raise concerns if data from devices (eg alerts) are used for premium increases or changes to existing coverage.	Disagree.
117. Center for Economic Justice	USA	No	We suggest deletion of this paragraph. Comment: The previous paragraph does not mention prevention tools so the reference to the previous paragraph is misplaced. In addition, the discussion of undisclosed harmful uses of consumer-generated data should be part of the prior section on product design or as part of a discussion of pricing and claims settlement.	"prevention" removed.
118. National Association of Insurance	USA, NAIC	No	This paragraph seems out of place. Prevention tools do not seem to be mentioned in the previous paragraph nor does the rest of the paragraph seem to relate to marketing. Suggest clarifying or else delete.	"prevention removed".

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
Commissioners (NAIC)				
Q60 Comment on paragraph 50				
119. Center for Economic Justice	USA	No	Paragraph 50 is important and well-stated. We suggest an additional paragraph as follows: Problems with add-on insurance markets (such as consumer credit insurance and travel insurance) demonstrate the importance of supervisor analysis of competitive market structure and identification of markets in which consumer are vulnerable because of information asymmetry, captive sales or both. Market characterized by "reverse-competition" typically warrant additional consumer protections compared to normally-competitive markets. NAIC work products define reverse competition as: "Reverse competition" means competition among insurers that regularly takes the form of insurers vying with each other for the favor of persons who control, or may control, the placement of the insurance with insurers. Reverse competition tends to increase insurance premiums or prevent the lowering of premiums in order that greater compensation may be paid to persons for such business as a means of obtaining the placement of business. In these situations, the competitive pressure to obtain business by paying higher compensation to these persons overwhelms any downward pressures consumers may exert on the price of insurance, thus causing prices to rise or remain higher than they would otherwise. NAIC Model Law 365, Section 3. https://www.naic.org/store/free/MDL-365.pdf	Noted. Comments about add-on insurance in general go beyond the scope of this paper. Hence, no change.
Q61 General comment on section 3.2 Robo Advice				
120. Dutch Association of Insurers	Netherlands	No	We fully agree with the key benefits that Robo-advice has the potential to improve access to financial advice for the majority of customers (mass market). It has the potential to drive down the costs of financial advice. Also Robo-advice can improve the quality of advice in general. Robo-advice enhances the traceability and auditability of the given advice. The algorithms can enhance the duty of care. There can be indeed different types of Robo-advice varying from hybrid, partial and full automated models. Robo-advice is an opportunity for all distribution channels. In particular hybrid model which combines algorithms and human interaction. Most Conduct of Business standards are not only applicable for traditional advice, but also for Robo-advice. For the insurance industry and customers to benefit from AI is important to	Noted

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
			experiment with Robo-advice models in a safe environment. The case studies in paragraph 103 are helpful, however there is no new legislation, guidelines, standards etc. necessary.	
Q62 Comment on paragraph 51				
121. AIA Group	Hong Kong	No	Robo advice if used properly could ensure that the proper advice is given each and every time a certain question is raised. We recognise the importance of robo advice being given in an appropriate manner. Even so, giving robo advice does not necessarily mean that other methods of receiving advice are not available to a customer or should not be included when dealing face-to-face with customers.	Noted
122. Center for Economic Justice	USA	No	Comment: We suggest adding: "The principal big data / digitalisation technology used in robo-advice applications is artificial intelligence / machine learning. One of the dangers of AI/machine learning tools - which can alter algorithms based on new information without human interaction - is accountability of the tool and algorithms to the insurer and consumer.	The comments describes a risk linked to the use of robo advice. These are discussed in subsection 3.2.3 also in respect of the use of algorithms.
Q63 Comment on paragraph 52				
Q64 Comment on paragraph 53				
123. World Federation of Insurance Intermediaries	Belgium	No	WFII suggests to change the following wording: 53. Robo advice has the potential to change both the accessibility and consistency of financial advice. Accessibility means that financial advice is easily accessible for the majority of consumers. (...) This includes the continuous availability of advice from one's home, which may also reduce the costs for the consumer. Furthermore, the consistency of advice can be improved through use of technology. When new financial products become available or when product conditions change, the algorithm can instantly take these changes into account. When programmed correctly and using sufficient and accurate data, robo advice may be consistently of the same quality.	Disagree
124. Center for Economic Justice	USA	No	We suggest adding the following sentence at the end of Paragraph 53: Of course, a faulty algorithm or defective AI tool can lead to inconsistent advice or consistently bad or improper advice	Agreed
Q65 Comment on paragraph 54				

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
125. Center for Economic Justice	USA	No	We suggest adding the following sentence at the end of Paragraph 54: But, robo-advice can also be part of enhanced consumer communications throughout the life of the product.	Agreed
126. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	Revise to "internet or telephone-based" not "of"	Agreed
Q66 Comment on paragraph 55				
127. World Federation of Insurance Intermediaries	Belgium	No	WFI suggests to change the following wording: 55. The advent of robo advisers might encourage traditional face-to-face advisers to change their performance and service to retain customers. In this sense robo advice has the potential to raise the quality of advice in general	Paragraph has been deleted
128. ACLI	United States	No	ACLI rejects the premise that robo-advice would enhance the quality of in-person advice. Robo-advice is traditionally modeled through algorithms and cannot in any way replace the tailored and personalized financial advice provided from insurance agents and producers. Without further evidence, we recommend deletion of this paragraph.	Noted.
129. Center for Economic Justice	USA	No	We suggest deletion of Paragraph 55. This paragraph seems like unsubstantiated conjecture.	Agreed
Q67 Comment on paragraph 56				
130. ACLI	United States	No	This paragraph discusses the "traceability" of robo-advice, something the IAIS believes is not apparent in other sales channels. This misunderstands the basic regulatory requirements, at least in the United States, that insurance agents and producers are subject to when working with a customer. We believe the IAIS has overstated the benefits of robo-advice in this section, and we recommend its deletion.	Noted. The suggested opinion of the IAIS is not correct. The text uses the word "enhances" so assuming traceability.
131. Center for Economic Justice	USA	No	Comment: Great accountability is not a given, particularly if machine learning is part of the robo-advice tool. This is an important point for supervisory guidance - tools that do not create a reliable audit trail should not be permitted as such tools lack accountability.	Noted

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
Q68 Comment on paragraph 57				
132. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	See comment on para 39. The first sentence paraphrases Standard 19.8 (which is not "should") and the second sentence should have a footnote to 19.8.6.	Standard 19.8 seemed paraphrased correctly. Footnote added.
Q69 Comment on paragraph 58				
133. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	ICP 19 does not use terminology about advice being in the best interest of the customer, which can be very subjective; suggest revising to: "However, there may be specific issues that need to be addressed to safeguard the fair treatment of customers who use robo advice."	Text changed
Q70 Comment on paragraph 59				
134. Center for Economic Justice	USA	No	Comment: See our comment on paragraph 57 about the danger of unaccountable, unauditable advice. In addition, it would seem that robo-advice may reduce misunderstandings because the consumer can more easily document the precise advice than she would be able to if the advice were given in a conversation with a human adviser. If misunderstanding is offered as a danger, fewer misunderstanding due to miscommunication between humans should be shown as a benefit.	Noted
135. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	The example provided is somewhat difficult to follow. Consider revising as this may be more confusing than helpful.	Text amended
Q71 Comment on paragraph 60				
136. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	Suggest streamlining the second and third sentences to: "For example, the algorithm could detect when a customer continuously clicks back and forth between pages and prompt a pop-up, asking the customer whether he needs additional help or explanations."	Agreed
Q72 Comment on paragraph 61				

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
Q73 Comment on paragraph 62				
137. Dutch Association of Insurers	Netherlands	No	It could be interesting to see how Robo-advice and the use of algorithm has developed in different jurisdictions. Expertise from other industries such as the asset management industry could also be helpful.	Noted – this may be part of a different workstream of the IAIS.
138. Center for Economic Justice	USA	No	Comment: It is also important for supervisors to develop new tools for monitoring market outcomes to quickly detect rogue algorithms.	Noted
139. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	See comment on para 58. Last sentence, revise to: "The design of the algorithm of the robo advice needs to be such that the output treats the customer fairly."	Agreed
Q74 General comment on section 3.3 Price Comparison Websites				
140. General Insurance Association of Japan	Japan	No	Depending on their information disclosure method, adequacy of information, and the comprehension of customers, the information that Price Comparison Websites provide may result in both benefits and unintended outcome for customers. Therefore, we support the contents of 3.3.2, which states there is a risk that consumers may buy unsuitable products.	Noted
Q75 Comment on paragraph 63				
141. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following. Comment: We suggest these edits to provide clarity to the topic and process. 63. Insurance Price Comparison Websites (also known as Digital Comparison Tools) are websites that present multiple insurance products and providers of insurance, thereby enabling, in principle, consumers, to compare and select products from an array of insurers and/or intermediaries.. If compensated for referring a visitor the PCW site, the PCW itself is an intermediary and, after a consumer selects or a particular product or provider is recommended, the consumer is directed or linked to the website of the insurer or intermediary to complete the transaction.	Some of the proposed text has been included. The nature of the PWC as intermediary is mentioned later in this section.
Q76 Comment on paragraph 64				
Q77 Comment on paragraph 65				

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
142. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	Suggest moving up to follow para 63 for more logical flow.	Agreed
Q78 Comment on paragraph 66				
Q79 Comment on paragraph 67				
143. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following for improved clarity: 67. The great potential benefit of PCWs is assemblage of product and price information to empower a consumer to quickly compare, assess and select among products available in the insurance market. If this potential is accomplished - reliable information is objectively presented with related educational tools - PCWs promote competitive markets by empowering consumers. PCWs further facilitate consumer shopping by being accessible at any time, from anywhere, although most insurers offer web sites for their products with similar access. Another key benefit of PCWs for consumers is the ability to enter their personal information once to receive personally-relevant products and prices from multiple vendors - a clear advantage to entering personal information every time when shopping across different insurers' web sites.	Agreed
Q80 Comment on paragraph 68				
144. Global Federation of Insurance Associations	Global	No	GFIA is not aware of any evidence to support the claim of potential systemic risk or a potential systemic issue.	Noted. Text added.
145. General Insurance Association of Japan	Japan	No	Even though this paragraph states that "they can potentially create a systemic issue across a specific market", the definition of "a systemic issue" in this part is unclear. We understand this means not systemic risk in terms of financial stability but an issue PCWs could set up, such as cases where consumers collectively and accidentally buy unsuitable products due to inaccurate information provided by PCWs. Also, it is not clear how this paragraph is related to paragraph 69. A clarification of what is meant by the words "a systemic issue" would be helpful.	Text added
146. Lloyd's of London	UK	No	We welcome further evidence and elaboration on the systemic risks that large volume of transactions on PCWs may cause.	Text added

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
147. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following for improved clarity: 68. Some of the risks are common to those of digital sales via the website of an insurer or an intermediary. However, due to the volume of transactions generated through a relative small number of PCWs, they can potentially create a systemic issue across a specific market. One risk unique to PCWs is non-disclosed conflicts of interest due to compensation arrangements with particular providers shown on the web site. Such conflicts of interest can cause the web site to present only some products and/or guide consumers to products that are in the best interest of the web site and not the best interest of the consumer.	Text changed to partially reflect the proposal.
148. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	This paragraph is unclear. Is the last sentence supposed to be a hypothetical?	Text clarified.
Q81 Comment on paragraph 69				
149. Center for Economic Justice	USA	No	Comment: We find this paragraph confusing. First, what is the "market abuse" that can harm consumers. Second, it is unclear how a PCW web site going down creates harm to consumers. While the benefits of the PCW may not be available for a period of time, consumers retain other options for shopping. We don't understand how market concentration translates into a lack of availability.	Explanations provided through amendments in the previous paragraph.
150. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	This paragraph is unclear. It seems to equate PCWs to actual insurers, which is not the case. It doesn't seem to be a matter of availability of other PCWs but rather availability of other mechanisms through which consumers can get the same product.	Explanations provided through amendments in the previous paragraph.
Q82 Comment on paragraph 70				
151. Anonymous	United States	Yes	The risk is unclear based on the function of PCW's discussed in paragraph 63. On PCW's, a customer is clicking from the PCW to the insurer's website to initiate a transaction. PCW's are not selling and writing insurance policies but are providing very basic points of comparison to consumers who then go to the insurer's website to review the terms of the transaction and purchase an insurance policy.	This would depend on the way the PCW is set up. It could be the case that options provided by the PWC are linked directly to a screen to complete a transaction.

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
152. Center for Economic Justice	USA	No	We suggest Paragraph 70 be deleted. Comment: Consumers focusing only on price has historically been a problem with insurance sales, so it is unclear why PCWs represent some increase in this problem. From our perspective, PCWs offer the potential to nudge consumers to examine and consider product features in ways not otherwise available in the absence of PCWs. Good examples are travel insurance PCWs which do a good job of explaining and comparing product features. We suggest either deleting this paragraph or reframing it along the lines of our comment.	Disagree. This paragraph is useful to describe a risk connected to the use of PCWs.
153. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	This paragraph is unclear. A consumer can focus only on price if they choose; it does not necessarily mean they were not provided adequate protection. Is this supposed to say when consumers are provided only with price information on which to make a decision?	The risk is that a consumer only focusses on the price and otherwise selects a product that does not serve its interest.
Q83 Comment on paragraph 71				
154. Center for Economic Justice	USA	No	We suggest replacing the existing text with the following for improved clarity.. 71. PCWs that are not subject to specific disclosure requirements, such as potential conflicts of interest, compensation arrangements with providers or the true identity of the PCW owner/operator or providers presented may lead to consumer confusion, misrepresentation, unsuitable sale, reputational damage to insurers and other problems	Some of the proposed text has been used.
Q84 Comment on paragraph 72				
155. Anonymous	United States	Yes	We suggest that the first sentence be revised to (updates included in all caps): "Consumers are generally not aware of the number of suppliers consulted DURING A GIVEN PRICE COMPARISON and the criteria used to establish a recommendation. They might think that the PCW scans the entire market for them, while it might always lead to the same insurance provider." The above modification recognizes that many PCW's already show customers a list of insurance companies that supply information to the PCW even though each one may not have been accessed to produce a specific price comparison.	Changed into: during a given product comparison.
156. Center for Economic Justice	USA	No	We suggest replacing the existing text with the following for improved clarity. 72. Consumers are generally not aware of the number of suppliers consulted and the criteria used to establish a recommendation. Absent clear and accurate	Some of the text proposed added.

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			disclosure of potential conflicts of interest, providers available and compensation arrangements with providers, consumers are likely to believe the PCW is providing objective and complete information when, in fact, the PCW is providing limited and biased information that channels the consumer to a product in the best interest of the PCW and the best interest of the consumer.	
Q85 Comment on paragraph 73				
157. Dutch Association of Insurers	Netherlands	No	We agree that conflict of interest is a main risk driver for PCW. In order to address this risk disclosure of commissions (nominal amount) should be mandatory.	Noted
Q86 General comment on section 3.4 Disclosure and Informed Decision-making				
158. Dutch Association of Insurers	Netherlands	No	Standards on disclosure of pre-contractual and contractual information should be digital-friendly, technology neutral and based upon the principle "All documents are digital, unless the customer requires paper".	Notes but this is not a statement the IAIS can make.
159. ACLI	United States	No	ACLI would like to add that digital interaction has the potential to benefit consumers' decision-making with more opportunities for self-directed education and learning. With digital technology, consumers can move at their own pace leading up to a potential decision to purchase.	Noted
Q87 Comment on paragraph 74				
160. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	See comment on para 39. Suggest being more specific and say: "Standard 19.7 requires..."	Agreed
Q88 Comment on paragraph 75				
161. World Federation of Insurance Intermediaries	Belgium	No	WFII suggests to change the following wording: 75. Digital means can prevent insurers and intermediaries missing or misunderstanding relevant information and can change handling large amounts of information, but they also present risks.	Disagree. "Improve" seems accurate.
162. Center for Economic Justice	USA	No	We suggest deleting Paragraph 75. Comment: It is unclear what "digital means" refers to. It is also unclear how such digital means can "prevent insurers and intermediaries missing or misunderstanding relevant information." Digital	Disagree

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
			disclosures seem to offer the benefit of consumers not missing or misunderstanding relevant information. We also don't understand the reference to handling large amounts of information in the context of disclosure. We are unable to identify the issue this paragraph seeks to explain and suggest this paragraph be rewritten to more clearly explain the intended issue.	
Q89 Comment on paragraph 76				
163. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following for improved clarity. 76. One of the advantages of big data / digitalisation tools in is the ability for providers to use information graphics to disclose features of a product. For example, the course of the premium over time can be presented in a manner that more effectively displays the information that text alone or is able to provide real-time interaction with the consumer based on changes in or additional information.. The same goes for other product features. Providers can experiment with different approaches and gather data on consumer use to evaluate the best content and method of disclosure to empower the consumer	Disagree
Q90 Comment on paragraph 77				
Q91 Comment on paragraph 78				
164. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following for improved clarity. 78. Insurers or intermediaries may use big data / digitalisation technologies to leverage insights from customer data to highlight the most relevant disclosures. Examples of such "virtual or cognitive customer service representatives" or chatbots include UK based Spixii, which "speaks" six languages or Flamingo's "Rosie" in Australia which "learns from your business" in order to respond to customers.²⁵	Text amended
Q92 Comment on paragraph 79				
Q93 Comment on paragraph 80				
165. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following for improved clarity. 80. The means of presentation (for instance through dedicated popup windows) can play an important role in ensuring proper understanding of the information by customers and obtaining explicit consents when appropriate. In addition, gamified	Agreed

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
			product sales information - whereby information is disclosed as part of game or challenge - can keep a consumer interested and engaged so that critical information that might otherwise be overlooked is seen, understood and retained by the consumer.	
Q94 Comment on paragraph 81				
166. Anonymous	United States	Yes	If additional examples are added to the document, we suggest that the examples include United States businesses, as U.S. companies have developed and used digital technology in all phases of the insurance life cycle.	Noted
167. Center for Economic Justice	USA	No	We suggest deletion of Paragraph 81. Comment: Big data / digitalisation tools for consumer information, education and disclosure offer the benefit of providing the relevant disclosure and the relevant time in a usable format. Examples include pop-ups for specific questions or terms or points in the purchase process. We suggest that paragraph 81 describes a false trade off. While any type of disclosure can be bad content, ill-timed and slow down the purchase process, big data/ digitalisation tools have great potential to overcome these problems. We suggest this issue be presented as a benefit, not as a risk. Our suggestion is buttressed by the two examples which seem intended to show the benefits of big data/ digitalisation tools for consumer interaction - not risks. We also suggest that the examples elaborate on what the AI tools actually do. There are, for example, many online apps that sign up consumers via mobile devices - what distinguishes Maya from the others/	The benefits are acknowledged in the first sentence. The issues meant to be covered is whether the potential of innovative technology does indeed meet the expectation in terms of adequate and timely disclosure of relevant information. No change.
168. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	The example box does not seem to relate to risks of disclosures but rather examples of technology being used for disclosure and informed decision making. Suggest moving these to para 78 where there are other similar examples.	Agreed
Q95 Comment on paragraph 82				
169. Center for Economic Justice	USA	No	We suggest deletion of Paragraph 82 Comment: This paragraph serves no purpose in the context of an issues paper on big data / digitalisation. The paragraph 82 statement is valid for any type of disclosure presented through any means.	Paragraph will be deleted.
Q96 Comment on paragraph 83				
170. Center for Economic Justice	USA	No	We suggestion deletion of Paragraph 83. Comment: We disagree with this statement, as explained in our comment on an earlier paragraph. Digital interaction can provide more consistent information that a consumer can review and reference	Text added to explain the paragraph.

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			- in contrast to a conversation with an insurer representative or intermediary which is more likely to be prone to misunderstanding due to the differences in knowledge about the subject. In addition, the argument in paragraph 83 is contradicted by earlier paragraphs describing the big data / digitalisation tools to test consumer comprehension.	
Q97 Comment on paragraph 84				
171. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following. Comment: Again, the "digital context" did not create a plethora of information, some or most of which is illegitimate. There is a rich history of misleading and deceptive paper and oral disclosures and information. We suggest that this risk already exists and continues to be a problem with digital disclosure. The Quebec and Nethland examples should be elaborated to describe some specific aspects of the guidance to illustrate how regulatory guidance can address a specific problem. As with non-digital information and disclosure, consumers face the risks of information overload from too many sources with no means to ascertain the accuracy or legitimacy of the information.. With proper supervisory guidance, big data / digitalisation tools can reduce this risk by creating a more easily documentable and auditable record of disclosures.	Some of the proposed text used.
172. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	It's unclear how the Quebec from relates to this subsection. Suggest the Netherlands example to follows para 82 for more logical flow.	Quebec example removed. Dutch example moved as proposed.
Q98 General comment on section 4 Supervisor Issues				
173. Global Federation of Insurance Associations	Global	No	This section does not adequately illustrate effective and cooperative efforts by the industry and supervisors to support beneficial innovation and assure full compliance with applicable conduct of business standards. Examples include sandboxes and tools and practices by which supervisors and insurers can engage in dialogue that brings about both innovation and consumer protection, such as filing checklists and meetings when a new product or service is proposed or implemented.	Innovation facilitation is outside the scope of this paper as it is broader than just conduct of business. It is likely to be addressed by another other IAIS group.
174. Swiss Re	Switzerland	No	We appreciate the inclusion of Section 4, "Supervisory Issues", in particular the consideration of the responsibilities of the supervisors. As mentioned in the paper, markets vie to attract new players - and the regulatory response to insurance innovation is likely to remain fragmented. Global standards setters need to step up	Noted

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			efforts to increase international cooperation and collaboration on specific topics to allow globally implemented tech based innovation. As mentioned in Paragraph 93-96, international collaboration among supervisors is extremely important to avoid fragmentation and regulatory arbitration. This coherence of regulation on a global level is particularly relevant for the issues related to Cloud use (paragraphs 102, 103), where we see that regulatory fragmentation may impede the usage of the cloud on a global scale, which is likely to further impede innovation and a globally efficient IT set up. We believe that to facilitate the adoption of Cloud, regulators across the globe should adopt a transparent and consistent approach and a framework for mutual recognition. Requirements for legal entities to notify or receive a regulatory approval from each local regulator before outsourcing certain activities to the Cloud is unduly burdensome. Once the group supervisor grants a regulatory approval, other supervisors should recognise this supervisory approval.	
175. Center for Economic Justice	USA	No	See our general comments about adding discussion of two addition risks requiring attention by supervisors.	Some of this is covered in this section under "Regulatory arbitration".
Q99 Comment on paragraph 85				
176. AIA Group	Hong Kong	No	We agree that digitalisation is transforming the insurance industry. It is also important to remember that depending on how the product is sold, the amount of supervision may differ and it does not necessarily follow that there needs to be a change. As such, any regulation should be proportional and take into consideration the nature, scale and complexity of such business.	Noted
177. Center for Economic Justice	USA	No	We suggest deletion of Paragraph 85. Comment: Paragraph 85 is a platitude that provides no useful information or guidance to supervisors and adds nothing to the paper.	Will be combined with the following paragraph as general introduction of this section.
Q100 Comment on paragraph 86				
178. World Federation of Insurance Intermediaries	Belgium	No	a typo:... both within and outside the insurance industry...	Agreed
179. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following. Comment: We suggest deleting jargon like "agile and dynamic" both because they are meaningless buzzwords and because their use suggests that supervisors have not been agile and dynamic to date, which we don't believe is consistently the case.	Agreed to replace "agile and dynamic"

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			86. As big data / digitalisation changes the way insurance products are designed, marketed and distributed, supervisors will need to develop new tools to monitor markets and consumer outcomes, including new ways to engage with existing and new stakeholders to ensure consumer protection. Examples of new stakeholders with whom supervisors will need to engage are cloud service providers and data vendors. Some of the key challenges are described below.	Disagree
180. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	First sentence, revise to "supervisors should monitor" Last sentence, revise to "New developments and shifts in risks may require new supervisory responses"	Agreed
Q101 Comment on paragraph 87				
181. Center for Economic Justice	USA	No	Comment: There is a disconnect between the text of paragraphs 87 and 88 and the examples provided. The text talks about the need for data driven efforts to evaluate consumer outcomes as a means of monitoring new developments. Most of the examples refer to supervisors learning about fintech and insurtechs. While monitoring and encouraging insurtech developments is important, it is not a substitute for monitoring actual consumer market outcomes. Generally, the section on suggestions for supervisors has a large void - there is no specific discussion of the types of data supervisors need to collect and the types of tools needed to make use of these data in an era of big data / digitalisation.	Paragraphs 87 and 88 should be considered on their own, be it as subsets of "supervisory tools"
Q102 Comment on paragraph 88				
182. AIA Group	Hong Kong	No	We support the development of supervisory solutions that will reduce the need to vet each step of the sale process and instead focus on the accuracy that all steps have been followed. This greater efficiency could reduce costs and be beneficial to the customers.	Noted
183. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	First sentence, revise to "Supervisors should become" Third sentence, revise to "Supervisors should consider monitoring" Add as a U.S. example to the box:	Agreed

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			"In 2018, the NAIC and U.S. state insurance supervisors launched a three year strategic plan, State Ahead, to drive their efforts, resources and attention to meet ongoing challenges, including the rapidly evolving marketplace fueled by seismic shifts in consumer behavior and huge technological advances. As part of the goal to ensure consumer protection keeps pace with changes in the marketplace, one objective is to optimize use of market data and regulatory processes to enhance consumer protections, including: - rebuilding the NAIC's Market Conduct Annual Statement (MCAS) application, as well as those applications utilizing MCAS data, as a cloud-based solution; - implementing a business intelligence tool with self-service capabilities; - creating an enterprise market data strategy and analytics data warehouse; and - rebuilding the NAIC's Consumer Information Source (CIS) application. Additionally, U.S. state insurance regulators are trying to gain a good understanding of new, innovative insurance products and services, including the manner in which they impact consumers and other stakeholders in the insurance marketplace. Accordingly the NAIC established the Innovation and Technology Task Force in 2017 to help insurance regulators stay informed on key developments, including new products and services from startup companies, as well as established insurance industry players. Under this Task Force, the NAIC's Big Data Working Group is charged in part with assessing data needs and required tools for state insurance regulators to appropriately monitor the marketplace and evaluate underwriting, rating, claims and marketing practices. This assessment includes gaining a better understanding of currently available data and tools, as well as recommendations for additional data and tools, as appropriate. Based on this assessment, the Working Group will propose a means to collect, house and analyze needed data." A footnote could be included to: https://www.naic.org/state_ahead.htm	
Q103 Comment on paragraph 89				

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184. Center for Economic Justice	USA	No	We suggest deletion of the last sentence in Paragraph 89. Comment: The last sentence is inconsistent with the rest of the paragraph. The paragraph discusses the skills regulators will need while the last sentence jumps to potential difficulty hiring people with those skills. In addition, supervisory agencies are always competing for talent with the industry since the skill sets are similar. The discussion in paragraph is highly generic. If the same description had been used 20 years ago, it would have been as true then as today. We suggest the paragraph explain even at a simple level why these new skills are required. For example, staff will need new skills to examine and understand the variety of algorithms used by industry. Staff will need new skills to ensure insurers comply with new data protection and privacy laws and regulations. Staff will need new skills to identify, monitor and assess new applications of big data / digitalisation technologies. Staff will need new skills for development and testing of consumer information, education and disclosure. Staff will need new skills for analysing market structures and potential anti-competitive activities of data vendors and consultants who gather data from insurers and providing pricing guidance in the form of algorithms.	Disagree that there is an inconsistency in the paragraph.
185. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	Suggest moving up fourth sentence to combine with the first: "supervising market conduct in a digital world requires different skill sets, such as those of lawyers, economists, actuaries/mathematicians and data scientists." Third sentence, revise to "Supervisors should be" Add as a U.S. example to the box: "As part of the NAIC and U.S. state insurance supervisors' State Ahead strategic plan, the theme of consumer protection and education recognizes the need to stay abreast of new developments in the area of innovation and emerging technology and the need to become more engaged in the areas of InsurTech and RegTech. Opportunities being explored to further this objective include providing forums and programs for state insurance regulator education and discussion regarding changes in the insurance marketplace, including innovation and technology; convening an Autonomous Vehicle Insurance Forum with stakeholders to discuss insurance regulatory issues related to autonomous vehicles; and considering the creation of a cybersecurity insurance institute. Additionally, the NAIC's Innovation and Technology Task Force is charged in part with discussing innovation and technology developments in the insurance sector,	Agreed

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			including the collection and use of data by insurers and state insurance regulators—as well as new products, services and distribution platforms—in order to educate state insurance regulators on how these developments impact consumer protection, privacy, insurer and producer oversight, marketplace dynamics and the state-based insurance regulatory framework."	
Q104 Comment on paragraph 90				
186. Center for Economic Justice	USA	No	Comment: The last sentence of paragraph 90 should be presented at the beginning of the paper as part of a more detailed description of the IAIS work plan to examine big data / digitalisation issues.	The forthcoming paper is mentioned at the beginning of this paper.
187. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	Delete the last sentence. References to future IAIS work should be broad as they may change; future IAIS work is already sufficiently acknowledged in paras 17 and 108. The example box does not seem particularly insightful beyond describing who published a report; suggest either providing more useful context or else delete.	Agreed
Q105 Comment on paragraph 91				
188. ACLI	United States	No	ACLI would like to emphasize this paragraph. All entities involved in the insurance space, both incumbent companies and insurance start-ups should be subject to identical regulatory requirements. Subjecting these institutions to differing requirements would lead to a gap in consumer protection.	Noted
189. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following. Comment: As with other paragraphs in this section, the general statements need more elaboration to be meaningful. 91. Different entities: Supervisors will face new entrants into insurance and financial services who may not have experience or knowledge of financial services regulation. Supervisors may need to assume new responsibilities to educate and assist new entrants without compromising consumer protection requirements, New entrants may have different entity structures and tolerances to consumer related risk than entities historically monitored by supervisors. Unlike incumbents, the general compliance awareness, risk culture and ability to comply with regulatory requirements may differ significantly for these non-traditional firms.	Some of the proposed text included.

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190. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	It is unclear what "tolerances to consumer related risks" means.	Text amended
Q106 Comment on paragraph 92				
191. ACLI	United States	No	ACLI would similarly emphasize this paragraph. New entrants into the insurance space may pose differing challenges to supervisors. While ACLI would not promote the promulgation of any new standards, insurance supervisors should be sure to understand the individualized challenges of these entities.	Noted
192. Center for Economic Justice	USA	No	Comments: As with other paragraphs in this section, the general statements need more elaboration. What are the challenges referred to in the paragraph, why are they different for different types of entrants and what new tools do supervisors need? Unlike other challenges for which supervisors clearly need new tools and resources (for more granular market monitoring, for example), it is unclear what new challenges are posed and what new tools are needed in this paragraph.	Disagree. No change.
Q107 Comment on paragraph 93				
193. Global Federation of Insurance Associations	Global	No	GFIA requests the addition of: "At the same time, supervisors must have effective policies and programmes in effect to protect personal information, <u>intellectual property and trade secret information</u> ".	Disagree. This would go beyond the objectives of insurance supervision.
194. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	Suggest revising second and third sentences to: "As digital innovations and risks do not stop at the border, jurisdictional supervisors should coordinate with authorities in other jurisdictions. To meet these challenges supervisors should proactively work together across jurisdictional and subject-matter boundaries to identify emerging trends and to develop and implement solutions."	changed
Q108 Comment on paragraph 94				
195. Center for Economic Justice	USA	No	Comment: There seems to something missing from the beginning of the paragraph. "The multiple sources of information" appears to refer to or follow some discussion indicating multiple sources of information are needed, but that is not included in the prior paragraph.	Paragraph deleted.

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Q109 Comment on paragraph 95				
196. General Insurance Association of Japan	Japan	No	We support what this paragraph describes, since precluding regulatory arbitrage is a particularly important issue in the use of digital technology in insurance business.	Noted
Q110 Comment on paragraph 96				
197. General Insurance Association of Japan	Japan	No	Precluding regulatory arbitrage becomes more important when considering that a characteristic of digital technology is that it crosses borders more easily; therefore we appreciate that this paragraph refers to jurisdictional arbitrage.	Noted
198. Center for Economic Justice	USA	No	Comment: We suggest another type of regulatory arbitrage created by products that bundle insurance and non-insurance products or services with choice by the consumer limited to purchasing or not purchasing the package. As an example, travel protection plans include insurance coverages and non-insurance services. The emergence of other "protection" products combining insurance and non-insurance is certain to grow. An emerging challenge for supervisors will be they have jurisdiction over the entire protection product or if vendors can create regulatory arbitrage by combining regulated and non-regulated products into a bundle.	Noted. The paragraph seems to cover this.
Q111 Comment on paragraph 97				
199. Center for Economic Justice	USA	No	We suggestion deletion or significant modification of paragraph 97. Comment; We object to the trope that innovation and consumer protection are at odds or comprise a zero sum game. Our view is that consumer protection can promote innovation. For example, with clear guidelines for who owns consumer-generated data and parameters for how the data can be used and transparency to the consumer, consumers will have greater confidence to embrace innovations. The reason we object strongly to the false dichotomy presented in paragraph 97 is that it is used by insurers to avoid transparency to supervisors and consumers.	The suggestion indicated in this comment does not seem to be made in the paragraph.
Q112 Comment on paragraph 98				
200. World Federation of Insurance Intermediaries	Belgium	No	WFI suggests to change the following wording: 98. Digitalisation and innovation have enormous potential to help insurers and intermediaries build cultures of compliance, identify potential consumer harms and change outcomes for consumers. However, it does pose significant risks that could	Disagree with changing "improve" by "change" is this mentioned as a potential outcome in the paragraph.

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			lead to consumer harms if not properly managed. These could include technological exclusion, discrimination and accessibility and affordability issues.	
201. Center for Economic Justice	USA	No	Comment: This is the most important consumer protection issue in the realm of big data / digitalisation and warrants significantly more discussion. We ask the working group to consider the discussion we provided in our general comments to add substance to this paragraph.	Noted but no change.
Q113 Comment on paragraph 99				
202. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following. Comment: We disagree that these are examples of supervisors "balancing innovation with their supervisory responsibilities." These are examples of supervisors encouraging innovation in a manner consistent with their consumer protection responsibilities. The box below contains examples of initiatives by supervisors to encourage innovation with in a manner consistent with supervisory consumer protection responsibilities.	Text removed
203. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	Delete as other example boxes do not have or need similar introductions.	Agreed
Q114 Comment on paragraph 100				
204. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	The example box does not seem to be particularly relevant or necessary for this paper - suggest deleting.	The example provides useful background information on the preceding paragraph.
Q115 Comment on paragraph 101				
205. Center for Economic Justice	USA	No	Comment: As mentioned in earlier comments, it would be useful include this description of planned work in a more fulsome description of the iAIS's planned activities on big data / digitalisation, how this paper fits into that work plan and what additional work products will be part of the work plan.	Consideration of future work is still too much in flux, hence not included. Disagree.

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			The example in this paragraph - the description of the EU GDPR - seems out of place and is better placed with paragraph 98 or 100	
206. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	Delete the last sentence. References to future IAIS work should be broad as they may change; future work is already sufficiently acknowledged in paras 17 and 108. Add as a U.S. example to the box: "The NAIC's Big Data Working Group is charged in part with reviewing current regulatory frameworks used to oversee insurers' use of consumer and non-insurance data, and if appropriate, recommend modifications to model laws and/or regulations regarding marketing, rating, underwriting and claims, regulation of data vendors and brokers, regulatory reporting requirements, and consumer disclosure requirements."	Agreed
Q116 Comment on paragraph 102				
207. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	This paragraph does not seem to be particularly relevant or necessary for this paper - suggest deleting.	Disagree
Q117 Comment on paragraph 103				
208. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	The box on robo advice does not seem to fit here as this is not an example related to information security. Suggest moving somewhere under section 3.2 on robo advice or under para 97 that addresses balancing innovation and conduct concerns.	Disagree: needs to be in section on supervisory issues.
Q118 General comment section 5 Conclusions and Recommendations				
209. Global Federation of Insurance Associations	Global	No	As is true of the Executive Summary, by far most of this section is negative toward innovation and needs more balance. GFIA requests the addition of a sentence similar to the following: "Innovation can improve customer service, provide more choice in product, enhance competition, improve safety and reduce fraud and costs."	Disagree. Para 104 acknowledges the benefits.
210. Lloyd's of London	UK	No	We find this section to be cautious with respect to the benefits of innovation, such as increasing competition, improving claims time and experience, reducing fraud	Disagree. Para 104 acknowledges the benefits.

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			and providing greater product choice. We would welcome the addition of selected positive statements in this regard.	
211. Center for Economic Justice	USA	No	We suggest addition of discussion of two additional risks emerging with greater use of big data / digitalisation by insurers. The first is the bundling of insurance and non-insurance products into "protection" products, discussed at the end of our beginning general comments. The second additional risk is potential for anti-competitive activities and antitrust violations, discussed as follows. We suggest that the paper include discussion of another risk associated with big data / digitalisation - the risk of anti-competitive practices and anti-trust violations. One of the features of big data / digitalisation is the growth vendors who collect non-insurance personal consumer information, add insurance data to the mix, analyse the data to produce a variety of tools - algorithms - for insurers in underwriting, pricing, and claims settlement. For example, some vendors mine social media data and combine it with insurance data to produce fraud detection and propensity for fraud scoring algorithms. Other vendors have collected data from insurers, combined it with consumer driving data to produce usage based insurance pricing algorithms. These vendors, by virtue of collecting data from insurers and then returning pricing guidance back to insurers in the form of scoring models, are the mechanism for collective pricing and collective claims settlement practices by insurers. These challenges require new tools by supervisors - monitoring vendors and consultants providing collective pricing and claims settlement tools - and enhanced skills in economic and antitrust analysis.	Considered too specific to be included in the conclusions.
Q119 Comment on paragraph 104				
212. World Federation of Insurance Intermediaries	Belgium	No	paragraph 104 WFII suggests to add and intermediaries in this paragraph and to change the following wording. 104. Digitalisation has an impact on consumer protection and the extent to which customers are treated fairly; from the design, underwriting and pricing of products, their marketing and distribution, through to claims processing and the ongoing management of customers. Digital innovations can potentially change the customer experience and may reduce insurers' and intermediaries' operating cost. However, in respect of product design, marketing and sales due attention needs to be given to achieving fair customer outcomes in terms of suitability of products and soundness of IT processes including design and use of algorithms and use of customer data.	Agreed

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
213. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following for improved clarity. 104. Insurers' use of big data / dDigitalisation technologies has huge consequences for fair treatment of consumers and supervisory approaches to an impact on consumer protection responsibilities.and the extent to which customers are treated fairly; The issues touch every part of the insurance product cycle from the design, underwriting and pricing of products, their marketing and distribution, through to claims processing and the ongoing management of customers. Digital innovations can potentially improve the customer experience and reduce insurers' operating cost. However, in respect of product design, marketing and sales due attention needs to be given to achieving fair customer outcomes in terms of suitability of products and soundness of IT processes including design and use of algorithms and use of customer data.	Text has been changed based on the discussion of the comments by the MCWG.
Q120 Comment on paragraph 105				
214. World Federation of Insurance Intermediaries	Belgium	No	WFII proposes to mention in this paragraph the importance of a level playing field as explained in the general comments above. 105. To adjust to the digital age and foster innovation, supervisors will need to balance the risks of new innovations against the benefits for policyholders and the insurance sector as a whole. For the sake of fair competition, it is important that supervisors ensure that all innovations and all insurance incumbents in the sector fall within the same regulatory and supervisory framework. Such a framework is medium-neutral, activity-based and respect a level playing field.	Agreed
215. General Insurance Association of Japan	Japan	No	As mentioned in our general comments, the use of digital technology can not only give rise to risks but can also be a solution or a help to ensuring consumer protection and the fair treatment of customers, as the IP points out in its many parts. Therefore, we would like to restate that we agree with expressly stating that supervisors will need to balance the risks of new innovations against the benefits for policyholders and the insurance sector as a whole.	Noted
216. Center for Economic Justice	USA	No	We suggest deletion of or significant revision to Paragraph 105. Comment: Please see our comment on paragraph 97 in which we explain the false choice of presenting consumer protection and innovation as in conflict and comprising a zero sum game.	Disagree. While the benefits of innovation re recognised the challenges should indeed be balanced with those benefits.
217. National Association of	USA, NAIC	No	Suggest revising to: "supervisors should consider how to balance"	Agreed

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
Insurance Commissioners (NAIC)				
Q121 Comment on paragraph 106				
218. AIA Group	Hong Kong	No	Again, we suggest that depending on the innovation, the level of supervision should be proportionate and take into consideration the nature, scale and complexity of the business adopting the innovation.	Noted
219. Center for Economic Justice	USA	No	In place of the existing text, we suggest the following for improved clarity. 106. To promote innovation consistent with consumer benefit and protection, For this purpose, it is recommended that supervisors should be conversant with emerging technologies and their applications as presented by incumbents and new entrants' innovations. Supervisors; understanding of emerging innovations should be sufficient for a develop a thorough understanding of how innovations work and are applied to ensure a proper assessment of new product and business models, and the design and functioning of the IT architecture, infrastructures and processes, and how this is catered for in the insurers' risk management framework.	Part of the proposal included.
Q122 Comment on paragraph 107				
220. Lloyd's of London	UK	No	We note that the use of regulatory sandboxes will be very useful in this regard and highlight the work being done by the FCA and others on building a global version to enable international innovation.	Noted
221. National Association of Insurance Commissioners (NAIC)	USA, NAIC	No	Suggest revising to: "supervisors may need to develop"	Agreed
Q123 Comment on paragraph 108				
222. AIA Group	Hong Kong	No	As commented above, guidelines should be based on existing principles in place and we submit that the level of supervision may vary from case to case. As such, our view is that it is important to adopt a principles-based approach rather than be prescriptive in implementing any guidelines.	Noted

Organisation	Jurisdiction	Confidential	Answer	Resolution of comments
223. ACLI	United States	No	As mentioned in Paragraph 40, ACLI does not believe new guidelines are necessary. Existing regulations can be clarified to reflect advances in technology and innovation when needed.	Noted. Text amended
Q124 Comment on the Annex				
224. Center for Economic Justice	USA	No	Please see the discussion in our general comments regarding the distinction between technologies and applications of the technologies and our comments on diagram one, particularly the distinction between telematics and telemetry. In addition, telematics is one type of IoT.	The annex is taken from the IAIS report “FinTech Developments in the Insurance Sector” and not subject to change.