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Technology-Driven Innovation in Social Work Education:

A UTAUT Perspective

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Abstract

Digital innovation is reshaping higher education, offering new possibilities for enhancing social work education. This study explores the adoption of digital tools within social work programs through the lens of the Unified Theory of Acceptance and Use of Technology (UTAUT) framework. A quantitative survey of 250 social work students reveals that performance expectancy is the primary driver of adoption, demonstrating that digital tools significantly enhance learning outcomes, professional readiness, and skill acquisition. Social influence and facilitating conditions further emphasize the role of collaboration and institutional support, fostering an environment conducive to technology integration. Effort expectancy highlights the importance of intuitive and user-friendly platforms that lower barriers to adoption. By bridging theoretical instruction with practical application, digital innovation nurtures critical thinking, problem-solving, and communication skills essential for modern social work practice. This research offers valuable insights and recommendations for educators and policymakers to design inclusive, technology-integrated curricula, ensuring students are well-prepared for the evolving landscape of social work. The findings underscore the need for sustained investment in digital infrastructure and professional development to create adaptable, future-ready social work professionals.

Keywords: social work education – digital innovation – UTAUT model - higher education - technology adoption

Introduction

Higher education is experiencing a transformative digital revolution, driven by emerging technologies such as digital innovation (DI), which are fundamentally altering how knowledge is disseminated, acquired, and engaged (Heinsch et al., 2023). This transformation transcends the superficial integration of technology, instead fostering dynamic, immersive learning ecosystems that cultivate critical thinking and adaptability, essential for navigating the complexities of an increasingly interconnected and rapidly evolving global landscape (Roy, 2019). Digital platforms like Moodle and Blackboard have become cornerstones of this shift, facilitating personalized, collaborative, and inclusive learning experiences tailored to diverse student needs across disciplines. Moreover, innovations such as Coursera and Khan Academy are democratizing education by removing geographic and financial barriers, and enabling learners from across the globe to access high-quality resources (Ortiz-López et al., 2024; Kamraju et al., 2024). This transformation marks a paradigm shift that affects not only the modes of teaching and learning but also the broader purpose of education itself. Institutions are now tasked with preparing students not only for immediate professional challenges but also for lifelong adaptability in an era defined by rapid technological advancements (Salama & Hinton, 2023; Levin, 2024).

Through the incorporation of digital innovation, education undergoes a transformation, nurturing sophisticated problem-solving capabilities by employing design thinking approaches and presenting immersive experiences through tools like virtual reality. These innovations connect theoretical insights with practical execution, empowering learners to immerse themselves in authentic, consequence-free simulations (Javaid et al., 2024; Lor, 2017). This

approach cultivates critical thinking, technical expertise, and decision-making skills, while also promoting creativity, adaptability, and confidence (Aysu, 2023). For example, virtual simulations in healthcare allow students to practice clinical procedures, equipping them with the competence and assurance needed to handle real-world challenges. In engineering, design software aids in modeling and testing complex systems, offering students hands-on experience with cutting-edge technologies. Similarly, in education, AI-driven platforms deliver personalized learning experiences that cater to individual needs, enhancing engagement and comprehension. Business students benefit from interactive simulations that develop strategic and leadership skills, while design fields leverage virtual environments to foster innovation and experimentation. By aligning learning experiences with the demands of modern industries, DI ensures that education remains relevant, inclusive, and accessible to all (Ramsey & Montgomery, 2014; Konstantinidis et al., 2021; Taylor-Beswick, 2022; Timotheou et al., 2023).

In social work settings, DI is transforming education and practice, equipping future professionals with the skills needed to address societal challenges with confidence and competence (Fjeldheim et al., 2024). Tools such as Simucase and Telehealth.org provide immersive simulations, enabling students to develop critical skills like client engagement, case analysis, and intervention planning within controlled, risk-free environments (Simucase, 2024; Telehealth.org, 2024). By bridging theoretical knowledge and practical application, these technologies cultivate empathy, critical thinking, and professional judgment essential for effective practice. Collaborative approaches, driven by open innovation, integrate universities, digital platforms, and social service organizations to continuously enhance curricula with emerging technologies and

best practices (Gómez-Poyato et al., 2022; Spante et al., 2018). Digital readiness has become foundational, with tools like encrypted messaging platforms and virtual meeting systems improving communication, accessibility, and service delivery. By supporting remote, hybrid, and in-person models, these advancements promote inclusivity and adaptability, empowering social workers to meet diverse client needs effectively. Mastery of these tools ensures ethical, client-centered, and impactful practices in the evolving digital age (Butler et al., 2024).

Sultan Qaboos University, through the Office of the Deputy Vice-Chancellor for Academic Affairs and Community Service, is driving advancements in education quality by embracing innovative, technology-integrated programs. Notable initiatives include Enhancing Cognitive and Practical Skills Aligned with Future Technology Demands and Aligning Academic Programs with Oman National Qualifications Framework and Job Market Requirements, both of which aim to prepare students for a rapidly evolving professional landscape. At the departmental level, a remarkable achievement in this context is the launch of the Skills Lab in 2024. This cutting-edge facility employs advanced educational technologies to equip social work students with essential skills such as case management, assessment, and intervention planning. By bridging theoretical learning with practical application, the lab offers students immersive, hands-on experience using digital tools. These tools enable virtual interviews, consultations, and case assessments, all conducted within an ethically guided framework. This research represents a pioneering effort that supports the university's endeavors to adopt digitization in academic programs by developing innovative educational tools and technologies to enhance the quality of

education. Additionally, it offers valuable insights that can benefit universities across the wider region.

This study aims to explore a critical question: What drives the integration of DI into social work education? By utilizing the Unified Theory of Acceptance and Use of Technology (UTAUT) as a framework, the research examines the key factors influencing students' adoption of digital tools. Elements such as ease of use, perceived relevance, and the effectiveness of these tools in enhancing learning outcomes are central to understanding their impact. These insights offer valuable guidance for social work programs, enabling them to foster greater engagement with technology and better prepare students for a profession increasingly shaped by technological advancements.

Theoretical Background

Concept of digital innovation (DI)

Digital Innovation (DI) refers to the strategic utilization of digital technologies to develop or enhance existing processes, products, services, and experiences. This transformative approach empowers organizations to reassess conventional methods, fostering greater efficiency, accessibility, and personalization across diverse sectors (Hund et al., 2021; Nambisan et al., 2020). A fundamental aspect of DI is technological advancement, which integrates cutting-edge technologies such as artificial intelligence (AI), the Internet of Things (IoT), blockchain, and data analytics to drive enhanced functionality and optimize performance (Vial, 2019). In parallel, enhanced customer experience is achieved by prioritizing personalized, user-centered designs that elevate satisfaction and engagement, particularly within domains like e-commerce (Rasool et al., 2020).

DI also significantly enhances operational efficiency by automating processes, streamlining workflows, and minimizing redundancies, with robotic process automation serving as a prime example in the healthcare sector (Prabhod, 2024). Additionally, DI capitalizes on data utilization by leveraging extensive datasets to facilitate informed decision-making and enable accurate demand forecasting (Chen et al., 2012). The inherent flexibility and scalability of DI allow organizations to swiftly adapt to market shifts and scale operations with agility (Yoo et al., 2012). Notably, DI's cross-industry application extends its transformative potential to education, healthcare, social work, and retail sectors, offering customized solutions to address sector-specific challenges and drive sustainable progress (Westerman et al., 2014). Through converging these key elements, DI emerges as a critical driver of innovation, reinforcing long-term resilience and competitiveness across various domains.

The potential of DI in enhancing social work students' learning

In the digital age, integrating DI tools such as virtual simulations, interactive learning platforms, and digital resources has become essential to enhancing student learning. These tools contribute to creating an engaging educational environment, providing students with opportunities to develop practical and applied skills that better prepare them to face real-world challenges more effectively (Sarker et al., 2019; Haleem et al., 2022). By seamlessly connecting theoretical knowledge with practical applications, digital innovation (DI) empowers students with critical thinking, decision-making, and technical skills—competencies essential for meeting the demands of modern fields. These technologies offer a safe, risk-free environment where learners can practice complex procedures, helping them build both confidence and competence before

transitioning to real-world scenarios (Ramsey & Montgomery, 2014; Konstantinidis et al., 2021).

DI also transforms learning into an interactive, accessible, and personalized experience. With tools like virtual simulations, AI-driven tutoring systems, and mobile applications, students can engage more deeply with their studies, making education more meaningful and adaptable to individual needs (Yunus, 2018). Additionally, Fichman et al. (2014) emphasize that embedding DI as a core component of the curriculum—notably in line with Moore's Law—enhances flexibility and ensures educational content stays relevant to industry standards. DI fosters inclusivity by allowing students to learn at their own pace and access resources remotely, broadening opportunities for diverse learners (Taylor-Beswick, 2022; Timotheou et al., 2023).

In social work settings, digital innovation (DI) plays a pivotal role in enhancing the educational experiences of students by integrating advanced tools and digital methodologies that cultivate essential professional competencies. These competencies such as research capabilities, case management, problem-solving, effective communication, and critical thinking are fundamental to practical training and long-term professional success. Developing these skills establishes a strong foundation for achieving excellence and fostering innovation in professional practice. By mastering these abilities, social work students are better prepared to address complex social challenges, design sustainable strategies, and ensure meaningful engagement during the intervention phases of their careers.

The strategic incorporation of DI within key curriculum courses such as Social Work with Individuals, General Practice in Social Work, and Processes and Applications in Social Work with Individuals—reinforces theoretical knowledge

through practical, technology-driven applications. This approach not only enriches the learning experience but also equips future practitioners with the adaptability and expertise required to meet the evolving demands of the social work profession (Zemaitaityte et al., 2024; Lanzieri et al., 2021).

Impact of DI on research

DI is transforming research by advancing data collection, analysis, and dissemination processes. Sophisticated digital tools like Zotero, Consensus, and Samwell.ai enable efficient gathering and processing of complex data, unlocking insights that traditional methods might miss. By promoting interdisciplinary collaboration and supporting open-access publishing, DI not only strengthens research rigor but also democratizes knowledge, making it accessible and impactful across diverse fields. These tools streamline literature management, aid in identifying research consensus, and assist in drafting and summarizing research content, allowing researchers to work more effectively and collaboratively (Slimi, 2023; Zoghbor, 2024).

Impact of DI on case management

DI streamlines case management for social work students by enabling efficient documentation, secure information sharing, and real-time collaboration. Platforms like Social Work Helper offer resources and tools for practical case management, while edX provides structured courses on social work practices. DI facilitates client communication, allowing students to build supportive relationships and analyze data trends to make informed interventions. Remote access capabilities expand services to underserved populations, promoting

inclusivity. Overall, DI equips students with essential skills for client-centered case management.

Impact of DI on problem-solving

DI significantly boosts students' problem-solving skills by transforming their approach to challenges. Design thinking and Tools like interactive case simulations offer hands-on experiences, enabling students to test, adjust, and refine solutions in realistic scenarios. Institutions like SIMmersion have substantial potential in offering Virtual Reality (VR) solutions, which enhance training across diverse fields by creating immersive, lifelike environments. VR simulations allow students to practice and develop high-stakes skills, such as interpersonal communication and crisis management, in safe, controlled settings (Legi et al., 2023; Araiza-Alba et al., 2021).

Impact of DI on effective communication

DI enhances communication skills by offering interactive, real-time learning tools. Platforms like SIMmersion and Kognito provide realistic simulations where students practice verbal and non-verbal skills in a safe setting. Video analysis tools enable self-assessment, allowing students to refine their communication style. Continuous feedback through DI fosters ongoing improvement, preparing students for professional client interactions (Liaw et al., 2023; Blackmore et al., 2018).

Impact of DI on critical thinking

DI strengthens critical thinking in social work by providing tools for analyzing complex cases and refining decision-making. AI-driven feedback helps students

reflect on their approaches, while VR simulations offer realistic practice in handling challenging scenarios. Online platforms further expose students to diverse perspectives, enhancing their understanding of social issues (Meirbekov et al., 2022; D'Mello, 2021).

Research model and hypotheses development

This study employs the Unified Theory of Acceptance and Use of Technology (UTAUT) by Venkatesh et al. (2003) to explore factors influencing digital innovation adoption in social work education. The UTAUT framework, known for its predictive strength across various settings, identifies four key constructs—performance expectancy, effort expectancy, facilitating conditions, and social influence—as drivers of behavioral intention and usage. Moderating variables like gender, age, experience, and voluntariness of use provide deeper insights into adoption behaviors among diverse groups. In social work education, the UTAUT model supports strategies to integrate digital technologies, enhancing students' readiness for a digital professional environment. Its user-centered approach effectively addresses the field’s unique challenges and opportunities.

Hypotheses Development

Facilitating Conditions (FC)

Facilitating conditions, as highlighted by Venkatesh and Bala (2008), Mohammadi (2015), and Tian and Yang (2024), emphasize the critical role of organizational and technical support in driving technology adoption, enhancing educational outcomes, and fostering readiness and usage behavior in various sectors, leading to the proposed hypothesis.

H1: Facilitating conditions significantly influence students' intentions to adopt digital innovation tools in social work education.

Performance Expectancy (PE)

Performance expectancy is a key factor in technology adoption, driven by its perceived usefulness. Studies demonstrate its substantial impact on academic performance and user adoption behaviors (Han & Ellis, 2021; Venkatesh & Davis, 2000). Building on these findings, this study hypothesizes.

H2: Performance expectancy significantly influences students' intentions to adopt digital innovation tools in social work education.

Effort Expectancy (EE)

Effort expectancy, reflecting perceived ease of use (Venkatesh et al., 2003), significantly influences technology adoption by reducing complexity and fostering user acceptance. Studies like Rahi et al. (2019) and Abubakar and Ahmad (2012) highlight its role in enhancing satisfaction and driving adoption, particularly in educational and professional settings.

H3: Effort expectancy significantly influences students' intentions to adopt digital innovation tools in social work education.

Social Influence (SI)

According to Venkatesh et al. (2003), social influence refers to the extent to which individuals perceive that others believe they should use a new system. Recent studies, such as those by Al-Hujran et al. (2015) and Yueh et al. (2015), emphasize its significant impact on technology adoption and sustained use. This

study examines how social influence affects social work students' adoption of DI tools, leading to the proposed hypothesis.

H4: Social influence significantly influences students' intentions to adopt digital innovation tools in social work education.

Study design

This study employed a descriptive quantitative design to collect and analyze data on the factors influencing the adoption of DI tools in enhancing students' education. The methodological framework included reliability analysis, descriptive statistics, and ordinal logistic regression (OLR) analysis. Cronbach's Alpha was used to evaluate the internal consistency of the survey instruments, ensuring that the items within each construct reliably measured the same underlying concept. Descriptive statistics were applied to summarize the data, providing insights into central tendencies, dispersion, and overall patterns within the dataset. Finally, ordinal logistic regression analysis was performed to identify and quantify the key factors influencing the adoption decisions of DI tools.

Data collection procedure and participants

From May to June 2024, a structured questionnaire was administered to 250 social work students to examine the factors influencing the adoption of DI tools for public transportation access. The survey comprised three sections: demographic information, measurement of UTAUT model factors, and measurement items. Demographics revealed that 66.4% of respondents were male and 33.6% female, with age groups distributed as follows: 18–25 years (14.4%), 26–33 years (42.8%), 34–41 years (31.2%), and 42–49 years (11.6%). The second section evaluated intentions and willingness to adopt DI tools. The

third section included 16 items assessing performance expectancy, effort expectancy, facilitating conditions, and social influence, rated on a 10-point scale from strong disagreement (1) to strong agreement (10). The questionnaire displayed high internal consistency (Cronbach's alpha = 0.893), confirming its reliability and validity for analyzing the adoption of smart mobile applications (Roberts et al., 2021).

Data analysis approach

This study examines the factors that influence students' adoption of DI tools using ordinal logistic regression (OLR), a statistical method designed for analyzing ordered dependent variables. The dependent variable, "intention to adopt DI platforms," is categorized into three levels: low, moderate, and high adoption, rated on a scale of 1 to 3, with "low adoption" as the reference category. Independent variables include performance expectancy, effort expectancy, facilitating conditions, and social influence, measured as composite scores from Likert-scale items. OLR effectively accommodates ordered data with unequal category intervals and incorporates both continuous and categorical predictors.

The OLR model uses the cumulative logit function to estimate the odds of adoption levels. It employs Maximum Likelihood (ML) estimation to identify significant relationships. Robustness is ensured by validating the proportional odds assumption through the parallel lines test, which confirms consistent predictor effects across different levels of adoption. Predictor significance is assessed via the Likelihood Ratio Test, while Nagelkerke and McFadden pseudo R-squared metrics evaluate explanatory power. Odds ratios (ORs) derived from regression coefficients offer insightful interpretations. An OR greater than 1

indicates an increased likelihood of higher adoption, while an OR less than 1 indicates a reduction.

Table 1. Description of the independent variables

Variable	Item description
Performance expectancy	Digital innovation boosts engagement with course content.
	Enhance learning in the field of specialization.
	Helps gain skills for the job market.
	Improve academic performance.
Effort expectancy	Proficiency in using digital innovation for learning.
	Ability to meet course requirements with digital innovation.
	Enjoyment of using digital innovation in social work.
	Capacity to train colleagues in digital innovation use.
Facilitating conditions	Encouragement from academic advisors to adopt digital innovation.
	Faculty supports digital innovation in learning.
	Peer motivation for adoption of digital innovation.
	Influence on peers to adopt digital innovation for course needs.
Social influence	Availability of resources for digital innovation.
	Opportunities to learn digital innovation at university/college.
	Technical staff support digital innovation applications.
	Policies supporting digital innovation in academic requirements.

Results

Reliability analysis

The reliability analysis, conducted on a piloting sample of 22 students, yielded a Cronbach's alpha of 0.873. This result demonstrates a high level of internal consistency within the questionnaire, indicating that the items used to measure attitudes and factors related to DI adoption are well-correlated and measure the same underlying constructs effectively. This strong reliability score enhances the credibility of the findings derived from the questionnaire, ensuring that the tool

is robust for assessing DI adoption factors in the context of social work education.

Descriptive analysis of the dependent variable

The descriptive results in Table 2 reveal a largely positive attitude among social work students towards the integration of DI in education. This confirms a strong acceptance of its potential to enhance learning and professional practice. A substantial proportion, 82.9%, fall within the "High" adoption category, reflecting widespread recognition of the numerous benefits DI offers, such as enhancing learning outcomes, increasing engagement, and fostering professional development. This high level of adoption suggests that most students are not only aware of the importance of digital tools but are also prepared to use them in their academic and professional endeavors. However, the presence of 6.0% in the "Low" adoption category and 11.1% in the "Moderate" adoption category draws attention to a subset of students who may face obstacles in embracing DI. These challenges could be multifaceted, potentially arising from limited digital competencies, such as inadequate skills to effectively use digital platforms and tools, or from a lack of access to adequate technological resources, such as reliable internet connectivity or modern devices. In some cases, these barriers may also reflect a lack of confidence in navigating digital environments or limited exposure to the potential applications of DI in social work.

Table 2: Descriptive statistics for the dependent variable: attitudes towards DI integration

Categories of DI integration	Frequency	Percentage
Low	7	6.0
Moderate	13	11.1
High	97	82.9

Descriptive analysis of the independent variable

The descriptive analysis of the four independent variables influencing DI adoption (Table 3) indicates generally favorable perceptions among students, with high mean scores across facilitating conditions, effort expectancy, performance expectancy, and social influence. Facilitating conditions scored 31.28 (78.2%), reflecting adequate resources and infrastructure, though a standard deviation of 4.337 suggests some variability, highlighting the need for standardized resource access. Effort expectancy, at 31.19 (78.0%) with a standard deviation of 3.808, indicates that while students find digital tools relatively easy to use, some face challenges due to differing levels of digital literacy and familiarity, necessitating additional training. Performance expectancy, the highest-scoring variable at 36.01 (90.0%) with a standard deviation of 3.819, shows strong confidence in DI's ability to enhance academic and professional outcomes, underscoring the importance of emphasizing its benefits. Social influence, with a mean of 35.54 (88.8%) and a standard deviation of 4.054, highlights the role of peer and faculty encouragement, suggesting universities could further leverage collaborative and supportive environments to promote DI adoption. Overall, while students demonstrate strong readiness for DI integration, addressing disparities in access, providing targeted support, and fostering social engagement can enhance its adoption in social work education.

Table 3: Descriptive statistics for the independent variables in the DI integration model

Variables	Mean			SD	Min.	Max.
	Possible range	Value	(%)			
1. Facilitating conditions	(4 – 40)	31.28	78.2	4.337	4	37
2. Effort expectancy	(4 – 40)	31.19	78.0	3.808	14	37
3. Performance expectancy	(4 – 40)	36.01	90.0	3.819	26	39
4. Social influence	(4 – 40)	35.54	88.8	4.054	26	39

Ordinal logistic regression analysis results

The results of the ordinal logistic regression (OLR) analysis are presented in Table 4, demonstrating key insights into the factors influencing DI integration in social work education. The analysis confirms that the proportional odds assumption holds, supported by a non-significant Chi-square test for parallel lines (P-value = .198). This indicates that the relationship between the predictors and the likelihood of DI adoption is consistent across the outcome categories, making the OLR model suitable for analyzing these relationships. The analysis reveals that all four independent variables—performance expectancy, social influence, facilitating conditions, and effort expectancy—are statistically significant predictors of DI adoption, with odds ratios greater than one and 95% confidence intervals whose lower limits exceed one. This statistical outcome signifies a consistently positive relationship between these predictors and the likelihood of DI adoption, providing strong evidence of their importance.

The impact of performance expectancy factor

Performance expectancy emerges as the most influential predictor, with an odds ratio (Exp(β)) of 1.503 (95% CI: 1.119–2.017) and a significant P-value of .007. This finding indicates that for every one-unit increase in students' perceptions of

DI's usefulness in enhancing their academic performance and professional preparedness, the odds of adopting DI increase by approximately 50.3%, holding all other variables constant. The confidence interval (1.119–2.017) further supports this result, as the entire range exceeds one, confirming the statistical significance and strength of the effect. The implication is that performance expectancy plays a pivotal role in shaping students' willingness to adopt DI. When students strongly believe that DI tools can improve their learning outcomes and readiness for professional challenges, they are significantly more likely to integrate these tools into their academic routines.

The impact of social influence factor

Social influence is the second most significant factor, with an odds ratio of 1.311 (95% CI: 1.021–1.683) and a significant P-value of .034. This result suggests that for every one-unit increase in the perceived encouragement and support from peers, mentors, and faculty, the odds of adopting DI rise by 31.1%. The lower bound of the confidence interval (1.021) exceeding one underscores the reliability of this finding, indicating a consistently positive association. This highlights the critical role of social environments in promoting DI adoption. Students are more likely to adopt DI when they observe and receive support from influential figures within their academic and professional networks. This dynamic demonstrates the importance of cultivating collaborative learning environments where DI is actively modeled and encouraged.

The impact of facilitating conditions factor

Facilitating conditions, encompassing access to resources, technological infrastructure, and institutional support, emerge as the third significant predictor with an odds ratio of 1.194 (95% CI: 1.069–1.335) and a highly significant P-value of .002. This result indicates that for every one-unit increase in facilitating conditions, the odds of DI adoption increase by 19.4%. The confidence interval (1.069–1.335), with its lower limit exceeding one, further validates the strength and consistency of this effect. These findings emphasize the importance of providing adequate resources and institutional support to remove barriers to technology adoption.

The impact of effort expectancy factor

Effort expectancy, with an odds ratio of 1.193 (95% CI: 1.035–1.376) and a significant P-value of .015, emerges as the fourth significant factor influencing DI adoption. This indicates that for each one-unit increase in the perceived ease of use of DI tools, the odds of adoption increase by 19.3%, holding all other factors constant. The confidence interval (1.035–1.376) provides further statistical assurance, as its lower limit is above one, confirming the positive relationship. Effort expectancy's significance reflects the role of ease of use in reducing barriers to adoption, particularly for students who may lack extensive technical expertise. Intuitive, user-friendly tools are likely to encourage broader adoption by minimizing the effort required to learn and use DI effectively.

Model assessment

The results demonstrate the critical roles of performance expectancy, social influence, facilitating conditions, and effort expectancy in driving DI adoption

among social work students. The odds ratios exceeding one and the confidence intervals with lower limits above one across all predictors affirm the consistent, positive impact of these factors. These findings highlight the effectiveness of the ordinal logistic regression (OLR) model in capturing the multifaceted dynamics influencing DI adoption, providing a statistically robust foundation for understanding and enhancing the integration of digital tools in social work education.

The model's robustness and strong explanatory power are further validated through its overall goodness-of-fit, which is highly significant (Chi-square test P-value < 0.001). This indicates that the inclusion of the predictors significantly improves the model's ability to explain variations in DI adoption. Additionally, the pseudo-R-square values—Nagelkerke = 0.785 and McFadden = 0.670—demonstrate the model's capacity to account for a substantial proportion of the variance in DI adoption. These measures collectively confirm the model's effectiveness in identifying and quantifying the relationships between the predictors and the outcome variable.

Table 4. Ordinal logistic regression estimation results

Parameters		Estimate(β)	S. E(β)	Waldχ^2	Df	P-value	Exp(β)	95% C.I for Exp(β)	
Threshold	Constant 1	27.474	6.207	19.589	1	.000	-	-	-
	Constant 1	31.524	6.935	20.663	1	.000	-	-	-
Location	FC	.178	.057	9.658	1	.002	1.194	1.068	1.336
	EE	.177	.073	5.861	1	.015	1.193	1.034	1.378
	PE	.407	.150	7.331	1	.007	1.503	1.119	2.018
	SI	.271	.128	4.493	1	.034	1.311	1.021	1.684
Model Fit									
Chi-square (df=4) = 89.068 (P-value = 0.000)									
Nagelkerke Pseudo R-square = 0.785									
McFadden Pseudo R-square = 0.670									
Test of Parallel Lines									
Chi-Square	df	P-value							
6.013	4	.198							

Discussion and implications

Integrating DI in social work education offers transformative opportunities, enabling students to address complex professional challenges with greater efficiency and creativity. This study identifies the critical factors influencing DI adoption, emphasizing how perceptions, social environments, institutional support, and usability shape students' willingness to engage with these tools. These findings not only deepen our understanding of technology adoption but also offer actionable strategies for educators and institutions to cultivate a digital-first mindset in future social work professionals.

Performance expectancy emerges as the most influential factor, increasing the likelihood of DI adoption by 50.3%. This highlights the strong link between students' perceptions of DI's utility and their willingness to adopt these tools, consistent with recent findings (Kim et al., 2024; Lai et al., 2024; Singh et al., 2023). When students recognize the practical benefits of DI—such as enhanced learning outcomes, improved skills, and career readiness—they are more motivated to integrate these technologies. This underscores the need for curricula to demonstrate the real-world applications of DI in social work practice. Institutions should prioritize case studies, simulations, and practical examples that show how DI supports effective client management, data analysis, and evidence-based decision-making. Aligning DI with students' academic and professional goals reinforces its relevance and encourages adoption. Moreover, incorporating hands-on experiences and showcasing DI's role in advancing career opportunities can further strengthen performance expectancy.

Social influence is the second most impactful factor, with a 31.1% increase in adoption likelihood. This aligns with previous research (Ong et al., 2023; Ala'a, 2023; Edo et al., 2023) highlighting the role of peers, mentors, and faculty in shaping students' attitudes toward technology. Collaboration and guidance are essential for advancing DI integration in social work education. Institutions can drive DI adoption by fostering collaborative environments, facilitating peer mentoring, and organizing faculty-led workshops. Group projects involving DI tools enhance peer learning, while faculty demonstrations of practical applications build student confidence. Developing a supportive academic culture encourages DI usage, creating a ripple effect that expands engagement and adoption across the student community.

Facilitating conditions are crucial for preparing students to adopt DI, as evidenced by studies (Menon & Shilpa, 2023; Hunde et al., 2023; Kelly et al., 2023). Access to technological resources—such as reliable internet, updated software, and hardware—paired with institutional support directly impacts students' readiness for DI integration. To bridge resource gaps, institutions should ensure equitable access to tools and provide technical assistance. Initiatives like workshops, online resources, and campus-wide projects promote inclusivity, reducing barriers and enhancing DI adoption among diverse student groups.

Although **effort expectancy** is the least influential factor, it remains significant, with a 19.3% increase in adoption likelihood for each unit increase. This highlights the importance of perceived ease of use, as students are more likely to adopt DI tools when they find them intuitive and user-friendly (Vidal-Silva et al., 2024; Camilleri, 2024; Alfalah, 2023). Social work students, who may lack

extensive technical experience, benefit from tools that minimize complexity and streamline usability. To enhance effort expectancy, institutions should prioritize user-friendly platforms and provide clear, accessible training. Introductory sessions, tutorials, and ongoing technical support can simplify the learning curve and build student confidence. Educators can further ease adoption by gradually introducing DI tools and guiding students through their practical applications. By addressing usability concerns, institutions create a more inclusive and supportive learning environment, enabling broader adoption among students with varying levels of digital literacy.

Practical implications for stakeholders in higher education

Recommendations for college administrations

College administrations should establish a clear institutional vision for integrating DI into social work education. This can be achieved by organizing workshops and engaging faculty, students, and experts to align initiatives with national goals. Adequate funding should be allocated for infrastructure, such as VR tools, modern devices, and simulation labs. Incentives for faculty to adopt digital tools, participate in conferences, and conduct joint research are essential. Continuous faculty training and regular performance evaluations will ensure the effective integration and long-term success of technological advancements in academic programs.

Recommendations for academic departments

Academic departments should integrate DI tools into core and elective courses by redesigning curricula to incorporate case simulations and digital assessments,

fostering hands-on learning in simulated environments. Collaboration with technology and computer science departments can drive the development of joint courses, blending social work with AI and big data. Pilot studies should assess the effectiveness of VR and digital tools before broader implementation. Additionally, innovative assessments using virtual simulations can replace traditional methods, ensuring students gain practical, real-world experience through performance-based evaluations.

Recommendations for social work faculty

Social work educators should incorporate digital tools into their teaching by developing interactive activities such as simulations and virtual case studies. Engaging students through technology-focused workshops builds essential practical skills. Faculty can showcase digital tools through research projects, applying technology to enhance social services and data-driven solutions. Mentorship should guide students in utilizing digital tools for academic and practical purposes. Promoting digital resource development and encouraging faculty publications on technology's role in social work ensures continued advancement in education and practice.

Recommendations for social work training

To effectively prepare social work students for integrating DI into their practice, educational institutions should prioritize expanding technological competencies in social work curricula. From the outset, students must develop a digital mindset, viewing technology as essential for enhancing client engagement, service delivery, and problem-solving. Practical training in digital tools, such as virtual

simulations and case management software, should be given equal importance alongside traditional social work methods. Additionally, digital literacy and technology-based problem-solving should be incorporated across all modules to ensure graduates are equipped for modern, technology-driven social work environments.

Conclusion, limitations, and direction for future research

This study demonstrates the transformative potential of DI in social work education, emphasizing its role in enhancing learning, professional readiness, and adaptability. Utilizing the UTAUT framework, the research identifies performance expectancy, social influence, facilitating conditions, and effort expectancy as significant factors influencing adoption. Performance expectancy emerged as the most critical predictor, highlighting the importance of aligning digital tools with tangible academic and career outcomes. Social influence and facilitating conditions underscore the role of collaboration and institutional support in driving adoption, while effort expectancy reveals the need for intuitive, user-friendly technologies. These findings offer actionable insights for designing inclusive, technology-driven curricula that prepare students for the demands of modern social work.

While the study's focus on Oman may limit generalizability due to cultural and institutional differences, it introduces innovative educational tools and technologies that enhance academic programs. Despite reliance on self-reported data and a quantitative methodology that may limit deeper contextual insights, this research offers valuable guidance for improving education quality. Its findings provide actionable insights that can be adapted to benefit universities

across the wider region, bridging the gap between localized research and broader applicability.

Future research should explore diverse geographic and institutional contexts to validate and expand these findings. Integrating qualitative methods can capture richer, nuanced perspectives on students' experiences with digital tools. Additionally, investigating the long-term impact of Di on professional performance post-graduation can enhance understanding. Finally, research into emerging technologies like AI and VR could reveal new opportunities for innovation in social work education. These efforts will ensure curricula remain dynamic, inclusive, and aligned with the evolving needs of the profession.

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