AI in Banking: leveraging Unsupervised Learning approach to optimize human-Machine collaboration

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Abstract

The development of Artificial intelligence (AI) has significantly improved customer services quality in banking sector, by providing end users with 24x7 available, efficient, and quick feedbacks to commercial support requests.
While traditional banks have adopted artificial intelligence (AI) technologies to create value by moving from physical to digital their own traditional banking services like sales, marketing, customer caring, etc., the current literature lacks research on the most effective approach for boosting adoption of AI-based banking applications within the two-side relationship between human and Machine collaboration: from machine to Bank's end customers and from Bank's employees to machine. Such approach should address the emulation of human cognitive capacity as a prerequisite for AI solutions communicating with humans, thus developing cognitive robots endowed with antromorphism, empathy and human learning capabilities.

In this article we show how unsupervised cognitive computing approach can be used in line with human cognitive ability and specifically to leverage the human learning capacity upon natural language-based interactions into the clients' business processes, to significantly enhance the customers satisfaction as well as the workforce ability in carrying out their work.

Therefore, in this paper using several real banking case studies, we show the application of unsupervised cognitive computing approach in Banking sector in terms of what objectives can be achieved, business challenges, limits of the solution and how the unsupervised approach can help raising up the communication quality between the Bank's employees and the end customers.
In doing so, we create a basis for future researchers to further develop testable hypotheses regarding the impact of unsupervised cognitive computing approach Banking sector to significantly review their business models, reducing management costs, increasing turnover, operational efficiency, and offering a hyper-personalized experience to its end customers in line with human capabilities.

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