

## Online Bakery Management System Proposal

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**Abstract :** Over the past few years, the bakery industry in Kenya has experienced significant growth largely in part to the increased adoption of technology and automation in their processes; more specifically due to the adoption of bakery management systems to help in running bakeries. While they have been largely responsible for the improved productivity and efficiency in bakeries, most of them are now outdated and pose more challenges than benefits. The proposed online bakery management system mentioned in this paper aims to address this by allowing bakery owners to track inventory, budget, job progress, and data analytics on each job and in doing so, promote the Sustainable Development Goals 3 and 12, which aim to ensure healthy lives and promote sustainable economic growth as the proposed benefits of these features include scalability, easy accessibility, reduced acquisition costs, better reliability, and improved functionality that will allow bakeries to become more competitive, reduce waste and track inventory more efficiently. To better understand the challenges, a comprehensive study has been performed to assess these traditional systems and try to understand if an online bakery management system can prove to be advantageous to bakery owners. The study conducted gathered feedback from bakery owners and employees in Nairobi County, Kenya using an online survey with a response rate of about 86% from the target population. The responses cited complex and hard to use bakery management systems (59.7%), lack of portability from one device to the other (58.1%) and high acquisition costs (51.6%) as the top challenges of traditional bakery management systems. On the other hand, some of the top benefits that most of the respondents would realize from the online bakery management system was better reliability (58.1%) and reduced acquisition costs (58.1%). Overall, the findings suggest that an online bakery management system has a lot of advantages over traditional systems and is likely to be well-received in the market. In conclusion, the proposed online bakery management system has the potential to improve the efficiency and competitiveness of small-sized bakeries in Nairobi County. Further research is recommended to expand the sample size and diversity of respondents and to conduct more in-depth analyses of the data collected.

**Keywords :** ICT, technology and automation, bakery management systems, food innovation

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