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Digital Transformation in the IS field: GREAT Research Opportunities in Saudi Arabia and the Gulf Cooperation Council Countries

Mohammad AlMarzouq
Kuwait University, mo.almarzouq@ku.edu.kw

Youngjin Yoo
London School of Economics and Political Science

Prasanna Karhade
Chinese University of Hong Kong

Thomas Grisold
University of St. Gallen

Tawfiq Alashoor
IESE Business School

See next page for additional authors

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Authors

Mohammad AlMarzouq, Youngjin Yoo, Prasanna Karhade, Thomas Grisold, Tawfiq Alashoor, Mazen Shawosh, and Mousa Albashrawi

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Mohammad AlMarzouq
Information Systems and Operations Management Department
Kuwait University
Kuwait
mo.almarzouq@ku.edu.kw
0000-0003-1664-7661

Youngjin Yoo
Department of Management
London School of Economics and Political Science
0000-0001-8548-3475

Prasanna Karhade
Department of Decisions, Operations and Technology
Chinese University of Hong Kong
China
0000-0001-8078-2476

Thomas Grisold
Institute for Information Systems and Digital Business
University of St. Gallen
Switzerland
0000-0002-6126-1488

Tawfiq Alashoor
Department of Operations, Information and Technology
IESE Business School
Spain
0000-0003-4564-3854

Mazen Shawosh
Information Systems & Operations Management
King Fahad University of Petroleum and Minerals
Saudi Arabia
0000-0002-8987-9028

Mousa Albashrawi
Information Systems & Operations Management
King Fahad University of Petroleum and Minerals
Saudi Arabia
0000-0002-6269-1658

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Mohammad AlMarzouq
Information Systems and Operations Management Department
Kuwait University
Kuwait
mo.almarzouq@ku.edu.kw
0000-0003-1664-7661

Youngjin Yoo
Department of Management
London School of Economics and Political Science
0000-0001-8548-3475

Prasanna Karhade
Department of Decisions, Operations and Technology
Chinese University of Hong Kong
China
0000-0001-8078-2476

Thomas Grisold
Institute for Information Systems and Digital Business
University of St. Gallen
Switzerland
0000-0002-6126-1488

Tawfiq Alashoor
Department of Operations, Information and Technology
IESE Business School
Spain
0000-0003-4564-3854

Mazen Shawosh
Information Systems & Operations Management
King Fahad University of Petroleum and Minerals
Saudi Arabia
0000-0002-8987-9028

Mousa Albashrawi
Information Systems & Operations Management
King Fahad University of Petroleum and Minerals
Saudi Arabia
0000-0002-6269-1658

Abstract:

As part of the inaugural conference of the Saudi AIS Chapter in Dhahran, Saudi Arabia, a panel reflected on the Information Systems (IS) field, particularly in the context of digital transformation in the Arab region. Moderated by Mohammad AlMarzouq, a diverse group of international speakers discussed the identity and strengths of the field, elaborated on how the field can theorize unique regional developments—such as the cognitive city NEOM—and highlighted opportunities for Arab scholars to contribute to the global research discourse. This article provides an overview of the Saudi Conference on Information Systems (SaudiCIS), summarizes key insights from the panel, and discusses their implications for the IS research community.

Keywords: Information Systems, Digital Transformation, Global Impact, Regional Opportunities, Middle East, SaudiCIS.

[Department statements, if appropriate, will be added by the editors. Teaching cases and panel reports will have a statement, which is also added by the editors.]

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1 Introduction

The launch of the inaugural Saudi Conference on Information Systems (SaudiCIS) marks a pivotal moment for the Saudi Chapter of the Association of Information Systems (SaudiAIS). It was the first regional AIS-affiliated conference, and took place on November 19-21, 2024, hosted by *King Fahad University of Petroleum and Minerals* (KFUPM). The conference indicates the continuous commitment of the AIS to advance knowledge and promote research excellence. This event signals a broader transformation of the Arab World driven by ambitious visions to position the region as a global leader in the digital economy. Across the Gulf Cooperation Council (GCC), countries have launched digital transformation initiatives with ambitions that go far beyond regional aspirations but also highlight the potential for significant contributions to the global Information Systems (IS) discourse, given the unique opportunities and contextual factors present in the region. As such, Saudi Arabia and other GCC countries in the region could be dubbed as *growing*, *rural*, *eastern*, *aspirational*, and *transitional* (GREAT) economies that are ripe for digital transformation (Karhade & Kathuria, 2020).

Saudi Arabia, for example, has taken a leading role with its $100 billion Transcend project, aiming to establish the Kingdom as a global hub for artificial intelligence (AI) by 2030 (Alkhunaizi, 2024; Benito, 2024). The Saudi Data and AI Authority (SDAIA) plays a critical part as it implements this vision and drives AI-driven solutions in urban planning, healthcare, and public services. Mega-projects like NEOM, a $500 billion cognitive city initiative, exemplify how Saudi Arabia capitalizes on digital technologies to redefine urban living, such as by integrating IoT, AI, and blockchain under the broader framework of Vision 2030 (Bell, 2023). Such initiatives are not bound to Saudi Arabia, however. In fact, the broader region is becoming a vibrant hub for digital innovation and transformation, and GCC nations have similarly embraced ambitious digital transformation strategies. Consider how the UAE's Strategy for Artificial Intelligence 2031[1] integrates AI across governance, energy, and infrastructure, with Dubai Internet City serving as a regional innovation initiative that attracts multinational firms and promotes a dynamic startup ecosystem. Similarly, Qatar's Smart Qatar (TASMU) initiative leverages smart city technologies to enhance public safety, transportation, and healthcare, aligning technological innovation with national development goals[2]. Furthermore, Kuwait has entered into a strategic alliance with Google Cloud, creating a local cloud region to modernize government services, enhance cybersecurity, and support its Vision 2035 goal of fostering a knowledge-based economy[3].

According to the March 2023 GovTech Maturity Index (GTMI) data by the World Bank Group[4], Saudi Arabia is considered a regional leader in digital transformation. It outperforms the other GCC countries in several key digital government metrics. Saudi Arabia achieved a top GTMI score of 0.971, surpassing the GCC average of 0.851 and the global average of 0.552. This can be linked to Saudi Arabia's performance across core government systems, public service delivery, digital citizen engagement, and digital governance enablers. Furthermore, comparing Saudi Arabia's digital transformation journey with that of other global leaders provides valuable insights. Estonia (0.956 GTMI), Singapore (0.833), the United States (0.766), and the United Kingdom (0.840) demonstrate diverse strengths in digital governance. Estonia is recognized for its advanced e-governance ecosystem, while Singapore leads in public service delivery. Appendix A shows more details about GTMI for GCC and Arab countries.

In short, the region is committed to fostering innovation, advancing national visions, and setting benchmarks for technology-driven development. For the IS field, these and other similar digital transformation initiatives offer a wide range of unique opportunities to generate impactful knowledge and contribute to the global IS discourse on the implementation and development of digital technologies and infrastructures, explore novel research questions, and bridge the research-practice gap. In this spirit and with the conference theme of *Artificial Intelligence in Digital Economies*, the SaudiCIS provided a platform to reflect on the state of the IS field, engage with the transformational opportunities emerging from the region, and consider the unique role of IS scholars in contributing to this discourse. The conference witnessed over 500 national and international registrations, featured 10 research tracks, received over 80 submissions, and hosted 25+ keynote and guest speakers. This event aimed at inspiring regional scholars to participate in the global IS discourse while initiating a vibrant regional dialogue that leverages the

1 See https://ai.gov.ae/
2 See https://tasmu.gov.qa/
3 See https://kuwaittimes.com/article/19896/kuwait/other-news/kuwait-eyes-deeper-collaboration-with-google-cloud/
4 See https://datacatalog.worldbank.org/search/dataset/0037889/govtech-dataset

unique historical, socio-economic and cultural context of the GCC. This article summarizes the key points from the *Digital Transformation of the IS Field* panel discussion. The panelists, including international speakers—Prasanna Karhade (*Chinese University of Hong Kong*, Hong Kong), Youngjin Yoo (*Case Western Reserve University*, United States), Thomas Grisold (*University of St.Gallen*, Switzerland), and Tawfiq Alashoor (*IESE Business School*, Spain)—enabled diverse perspectives on IS research, integrating global and regional viewpoints. They engaged in a lively discussion exploring general questions about the state of the IS field, the potential for IS to contribute to GCC initiatives, and the opportunities for regional scholars to engage in global and regional discourses. This report synthesizes the themes articulated by the panelists, summarizes the key insights from their contributions, and concludes with reflections about the implications for IS research and practice.

2 Panel Themes

The panel pursued four themes, each shedding light on vital aspects of IS research, particularly in relation to the development of the GCC region. Following exploratory questions revolving around the state of the field, the main goal was to explore various potentials that emerge from local developments for global research and vice versa. In the following, we describe the four themes articulated by the panelists. The panel lasted for one hour and concluded with questions from the audience. The moderation of the panel was conducted by Mohammad AlMarzouq (Kuwait University).

2.1 Theme 1: Defining the Identity of Information Systems in a Transforming World

Digital transformation has reshaped industries worldwide, creating unprecedented opportunities for innovation and research. With its ambitious digital transformation initiatives, the GCC region presents a unique context for IS scholarship, offering regional scholars the opportunity to identify and pursue distinctive perspectives and themes in their research. However, engaging effectively with the global IS community and leveraging these opportunities requires a clear and shared understanding of the field's identity and boundaries.

The IS field has always been deeply engaged in defining how technology is theorized in research. Orlikowski and Iacono (2001) emphasized the diverse conceptualizations of the IT artifact, urging scholars to critically engage with how technology is represented in IS studies. Building on this foundation, Benbasat and Zmud (2003) made a compelling call to maintain the IT artifact as the discipline's core. Later, Lyytinen and King (2004) offered an alternative perspective, positioning IS as a marketplace of ideas that accommodates intellectual diversity. The field has traditionally embraced a socio-technical view, highlighting the integration of technology and human systems as a defining characteristic of IS research (Sarker et al., 2019). These efforts collectively demonstrate the IS community's commitment to navigating its evolving identity while maintaining intellectual rigor and relevance.

The panelists, who have diverse academic and professional backgrounds, addressed the question: *What does 'Information Systems' mean to you?* Table 1 presents the panelists' responses. Their perspectives illuminate the breadth of views within the IS community, providing valuable insights into how the field can adapt and thrive in a rapidly transforming world. Such foundational understanding is particularly important for regional scholars, as it provides the necessary ground to engage effectively with the global IS community. By embracing the field's values and diversity, regional scholars can better position themselves to study digital transformation and carve a distinctive niche within the broader IS research landscape.

Table 1. Summary of Panelists' Responses for Theme 1

Panelist	Takeaways
Youngjin	• Information Systems (IS) is both an object of study and a discipline, originally emerging from efforts to resolve the "productivity paradox," where technology failed to deliver expected organizational outcomes. • As technology's impact became evident around the 2000s, the field has shifted focus toward addressing broader, more dynamic challenges that extend beyond traditional organizational boundaries. • Key scholarly approaches in IS include: ○ **Design Science**: Developing and improving technologies.

	○ **Behavioral IS Studies**: Understanding individual user engagement and adoption. ○ **Social IS Research**: Examining how social and institutional factors that shape and are shaped by technology outcomes. ○ **Economics of IS**: Measuring technological impact including productivity gains. • IS has evolved to tackle exciting, boundary-spanning problems that redefine the scope of the discipline.
Prasanna	• IS offers a forward-looking perspective, viewing technology as a means to address pressing societal challenges and drive innovation. • Grand research themes that need urgent attention focusing on two areas: ○ **Technological Rivalry**: Studying the U.S.-China trade war and its impact on technology ecosystems, particularly in the "chip war." ○ **Climate Change**: Renewable energy is ripe for digital transformation. Leading initiatives like "solarjunction.ai", which is a platform promoting solar energy adoption to combat environmental issues. • IS is seen as a vehicle for entrepreneurship and societal progress, contributing to solving complex global problems through digital innovation.
Thomas	• IS operates at the intersection of social and technical systems, focusing on how they interact and co-evolve. • Unlike organizational studies, which background the role of technology, IS emphasizes the dynamic and evolving nature of routines shaped by technology. • For instance, Business Process Management (BPM) traditionally views technology as static, but IS research reveals the unpredictable ways in which social and technical components reshape organizational practices. • IS bridges theoretical and practical gaps, offering insights into the adaptability required to manage real-world complexity.
Tawfiq	• IS takes a holistic approach, integrating hardware, software, processes, data, and people to achieve optimized outcomes. • The field's comprehensive focus sets it apart from related disciplines like computer science, which centers on technical systems, or sociology, which focuses on social structures. • IS has the capacity to address critical societal challenges, such as geopolitical tensions, global crises, and cybersecurity and privacy threats, by leveraging its socio-technical perspective. • This integration makes IS uniquely positioned to create impactful solutions that balance technological innovation with human and organizational needs.

2.2 Theme 2: Understanding Digital Transformation and Its Scholarly Implications

The rapid advancement of technology in recent decades has fundamentally altered how society leverages and integrates with technological systems. These changes are so profound that the term *digital* has become necessary to capture the unique and transformative nature of these advancements, distinguishing them from traditional IT-driven innovations (Baiyere et al., 2023; Wessel et al., 2021; Yoo et al., 2024). The digital era is characterized by the pervasive use of interconnected technologies, such as artificial intelligence, cloud computing, and IoT, which not only enhance processes, but also redefine industries, business models, societal norms, and organizational identities.

This raises an important question: *What is digital transformation?* Is it a genuinely new and unique phenomenon, or does it merely represent a continuation of technological change, repackaged under a modern label? These are critical inquiries for scholars aiming to engage with the concept meaningfully. A foundational understanding of digital transformation is essential for participating in academic discourse and distinguishing its unique contributions from those of prior technological revolutions. This is important, especially if the goal is to study and theorize about the many technological changes that can be observed in the GCC region.

To address these questions, the panelists reflected on the meaning of digital transformation, its impact on their research, and the adaptations they have made to stay relevant in a rapidly evolving field. The panelists' reflections highlighted the multifaceted nature of digital transformation, emphasizing its role in

fundamentally rewriting the integration of social and technical dimensions within organizations. They discussed how technology has evolved from back-office support systems to pervasive, revenue-driving artifacts, reshaping organizational logic and business strategies. Digital transformation was framed as both a state of continuous flux and a systemic shift in marketplaces and ecosystems, with panelists pointing to opportunities for decentralized models and platforms that democratize innovation, such as renewable energy marketplaces. While some argued that digital transformation represents an unprecedented scale of change, others viewed it as a continuation of historical technological shifts with newly labeled phenomena. These perspectives together underscore the necessity for IS scholars to embrace adaptive approaches and concentrate on the dynamic effects of digital transformation to maintain relevance in understanding its evolving implications for society and organizations. Their diverse perspectives provide insights into how digital transformation is reshaping the IS discipline and highlights the need for rigorous scholarly engagement with this transformative concept. A summary of their responses is presented in Table 2 below, providing a comparison of their viewpoints and key takeaways

Table 2. Summary of Panelists' Responses for Theme 2

Panelist	**Takeaways**
Youngjin	• Digital transformation represents a fundamental rewriting of the organizing logic that integrates social and technical dimensions within organizations. • Technology has evolved from back-office systems to pervasive IT artifacts, such as wearables, shifting its role from a cost center to a revenue driver. • Organizational logic now embraces continuous integration and deployment, replacing traditional mass production paradigms. • IS scholars should focus on understanding how these shifts redefine how organizations create and capture value, how they make strategic choices, and how organizational and industrial boundaries are drawn.
Prasanna	• Digital transformation should not be used as a label indiscriminately but viewed as systemic changes in marketplaces and ecosystems. • Need for active imagination and envision a decentralized energy marketplace where consumers act as producers, facilitated by digital platforms that integrate renewable energy, electric vehicles, and related technologies. • Compares the future role of digital platforms in energy transformation to the impact of TCP/IP on the internet, emphasizing the integration and democratization of resources. • Saudi Arabia is GREAT domain and serves as an exemplary case of digital transformation through its strategic initiatives and systemic approach.
Thomas	• Digital transformation is characterized as a state of continuous flux, driven by new technologies that create new data streams, leading to ongoing cycles of innovation in products and services. • Calls for IS scholars to adopt temporal perspectives to study the dynamics of change and how new technologies reshape social interactions and coordination. • With reference to the biologist Bateson, he advocates for identifying the 'difference that makes a difference' to pinpoint the unique impacts of digital transformation on organizations and societies.
Tawfiq	• Frames digital transformation as a continuation of historical patterns of transformative eras, with each discovery (e.g., fire, oil, data) bringing societal shifts. • Suggests the current focus has shifted from technologies that capture attention (e.g., social media) to those that target intimacy (e.g., AI). • Emphasizes IS's critical role in addressing the unprecedented scale and societal impact of contemporary technological changes. • Views digital transformation as a label for the magnitude and depth of change rather than a fundamentally new phenomenon.

2.3 Theme 3: Evaluating the Unique Position of IS in Studying Digital Transformation

The IS field has a rich history of studying the impact of technological change, from the advent of computers and Electronic Data Interchange (EDI) technologies to the emergence of Big Data and generative AI. Each wave of innovation has shaped the field, pushing it to develop new theoretical frameworks, methodologies, and tools to examine the interplay between technology and organizations. Some scholars have suggested changes and adaptations to IS research as the relationship between IS and reality has significantly shifted where "digital technologies shape reality" (Baskerville et al., 2020). Hence, the transformative nature of digital technologies raises a critical question: *Have we, as a field, developed the capabilities to be uniquely positioned to study digital transformation? Or must we continue to adapt to solidify our relevance and make a lasting mark?* Again, these questions are important considering the research opportunities that can be seen in the GCC region.

To address these challenges, the panelists were asked to reflect on *What makes IS unique as a field and whether our tools are sufficient to study digital transformation or whether we need to adapt.* Their insights underscore the field's strengths, highlight areas where adaptation is needed, and explore how IS can continue to evolve to remain at the forefront of studying the complexity and dynamic impacts of digital transformation.

The panelists agreed that the unique strength of the IS field lies in its socio-technical perspective, which integrates technical and social dimensions to address complex challenges, including those posed by digital transformation. They emphasized that IS must continue to demonstrate its relevance by tackling high-impact, enduring societal and organizational issues such as sustainability, geopolitics, and systemic technological change—problems that other disciplines often do not address comprehensively. While cautioning against complacency, the panelists urged IS scholars to deliver high-quality, timely insights that can leverage the field's unique interdisciplinary strengths to resonate with diverse global audiences. By broadening its scope, refining its tools, and emphasizing areas where it is uniquely positioned to contribute, IS can reinforce its role as a leading discipline in understanding and shaping digital transformation. A summary of the panelists' insights is presented in Table 3 below, providing an overview of their perspectives and recommendations.

Table 3. Summary of Panelists' Responses for Theme 3

Panelist	Takeaways
Youngjin	• IS should celebrate the global and universal adoption of “digital” as a phenomenon, actively embrace other disciplines to collaborate, and expand the epistemological landscape of the field, instead of passively claiming intellectual ownership of the digital phenomenon. • For example, from a socio-technical perspective, data is never inevitable (Alaimo & Kallinikos, 2024). IS scholars should study how data is designed, collected, manipulated, used, and purged, and how social and institutional forces shape and are shaped in the process. • IS scholars must demonstrate relevance by providing theoretically creative, socially impactful, and practically relevant insights that address significant societal problems.
Prasanna	• IS should broaden its old socio-technical lens to incorporate 21st Century geopolitical forces and societal dimensions, exploring topics like trade wars and technological innovation, and sustainability. • Tackling "timeless questions" ensures the field's vitality and positions IS to make impactful, enduring contributions to globally relevant phenomena. • Engaging with topics such as geopolitics and sustainability enhances the societal relevance of IS research.
Thomas	• IS's strength lies in its ability to integrate technical and social competencies, offering a socio-technical perspective highly relevant to contemporary challenges. • The field must not take its relevance for granted, as other disciplines increasingly address technology-related issues (e.g., Bailey et al., 2022). • IS must deliver strong, timely socio-technical explanations of digital

	transformation to maintain its legitimacy and value.
Tawfiq	• IS is unique in teaching critical concepts like data flows and processes, integrating technical and managerial aspects to address socio-technical and policy-making challenges. • The field's distinction from software engineering and computer science lies in its holistic integration of business and technology perspectives. • IS's relatively young age contributes to an ongoing identity crisis, necessitating efforts to demonstrate the value of its socio-technical lens in addressing societal challenges.

2.4 Theme 4: Regional Scholars and the Global Digital Transformation Discourse

The ambitious digital transformation initiatives occurring in the GCC region, spearheaded by Saudi Arabia, present a wealth of opportunities for exploration through an IS lens. These initiatives, including large-scale projects such as Vision 2030 and NEOM, offer rich contexts to study the intersection of technology, society, and organizational change. Such initiatives are of significant interest to the global IS community, providing a unique vantage point to examine how digital transformation unfolds in emerging economies, and in relation to socially relevant matters, such as urban planning.

Regional scholars play a critical role in translating these experiences into valuable contributions to the global IS discourse. However, this requires deliberate efforts to develop their capabilities, engage with global academic standards, and frame their research in ways that resonate with international audience. To explore this further, the panelists were asked: Do regional scholars have a unique opportunity in this age of digital transformation? How can they make an impact on the field?

The panelists collectively confirmed this unique opportunity for the regional scholars to contribute to the global IS discourse by leveraging the transformative digital initiatives in Saudi Arabia and the GCC. They highlighted the importance of crafting high-quality, locally grounded research narratives that resonate with global audiences, balancing local insights with globally relevant theoretical contributions. The rapid pace of digital transformation in the region, coupled with advanced infrastructure and strategic initiatives like Vision 2030, provides fertile ground for impactful research. However, to make a lasting impact, regional scholars must elevate their voices in the global sphere, challenge existing assumptions in IS, and disseminate their expertise to position themselves as leaders in the field. A summary of the panelists' insights is presented in Table 4 below, capturing their recommendations and vision for regional scholars to shape the global understanding of digital transformation.

Table 4. Summary of Panelists' Responses for Theme 4

Panelist	**Takeaways**
Youngjin	• Regional scholars should focus on crafting high-quality narratives about local transformations that resonate globally, similar to how the Korean movie Parasite, the first foreign-language movie that won the best picture award at the Oscar, provided a compelling narrative to global audience by translating idiosyncratic local stories into transcending global themes • Saudi Arabia's use of English as the medium for academic discourse provides a strategic advantage in engaging with global IS scholarship. • The goal is to make local research meaningful and relevant to global audiences, ensuring its impact through publications in top-tier journals and it requires deep engagements with local experiences, creative theoretical abstraction with a global orientation, meticulous empirical treatments, and superb storytelling through writing.
Prasanna	• Advocates for the decolonization of research by listening to regional voices and showcasing deeply local stories with universal appeal. • Highlights the interplay of forces of growth, rural-urban developments/migrations, Eastern identity and business practices, the aspirational energy of the youth prevalent across transitional economies: as "GREAT" economies (Growing, Rural, Eastern, Aspirational, Transitional), which parallel Saudi Arabia's transformational projects. • Saudi initiatives like NEOM offer powerful narratives to enrich the global IS

	discourse with fresh regional perspectives and universal insights.
Thomas	• Regional scholars should strive to balance local and global perspectives, "studying locally and publishing globally" to translate local insights into globally relevant theoretical contributions. • The rapid pace of Saudi Arabia's digital transformation presents opportunities to explore its impact on socio-technical systems, challenging the existing assumptions in IS.
Tawfiq	• Saudi Arabia's technological advancements in areas such as AI, cybersecurity, and e-government, coupled with a digitalization mindset and digitized processes and infrastructures, offer unparalleled opportunities for impactful research. • Regional scholars must leverage these assets to advance Vision 2030 and make meaningful contributions to the global IS knowledge. • Calls on regional scholars to export their expertise, positioning themselves as thought leaders in global academic and professional circles.

3 Insights

3.1 Reflections on the Socio-Technical Identity of IS

The panelists unanimously highlighted the socio-technical focus as the defining characteristic of the IS field. Situated at the intersection of technology and society, IS distinguishes itself from disciplines like computer science (CS), which focuses on the technical aspects, and sociology, which centers on the social dimensions (Sarker et al., 2019). This integrative, holistic approach enables IS scholars to study systems as dynamic combinations of hardware, software, processes, people, data, and information (R. Bostrom & Heinen, 1977; Orlikowski & Iacono, 2001). The field's ability to bridge these elements is one of its greatest strengths, offering a comprehensive lens for analyzing and solving complex problems that span technical and human domains.

The evolution of the IS field reflects a growing recognition of its socio-technical foundation. Early research often treated technology as a standalone construct, emphasizing its functionalities or technical efficiencies. Over time, however, the field has embraced a more nuanced understanding of technology's role, recognizing that it is deeply embedded within social, organizational, and institutional contexts. This shift aligns with Lyytinen and King's (2004) conceptualization of IS as a "marketplace of ideas," where diverse methodologies and research foci coexist to address multifaceted issues. The panelists' varied approaches to IS research—from design science and organizational studies to economics and behavioral science—illustrate the richness and adaptability of this marketplace. This varying approach should be enhanced by integrating with other disciplines to tackle pertinent IS concerns, as it may result in more innovation and elevate scholarly influence (Rai, 2018). As IS continues to mature, its identity and priorities will evolve, reflecting its responsiveness to emerging challenges and opportunities. For example, as the volume, variety, and velocity of digital traces continue to grow, new opportunities arise not only for more sophisticated analyses but also for answering more profound research questions and generating new theories (Abbasi et al., 2016; Berente et al., 2019).

While the socio-technical theme was a common thread, the panelists differed in their perspectives on the field's boundaries. Some argued for more precise definitions of IS, advocating for a well-defined scope to guide research and teaching. Others embraced the field's fluidity, finding value in its openness to interdisciplinary collaboration and its focus on the interface between the technological and the social aspects (Hirschheim & Klein, 2012). This flexibility allows IS researchers to explore unique problems and contribute innovative solutions, underscoring the field's relevance in tackling issues that may not be salient in other disciplines.

One clear insight that emerged from the discussion is how the IS field fosters a diverse range of research directions, equipping scholars with distinct skills and perspectives. This diversity enriches the discipline, creating opportunities for collaborative problem-solving and innovation. By bringing together varied viewpoints, IS not only identifies unique societal and organizational challenges, but also develops creative approaches to address them. This adaptability positions the IS field as a critical discipline for understanding and shaping the socio-technical dynamics of the digital age. In summary, the evolving nature of IS continues to stimulate new research paradigms, methodological diversity, and theoretical

advancements that strengthen its role in academia and practice (Abbasi et al., 2016; Hirschheim & Klein, 2012). However, as Grover and Lyytinen (2015) caution, the field must remain vigilant against an overreliance on externally borrowed theories that dilute its socio-technical core. Without deliberate efforts to develop native theorizing centered on the IT artifact and its entanglement with social systems, IS risks losing its distinctiveness and becoming subsumed within adjacent disciplines. Importantly, as several panelists emphasized, the pursuit of socio-technical theorizing must be anchored in solving meaningful and societally relevant problems. The value of building new theories lies not merely in their novelty, but in their ability to illuminate and address challenges that may be uniquely visible to IS scholars. Without such grounding, theoretical innovation risks becoming detached from the realities it seeks to explain, ultimately undermining the relevance and impact of the field.

3.2 Reflections on Understanding Digital Transformation and Its Implications

Digital transformation is no longer viewed as a bounded or time-limited phenomenon. Rather, it reflects a fundamental shift in organizational structure and operations, integrating technical and social elements into new organizational logics. As the panelists emphasized, digital transformation is not simply about adopting digital tools; it is about rethinking how value is defined, pursued, and delivered. In this sense, it involves ongoing cycles of redesign and reinvention, not one-time implementation. Unlike earlier technological changes, which often had defined endpoints, digital transformation represents a state of perpetual innovation, characterized by ongoing cycles involving technologies, data streams, processes, products, and services. Each innovation generates new data streams, which in turn, drive more cycles of development, resulting in an iterative process of transformation and generating unlimited entropy in an information simulation (N. Bostrom, 2003)

This perspective aligns with Yoo et al. (2024), who argue that digital transformation brings about systemic change, where platforms, data infrastructures, and algorithms not only support the organization, but also constitute it. The structures and boundaries that once defined firms are increasingly shaped by modular, programmable, and interconnected digital systems. Baskerville et al. (2020) characterize this phenomenon as an ontological reversal, where digital representations—such as simulations, models, or interfaces—precede and shape real-world structures and practices.

The panelists highlighted how digital technologies, once confined to internal operations, have become embedded in everyday products and services, ranging from wearables technologies to autonomous systems. As firms shift toward more agile and integrated operations, traditional models of mass production and rigid hierarchy are being replaced with continuous development and flexible value delivery. Piccoli et al. (2024) describe this transition as a move from IT-enabled transformation to the predominance of digital resources, where APIs, datasets, and cloud-native services are the primary building blocks of modern organizations.

These advancements challenge the stability of established organizational structures. As Wessel et al. (2021) explain, digital transformation differs from earlier forms of IT change in that it redefines organizational identity. It changes not only what organizations do, but who they are, and how they position themselves within evolving digital ecosystems. The panelists stressed that digital transformation should not be used as a general label; it should refer to deep, systemic shifts that reshape business models, industries, markets, and institutions. Saudi Arabia exemplifies this concept, since its digital initiatives are integral to a broad strategy aimed at reengineering social and economic systems on a large scale.

The essence of innovation is also evolving. As Alaimo and Kallinikos (2024) argue, data now function as institutional forces. They shape how knowledge is produced, how norms are embedded, and how control is exercised. The panelists noted that today's technologies are less about capturing attention and more about shaping behavior and experience through artificial intelligence, biometrics, and personalization. In these environments that Baskerville et al. (2020) characterized as "digital-first", the line between user and producer is increasingly blurred, particularly on decentralized platforms where individuals create and trade value, such as in energy or mobility ecosystems.

Understanding digital transformation requires a temporal and contextual lens. This is particularly relevant when considering the value of data (Alashoor, 2024). The panel urged IS scholars to recognize that digital transformation is not a finite process but a continuous one—driven by data loops, platform evolution, and adaptable services. Drawing on Bateson's idea of the "difference that makes a difference," they advocated for attention on how digital changes subtly but significantly reorganize practices, relationships, and meaning.

Viewed in historical perspective, digital transformation follows earlier waves of societal transformation—from the industrial revolution to the data economy. But what makes this moment distinct is the speed, depth, and magnitude of its impact. Chatterjee and Sarker (2024) describe it as a space of contradiction, where the potential for progress coexists with growing risks and inequalities. These conflicts are inescapable; they must be addressed directly.

Digital transformation, in this light, presents a significant opportunity for information systems research. Scholars must move beyond isolated case studies or technology adoption models to examine how digital systems transform decision-making, redefine organizational boundaries, and restructure value creation. This includes studying how digital infrastructures centralize or distribute power, how algorithms govern social and economic behavior, and how platformization alters the dynamics of competition and coordination. By engaging with these issues, the IS field can contribute to more informed, inclusive, and responsive approaches to navigating digital transformation.

3.3 Reflections on the Unique Position of IS in Studying Digital Transformation

The socio-technical focus of the IS field provides a distinctive lens for addressing complex societal problems, setting it apart from other disciplines. This unique perspective enables IS scholars to tackle challenges that other fields may overlook, such as the geopolitical issues and governance implications arising from digital transformation. However, this distinction also places a responsibility on the IS community to identify problems that matter to society and engage in impactful, solution-oriented scholarship (Van De Ven & Johnson, 2006). The ability to address pressing societal challenges while maintaining relevance through high-quality research is critical to the field's continued growth and legitimacy.

To remain at the forefront of studying digital transformation, the IS field must adapt by expanding its scope to be more global and forward-looking. Scholars should engage with broader societal and economic implications of digital transformation, including governance, protocols, and the socio-technical dynamics of digital platforms. These are areas where IS can provide valuable insights into how systems, organizations, and interactions are continuously reshaped by technology. The field must also evolve beyond static models, adopting dynamic frameworks that account for the ongoing and iterative nature of change in the digital age. The IS field must extend beyond its historical contributions. It must demonstrate continual relevance by offering theoretical clarity, methodological flexibility, and insights that address pressing societal concerns. As the panelists noted, digital transformation is no longer the exclusive domain of IS. Researchers from marketing, strategy, economics, political science, sociology, and other fields are actively shaping how digital change is studied and understood. In this crowded landscape, IS must distinguish itself by showing how its socio-technical foundation enables the generation of explanations and solutions that other disciplines often overlook. At the same time, IS scholars must seek to collaborate with scholars from other disciplines to tackle more daring research challenges.

The panelists emphasized the importance of engaging with broader societal issues, such as sustainability, digital data sovereignty, and platform governance, not as peripheral interests but as central research challenges. These are areas where IS can make a real difference. Our ability to study technologies as both technical systems and social constructs gives us an edge in analyzing how digital platforms shape economic coordination, how data infrastructures encode institutional values, and how design decisions influence equity and access. All technological decisions regarding data models or protocols reflect assumptions that are political, epistemological, and institutional in which he IS field is uniquely positioned to surface and critique them (Alaimo & Kallinikos, 2024).

The integration of technical and managerial insights is another core strength of the IS field, enabling it to bridge social and technical aspects in ways that few disciplines can. The panelists identified "design" as a critical competency that should remain central to the field's identity. Embracing design as a core ethos of the field suggests that we embrace the generative, open, and non-inevitable nature of digital innovations. All digital artifacts are human-made artifacts and thus can always be made otherwise. What we have is an outcome of a series of deliberate choices. In the current digital era, this includes the design of data itself—a growing focus as data becomes a fundamental driver of power, governance, and societal change. The design of data is an area that builds directly on its foundational strength in design science (Hevner et al., 2004). Design science positions IS to create and evaluate artifacts that solve real-world problems through a balance of methodological rigor and contextual relevance. The design of data is a natural extension of this tradition. Rather than treating data as a neutral input, IS scholars are equipped to examine how data is constructed, framed, and governed within institutional and infrastructural contexts. Yoo et al. (2024)

highlight that digital transformation increasingly depends on how data is structured and mobilized, while Alaimo and Kallinikos (2024) emphasize data's role as an epistemic artifact shaped by political and organizational choices. By positioning design at the nexus of its scholarship, IS can leverage its socio-technical expertise to address both short and long-term challenges.

While timely explanations of changes in the digital era are essential, IS scholars should also aim to develop forward-looking theories and solutions that endure over time. These efforts require a balance between addressing current technological phenomena and generating insights that remain relevant as systems evolve. The field must provide both pragmatic solutions and foundational theories that contribute to a deeper understanding of the digital transformation landscape. The field should pursue the development of blue-ocean theory, contributing concepts rooted in our distinctive comprehension of the social and technical dimensions of the digital transformation phenomena and go beyond relying on reference disciplines to advance theories that are unique to our field (Grover & Lyytinen, 2023). Such theoretical contribution can take many forms, whether through validation, expansion, or synthesis, but must always aim to clarify and explain phenomena that matter beyond the immediate context of the investigation (Gopal et al., 2024).

The digital era also introduces new opportunities for the field. The very computational improvements that have facilitated digital transformation could also be leveraged to redefine the contributions of the IS field to society. For example, a recent view positions Information Systems (IS) as a research platform focused on enabling interdisciplinary inquiry through shared data, modular methods, and analytical tools, shifting emphasis from theory-building to making digital complexity explainable (Grisold et al., 2023). While this approach enhances flexibility and relevance, overreliance on infrastructure may undermine the theoretical foundation of the field and blur its identity (Grover & Lyytinen, 2023). A balanced approach is necessary, integrating complexity-aware methods with conceptual rigor, allowing IS to produce insights that are both empirically grounded and theoretically significant (Benbya et al., 2020). Regardless of the approach, the panelists made one point clear: IS is uniquely positioned to ask critical questions at the intersection of technology, institutions, and society, questions other fields often miss. Answering them demands theoretical depth and timely insight, enabled by methodological creativity and a firm grasp of socio-technical complexity.

3.4 Reflections on the Regional Contributions in the GCC Region to the Global IS Discourse

The transformative initiatives underway in the GCC region, exemplified by Saudi Arabia's Vision 2030, NEOM the first cognitive city in the world, and rapid digital development, provide a rich context for impactful IS research. These regional transformations not only create unique datasets but also present opportunities to challenge or expand established assumptions in the field. By leveraging these opportunities, regional scholars can contribute fresh perspectives that enrich global IS theories and practices. However, this requires deliberate efforts to connect local insights with the broader global discourse.

A key message from the panelists was the importance of balancing local and global perspectives. Regional scholars were encouraged to "study locally and publish globally," translating local phenomena into frameworks and narratives that resonate with the international IS community. This approach allows local insights to inform globally relevant theories while ensuring that the unique socio-economic and cultural dynamics of the region are not lost in translation. By framing their research to address both local specificity and global relevance, regional scholars can establish themselves as critical voices in the field.

The discussion also underscored the need for the decolonization of research. Local scholars must emphasize regional voices and perspectives, ensuring that research narratives are not dominated by Western frameworks. Economies like Saudi Arabia, which exemplify "GREAT" characteristics (Growing, Rural, Eastern, Aspirational, Transitional), have much to offer to the global discourse (Karhade & Kathuria, 2020). These unique contexts provide opportunities to explore phenomena that may be underexamined in Western-centric IS research, creating a richer and more inclusive understanding of digital transformation.

Countries in GCC region are experiencing *growing* opportunities which are multifaceted and challenging. Growth brings growing pains of change. The *rural*-urban developments and eventual rural-urban migrations into these countries will give rise to lots of jobs but at the same time will also surface difficulties which can only be addressed with effective planning. The west needs to learn the *eastern* norms and practices for doing business engrained in these regions. The youth in the GCC regions are *aspirational*

and are seizing the opportunity to design their own future. We are witnessing a once-in-a-civilizational transition which represents a unique opportunity for us to come together and collaborate on digital initiatives which know no boundaries. All large-scale transitions require dynamic adjustments (Karhade & Dong, 2021); sometimes necessitating three steps forward and two steps back. Thus, the confluence of the four forces of growth, rural-urban migration, eastern ways of business practice, the energy of aspirational youth are guiding a massive transition (Karhade & Kathuria, 2020) necessitating a decolonized approach to research (Karhade et al., 2021). Forces will hopefully align, resulting in an extraordinary transformation in the decades ahead for the GREAT GCC region.

Building the skills and capabilities of regional scholars is essential for achieving these goals. The panelists stressed the importance of tackling local problems as a foundation for developing expertise. By addressing pressing regional issues, scholars can produce high-quality, impactful research that builds their reputation and credibility. Regional conferences and journals that use English as a medium offer a strategic advantage, enabling broader dissemination of ideas and facilitating engagement with global academic communities.

Ultimately, the panelists emphasized that regional scholars must leverage the unique assets of the GCC—its rapid transformation, innovative projects, and distinct cultural contexts—to contribute meaningfully to the global IS discourse. By focusing on skill development, engaging in impactful local research, and framing their insights for international audiences, regional scholars can ensure their voices are heard and their contributions recognized in shaping the future of Information Systems.

4 Lessons Learned

The panel discussion at the inaugural SaudiCIS conference surfaced several important lessons for both the global and regional Information Systems (IS) communities. First, the socio-technical identity of IS remains its foundational strength, equipping the field to engage with complex, systemic challenges that span technical, organizational, and societal domains. Preserving this strength requires the application of ongoing methodological innovation and theoretical advancement to deliver solutions to society that are unique to our field, particularly in light of the shifting societal, economic, and political contexts of the digital era. Second, digital transformation should not be viewed as a simple continuation of historical technological progress. Rather, it represents a systemic and ongoing reconfiguration of organizational structures, institutional frameworks, and social practices. Addressing this phenomenon demands that IS scholars adopt adaptive, dynamic, and temporally sensitive research perspectives. Third, the transformative developments within the GCC region, and particularly in Saudi Arabia, provide a strong foundation for producing research that is locally grounded yet globally impactful. Regional scholars must aim to move beyond context-specific descriptions and contribute theoretical insights that resonate within the broader IS discourse. Finally, the future of the field depends on the deliberate integration of diverse voices and experiences. A commitment to inclusivity and a recognition of the value of local perspectives are essential for ensuring that IS scholarship remains vibrant, relevant, and influential in shaping digital futures.

5 Conclusion

The inaugural SaudiCIS marks a transformative milestone that highlights Saudi Arabia's and the region's growing influence in the global digital economy. As Saudi Arabia and other GCC nations implement ambitious digital transformation initiatives, they present unparalleled opportunities for IS scholars to engage with large-scale socio-technical changes. The panel discussions at the SaudiCIS underscored the need for IS scholars to refine their field's identity, adapt to the evolving nature of digital transformation, and position themselves as key contributors to this era of technological and economic change.

The conference emphasized four key themes. First, defining the identity of IS remains a crucial endeavor as the field evolves alongside technological advancements. The socio-technical lens remains central, but scholars must continue to integrate new research paradigms to maintain relevance. Second, digital transformation represents more than technological upgrades; it is a continuous process of systemic change that requires IS scholars to embrace dynamic perspectives and engage with interdisciplinary methodologies. Third, IS is uniquely positioned to study digital transformation due to its ability to bridge social and technical domains; however, it falls on the shoulders of IS scholars to identify and solve important societal problems to remain relevant. Lastly, regional scholars in the GCC have a unique

opportunity to contribute to the global IS discourse and contribute to the discipline's relevance by translating their region's digital transformation experiences into impactful research narratives.

Saudi Arabia's Vision 2030, the NEOM megaproject, and AI-driven initiatives create a promising landscape for IS research, offering opportunities to explore the role of emerging technologies in governance, business, and society. To fully capitalize on these developments, regional scholars must frame their research in ways that resonate globally, ensuring that local insights contribute meaningfully to broader theoretical advancements. This necessitates a decolonized research approach—one that integrates regional perspectives rather than relying solely on Western academic traditions. The transformation unfolding in the GCC represents a once-in-a-civilizational shift, driven by economic growth, rural-urban migration, deeply rooted eastern business practices, and the aspirations of an ambitious and dynamic youth population. By embracing these forces and engaging in rigorous, contextually grounded scholarship, IS researchers in the region can shape global discourse and play a pivotal role in the future of the IS field.

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Declaration of AI

During the preparation of this work, the author(s) used tactiq.io to transcribe the recording of the panel.

During the revision of this work the author(s) used ChatGPT to summarize takeaways from the transcript, it was also used for copyediting and language improvements.

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6 Appendix A: GovTech Maturity Index (GTMI) Scores for GCC and Arab Countries

The GTMI is a comprehensive measure developed by the World Bank Group to assess the maturity of digital governance across four key dimensions:

- Core Government Systems Index (CGSI): Evaluates the effectiveness of foundational government systems, including public administration, financial management, and digital infrastructure.
- Public Service Delivery Index (PSDI): Assesses the quality and accessibility of digital public services, such as e-portals, e-filing, and e-payments.
- Digital Citizen Engagement Index (DCEI): Measures the effectiveness of platforms enabling public participation, feedback mechanisms, and open government data.
- GovTech Enablers Index (GTEI): Captures the strength of enablers for digital governance, such as digital strategies, regulatory frameworks, digital skills, and innovation programs.

Country	GTMI	CGSI	PSDI	DCEI	GTEI	Group
Saudi Arabia	0.971	0.963	0.979	0.966	0.977	A
Kuwait	0.634	0.565	0.868	0.418	0.684	B
Bahrain	0.828	0.740	0.796	0.920	0.857	A
Oman	0.836	0.861	0.907	0.696	0.882	A
Qatar	0.874	0.833	0.954	0.931	0.779	A
United Arab Emirates	0.961	0.922	0.989	0.976	0.956	A
Algeria	0.502	0.493	0.689	0.309	0.516	B
Comoros	0.262	0.378	0.140	0.203	0.328	C
Djibouti	0.274	0.349	0.293	0.132	0.322	C
Egypt	0.751	0.783	0.795	0.626	0.802	A
Iraq	0.208	0.190	0.281	0.253	0.107	D
Jordan	0.829	0.803	0.888	0.803	0.821	A
Lebanon	0.359	0.473	0.569	0.044	0.351	C
Libya	0.118	0.156	0.055	0.086	0.176	D
Mauritania	0.187	0.397	0.011	0.002	0.337	D
Morocco	0.613	0.547	0.730	0.617	0.558	B
Palestine (West Bank & Gaza)	0.392	0.545	0.549	0.320	0.153	C
Somalia	0.265	0.302	0.248	0.248	0.263	C
Sudan	0.222	0.185	0.175	0.253	0.276	D
Syria	0.273	0.228	0.259	0.118	0.490	C
Tunisia	0.688	0.619	0.760	0.629	0.745	B
Yemen	0.225	0.350	0.190	0.131	0.230	D
GCC Average	0.851	0.814	0.916	0.818	0.856	
Global Average	0.552	0.575	0.649	0.449	0.536	

About the Authors

Mohammad AlMarzouq is an Associate Professor of information systems at Kuwait University and current editor-in-chief of the Arab Journal of Administrative Sciences. He received his PhD in management information systems from Clemson University. His research interests include Free/Libre and Open Source Software, project management, technology acceptance, diffusion of innovation, as well as computer programming education and training. His work has been published in *Decision Support Systems*, *Information and Management, Computers in Human Behavior, Internet Research, The DATA BASE for Advances in Information Systems, and Communications of the AIS*.

Youngjin Yoo is Professor of Information Systems and Innovation in the Department of Management at the London School of Economics and Political Science. His research focuses on digital innovation, examining intersections among technology, organizations, and design. He has published articles in leading scholarly journals including *MIS Quarterly*, *Information Systems Research*, *Organization Science, Communications of the ACM*, and *Academy of Management Journal*. He currently serves as a Senior Editor for *Information Systems Research* and has previously held editorial roles at *MIS Quarterly*, *Journal of Strategic Information Systems*, and *Management Science*. His research has received funding from organizations such as the National Science Foundation, NASA, and the National Research Foundation of Korea.

Prasanna Karhade is an Associate Professor in the Department of Decisions, Operations, and Technology at the CUHK Business School, which he joined in August 2022. His research interests include digital innovation, design thinking, and entrepreneurship. His work has been published in *MIS Quarterly*, *Information Systems Research*, and the *Journal of Management Information Systems*. He has recently initiated a research program on micro-financing in GREAT (growing, rural, eastern, aspirational, and transitional) economies.

Thomas Grisold is an Assistant Professor at the University of St. Gallen, Switzerland. His research explores digital phenomena through various theoretical lenses, including routine dynamics theory, affordance theory, and predictive mind theory. He employs mixed-methods research designs, combining qualitative-inductive theorizing with computational analyses of digital traces.

Tawfiq Alashoor is an Assistant Professor in the Operations, Information and Technology Department at IESE Business School, University of Navarra. He holds BS, MS, and PhD degrees from King Fahd University of Petroleum and Minerals, Penn State University, and Georgia State University, respectively, and completed a postdoctoral program at the University of Notre Dame. His research focuses on privacy and cybersecurity decision-making in emerging AI-supported technologies, including apps, conversational agents, and robots. His work has been published in *Information Systems Research* and *MIS Quarterly*, and he has presented at leading conferences such as ICIS and HICSS. He is a co-founder of the Saudi AIS and collaborates with public and private organizations on cybersecurity consulting, data ethics, and privacy education. He has received multiple research and teaching awards, and his work has been featured in media, podcasts, and industry reports.

Mazen Shawosh is an Assistant Professor of Management Information Systems. His research, teaching, and consultation focus on organizational privacy, IS strategic leadership, and data governance. He is the founder and past president of the Saudi AIS. Mazen earned his Ph.D. from the University of Georgia, an M.S. from the University of Florida, and a B.S. from King Fahd University of Petroleum & Minerals. He won the Best Paper Award at the Southern AIS Conference (SAIS) 2018 and the Saudi Conference on Information Systems (SaudiCIS) 2024. Mazen actively participated in organizing different major regional conferences such as ECIS2025, SaudiCIS2024, MENACIS2022, and IEEE International Conference on Computing and Information Technology (ICCIT) 2023.

Mousa Albashrawi is an Associate Professor of Information Systems at King Fahd University of Petroleum and Minerals, KSA. He earned his PhD from the University of Massachusetts Lowell in 2017. His research interests include the AI in healthcare, social media, FinTech, and machine learning. He has presented his work at various conferences such as AMICS, the Eastern Academy of Management, Pre-ICIS, ACM, and HICSS. His research has been published in the *Information Systems Management, Information Systems Frontiers, Interacting with Computers, and the International Journal of Information Management*.