

Chapter 7

Human Resource Management Insights on Social Robots Integration in the Workplace

Manvinder Singh

Chandigarh University, India

Nilesh Arora

 <https://orcid.org/0000-0002-8901-2205>

Chandigarh University, India

ABSTRACT

The research delves into the significance of efficient alliance amongst people & robots. After examining literature on HRM practices, it became evident that there is a notable gap in research concerning team-work dynamics with social robots and their managerial oversight. To address this gap, the study scrutinizes the determinants that shape individuals' willingness to collaborate with social robots. Employing a structured methodology, the research focuses on key factors such as Performance Expectancy, Trust, Effort Expectancy, and peer and managerial endorsements. These elements collectively influence an individual's inclination or intention to engage with an interactive robotic companion based on their relational preferences. The findings underscored that individuals' perceptions of their task proficiency, perceived effort, and apprehensions about technology significantly shape their willingness to engage with social robots.

INTRODUCTION

In the evolving landscape of teamwork, the traditional human-centric model is undergoing transformation with the incorporation of robots embedded with artificial intelligence (AI). This transition has accelerated in recent times, manifesting across varied sectors, including but not limited to manufacturing and healthcare. The notion of social-robot collaboration, succinctly captured as “working within a shared space between humans and social robots,” has become emblematic of modern-day collaborative dynamics

DOI: 10.4018/979-8-3693-2849-1.ch007

(International Organization for Standardization, 2011). A pivotal catalyst for this paradigm shift is the resurgence of digital transformation within industries. Businesses are progressively harnessing sophisticated web technologies and smart devices, such as smartphones and wearables, marking an era where advanced digital tools, notably AI-powered social robots, are seamlessly integrated into operational frameworks (Lasi et al.). Hecklau et al. (2016) further expound on these dynamics, elucidating how AI facilitates tasks traditionally reliant on profound human understanding. Such technological advancements necessitate a paradigmatic shift in workforce dynamics, compelling organizations to recalibrate their Human Resource Management (HRM) strategies.

The purview of HRM extends beyond conventional responsibilities of recruitment and training. It encapsulates a holistic approach to workforce management, encompassing skill enhancement, talent retention, and equitable compensation structures (Cappelli et al., 2018). However, despite the transformative potential of AI and social robots, there exists a palpable apprehension among organizational leaders. Cappelli et al. (2018) highlight a prevailing sentiment of unpreparedness among CEOs, signaling an imperative for comprehensive research elucidating the convolutions of social-robot collaboration. Navigating the complexities of this evolving landscape, researchers like Liboni et al. (2019) emphasize the transition from localized German studies to a global perspective, underscoring the nuanced challenges and opportunities inherent in managing AI-enabled robotic teams. Concurrently, studies by Sivathanu & Pillai (2018) shed light on the metamorphosis within HRM paradigms, necessitating adaptive strategies to accommodate the symbiotic relationship between humans and social robots. Amidst this backdrop, the study endeavors to unravel the multifaceted determinants influencing human commitment towards collaborative endeavors with social robots. Anchoring our investigation within the Technology Acceptance Model (TAM) framework, the study adopts a Sketch Approach, amalgamating experimental and survey methodologies. This research aims to elucidate HRM's role in facilitating harmonious human-robot interactions, offering actionable insights for organizations grappling with the challenges and opportunities of the digital age.

The study endeavors to address a critical research question: “What factors shape the changing aspects of collaboration between humans and social robots in corporate environments, and how do these interactions impact Human Resource Management?”

2. LITERATURE REVIEW & THEORETICAL FRAMEWORK

Humans and Social Robot synergy

Historically, collaboration has been characterized by human-centric efforts aimed at achieving shared objectives (Terveen, 1995). However, with the advent of technological advancements, particularly in the digital realm, the business landscape has witnessed a transformative integration of robots, specifically social robots embedded with artificial intelligence (AI). As elucidated by Lasi et al. (2014), this digital metamorphosis has facilitated enhanced control and operational efficiency within organizations. The concept of collaboration transcends mere coexistence; it embodies symbiotic interaction. Hoffman and Breazeal's 2004 perspective posits a collaborative milieu where humans and social robots synergize, leveraging their distinct capabilities for mutual benefit. This synergistic relationship necessitates effective communication, with social robots adopting a team-centric approach, articulating plans, and fostering cohesive teamwork (Seeber et al., 2020; Bauer, Wooller & Buss, 2008). Moreover, this collaborative

21 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

www.igi-global.com/chapter/human-resource-management-insights-on-social-robots-integration-in-the-workplace/345087

Related Content

Emotional Memory and Adaptive Personalities

Anthony G. Francis Jr., Manish Mehta and Ashwin Ram (2009). *Handbook of Research on Synthetic Emotions and Sociable Robotics: New Applications in Affective Computing and Artificial Intelligence* (pp. 391-412).

www.irma-international.org/chapter/emotional-memory-adaptive-personalities/21518

Positioning Autonomous Mobile Robot Based on Measurements Onboard Digital Stereo Vision System

Sergey Valentinovich Kravtsov and Konstantin Evgenjevich Rumjantsev (2014). *International Journal of Robotics Applications and Technologies* (pp. 37-77).

www.irma-international.org/article/positioning-autonomous-mobile-robot-based-on-measurements-onboard-digital-stereo-vision-system/132542

Designing Tools and Activities for Educational Robotics in Online Learning

Lucio Negrini, Christian Giang and Evgeniia Bonnet (2022). *Designing, Constructing, and Programming Robots for Learning* (pp. 202-222).

www.irma-international.org/chapter/designing-tools-and-activities-for-educational-robotics-in-online-learning/292212

Modeling and Designing an Intelligent Controller using Bond Graph for a Satellite Controlled by Magnetic Actuators

Majid Habibi and Alireza B. Novinzadeh (2012). *International Journal of Intelligent Mechatronics and Robotics* (pp. 72-90).

www.irma-international.org/article/modeling-designing-intelligent-controller-using/64220

On the Uncertainty Control in the Complex Multiphysics Systems in the Task of Multi-Scale Stochastic GHG and Carbon Balance Modeling

Yuriy Kostyuchenko, Anna Kozlova, Dmytro Movchan, Olga Sedlerova and Maxim Yuschenko (2018). *International Journal of Robotics Applications and Technologies* (pp. 12-41).

www.irma-international.org/article/on-the-uncertainty-control-in-the-complex-multiphysics-systems-in-the-task-of-multi-scale-stochastic-ghg-and-carbon-balance-modeling/232729