Artificial Intelligence in Business Markets: A Systemic Approach

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Computer scientists have been talking about Artificial Intelligence (AI) since the 1950s, however, it is only now that owing to advances on digital technology AI appears to have started having real impact on the business field. We have overtaken a systemic view of artificial intelligence in business in order to capture the Smart Logistics and Marketing Ecosystem (Soto & Biggemann, 2018), where AI integrates smart warehouses and points of sales, marketing based on big data, location and customers' profiles, smart agents – Bots, autonomous vehicles for the last mile, smart devices capable of assisting customers, and engagement graphs and social interaction. A conception of a smart logistics and marketing ecosystem has now moved from the theoretical real to practice, however, the extent at which AI will change how businesses interact is difficult to predict; for instance, the latest Gartner research suggests that by 2020, 85 percent of customer interactions will be managed by AI. If Gartner's forecast proves accurate, the knowledge of business interaction developed by the IMP Group research over the last 40 years will need significant updates. AI applications are only starting to emerge, researchers predict AI will outperform humans in many activities in the next ten years, applications such as translating languages (by 2024), writing high-school essays (by 2026), driving a truck (by 2027), working in retail (by 2031), writing a bestselling book (by 2049), and working as a surgeon (by 2053) are only part of the list. Grace, Salvatier, Dafoe, Zhang, and Evans (2017) report that their research respondents believe there is a 50% chance of AI outperforming humans in all tasks in 45 years and of automating all human jobs in 120 years.

Even though not all technological applications count as AI, some are only automation process devices, while the system needs to be capable of learning to count as AI. Technological advancements, among which the Internet of Things, Drones, Conversational Interfaces, Engagement Platforms, Machine Learning, and Big Data could be listed, are the reasons for AI's increasing prevalence in the business arena allowing for the creation of complex logistics networks. Complex marketing and logistics systems go hand to hand with the development of Location Based Services, Cloud Computing, Mobile Devices, Robotics, Autonomous Vehicles, Drones and Smart Carts, Smart Agents and Machine Learning Algorithms. Nevertheless, the most significant technology advancement are smartphones. Smartphones, in the consumer realm, have transferred the power from firms' to consumers' hands. Smartphones facilitate information flows, making consumers better informed and thus more demanding individuals. Consumers' expectations for immediacy about suppliers' response, product availability, service quality, and price competitiveness have no

precedent. Businesses respond continuously creating new marketing strategies to stimulate the market and sustain competitiveness. These actions affect every actor in the value chain. The most visible outcomes become apparent in cost cutting pressures, growingly complex logistics process, shortening product life cycles, continuous innovation, new business models, and therefore much more complex coordinating activities. This combination of objects (things), places, devices, smartphones in a business environment interacting with smart agents could be studied and explained under the concept of a Smart Marketing Logistics Framework (SMLF). SMFL includes Proximity Marketing, Cognitive IoT and Big Data, Channel B2B, Channel B2C, and Machine Learning. It is through a systemic approach that starts with the end consumer and includes all relevant parties and devices in the value chain that the potential effects of AI in business markets starts to gain some clarity.

In this new business ecosystem, we revisit long-standing business marketing models of interaction and business relationship built over years of IMP research (e.g., Håkansson & Snehota, 1995). Particularly challenging result modelling the structure of business relationships where constructs such as trust honesty or benevolence are critical for information sharing in the management of business relationships, (e.g., Denize & Young, 2007) where information is captured through a myriad of information sources, or understanding social bonds (e.g., Buttle, Ahmad, & Aldlaigan, 2002) when not all parties in interaction are human. Even more challenging result to modelling interaction when it is a shared paradigm that previous episodes affect relationship dynamics (e.g., Biggemann & Buttle, 2007), but AI driven ecosystems work on the basis of predictive modelling focused mostly in the future than drawing in the past.

The outline presented in previous lines is guiding this work in progress research, which results will be available for presentation at the 34th IMP Conference.

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