YOUNG INTERNATIONAL NETWORK
OF CENTESIMUS ANNUS PRO PONTIFICE

Keeping healthcare and fintech human: how to handle the rise of technology?

YIN of CAPP Contribution to the 2020 CAPP International Conference

Prepared by the 'Tech at Work' working group

Background of the Young International Network

The Young International Network (YIN) brings together the members of the Fondazione Centesimus Annus Pro Pontifice (CAPP) up to and including 35 years. The primary aim of YIN is to bring inspire the growing group of young people with interest for and knowledge of the Catholic Social Doctrine and to contribute to the work of CAPP.

On this discussion paper

This is the third discussion paper of YIN and has been prepared for the 2020 International Conference of CAPP. It provides thoughts, remarks and suggestions raised in relation to the themes of this year's International Conference. This contribution aims to report on our discussions and views on how tech can further the healthcare and financial services.

1 Healthcare perspectives

Scientific and technological progress is giving us a world that moves rapidly where every day new scenarios open up and where what was previously thought impossible is possible, changing every field of medicine and attracting health professionals who are enchanted by comfort, immediacy and results that follow.

There is now talk of healthcare 4.0 where advanced robotics, virtual reality and artificial intelligence are used daily and for these systems the algorithms used are able to exploit the power of big data.

In almost every part of the world, the population can resort to the digital medical practice, through which to carry out real visits, obtain prescriptions for drugs and medical visits: this allows more and more doctors to be able to work from home, to be able to contact a greater number of patients and to reduce overcrowding in the emergency room, saving money and time. It seems as an economically interesting, but how about the human dimension of digitizing health care.

Health data are stored in an integrated computer system and this allows them to be processed again with the aim of obtaining predictive assessments, performing epidemiological studies, promoting consensus among doctors belonging to different continents but united by the desire to cure the disease (for example, Cancer Commons). In the face of these aspects, the protection of sensitive data must be a matter of absolute priority.

The use of sensors capable of monitoring the functionality of the patients allows to follow the patients affected by neurodegenerative and cardiac pathologies outside the hospital structures, so as to prevent the diagnostic and therapeutic path from stopping inside the hospital structures and can implement, through this monitoring, an effective prevention system. This provides for significant advancements in taking care of patients. According to recent studies, a large part of the population uses digital platforms to book medical visits and collect diagnostic reports, relies on Apps to monitor health and lifestyle and uses computerized consultations to find medical information.

Healthcare professionals themselves make use of robotic equipment, automated diagnostic platforms, infusion systems that do not need continuous human action. At the same time, the concern is that such progress, if not directed towards a human, ethical and conscious horizon, could lead to questioning the same figure of the doctor and his ability to establish human relationships with patients and make decisions regarding the health of the people who are entrusted. With great opportunities delivered by advanced technologies, the question is not how it can replace or improve current health care services. No, it raises the question of how these tools can assist in the doctors in delivering individual health care.

The depersonalization of the medical act could have very serious consequences. For instance, with regard to the professional liability that might follows for the users of tech in delivering healthcare services. If you rely, for instance, on AI systems that reason on the basis of big data, the question is who bears responsibility and liability in case of error, the responsibility will be of the manufacturer, the seller or the user?

Technology in medicine communicates with the Social Doctrine of the Church through a personalist model capable of placing Man at the centre of every development, making operators aware of the values of responsibility, freedom, subsidiarity, sociality, to promote democracy and inclusion. Pope Francis has expressed himself on medicine at the service of the human being, and it is good that every decision that has consequences regarding human rights must be taken by human beings, in reference to a spiritual and material integrity and in a dimension individual and social. The Holy Father leads us to reflect on the need to create a bridge of dialogue between the scientific and technological world, both characterized by the tension in search of beauty, thanks to the Creativity that allows you to make the leap towards fullness.

Medicine, in the dark world where disease, pain and fear afflict the human being, allows to give new life to those who felt lost, with an act of obstinacy to life itself against the reasons of evil in its most frightening form, death, and technology, with a touch of unconsciousness that derives from science, can take advantage of that simple and miraculous beauty that invests all those who welcome the future.

2 FinTech perspectives

Nowadays we are facing an Industry 4.0 also in finance. The revolutionary phenomenon called "digital transformation" embraces different dimensions, based on socio-anthropological assumptions, and is driven by the presence of strong economic incentives. In fact, even in economics, nothing is created, nothing is destroyed and everything is transformed. Artificial intelligence and fintech today represent the new keys to development for our economy first and more generally for our socio-economic system. In other words, an advanced way of doing business.

The term FinTech generally indicates any technological innovation in financial services. Industry operators develop new technologies to revolutionize the world of financial markets, traditional banks and insurance companies.

Obviously, the subjects most involved in this process are start-ups, but also well-known banking institutions (Deutsche Bank, Credit Suisse, Unicredit etc ...) are the architects of this transformation and are investing in internal development or project acquisition fintech, often recommended behind the scenes by the Big 4 players of financial advice. These projects use technology within everyone's reach, such as apps, but also more complex software that includes the use of artificial intelligence or big data.

Mobile payment applications (e.g. PayPal, Apple Pay, Satispay, WhatsApp Pay), cryptocurrencies (Bitcoin, Ripple, Ethereum), blockchain, crowdfunding, open API, chatbot, robo-advisor: these terms, now entered to be part of the common vocabulary, they end up in the cauldron of fintech. A rapidly growing sector attracts a myriad of Start-ups that represent the perfect corporate form both to explore the potential of this market and to welcome its benefits.

As far as already established and more branched companies are concerned, fintech represents the possibility of reaching new customers or increasing the number of purchases of the loyal ones through dedicated apps or new purchase methods and e-commerce.

In this segment stand out new banking institutions without physical branches and prepaid cards which, through direct control from a dedicated App for mobile or desktop, have attracted many new users.

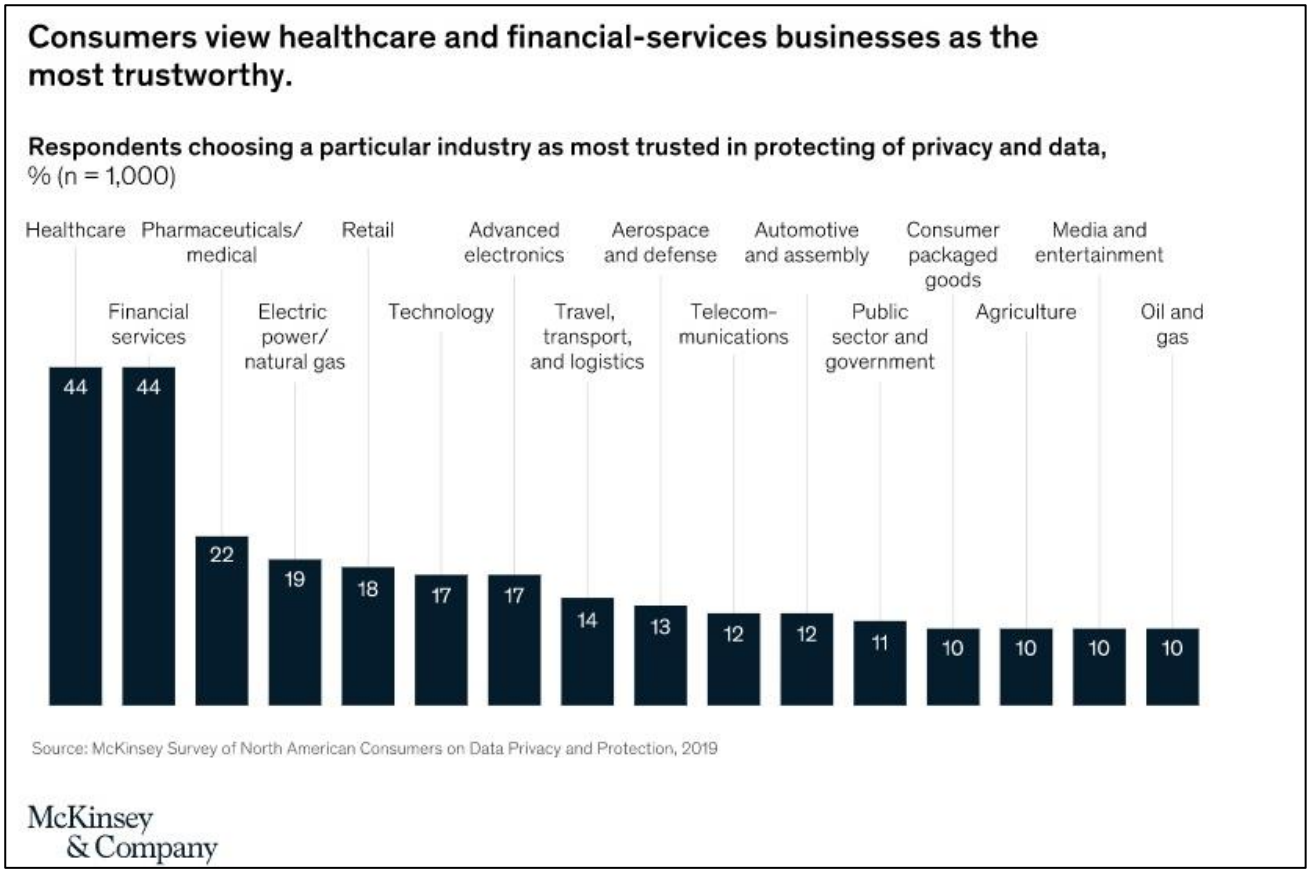
But apps and e-commerce are only the "public" side of fintech which, thanks to more refined software, is starting to employ increasingly complex algorithms capable of unpacking and analysing in detail impressive quantities of Big Data as well as using increasingly sophisticated forms of artificial intelligence such as, for example, robo-advisors, that is, complex automated mathematical systems capable of managing small financial portfolios and providing investment advice. In short, they are a class of automated financial advisors who provide online investment management solutions with human intervention ranging from moderate to minimal. They provide digital financial advice based on mathematical rules or algorithms, and therefore they can provide a low-cost alternative to human consultants.

When it comes to technology and innovation, it is necessary to ask oneself about the relationship between "new" and "old", paying particular attention to the productive factors - work and technology - which are often in competition with each other, classifying themselves seemingly more as mutually exclusive than complementary. Dwelling on the meaning of disruptive innovation, it can have - and in the case of finance and banking, it seems to be just like that - the tendency to destroy all that was, to build from scratch all

that will be. Innovation, therefore, is not only configured as greater efficiency, dynamism and lower costs, but also disruption, uncertainty and precariousness for those who, in the sectors that experience it, work. The "disruptive" coefficient of innovation can - legitimately - inspire fear.

If there are jobs earned through the development of these technologies, there will also be many jobs lost as a result. Some job positions will be reconverted through training for other specific activities, new jobs will be available mainly to software engineers and computer programmers but any occupation that features repetitive tasks as part of its functions is at risk of being replaced in the future. It is up to national governments to introduce educational programs in companies or public ones (such as fortbildung in Germany) aimed at offering training courses for people who have lost their jobs and need to evolve by starting new jobs. Human dignity must always be preserved.

The following bar chart shows the consumer confidence rate in the different business sectors.



3 YIN Experiences: Survey - Analysis and results

We conducted a fact-finding survey by targeting the survey to members of the YIN group. The survey was structured to assess the impact of digitalization, detect attitudes and get to know the point of view on the future impact of healthcare and fintech in our daily life. This was introduced by two macro categories each containing 10 questions.

The survey was filled in by 28 YIN members, residing in Europe and the United States and highlights that all participants use mobile apps in both healthcare and fintech fields. The respondents were also given the opportunity to comment with their own impressions during the conduct of the survey and the curiosity to learn about the customs and habits of the other interviewees in other countries emerged.

Healthcare - Uses and habits analysis

The survey results show that over 75% of the sample interviewed use apps daily to monitor their health and lifestyle, at the same time over 50% use online platforms to book medical visits. Only 30% feel comfortable being visited by their doctor using digital platforms, despite 45% receiving health reports in digital format without being delivered by the specialist / doctor. 55% of respondents require their data to be adequately protected while 70% believe that the digital format can effectively contribute to the daily monitoring of daily values relating to chronic diseases. Only 35% believe that the diffusion of digital technology can improve the level of health care; 90% agree that the promotion of social inclusion goes through digital health technology. Finally, 95% believe that digital (self-) diagnosing tools are not useful without consultation of a doctor.

Fintech - Uses and habits analysis

95% of the sample usually make digital payments, using their mobile banking app (80%) and their credit / debit cards as a payment method (95%). While 75% use electronic payment systems as Google Pay / Apple Pay / Samsung Pay / Satispay / Paypal, only 40% think that the arrival of Whatsapp Pay could revolutionize the exchange of money. 45% don't find positive the decrease in bank offices and only 10% use cryptocurrencies. All respondent banks provide tools for analysing financial transactions but 85% do not believe that currently fintech is inclusive enough for middle-aged and elderly people.

Despite the value of human contact and interpersonal relationships continues to be essential in financial transactions and even more so in direct healthcare, the results show that technology is fundamental both in the management of financial instruments and in the monitoring of health parameters and lifestyle.

Digitization brings with it a great challenge and a great responsibility: technological progress must contribute to integral human development in order to create the conditions for ecology, sustainability and social inclusion. Millennials and generation Z have the task of embracing this technological revolution without passively undergoing it but becoming a tool for promoting the value of relationships and human contact within the various aspects of human existence.

4 What about Social Doctrine of the Church?

In conclusion, innovation and technology are not absolute values, ascribable to clear categories such as those of right and wrong, good and bad, but are rather tools, which can and must be granted, subjected to continuous maintenance and periodically checked in an ethical manner.

The importance of technological progress in the new "digital era" invites us to reflect on the centrality that man and human values assume in this moment of profound change. The great developments in the technological field and in the world of artificial intelligence are having increasingly significant implications in all sectors of human action. Among the positive repercussions we can certainly include the possibility of increasing productivity and efficiency, the best cost / benefit ratio, the progressive increase in the reduction of mobility barriers, the shorter spatial and temporal distances, without forgetting the communication that becomes more and more instantaneous and effective compared to the past.

The economic business case seems to quickly made. Successful technological applications have the chance of disrupting markets and becoming very successful. But this is not the full picture, new 'ethical risks' emerge that can put fundamental values in crisis, we think of human dignity, autonomy, privacy, justice, solidarity. New technologies can 'de-humanize' work: they can replace it, at least in some sectors or tasks, producing unemployment, but also excluding man and humiliating him in relation to the possibility of developing his natural abilities. The main objective therefore is to achieve basic ethical criteria and parameters, capable of providing guidelines on the answers to the ethical problems raised by the pervasive

use of technologies. "The so-called technological progress of humanity, if it became an enemy of the common good, would lead to an unhappy regression, to a form of barbarism dictated by the law of the fittest".[1]

Reflecting on the future of work in relation to human values and new technologies means reflecting on the present, on man and on how we want to build our future and the society in which we live. In fact, we have a strong responsibility towards present and future generations, in building an inclusive and not excluding society, convinced that the common good cannot be dissociated from the specific good of each individual. "A better world is possible thanks to technological progress if this development is accompanied by an ethics based on a vision of the common good, an ethics of freedom, responsibility and fraternity, capable of promoting the full development of people in relation to others and with creation."[2]

Young International Network

Working Group on Tech, led by Domenico Pio Ippolito, Martina Gatto, Fabio Del Prete

[1-2] Address of the Holy Father Pope Francis to the participants of the seminar "The Common Good in the Digital Age", organized by Dicastery for the promotion of integral human development and Pontifical Council for culture.