

SYSTEMATIC LITERATURE REVIEW ARTICLE Digital Literacy and Personal Branding in Higher Education A Systematic Literature Review of Self-Efficacy Mediation and Socio-Cultural Moderation

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Abstract

Background and Purpose: This Systematic Literature Review (SLR) explores the multifaceted and interconnected nature of digital literacy, personal branding, self-efficacy, and socio-cultural elements in higher education environments. Although these constructs are individually a growing focus of scholarly attention, a comprehensive, integrated scholarly review that covers their interrelated function has not been found in the literature. To fill in this deficit, this review brings together research evidence from peer-reviewed publications from the last 25 years (2000-2025) to systematically create an empirical and theoretical coherent explanatory model. **Methodology:** The study was performed following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) protocol, and five main academic databases (Web of Science, Scopus, PSYCINFO, ERIC and Google Scholar) were the sources for a structured search defined by the following set of inclusion and exclusion criteria. There were 187 studies that were eligible and open coded thematically and narratively. **Key Findings:** The review reveals three main components of digital literacy—technical literacy, information literacy and content creation—as having an impact on the effectiveness of personal branding. The theory focuses on social cognitive theory, according to Bandura (1997), where self-efficacy is one of the psychological mediators which made it possible to turn the digital competence into active and sustained branding, is the primary theoretical tool. Socio-cultural factors are analyzed as boundary conditions which enhance or inhibit the relationship between digital literacy and personal branding: the expectations of cultural norms, the role of women in society, collectivism versus individualism orientations, and institutional framework. The Kurdistan Region of Iraq is a context for development education where the digital revolution is growing fast but rooted in deep-rooted socio-cultural norms, and this is given particular attention. The review points out 4 original contributions: (a) a conceptual link between the concepts of digital competence frameworks and personal branding theory; (b) the theorization of self-efficacy as a mediating mechanism in the relationship of digital competence and personal branding; (c) the systematic analysis of the socio-cultural factors as formal moderators; and (d) the proposal of an integrated moderated mediation framework for conducting future empirical research in non-western educational contexts. **Keywords:** digital literacy, personal branding, self-efficacy, socio-cultural factors, higher education, Kurdistan Region, Social Cognitive Theory, systematic review, moderated mediation

1. Introduction

Digital technologies are becoming more powerful and widespread, and have significantly altered social, educational, and professional contexts, as they have come to influence the way people communicate, learn, and create their identities. The digital realm has become a hub for interaction, careers and professional networking, and digital engagement is a must have skill, not just a desired one (Castells, 2015; van Dijck, Poell, & de Waal, 2018). With the proliferation of work and other professional activities in online spaces, people are assessed based on their digital presence, reputation and their capacity for communicating value through digital channels (Gibson, 2022; Jarrahi et al., 2024).

In this context, the concept of personal branding has become an increasingly important strategic career activity. Personal branding is the deliberate and consistent effort that an individual engages in to establish, promote and maintain a unique professional image to create value and distinction in a competitive world (Montoya & Vandehey, 2009; Khedher, 2019). In a digital world, however, personal branding is performed through online self-presentation, networking and content sharing, as well as reputation management within various platforms – social and professional (Labrecque, Markos & Milne, 2011; Shepherd, 2020). In recent years, the concept of personal branding has shifted from simply self-promotion to credibility building, authenticity and consistency, and long-term identity management (Gorbatov, Khapova, & Lysova, 2018; Szanto, Papp-Vary, & Radacsi, 2025). Digital literacy is the technical and cognitive basis for which someone can engage in a digital environment, but evidence indicates that digital skills are not sufficient to ensure positive personal branding outcomes. Others may have some level of functional digital competence but lack consistency, passivity, or lack of willingness to engage in their profession digitally (Duffy & Hund, 2019; Marwick, 2023). This disconnect suggests that psychological factors are in play that influence the relationship between digital literacy to actions of active identity construction and branding. Of these, self-efficacy, based on the Social Cognitive Theory of Bandura (1997), has been recognized as one that is particularly important, affecting a person's beliefs about their ability to use technologies, to create digital 'products' and to self-manage the feedback they receive from the public. Moreover, the impact of both digital literacy and self-efficacy on the outcomes of personal branding is not culturally neutral. Socio-cultural factors such as norms of self-presentation, gender roles, collectivistic values, and self-promotion attitudes influence professional visibility online, as people view and practice it (Helsper & van Deursen, 2022; Zarkada & Polydrou, 2024). The Kurdistan Region of Iraq is especially notable for its contextual forces as HEIs rapidly get digitalized in the presence of prevailing cultural norms of reputation, modesty and professional hierarchy (Ahmed, 2025; Albadri et al., 2025). Though there is an increasing interest in scholars of these constructs, work on them is fragmented. Numerous digital literacy studies focus on educational achievement or technology adoption outcome and personal branding research either focuses on a marketing or employability perspective, without any consideration of underlying psychological processes. Research on the integrated and personal relationship between digital literacy, self-efficacy, and personal branding is scant, especially in non-Western and underdeveloped contexts. This systematic literature review (SLR) responds to these limitations by:

Integrating studies regarding the link of the dimensions of digital literacy and the outcomes of personal branding;

Conceptualizing self-efficacy as a mediating variable for a link between digital literacy and personal branding; and

Analysing socio-cultural factors in a systematic way as moderators of the boundary condition.

Suggesting an integrated framework of mediated moderation for HE institutions in the Kurdistan Region and elsewhere.

The review is presented as follows. The methodology is described in section 2. In section 3, the conceptual foundations for all the key variables are presented. The theoretical framework is discussed in Section 4. Sections 5 - 8 summarize the evidence for each construct and the inter-relationships between the constructs. The Kurdistan Region context is discussed in Section 9. Research gaps are identified in Section 10. Section 11 suggests the conceptual framework while Section 12 suggests conclusions and future research directions.

2. Methodology: Systematic Review Protocol

2.1 Design and Protocol

This review is conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) guidelines (Moher et al., 2009; Page et al., 2021) which was established to provide readers with an overview of the the process used to identify and screen literature, to assess whether the literature met the inclusion criteria, and to determine the inclusion of literature. A systematic search was chosen over a narrative search approach as the process is less likely to be biased by the structured search and pre-specified selection criteria and because it will provide a wider search of relevant documents (Tranfield, Denyer, & Smart, 2003).

2.2 Search Strategy and Databases

Five major databases—Web of Science, Scopus, PsycINFO, ERIC, and Google Scholar—were used to conduct a structured keyword search. The search was made in the date range of 2000–2025, from January to March 2025. The search string used a combination of boolean operators to get all the possible combinations of the key

constructs:("digital literacy" OR "digital competence" OR "digital skills") AND ("personal branding" OR "professional identity" OR "online self-presentation") AND ("self-efficacy" OR "digital self-efficacy" OR "computer self-efficacy") AND ("socio-cultural" OR "cultural factors" OR "cultural norms" OR "collectivism") Other search terms were applied to the Kurdistan Region context which included "Iraq digital education," "Kurdistan higher education," and "Middle East digital literacy". Hand searching of reference lists of studies included was conducted to find further eligible studies.

2.3 Inclusion and Exclusion Criteria

Criterion	Inclusion	Exclusion
Publication type	Peer-reviewed journal articles, book chapters, conference proceedings	Grey literature, unpublished theses, editorials
Language	English, Arabic, Kurdish (with translation)	Other languages without available translation
Date range	2000–2025 (pre-2020 seminal works included)	Studies before 2000 with no foundational relevance
Focus	Digital literacy, personal branding, self-efficacy, socio-cultural factors	Studies on unrelated constructs without overlap
Context	Education, professional, organizational settings	Exclusively clinical or medical contexts
Methodology	Quantitative, qualitative, and mixed methods empirical studies; theoretical/conceptual papers	Opinion pieces, non-empirical commentaries without theoretical grounding

2.4 Selection and Quality Assessment

A preliminary search came back with 3847 hits. Clearly irrelevant records (n = 2,614) were excluded after title/abstract screening following the removal of duplicates. We excluded 305 additional studies after a full-text assessment of the remaining 492 records. Finally, 187 studies were selected. Quality assessment used Mixed Methods Appraisal Tool (MMAT; Hong et al., 2018) to evaluate the methodological quality of studies; studies with at least 60% of the criteria were included. A thematic synthesis approach (Thomas and Harden, 2008) was used to structure and make sense of results amongst studies.

3. Theoretical Framework: Social Cognitive Theory

Theoretically, this review uses a social cognitive theory (SCT) developed by Bandura in 1986, and later extensively discussed throughout his 1997 monograph on self-efficacy. SCT offers an overall perspective of personal behavior acquisition and maintenance in social settings such that personal cognition, behavior and social environment interact and influence each other in a bidirectionality manner (Bandura, 1997; Schunk & DiBenedetto, 2020). For three reasons, SCT is an ideal platform for the present review. Firstly, it is a concept of behavioral capability, which is a set of skills and knowledge needed for effective action as a precondition for behavioral enactment; if there is no confidence in their capability, then their skills remain dormant. This directly relates to the argument of the study that a digital literate behaviour has to be supported by a sense of capability (self-efficacy) to become a digital literate personal brand behaviour. Secondly, SCT's concept of observational learning describes how individuals gain digital and branding skills from observing others, peers, mentors, and digital role models, which is a key aspect of understanding social learning in a digital context. Lastly, SCT does explicitly acknowledge that one's environment and socio-cultural context are factors that shape and influence behavior, thus allowing socio-cultural factors to be treated as moderators of the competence-confidence-behaviour chain. The use of SCT in digital environments has been well validated. Computer self-efficacy was introduced by Compeau and Higgins (1995), which later was expanded to include digital self-efficacy, online communication efficacy, and content creation self-efficacy, respectively by Eastin & LaRose (2000), Tams, Thatcher & Craig (2018), and Howard et al. (2024). An extension of SCT developed by Lent, Brown, and Hackett

(1994) has adapted the principles of SCT and applied them to career development, in which the self-efficacy serves as a mediator between capabilities and career intentions, very similar to the mediation model used in the current study.

4. Digital Literacy: Conceptual Evolution, Frameworks, and Dimensions

4.1 Conceptual Evolution

Concepts of digital literacy have changed dramatically since it was first introduced in the 1980s. It was popularized by Paul Gilster (1997) and is defined as 'the understanding and effective use of information in a variety of forms from a broad spectrum of information sources in Computer(s).' This original term has since grown significantly, from describing an ability to operate a computer to being a multi-dimensional competency that involves critical thinking, communication, collaboration, content creation/construction, ethical understanding, and problem-solving in digital environments (Sparks & Honey, 2023; Siddiq et al., 2023). Martin (2006) broadened this conception to include digital literacy as 'The awareness, attitude, and ability of people to use digital tools to identify, access, manage, integrate, evaluate, analyze, and synthesize digital resources; create new knowledge; create media expressions; and communicate. This definition highlights technical competence but also cognitive processes, dimensions of attitude, and ethical alignment, thereby revealing the multidimensionality of digital literacy that is described in different ways by digital literacy frameworks today. Bawden (2008) also separated digital literacy from previous notions of computer literacy and information literacy because it draws on more than computer skills; it requires critical reasoning and socio-emotional skills for critical creation, evaluation, and communication in a digital era. These views have been combined into a three-part definition by Ng (2012) – the technical, the cognitive, and the social-emotional – and widely used in empirical studies and educational assessment regimes.

4.2 Contemporary Frameworks

Currently the most widely used modern framework is the Digital Competence Framework for Citizens (DigComp), in its latest version 2.2 (Vuorikari, Kluzer, & Punie, 2022). The five competence areas that make up DigComp 2.2 are: (1) Information and data literacy, (2) Communication and collaboration, (3) Digital content creation, (4) Safety, and (5) Problem-solving. Each area has particular competences that vary in levels of proficiency from basic to advanced. The structured approach and the definitions of the digital competence's levels of DigComp 2.2 have been embraced by policy makers and researchers in more than 40 countries as the framework for defining, measuring and building digital competence in the education and labor market contexts. An alternative empirically based framework is presented in the Internet Skills Scale (ISS) developed by Van Deursen and van Dijk (2010), which proposed four useful skills: operational, formal, information, and strategic, and recently was extended with communication and content creation skills. Helsper & van Deursen (2022) state that the strategic skills that cover how we use digital tools to accomplish professional and personal objectives are the top level of digital competence, and they are the most directly related competencies when it comes to personal branding outcomes. According to the Digital Literacy Global Framework (2018) by UNESCO, there are seven domains that are outlined: Domains of Digital Literacy are fundamental knowledge of hardware and software, Information and data literacy, communication and collaboration, digital content creation, safety, problem-solving and career related competences. The emphasis on career-related competences is especially important for the current Review, as it explicitly links digital competency with aspects of professional identity and outcomes with regard to employment.

4.3 Technical Literacy

Technical literacy is the most basic aspect of digital literacy, which includes skills needed to effectively use digital tools and technologies. According to Dedebeali (2020), the technical dimension refers to the skills in using digital instruments, linking devices and interacting with online platforms. Computer literacy is defined by Chetty et al. (as cited in Zilian et al., 2020) as 'the ability to use hardware and software' and technological literacy as 'the ability to use, invent or evaluate different tools for life situations'. Technical skills are crucial when it comes to personal branding for website navigation, maintaining visibility and privacy, and using digital tools. Research also shows that a person's technical competence directly relates to their ability to use more advanced features of platforms to appear professional online, to configure a platform for optimal privacy, and to troubleshoot digital problems that can otherwise be barriers to digital engagement (van Laar et al., 2020). Digital autonomy also has been linked with technical literacy, which is related to a more innovative work behavior and better professional performance (Chong et al., 2024). Importantly, research has consistently shown that technical skills are not enough to be able to do digital engagement successfully. Iskandar et al. (2022) state that 'technical skills are successfully thriving

in the digital literacy of students if the Mental and Emotional-Sociocultural dimensions are equally used in harmonious synergies.'. This highlights the importance of the technical aspect of literacy alongside the cognitive and psychological aspects.

4.4 Information Literacy

Information literacy is the cognitive aspect of DL, the ability to interact with the vast array of information that is available on the Internet. In the context of the five elements of digital literacy (Zilian et al., 2020), Chetty et al. define information literacy as: "the ability to access, evaluate and create digital content." According to the European Digital Competence Framework (DigComp 2.2): 'Information and data literacy' is defined as 'Ability to identify, locate, retrieve, store, organise, and analyse digital information' and 'Judgement of relevance and purpose of information and data' (Vuorikari et al., 2022; Wild et al., 2020). There are several ways that information literacy is a part of personal branding. The most direct benefits of strong information literacy skills are that those in possession can be successfully able to find and critically assess information that is relevant to their own professional field, identify gaps in their knowledge and put themselves into some informational niches. According to Chubukova et al. (2019), the information culture has an absolute interconnection and has a significant effect on the formation of a personal brand: information literacy is a condition and feature that affects personal brand formation and professional qualities of the individual. Social media literacy is a domain-specific aspect of information literacy, and has been recognized as a key ingredient in successful personal brand management (Kawano et al., 2013). The ability to analyze and integrate information from social media platforms and to utilize information in a strategic manner allows people to develop highly credible, evidence-based content that can bolster their perceived expertise and trustworthiness. In recent times, research has validated that media literacy is one of the major factors that impact on the effectiveness of personal branding on Instagram platforms, especially among the generation Z user base (Audrew et al. 2024).

4.5 Content Creation

Content creation literacy is the most visible behavioral aspect of digital literacy, which deals with the ways in which one creates, manipulates, and innovates with digital content. It is the creation and editing of new content from word processing to images and video from creative expression to media output, programming skills to understanding of intellectual property rights, which are explicitly set out as one of the five core competence areas in the European Digital Competence Framework (Vuorikari et al., 2022; Wild et al., 2020). Content creation is likely the most direct and direct impactful aspect of the digital literacy dimension when it comes to brand building. According to Gorbatoev et al. (2018), the key to a successful personal brand is being able to 'discover competitive differentiation points and creatively transform them into compelling stories and images. For the individual, the creation of content is the main means by which he or she is establishing and articulating his or her own personal brand identity, and making this internal competency manifest in the form of articles, videos, portfolio, or posts on social media platforms, which audiences read and view (Labrecque et al., 2011; Shepherd, 2020). Content creation and personal branding are strongly connected, as good content creates credibility, visibility, and boosts personal brand, and good personal brand creates credibility, visibility and enhances the reach and impact of content that is created afterward (Wroblewski et al., 2020). The research shows that building a personal brand by users of any social media has a positive impact on personal brand awareness/associations and perception of brand quality (Wroblewski et al., 2020). In the current view of digital literacy, the person has to become a 'dual-role' agent, both as a 'consumer' and a 'creator' of digital content, and especially the latter aspect is important for a person to be able to develop their career in a knowledge-based economy (Kurniawati et al., 2024).

5. Personal Branding: Concept, Evolution, and Digital Transformation

5.1 Definitional Landscape

The term 'personal brand' was first formally used in academic literature by Professor Tom Peters in an article in the prestigious Harvard Business Review (HBR) called The Brand Called You (1997), which suggests that in the current business world the individual has to take strategic control of his/her professional image in the same way that an organization acts to brand a corporate business. Since this seminal work, personal branding has become a significant research field that draws on a range of disciplines including the fields of Markets, Communications, Psychology, Human Resources, and Career Development. Personal Branding, as defined by Montoya and Vandehey (2009), is the deliberate and continuous establishment and promotion of a unique value proposition and image for oneself to the audiences that matter. Building on this definition, Khedher (2019) adds the concepts of 'strategic identity signaling, credibility building, visibility management and reputation development, sometimes in digitally mediated space'. The best conceptualization that reflects the general trend is given by

Gorbatov et al. (2018), who define personal branding as 'the process of consciously shaping perceptions about oneself and one's career and building and sustaining a consistent image that sets oneself apart from others in one's career'. Recent studies by Szanto et al. (2025) have expanded the theory with the development of structured models for managing and measuring personal brand equity, emphasizing personal aspects such as visibility, differentiation, consistency, trust and perceived expertise. This more dimensioned definition of personal branding offers a basis for operating beyond the previous, more marketing metaphor based personal brand definitions.

5.2 Personal Branding in Digital Environments

Personal branding has been revolutionized by the rise of digital platforms, changing how and who can create a brand and its reach. Digital platforms are the main avenues through which individuals enact their personal brands, reaching audiences worldwide to display credentials, achievements and develop a reputation through continual online interaction (Labrecque et al., 2011). In higher education and knowledge industries, social networks like LinkedIn, Research Gate and Academia.edu have become the regular professional branding fields (Rammile, 2025; Weisi, 2025). But with the transition to digital personal branding come different challenges. People have to manage algorithmic discoverability, privacy-visibility calculated, consistency throughout various platforms, and ethical tensions between expressing their own selves and promoting their selves (Smith, 2023; Marwick & Boyd, 2021). Digital personal branding, in addition to technical skills, demands metacognitive, creative and critical skills (Gorbatov et al., 2018; Lorgnier as cited in Gorbatov et al., 2018). As Scolere et al. (2018) show, digital personal branders need to create "platform-specific self-branding" strategies, constantly reshaping their self-presentation to meet the demands and expectations of different users and the affordances of various platforms.

5.3 Academic and Educational Personal Branding

In the field of higher education, personal branding has become a growing focus, especially as students and alumni navigate competitive job markets where digital presence and identity become crucial competitive edges (Rammile, 2025). Personal branding is becoming more and more recognised as a competency that graduates are expected to have to build when entering the workplace and is now considered a graduate employability competency by universities, who are increasingly encouraging students to develop their personal digital portfolio, professional profile and networking activities on platforms beyond academia and work (OECD, 2023; UNESCO, 2024). For academic staff, personal brand is about research visibility, research citation, participation in conferences, and institutional representation, therefore, for them, digital literacy is a must and not an option to complement.

6. Self-Efficacy: Theory, Dimensionality, and Mediating Function

6.1 Theoretical Foundations

Self-efficacy is defined in terms of Bandura's (1997) concept as 'people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances'. In SCT, personal and environmental factors (such as skills acquisition and modeling) impact self-efficacy, which in turn influences the choices of behaviors people make to pursue, effort put in and duration for which they persevere in the event of obstacles. Bandura (1997) suggests that there are four major sources of developing self-efficacy beliefs: mastery experiences (direct performance accomplishments, with the strongest source of self-efficacy), vicarious experiences (observations of others successfully mastering similar tasks), verbal persuasion (encouragement and feedback from credible sources), and physiological experiences (emotional and physical responses to challenges). These sources are all relevant to the development of digital self-efficacy: success in digital activities (mastery), observation of others navigating digital environments (vicarious), verbal reinforcement in relation to digital outcomes (verbal persuasion) and physiological (may be anxiety or confidence) responses to digital engagement.

6.2 Digital Self-Efficacy

Bandura's general self-efficacy was extended to digital contexts with the development of computer self-efficacy by Compeau and Higgins (1995) to represent an individual's confidence that they can use computing technology to complete a task. Citing this work, Eastin and LaRose (2000) created an adapted version of self-efficacy for the Internet, finding that online self-efficacy predicted a variety of online behaviors, such as information seeking, online communications, and digital content engagement. There are positive correlations between the concepts of digital literacy and self-efficacy in digital skills in educational (Prior et al., 2016; Falloon, 2020), professional (Tams et al., 2018), and career development settings (Howard et al., 2024). There is increasing evidence for the correlation between digital competence and self-efficacy since 2020. Gonzalez-Prida et al. (2024) discovered that digital competence is a significantly predictive indicator of academic self-efficacy among university students and Javier-Aliaga et al. (2024) noted that in the specific context of university students, it was found that digital

competence was positively correlated with academic self-efficacy in various student samples. Sari et al. (2024) support this view as they found that 'digital literacy has a positive relationship with digital self-efficacy' since, 'people with high digital literacy skills tend to have high digital self-efficacy as they learn about navigating the digital environment competently'.

6.3 Self-Efficacy as a Mediator in the Digital Literacy-Personal Branding Relationship

A theorization of self-efficacy as a mediating mechanism between digital literacy and personal branding is based on suitable SCT principles and empirical evidence from adjacent domains. The mediation logic is explained through three stages: digital literacy creates a sense of competence and control of the digital world, which further results in a greater willingness and motivation to embrace challenging, observable and assessable online activities, which then becomes the manifestation of individual personal branding. There are several research strands that provide empirical support for this mediation pathway. For entrepreneurship education, Mulyono et al. (2023) conclude that 'self-efficacy has a positive and significant effect to mediate the relationship between digital literacy with entrepreneurial intention', which gives the same sense to be concluded for the proposed mediation in branding. Gorbatov et al. (2019) show career self-efficacy to have a positive correlation with personal branding behaviors ($\gamma = .30, p < .001$), which underlines how self-efficacy could be a motivator for personal branding "engagement". Srivastava et al. (2023) also find that 'increased self-efficacy inspires people to use technology with confidence and improve in their careers and personal development. Widowati et al. (2023) confirm that digital literacy affects self-efficacy in educational contexts indirectly through engagement as a mediator, resulting in a complex relationship between digital literacy and self-efficacy, with digital literacy boosting engagement and engagement leading to an increase in self-efficacy. A series of three-step 'digital competence-efficacy beliefs-behaviours' transformation mechanism is documented in Zhou et al. (2025): First, digital competencies exert a positive effect on self-efficacy beliefs, and then, self-efficacy beliefs exert an effect on better behavioural outcomes, which is the mediation pathway proposed in the present framework.

7. Socio-Cultural Factors: Theoretical Basis, Dimensionality and Moderating Role

7.1 Conceptual Basis

Socio-cultural factors refer to the set of cultural norms and values, social structures, institutional frameworks and demographic features that make up the social context in which behaviours are expressed. In SCT's triadic reciprocal determinism, personal factors, such as socio-cultural elements, and environmental factors, such as personal behaviors and patterns, play a crucial role that is dynamically influenced by the other factors (Bandura, 1997; Ying et al., 2024). Hofstede's (2001) conceptual framework of cultural dimensions is the most broadly applied to operationalise socio-cultural aspects in the research on digital behaviour and professional practices. The five dimensions developed by Hofstede (masculinity/femininity, uncertainty avoidance, power distance, individualism/collectivism, long-term orientation) have been broadly used to describe the cultural differences in adapting to technology (Straub, Keil, & Brennan, 1997), online communication (Zarkada & Polydorou, 2024), and constructing a professional identity in culture (Gorbatov & Khapova, 2020).

7.2 Key Socio-Cultural Dimensions Relevant to Digital Branding

There are several socio-cultural dimensions that are of special significance to the digital literacy-personal branding relationship. Firstly, individualism-collectivism orientation influences attitudes towards self-promotion and publicity. Collectivist cultures also may hinder persons engaging in personal branding when they have good digital skills and self-efficacy because self-promotion is recognized as socially inappropriate or even immodest (Gorbatov & Khapova, 2020; Triandis, 2018). The study results of the researchers across the culture is consistent, that is, the 'individualistic culture affects the self promotion while the collectivist culture has an indirect impact on the reputation building through social confirmation' (Zhu & Chen, 2023; Al Ariss et al., 2022). Second, there is a key socio-cultural moderator – gender role expectations. Even with high digital competences, women can encounter greater challenges than men to promote their presence and assert themselves in public spaces in contexts where certain norms limit women's visibility or assertiveness in professional life (Helsper & van Deursen, 2022). In Middle Eastern and developing countries contexts, research evidenced gender-specific usage and self-presentation of digital platforms, where some women may face an extra-set of cultural barriers when making themselves visible online (Ahmed, 2025; Albadri et al., 2025). Third, meso-entities such as institutional/organizational conditions, e.g., university policies on digital engagement, access to engagement platforms and infrastructure, and organizational cultures on online self-presentation are important socio-cultural "moderators". Gorbatov et al. (2018) state that 'cultural and social capitals predicate the required effort and the effectiveness of the personal branding process', highlighting that the institutional support systems can be seen as

a mediator between the individual's digital skills and the results of the personal brand creation process. Fourth, the issue of generational differences is a sociocultural moderator that has been gaining in attention. Generation Z individuals 'grow and develop amidst advances in digital technology, which gives them an advantage in terms of speed of adaptation and use of technology compared to previous generations' (Rahayu et al., 2024). This digital generation represents uneven "baseline" conditions for the use of digital literacy in the expression of branding behaviours.

7.3 Socio-Cultural Factors as Formal Moderators

In a moderating way, the relationships between digital literacy and self-efficacy, as well as between self-efficacy and personal branding, are affected by socio-cultural factors. In settings where there is cultural, personal, and institutional support for practicing self-expression and self-efficacy, and where there is an institutional desire for personal achievement through branding, the positive outcomes of self-efficacy on personal branding are likely to be greater: When personal behaviors are supported and encouraged by the culture, individuals may be more likely to feel culturally empowered to demonstrate more visible practices of personal branding. However, for the high-efficacy person in socio-culturally-restrictive environments, lowering the confidence-to-behaviour pathway (Hofstede, 2001; Zarkada & Polydorou, 2024) may be the tendency as they opt to regulate their online presence in line with cultural norms and expectations. The moderation logic is based on SCT's assumption that the triadic reciprocal relationship of personal, behavior and environmental factors does not happen in every context. Socio-cultural factors are those that frame the translation of personal competencies and beliefs into socio-cultural behaviours (personal branding). This moderating function is explicitly modeled in the Social Cognitive Career Theory by Lent et al. (1994) which places contextual factors as a moderator between the interest to goal and goal to action transitions in career oriented behaviors.

8. Synthesized Evidence on Inter-Variable Relationships

8.1 Digital Literacy and Personal Branding

Theoretically anticipated and empirically supported relationship between the digital literacy and personal branding. People with higher levels of digital competence are more likely to create a coherent professional story (Szanto et al., 2025; Weisi, 2025) to interact strategically with professional networks and maintain digital visibility. Nanayakkara et al. (2020) agree that 'personal branding in digital environments requires specific technological skills and platform-specific knowledge, which is part of digital literacy. Based on Rahayu et al. (2024), digital skills in terms of presenting, writing, and producing content significantly affect the effectiveness of personal brand. The personal-branding dimension-specific contributions of digital literacy are as follows. To navigate the platform, use the features and master digital tools, all other branding should start with technical literacy. Information literacy allows content positioning, content curation, and communication using evidence. Content creation literacy helps the creation of brand artefacts – the tangible products through which personal identity is manifested and differentiated. These three dimensions combine to form the functional digital substrate on which personal branding practices are developed (Gorbatov et al., 2018; van Laar et al., 2020; Vuorikari et al., 2022).

8.2 Self-Efficacy Mediating Digital Literacy and Personal Branding

Since the relationship between digital literacy and personal branding is theoretically intriguing, it also has more and more empirical support from the mediating role of self-efficacy. The basic mechanism is by Bandura's (1997) pathway involving mastery experience: as people gain digital literacy as a result of their skill development and learning, they acquire mastery experiences of successfully completing digital tasks that reinforce their self-efficacy beliefs. These beliefs of enhanced efficacy, in turn, drive constant, pro-active involvement in challenging online behaviours such as creating content, engaging in networks, presenting oneself online, and so on, which are what make up personal branding. Mediation is additionally supported by the action of vicarious learning: seeing digitally competent peers confidently develop their own brands as a source of informational (digital skill modeling) and efficacy-relevant (confidence-boosting) inputs, thereby showing the co-development of digital skill building and self-efficacy through social observation. Thus a partially mediated structure emerges; the role of digital literacy is a functional enabler of personal branding, and the psychological boost it affords to individuals' capacities in branding activities.

8.3 Socio-Cultural Factors Moderating the Relationships

There are several research streams that have theorised the moderating effects of socio-cultural factors within the digital literacy-self-efficacy and self-efficacy-personal branding pathways. Gorbatov et al. (2018) agree that the effectiveness of the personal branding process depends on 'cultural and social capital' which in turn presuppose the necessary effort. Results of the personal branding investment of digital competency are consequently contextually dependent. Helsper and van Deursen (2022) find

that the socio-cultural context influences not only access to digital but also reasons for and potential opportunities to leverage digital skills for positive outcomes. Zarkada and Polydorou (2024) report on differences in brandings in relation to cultural contexts and find that cultural norms influence the ways digital competencies are applied in the construction of a professional identity. In particular, Sariyatun et al. (2025) examine the interaction between social support, digital literacy, and self-efficacy, finding complex three-way interactions to condition the competence-confidence-behavior chain, as a result of which students had varying degrees of preparedness for implementation. In particular, Sariyatun et al. (2025) analyze the relationship between digital literacy, metacognition, and self-efficacy and reveal complex three-way interactions that condition the competence-confidence-behavior chain, as a result of which students are in varying degrees of preparedness for implementation. The results of this study together provide a theoretically and empirically substantiated list of socio-cultural moderators of the integrated digital literacy-self-efficacy-personal branding model.

9. Kurdistan Region of Iraq: An Underrepresented Educational Context

The Kurdistan Region of Iraq (KRI) is an important context to explore the relationship between digital literacy, self-efficacy and personal branding. In the last two decades the number of universities in the KRI has grown significantly in Erbil, Sulaymaniyah, Duhok and Halabja provinces (Albadri et al., 2025). At the same time, digital infrastructure has been enhanced and Internet connectivity has increased, providing new grounds for digital interaction and professional identity development (Ahmed, 2025). Notwithstanding these developments, empirical studies have repeatedly reported the moderate level of digital literacy in the KRI and great differences in the confidence and capacity to strategically use digital platforms among students and educators (Ahmed, 2025; Albadri et al., 2025). The research indicates that low-level operational digital skills are relatively common across the student and academic staff population, but the higher order skills of creating content and using information strategically, as well as professional networking skills are less well developed amongst significant numbers of students and lecturers. The socio-cultural context of KRI has a number of features that, from a theoretical perspective, are relevant to the digital literacy–personal branding relationship. Digital competency and confidence may not be enough to spur public self-promotion due to strong cultural norms of reputation and modesty. The issues and barriers facing women academics and students while creating online professional profile may vary due to the gendered expectations about appearing visible and being assertive in academic career. Some universities may restrict or dissuade the use of social media platforms for faculty professional branding because of institutional conservatism. On the other hand, the sharp rise in competition for graduate jobs and the awareness of digital platforms for job opportunities are bringing a compelling message to build personal brands (Qadir, 2025; Rammile, 2025). This tension comes into focus in emerging regional research. According to Qadir (2025), self-promotion is becoming an emerging awareness and concern for Kurdish graduates, but there are also some cultural perceptions of self-promotion that have hindered the engagement of graduates in the process. In line with Ahmed (2025), the digital competency level of EFL teachers in the KRI is moderate, thus the importance of digital competency development that considers both technical and psychological aspects to implement digital technology professionally. These contextual factors would strongly motivate development of an integrated moderated mediation model that would encompass psychological and socio-cultural boundary conditions.

10. Critical Research Gaps

The six gaps identified in the systematic review are all relevant to one another and warrant the integrated research framework proposed:

Gap 1. Digital Literacy as a Predictor of Identity Based Outcomes.

The vast majority of post-2020 studies have conceptualised digital literacy as a predictor of academic outcomes, digital technology adoption, engagement with online learning or employability skills rather than as outcomes of digital literacy related to identity (Siddiq et al., 2023; OECD, 2023; Vuorikari et al., 2022). There has been a lack of attention to digital literacy as it relates to establishing personal branding as a purposeful and intentional professional identity goal. This is a conceptual push missing the link between the digital competence frameworks and identity-based outcomes, in contrast to functional/performance measures.

Gap 2: Absence of Robust Empirical Models Linking Digital Competence and Personal Branding

Although personal branding is receiving significant attention from researcher interest since 2020, the majority from the recent studies are theoretical, conceptual, or descriptive (Gorbatov and Khapova, 2020; Szanto et al., 2025). Existing empirical studies on personal branding commonly have a focus on personal branding as a direct effect of social media usage or employability orientation with digital competence frameworks as independent explanatory variables not explicitly included. As such, research evidence is limited in explaining how and why

digital skills lead to personal brand outcomes. Gap 3: Underexplored Mediating Role of Self-Efficacy in Branding Contexts The role of self-efficacy has mainly been explored as a direct predictor of learning outcomes, technology acceptance, or online engagement since 2020, as seen in digital and educational research (Schunk & DiBenedetto, 2020; Gonzalez-Prida et al., 2024). There are few studies that conceive of self-efficacy as a mediating mechanism that explains how digital literacy relates to the practice of more complex professional behaviors, like personal branding. First, in spite of the apparent theoretical support from Social Cognitive Theory, there is insufficient research to date that has examined digital literacy's mediating role between personal branding and self-efficacy. Gap 4: Inadequate Treatment of Socio-Cultural Factors as Formal Moderators Inclusion of socio-cultural factors in the formal role of 'moderator' in shaping digital behaviour and outcome of personal brand is largely overlooked by post-2020 research. Although recent studies recognize the role of culture for the representation in online media and digital participation, socio-cultural factors are usually not tested as part of an explanatory model but rather are simply established as background context (Helsper & van Deursen, 2022; Zarkada & Polydorou, 2024). Thus, it is empirically unclear under which socio-cultural conditions digital competency in terms of digital literacy and digital self-efficacy are effective in terms of facilitating personal branding. Gap 5: Absence of Integrated Moderated Mediation Models From a methodological point of view, quantitative analyses, which are simple direct-effect models, as well as qualitative approaches and descriptive statistics, are the most used research methods in most studies that were evaluated after 2020. The integrated mediation and moderation models, especially the models based on structural equation modelling (SEM) or partial least squares SEM are mostly lacking that account for the simultaneous complexity of connections and conditions. The lack of a methodological approach limits the possibilities of prior studies to account for the mediation as well as the moderation of digital literacy to personal branding. Gap 6: Underrepresentation of Non-Western and Developing Region Contexts Most of the empirical research literature in the domain of digital literacy, self-efficacy and personal branding after 2020 have been carried out in developed or high-income nations, but there is a scarcity of research and literature from developing and transitional countries (Ahmed, 2025; Albadri, et al., 2025). However, despite the proliferation of digitalization, educational change, and demand for graduates to establish a professional presence in competitive job markets, it is difficult to find empirical research in the context of the KRi as part of the Kurdistan Region of Iraq. Considering the potential for region-specific socio-cultural norms to affect the digital literacy-personal branding link, this process is especially vital when evaluating and testing theoretical models.

Table 2: Summary of identified gaps and proposed solutions in the integrated framework.

Research Gap	Nature of Gap	Proposed Response
1. Identity-based outcomes	Conceptual: DL not linked to personal branding	Explicitly model DL -> PB as primary relationship
2. Empirical DL-PB models	Empirical: Few explanatory models tested	Test multi-dimensional DL as predictor of PB using SEM
3. SE as mediator in branding	Process-level: SE not examined as mediator	Theorize and test SE as mediating mechanism
4. SCF as formal moderator	Contextual: SCF treated as background	Include SCF as formal moderator in structural model
5. Moderated mediation models	Methodological: Integrated models absent	Employ PLS-SEM with moderated mediation testing
6. Non-Western contexts	Contextual: Evidence from Western settings	Focus on Kurdistan Region as underrepresented context

11. Proposed Integrated Conceptual Framework

11.1 Framework Overview

In light of the accumulated literature in this paper a conceptual framework on how digital literacy and personal branding among higher education personnel in the Kurdistan Region is explained in an integrated mediation

moderated conceptual model is proposed. The framework was built on the basis of Social Cognitive Theory (Bandura, 1997), the DigComp 2.2 digital competence framework (Vuorikari et al., 2022), and the theory of personal branding (Khedher, 2019; Gorbato et al., 2018) and is based on four constructs, which were incorporated into a coherent explanatory model.

The framework makes digital literacy, which is defined by three aspects (technical literacy, information literacy and content creation), the independent variable. Personal brand is the variable that is dependent. Theorised as a mediating mechanism, self-efficacy is proposed to help channel digital literacy to personal branding. Theories suggest that socio-cultural factors will moderate the direct link between digital literacy and personal branding, as well as the indirect link between digital literacy and self-efficacy and personal branding. This makes the link between digital literacy and personal branding a moderated mediation relationship.

11.2 Direct Pathways

Three linear paths between digital literacy dimensions and personal branding are suggested. Technical literacy is essential for personal branding in several ways, as it equips individuals with the skills necessary to operate platforms, maintain digital profiles, and utilise technological tools to enhance their professional presence. Technical literacy directly supports personal branding by equipping individuals with the technical skills needed to navigate platforms, manage digital profiles, and leverage technological features for professional visibility. Second, information literacy is a key element when it comes to personal branding as it can help to curate content in a strategic manner, build credibility, and position oneself within professional fields around knowledge. Third, content creation and creation itself is personal branding, as it is the process of creating the digital artifacts (articles, videos, professional posts) that represent and communicate professional identity.

11.3 Mediated Pathways

Three mediated pathways on the influence of emotional awareness on self-efficacy are suggested. The relationship between each of the digital literacy dimensions and personal branding is two-way—functional enabling role and psychological enabling role (self-efficacy). When users gain technical skills, information handling skills, and content creation skills, they gain mastery experiences, which solidify their beliefs in their capacity to interact effectively in the digital profession. That higher self-efficacy then inspires and maintains the proactive, persistent and strategic branding practices which are fruitful in personal branding.

11.4 Moderated Pathways

A moderated mediation is proposed, in which both the direct digital literacy-personal branding relationships and the mediated relationships by way of digital self-efficacy are moderated by socio-cultural factors. The hydroponics of a supportive socio-cultural context—that is, the norms that emphasize the importance of being visible digitally, the institutional policies that support online professional engagement, and the gender norms that do not restrict self-promotion—increase the positive impact of digital literacy on self-efficacy, and provide an easier route to the confidence-to-branding behavioral pathway. On the other hand, in a socio-culturally restrictive context both are weakened: ideology and norms that discourage digital self-promotion, lack of institutionalization that diminishes the opportunity for digital engagement, and gender inequities that restrict professional identity expression online.

11.5 Derived Hypotheses

The suggested plan yields 10 testable hypotheses for empirical research:

Hypothesis	Prediction
H1	Content creation has a significant positive relationship with personal branding
H2	Technical literacy has a significant positive relationship with personal branding
H3	Information literacy has a significant positive relationship with personal branding
H4	Self-efficacy mediates the relationship between content creation and personal branding
H5	Self-efficacy mediates the relationship between technical literacy and personal branding
H6	Self-efficacy mediates the relationship between information literacy and personal branding

Hypothesis	Prediction
H7	Self-efficacy mediates the overall relationship between digital literacy and personal branding
H8	Socio-cultural factors moderate the content creation-personal branding relationship
H9	Socio-cultural factors moderate the technical literacy-personal branding relationship
H10	Socio-cultural factors moderate the information literacy-personal branding relationship

12. Conclusions and Future Research Directions

12.1 Theoretical Contributions

This systematic literature review has four general theoretical contributions. First, it attempts to make a conceptual link between the concept of digital competence frameworks and the theory of personal brand, as digital literacy is not only a means for achieving academic achievement and organizational effectiveness in a digital world, but also serves as a necessary condition for the construction of professional identities in digital environments. Second, it introduces self-efficacy as a central mediating variable between digital literacy and personal branding, and draws on the theory of social cognitive theory in a nontraditional area of study and extends previous research on digital self-efficacy from educational outcomes to a new one related to personal branding. Third, it systematically examines socio-cultural factors that are usually treated as background factors as formal boundary condition moderators theoretically beyond their shadow, as background variables to making them a part of the explanatory model. Fourth, it suggests a mediated approach to resolving disputes, which combines moderated mediation in a way that offers a holistic and context-specific explanation of the transformation of digital competences to professional identity outcomes.

12.2 Practical and Policy Implications

The results of the review have implications for universities, policy makers, and educational practitioners. The results indicate that, for universities in the context of the Kurdistan region and other developing environments, Digital literacy development programs need to address both skill acquisition aspects, but also efficacy-building aspects such as the design of mastery experience, peer modeling, mentoring, and constructive feedback that will help to convert the digital competencies into a sustained professional interaction. The moderating effects of socio-cultural factors suggest that digital literacy programmes need to be culturally responsive, explicitly considering cultural norms in relation to self-promotion, differential visibility in the digital realm and institutional barriers to online professional engagement. This review stresses that while digital infrastructure and access are important, policies must also nurture trust and establish conducive cultural and institutional contexts for strategic use of digital platforms in exchange for building professional identities. The study findings have significant implications for career development professionals and academic advisors who are keen to connect the ideas of personal brand with digital literacy curricula, as they work with students and staff to make digital literacy skills more relevant in their professional visibility and management.

12.3 Limitations

This review recognizes a number of caveats. It is possible that some relevant literature was missed, as the emphasis was placed on English-language literature. The results of the studies included differ in terms of methodological approaches and operationalizations, which make cross-study comparisons difficult to make. Although the proposed conceptual framework is theory-driven, it needs to be tested in Kurdistan Region context. The proposed research to test the hypotheses from this review requires more empirical studies using strong quantitative designs, including PLS-SEM with moderated mediation testing.

12.4 Future Research Directions

This review suggests next steps for research to address the gaps and the proposed framework:

Empirical analysis of the integrated moderated mediation model in the context of the study's development in the Kurdistan Region and in other educational contexts through quantitative survey designs with validated scales.

Longterm studies for analysis of cause-and-effect relationships and changes in personal branding, self-efficacy and digital literacy over time.

Qualitative and mixed-method studies that reveal the complexities of how socio-cultural norms inform individuals' digital branding choices, especially in collectivist and high-context cultural contexts.

Cross-cultural comparative studies that investigate the differences between the digital literacy–self-efficacy–personal branding model in individualist and collectivist societies; and

Gender-disaggregated analyses, which address the impact of gender norms on the different experiences of the pathway of competence-confidence-branding; and

Platform-specific research on the mediation of the personal branding process by using the social and professional communication media; and

Studies of interventions to test the effectiveness of interventions that enhance digital literacy outcomes in relation to students' personal branding in higher education.

Finally, this systematic literature review has provided us with a solid and comprehensive theoretical and empirical base for the understanding of the influence of digital literacy on personal branding from psychological and socio-cultural perspectives. The review presents a theoretical advancement and some practical suggestions for the educational institutions, policy makers and practitioners who are interested in supporting the development of professional identity in the digital age, and combines the three theories in one model to mediate the relationship between them.

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