PERCEPTION AND ACCEPTANCE OF HOSPITAL EMPLOYEES IN DIGITAL TRANSFORMATION

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ABSTRACT

This study examines hospital employees' perceptions and acceptance of digital transformation across demographic groups such as age, gender, job title, and length of service. A quantitative descriptive-comparative design was used to examine differences in perceptions and acceptance across demographic groups. Perception and acceptance were the main dependent variables, while demographic profiles, training exposure, and communication strategies served as moderating variables. A survey questionnaire was utilized to gather data from the respondents. The mean, Independent t-test, and One-way ANOVA were used to analyzed the data. Results showed strong and positive perceptions and acceptance, with high mean scores on the digital transformation perception and acceptance. While gender and staff classification (medical vs. support) showed no significant differences, notable variations emerged across job titles, particularly among Radiologic and Respiratory Technologists, and among employees with over ten years of service, who reported higher scores. Although the predominantly female sample, largely composed of nurses with less than five years of service, expressed optimism, barriers such as lower troubleshooting confidence and limited digital resources persisted. Strong leadership and peer support were identified as key facilitators, emphasizing the need for tailored, role- and tenure-specific strategies to support digital transformation. Finally, improvements in healthcare quality and accessibility through better resources, training, and communication were associated with better health outcomes, though multifactorial influences like socioeconomic status and health behaviors must be considered.

Keywords: Digital Transformation, Perception and Acceptance, Digital Literacy, Healthcare Workforce, Training Programs

INTRODUCTION

Digital transformation is fundamentally reshaping the healthcare industry by enhancing patient care, increasing operational efficiency, and supporting data-driven decision-making (Agarwal et al., 2010; Ryu, 2012). Technological advancements such as electronic health records (EHRs), telemedicine, and patient portals have improved accessibility and responsiveness, particularly during the COVID-19 pandemic, which catalyzed the rapid adoption of digital tools (Monaghesh & Hajizadeh, 2020). These innovations present significant opportunities for better health outcomes and more efficient hospital operations.

Despite the potential benefits, the implementation of digital health technologies continues to face several persistent challenges. Resistance to change, system interoperability issues, usability concerns, and limited organizational resources often hinder digital initiatives in healthcare settings (Cresswell & Sheikh, 2013; Greenhalgh et al., 2017). Hospital employees, in particular, may experience anxiety about job security, lack of confidence in using new technologies, and frustration with poorly designed digital systems (Shachak & Reis, 2009). These issues underline the importance of effective change management and the need for ongoing training and support for healthcare workers. Moreover, although digital adoption surged during the pandemic, ongoing concerns such as data privacy, cybersecurity, and stakeholder resistance remain critical barriers (Whitelaw et al., 2020).

Understanding how different stakeholders especially healthcare providers, patients, and administrators perceive digital transformation is essential for developing targeted strategies that promote acceptance and meaningful use. However, there remains a lack of empirical studies examining these perceptions at the local level, particularly in underrepresented regions such as Region 12 in the Philippines. Existing research tends to focus on larger urban hospitals or national-level data, overlooking the unique contextual challenges and perspectives of regional healthcare institutions. This study aimed to address this gap by assessing hospital employees' perceptions and acceptance of digital transformation in a selected hospital in Region 12. Specifically, it seeks to measure the levels of perception and acceptance, explore the relationship between them, and identify any demographic differences. Insights from this research can guide local healthcare leaders in crafting inclusive and effective digital transformation strategies, ultimately fostering a more adaptive and efficient healthcare environment.

Statement of the Problem

The study aimed to determine the level of perception and acceptance of hospital employees in digital transformation. In addition, It sought to answer the following questions:

1. What is the demographic profile of the participants in terms of:

    1.1 Age
    1.2 Gender
    1.3 Job Title
    1.4 Length of Services
    1.5 Training and Development Programs
    1.6 Communication Strategies

2. What is the level of perception of the participants in terms of digital transformation perception?
3. What is the level of acceptance of the participants in terms of Digital transformation acceptance?
4. Is there a significant difference between the participants' level of perception and acceptance according to their profile?

FRAMEWORK

The Technology Acceptance Model (TAM), developed by Fred Davis in 1986, serves as a foundational framework for understanding how users accept and adopt new technologies, particularly in healthcare. TAM emphasizes two key factors influencing technology adoption: perceived usefulness (PU) the belief that a technology enhances job performance and perceived ease of use (PEOU), the belief that using the technology requires minimal effort. In healthcare settings, hospital employees are more likely to embrace digital tools like electronic health records (EHRs) if they find them both beneficial to patient care and easy to use. This framework provides critical insights into promoting successful digital transformation within hospitals

In this study, researchers focused on the demographic profile of the participants and their perception and acceptance of digital transformation in hospitals. The goal is to determine the level of perception and acceptance of hospital employees in digital transformation and to examine any relationships between these factors.

METHOD

Research Design

This study used a quantitative descriptive-comparative design to examine differences in hospital employees' perception and acceptance of digital transformation across demographic groups. By focusing on perception and acceptance as dependent variables, and demographics, training exposure, and communication strategies as independent or moderating variables, the study captured current attitudes without manipulating any factors. The analysis identified how different groups respond to digital initiatives, offering insights for designing more effective, inclusive strategies. The findings highlight key areas for training, communication, and policy adjustments to enhance employee readiness and support successful digital transformation in healthcare.

Participants

This study focused on ethically recruiting participants from selected hospital in Region 12 involved in digital transformation, including nurses, doctors, IT staff, nursing assistants, billing/cashier staff, and diagnostic personnel. Recruitment followed clear inclusion criteria (age 18-65, role, and at least six months' tenure) and excluded non-clinical staff or those unwilling to consent. Emphasizing voluntary participation, informed consent, and neutral recruitment personnel, participants were invited via personalized communication. Stratified random sampling ensured balanced representation across professional groups, with a sample size of 192 from 380 eligible staff. The recruitment process gathered diverse insights on perceptions and acceptance of digital transformation, providing actionable data for future healthcare initiatives.

Research Instrument

This research utilized a structured questionnaire to gather data on hospital employees' perceptions and acceptance of digital transformation, adapted from the Technology Acceptance Model (Davis, 1989). The responses were rated on a five-point Likert scale (5-Strongly Agree, 4-Agree, 3-Neutral, 2-Disagree, 1-Strongly Disagree) to quantify the level of perception and acceptance.

Statistical Tools

Descriptive statistics such as frequency and percentage and mean and standard deviation were used to analyze the demographic profile and level of digital transformation and acceptance. Independent t-test and one-way ANOVA were utilized to to identify significant differences in perceptions across various demographic characteristics.

RESULTS AND DISCUSSION

Demographic Profile

This study examined the demographic profile of hospital employees to better understand their perceptions and acceptance of digital transformation. As shown in Table 1, among 192 participants, 75% were female—reflecting global healthcare trends where women dominate frontline caregiving roles (Santos & Villanueva, 2022). Nurses comprised the largest professional group at 35%, followed by Nursing Assistants (14%), Radiologic Technologists (11%), and Medical Technologists (10%), emphasizing the critical role of clinical frontline staff in the hospital's operations.

In terms of length of service, most employees (65%) had fewer than five years of experience, suggesting a predominantly early-career and adaptable workforce (Dela Cruz & Reyes, 2023). However, the relatively small proportion of senior staff highlights potential gaps in institutional knowledge and leadership continuity. To address this, implementing mentorship initiatives that leverage the experience of long-tenured employees while promoting digital skills among newer staff is recommended.

Taken together, the demographic profile indicates that the study's findings largely reflect the perspectives of female, early-career frontline healthcare workers. This context underscores the need for targeted strategies that account for demographic influences and proactively address barriers such as system usability and technical support (Bolaños et al., 2025; Sudrajat, 2024), ensuring a more inclusive and sustainable approach to digital transformation.

Table 1. Respondents' Demographic Distribution by Gender, Job Title, Role in the Organization, and Years of Service

Variable		Frequency	Percent
	Male	48	25.0
Gender	Female	144	75.0
	Total	192	100.0
	Cashier	13	6.8
	Doctor	13	6.8
	IT	3	1.6
	MedTech	19	9.9
	Nurse	67	34.9
Job Title	Nurse Assistant	26	13.5
	Pharmacist	15	7.8
	PT	5	2.6
	Radiologic Tech	21	10.9
	Respiratory Therapist	10	5.2
	Total	192	100.0
Role	Medical Staff	176	91.7
	Support Staff	16	8.3
	Total	192	100.0
	Less Than 5	125	65.1
	5 To 10	47	24.5
Years of Service	Above 10 Years	20	10.4
	Total	192	100.0

Level of Perception of Digital Transformation

This study assessed employees' perceptions of digital transformation. As shown in Table 2, the overall weighted mean score of 4.228 (SD = 0.517) indicated strong agreement that digital technologies improve healthcare efficiency, patient care, work quality, and job performance. While communication and system navigation were also rated positively, lower scores in troubleshooting (Mean = 3.81) and digital support and training (Mean = 3.85) revealed areas for improvement.

Consistent with Bolaños et al. (2025), Laukka et al. (2022), and Sudrajat (2024), the findings show that while digital tools enhance professional performance, challenges remain around digital literacy and infrastructure. Addressing these gaps is essential to sustaining engagement and maximizing digital transformation benefits.

Table 2. Weighted Mean of Participants' Responses on Overall Perception

Digital Transformation Perception Scale	Mean	Std. Deviation	Interpretation
I believe that digital tools improve my job performance.	4.42	0.634	Very High
Using digital technologies helps me improve the quality of patient care.	4.46	0.621	Very High
Digital transformation enhances the efficiency of healthcare services.	4.49	0.579	Very High
Digital transformation initiatives are essential for improving my overall work quality.	4.44	0.602	Very High
Digital Transformation facilitates better communication and coordination among hospital staff.	4.4	0.655	Very High
I find the digital systems used at work easy to navigate.	4.23	0.709	Very High
The digital systems I use are user-friendly and intuitive.	4.05	0.757	High
I feel confident in independently troubleshooting issues with digital technologies when needed.	3.81	0.878	High
I feel comfortable using the new digital tools introduced in my workplace.	4.12	0.695	High
The hospital offers adequate amount of resources such as training, hands-on modules, and sessions to assist staff in comprehending and employing digital tools.	3.85	0.837	High
Perception Overall	**4.228**	**0.5168**	**Very High**

Level of Acceptance

This study assessed employee acceptance of digital transformation using the Digital Transformation Acceptance Scale. As shown in Table 3, the overall weighted mean score of 4.06 (SD = 0.61) indicates a high level of acceptance among 192 participants.

Leadership support and peer comfort with digital technologies (both mean = 4.22) received the highest ratings, highlighting the importance of organizational culture and peer encouragement in fostering digital adoption. Positive feedback was also noted for colleague encouragement (mean = 4.15) and opportunities for employee input (mean = 4.10).

Although acceptance was strong overall, areas such as training (mean = 3.86), resource availability (mean = 3.93), and technical support (mean = 3.95) showed slightly lower scores, suggesting opportunities for improvement.

The findings demonstrate strong employee support for digital initiatives, underscoring the need for continued leadership engagement, peer collaboration, and enhanced training and technical support to sustain digital transformation success.

Table 3. Weighted Mean of Participants' Responses on Overall Acceptance

Digital Transformation Acceptance Scale	Mean	Std. Deviation	Description
My colleagues encourage me to use digital tools in my work.	4.15	0.681	High
Leadership supports the adoption of digital transformation initiatives in our organization.	4.22	0.642	Very High
I feel that most of my peers are comfortable using digital technologies.	4.22	0.666	Very High
I have access to adequate training on how to use digital tools effectively.	3.86	0.814	High
Resources and support are available when I encounter difficulties with digital technologies.	3.93	0.802	High
My workplace provides sufficient technical support for using digital systems.	3.95	0.808	High
My workplace uses meetings, announcements, and conferences as communication tools to gather employee input.	4.1	0.77	High
Acceptance Overall	**4.06**	**0.61**	**High**

Comparison in the Perception and Acceptance According to Profile

Analysis of Table 4.1 revealed no significant difference in perception (t = -0.736, p = .463) or acceptance (t = 0.300, p = .765) scores between medical and support staff, suggesting that job role does not meaningfully influence digital readiness within the hospital. These results highlight a strong, cohesive organizational culture at St. Elizabeth Hospital, Inc., where consistent communication, training, and leadership efforts likely promote a unified attitude toward digital initiatives across different staff roles.

Consequently, digital transformation strategies can be broadly implemented without extensive role-specific customization, streamlining planning and fostering inclusive adoption throughout the organization. This finding mirrors international studies, such as Alami et al. (2020), which demonstrated that unified institutional values drive consistent digital engagement across clinical and non-clinical staff.

Based on these insights, hospital administrators can confidently advance organization-wide digital transformation initiatives that focus on collective engagement rather than segregated role-based strategies. However, while job role does not significantly affect perception and acceptance, it remains essential to monitor other variables such as tenure, digital literacy, and departmental workflows that could shape experiences with technology.

Table 4.1 Comparison of Overall Levels of Perception and Acceptance by Role in the Organization

Variables	Role in the Organization	Mean	Std. Deviation	t	p-value	Decision	Interpretation
Perception overall	Medical Staff	4.22	0.525	-0.736	0.463	Reject Hypothesis	Not significant
	Support Staff	4.32	0.42				
Acceptance overall	Medical Staff	4.07	0.62	0.3	0.765	Reject Hypothesis	Not significant
	Support Staff	4.02	0.5				

On one hand**, the** Table 4.2 revealed no significant difference in perception scores between male and female respondents ($t = 1.382$, $p = .169$), indicating that gender does not meaningfully influence views on digital initiatives. Both male and female employees demonstrated similarly positive attitudes, suggesting that digital transformation efforts are perceived uniformly across genders within the hospital.

The findings reflect an inclusive organizational culture where broad-based communication, training, and leadership strategies effectively engage all employees without the need for gender-specific interventions. These results align with broader research, such as studies by Sudrajat (2024) and UNICEF (2023), emphasizing that equitable institutional support fosters gender parity in digital engagement.

Table 4.2 Comparison of Overall Levels of Perception and Acceptance by Gender

Variable	Gender	Mean	Std. Deviation	t	p-value	Remarks
Perception overall	Male	4.317	.5134	1.382	.169	Not significant
	Female	4.198	.5162			
Acceptance overall	Male	4.214286	.5744600			
	Female	4.010913	.6152247			

On the other hand, the Table 4.3 revealed that while perception scores significantly differed across roles ($F = 3.071$, $p = 0.002$), acceptance scores did not show significant variation ($F = 1.888$, $p = 0.056$). This suggests that although employees' willingness to adopt digital initiatives remains broadly consistent, their attitudes toward digital transformation are shaped by their specific responsibilities and technological exposure.

Further, insights from post hoc analysis identified Radiologic Technologists and Respiratory Therapists as having higher perception scores, likely due to their frequent use of specialized technologies. In contrast, roles such as Pharmacists, Nurses, and Nursing Assistants exhibited lower perception scores, reflecting limited interaction with digital tools. Meanwhile, IT professionals, Cashiers, and Doctors showed no significant perception differences compared to other groups.

Table 4.3 Comparison of the Overall Level of Perception and Acceptance According to Job profile

Variables		Mean	Std. Deviation	F	p-value	Remarks
Perception_overall	Cashier	4.108	.5469			
	Doctor	4.008	.2871			
	Information Technologist	4.400	.1732			
	MedTech	4.358	.4682			
	Nurse	4.204	.5509			
	Nurse Assistant	4.142	.3690			
	Pharmacist	3.960	.4852			
	Physical Therapist	3.920	.7497			
	Radiologic Tech	4.576	.5458			
	Respiratiry Therapist	4.570	.2908			
	Total	4.228	.5168	3.071	.002	Significat
Acceptance_overall	Cashier	3.912088	.4537765			
	Doctor	4.197802	.3978619			
	Information Technologist	5.000000	0E-7			
	MedTech	4.105263	.4254972			
	Nurse	4.027719	.6870292			
	Nurse Assistant	3.912088	.4982859			
	Pharmacist	3.904762	.8376468			
	Physical Therapist	3.914286	.8724818			
	Radiologic Tech	4.149660	.5467458			
	Respiratiry Therapist	4.457143	.3676240			
	Total	4.061756	.6102308	1.888	.056	Not Significant

The analysis in Table 4.4 identified significant differences in employees' perceptions and acceptance of digital transformation initiatives based on years of service. Employees with over 10 years of tenure reported notably higher perception (4.515) and acceptance (4.436) scores compared to those with less than 5 years or between 5 to 10 years of service, with statistically significant ANOVA results (F = 3.545, p = .031 for perception; F = 4.842, p = .009 for acceptance). Post hoc analysis further confirmed that employees with longer service had significantly more favorable attitudes, while no significant differences were observed between the shorter-tenured groups.

These findings highlight that extensive experience and organizational familiarity enhance employees' readiness to embrace digital change. Conversely, employees with less tenure may require additional training, structured onboarding, and engagement initiatives to build confidence and acceptance of digital tools. Moreover, longer-serving employees emerge as key influencers and potential mentors in promoting digital adoption.

Notably, the results also suggest possible disengagement among mid-career employees (5–10 years of service), underscoring the need for targeted re-engagement strategies. Tailoring support and communication efforts based on tenure can foster a more inclusive and effective digital transformation, maximizing contributions across all career stages and enhancing the overall success of initiatives within healthcare organizations.

Table 4.4 Comparison of Overall Levels of Perception and Acceptance by Years in Service

Variables		Mean	Std. Deviation	F	p-value	Remarks
Perception_overall	less than 5	4.194	.5325			
	5 to 10	4.196	.4676			
	Above 10 years	4.515	.4557			
	Total	4.228	.5168	3.545	.031	Significant
Acceptance_overall	less than 5	4.045714	.6199450			
	5 to 10	3.945289	.5864132			
	Above 10 years	4.435714	.4691904			
	Total	4.061756	.6102308	4.842	.009	Significant

CONCLUSIONS

This study provides valuable insights into how healthcare staff perceive and accept digital tools, directly relating to the hypothesis that significant differences exist based on demographic profiles. Our findings confirm that while overall acceptance levels may be similar, perceptions vary significantly across job roles. For example, radiologic technologists and respiratory therapists tend to view digital tools more positively compared to other groups like nurses and nursing assistants. Given that nurses represent a large portion of the workforce, it becomes clear that training

programs must be thoughtfully tailored to address their specific roles and daily challenges, rather than offering one-size-fits-all digital education.

The study also highlighted a widespread feeling among staff that they have not received sufficient training or support to confidently use digital systems. Addressing this gap is critical not only to enhance technical skills but also to build confidence and ease with technology adoption. Recognizing the distinct differences in perception across job profiles reinforces the importance of offering targeted support, tailored learning opportunities, and role-specific interventions.

Ultimately, by investing in thorough, personalized training, providing accessible resources, and fostering an inclusive environment where staff feels heard and supported, healthcare organizations can cultivate a resilient digital culture. This strategy will not only bridge the gaps identified but also empower healthcare workers, streamline daily operations, and ultimately improve patient care outcomes truly realizing the potential of digital transformation.

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