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The Digital Frontier within Islamic Education: Research Gaps Overview in Digital Competence

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ABSTRACT

In a pervasive digitalised society, integrating digital technologies (DT) within educational environments has become imperative for nurturing effective educational outcomes. Given the widespread use of DT, educational institutions, including those in Islamic education, are increasingly valuing digital competence (DC), a comprehensive set of skills. However, there are significant gaps in the literature regarding the effective understanding and application of digital technologies in Islamic education, as well as a shortage of studies on DC in Islamic educational contexts. This paper, through a comprehensive analysis of the existing literature, underscores the urgency of bridging the digital divide in Islamic educational settings. It aims to provide an overview of the current state of digital competence in Islamic education, identify crucial areas for further investigations, and propose directions for future research works. It charts the future paths for research endeavours and offers insights into potential strategies for enhancing DC among educators and learners in Islamic educational environments.

1. INTRODUCTION

In recent years, the global landscape of education has changed due to the spread of digital technologies (DT). DTs are becoming an essential part of educational settings, offering new paths and avenues for teaching and learning through digital materials and platforms. DTs remove regional barriers and expand global access to learning materials. Students have significant access to a variety of lectures, instructional resources, and interactive materials, thanks to digital platforms. The democratisation of education ensures that everyone has access to excellent learning resources, regardless of where they live (Tubagus et al., 2023). The fact that DT makes remote learning possible illustrates how important it is to ensure continuity and accessibility in education, especially in the face of international emergencies like the recent pandemic catastrophe (Abubakari & Mashoedah, 2021). Nevertheless, the best outcomes in educational contexts can only be feasible via the responsible, diligent, and effective use of DTs. This reality makes every individual, especially those working in educational institutions, need to possess digital competence (DC).

Research suggests that the use of digital technologies does not always lead to the development or improvement of advanced DC. Moreover, not everyone has the same opportunity, social support, desire, or

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self-assurance to develop DC (Ala-Mutka, 2011). Those who do not possess the necessary digital competence run the danger of being excluded from important avenues, missing out on opportunities, and even running risks while exploiting digital resources. DC gaps can exacerbate social and economic inequality since they often coincide with pre-existing disparities in these domains (Ala-Mutka, 2011; Lucas et al., 2022). Notably, DC gaps are a component of larger digital disparities that also include access, usage, and self-perceptions, requiring interventions to address these inequalities (Tinmaz et al., 2022). Therefore, programs that support DC development among various people- regardless of age, profession, or degree of DT usage- are desperately needed. Although the value of DC in today's classrooms is becoming more widely acknowledged, little research exists that expressly demonstrates students' digital competence in Islamic educational settings (Abubakari & Kalinaki, 2024). There is still a dearth of research on the examination of DC in the context of Islamic education. Above all, there are barely any studies describing the state of DC in Islamic education, particularly when it comes to studies that incorporate the European Digital Competence (Dig-Comp) framework.

Thus, by assessing the present status of digital competence in educational scenarios, this article aims to distil and fill the literature void, highlighting significant research gaps in the Islamic educational system and suggesting prospective research possibilities within this special educational environment. The paper seeks to further our understanding of the effective cultivation of DC in Islamic educational scenarios by clarifying the potential and difficulties that come with incorporating DT in Islamic learning environments.

2. LITERATURE REVIEW

2.1 Islamic Education: Traditions and Challenges

Islamic education (IE) is an extensive educational system grounded in religion that strives to teach students how to live virtuous and moral lives in addition to fostering a thorough grasp of Islam. The study of the Quran, the holy book of Islam, lies at the core of the numerous Islamic disciplines offered in IE (Arjmand, 2018). Students memorise, analyse, and apply the lessons found in the Quran, which form the basis of their spiritual development. IE examines the extensive corpus of hadiths, or the sayings and deeds of Prophet Muhammad, in conjunction with Quranic studies. These norms provide important insights into how Islamic ideas are applied in practice, which affects how believers behave. The study of hadiths enhances a thorough understanding of Islam and reinforces the lessons found in the Quran (Arjmand, 2018; Baiza, 2018).

Grounded in the traditions of Prophet Muhammad and the teachings of the Quran, IE has a rich and diverse fourteen-century history. Numerous hadiths and passages from the Qur'an particularly underscore and support the need to acquire knowledge and pursue education (Daun & Arjmand, 2018). The origins of the Islamic educational system may be found in the life of Prophet Muhammad in the seventh century CE, according to history. The Prophet Muhammad received revelations- the Quran, the holy book of Islam, over 23 years. The Quran guides all aspects of life, including morality, spirituality, and jurisprudence (Arjmand, 2018). Through his actions and words, the Prophet showed his companions how to implement these lessons into practice. As a matter of fact, the Prophet fulfilled the roles of both heavenly messenger and teacher. People primarily looked to the Prophet for direction on understanding the meaning of Qur'anic texts as well as on religious rites, duties, and other issues pertaining to the newly formed Muslim state and society in Medina (Arjmand, 2018).

Regardless of location, IE helps Muslim students develop intellectually, morally, and spiritually. However, developing a standardised system that satisfies the various needs of Muslim communities is a difficult undertaking. It is challenging to keep the IE system uniform across linguistic and cultural divides, given the diverse population and demography. Aside from that, integrating classical IE with contemporary teaching techniques is a big difficulty. Discussions concerning the integration of religion and secular

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education are common in some nations. In numerous locations, government policies have an impact on how IE develops and grows (Munastiwi & Marfuah, 2019; Tolchah & Mu'ammar, 2019). The integration of DTs into Islamic education is another recurring hurdle contributing to the digital divide. The digital divide impedes the effective use of contemporary technologies for learning, especially in areas with restricted access to DTs. This divide affects both competency and access to DTs. Due to its prevalence in both mainstream and IE systems, the lack of digital competency is a subject that is currently in the spotlight and requires further investigation.

Within the current educational environment, digital competencies have surfaced as valuable and necessary contemporary skills required to navigate the intricacies of the digital era. The competency includes the capacity to use digital tools critically, creatively, and successfully in a range of educational activities (European Commission, 2019). On the other hand, the Islamic educational system, despite its rich history and legacy, frequently implements conventional approaches like traditional teaching and rote memorisation. However, as the globe gets more technologically advanced and linked, there is a big disconnect when it comes to incorporating digital tools and competency into Islamic learning environments. This discrepancy makes it difficult for Islamic instructors and learners to leverage DTs for instruction and learning.

2.2 Digital Competence Conceptualisation and Frameworks

The term digital competence describes a broad range of skills, dispositions, and knowledge needed to thrive in a world driven by technology (Janssen et al., 2013). Fundamentally, DC is the aptitude for effectively using computing devices and applications. DC includes fundamental skills such as accessing software programs and online platforms, as well as utilising computers, cell phones, and other digital devices. Furthermore, information literacy, problem-solving abilities, and critical thinking are all part of digital competency, which extends beyond know-how in DT (Ferrari, 2012). In an era of abundant online material, people need to be able to evaluate the reliability and trustworthiness of digital information and discern between fact and fiction. This fact is especially pertinent in Islamic learning contexts because the text and its context influence interpretation.

Numerous frameworks have been developed to explain the ideas behind digital competency. The European Digital Competency Framework (Dig-Comp) is a widely used framework for conceptualising digital competency. Dig-Comp, created by the European Commission, offers a thorough framework for comprehending and evaluating digital competency in five major domains: problem-solving, safety, digital content creation, communication and collaboration, and information and data literacy (Carretero et al., 2017; Ferrari et al., 2012; Vuorikari et al., 2022). This framework provides an organised approach to the development of digital competence that can guide individuals, policymakers, and educators who wish to develop, improve, and nurture their digital competencies.

The DC Framework for Educators (Dig-Comp-Edu), which the European Commission also created, is another well-known framework. Dig-Comp-Edu outlines the digital competencies required for successfully integrating technology into teaching and learning processes, with a focus on educators (Ghomi & Redecker, 2019; Redecker & Punie, 2017). Facilitating Learners' Digital competency, Assessment, Professional Engagement, Empowering Learners, Teaching and Learning, and Digital Resources are the six domains of competency identified by the framework (Redecker & Punie, 2017). Dig-Comp-Edu seeks to improve student learning and raise digital competency by giving instructors a road map for developing digital competency.

Furthermore, the Global Digital Literacy Framework, created by the UNESCO Institute for Statistics (UIS), places a strong focus on the acquisition of digital skills necessary for participation in the digital society and lifetime learning. Two more digital competencies are present in this framework: career-related competencies and device and software operations, in addition to the five competency categories included in Dig-Comp 2.1 (Law et al., 2018). The UNESCO framework for DC offers a consolidated way to cultivate

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and nurture digital skills, inclusive of various situations and people, by incorporating both technical and sociocultural dimensions of digital competencies. To put it briefly, DC is a broad notion that includes the technological know-how, analytical abilities, and sociocultural competencies required to succeed in the modern digital environment. Several frameworks are already there to provide systematic approaches for comprehending and evaluating digital competency in a variety of situations and domains, including the UNESCO Digital Literacy Framework, Dig-Comp, and Dig-Comp-Edu. Through the utilisation of these frameworks, both individuals and institutions involved in Islamic education may improve their digital proficiency and adjust to the changing needs of the digital era.

2.3 Digital Competence in Educational Contexts

With digital technology rapidly penetrating every part of modern life, having the ability to efficiently access, use, and navigate digital utilities is critical for all citizens. Considering that context, digital competencies are vital skill sets for both institutions and individuals, including educational organisations. DC has emerged as a critical goal in education, with policymakers, academics, researchers, and educators recognising its importance in educating students for success in the twenty-first century. Globally, educational institutions are rapidly using DTs in their curricula and lesson plans to improve teaching and learning performance as well as student engagement and satisfaction in online environments (Abubakari et al., 2022; Abubakari & Rahman, 2024; Solihah et al., 2023). From online collaboration platforms to engaging multimedia materials, DTs provide numerous options for learners to engage, personalise education, and stimulate creativity and innovation.

In educational contexts, DC is critical in helping students with the requirements and needs of the digital era, providing them with the abilities and attitudes needed to navigate and prosper in a growingly technologically motivated society. Considering there is much information available online, students must acquire the ability to distinguish reliable sources from misleading or biased content. Teaching digital competence provides students with the required abilities to traverse the intricacies of digital worlds, equipping them to become enlightened, accountable digital citizens (Awdziej et al., 2023; Kamei-Hannan et al., 2023). Furthermore, it is essential to promote critical thinking in digital settings. An abundance of information has been produced by the growth of social media and digital platforms, frequently with differing degrees of credibility and accuracy. Islamic education students need the capability to approach digital material critically, scrutinising sources, prejudicial views, and underlying motives. Through the development of critical thinking abilities, IE students are more equipped to analyse, synthesise, and assess digital material, which helps them make wise decisions and participate actively in online communities.

Furthermore, the ability to use digital technologies effectively is necessary for success in the educational setting and the workplace. Digital technologies, which range from collaboration platforms to productivity applications, provide a plethora of options to improve workflows and learning experiences (ECDL Foundation, 2014). Incorporating these resources into educational programs improves student learning and gives them real-world experience that is applicable to the digital workplace (Khan et al., 2022). With digital competency, students may use the full potential of DT to accomplish their objectives, whether it is through coding apps, remote collaboration on projects, or multimedia presentation creation. In addition, DC fosters innovation and creativity. The ability to be creative is highly valued in today's connected society as it promotes advancement and problem-solving. With the use of digital technologies, students may express their creativity in a variety of ways, such as through digital art or multimedia projects. Islamic educators may cultivate and embed a culture of innovation where students are motivated to think creatively and seek out unique solutions to pressing problems in the real world by encouraging them to experiment and explore in digital settings.

3. METHODOLOGY

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The study at hand adopted a qualitative methodology to achieve its goals by conducting a thorough literature evaluation of relevant works. Therefore, using pertinent keywords like "Islamic education," "digital technologies," "technology acceptance OR integration," "Education," "digital competence," "e-learning," and "Islamic pedagogy," the author conducted a thorough search of academic databases, including but not confined to Scopus, Google Scholar, IEEE Xplore, and ERIC. To narrow down the search results, Boolean operators were used to combine versions of "Islamic education," "digital technologies," "digital competence," and similar concepts. Further, to find essential and insightful patterns and themes on digital technology and digital competence in educational contexts- especially in Islamic educational settings- the collected works from search results were thoroughly synthesised and examined.

4. RESULTS AND DISCUSSION

4.1 Digital Technology and Competence in Islamic Education

Islamic religious education is essential in many Muslim countries for preserving religious information, practices, and beliefs for subsequent generations. Oral transmission methods, textual resources, and in-person instruction have always been the foundational elements of IE. However, as digital tools increase, more research is needed to understand how these tools could enhance teaching and learning activities to support and nurture digital learning in Islamic educational contexts (Abubakari, Zakaria, Priyanto, et al., 2023; Abubakari & Zakaria, 2023). There are several benefits to using digital technologies in the Islamic educational system. One significant way it improves access to knowledge is by removing geographical obstacles. It is now possible for students to learn Islamic teachings from distinguished Islamic scholars anywhere in the world, regardless of geographical location. Knowledge can be disseminated globally through virtual classrooms, online discussion forums, and online libraries (Levy, 2017; Ruiz-Rojas et al., 2023), thus enabling the widespread of Islamic education. Since the internet contains a variety of trustworthy and untrustworthy sources of information, DC's aptitude to empower individuals to evaluate the reliability and integrity of information critically is significant. Digitally literate people have little trouble differentiating between the two kinds of sources. Therefore, given the criticality of proper text interpretation and understanding, DC is essential for Islamic education.

Digital competence, as it relates to Islamic education, provides the ability to successfully navigate the contemporary digital world by combining technological know-how with Islamic principles. The development of DC in an Islamic educational context depends on the integration of DT with the core tenets of Islam. For students to employ Islamic morals, ethics, and values as a foundation for their digital activities, interactions, and endeavours, this entails assisting them in developing a complete knowledge of these concepts. To cultivate responsible digital citizenship in line with Islamic teachings, one must comprehend essential concepts such as integrity, respect, responsibility, honesty, and accountability. DC in an Islamic educational setting also means using DT to enhance learning while upholding the fundamental principles of Islamic pedagogy.

There are several potential advantages of incorporating DT and digital competence into Islamic education, such as increased student engagement, customised learning opportunities, availability of a wide range of materials, and readiness for the digital workforce (Haleem et al., 2022; Khan et al., 2022). Islamic instructors may design engaging, dynamic classes that consider the various learning preferences and types of their learners by utilising a variety of digital tools and platforms. By cultivating an ethical innovation mindset shaped by Islamic principles, educators produce a cohort of technologically proficient, socially aware, and empathetic people. The state of digital competence in Islamic educational institutions is still insufficient despite these possible benefits. DT integration into the classroom is a challenge for many Islamic educational institutions (Abubakari, Zakaria, & Musa, 2023; Abubakari & Priyanto, 2021; Qazi et al., 2021), leading to lost opportunities to enhance student's educational experiences.

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To summarise, DC is vital in modern learning environments. IE instructors can help learners thrive in a continuously evolving digital landscape by emphasising digital literacies, technological expertise, and critical thinking abilities in digital spaces. By purposefully implementing digital competency into IE systems, learners can gain the skills and perspectives needed to successfully navigate, contribute to, and prosper in the digital age. In the context of Islamic education, DC provides a complete strategy for integrating DT with Islamic values to equip students to be responsible digital citizens. Instructors in IE lay the groundwork for IE learners to survive and flourish in a digital-based society while still being committed to Islam by cultivating an intensive apprehension of Islamic morals and ethics, leveraging DTs to enhance the learning experience, elevating digital literacies and ethical nuances, and nurturing innovation rooted in Islamic ideals and morals. Nevertheless, to reap all the fruits of DTs incorporation and DC in Islamic educational systems, ongoing and persistent empirical studies are required. Surprisingly, a survey of the literature shows that limited research works have sought to explore DC in Islamic educational environments, particularly utilising prevalent and comprehensive DC schemas like Dig-Comp 2.1.

4.2 Digital Competence-Related Works and Research Gaps

Diverse research studies on digital competence in educational environments reveal several recurring elements. Many studies highlight the need to have digital literacy abilities in addition to other 21st-century skills (González-salamanca et al., 2020; List et al., 2020; van Laar et al., 2017, 2019). Learners who possess strong digital literacy are more equipped to utilise digital resources, recognise reliable sources of information, and express themselves clearly. Secondly, teachers are essential in helping students become digitally literate. Research highlights the need for professional development programs and teacher training that concentrate on efficiently incorporating technology into the classroom (Çebi et al., 2022; Çebi & Reisoğlu, 2019; Reisoğlu & Çebi, 2020). Significant learning opportunities for learners are more likely to be provided by educators who are competent and at ease using digital tools. Third, there are still disparities in students' access to and use of digital technologies, even despite an increasing acceptance of these tools. Researchers (Ghomi & Redecker, 2019; Ma, 2021; Vishnu et al., 2022) indicate that differences in digital access and gaps exist according to region, socioeconomic class, and demography. Putting in place customised interventions is essential to closing these digital gaps and ensuring that every student has fair access to digital opportunities and resources (Kazmi, 2023). Finally, learning digital citizenship skills is essential in a time of pervasive misleading information and online threats. According to some research, to provide adolescents with the skills they need to use the internet securely, morally, and responsibly, digital citizenship lessons should be incorporated into the school curriculum (Chen et al., 2021; Tadlaoui-Brahmi et al., 2022).

Although there are common patterns in the findings of different studies, there are also differences because of things like the sample demographics, methods of inquiry, and contextual variables. Some of the more obvious differences include age differences, gender, technical infrastructure, and cultural intricacies. Research conducted in several cultural settings reveals differences in digital priorities and skill sets. Educational institutions, cultural norms, and beliefs all influence how instructors and students develop and employ digital competence. Research indicates that age groups differ in their degrees of digital competency, with younger generations frequently displaying higher levels of proficiency ability (Hämäläinen et al., 2021; Rodríguez et al., 2021). Research on digital competency in older individuals highlights special challenges and possibilities associated with developing digital literacy afterwards in life (Hämäläinen et al., 2021). Access to DTs and decent infrastructure varies between educational institutions and individuals, which has an impact on the DC of individuals (Lopez et al., 2020; Martzoukou et al., 2020). Therefore, research conducted in regions with a wealth of digital resources may provide findings that differ from those conducted in environments with limited resources.

While several prominent frameworks for DC have been extensively implemented in a variety of educational contexts, their applicability and adaptation in Islamic educational environments are restricted. Aside from its limited use in non-Western contexts (Abubakari, Zakaria, Musa, et al., 2023a, 2023b), the

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widely used European DC framework (Dig-Comp 2.1) has significant research gaps in the Islamic educational system (Abubakari & Kalinaki, 2024; Hawamdeh & Abdelhafid, 2024). One of the major research gaps is the cultural sensitivity and adaptability of DC frameworks like Dig-Comp 2.1 in Islamic educational contexts. Islamic education usually emphasises values, ethics, and religious beliefs that may coincide or diverge from the Western-oriented ideals found in mainstream frameworks (Abubakari et al., 2024). To ensure relevance and compatibility with the broader educational goals of Islamic institutions, it is necessary to study how digital competence could be conceptualised and operationalised in ways that are consistent with Islamic principles and values. That can also involve utilising passages from the Quran and Prophetic Hadiths to examine the DC concept from an Islamic standpoint. The exploration of pedagogical strategies that successfully integrate DC and DT into Islamic education is another significant research gap (Gyagenda, 2021). The use of critical thinking, memorisation, and moral development is emphasised in traditional Islamic education (Abubakari et al., 2024; Ahmed et al., 2024). These skills can either offer unique challenges or possibilities for the implementation of digital technology. Therefore, to develop novel methods of instruction, digital resources, and learning environments that foster ethical literacy and holistic development in students while upholding the fundamental principles of Islamic education, rigorous research must be undertaken. Figure 1 depicts some of the significant research gaps pertaining to DC within Islamic educational contexts.

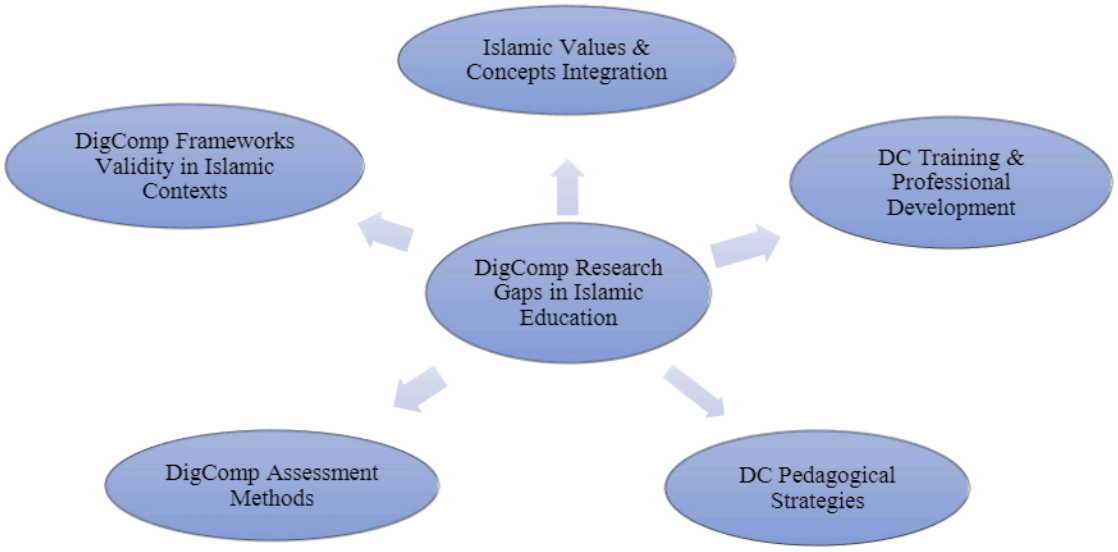

Fig. 1. DigComp Research Gaps within Islamic Education.

Source: Author's design

Furthermore, there is not much research on how digital competency is measured and evaluated in Islamic educational settings. Although frameworks like Dig-Comp 2.1 offer standards for DC evaluation, it is necessary to develop culturally appropriate assessment instruments and protocols that take into account the various learning environments and objectives of Islamic education. In order to enable educators to evaluate students' competency and progress accurately, research should concentrate on creating valid and trustworthy assessment instruments that accurately reflect the multifaceted nature of digital competence

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within an Islamic setting. Additionally, there is a lack of investigation into the professional development of teachers in Islamic educational environments focusing on digital competence. Incorporating DTs into the classroom and showcasing students' digital literacy skills are essential roles played by instructors (Smestad et al., 2023). Nonetheless, it is plausible that a significant proportion of IE teachers lack the assistance and training they require to utilise DTs properly in accordance with Islamic pedagogical principles. Continuous investigations are required to have effective methods for enhancing teachers' digital literacy, removing obstacles, and assisting with ongoing professional development initiatives tailored to the unique needs of Islamic educators. Additionally, studies are required to assess the Dig-Comp framework's applicability and usefulness, considering the unique cultural and pedagogical peculiarities of Islamic education.

4.3 Strategies for Bridging the Digital Divide

In response to the rising need to overcome a digital divide in Islamic education, a variety of ways can be used to exploit digital technology advances. Firstly, it is critical to build DC frameworks that are in line with Islamic education values. Further, in addition to digital skills, these frameworks should include Islamic ethical issues and religious sensitivity specific to Islamic beliefs. By developing clear policies and criteria, Islamic instructors can confidently integrate DTs into their teaching approaches. Secondly, the quality of Islamic education may be greatly raised by offering Islamic educators regular and comprehensive training on the proper use of digital technologies. Both technical competency and pedagogical approaches for incorporating DT into the curriculum should be the main emphasis of these programs. When IE educators are equipped with the right knowledge and abilities, students may take advantage of engaging and interactive learning opportunities that align with current technology advancements.

Furthermore, to promote innovation in Islamic education, coordinated research projects between academic institutions and technology specialists are essential. Through the collaboration of experts from several sectors, including Islamic studies, technology, and education, these efforts aim to create inventive digital solutions that are customised to meet the unique requirements of Islamic educational environments. Such a collaborative strategy makes sure that technology progresses in a way that respects the cultural and religious sensitivities associated with Islamic ideals. Moreover, the development of digital tools that are sensitive to cultural differences is essential to improving IE. These materials should respect cultural peculiarities and sensitivities while presenting a range of viewpoints within the Islamic religion. These digital tools can serve a variety of Muslim learners by combining interactive features, multimedia components, and multilingual support, thereby encouraging inclusion and accessibility in Islamic education.

In addition, establishing equal access to IE requires overcoming socioeconomic barriers to digital access. Initiatives like offering free or heavily discounted access to digital gadgets and internet connectivity in impoverished areas might be part of the solution in this case. Furthermore, community-driven efforts and collaborations with non-governmental organisations can help make digital resources and training opportunities more accessible, especially in underserved or isolated locations. Through the implementation of these recommended measures, stakeholders in Islamic education may successfully bridge the digital gap by tackling socioeconomic barriers to digital access and harnessing technological advancements to improve learning experiences. Islamic education may adapt to meet the demands of students in a world that is becoming more digitally connected via teamwork and a dedication to innovation, guaranteeing the preservation and enhancement of Islamic knowledge and values. Figure 2 portrays some of the substantial strategies for bridging the digital divide existing within an IE context.

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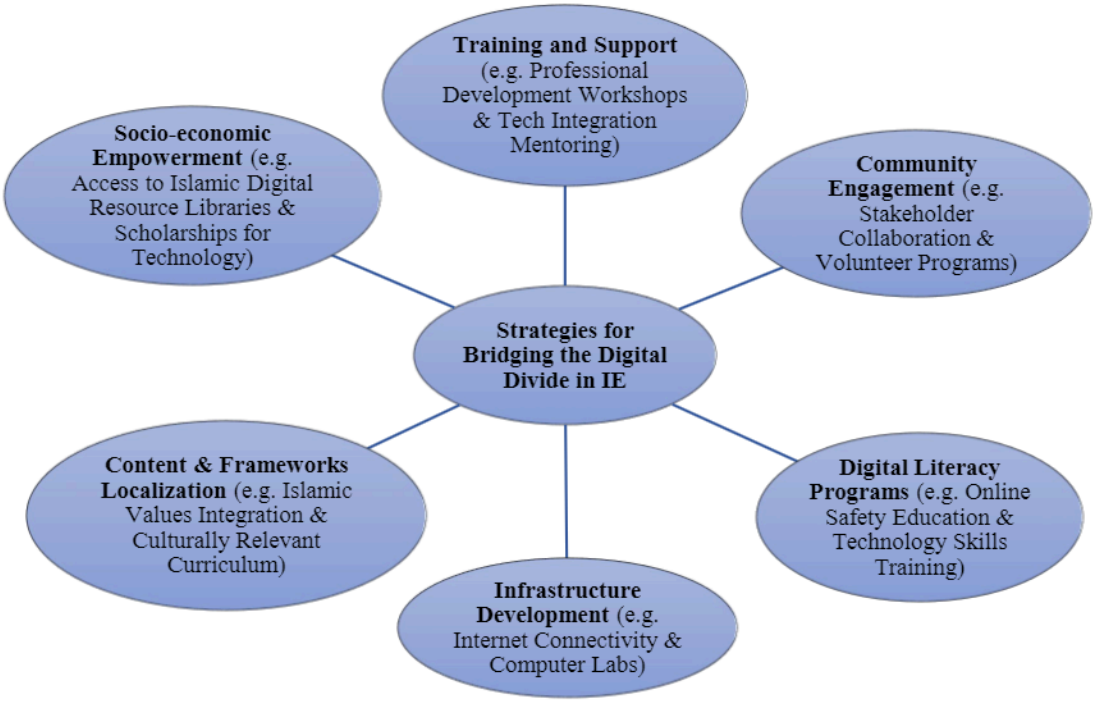

Fig. 2. Some Strategies for Bridging the Digital Divide in Islamic Education.

Source: Author's design

4.4 Practical Recommendations

In conjunction with DT specialists, a variety of Islamic education stakeholders, including Islamic scholars, students, and policymakers, will need to work together to address the research gaps outlined in this paper. Subsequent investigations should emphasise cross-disciplinary approaches that integrate insights from the fields of education, Islamic studies, educational technology, and sociological research. By combining different views and areas of knowledge, researchers may create complete frameworks for enhancing digital competence in Islamic education. Initiatives are also necessary to further advance the discussion regarding digital competency in Islamic education and to encourage global cooperation and information exchange. By utilising the expertise of many stakeholders, researchers from various faculties may develop innovative solutions that are sensitive to the unique requirements and conditions of Islamic educational contexts. By encouraging the exchange of resources, best practices, and research findings, collaborative efforts, including research networks, international conferences, and collaborative projects, may advance the field of digital learning in Islamic educational systems. Muslims may make sure that Islamic educational institutions continue to be inclusive, dynamic, sensitive to current issues, and open to opportunities in the technologically driven world by putting in consistent effort and collaborating on research projects.

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5. CONCLUSION AND FUTURE DIRECTIONS

Through an overview of the existing literature, the current study identified the research gaps in the fascinating domain of DC within Islamic educational systems. It aimed to emphasise the phenomenon of digital competence in educational contexts, which is now trending, and pinpoint some of the research gaps. Drawing from the current DC literature, one of the gaps is comparing the DC levels of instructors or students in Islamic and general education. Research studies are also scarce for demonstrating how DC affects the adoption of informal digital learning in both mainstream and Islamic educational systems. In summary, it is critical to close the digital gap in Islamic educational systems to provide fair access to high-quality instruction and equip learners for success in the digital era. Improving DC in Islamic educational settings will need to fill the identified research gaps and put the suggested approaches into practice. Stakeholders must work together and prioritise these endeavours to realise the potential of DTs to enhance Islamic education fully.

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7. CONFLICT OF INTEREST STATEMENT

The authors declare the absence of any conflicting interests with any individual or organisation.

8. AUTHORS' CONTRIBUTIONS

Mussa S Abubakari: Responsible for all stages of the research process.

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