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Notice for the PhD Viva Voce Examination

Mr Marvin Paul Frank (Registration Number: 2070006), PhD scholar at the School of Commerce, Finance and Accountancy, CHRIST (Deemed to be University), Bangalore will defend his PhD thesis at the public viva-voce examination on Friday, 27 September 2024 at 11.30 am in Room No. 044, Ground Floor, R & D Block, CHRIST (Deemed to be University), Bengaluru - 560029.

Title of the Thesis	:	**Adoption and Usage of Artificial Intelligence in Food Processing Industries**
Discipline	:	**Commerce**
External Examiner (Outside Karnataka)	:	**Dr Chandan Goswani** Professor and Head Department of Business Administration Tezpur University Napaam, Tezpur Assam - 784028
External Examiner (Within Karnataka)	:	**Dr Vijayakumar Bharathi S** Professor Symbiosis Centre for Information Technology Hinjawadi, Phase I Pune – 411057 Maharashtra
Supervisor	:	**Dr Ginu George** Assistant Professor (Former) Department of Commerce School of Commerce, Finance and Accountancy CHRIST (Deemed to be University) Bengaluru – 560029 Karnataka

The members of the Research Advisory Committee of the Scholar, the faculty members of the Department and the School, interested experts and research scholars of all the branches of research are cordially invited to attend this open viva-voce examination.

Registrar

Place: Bengaluru
Date: 18 September 2024

ABSTRACT

In recent years, technological changes and advancements have forced Fast Moving Consumer Goods (FMCG) industries, especially food processing, to redesign their functionality. This includes the integration of technologies like Artificial Intelligence (AI) to enhance performance. Future trends in the food processing industry will be shaped by sustainability, efficiency, traceability, wellness, safety, hygiene, health, and transparency. Food processing industries are compelled to embrace digitalization in the current era of globalization and digital transformation. AI encompasses programs, algorithms, robotics, drones, data mining, cloud computing, sensors, driver-less vehicles, the internet of things, digital platforms, and machines, representing a new level of intelligence. AI aims to replicate human reasoning and problem-solving capabilities, leading to task automation, increased efficiency, and reduced human effort. The growth of AI is reshaping the food processing industry, with potential applications spanning from cultivation, supply chain management, storage and safety, Human Resource Management (HRM), and Customer Relationship Management (CRM). Integrating and adopting AI in food processing can address unique challenges and offer substantial benefits across these functions. While large-scale food processing industries have made significant progress in adopting AI systems, small and medium-scale food industries are also integrating AI technology.

The current research study employs a quantitative research methodology and obtained data from 320 small and medium-scale food processing industries' employees in the city of Bengaluru. The primary surveyed data were analyzed using the Structural Equation Modeling (SEM) approach through AMOS 26. The research used the UTAUT 2 model to measure the usage and adoption of Artificial Intelligence (AI) among the employees of small and medium-scale food processing industries. With regard to the results of current research's Cronbach's Alpha coefficient value is 0.957, thus showing excellent internal consistency. The results indicated that Behavioural Intention ($\beta = 0.911$, $p<0.000$) had the strongest influence on Use Behaviour (UB), followed by Habit Value (HV) ($\beta = 0.891$, $p< 0.000$), and Hedonic Motivation (HM) ($\beta= 0.638$, $p< 0.000$) more substantial influence on Behavioural Intention (BI). Furthermore, the influence of Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI), Facilitating Conditions (FC), and Price Value (PV) on Behavioural Intention (BI) had a significant influence too. These findings were aligned with the previous research.

Keywords: UTAUT 2, Artificial Intelligence, Food Processing Industry, Automation, Robotics.

Publications:

1. Marvin Paul Frank, & George, G. (2023). Pilot Study on Adoption and Usage of AI in Food Processing Industry by UTAUT2. Studies in Systems, Decision and Control, 191–205. https://doi.org/10.1007/978-3-031-28314-7_17
2. Marvin, P. F., & George, G. (2024, January 1). Chapter 1 - Paradigm shift from AI to XAI of Society 5.0: Machine-Centric to human-centric (F. Al-Turjman, A. Nayyar, M. Naved, A. K. Singh, & M. Bilal, Eds.). Retrieved from ScienceDirect website: https://www.sciencedirect.com/science/article/pii/B9780323953153000024