

Artificial intelligence and customer protection in the banking and insurance industries

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[special issue of *Digital Issues*, March 2018]

Abstract:

The financial, banking and insurance industries are in the throes of deep changes as a result of the explosion of customer data, now available for processing, and the use of artificial intelligence. New products, new customer relations... the changes to come will bring progress, the first signs already visible. But these changes are also laden with risks for customer relations. The asymmetry of information characterizing these relations risks increasing to the benefit of professionals who are better equipped to identify the most “profitable” customers and make a better adapted and more persuasive sales pitch. Given these risks, the principles of consumer protection established at the EU level are fully pertinent. The regulations stemming from them should, however, be reexamined in the light of technological progress.

Unprecedented prospects for banking and insurance

Artificial intelligence (AI) is in its infancy in the banking and insurance industries.¹ The big question on the minds of firms, business media and regulatory authorities concerns the uses of customer data — an important question not only because of the considerable advances made in data analytics or because of the growing awareness of firms of their “deposits” of (big) data, but also because of a new regulatory context. On the one hand, the EU’s GDPR (General Data Protection Regulation, GDPR) will take effect as of 5 May 2018;² and on the other, a new directive on payment services, which recognizes and fosters new “account aggregators”, is to be transposed by member states into national legislation by early 2018.³ In insurance, connected devices (such as cars, not to mention

¹ This article has been translated from French by Noal Mellott (Omaha Beach, France). The translation into English has, with the editor’s approval, completed a few references.

² Texts of European Union law are available via

<http://eur-lex.europa.eu/browse/directories/legislation.html>. “Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data” sets a new framework for the protection of personal data. It has three objectives

- reinforce the rights of individuals, in particular by creating a right to the portability of personal data and specific arrangements for underage persons.
- hold the parties who process data liable (including for processing by subcontractors).
- make the GDPR credible thanks to stronger cooperation between the authorities in charge of data protection, who will be able to adopt stronger sanctions and joint decisions about the processing of transnational data.

³ The so-called DPS: Directive (EU) 2015/2366 of 25 November 2015 on payment services in the internal market. Available at: <https://eur-lex.europa.eu/legal-content/FR/TXT/?uri=CELEX%3A32015L2366>.

smartphone applications for sports or lifestyles) are behind the invention of policies that focus more closely on the policyholder's actual practices and offer prevention services. So many harbingers of the changes announced for the financial sector!

In this context, AI is quietly being introduced, and its importance might be underestimated. Through the reactions to a recent discussion paper on the uses of big data in the financial sector,⁴ we notice that AI tools have not been much developed for this sector. The market sees them as eventual "additional layer" in the information system that can be used to analyze large volumes of unstructured data and improve the use of big data for classification, evaluation and predictions.

Meanwhile, plans for managing customer queries, claims or fraud in the insurance industry (or, more broadly, plans for customer services) are starting to take shape. A machine capable not only of analyzing a large volume of data but also of understanding natural language and learning from past interactions with customers will inevitably have a role in the service sector of banking and insurance. It can play, in the first place, a role (directly or as a backup) in the marketing of financial products. For reasons both technical (price-setting, risk-taking) and regulatory (knowledge of customers, the duty to advise), the prerequisite for putting most financial products or services on the market is to know-your-customers (their characteristics and needs).

AI can ameliorate after-sales relations by extending the scope of advice or improving the management of the services rendered. In insurance for damages or in the field of health, we can imagine a better monitoring of trends in risks or a better adaptation of offers for coverage with adjustments to be made over time. For investing a client's savings, we can imagine services for reallocating assets in his portfolio (an improved version of the algorithms for the robo-advisors now in use). Some fintechs outside France have attracted attention by announcing solutions (apparently quite efficient) for processing the declarations of accidents or disasters filed with insurance companies, while also managing the risks of fraud.

Risks for the financial sector and its customers

Is the financial sector — which is not at the origin of these changes — ready to adopt and adapt them without upending its environment and the relations between players in the sector? Nothing is less certain. For sure, the renown, "technicity" and financial clout of these players are assets for forming advantageous alliances with new players under condition that the latter are small... The question takes another turn if the newcomers are the giants in information technology. The race now under way in payment services on smartphones (Paylib, Apple Pay, etc.) speaks for itself. We bet that the same game will be played out as AI spreads elsewhere into the financial sector.

⁴ Joint Committee of European Supervisory Authorities, "Joint Committee Discussion Paper on the Use of Big Data by Financial Institutions", 36p., JC 2016 86. Available via: <https://www.esma.europa.eu/press-news/consultations/joint-committee-discussion-paper-use-big-data-financial-institutions>.

As for customers in the financial sector, the nearly certain upending of uses and business models carries risks. First of all, the risks stemming from big data: the risks to the security and integrity of customer data, the risks arising when the data are processed. These risks also crop up in other branches of the economy, but this falls outside this article's scope. Let me mention but one: the risk of reproducing social biases, which might be passed on to algorithms from the data they process, and thus the risk of (unconscious) discrimination.⁵ Let us look at the specific effects of these risks in the financial sector.

Underlying the relation between customers and their insurance company or bank is, in general, a transfer (or sharing) of risks. This is the very purpose of insurance, and it is not missing in banking (credit risks, guarantees on savings and deposits, the security of payment systems, etc.). These transfers of risk account for much of the social utility of the banking and insurance industry. They help maintain confidence and stimulate the economy's growth while providing security to clients, whether consumers or entrepreneurs.

The insurer's or banker's job is to know the risks they are taking. In fact, they know them better than the customers who transfer the risks to them. This is what regulatory authorities and controllers of business practices call an "asymmetry of information".⁶ This asymmetry comes even more out of balance as the quantity of data available and the techniques (in particular AI) for processing them explode. Knowledge of the risks for customers is becoming ever granular and individualized; and it evolves over time. So, how to be sure that professionals do not excessively take advantage of this asymmetry by, for example, refusing to cover risks that they alone know to be the most probable or by proposing fees and rates out of true with the risks actually covered?

AI's potential in the management of customer relations increases this risk of asymmetry. The detection of behavioral biases (in particular of an individual) is a powerful lever for making the customer accept a skewed business relationship. Another AI risk related to customer relations is to increase the pressure that the professional, perhaps unawares, brings to bear on customers. Professionals have foreseen the potential consequences on the confidence, or trust, that underlies customer relations. Implemented in an extreme form, such a program would inevitably destroy trust in the financial sector, thus depriving it of its social utility.

⁵ BAROCAS S. & SELBST A.D. (2016) "Big data's disparate impact", *California Law Review*, 104, pp.671-732.

⁶ In actuarial science, the asymmetry of information tends to be the reverse: the customer's knowledge of a risk that is unknown to the insurer, whose task is to discover it by examining data.

Are regulations adapted?

At first sight, given the current state of AI technology, the answer seems affirmative. EU regulations on customer protection in the banking and insurance industries and on financial instruments fully recognizes the asymmetry of information between professionals and their customers. The intent of these regulations is to restore a balance in this relationship by requiring that professionals have a duty of loyalty and (what is original, and more important) have to act in the customer's interest. Given the previously discussed risks, this principle is still fully warranted.

If we enter into the details of these regulations however, the answer is less clear-cut. EU regulations are based on a dichotomy — between the “producer” and “distributor” of financial products — that the spread of artificial intelligence could upend. Regulations require that the producer identify the categories of customers being targeted and develop offers adapted to the needs of these categories — this has been called the “governance of products”. On the distributor falls the advisory duty to provide explanations to customers; this includes the responsibility to verify whether the product proposed to a given customer actually corresponds to his requests and needs (or his borrowing capacity in the case of loans). The relationship between the producer and distributor is regulated by an obligation with regard to the circulation of information: the distributor has to have access to the product's specifications, and the producer has to verify whether his product actually finds a target and satisfies needs and, if not, make the necessary adjustments.

What happens to this set of arrangements in the case of business interactions via a fully automated device that uses self-learning software in a situation where the target of marketing or the product's characteristics are constantly adjusted to individual sales? and where the explanations given to customers vary as a function of the experience acquired during previous sales (thus as the problems detected in understanding are eventually lifted)? Since they are based on a control of procedures designed using deterministic algorithms (even when intended for application to human beings), current regulations would probably encounter run up against their limits.

The response to this sort of situation, if it becomes widespread, would probably involve changing the formulation of regulations so as to maintain the objective, for example, by requiring that programming and machine learning take account of the customer's interests. The rules for conflicts of interests would thus be adapted to situations where machines make the decisions. We would pass from a “governance of products” to a “governance of algorithms”. We can imagine this new sort of governance outside the financial sector; but within this sector, it would have to incorporate the regulatory principles that already exist. Of course, questions would immediately crop up about auditing, about controlling how algorithms operate and how effective their governance is, an issue addressed in a recent report.⁷

⁷ PAVEL I. & SERRIS I. (13 May 2016) “Modalités de régulation des algorithmes de traitement des contenus”, 63p. (Paris: Conseil Général de l'Économie). Available at: [https://www.economie.gouv.fr/files/files/directions_services/cge/Rapports/2016_05_13_Rapport_Algorithmes\(1\).pdf](https://www.economie.gouv.fr/files/files/directions_services/cge/Rapports/2016_05_13_Rapport_Algorithmes(1).pdf).

As the technology advances, modifications might also be in line for another aspect of customer protection regulations, namely: protection from “exclusion” or “discrimination” (but not in the sense of the general risk of discrimination as in any activity, whether financial or not). In the financial sector (in particular insurance), competition tends toward segmentation — to a “depooling” of risks that can lead to excluding (outright or through prices) segments of the population from coverage. In France, responses to this tendency (which is not new) have already been formulated in many fields: the right to a bank account, the central office for setting prices in automobile insurance, the AERAS convention in France for borrowers with greater health risks, etc. The possibility of reaching out in an ever more individualized way to potential customers increases the risk of depooling and, consequently, of “exclusion” while, at the same time, making it harder to detect the factors in operation. If the “governance of algorithms” fails to make these risks socially acceptable, regulations could be made on such and such a point to correct the effects. An example of this is the recent adoption of a “right to forget” pathologies in the individual’s past that are deemed to have been definitively cured.

Let us close this account of the prospects of AI for the banking and insurance industries with a question. Taking a longer view, might artificial intelligence, as it spreads, not be capable of settling the questions it has raised? Under a strong hypothesis, we can imagine cognitive tools being directly and easily accessible to everyone and exempt from commercial biases. Could such tools then not become an incredible means for reducing the asymmetry of information to the customer’s benefit?