

## DIGITAL COMPETENCE AND CAREER SELF-EFFICACY IN HIGHER EDUCATION: EVIDENCE FROM UNDERGRADUATE STUDENTS

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### **Abstract**

The rapid digitalisation of the labour market has increased the demand for graduates who possess not only technical skills but also the confidence to manage career-related challenges. However, empirical evidence explaining how digital competence contributes to students' career self-efficacy remains limited. This study aims to examine the effect of digital competence on career self-efficacy among undergraduate students. A quantitative cross-sectional design was employed, involving undergraduate management students selected through a multistage sampling technique. Data were collected using structured questionnaires measured on a Likert scale and analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM). The results indicate that digital competence has a positive and statistically significant effect on career self-efficacy. Students with higher levels of digital competence demonstrate greater confidence in performing career-related tasks, particularly those involving digital platforms such as online job search and professional communication. These findings suggest that digital competence not only enhances technical capability but also strengthens students' confidence in navigating career development processes. This study concludes that improving digital competence is essential for enhancing students' readiness and confidence in entering the digital labour market.

**Keywords:** digital competence; career self-efficacy; employability; higher education; social cognitive career theory.

### **INTRODUCTION**

The rapid advancement of digital technologies has fundamentally transformed the nature of work and the competencies required in the contemporary labour market. Digitalisation has reshaped how individuals access information, communicate, and

perform professional tasks across various industries. Consequently, the ability to effectively utilise digital technologies has become an essential requirement for graduates entering increasingly technology-driven work environments. In this context, higher education institutions are expected to equip students not only with disciplinary knowledge but also with digital capabilities that support their transition into the workforce.

Digital competence has emerged as a critical skill that supports both academic performance and employability. It encompasses the ability to access, evaluate, manage, and create information using digital technologies, as well as to communicate and solve problems in digital environments. Previous studies have highlighted its contribution to improved learning outcomes, adaptability, and access to career opportunities. However, most existing research has primarily focused on the functional aspects of digital competence, while its role in shaping students' psychological readiness for career development remains underexplored.

Career self-efficacy represents a key psychological construct in the field of career development. It refers to individuals' beliefs in their ability to successfully perform tasks related to career exploration, decision-making, and preparation. According to Social Cognitive Career Theory (SCCT), self-efficacy plays a central role in influencing career interests, choices, and persistence. Students with higher levels of career self-efficacy are more likely to engage actively in career-related activities and demonstrate greater confidence in managing career challenges.

Despite the recognised importance of both constructs, empirical studies examining the relationship between digital competence and career self-efficacy remain limited. This indicates a gap in the literature regarding the psychological implications of digital competence, particularly among undergraduate students transitioning from education to employment. From a theoretical perspective, SCCT provides a relevant framework for explaining this relationship because self-efficacy beliefs are shaped by learning experiences, especially mastery experiences gained through successful task performance. Digital competence may therefore serve as a meaningful learning experience that supports confidence in career-related activities.

This study aims to examine the effect of digital competence on career self-efficacy among undergraduate students. By addressing this relationship, the study contributes to the literature by positioning digital competence not only as a technical capability but also as a factor that supports the development of career-related confidence in the digital era

### **Social Cognitive Career Theory**

Social Cognitive Career Theory (SCCT) provides an important theoretical framework for understanding career development processes. The theory was

developed by Robert W. Lent, Steven D. Brown, and Gail Hackett and is rooted in the broader social cognitive theory proposed by Albert Bandura.

SCCT explains how individuals form career interests, make career choices, and achieve career success through the interaction between personal factors, environmental influences, and learning experiences. A key concept within this framework is self-efficacy, which refers to an individual's belief in their ability to successfully perform specific tasks.

According to Bandura (1997), self-efficacy beliefs are developed through four primary sources: mastery experiences, vicarious learning, social persuasion, and emotional states. Among these sources, mastery experiences are considered the most influential because successful performance of tasks strengthens individuals' belief in their capabilities.

Within the context of career development, SCCT suggests that individuals who accumulate successful experiences in performing career-related activities will develop stronger career self-efficacy. These beliefs subsequently influence career interests, career choices, and persistence in overcoming challenges.

### **Digital Competence**

Digital competence refers to the ability to use digital technologies effectively, critically, and responsibly in various contexts. The concept has been widely discussed within the European Commission's Digital Competence Framework (DigComp), which identifies several key dimensions of digital competence, including information and data literacy, communication and collaboration, digital content creation, safety, and problem solving.

These competencies enable individuals to interact effectively in digital environments, manage information, create digital content, and solve problems using technology. In modern workplaces, digital competence is increasingly recognized as an essential skill that supports productivity, collaboration, and innovation.

For university students, digital competence is particularly important in supporting both academic and career development. Students with strong digital competence can effectively access information, utilize digital learning platforms, collaborate with peers through online tools, and adapt to technology-driven environments.

Moreover, many career-related activities are now conducted through digital platforms, such as online job searches, digital portfolio preparation, virtual interviews, and professional networking through online platforms. Students who possess adequate digital competence are more likely to successfully perform these activities, which can strengthen their confidence in managing career tasks.

### **Career Self-Efficacy**

Career self-efficacy is derived from the broader concept of self-efficacy and refers specifically to individuals' beliefs in their ability to perform tasks related to career development. These tasks include exploring career options, making career decisions, preparing job applications, and adapting to workplace challenges.

Research in career development literature suggests that individuals with high career self-efficacy are more proactive in pursuing career opportunities and demonstrate greater persistence in achieving their career goals. They are also more likely to engage in behaviors that support career advancement, such as seeking career information, developing professional networks, and improving their competencies.

For university students, career self-efficacy plays an important role in facilitating the transition from education to employment. Students who believe in their ability to manage career tasks are more likely to actively engage in career preparation activities and demonstrate readiness to enter the workforce.

### **Digital Competence and Career Self-Efficacy**

From the perspective of Social Cognitive Career Theory, digital competence can serve as a source of mastery experiences that influence individuals' efficacy beliefs. When students successfully perform tasks using digital technologies, they gain practical experiences that reinforce their perception of competence.

For instance, students who are able to effectively search for career information online, prepare digital application materials, and participate in online recruitment processes may develop greater confidence in their ability to navigate career-related challenges.

Therefore, digital competence is expected to contribute positively to the development of career self-efficacy. Students with stronger digital capabilities are likely to perceive themselves as more capable of performing career tasks within increasingly digitalized work environments.

### **Research Hypothesis**

Based on the theoretical arguments presented above, the following hypothesis is proposed:

H1: Digital competence has a positive and significant effect on career self-efficacy among undergraduate students.

## Research Model

The conceptual model of this study proposes that digital competence functions as an antecedent variable that predicts students' career self-efficacy.



**Figure 1. Conceptual Research Model**

This model reflects the assumption derived from Social Cognitive Career Theory that mastery experiences derived from digital skill utilisation can strengthen students' confidence in managing career preparation activities.

## RESEARCH METHOD

### Research Design

This study employed a quantitative approach with a cross-sectional design to examine the effect of digital competence on career self-efficacy among undergraduate students. The study was designed to test a predictive relationship between two latent constructs using survey data collected at a single point in time. Consistent with the explanatory nature of the research objective, the analysis was conducted using Partial Least Squares Structural Equation Modelling (PLS-SEM), which is appropriate for examining relationships between constructs in predictive models.

### Population and Sample

The population of the study consisted of undergraduate management students enrolled in private higher education institutions in Denpasar. A multistage sampling technique was applied to obtain the sample. In the first stage, the research sites were selected from private institutions that met the study criteria. In the second stage, respondents were chosen based on predetermined inclusion criteria relevant to the research focus. The final sample comprised 88 students, which was considered adequate based on statistical power analysis using G\*Power.

### Research Instruments

Data were collected using a structured questionnaire comprising validated multi-item scales. All constructs were measured reflectively using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Digital competence was operationalised as students' ability to effectively use digital technologies for information processing, communication, and problem-solving in academic and career-related contexts. The measurement items captured key aspects

such as digital information literacy, communication in digital environments, and digital problem-solving.

Career self-efficacy was defined as students' confidence in their ability to perform tasks related to career development. The scale included items reflecting confidence in career exploration, job search activities, preparation of application materials, and engagement in digitally mediated recruitment processes.

Prior to data collection, the instrument was reviewed to ensure clarity and contextual relevance. Items were translated and adjusted where necessary to match the respondents' academic and cultural context without altering their original meaning.

### **Data Collection**

The questionnaire was distributed to respondents who met the research criteria. Participation was voluntary and responses were collected anonymously to reduce response bias and support data integrity. A structured survey ensured that all participants responded to the same measurement items under comparable conditions.

### **Data Analysis**

The collected data were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM) with SmartPLS software. PLS-SEM was selected due to its suitability for predictive models and its robustness in handling complex relationships between latent constructs, particularly with relatively small sample sizes.

The analysis was conducted in two stages. First, the measurement model was evaluated by assessing indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. Indicator reliability was examined using outer loadings, while internal consistency was assessed using Cronbach's alpha and composite reliability. Convergent validity was evaluated using the Average Variance Extracted (AVE). Discriminant validity was assessed using both the Fornell–Larcker criterion and the Heterotrait–Monotrait ratio (HTMT).

Second, the structural model was evaluated by examining path coefficients, t-statistics, and p-values obtained through bootstrapping procedures. The coefficient of determination ( $R^2$ ) was used to assess the model's explanatory power.

## **Results and Analysis**

### **Respondent Profile**

The respondents in this study were undergraduate management students from private higher education institutions in Denpasar. The sample consisted of students who were actively enrolled and met the predetermined inclusion criteria. The composition of respondents reflected the target population relevant to the research objective.

### Measurement Model Evaluation

The measurement model was assessed to ensure that the constructs demonstrated acceptable reliability and validity before hypothesis testing. Indicator reliability was evaluated using outer loadings. All indicators exceeded the recommended threshold of 0.70, indicating that each item adequately represented its respective construct.

Internal consistency reliability was assessed using Cronbach's alpha and composite reliability. As shown in Table 1, all constructs exceeded the minimum threshold of 0.70, confirming satisfactory reliability. Convergent validity was evaluated using AVE, and all values were above 0.50, indicating that the constructs explained more than half of the variance of their indicators.

**Table 1. Reliability**

Construct	Cronbach's Alpha	Composite Reliability	AVE
Digital Competence	0.953	0.958	0.657
Career Self-Efficacy	0.947	0.955	0.701

Source: Author's calculation (2026)

Discriminant validity was further assessed using the HTMT criterion. All HTMT values were below the recommended threshold of 0.90, indicating that the constructs were empirically distinct. These findings confirm that the measurement model met the required criteria for reliability and validity.

### Structural Model Evaluation

After confirming the adequacy of the measurement model, the structural model was assessed to examine the hypothesised relationship between digital competence and career self-efficacy.

The results indicate that digital competence has a positive and statistically significant effect on career self-efficacy. The path coefficient shows a moderate positive relationship, suggesting that higher levels of digital competence are associated with stronger confidence in performing career-related tasks.

**Table 2. Structural Model Results**

Relationship	Coefficient	t-statistic	p-value	R <sup>2</sup>
Digital Competence → Career Self-Efficacy	0.420	5.316	0.000	0.177

Source: Author's data processing (2026)

The bootstrapping results show that the relationship is statistically significant ( $t = 5.316$ ;  $p < 0.001$ ), supporting the proposed hypothesis. This indicates that digital competence is a meaningful predictor of career self-efficacy among undergraduate students.

The coefficient of determination ( $R^2 = 0.177$ ) suggests that digital competence explains 17.7% of the variance in career self-efficacy. Although the explanatory power is relatively modest, this result remains meaningful in behavioural research, where individual outcomes are typically influenced by multiple factors.

## **Discussion**

The findings of this study confirm that digital competence has a positive and statistically significant effect on career self-efficacy among undergraduate students. This indicates that students with stronger digital capabilities tend to demonstrate higher confidence in performing career-related tasks, particularly those involving digitally mediated processes such as job searching, online communication, and virtual recruitment activities.

From a theoretical perspective, these findings are consistent with Social Cognitive Career Theory, which posits that self-efficacy beliefs are shaped through learning experiences, particularly mastery experiences. In this context, digital competence functions as a practical form of mastery experience, as students repeatedly engage with digital tools and successfully complete academic and career-related tasks. These repeated successes contribute to the strengthening of self-efficacy beliefs in career contexts.

These findings are consistent with prior studies showing that digital competence enhances self-efficacy in academic and professional contexts (e.g., Wang & Chu, 2023; Javier-Aliaga et al., 2024). Previous research has demonstrated that individuals with higher digital competence tend to exhibit greater confidence in managing tasks in technology-driven environments. This study extends these findings by specifically positioning digital competence as a predictor of career self-efficacy, thereby contributing to the literature by linking technical capability with psychological readiness in career development.

However, the relatively modest explanatory power ( $R^2 = 0.177$ ) suggests that career self-efficacy is influenced by multiple factors beyond digital competence. This aligns with prior research indicating that self-efficacy is shaped by a combination of personal, social, and contextual variables. Factors such as social support, prior work experience, and access to career development resources may also play significant roles. Therefore, digital competence should be understood as one important, but not exclusive, determinant within a broader career development framework.

From a practical standpoint, the findings suggest that higher education institutions should not only focus on developing students' technical digital skills but also create learning environments that allow students to apply these skills in career-relevant

contexts. For instance, integrating digital career platforms, simulation-based recruitment activities, and project-based learning involving digital collaboration may help students strengthen both their competence and confidence. Such approaches can enhance students' readiness to transition into increasingly digitalised labour markets.

## Conclusion

This study demonstrates that digital competence has a positive and significant influence on career self-efficacy among undergraduate students. The findings indicate that students with stronger digital capabilities tend to exhibit higher confidence in performing career-related tasks, particularly those involving digitally mediated processes.

From a theoretical perspective, this study contributes to Social Cognitive Career Theory by highlighting digital competence as a form of learning experience that strengthens self-efficacy beliefs. From a practical standpoint, the findings suggest that higher education institutions should prioritise the integration of digital competence development into academic and career preparation programmes.

Despite its contributions, this study is subject to limitations, particularly the modest explanatory power of the model. Future research is encouraged to incorporate additional variables to provide a more comprehensive understanding of career self-efficacy development in the digital context.

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