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**| RESEARCH ARTICLE**

# Bridging Talent Gaps in U.S. Healthcare through Emerging Digital Marketing Platforms

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## | ABSTRACT

This paper takes a closer look at how digital marketing is reshaping recruitment and retention in U.S. healthcare, especially as the sector struggles with persistent workforce shortages. The focus is on how platforms like LinkedIn, Indeed, Glassdoor, and even social media are being used not just to post jobs, but to genuinely connect with and engage potential talent—while also weighing the real hurdles, like slow adoption, regulatory constraints, and whether organizations are fully ready to embrace these tools. To dig into this, a thematic analysis of secondary data was carried out, drawing from peer-reviewed journals, books, and conference proceedings indexed in Google Scholar, PubMed, Scopus, and Web of Science. The literature was combed through to pull out key themes around healthcare workforce shortages, evolving HR strategies, and how digital marketing innovations intersect with these pressing challenges. The evidence shows that digital platforms can open up recruitment pipelines, create more personalized ways to engage candidates, and strengthen employer branding in competitive labour markets. At the same time, their impact is uneven—barriers such as patchy adoption, gaps in HR expertise, and compliance issues still hold organizations back from realizing their full potential. AI-driven tools and e-HRM systems show strong potential for bridging talent gaps. Healthcare HR leaders can integrate digital marketing with traditional methods to address shortages, enhance employer attractiveness, and improve retention. At policy level, strategic adoption supports workforce stability and long-term system sustainability. Further research should explore ethical oversight, long-term impacts of AI and digital marketing in healthcare HR, and scalable models for smaller organizations.

## | KEYWORDS

Healthcare HR, Digital Marketing, Recruitment, Retention, Workforce Shortage, Social Media, AI, Employer Branding

## | ARTICLE INFORMATION

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## 1. Introduction

The U.S. healthcare system is straining under a deepening workforce shortage, with tens of thousands of providers leaving the profession in recent years, from physicians to physical therapists (Definitive Healthcare, 2023, figure 1). Surveys show more than half of healthcare workers plan to switch jobs by next year, driven by burnout, under appreciation, and limited support (Roy, 2025). This strain highlights the central role of human resources, not simply in filling vacancies, but in cultivating resilient systems of recruitment and retention that can sustain care delivery (Abelsen et al., 2020; Locke et al., 2022). Traditional HR approaches alone are insufficient. Increasingly, digital marketing platforms are being positioned as disruptive tools that connect organizations with talent more effectively, transforming outreach and engagement while offering new possibilities to bridge persistent gaps in the nation's healthcare workforce (Agarwal et al., 2020; Farsi, 2021).

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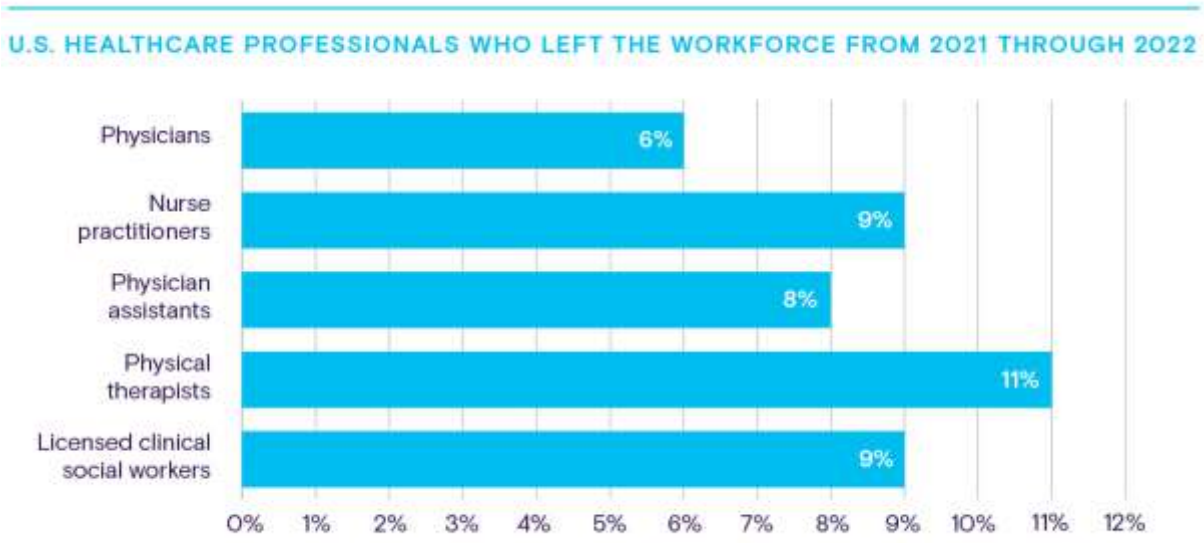
**Figure 1: U.S. Healthcare Professionals who Left the Workforce from 2021 through 2022**

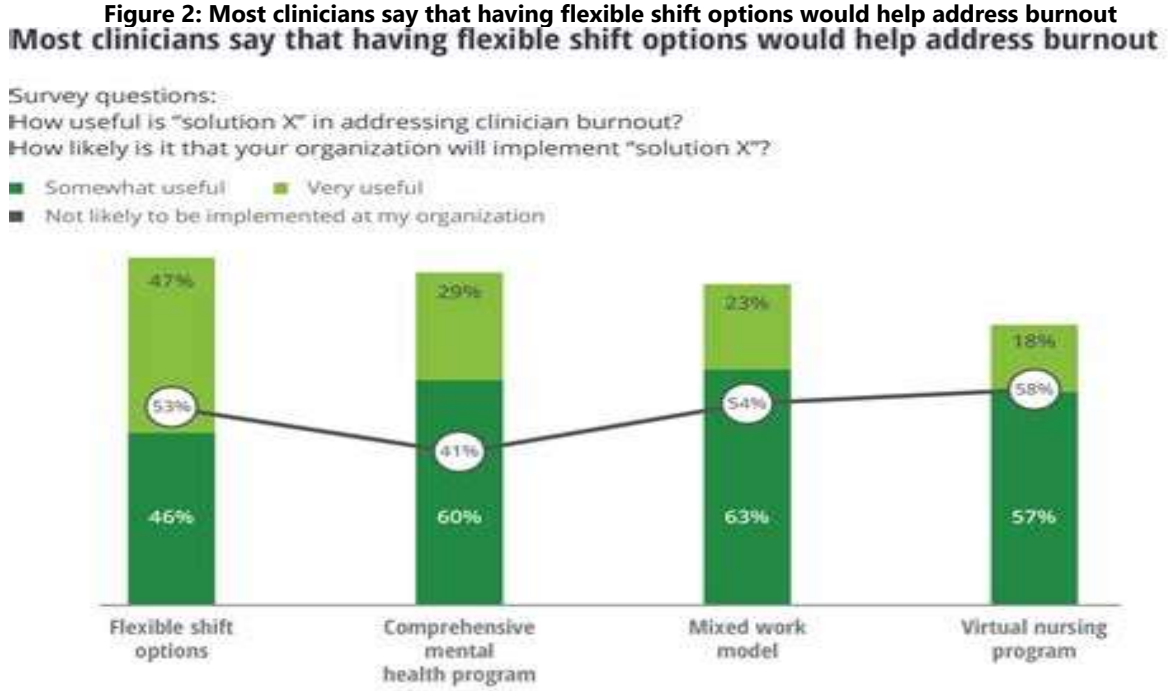



(Definitive Healthcare, 2023)

**2. Problem Statement**

The U.S. healthcare sector is experiencing a talent emergency that threatens the stability of care delivery. Nearly 145,000 providers left the workforce in 2022 alone, with critical shortages projected to intensify over the next decade (Definitive Healthcare, 2023). More than half of current workers are actively planning to leave their jobs, citing burnout, lack of recognition, and limited pathways for growth (Roy, 2025). Human resources departments face mounting pressure to not only recruit but also retain skilled professionals in an increasingly competitive market. Traditional strategies have not kept pace with the urgency of these gaps. Without adopting innovative, digitally enabled approaches to connect with and support healthcare workers, organizations risk widening the workforce crisis and compromising patient care (Deloitte, 2022, figure 2).

**Figure 2: Most clinicians say that having flexible shift options would help address burnout**




(Deloitte, 2022)

## 3. Purpose and Objectives of the Study

The purpose of this study is to investigate how digital marketing platforms can support human resource management in addressing critical workforce shortages in the U.S. healthcare sector. This study aims to highlight how digital marketing can strengthen recruitment pipelines, improve retention outcomes, and ensure long-term workforce sustainability in the nation's healthcare system.

**Objectives**

- To analyse workforce challenges in U.S. healthcare.
- To examine HR's evolving role in healthcare workforce development.
- To evaluate digital marketing platforms in healthcare HR recruitment.
- To identify barriers and opportunities in digital adoption.
- To recommend strategies to bridge healthcare workforce gaps.

## 4. Literature Review

The workforce crisis in U.S. healthcare is about far more than just numbers—it reflects deeper, structural strains in the system. Studies point to burnout, resource pressures, and the sense that career progression is limited, all of which continue to chip away at motivation and stability in the field (Hanrahan et al., 2022). This is why talent strategies cannot stop at quick fixes or surface-level incentives. Yet, too often, the response leans heavily on retention bonuses or short-term staffing solutions, which may ease immediate pressures but do little to tackle the longer-term challenge of building sustainable engagement and loyalty (Buchelt et al., 2021).

Recruitment and retention strategies now have to evolve within a climate where professional identity and trust in organizations are under strain. Evidence suggests that approaches tailored to the realities of different professional groups—whether physicians, nurses, or hybrid clinical managers—offer a better path to aligning expectations (Buchelt et al., 2021). At the same time, experiences from public health agencies show how cultural perceptions matter: graduates often aspire to dynamic and impactful roles, yet employers struggle against an image of bureaucracy, revealing another barrier to renewing and energizing the healthcare workforce (Locke et al., 2022).

Studies in emerging economies show that recruitment and selection strategies play a vital role in shaping organizational outcomes and competitiveness (Hossain et al., 2019). The digital turn adds further complexity. Platforms such as LinkedIn and Indeed are no longer passive job boards but dynamic ecosystems where algorithms and user behaviour shape visibility and reach. Digital affiliates in retail sectors, for instance, leverage influencer engagement and automated tracking to expand market presence, showing how digital marketing can strategically drive awareness (Rezvi et al., 2025b). Nevertheless, healthcare organizations have lagged, often due to cultural conservatism and limited digital readiness (Wisetsri et al., 2021).

Applications of digital marketing in healthcare HR remain fragmented. Studies reveal that while data-driven profiling and targeted campaigns can connect with niche talent pools, adoption is undermined by resource constraints and scepticism about efficacy (Rezvi et al., 2025c). However, evidence from business intelligence analytics in SMEs highlights how data use enhances loyalty and engagement, suggesting healthcare HR can similarly benefit by rethinking digital tools (Alzoubi, 2022).

Despite growing recognition of digital marketing's potential in healthcare HR, current research remains fragmented, with limited empirical evidence on its direct impact on recruitment and retention outcomes. Few studies critically examine how tailored digital strategies can sustainably address workforce shortages, leaving a clear gap for targeted, sector-specific exploration.

## 5. Methodology

This study employs a thematic analysis of secondary data drawn from peer-reviewed journals, books, and conference papers. Sources were systematically identified through Google Scholar, PubMed, Scopus, and Web of Science, ensuring breadth and reliability. Inclusion criteria prioritized relevance to healthcare workforce, HR, and digital marketing, while outdated or tangential studies were excluded. Coding followed Braun and Clarke's reflexive approach, emphasizing researcher reflexivity and iterative theme development (Braun & Clarke, 2023). Practical guidance on systematic coding and conceptual modelling further supported rigor, offering transparency and replicability (Naeem et al., 2023). This process enabled a nuanced synthesis, aligning diverse evidence with the study's objectives.

## 6. Results/Findings

| **Theme** | |
|---|---|
| A: Effectiveness of digital marketing platforms in healthcare talent acquisition | "Digital marketing affiliates use influencer promotions, SEO optimization, and AI-driven automation to promote digital stores and increase conversions" (Rezvi et al., 2025). |
| A: Effectiveness of digital | "Multidimensional health care, including the pairing of health care with SM and other forms of |

| | |
|---|---|
| marketing platforms in healthcare talent acquisition | communication, has been shown to be very successful" (Farsi, 2021). |
| A: Effectiveness of digital marketing platforms in healthcare talent acquisition | "The results of the analysis show that the impact of digital technology marketing has had a tremendous impact, namely increasing more engagement on social media and marketing, Key Performance indicators analysing organizational values, growing demand for more digital, growing product searches among users, increasing demand for platforms Content" (Khiong, 2022). |
| B: Barriers to adoption of digital tools in healthcare HR | "The result is that inadequate work is being conducted for healthcare companies and businesses in general inside digital marketing. Another inference was that, when it comes to digital marketing, the healthcare sector is lagging behind other sectors" (Wisetsri et al., 2021). |
| B: Barriers to adoption of digital tools in healthcare HR | "Some content disseminated by medical institutions could conflict with medical advertising guidelines" (Sugawara et al., 2020). |
| B: Barriers to adoption of digital tools in healthcare HR | "Most of the previous studies indicate that social media is not being used as the main source of e-recruitment, rather as one of the secondary sources" (Hosain et al., 2020). |
| C: Strategies for bridging workforce gaps using digital platforms | "The Framework consists of nine key strategic elements, grouped into three main tasks (plan, recruit, retain)" (Abelsen et al., 2020). |
| C: Strategies for bridging workforce gaps using digital platforms | "AI paces up recruitment speed, personalizes training through adaptive learning and performs performance tracking in real-time" (Rezvi et al., 2025). |
| C: Strategies for bridging workforce gaps using digital platforms | "Based on the obtained results, the researchers recommend managers and decision-makers of the telecommunications companies in Jordan to invest in electronic human resources systems, which can help them fully implement human resources practices electronically, to obtain economic savings and to be able to attract talents" (Alzoubi, 2022). |
| D: Long-term implications for healthcare organizations and policy | "Various groups of respondents perceive hospital attractiveness as an employer differently… the professionals value such determinants as a nice work atmosphere, cooperation with colleagues (specialists), good working conditions and, most importantly, employment stability" (Buchelt et al., 2021). |
| D: Long-term implications for healthcare organizations and policy | "Participants described attractive job attributes including fulfilling, meaningful work; a position at a mission-driven organization; and the opportunity to make an impact on their community" (Locke et al., 2022). |
| D: Long-term implications for healthcare organizations and policy | "This study supports future development of a recruiter-focused behavioural intervention to address remaining uncertaintiessurrounding the most effective ways to offer maternity care trial participation to all eligible women" (Hanrahan et al., 2022). |

**Theme A: Effectiveness of digital marketing platforms in healthcare talent acquisition**

Digital marketing has become a powerful force in redefining how organizations connect with prospective candidates. As Rezvi et al. (2025) highlight, "Digital marketing affiliates use influencer promotions, SEO optimization, and AI-driven automation to promote digital stores and increase conversions." Although rooted in the retail sector, this insight translates well into healthcare HR, where reaching the right candidate pool quickly and effectively is paramount. Similarly, Farsi (2021) emphasizes that "Multidimensional health care, including the pairing of health care with SM and other forms of communication, has been shown to be very successful." This reinforces the growing role of digital platforms in improving visibility, credibility, and outreach.

Khiong (2022) furthers this perspective by noting that "The results of the analysis show that the impact of digital technology marketing has had a tremendous impact, namely increasing more engagement on social media and marketing, Key Performance indicators analysing organizational values, growing demand for more digital, growing product searches among users, increasing demand for platforms Content." Taken together, these findings reveal that digital platforms not only increase engagement but also enhance recruitment potential in an era where healthcare organizations face significant workforce shortages.

**Theme B: Barriers to adoption of digital tools in healthcare HR**

Despite the promise of digital solutions, barriers persist in the healthcare sector. Wisetsri et al. (2021) state that "The result is that inadequate work is being conducted for healthcare companies and businesses in general inside digital marketing. Another inference was that, when it comes to digital marketing, the healthcare sector is lagging behind other sectors." This underlines systemic inertia and resource limitations that restrict adoption.

What is particularly striking is how regulatory frameworks can actually stifle innovation in healthcare recruitment. In Japan, Sugawara et al. (2020) observed that "Some content disseminated by medical institutions could conflict with medical advertising

guidelines." This creates a real catch-22 situation where organizations want to modernize their outreach but find themselves walking on eggshells, afraid to fully commit to digital platforms.

The reluctance runs so much deeper than just worrying about compliance issues. Hosain et al. (2020) uncovered something that honestly did not surprise me but still stung: "Most of the previous studies indicate that social media is not being used as the main source of e-recruitment, rather as one of the secondary sources. Look, we have been in enough boardroom conversations to recognize what is happening here—we are treating these incredibly sophisticated digital tools like they are some kind of backup plan. It is maddening, really. We have got all this potential sitting right there, but instead of embracing it, we are tentatively testing the waters while our competitors are already swimming laps. Mix that regulatory confusion with budget constraints and this deeply rooted attachment to "how we've always done things," and you have got a recipe for painfully slow progress.

**Theme C: Strategies for bridging workforce gaps using digital platforms**

Here is where things get interesting, though. Some organizations are actually cracking the code on this challenge. Abelsen et al. (2020) captured exactly what we have been thinking: "The Framework consists of nine key strategic elements, grouped into three main tasks (plan, recruit, retain)." See, this is not about randomly implementing whatever tech solution sounds trendy—it is about creating something systematic that actually works long-term. And honestly, what Rezvi et al. (2025) discovered about AI gets me genuinely excited: "AI paces up recruitment speed, personalizes training through adaptive learning and performs performance tracking in real-time." What is exciting here is how AI is not just speeding things up—it is actually making the entire process smarter, from eliminating those frustrating hiring bottlenecks to creating genuinely personalized career development paths.

Alzoubi (2022) complements these findings by suggesting that “Based on the obtained results, the researchers recommend managers and decision-makers of the telecommunications companies in Jordan to invest in electronic human resources systems, which can help them fully implement human resources practices electronically, to obtain economic savings and to be able to attract talents.” Together, these studies demonstrate that adopting structured frameworks, integrating AI, and investing in electronic HR systems create actionable pathways for bridging the talent gaps in healthcare.

**Theme D: Long-term implications for healthcare organizations and policy**

The long-term sustainability of healthcare recruitment strategies depends on how organizations balance workforce needs with broader cultural and policy shifts. Buchelt et al. (2021) highlight that “Various groups of respondents perceive hospital attractiveness as an employer differently… the professionals value such determinants as a nice work atmosphere, cooperation with colleagues (specialists), good working conditions and, most importantly, employment stability.” Locke et al. (2022) echo this sentiment, noting that “Participants described attractive job attributes including fulfilling, meaningful work; a position at a mission-driven organization; and the opportunity to make an impact on their community.”

Finally, Hanrahan et al. (2022) argue that “This study supports future development of a recruiter-focused behavioural intervention to address remaining uncertaintiessurrounding the most effective ways to offer maternity care trial participation to all eligible women.” These insights suggest that healthcare recruitment must go beyond immediate hiring needs, embedding supportive cultures, mission-driven roles, and evidence-based recruitment policies to sustain long-term workforce resilience.

## 7. How We Can Implement It

The whole revolution in healthcare recruitment isn't really about throwing out decades of proven methods—it's about finding that sweet spot where innovation enhances what we already know works. I've watched healthcare employers gradually realize they can build these sophisticated social media campaigns and AI-powered systems right on top of their existing recruitment foundation, essentially expanding their reach without losing that irreplaceable human touch that patients desperately need (Rezvi et al., 2025). When I see organizations actually commit to frameworks like "plan, recruit, retain," it gives me hope because they are finally building sustainable solutions instead of constantly putting out fires (Abelsen et al., 2020).

But let us be honest—the regulatory landscape is still a nightmare. We are desperately waiting for policymakers to give us clearer guidelines that encourage innovation while protecting ethical boundaries, because right now these vague advertising rules are paralysing too many institutions (Sugawara et al., 2020). And here's something we don't talk about enough: our HR teams are drowning trying to master analytics, create compelling digital content, and implement AI responsibly all at once (Alzoubi, 2022). When everything clicks together properly, though, healthcare organizations can finally make real progress on these chronic workforce shortages.

## 8. Conclusion

When healthcare organizations truly embrace digital marketing strategically, the transformation can be remarkable—broader talent pipelines, faster hiring, and enhanced appeal. Yet significant challenges persist: regulatory confusion, inconsistent adoption, basic digital skill gaps. This study contributes meaningfully to where healthcare HR meets digital innovation, demonstrating how AI, social platforms, and e-HRM frameworks can address America's staffing crisis. Moving forward, we need

sector-specific research, better retention measurement, and ethical frameworks ensuring recruitment remains equitable and authentically human-centered.

## 9. Statements and Declarations

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## References

[1] Abelsen, B., Strasser, R., Heaney, D., Berggren, P., Sigurðsson, S., Brandstorp, H., ... & Nicoll, P. (2020). Plan, recruit, retain: a framework for local healthcare organizations to achieve a stable remote rural workforce. *Human resources for health*, *18*(1), 63. https://doi.org/10.1186/s12960-020-00502-x

[2] Agarwal, R., Dugas, M., Gao, G., & Kannan, P. K. (2020). Emerging technologies and analytics for a new era of value-centered marketing in healthcare. *Journal of the Academy of Marketing Science*, *48*(1), 9-23. https://doi.org/10.1007/s11747-019-00692-4

[3] Alzoubi, H. M. (2022). The effect of electronic human resources management on organizational health of telecommunications companies in Jordan. *International Journal of Data and Network Science*, 429-438. https://d1wqtxts1xzle7.cloudfront.net/82663883/

[4] Braun, V., & Clarke, V. (2023). Toward good practice in thematic analysis: Avoiding common problems and be (com) ing a knowing researcher. *International journal of transgender health*, *24*(1), 1-6. https://doi.org/10.1080/26895269.2022.2129597

[5] Buchelt, B., Ziębicki, B., Jończyk, J., & Dzieńdziora, J. (2021). The enhancement of the employer branding strategies of Polish hospitals through the detection of features which determine employer attractiveness: a multidimensional perspective. *Human resources for health*, *19*(1), 77. https://doi.org/10.1186/s12960-021-00620-0

[6] Chang, J., Wang, S., & Li, Q. (2024). Digital marketing strategies leveraging data fusion and communication technology for effective human resource management and organizational configuration. *Computer-Aided Design and Applications*, *21*, 119-134. https://www.cad-journal.net/files/vol_21/CAD_21(S4)_2024_119-134.pdf

[7] Definitive Healthcare. (2023). *Addressing the healthcare staffing shortage*. Definitive Healthcare. https://www.definitivehc.com/resources/research/healthcare-staffing-shortage

[8] Deloitte Center for Health Solutions. (2022). *Addressing health care's talent emergency*. Deloitte. https://emergingrnleader.com/wp-content/uploads/2022/12/Deloitte-Healthcare-Recruitment-and-Retention-Research.pdf

[9] Farsi, D. (2021). Social media and health care, part I: literature review of social media use by health care providers. *Journal of medical internet research*, *23*(4), e23205. https://www.jmir.org/2022/1/e30379

[10] Hanrahan, V., Biesty, L., Lawrie, L., Duncan, E., & Gillies, K. (2022). Theory-guided interviews identified behavioral barriers and enablers to healthcare professionals recruiting participants to maternity trials. *Journal of Clinical Epidemiology*, *145*, 81-91. https://doi.org/10.1016/j.jclinepi.2022.01.015

[11] Hosain, S., Manzurul Arefin, A. H. M., & Hossin, M. A. (2020). E-recruitment: A social media perspective. *Asian Journal of Economics, Business and Accounting*, *16*(4), 51-62. https://ssrn.com/abstract=3740302

[12] Hossain, M. M., Kabir, S., & Rezvi, R. I. (2020). Discovering recruitment and selection practices in Bangladesh. *British Journal of Business Design & Education*, 10(2), 1–12. ISSN 2222-7426 (Print), 2222-8412 (Online).

[13] Khiong, K. (2022). Impact and Challenges of Digital Marketing in Healthcare Industries during Digital Era and Covid-19 Pandemic. *Journal of Industrial Engineering & Management Research*, *3*(5), 112-118. https://doi.org/10.7777/jiemar.v3i5.408

[14] Locke, R., McGinty, M., Ramirez, G. G., & Sellers, K. (2022). Attracting new talent to the governmental public health workforce: strategies for improved recruitment of public health graduates. *Journal of Public Health Management and Practice*, *28*(1), E235-E243. https://journals.lww.com/jphmp/toc/2022/01000

[15] Naeem, M., Ozuem, W., Howell, K., & Ranfagni, S. (2023). A step-by-step process of thematic analysis to develop a conceptual model in qualitative research. *International journal of qualitative methods*, *22*, 16094069231205789. https://doi.org/10.1177/16094069231205789

[16] Rezvi, R. I., Hasan, M., HASAN, M. A., Protik, M., Nasrullah, F., Ahmed, S., ... & Rahman, K. O. (2025). Data-Driven Persona: How Business Intelligence Analytics Enhance Customer Experience for US Small and Medium Enterprises (SMEs). *Journal of Computer Science and Technology Studies*, *7*(9), 196-201. https://doi.org/10.32996/jcsts.2025.7.9.24

[17] Rezvi, R. I., Rahman, K. O., Hasan, M. A., Nasrullah, F., Nusrat, N., Jishan, S. S., & Ahmed, S. (2025). How Digital Marketing Affiliates the Digital Stores: A Deep Dive into Shopify, Amazon, Walmart, and Other E-Commerce Giants. *Journal of Computer Science and Technology Studies*, *7*(2), 95-101. https://orcid.org/0009-0001-3548-4370

[18] Rezvi, R. I., Rahman, K. O., Nasrullah, F., Islam, M. S., Hasan, M., Nusrat, N., ... & Ahmed, S. (2025). The integration of artificial intelligence in human resource management in the US retail sector. *Journal of Business and Management Studies*, *7*(1), 273-278. https://orcid.org/0009-0001-3548-4370

[19] Roy, M. (2025, September 15). *Over half of U.S. healthcare workers plan to switch jobs by next year, survey finds.* Reuters. https://www.reuters.com/business/healthcare-pharmaceuticals/over-half-us-healthcare-workers-plan-switch-jobs-by-next-year-survey-finds-2025-09-15/

[20] Sugawara, Y., Murakami, M., & Narimatsu, H. (2020). Use of social media by hospitals and clinics in Japan: Descriptive study. *JMIR Medical Informatics*, *8*(11), e18666. https://doi.org/10.2196/18666

[21] Wisetsri, W., Soni, N., Singh, R. K., Chaurasia, P. K., & Gupta, S. K. (2021). The healthcare sector: A development of digital marketing methods. *Linguistica Antverpiensia*, *3*, 2602-2621. https://d1wqtxts1xzle7.cloudfront.net/86834612/