



REIMAGINING DIGITAL PATIENT EXPERIENCE IN EMERGING ECONOMIES:
A META-ANALYTICAL FRAMEWORK ON THE DUAL ROLE OF
TECHNOLOGY READINESS AND EMOTIONAL INTELLIGENCE IN SERVICE
DELIVERY

¹Hamza Iftikhar, ²Rana Sakandar Hayat

¹PhD, Assistant Professor, Department of Government of Public Policy, School of Social Sciences and Humanities, National university of Science and Technology, 44000, Islamabad, Pakistan,

²Mphil, Riphah International University, Islamabad

hiftikhar@s3h.nust.edu.pk / hiftikhar@s3h.nust.edu.pk

²Sakandarhayat101@gmail.com

Abstract

The rapid digitalization of healthcare systems globally, particularly in emerging economies, has transformed patient-provider interactions. While technological tools like electronic health records (EHRs), telemedicine platforms, and mobile health applications promise operational efficiency and better access, their success heavily depends on the psychological and emotional readiness of both patients and providers. This study presents a meta-analytical framework that investigates the dual moderating roles of Technology Readiness (TR) and Emotional Intelligence (EI) on the relationship between digital service delivery and the overall patient experience. Drawing from over 40 peer-reviewed studies published between 2000 and 2023, this research identifies key patterns and evaluates how TR and EI independently and interactively shape patient perceptions and satisfaction. Findings reveal that while high TR among patients amplifies their receptiveness to digital platforms, high EI among healthcare staff significantly boosts perceived care quality particularly in environments where digital interaction replaces traditional face-to-face care. The study offers theoretical contributions by extending the TRAM model with EI considerations and provides actionable strategies for healthcare administrators in LMICs to design inclusive, tech-enabled, emotionally intelligent healthcare delivery systems.

Keywords: Digital Patient Experience, Technology Readiness, Emotional Intelligence, TRAM, Digital Health Tools, Meta-Analysis, LMICs

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Corresponding Authors*:

INTRODUCTION

In recent years, the global healthcare landscape has undergone a fundamental transformation through the accelerated adoption of digital health technologies. These innovations—ranging from Electronic Health Records (EHRs), telemedicine platforms, AI-assisted diagnostics, to mobile health (mHealth) applications—have introduced new efficiencies and expanded healthcare access. Particularly in low- and middle-income countries (LMICs), where traditional healthcare delivery systems often suffer from infrastructural gaps, digital health presents a compelling solution to bridge accessibility and equity deficits (WHO, 2021; Chakraborty et al., 2023).

However, while digital health tools offer structural advantages, their success is not uniformly experienced. The widespread assumption that technology alone can transform care overlooks the complex interplay between human factors and digital systems. This gap between potential and outcome has prompted scholars to shift focus from the deployment of digital tools to how users—both patients and providers interact with them. The key variables mediating this interaction are Technology Readiness (TR) on the part of patients, and Emotional Intelligence (EI) on the part of healthcare providers.

Technology Readiness (Parasuraman & Colby, 2015) refers to the extent to which individuals are mentally prepared and inclined to embrace technology. It captures psychological enablers like optimism and innovativeness, as well as inhibitors like discomfort and insecurity. Patients with high TR are likely to perceive digital interfaces as empowering, whereas those with low TR may experience stress, mistrust, or disengagement—undermining the very goals of digital inclusion (Li et al., 2023).

Emotional Intelligence, meanwhile, is increasingly recognized as a core competency in healthcare delivery, particularly in digitally mediated environments. Defined by Goleman (1995) as the ability to recognize, understand, and manage emotions in oneself and others, EI enables healthcare providers to respond empathetically, reduce patient anxiety, and build trust—even in the absence of face-to-face contact. In telehealth and e-health contexts, where emotional cues may be limited or delayed, high EI among providers can compensate for the interpersonal deficits of digital communication (Chang et al., 2013; Kitsios et al., 2023).

Critically, the majority of existing literature examines TR and EI in isolation. Studies on digital health adoption often rely on the Technology Acceptance Model (TAM) or its variants like TRAM, focusing predominantly on cognitive and usability factors (Lin et al., 2007). Conversely, work on emotional intelligence tends to emphasize traditional clinical settings with limited reference to digital health scenarios. This fragmented approach fails to capture the synergistic effects of TR and EI in shaping digital healthcare experiences. Moreover, the lack of research from LMIC contexts is particularly problematic. In these regions, the introduction of digital technologies is often externally driven guided by donor agencies or national digitization targets (Wilson et al., 2021). Without sufficient consideration of patient readiness or provider soft skills. This results in poor uptake, user dissatisfaction, and ultimately, suboptimal outcomes despite the presence of advanced digital infrastructure.

This study addresses these gaps by proposing and evaluating a meta-analytical framework that positions TR and EI as dual moderators of the relationship between digital health delivery and patient experience. It argues that: Digital tools do not inherently improve healthcare outcomes; rather, their effectiveness depends on how ready and emotionally supported users feel. TR (as a cognitive-affective moderator) and EI (as a

socio-emotional moderator) jointly determine whether digital interactions are perceived as empowering or alienating, efficient or overwhelming.

For digital health transformation to be successful in LMICs, policies must prioritize human-centered strategies alongside technological rollouts. By critically examining these relationships, this study contributes both theoretically, by extending TRAM with emotional dimensions, and practically, by providing recommendations for health systems in resource-constrained environments. Ultimately, it makes the case that bridging the digital divide is as much about psychological and emotional readiness as it is about bandwidth and devices.

LITERATURE REVIEW

DIGITAL HEALTH TOOLS AND PATIENT EXPERIENCE

Digital health tools such as telemedicine platforms, mobile health (mHealth) apps, wearable devices, and electronic health records (EHRs) have redefined the way care is delivered. These tools offer improved accessibility, faster diagnosis, and enhanced continuity of care, especially in geographically or economically marginalized areas (Chakraborty et al., 2023). However, mere access does not translate into satisfaction or positive health outcomes. Critically, several studies have shown that patient experience with digital tools is influenced more by perceived usability, clarity of information, and interactivity than by the technology itself (Ozturk & Karatas, 2023; Bettiga & Lamberti, 2017).

For example, a teleconsultation service may be technically flawless, yet if the interface is complex or culturally insensitive, patients may perceive the care as impersonal or inadequate (WHO, 2021). Furthermore, without emotional support from the provider, digital platforms can worsen isolation and lead to care disengagement. The literature increasingly emphasizes that digital care quality must include emotional and cognitive dimensions, not just technical parameters (Kitsios et al., 2023). This shift is crucial in LMICs, where digital health tools often enter without robust local adaptation or user training, leaving patients alienated despite technological progress (Farhat et al., 2024).

TECHNOLOGY READINESS (TR)

Technology Readiness (TR) is not a static trait but a dynamic state shaped by experience, exposure, and education. Introduced by Parasuraman (2000), TR includes four dimensions—optimism, innovativeness, discomfort, and insecurity—which collectively predict how individuals perceive and engage with technology. Optimism and innovativeness act as enablers, while discomfort and insecurity serve as barriers to adoption (Parasuraman & Colby, 2015). Recent empirical work has reaffirmed TR's predictive power in healthcare contexts. For instance, Li et al. (2023) found that patients with higher TR reported better satisfaction with remote diagnostic tools, while those with low TR were more likely to feel confused or threatened by technology, even when the services were objectively well-executed.

Critically, TR is unevenly distributed across demographics. Older adults, rural residents, and less educated individuals often exhibit lower TR, exacerbating health inequalities when digital health is rolled out universally without personalization (Jamil, 2021). Yet, most implementation frameworks in LMICs fail to conduct pre-assessments of TR, leading to technological alienation and underutilization. Thus, digital health readiness is as much a behavioral and educational challenge as it is a technical one that calls for intentional capacity-building, particularly in patient education and interface design (Iqbal et al., 2024).

EMOTIONAL INTELLIGENCE (EI)

Emotional Intelligence (EI), as developed by Goleman (1995), is composed of self-awareness, self-regulation, motivation, empathy, and social skills. In clinical settings, EI has been shown to foster trust, mitigate patient anxiety, and improve compliance with treatment protocols (Chang et al., 2013). In digital contexts, EI becomes even more crucial due to the absence of physical presence and non-verbal cues. In digital health environments, EI allows providers to interpret tone, anticipate concerns, and personalize interactions—key factors in preserving the therapeutic alliance. For instance, Kitsios et al. (2023) demonstrated that emotionally intelligent digital consultations led to higher patient satisfaction scores, even when delivered through text or video.

Yet, critical gaps remain. Most telehealth training programs focus on technology use, not emotional communication, leading to a cold, mechanical patient experience. Moreover, EI as a competency is rarely included in digital health policy frameworks, particularly in LMICs. This oversight neglects the socio-emotional resilience needed to support diverse patient populations through digital means (Watson, 2024). The literature suggests that EI should be considered a form of soft infrastructure just as vital to digital health implementation as broadband or hardware.

TR AND EI AS MODERATING VARIABLES

While TR and EI have been separately studied, their interaction as co-moderators is an emerging frontier. Causio et al. (2025) argue that TR influences how patients engage with digital tools, but EI determines whether these engagements are perceived as positive or dismissive. In essence, TR governs the “can,” while EI influences the “how” and “why” of digital health engagement.

Critically, studies that examine TR and EI together are rare, despite growing calls for integrative frameworks. One such example is a recent meta-review by Ruh (2025), which found that digital interventions were most effective when high TR patients were matched with high-EI providers—creating a synergy between technical capability and emotional receptivity. Moreover, low TR among patients can sometimes be offset by high EI from providers, suggesting a buffering effect. This has significant implications for LMICs, where TR tends to be lower. Yet, no major LMIC-based health policy has explicitly incorporated this dual-moderation model—a gap this study aims to address.

RELEVANCE FOR LMICS AND SYSTEMIC INTEGRATION

LMICs stand at a unique crossroads. On one hand, digital health is seen as a tool to leapfrog infrastructural barriers; on the other, the social and psychological conditions for effective adoption are often lacking. The Global Strategy on Digital Health (WHO, 2021) underscores the need for equity, inclusivity, and contextual sensitivity—but in practice, implementations remain techno-centric.

Farhat et al. (2024) highlight that most LMIC digital rollouts focus on hardware, software, and connectivity, with little emphasis on human behavior or emotional context. This often leads to a paradox where technology exists, but utilization remains low due to misalignment with user readiness. Moreover, emotionally intelligent service delivery is rarely emphasized in LMIC healthcare systems, where clinical outcomes are still prioritized over experiential metrics. By failing to integrate TR and EI into system design, LMICs risk replicating patterns of “digital exclusion within digital inclusion”—where technologies are available but not meaningfully used.



METHODOLOGY

This study adopts a meta-analytical approach supported by the PRISMA framework to examine the dual moderating roles of Technology Readiness (TR) and Emotional Intelligence (EI) in digital healthcare delivery. The aim is to synthesize empirical and conceptual studies that examine the role of Technology Readiness (TR) and Emotional Intelligence (EI) in shaping digital patient experiences. This design is suitable for capturing multi-level insights from diverse healthcare settings, particularly focusing on low- and middle-income countries (LMICs).

DATA SOURCES AND SEARCH STRATEGY

A comprehensive literature search was conducted across the following academic databases: Scopus, Web of Science, PubMed, ScienceDirect, and Google Scholar (for grey literature and cross-referencing). The search covered publications from January 2015 to December 2023. Boolean operators and keywords such as ("Digital Health" OR "Telemedicine" OR "eHealth" OR "mHealth") AND ("Patient Satisfaction" OR "User Experience" OR "Digital Patient Experience") AND ("Technology Readiness" OR "TRI" OR "Technology Acceptance") AND ("Emotional Intelligence" OR "Empathy in Digital Health") AND ("LMICs" OR "Developing Countries" OR "Emerging Economies") were used in combination to narrow down relevant studies.

INCLUSION AND EXCLUSION CRITERIA

Criteria	Inclusion	Exclusion
Type of Studies	Peer-reviewed journals, empirical studies, theoretical frameworks, reviews	Conference abstracts, opinion pieces, editorials
Time Period	2000–2023	Studies before 2000
Language	English	Non-English papers without translation
Focus Area	Healthcare, digital service delivery, TR, EI, LMICs	Non-health or corporate service sector studies

DATA ANALYSIS

This study employed a thematic analysis approach to synthesize findings from the 42 selected articles that examined the roles of Technology Readiness (TR) and Emotional Intelligence (EI) in shaping digital patient experiences. Thematic analysis was chosen due to its strength in capturing patterns, meanings, and relationships across a diverse body of qualitative and quantitative literature (Braun & Clarke, 2006). This method allowed for the identification of recurring concepts and latent structures related to TR, EI, patient satisfaction, and digital healthcare implementation particularly in the context of low- and middle-income countries (LMICs).

FINDINGS

The thematic synthesis of 42 peer-reviewed studies revealed four dominant and interrelated findings that collectively shape the digital patient experience in emerging economies. These themes reflect not only the impact of digital health tools but, more importantly, how **Technology Readiness (TR)** and **Emotional Intelligence (EI)** act as critical moderators in influencing patient perceptions, satisfaction, and outcomes.

TECHNOLOGY READINESS AS A CATALYST OR BARRIER TO DIGITAL HEALTH ENGAGEMENT

Across nearly all studies reviewed, TR was consistently associated with patient attitudes and behaviors toward digital health platforms. Patients exhibiting high levels of optimism and **innovativeness** (components of TR) reported better satisfaction with online

consultations, appointment scheduling systems, and AI-based symptom checkers (Li et al., 2023; Parasuraman & Colby, 2015). Conversely, those with high discomfort or insecurity about technology frequently experienced frustration, withdrawal, or refusal to engage with even the most user-friendly systems (Fayez et al., 2024). Thematic evidence suggests that TR functions as a cognitive-affective filter: it shapes how patients interpret their digital interactions either as empowering opportunities or alienating experiences. This moderating effect was more pronounced in studies conducted in LMICs, where digital literacy gaps and infrastructural constraints often intensified the impact of low TR (Jamil, 2021).

EMOTIONAL INTELLIGENCE ENHANCES DIGITAL EMPATHY AND PERCEIVED CARE QUALITY

A significant number of studies—particularly in telemedicine contexts—highlighted the critical role of healthcare providers' Emotional Intelligence (EI) in preserving patient satisfaction during virtual encounters (Chang et al., 2013; Kitsios et al., 2023). Providers with high EI demonstrated empathy, clear communication, and cultural sensitivity, all of which mitigated the absence of physical presence. Interestingly, in multiple qualitative studies, patients reported feeling more emotionally supported and valued when the provider addressed concerns through active listening and emotional reassurance—even via digital platforms. In contrast, low-EI communication (e.g., robotic responses, rushed calls) often led to feelings of neglect, despite technically successful digital exchanges. EI thus emerged as a socio-emotional anchor, making the difference between mechanistic and human-centered care in digital contexts.

TR-EI INTERACTION DETERMINES THE QUALITY OF THE DIGITAL CARE EXPERIENCE

One of the most compelling insights from this synthesis is the interactive effect between TR and EI. Studies such as Causio et al. (2025) and Ruh (2025) provided evidence that the most positive patient experiences occurred when high TR patients were matched with high EI providers. This synergy led to enhanced trust, lower anxiety, and higher adherence to care plans even in asynchronous or AI-assisted care. Conversely, mismatches such as low-TR patients receiving low-EI care often resulted in confusion, dissatisfaction, or even withdrawal from digital services. A key insight is that high EI can partially buffer low TR, but the inverse is rarely true: technical confidence alone cannot compensate for emotionally insensitive care. This underscores the need for dual investment in digital skills (for patients) and emotional skills (for providers) as part of digital health transformation.

LMIC CONTEXTS AMPLIFY THE IMPORTANCE OF TR AND EI

The challenges and benefits associated with TR and EI were magnified in LMICs, where digital adoption is often externally driven but locally unsupported. Many interventions in LMICs are introduced without assessing patient readiness or preparing providers for emotionally intelligent communication (Farhat et al., 2024). As a result, technology is frequently underutilized or misused, and patient experiences remain fragmented. Studies emphasize that in LMICs, contextual adaptation is critical: digital health must be culturally appropriate, linguistically accessible, and emotionally responsive. Findings from Iqbal et al. (2024) and Wilson et al. (2021) suggest that when local needs are considered through TR assessments and EI training—digital tools yield not only higher patient satisfaction but also better health equity outcomes.



SUMMARY OF KEY THEMATIC CONTRIBUTIONS

Theme	Evidence Strength	Example Studies
TR as a patient experience moderator	High	Li et al. (2023), Jamil (2021)
EI enhancing perceived care	High	Chang et al. (2013), Kitsios et al. (2023)
TR-EI interaction	Moderate to High	Causio et al. (2025), Ruh (2025)
LMIC-specific challenges	High	Farhat et al. (2024), Iqbal et al. (2024)

DISCUSSION

This study's findings offer a nuanced understanding of how digital health transformations intersect with psychological and emotional readiness in healthcare settings, especially within low- and middle-income countries (LMICs). While the proliferation of telemedicine, EHRs, and mobile health tools is often lauded for enhancing access and efficiency, our review indicates that their impact on patient satisfaction and perceived care quality is significantly shaped by human-centered factors namely, Technology Readiness (TR) and Emotional Intelligence (EI).

The first critical insight is that TR acts as a gatekeeper in shaping patient engagement with digital health platforms. High-TR patients are more likely to perceive digital interfaces as intuitive, empowering, and trustworthy, thereby fostering a positive experience. This aligns with existing literature that situates TR as a predictor of digital behavior (Parasuraman & Colby, 2015; Li et al., 2023). However, the findings also reveal that TR is not equally distributed, with significant disparities arising from age, education, geographic location, and exposure. In LMICs, where digital literacy and infrastructure are uneven, TR becomes a social determinant of health equity. Patients with low TR often misinterpret technical glitches or complex platforms as indicators of poor service quality, reducing trust in the healthcare system.

Equally important is the role of Emotional Intelligence in digitally mediated care. As digital care removes many of the non-verbal cues that define traditional clinical relationships, EI becomes essential for creating a sense of empathy, warmth, and respect. Studies in this review affirm that emotionally intelligent healthcare providers those who listen actively, respond empathetically, and communicate with cultural sensitivity can significantly elevate the patient experience, even in remote or asynchronous contexts (Chang et al., 2013; Kitsios et al., 2023). EI serves as a compensatory mechanism in digital care: it helps preserve the human touch in technology-mediated interactions.

Perhaps the most novel contribution of this study lies in its conceptualization of the TR-EI interaction. When both moderators are high, the synergy results in amplified patient satisfaction, digital trust, and care continuity. This finding aligns with the systems thinking perspective, which emphasizes that healthcare outcomes are rarely determined by single variables but rather by the interplay of technical, emotional, and contextual factors. The implication is clear: digital health transformation should not merely focus on upgrading hardware or introducing new apps. It must also involve assessing patient TR levels and investing in EI training for healthcare workers.

The challenges in LMICs further magnify these dynamics. Health systems in these countries often adopt digital tools as part of externally funded reform packages or national e-health strategies (Wilson et al., 2021). Yet, without systemic readiness both technological

and emotional the tools fail to achieve sustainable impact. The review revealed that few LMIC-based interventions account for TR or EI explicitly, resulting in mismatches between policy intentions and patient experiences. This study thus underscores the need to reposition TR and EI as core design elements in digital health policies and implementation frameworks.

CONCLUSION AND RECOMMENDATION

This review concludes that digital health technologies, while promising, cannot deliver their full potential without deliberate attention to human factors. Technology Readiness and Emotional Intelligence are pivotal moderators in determining whether digital health tools empower or alienate patients—especially in the socioeconomically diverse contexts of LMICs. A patient with high TR is more likely to trust and engage with digital tools, but this trust is sustained only when paired with emotionally intelligent care from providers. Conversely, emotionally distant care or digital illiteracy can negate even the most advanced systems. Therefore, a balanced digital health strategy must combine technological innovation with human-centered readiness and emotional competence.

Based on the synthesis of literature and identified gaps, the following recommendations are proposed for healthcare policymakers, digital health developers, and institutions operating in LMICs:

INTEGRATE TR ASSESSMENTS: Healthcare systems should evaluate patient Technology Readiness as part of their digital health onboarding processes. This can guide the customization of platforms and interfaces.

EMBED EI TRAINING IN HEALTHCARE CURRICULUM: Emotional Intelligence should be considered a core clinical competency. EI-focused communication training can help providers maintain patient trust in digital consultations.

Design Human-Centered Interfaces: Developers should co-design tools with patients and providers, ensuring that platforms are intuitive, culturally relevant, and emotionally sensitive.

TAILOR STRATEGIES FOR LMICS: Governments and donors should ensure digital health initiatives are accompanied by literacy campaigns and community engagement programs that address both TR and EI gaps.

MANDATE MIXED METRICS: Evaluation frameworks for digital health interventions should go beyond technical KPIs and include indicators related to empathy, trust, and emotional engagement.

FUTURE RESEARCH DIRECTIONS

While this review lays a theoretical foundation, future research is required to empirically validate the proposed TR-EI interaction model in real-world settings. Longitudinal and experimental studies could explore:

- How TR evolves over time through interventions such as digital literacy training.
- The causal impact of EI training on digital patient outcomes.
- Cross-cultural differences in TR-EI dynamics between high-income and low-income countries.
- Integration of TR-EI metrics into AI-driven triage systems for adaptive personalization.

Moreover, future work could benefit from incorporating intersectional lenses (e.g., gender, age, disability) to better understand how TR and EI interact with broader determinants of healthcare access in the digital era.

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