Journal of Workplace Learning

Reevaluating the UTAUT framework in workforce MOOC adoption

Habiba Akter
Business School, Universiti Kuala Lumpur, Kuala Lumpur, Malaysia, and

Waqas Ahmed
IRC for Finance and Digital Economy, KFUPM Business School, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia

Received 28 October 2024
Revised 1 May 2025
Accepted 2 June 2025

Abstract

Purpose – The unified theory of acceptance and use of technology (UTAUT) model is increasingly accepted as a strong framework for understanding technology adoption behavior. As distance learning programs, particularly Massive Open Online Courses (MOOCs), gain popularity in corporate environments, their potential to increase employees' skills development has attracted significant interest. In response, this study reevaluates the UTAUT model to investigate relationships between three factors: performance expectancy (PE), social influence (SI) and facilitating conditions (FC), and employees' behavioral intention (BI) to adopt MOOCs, with gender acting as a moderator in these relationships.

Design/methodology/approach – This research used a quantitative method with a causal research approach. A cross-sectional survey was conducted to collect data from 285 employees, which was analyzed using partial least squares structural equation modeling to validate the hypothesized model. In addition, multigroup analysis (MGA) was conducted to assess the moderating effect of gender.

Findings – The results indicate that PE and FC are significant predictors of employees' BI to use MOOCs, while SI does not significantly impact BI. However, the MGA results show that gender moderates the relationship between SI and BI.

Originality/value – This study advances literature by integrating MOOC purchase behavior within the UTAUT framework, positioning it within workplace learning rather than academic settings. The emphasis on purchase intention adds a novel behavioral dimension, while inclusion of gendered moderation contributes to inclusivity-driven models of digital adoption. The findings offer actionable insights for organizations aiming to enhance workforce development through digital learning ecosystems.

Keywords MOOCs, UTAUT model, Employee learning, PLS-SEM, Multigroup analysis, Learning and development, Learning behavior, Massive open online courses (MOOCs)

Paper type Research paper

Introduction

Massive Open Online Courses (MOOCs) have become indispensable resources for employees seeking to upskill or reskill in today's rapidly evolving professional landscape. These platforms offer unparalleled flexibility, cost-effectiveness and access to high-quality courses from top universities and industry experts, enabling employees to engage in continuous professional development at their own pace and convenience (Dai *et al.*, 2022). However, despite their ubiquity, MOOCs still face skepticism in corporate settings due to concerns over completion rates and organizational return on investment. Harnessing MOOCs allows employees to elevate their skills and agility, while organizations foster a culture rooted in continuous learning. This strategic focus on ongoing education not only improves talent retention but also positions firms to stay agile and ahead of industry trends. The growing integration of MOOCs into corporate learning highlights their important role in

Journal of Workplace Learning

1366-5626
DOI 10.1108/JWL-10-2024-0247

shaping the future of skill development, particularly as businesses navigate the volatile demands of modern industries (Hamori, 2023; Schettino *et al.*, 2024).

The proliferation of MOOCs aligns with Sustainable Development Goal (SDG) 4, which emphasizes inclusive and equitable education. These courses provide an open and affordable solution for employee training, effectively improving workforce skills and knowledge (Sosa-Díaz and Fernández-Sánchez, 2020; Wang *et al.*, 2022). Yet, this optimism obscures persistent gender-based disparities that undermine equitable access. There are gender-based differences in technology adoption that directly impact SDG 5, which aims to achieve gender equality (Hu *et al.*, 2020; Ahmed *et al.*, 2021; Shreeves and Chahr, 2024). While MOOCs have gained popularity as learning tools, doubts persist about their effectiveness compared to traditional classroom learning (Hsu, 2023; Schettino *et al.*, 2024). To overcome these challenges and increase the use of distance learning programs, it is essential to understand how cultural and societal factors, especially those related to gender, influence learning behavior. Organizations, for instance, can offer incentives for course completion, provide equal access to resources and ensure high-quality MOOCs tailored to their workforce needs (Dai *et al.*, 2022; Hamori, 2023).

From a learning and development perspective, performance expectancy (PE) is a critical factor driving employee engagement with MOOCs. This refers to the belief that these courses will lead to desirable outcomes, such as career progression (Schettino *et al.*, 2024) or learners' satisfaction (Itasanmi, 2023). In addition, social influence (SI) plays a significant role in shaping employee behavior. Individuals may be motivated by colleagues, supervisors, or industry peers who have successfully adopted MOOCs for career advancement (Antoniadis *et al.*, 2022; Dai *et al.*, 2022). Furthermore, facilitating conditions (FC), such as access to resources, organizational support and time allocated for training, can positively impact users' decisions to engage with MOOCs (Bijaniaram *et al.*, 2024). These three factors are derived from the unified theory of acceptance and use of technology (UTAUT) model, which synthesizes various models of technology acceptance and identifies key predictors of behavioral intention (BI) toward technology adoption. It also emphasizes the moderating role of demographic factors, including gender, in influencing these relationships. This comprehensive framework labels the multi-layered nature of user engagement with information systems, integrating individual beliefs, social dynamics and contextual support (Venkatesh *et al.*, 2003; Antoniadis *et al.*, 2022; Itasanmi, 2023; JS *et al.*, 2024; Strzelecki and ElArabawy, 2024).

While PE, SI and FC are recognized as key determinants of BI toward MOOCs, gender emerges as a critical moderating factor. Consistent with Eagly (1987), gender is conceptualized not merely as a demographic filter, but as a socially constructed determinant of behavioral engagement with digital systems. Gender-based disparities in technology consumption among employees may be shaped by cultural and societal norms, which often discourage women from pursuing technology-driven opportunities. As a result, women may show lower engagement with MOOCs, especially in technology-related fields (Ahmed *et al.*, 2021; Wang *et al.*, 2022; Shreeves and Chahr, 2024). Therefore, exploring the moderating role of gender in the relationships among PE, SI and FC is essential for identifying strategies to overcome these barriers and ensure equitable access to information systems for all users (Garg, 2022; Elshaer *et al.*, 2024; Strzelecki and ElArabawy, 2024).

Although the UTAUT model has been widely validated, its application remains largely concentrated in academic and educational contexts (Antoniadis *et al.*, 2022; Chen *et al.*, 2024; Hu *et al.*, 2020; Strzelecki and ElArabawy, 2024), with limited exploration of MOOC adoption in the workplace. This lack of attention to professional environments limits our understanding of how the model applies to employee involvement with online learning

platforms. This gap in literature motivates the present study to reevaluate the UTAUT model to better understand employees' BI toward MOOCs. The primary objective of this study is to investigate how PE, SI and FC impact employees' intentions to involve with and purchase MOOCs, while also considering gender-related differences in technology consumption behavior.

In the context of this study, the UTAUT framework is employed to examine the adoption MOOCs among professionals. Originally, UTAUT includes four moderating variables: gender, age, experience and voluntariness of use. However, recent research suggests that these moderators may not be universally applicable across all contexts. For instance, Dwivedi *et al.* (2019) argue that the inclusion of specific moderators should be context-dependent, as their relevance can vary based on the study setting. In our study, all participants are working professionals with prior experience in digital learning environments, and their engagement with MOOCs is entirely voluntary. This homogeneity renders the moderators of age, experience and voluntariness less impactful. Conversely, gender remains a significant factor, as it has been shown to influence technology adoption behaviors in professional learning contexts (Shao and Chen, 2021). Recent evidence further underscores the significance of gender in digital learning, revealing disparities in engagement patterns, perceived value, and subscription intentions within MOOCs (Alshammari, 2025; Stattkus *et al.*, 2025; Wang *et al.*, 2025). Other studies have linked gender with differential learning motivations, inclusivity perceptions and contextual barriers in both entrepreneurial and professional education settings (Atienza-Barba *et al.*, 2025; Lin *et al.*, 2024; Peltokorpi *et al.*, 2024). According to Eagly (1987), societal expectations shape gendered behavior in professional contexts. Building on this, this study retains gender as the sole moderating variable to offer a theoretically informed and contextually grounded lens on MOOC adoption among professionals.

In addition to individual-level predictors, workplace learning behaviors are often embedded within social learning structures. Communities of Practice (Wenger, 1998) provides a complementary lens to understand how employees derive meaning, identity and engagement through shared learning networks (Gamage and Whitting, 2021). This framework offers an interpretive bridge between digital technology adoption and organizational learning culture – shedding light on why certain predictors like SI may hold uneven influence depending on peer cohesion and identity alignment in workplace contexts (Żur and Friedl, 2021). Building on this theoretical integration, the present study aims to examine how PE, SI and FC shape employees' behavioral intention to purchase MOOCs for workplace learning. It also explores how gender influences these relationships, helping to understand whether men and women respond differently to these key factors when deciding to opt for paying for workplace learning courses (Shao and Chen, 2021).

This study contributes to literature in four distinct ways. First, we introduce novelty by adapting the UTAUT framework to investigate how employees engage with self-directed, digitally mediated learning opportunities within professional environments (Aboagye *et al.*, 2020; Arkorful *et al.*, 2022). Second, unlike most MOOC studies that focus on general usage patterns or course completion, we emphasize purchase intention. A stronger behavioral proxy that reflects not only perceived utility but also financial and psychological commitment (Sosa-Díaz and Fernández-Sánchez, 2020; Dai *et al.*, 2022; Shreeves and Chahr, 2024). Third, we incorporate gender as a moderating variable, a dimension embedded in the original UTAUT framework but seldom tested in isolation in digital learning for workplace contexts. By exploring gendered differences in technology adoption, we offer a more inclusive understanding of behavioral dynamics (Strzelecki and ElArabawy, 2024). Finally, the study offers practical implications for learning and development (L&D)

professionals, equipping organizations with insights to design more targeted, equitable and effective digital learning strategies aligned with workforce development goals (Bijaniaram *et al.*, 2024; IREX, 2016; Schettino *et al.*, 2024). These outcomes have meaningful implications for innovation, talent competitiveness and the strategic alignment of human capital in the digital economy.

Literature review

UTAUT model

Previous scholars have applied various models to understand users' intentions to accept or adopt information technology (IT). Among these models, the UTAUT has garnered significant attention over the past decades (Al-Mamary, 2022; Ali *et al.*, 2024; Hunde *et al.*, 2023). The UTAUT model (Figure 1) developed by Venkatesh *et al.* (2003) synthesizes eight prior models of user acceptance to create a unified framework for understanding technology adoption. Originating in the information systems discipline, it has since been widely applied in education, health and organizational contexts. Its application to MOOC adoption is particularly relevant, as MOOCs operate at the intersection of individual agency, technological interface and organizational support structures (Granić, 2022; Jung and Lee, 2018). UTAUT shows four components, namely performance expectancy, effort expectancy (EE), social influence and facilitating conditions that influence individuals' intention to use any IT system. The UTAUT model can bring up to 70% of the change in BI (Venkatesh *et al.*, 2003). As a result, many scholars have applied this model to study BI toward distance education, including MOOCs (Chen *et al.*, 2021; Itasanmi, 2023; Hsu, 2023). Building on this foundation, this study tries to shed light on employees' BI toward purchasing MOOCs.

While MOOCs are often portrayed as democratizing access to education, recent critiques have problematized this narrative. Scholars argue that MOOCs may inadvertently shift the burden of upskilling onto individuals, absolving organizations of responsibility for

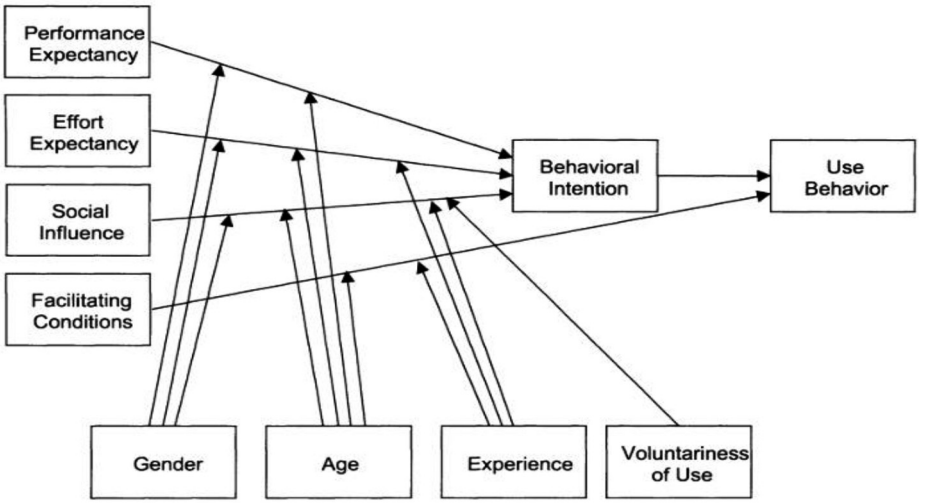

Figure 1. UTAUT model
Source: Venkatesh *et al.* (2003)

structured training (Knox, 2020; Zhenghao *et al.*, 2015). Others have questioned the assumption that MOOCs inherently promote inclusive education, citing digital divides, socioeconomic inequality and access constraints (Bozkurt *et al.*, 2017; Laurillard, 2016). These perspectives underscore the importance of examining MOOC adoption not only as a behavioral outcome but as a socially embedded practice shaped by institutional and systemic factors.

Although the original UTAUT model proposes four core determinants of behavioral intention, this study excludes EE from its model. This decision is grounded in a growing body of literature indicating that EE holds diminished explanatory value in contexts where users possess sufficient digital literacy or have routine exposure to technology. For example, Kabakus *et al.* (2023) found that while digital literacy influences EE, it does not significantly impact users' behavioral intention to adopt technology, suggesting that friction associated with system use is largely neutralized among competent users. Likewise, Ayaz and Yanartaş (2020) concluded that EE had no meaningful effect on behavioral intention in professional environments where technology adoption is normalized. Furthermore, Venkatesh *et al.* (2012) emphasize that the effect of EE tends to decline over time as users become more experienced and confident in their interaction with digital systems. Given the intuitive nature of MOOC platforms and the digitally engaged profile of today's working professionals, the exclusion of EE enhances the model's contextual precision and parsimony without compromising explanatory integrity.

Performance expectancy

The UTAUT model identifies PE as an important factor in IT usage. In this study, PE is defined as the state of thinking in which the use of MOOCs will increase employees' skills and abilities in excelling at their professional responsibilities (Venkatesh *et al.*, 2003). Aligning PE with the context of distance learning reveals that distance education enables users to enhance their skills and expertise to effectively complete their task roles (Antoniadis *et al.*, 2022). According to Ciftci *et al.* (2023), when learners perceive that a distance education system is suitable to enhance their efficiency, they are more willing to use the system. Based on existing studies, PE is established as a significant positive predictor of users' behavioral intention to use remote learning platforms (Chen *et al.*, 2024; Itasanmi, 2023). Furthermore, in workplace contexts, the perceived alignment between MOOC content and job-specific competencies plays a decisive role in shaping employees' learning decisions. Employees are more likely to invest time or resources into MOOCs when there is a clear line of sight between the acquired knowledge and tangible career advancement (Vardarlier and Ozsahin, 2021). This association is particularly salient in industries undergoing rapid digital transformation, where continuous upskilling is not just beneficial but imperative for remaining professionally competitive (Lee *et al.*, 2020). By keeping such analogy in mind, this study postulates that:

H1. PE has a positive influence on employees' BI toward MOOCs.

Social influence

This study explains the term "social influence" is the employees' perception to change their behavior in which family members, friend circles, colleagues and senior management would inspire them using MOOCs in enhancing their knowledge to accomplish specific tasks (Venkatesh *et al.*, 2003). According to Ciftci *et al.* (2023), SI is a compulsory factor in strengthening social relations in terms of positively sharing views that can change an

individual's behaviour. In the distance education context, Antoniadis *et al.* (2022) confirmed that users' acceptance of using information systems is affected by the perception of their colleagues, friends and others. Existing literature has evidenced that SI positively and significantly predicts individuals' BI toward technology usage (Garg, 2022; Hassaan and Yaseen, 2024; Strzelecki and ElArabawy, 2024). Users will become more enthusiastic about using any system if their important instructors support its use (Chen *et al.*, 2024). In organizational learning environments, the influence of credible referents, such as team leaders or departmental mentors, often plays a key role in shaping digital learning behavior. Furthermore, perceived alignment between peers' success stories and one's own career aspirations may serve as a motivational trigger, reinforcing the social acceptability and professional relevance of engaging with online learning platforms (Rai *et al.*, 2017; Wamba and Queiroz, 2019). Therefore, the research proposes that:

H2. SI positively influences employees' BI toward MOOCs.

Facilitating conditions

FC is regarded as an essential construct to assess individuals' BI in using technology (Venkatesh *et al.*, 2003). In this study, FC refers to the employees' belief in their skills and abilities, both organizations' and systems' support to use MOOCs. Researchers noted that a greater level of FC (i.e. the suitability of systems' support) makes it easy to use the system (Hsu, 2023). It has been reported that when individuals have adequate supportive resources (i.e. possessing required skills and abilities or having expert instructors), less effort is needed using the technology (Itasanmi, 2023). However, FC is found as an influential forecaster of BI to use information systems in diverse contexts, for example, e-learning (Hunde *et al.*, 2023), mobile technology (Hassaan and Yaseen, 2024), ICT (JS *et al.*, 2024) and distance learning system (Antoniadis *et al.*, 2022). Moreover, FC goes beyond technological availability to include managerial encouragement in professional settings. It also entails structured time for learning, and the institutional legitimacy of digital credentials. When employees perceive MOOCs as formally integrated into career development frameworks, such as performance evaluations or promotion criteria, then psychological and operational friction to adoption decreases significantly (Bijaniaram *et al.*, 2024; Dai *et al.*, 2022). Recent findings also suggest that strong FC not only fosters access but can improve digital self-efficacy and long-term course engagement (Schettino *et al.*, 2024). Such arguments lead to proposing the following hypothesis:

H3. FC has a positive influence on employees' BI toward MOOCs.

Role of gender as moderator

Using the underlying concepts of the UTAUT model, gender is considered a moderating variable in this study. Venkatesh *et al.* (2003) clarified that gender acts as a moderator in the connection between the proposed constructs of the UTAUT model (i.e. PE, SI and FC) and users' behavioral intention to use information systems. Many studies on the context of IT adoption or usage provide robust evidence of the significant moderating effects of gender (Daniali *et al.*, 2022; Strzelecki and ElArabawy, 2024). In addition, a survey of 437 respondents conducted by Garg (2022) confirmed that gender positively moderates the relationship between the determinants of the UTAUT model (PE, SI, FC) and users' behavioral intention in information systems. Based on the responses of ICT system users, recent research findings showed significant differences between male and female

respondents regarding the two constructs (i.e. PE and SI), which led to different variances in their behavioral intention to use the system (Elshaer *et al.*, 2024).

To provide a stronger conceptual basis for these empirical patterns, this study turns attention to the work of Eagly (1987) and Eagly and Wood (2012), which posits that social expectations tied to gender roles shape individuals' behavioral tendencies, including technology-related decision-making. These socially embedded differences are particularly evident in contexts involving social validation, support systems and perceived outcomes – core constructs within the UTAUT model. As gender can influence how individuals engage with performance expectations, institutional facilitation and peer endorsement, it is conceptually aligned with the notion of gender as a moderator of behavioral intention. This interpretation is consistent with a growing body of empirical research that examines how gender nuances affect digital learning adoption. For instance, Shao and Chen (2021) found that interactivity in MOOCs influenced male and female learners differently, with gender moderating both engagement and continuance intention. Al-Mamari *et al.* (2024) revealed that gender significantly influenced faculty members' readiness to adopt MOOCs in Oman, underscoring cultural and institutional variations in digital readiness. Similarly, Strzelecki and ElArabawy (2024) demonstrated that gender moderates the acceptance and use of AI-enabled educational tools across countries, reaffirming the role of gender as a cross-contextual moderator in digital education. A systematic review by Granić (2022) further highlighted gender as one of the critical demographic factors shaping adoption patterns across educational technologies. These findings validate the inclusion of gender as a theoretically grounded and empirically supported moderator in the current study's examination of MOOC adoption. By aligning this research's echoes with above discussion, we propose the following hypotheses:

H4a. Gender moderates the connection between PE and employees' BI toward MOOCs.

H4b. Gender moderates the connection between SI and employees' BI toward MOOCs.

H4c. Gender moderates the connection between FC and employees' BI toward MOOCs.

Research framework

In pursuit of a comprehensive discourse on the study's concept, this research develops a framework (Figure 2) that incorporates three key factors: performance expectancy, social influence and facilitating conditions, and their influence on employees' behavioral intention. In addition, gender is considered a moderator in such a relationship.

Research methodology

Using a causal research approach, this study investigates the influence of three predictive factors, namely PE, SI and FC, on the purchase behavior intention (BI) of MOOCs among employees in Malaysia. A web-based survey using a five-point Likert scale questionnaire was conducted to collect quantitative data from 285 employees who prefer MOOCs. Convenience sampling was used to ensure the suitability and accuracy of respondents for the study (Bougie and Sekaran, 2019). The survey comprised two sections: the respondents' profiles and the questionnaire items pertaining to the latent variables' instruments. The questionnaire items, containing 15 questions, were adapted and combined from a validated prior investigation.

To enhance construct validity, we carefully operationalized the independent variables in alignment with both UTAUT and empirical extensions in digital learning contexts. PE

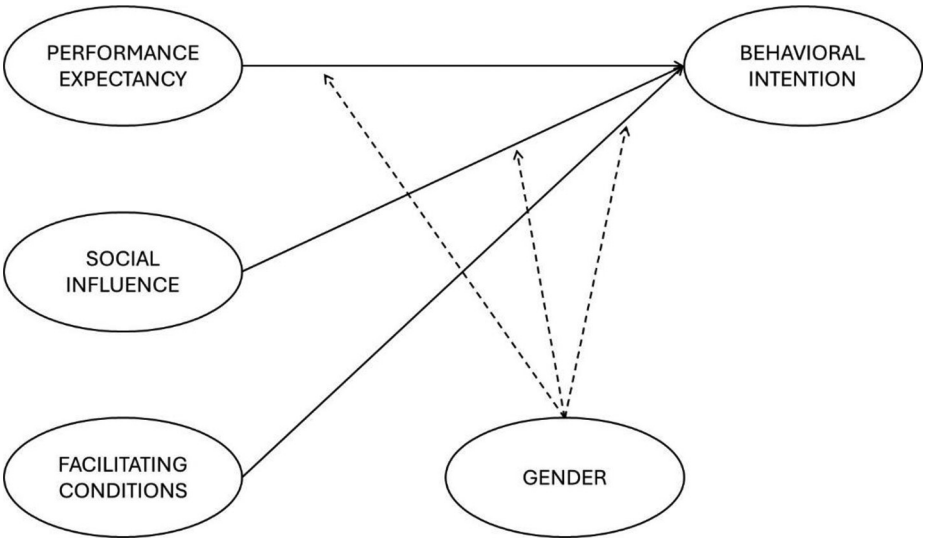

Figure 2. Research framework
Source: Authors' own work

captures the extent to which employees believe using MOOCs will improve job performance, skill currency or career advancement. SI is defined as the perceived expectations of important referents – including supervisors, colleagues and professional networks – to engage with online learning. FC encompass a composite of contextual enablers, including organizational support (e.g. employer-provided access, dedicated learning hours), technical infrastructure (e.g. reliable internet, platform access) and structural encouragement (e.g. internal communications, training incentives). These dimensions were measured using validated items adapted from Venkatesh *et al.* (2003).

The dependent variable, BI, is defined as the employee's intention to purchase and actively engage with a MOOC in the near future. This behavior was chosen over alternatives such as general enrollment or passive usage because purchase represents a higher threshold of commitment and perceived value, consistent with Ajzen's (1991) theory of planned behavior, where stronger intentions are predictive of action when the behavior involves cost or effort. Furthermore, given the increasing monetization of professional MOOCs (e.g. Coursera for Business, edX for Teams), purchase intention reflects actual investment behavior in workplace learning. This construct was measured using adapted scales from Venkatesh *et al.* (2003).

Based on the demographic results, 285 participants were surveyed, consisting of 148 males and 137 females, with most belonging to the age group of 25–36 years. Most participants were Malay (63%) and held an academic degree in higher education, with 71% having a bachelor's degree and 23% having a master's degree. In addition, the majority had 5–8 years of job experience (58%) and held either executive or managerial roles, with 37% of participants being senior-level officers.

The research model was evaluated, and the relationships between variables were validated towards BI using partial least squares structural equation modeling (PLS-SEM). SmartPLS v3 was used to perform the PLS-SEM analysis. Furthermore, to examine group differences based on gender, multigroup analysis (MGA) was conducted. MGA is a statistical technique used in

moderation analysis to examine whether the relationship strength between the predictor variables (PE, SI, FC) and the outcome variable (BI) differs significantly between two or more groups. In this case, the groups would be male and female employees. MGA enables testing the statistical significance of gender's moderating effect, helping assess whether gender significantly influences the relationship between the predictor variables and BI. By applying MGA, it is possible to determine if different strategies are needed for male and female employees to encourage the adoption of MOOCs within organizations.

Results

Reliability and validity analysis

The results presented in Table 1 indicate that the internal consistency of each construct is reliable enough, as evidenced by the Cronbach's alpha (α) and composite reliability (CR) values that exceed the minimum threshold of 0.70 (Hair *et al.*, 2022). Table 1 further demonstrates that the average variance extracted (AVE) value surpasses the recommended threshold of 0.50 (Hair *et al.*, 2022), indicating that convergent validity has been established at a satisfactory level in this study. Conversely, results reveal that all constructs in the study satisfy the HTMT ratio criteria (below the threshold of 0.85), thereby meeting the criterion for discriminant validity (Henseler *et al.*, 2015).

The assessment of outer loadings indicates items' reliability, while the variance inflation factor (VIF) measures the level of multicollinearity in regression analysis. Acceptable values for outer loadings must exceed a threshold of >0.50 (Akter *et al.*, 2022), while VIF values of below 3 indicate the statistical relevance of indicator weights in the measurement model (Hair *et al.*, 2022). As shown in Table 1, both criteria are met by the study.

Path analysis

PLS-SEM was used to evaluate the hypothesized relationships among a set of variables. Table 2 presents the results of the overall causal relationships between the variables, with each hypothesis accepted or rejected based on its significance level (p-value <0.05 and t-

Table 1. Reliability and validity results

							HTMT			
Factors	Items	OL	VIF	α	CR	AVE	PE	SI	FC	BI
PE	PE1	0.791	1.452	0.919	0.948	0.769				
	PE2	0.895	2.335							
	PE3	0.870	2.455							
	PE4	0.911	2.432							
SI	SI1	0.750	1.556	0.826	0.907	0.693	0.440			
	SI2	0.839	2.379							
	SI3	0.813	2.540							
	SI4	0.791	1.872							
FC	FC1	0.698	1.341	0.784	0.883	0.622	0.768	0.426		
	FC2	0.911	2.246							
	FC3	0.870	2.870							
	FC4	0.667	1.787							
BI	BI1	0.755	1.455	0.812	0.898	0.672	0.683	0.598	0.827	
	BI2	0.721	1.342							
	BI3	0.771	1.989							

Source(s): Authors' own work

Table 2. Path analyses

Hypotheses		β	*t*-stat	*p*-values	Results	*R* square	*R* sq. adjusted
H1	PE→BI	0.631	4.573	0.000	Accepted	0.669	0.634
H2	SI→BI	0.090	1.345	0.271	Rejected		
H3	FC→BI	0.234	2.552	0.000	Accepted		

Source(s): Authors' own work

values >1.96). Based on the total survey responses, the findings indicate that *H1* (PE → BI) and *H3* (FC → BI) are robustly significant, while *H2* (SI → BI) is not significant.

Multigroup analysis

The analysis investigates the impact of gender on three hypotheses related to PE, SI and FC on BI toward MOOCs. Results obtained from SmartPLS are presented in Table 3, containing path coefficients, *p*-values and tests for parametric and nonparametric significance.

For *H4a*, the path coefficient between PE and BI is 0.016. The *p*-value for the original one-tailed test is 0.5, indicating that gender differences are not statistically significant at the 5% level. The *p*-value for the new one-tailed test is also 0.5. However, the parametric test shows a lower *p*-value of 0.481 compared to the Welch–Satterthwait test. Therefore, no significant gender difference is observed for this hypothesis.

The results for *H4b* suggest that there is a significant gender difference in the relationship between the SI and BI variables. The path coefficient for this relationship is −0.083, which means that there is a negative relationship between the two variables. The *p*-value for the original one-tailed test is 0.652, indicating that the difference between males and females is not statistically significant at the 5% level. However, the *p*-value for the new one-tailed test is 0.348, which suggests that there is a significant gender difference at the 5% level. The parametric and Welch–Satterthwait tests also yield low *p*-values of 0.36 and 0.361, respectively, indicating a significant gender difference. This means that the relationship between the SI and BI variables is different for males and females, and gender is an important factor to consider when examining this relationship.

For *H4c*, the path coefficient between FC and BI is 0.158. The *p*-value for the original one-tailed test is 0.251, indicating no statistically significant gender difference at the 5% level. The *p*-value for the new one-tailed test is also 0.251. Both parametric and Welch–Satterthwait tests yield the same *p*-value of 0.251. Therefore, no significant gender difference is observed for this hypothesis.

Discussion

This research explored the factors impacting the workforce's motivation to acquire professional development MOOCs through the lens of an adapted UTAUT framework. The inferred relations of PE, SI, FC and BI were analyzed, with gender as a moderating variable through MGA. Results obtained demonstrated both significant direct effects and gender-specific moderation effects.

PE emerged as the strongest predictor and directly influenced the intention BI to purchase MOOCs (*H1*). Employees are more likely to invest in these courses when they believe doing so will enhance their job performance, employability or skill relevancy. This finding supports existing literature (Antoniadis *et al.*, 2022; Chen *et al.*, 2024;

Table 3. Multigroup analyses (MGA)

Hypothesis	Path coefficients-diff (Male − Female)	*p*-value original one-tailed (Male − Female)	*p*-value new (Male − Female)	*p*-value (parametric test)	*p*-value (Welch–Satterthwait test)
H4a PE → BI	0.016	0.5	0.5	0.481	0.481
H4b SI → BI	−0.083	0.652	0.348	0.36	0.361
H4c FC → BI	0.158	0.251	0.251	0.251	0.254

Source(s): Authors' own work

Itasanmi, 2023) and underscores the importance of perceived outcome utility in adoption decisions, particularly those that involve a financial commitment. Where professional development is largely self-directed, PE serves as an expectation-based calculation, synchronized to strategic career management imperatives (Schettino *et al.*, 2024). Similarly, FC showed an equally positive and significant relationship with BI (*H3*), indicating that organizational infrastructure and support systems enhance employees' willingness to purchase MOOCs. Access to technology, appropriate time, as well as institutional encouragement are provided, which serve as facilitators that lower the barriers for participation. These findings align with those of Hsu (2023) and Hunde *et al.* (2023). They accentuate the fact that the intention to perform an action is not simply a question of having the willingness, but also lacking the ability to do so. As claimed in the above discussion, FC is primarily the structural support that enables the enactment of intention in action, ease of execution, and in this case, the execution of corporate-sponsored policy and culture digital ecosystems (Bijaniaram *et al.*, 2024). On the other hand, SI (*H2*) had no significant direct effect on BI and ignored UTAUT-based studies conducted earlier (Garg, 2022; Hassaan and Yaseen, 2024). This might be due to the fact that MOOCs operate as voluntary learning resources because personal benefit tends to drive most decisions far more than social acceptance as given. In particular professionally autonomous environments which allow self-paced upskilling, employees may not freely choose to rely on the expectations set by their peers or superiors regarding online learning engagements. These findings strengthen the hypothesis that the potential impact of SI is limited and may be contextually bound in individualized learning settings (Strzelecki and ElArabawy, 2024).

Regardless, further understanding came from the MGA which identified a significant moderating impact of gender on the SI–BI relationship, indicating that female employees were more socially responsive. This effect concerning the influence of social information (SI) on BI shows that female employees were more impacted by social informants – mentors, peers or supervisors, while deciding whether to use MOOCs. This aligns with the opinion of Eagly (1987), who argues that women who have been socialized toward communal and affiliative roles are more sensitized to externally provided feedback and social expectations. Within the scope of digital learning, this means women are more likely to endorse the social validation of MOOCs as a trust signal or normative expectation, elements that boost their intention to purchase. This aligns with the findings of Al-Mamari *et al.* (2024) and Shao and Chen (2021), who documented that peer influence in asynchronous learning environments was gendered. In contrast, male employees did not show any significant relationship between SI and BI, overall being less captivated by external social influence in their decision-making. This suggests a more agentic, utility-driven approach to digital learning adoption among men, wherein perceived usefulness and resource support (i.e. PE and FC) play a more prominent role than social cues. Importantly, this divergence confirms that SI is not uniformly predictive across genders, even if the average (main effect) shows insignificance. These findings highlight the value of MGA in uncovering latent subgroup dynamics that would otherwise be masked in aggregate analysis (Hizam *et al.*, 2023). Moreover, the lack of gender moderation effects on the PE → BI and FC → BI pathways imply that relevance and organizational support related to MOOCs are similar for both male and female employees. This goes against the UTAUT assumption that all demographic moderators, including gender, operate universally across all constructs (Venkatesh *et al.*, 2003). Rather, it supports more recent arguments (Dwivedi *et al.*, 2019) that these moderators are dependent on context and need to be investigated instead of being taken for granted.

Theoretical contribution

This research has multiple significant contributions to theoretical comprehensions. The study uses the UTAUT model in the context of MOOC purchasing behavior in workplace learning, which merges self-directed online learning with professional development, thus expanding the scope of an established model. Most prior UTAUT applications have centered on usage or completion behavior (Chen *et al.*, 2024; Venkatesh *et al.*, 2003). Purchase intention formed the focus of our study which offers a higher-threshold outcome behavior that goes beyond mere interest to include one's perceived value strategically and financially, which adds novelty as value to dependent variables in future research. Also, the findings from this research add nuances to the role of PE and FC in digitally mediated workplaces. These constructs have been checked in consumer and educational settings (Hsu, 2023; Itasanmi, 2023) but our findings bolster these dynamics in the professional context where organizational infrastructure and self-perception regarding the career enhances the adoption. This puts to rest the debate of the rigidity of UTAUT in adapting to the changing workforce learning paradigm brought about by MOOCs. Moreover, this study provides a moderation refinement to UTAUT's logic with empirical grounding. The fact that gender moderates only the SI–BI linkage and not PE–BI or FC–BI challenges the model's assumption of universal moderation reasoning as Venkatesh *et al.* (2003) proposed. This aligns with literature urging context-specific validation of demographic moderators.

Practical contributions

The research also provides insights that can be applied straightaway to organizational learning and development frameworks. To begin with, the PE provides a strong impact, suggesting that organizations must promote in clear terms how MOOCs will advance the learner's career, branding them explicitly as skill endorsements, mobility pathways and future positions. In next, FC emerged as a critical determinant, detailing institutional sponsorships such as subsidized courses, access to platforms, learning hours and management visibility as flexible endorsement decouplers. These not only reduce the barriers to adoption but also send strong cultural messages about the validity of self-directed learning. Moreover, the SI ascribed to gender steer internal marketing approaches to be gender sensitive. Organizations can use testimonials from peer role models or endorsements from trusted managers – especially for those relational cues learners who are more tune to sway for underrepresented learner groups who are more responsive. And the lack of significant gender moderation on PE and FC suggests that MOOC policies can be applied equally to all learners irrespective of gender regarding perceived usefulness and system access. This permits resource efficient elimination of set standards for delivering platforms with streamlined resource distribution while maintaining diversity and adoption engagement. Finally, the insights recommend moving from incentive-based to enablement-based learning ecosystems. Rather than compelling the organization's personnel to take up the digital course offered, the institution should work towards fostering the psychologically safe spaces that are high in autonomy and where employees would willingly want to pursue MOOCs as an element of their career self-design.

Limitations and future research

This study contributes valuable insights but also has several limitations. For example, while it offers a focused lens into workforce-driven digital learning behaviors, it limits the transferability of findings to other learner types, such as freelancers, self-employed professionals or community learners. Future research could diversify learner profiles to better capture the heterogeneity of the MOOC adoption landscape. Moreover, the study's

cross-sectional design restricts causal inference; thus, longitudinal research would offer deeper insights into how perceptions and outcomes shift over time. Although this study focused on gender for its theoretical salience and empirical grounding, other contextual factors – such as digital literacy, organizational learning climate or perceived workload – may also interact with UTAUT constructs in shaping MOOC adoption. Finally, we excluded EE from our model; however, future work could reintroduce EE when studying populations with lower digital literacy or adoption on less intuitive platforms.

Conclusion

This research focuses on the perception of MOOC adoption in workplace learning by highlighting employees as self-directed learners who intentionally invest in their personal advancement while placing their efforts strategically. Unlike other studies that emphasize access or engagement, we analyze purchase intention, which broadens the understanding of behavior in a value-driven economy. Meaningful adoption of MOOCs hinges on the dimensions of performance outcomes, institutional support, social influences with gendered responses and the need for more inclusive learning strategies attuned to the psychology of the learners. The research reaches the point where AI, automation, and remote collaboration are reshaping the skills needed for modern workforces. Organizations are depending on digital learning to increase agility and close capability gaps, which requires a shift in MOOCs from content repositories to self-directed, socially supported learning ecosystems. This study advances theory while highlighting practical implications by challenging assumptions about individuals' behavior with digital learning. It also indicates that meeting future needs for workforce development will depend not only on what employees learn but on how organizational culture shapes, positions, personalizes and dynamically augments learning. Here, the MOOC serves as more than a framework; it transforms into an indication of strategic preparedness.

References

Aboagye, E., Yawson, J.A. and Appiah, K.N. (2020), "COVID-19 and E-learning: the challenges of students in tertiary institutions", *Social Education Research*, pp. 1-8, doi: 10.37256/ser.212021422.

Ahmed, W., Akter, H. and Ali, J. (2021), "Crafting the digital competence behavior among female students in developing countries context", *2021 International Conference on Innovation and Intelligence for Informatics, Computing, and Technologies (3ICT)*, pp. 321-327, doi: 10.1109/3ict53449.2021.9581717.

Ajzen, I. (1991), "The theory of planned behavior", *Organizational Behavior and Human Decision Processes*, Vol. 50 No. 2, pp. 179-211, doi: 10.1016/0749-5978(91)90020-T.

Akter, H., Ahmed, W., Sentosa, I. and Hizam, S.M. (2022), "Crafting employee engagement through talent management practices in telecom sector", *SA Journal of Human Resource Management*, Vol. 20, pp. 1-11, doi: 10.4102/sajhrm.v20i0.1775.

Ali, M.B., Tuhin, R., Alim, M.A., Rokonuzzaman, M., Rahman, S.M. and Nuruzzaman, M. (2024), "Acceptance and use of ICT in tourism: the modified UTAUT model", *Journal of Tourism Futures*, Vol. 10 No. 2, pp. 334-349, doi: 10.1108/JTF-06-2021-0137.

Al-Mamari, H.S.M., Kumar, J.A. and Bervell, B. (2024), "MOOCs adoption among Omani faculty members: investigating the effects of gender and faculty disciplines on readiness", *Journal of Educators Online*, Vol. 21 No. 3, p. n3, doi: 10.9743/JEO.2024.21.3.10.

Al-Mamary, Y.H.S. (2022), "Understanding the use of learning management systems by undergraduate university students using the UTAUT model: credible evidence from Saudi Arabia",

International Journal of Information Management Data Insights, Vol. 2 No. 2, p. 100092, doi: 10.1016/j.jjimei.2022.100092.

Alshammari, A.N. (2025), "Do learning patterns differ by gender in MOOCs? Exploring gender-based differences through learning analytics", *International Journal of Information and Education Technology*, Vol. 15 No. 3, pp. 617-628, doi: 10.18178/ijiet.2025.15.3.2270.

Antoniadis, K., Zafiropoulos, K. and Mitsiou, D. (2022), "Measuring distance learning system adoption in a Greek university during the pandemic using the UTAUT model, trust in government, perceived university efficiency and coronavirus fear", *Education Sciences*, Vol. 12 No. 9, p. 625, doi: 10.3390/educsci12090625.

Arkorful, V., Barfi, K.A. and Baffour, N.O. (2022), "Factors affecting use of massive open online courses by Ghanaian students", *Cogent Education*, Vol. 9 No. 1, p. 2023281, doi: 10.1080/2331186X.2021.2023281.

Atienza-Barba, M., del Brío-González, J., Mitre-Aranda, M. and Barba-Sánchez, V. (2025), "Gender differences in the impact of ecological awareness on entrepreneurial intent", *International Entrepreneurship and Management Journal*, Vol. 21 No. 1, p. 79, doi: 10.1007/s11365-025-01084-7.

Ayaz, A. and Yanartaş, M. (2020), "An analysis on the unified theory of acceptance and use of technology theory (UTAUT): acceptance of electronic document management system (EDMS)", *Computers in Human Behavior Reports*, Vol. 2, p. 100032, doi: 10.1016/j.chbr.2020.100032.

Bijaniaram, R., Tehrani, M., Noori, R. and Pak, J. (2024), "What does it take for organizations to adopt massive open online courses (MOOCs)? A fuzzy DANP analysis", *Journal of the Knowledge Economy*, Vol. 15 No. 1, pp. 1499-1534, doi: 10.1007/s13132-023-01178-z.

Bougie, R. and Sekaran, U. (2019), *Research Methods for Business: A Skill Building Approach*, 8th ed., Wiley, New Jersey, USA.

Bozkurt, A., Akgün-Özbek, E. and Zawacki-Richter, O. (2017), "Trends and patterns in massive open online courses: review and content analysis of research on MOOCs (2008-2015)", *The International Review of Research in Open and Distributed Learning*, Vol. 18 No. 5, pp. 118-147, doi: 10.19173/irrodl.v18i5.3080.

Chen, S., Huang, L., Shadiev, R. and Hu, P. (2024), "An extension of UTAUT model to understand elementary school students' behavioral intention to use an online homework platform", *Education and Information Technologies*, pp. 229-255, doi: 10.1007/s10639-024-12852-3.

Chen, M., Wang, X., Wang, J., Zuo, C., Tian, J. and Cui, Y. (2021), "Factors affecting college students ' continuous intention to use online course platform", *SN Computer Science*, Vol. 2 No. 2, pp. 1-11, doi: 10.1007/s42979-021-00498-8.

Ciftci, S.K., Gok, R. and Karadag, E. (2023), "Acceptance and use of the distance education systems of Turkish medical educators during COVID-19 pandemic: an analysis of contextual factors with the UTAUT2", *BMC Medical Education*, Vol. 23 No. 1, p. 36, doi: 10.1186/s12909-023-04024-7.

Dai, H.M., Teo, T. and Rappa, N.A. (2022), "The role of gender and employment status in MOOC learning: an exploratory study", *Journal of Computer Assisted Learning*, Vol. 38 No. 5, pp. 1360-1370, doi: 10.1111/jcal.12681.

Daniali, S.M., Barykin, S.E., Zendehdel, M., Kalinina, O.V., Kulibanova, V.V., Teor, T.R., Ilyina, I.A., Alekseeva, N.S., Lisin, A., Moiseev, N. and Senjyu, T. (2022), "Exploring UTAUT model in mobile 4.5G service: moderating social–economic effects of gender and awareness", *Social Sciences*, Vol. 11 No. 5, p. 187, doi: 10.3390/socsci11050187.

Dwivedi, Y.K., Rana, N.P., Jeyaraj, A., Clement, M. and Williams, M.D. (2019), "Re-examining the unified theory of acceptance and use of technology (UTAUT): towards a revised theoretical model", *Information Systems Frontiers*, Vol. 21 No. 3, pp. 719-734, doi: 10.1007/s10796-017-9774-y.

Eagly, A.H. (1987), *Sex Differences in Social Behavior*, Psychology Press, New Jersey, USA, doi: 10.4324/9780203781906.

Eagly, A.H. and Wood, W. (2012), "Social role theory", *Handbook of Theories of Social Psychology*, SAGE Publications, pp. 458-476, doi: 10.4135/9781446249222.n49.

Elshaer, I.A., Hasanein, A.M. and Sobaih, A.E.E. (2024), "The moderating effects of gender and study discipline in the relationship between university students' acceptance and use of ChatGPT", *European Journal of Investigation in Health, Psychology and Education*, Vol. 14 No. 7, pp. 1981-1995, doi: 10.3390/ejihpe14070132.

Gamage, D. and Whitting, M.E. (2021), "Together we learn better: leveraging communities of practice for MOOC learners", *Asian CHI Symposium 2021*, pp. 28-33, doi: 10.1145/3429360.3468176.

Garg, A. (2022), "Investigating the moderating effects of age and gender on customers' use of tablet menu in casual dining restaurants", *Journal of Quality Assurance in Hospitality and Tourism*, Vol. 23 No. 6, pp. 1509-1547, doi: 10.1080/1528008X.2021.2002786.

Granić, A. (2022), "Educational technology adoption: a systematic review", *Education and Information Technologies*, Vol. 27 No. 7, pp. 9725-9744, doi: 10.1007/s10639-022-10951-7.

Hair, J.F., Hult, G.T.M., Ringle, C.M. and Sarstedt, M. (2022), *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*, 3rd ed., Sage, California, USA.

Hamori, M. (2023), "Self-directed learning in massive open online courses and its application at the workplace: does employer support matter?", *Journal of Business Research*, Vol. 157, p. 113590, doi: 10.1016/j.jbusres.2022.113590.

Hassaan, M. and Yaseen, A. (2024), "Factors influencing customers' adoption of mobile payment in Pakistan: application of the extended meta-UTAUT model", *Journal of Science and Technology Policy Management*, doi: 10.1108/JSTPM-01-2024-0029.

Henseler, J., Ringle, C.M. and Sarstedt, M. (2015), "A new criterion for assessing discriminant validity in variance-based structural equation modeling", *Journal of the Academy of Marketing Science*, Vol. 43 No. 1, pp. 115-135, doi: 10.1007/s11747-014-0403-8.

Hizam, S.M., Akter, H., Sentosa, I., Ahmed, W., Masrek, M.N. and Ali, J. (2023), "Predicting workforce engagement towards digital transformation through a multi-analytical approach", *Sustainability (Switzerland)*, Vol. 15 No. 8, p. 6835, doi: 10.3390/su15086835.

Hsu, L. (2023), "EFL learners' self-determination and acceptance of LMOOCs: the UTAUT model", *Computer Assisted Language Learning*, Vol. 36 No. 7, pp. 1177-1205, doi: 10.1080/09588221.2021.1976210.

Hu, S., Laxman, K. and Lee, K. (2020), "Exploring factors affecting academics' adoption of emerging mobile technologies-an extended UTAUT perspective", *Education and Information Technologies*, Vol. 25 No. 5, pp. 4615-4635, doi: 10.1007/s10639-020-10171-x.

Hunde, M.K., Demsash, A.W. and Walle, A.D. (2023), "Behavioral intention to use e-learning and its associated factors among health science students in Mettu University, southwest Ethiopia: using modified UTAUT model", *Informatics in Medicine Unlocked*, Vol. 36, p. 101154, doi: 10.1016/j.imu.2022.101154.

IREX (2016), "An examination of MOOC usage for professional workforce development outcomes", available at: www.irex.org/resource/examination-mooc-usage-professional-workforce-development-outcomes

Itasanmi, S.A. (2023), "Determinants of the behavioural intention of open distance learning students to use digital tools and resources for learning in Nigeria", *Journal of Adult and Continuing Education*, Vol. 29 No. 1, pp. 124-146, doi: 10.1177/14779714221135655.

Js, K., Senani, K.G.P. and Ajward, R. (2024), "Examining determinants of auditors' intention to use CAATs in external auditing using an extended UTAUT model; evidence from Sri Lanka", *Journal of Financial Reporting and Accounting*, doi: 10.1108/JFRA-08-2023-0474.

Jung, Y. and Lee, J. (2018), "Learning engagement and persistence in massive open online courses (MOOCS)", *Computers and Education*, Vol. 122, pp. 9-22, doi: 10.1016/j.compedu.2018.02.013.

Kabakus, A.K., Bahcekapili, E. and Ayaz, A. (2023), "The effect of digital literacy on technology acceptance: an evaluation on administrative staff in higher education", *Journal of Information Science*, p. 1655515231160028, doi: 10.1177/01655515231160028.

Knox, J. (2020), "Artificial intelligence and education in China", *Learning, Media and Technology*, Vol. 45 No. 3, pp. 298-311, doi: 10.1080/17439884.2020.1754236.

Laurillard, D. (2016), "The educational problem that MOOCs could solve: professional development for teachers of disadvantaged students", *Research in Learning Technology*, Vol. 24 No. 1, p. 29369, doi: 10.3402/rlt.v24.29369.

Lee, T., Lee, B.K. and Lee-Geiller, S. (2020), "The effects of information literacy on trust in government websites: evidence from an online experiment", *International Journal of Information Management*, Vol. 52, p. 102098, doi: 10.1016/j.ijinfomgt.2020.102098.

Lin, G.S.S., Noorani, T.Y., Noorani, T.Y., Halil, M.H.M. and Platania, S.M. (2024), "Gender diversity, equity, and inclusivity (DEI) in dental higher education: a narrative review on current evidence and future direction", *Journal of Management World*, Vol. 2024 No. 4, pp. 987-992, doi: 10.53935/jomw.v2024i4.596.

Peltokorpi, V., Cieply, I. and Froese, F.J. (2024), "Woman's work: the moderating effects of gender role orientations between the relationships of work–family conflict with voluntary turnover and being valued by one's spouse", *International Journal of Psychology*, Vol. 59 No. 3, pp. 476-485, doi: 10.1002/ijop.13095.

Rai, A., Ghosh, P., Chauhan, R. and Mehta, N. (2017), "Influence of job characteristics on engagement : does support at work act as moderator", ? *International Journal of Sociology and Social Policy*, Vol. 37 Nos 1/2, pp. 1-25.

Schettino, G., Hodačová, L., Caso, D. and Capone, V. (2024), "Physicians' adoption of massive open online courses content in the workplace: an investigation on the training transfer process through the theory of planned behavior", *Computers in Human Behavior*, Vol. 154, p. 108151, doi: 10.1016/j.chb.2024.108151.

Shao, Z. and Chen, K. (2021), "Understanding individuals' engagement and continuance intention of MOOCs: the effect of interactivity and the role of gender", *Internet Research*, Vol. 31 No. 4, pp. 1262-1289, doi: 10.1108/INTR-10-2019-0416.

Shreeves, R. and Chahr, G.S. (2024), "Accelerating progress on sustainable development goal 5 (SDG 5): achieving gender equality and empowering women and girls".

Sosa-Díaz, M.J. and Fernández-Sánchez, M.R. (2020), "Massive open online courses (MOOC) within the framework of international developmental cooperation as a strategy to achieve sustainable development goals", *Sustainability*, Vol. 12 No. 23, p. 10187, doi: 10.3390/su122310187.

Stattkus, D., Göritz, L., Illgen, K.-M., Beinke, J.H. and Thomas, O. (2025), "Overcome the gender gap: analyzing massive open online courses through the lens of stereotype threat theory", *Information Systems and e-Business Management*, doi: 10.1007/s10257-024-00696-w.

Strzelecki, A. and ElArabawy, S. (2024), "Investigation of the moderation effect of gender and study level on the acceptance and use of generative <scp>AI</scp> by higher education students: comparative evidence from Poland and Egypt", *British Journal of Educational Technology*, Vol. 55 No. 3, pp. 1209-1230, doi: 10.1111/bjet.13425.

Vardarlier, P. and Ozsahin, M. (2021), "Digital transformation of human resource management: social media's performance effect", *International Journal of Innovation and Technology Management*, Vol. 18 No. 3, p. 2150005, doi: 10.1142/S021987702150005X.

Venkatesh, V., Thong, J.Y. and Xu, X. (2012), "Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology", *MIS Quarterly*, Vol. 36 No. 1, p. 157, doi: 10.2307/41410412.

Venkatesh, V., Morris, M.G., Davis, G.B. and Davis, F.D. (2003), "User acceptance of information technology: toward a unified view", *MIS Quarterly*, Vol. 27 No. 3, pp. 425-478, available at: www.jstor.org/stable/30036540

Wamba, S.F. and Queiroz, M.M. (2019), "The role of social influence in blockchain adoption: the Brazilian supply chain case", *IFAC-PapersOnLine*, Vol. 52 No. 13, pp. 1715-1720, doi: 10.1016/j.ifacol.2019.11.448.

Wang, Y., Li, Y., Hu, X., Xu, Y., Liang, X. and Lei, C.U. (2022), "Massive open online courses role in promoting united nations sustainable development goals", IEEE Learning with MOOCS (LWMOOCS), doi: 10.1109/LWMOOCS53067.2022.9927947

Wang, Y., Wang, W., Zhang, X., Aggarwal, N. and Albert, L. (2025), "Consumer perceived value and MOOC subscription intentions", *Journal of Computer Information Systems*, pp. 1-15, doi: 10.1080/08874417.2025.2467631.

Wenger, E. (1998), *Communities of Practice*, Cambridge University Press, Cambridge, doi: 10.1017/CBO9780511803932.

Zhenghao, C., Alcorn, B., Christensen, G., Eriksson, N. and Koller, D. (2015), "Who's benefiting from MOOCs, and why", *Harvard Business Review*, available at: https://hbr.org/2015/09/whos-benefiting-from-moocs-and-why

Żur, A. and Friedl, C. (2021), "Transforming workplace learning: a qualitative inquiry into adopting massive open online courses into corporate learning and development", *Education Sciences*, Vol. 11 No. 6, p. 295, doi: 10.3390/educsci11060295.

Further reading

Aruleba, K., Jere, N. and Matarirano, O. (2023), "An evaluation of technology adoption during remote teaching and learning at tertiary institution by gender", *IEEE Transactions on Computational Social Systems*, Vol. 10 No. 3, pp. 1335-1346, doi: 10.1109/TCSS.2022.3163912.

Corresponding author

Habiba Akter can be contacted at: drhabiba511@gmail.com