through a mobile app (RFID may have been used as an alternative or complement), it is possible to trace what is consumed without major issues. Intermediaries can proactively demonstrate their actions directly. And final consumers received this new experience positively. In other words, all stakeholders in the supply chain have high-quality, accurate information regarding expiration status, as well as its traceability, available at all times. This enables decisions (e.g.: purchases, discount application) to be more exact and, consequentially, to reduce unnecessary waste.

In this way, this proposal contributes to improving, with sufficient confidence, communication, not only from suppliers to supermarkets but also inversely, and from the last link in the supply chain: consumers. Improving the business profile to the eyes of current client requirements.

Proposing the following actions for the gaps found in the different stages: Promoting greater coordination in organic-waste management by supermarkets. Generating awareness plans in the population that illustrate the problem and its environmental consequences. Designing a digital product using Blockchain for a set of organic products, in order to provide traceability to consumers, on the origins of the merchandise, as well as in the opposite direction: to deliver visibility to the producers of what happens with their production. In addition, using resources such as marketing and user experience, we seek to align some economic results with the obtained digital design, to provide support from the economic point of view. Generating, by Governments, public policies that encourage retail chains to use technologies such as Blockchain, as well as to raise consumer awareness.

Finally, this type of proposal, in the short term, will allow to generalize throughout the entire spectrum of organic and perishable merchandise in a supermarket. This constitutes a challenge, and will require scaling-up, considering agility and agile methodologies. It will also require investigation and implementation of software architectures that allow to incorporate all the products, as well as the implementation at the Blockchain level (Hyperledger Fabric) the necessary channels that allow transparency, and in turn protect the different contracts that may have been created without affecting their privacy. On the other hand, from a governmental and regulatory standpoint, how to make the industry plausible to be audited by the State, using this technology, remains pending. The retail industry, using Blockchain, would achieve a level of transparency and joint coordination whose effects would spread both locally and regionally, and, why not, also globally. A last relevant aspect not addressed in this study is the relative energy consumption of the Blockchain infrastructure in general versus using a traditional solution.

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