LITERATURE SURVEY

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Digital assistants versus chatbots

The trend towards increasing digitalization has allowed “intelligent” versions of virtual assistants – known as Intelligent Virtual Assistants, shortly IVAs – to proliferate: they can be defined as digital personal software-based agents that assist us in performing our daily activities and are conceived as being “similar to personal human assistants that, let’s say, take down notes during a meeting, remind us to tend to our ‘to-do-lists,’ or read messages and emails sent to us” [12]; for instance, these virtual assistants can help us to control and manage smart devices, that have become essential to operate in the areas of remote banking. Going into a few technical specifications, IVAs consist of “advanced conversational solutions – equipped with NLU (Natural Language Understanding), NLG (Natural Language Generation), and Deep Learning, that enables them to understand and retain context and have more productive conversations with users” .

To all intents and purposes, chatbots are generally used as information acquisition interfaces, for instance to extract product details, whereas IVAs can assist in conducting business: if you ask chatbots for virtual assistance – for instance, to remind you of meetings, to manage your to-do lists and to take down notes – they get confused and tend to search for clarification by keeping asking the same questions; anyway, chatbots play a crucial role in customer service, as customers can usefully interact with them to satisfy specific needs, for example to gain product-related information or even book an appointment with the product manager. By contrast, IVAs utilize dynamic conversation flow techniques to “understand” human emotions, thus enriching communications with humans and hence covering a greater scope of action, which includes a wider range of tasks, such as those involving decision-making and e-commerce.

The potential of conversational AI

Despite the distinctive features outlined so far, both chatbots and IVAs are considered conversational interfaces, which organizations – including financial institutions – have recently started to actively and significantly deploy to automate their internal business processes. These applications provide incredible value, as they help to develop promising strategies that leverage AI, and are also impacting our personal lives to a remarkable extent: more and more frequently, customer service programs have been enriched by resorting to AI-powered software that makes "intelligent" customer – as well as employee – experiences available; to stress this point, it must be acknowledged that with conversational AI not only customers but also employees get the answers they need fast.

In general terms, conversational AI refers to technologies which users can talk to: these applications use large volumes of data, machine learning and natural language processing to help imitate human interactions, recognizing speech and text inputs, and translating their meanings across various languages; as far as the outcomes, the applications at issue help to build task-specific, channel-agnostic experiences by integrating data from various systems and channels (like SMS, Voice, WhatsApp and Facebook Messenger), and to retool teams for operational efficiency by automating the known and handling off the unknown. However, experts tend to label conversational AI's current applications as "weak AI", whereas "strong AI" should focus on a human-like consciousness that can perform a wider field of tasks and solve a broader range of problems.

Evidence from the financial system

With conversational AI being still considered in its infancy, it is even too easy to foresee tremendous progress that can translate into more cost-efficient solutions for many businesses, including financial institutions: focusing on banks, they have been reportedly slow in adjusting to new technologies, since managers have traditionally proven reluctant to abandon tried and tested systems for untested advancements, and by the way investing in technological progress involves huge amounts of money, which would make the risk of failure extra high; however, the transition to "conversational banking" has begun on a global scale, thus persuading banks to increasingly view chatbots and IVAs as new age contact centre executives. Actually, these institutions have been pushed to mark digital transformation as a top priority as they have faced competition from fintech start-ups that have engaged in providing faster and more convenient options to their traditional customers in the last few years [16].

Not to miss any opportunity, it is worth analysing the financial system as a whole, beyond the boundaries of the banking sector, which leads to shed unprecedented light upon insurance companies. To support this view, even a quick look at most recent literature can be a source of useful insights to emphasize the potential of the wide range of AI use cases in the market segment that they make up: this almost 300-year old industry has been relatively slow to react to

the disruption brought about by the digital age but the rapid pace of technological innovation and changing customer expectations in the last few years have contributed to substantial improvements, with insures start-ups playing a key role not only to put forth innovative AI applications in the industry under examination, but also to force traditional insurance players to follow suit; as a matter of fact, AI can be applied to the insurance value chain via a number of entry points, to encompass many areas (such as product development, marketing and sales, underwriting and risk-rating, claims management, robo-advisory, process improvements and recruitment, besides customer service) [20].

Success stories

Accordingly, success stories have unfolded in the insurance industry to learn from, in order to contribute to advances in the financial sphere of the economy, with their valuable repercussions in the real one not to be underestimated. A case study that showcases useful implications deals with Allianz Taiwan Life Insurance Co. Ltd.: it wanted a mobile assistant solution that could work across platforms to better serve customers; using IBM Cloud and IBM Watson Assistant, the company created an AI-powered virtual assistant that is described as being “smart, secure and almost human” and that was forged to field 80 percent of its most frequent customer requests, to provide “real help in real time” [21]. Another revealing case study involves Banora, that was founded in 1991 to support the social and economic development of Nicaragua and is part of the banking group Grupo Pramerica, with nine operating banks throughout Central America. In an effort to scale exceptional always-on customer service, this bank launched Finn AI’s virtual assistant technology in February 2018 and full functionality is being supported in Spanish, the primary language required to serve Banora’s Central American audience: within just one year, this virtual assistant has been able to complete 91% of chats without the need for a human customer service agent and to resolve 80% of customer queries, freeing up human customer service agents’ time to deal with more complex customer inquiries; the virtual assistant at issue is not just handling queries from existing customers, as a great impression is being created on new prospects that engage with it and ultimately become new customers, with most common questions from them being about eligibility, product features and the application process.

Unprecedented challenges and opportunists

Success stories encourage to proceed with investing – money, as well as time and efforts – in technological innovation, not only in the financial industry. Challenges and opportunities ahead include the recourse to sound branding (also known as sonic branding, audio branding and acoustic branding) as a strategic tool for financial services companies to communicate with customers: by

tradition, money has been a visual and physical entity but financial institutions are now getting involved in technological progress that should help them become recognizable audio brand entities as well; the mass adoption of smart speakers with voice assistants that are designed to enable audio-search, command and transactional capabilities has widened the spectrum of channels through which consumers can interact with brands and is pivoting service technology firmly in the direction of audio [24].

Among the frontrunners, HSBC launched its “sound identity” in 2019, a year after refreshing its visual brand identity to focus on its hexagons in a bid to make its brand more consistent: a bespoke piece of music was chosen to help people instantly recognize this bank and was proposed as the “next natural phase”, with the marketing team cooperating with the digital team to get the audio in the bank’s apps [26]; one of the major motivations was to reduce the fragmentation of HSBC’s brand and the audio generated a brand score that could be used across multiple experiences, both online and offline, to create a universal brand identity through sound, at a time when consumers are increasingly busy and distracted [27]. By the way, recent developments have even enabled smart speakers to be adopted for voice-activated banking and as we march forward into a post-Covid era, that should be ever more screenless, the role of sound is set to become ever more important for the industry under scrutiny (and beyond).

Conclusions

To conclude, technological progress and changing consumer habits bring about unprecedented challenges that even lead to question how banking brands can retain trust while physical currencies tend to disappear and real, human interactions seem to increasingly belong to the past. At the same time, valuable opportunities keep emerging, that are worth taking: although there is less human contact, interactions can be more personable through tailoring the experience around the customer; as shown by the recourse to a brand’s “hymn”, the sound of this experience can play an important part both functionally and emotionally.

All in all, AI can be considered a game changer in the financial arena, as well as in the real sphere of the economy, and also has the potential to contribute to the 2030 Agenda that was set up by the UN to provide a shared blueprint for partnerships for peace and prosperity for people and the planet: accordingly, a broad approach should be assumed to give due credit to the digital transformation that is spreading on a global scale and that preludes to creating inclusive digital economies as non-negotiable; factors to be further investigated range from technological advances that keep stimulating progress in the financial industry (especially in the delivery of banking and financial services) to the efforts under way to deploy AI to build the post-pandemic “new normal” as a stepping stone to a “new future”. Anyway, a mental shift still stands as a precondition for meeting the challenges that raising the bar of intelligence over time implies and for taking the underlying opportunities.