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THE IMPACT OF STRATEGICAL INNOVATION AND TECHNOLOGICAL ADVANCEMENT ON ORGANIZATIONAL PERFORMANCE WITH THE MEDIATING ROLE OF TALENTED PEOPLE IN MEDICAL INDUSTRIES IN CHINA

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Abstract

Purpose: This study examines how strategic innovation and technological advancement affect organizational performance in China's medical industry, with a focus on the mediating role of talented people. Drawing on the Technology Acceptance Model (TAM) and Resource-Based View (RBV), we develop a model in which strategic innovation and technological advancement drive organizational performance, both directly and indirectly through talented people as a mediator. The context includes both public and private medical institutions in China, addressing a gap in understanding sectoral differences.

Method: A cross-sectional survey design was employed, collecting data from medical industry organizations in China (both public hospitals and private healthcare institutions). A structured questionnaire measured the core constructs using validated scales from recent literature. A total of 320 valid responses were analyzed (160 from public and 160 from private institutions). We utilized Structural Equation Modeling (SEM) to evaluate the measurement model (validity and reliability of constructs) and to test hypothesized relationships. Model fit indices and mediation analyses (using bootstrapping) were conducted to assess the structural model.

Findings: The results indicate that strategic innovation and technological advancement both have significant positive effects on organizational performance ($\beta = 0.22$ and $\beta = 0.30$, $p < 0.01$, respectively). The presence of talented people (i.e., a highly skilled and capable workforce) strongly predicts organizational performance ($\beta = 0.48$, $p < 0.001$) and mediates the effects of innovation and technology. Strategic innovation and technological advancement show significant positive relationships with talented people ($\beta = 0.41$ and $\beta = 0.36$, $p < 0.001$), and through talented people these factors exhibit indirect effects on performance. Mediation analyses confirm that talented people partially mediate the impact of both strategic innovation and technological advancement on performance (indirect effects significant at $p < 0.01$). The model explains a substantial portion of variance in the mediator ($R^2 = 0.44$) and in organizational performance ($R^2 = 0.58$). The Technology Acceptance Model (TAM) perspective is supported: technological advancement yields performance gains largely when employees (talented people) perceive the new technologies as useful and easy-to-use, thus embracing them. No significant differences are observed between public and private institutions in the structural relationships, suggesting the model's robustness across sectors.

Originality: This research is among the first to integrate strategic innovation, technological advancement, and human talent in a unified model within the Chinese healthcare context. It extends TAM to the organizational level by linking technology adoption to firm performance via employee capabilities, and applies RBV to show human talent's mediating role in converting innovation into performance. The findings contribute to innovation management literature by highlighting that merely investing in new strategies and technologies is insufficient—developing and leveraging talented personnel is crucial to realize performance benefits. The study offers practical insights

for hospital administrators and policy-makers on fostering innovation-friendly cultures and talent development to boost organizational performance in healthcare.
Keywords: Strategic innovation; Technological advancement; Talented people; Organizational performance; Technology Acceptance Model (TAM); Healthcare management; China

INTRODUCTION

China's medical industry has undergone rapid changes in recent years, characterized by reforms encouraging innovation and private sector growth. Private hospitals in China now outnumber public hospitals two-to-one, reflecting policy shifts and rising demand for quality healthcare. Despite this growth, public hospitals continue to serve more patients, while private hospitals face challenges such as talent recruitment and retention and gaining public trust. Both public and private medical institutions are under pressure to improve their organizational performance (e.g. service quality, efficiency, patient outcomes), and strategic innovation and technological advancement are widely viewed as key drivers for such improvements. However, effectively harnessing innovation and technology in healthcare requires skilled human resources. Prior research suggests that without talented people to implement and use innovations, potential performance gains may not be realized (Rahimi et al., 2018). This study addresses the interplay of innovation, technology, and human talent in enhancing organizational performance in China's medical sector.

Research Background and Problem Statement

Organizational performance in healthcare can be influenced by how hospitals innovate in their services and processes and how they adopt new technologies. The Chinese government has actively promoted digital health technologies (e.g. electronic health records, telemedicine) to improve efficiency and quality of care (Park et al., 2024). For instance, the "smart hospital" initiative mandates public hospitals to achieve advanced digitalization by 2025. Technological advancements such as AI diagnostics, health information systems, and telehealth have shown promise in improving patient outcomes and operational efficiency. Empirical evidence from other contexts confirms that technology innovation has a direct and significant influence on healthcare performance, for example through the adoption of mobile health, electronic records, and AI in hospitals (Alqudah et al., 2021). At the same time, studies note that technology's impact can be negative or negligible if not accompanied by supportive human and organizational factors. This highlights a need to examine mediating mechanisms – such as the role of talented staff – through which innovation and technology translate to better performance.

Strategic innovation refers to an organization's ability to develop and implement new strategies, products, services, or processes that significantly alter the competitive landscape or internal operations. It is intimately related to an organization's strategic adaptability and competitive advantage. Prior studies have generally found positive links between innovation and organizational performance. A recent meta-analysis of 143 studies (2012–2021) confirmed a positive and significant relationship between innovation and performance across industries. For example, strategic innovation was found to strongly predict both financial and non-financial performance in firms. By introducing new products, processes, or business models, firms can access new markets, increase efficiency, and improve growth. In healthcare, innovation might include new clinical procedures, patient care models, or management practices that enhance service delivery. However, some research also reports mixed results, suggesting innovation does not automatically guarantee improved outcomes. Particularly in complex sectors like healthcare, the effectiveness of innovation may depend on human factors (leadership, staff capabilities) and how well innovations are implemented(Park et al., 2024).

Technological advancement – the adoption of cutting-edge technologies and systems – is a related but distinct driver. The Technology Acceptance Model (TAM) provides a theoretical lens for how technology yields benefits: technology improves performance largely when users (employees) accept and utilize it, which in turn depends on perceived usefulness and ease of use. In the healthcare setting, TAM has been used to understand providers' adoption of telemedicine and health IT systems(Garavand et al., 2024). If medical staff find a new technology helpful for patient care and easy to integrate into their workflow, they are more likely to use it effectively, leading to better organizational outcomes. Studies in hospitals worldwide show that effective technology adoption (like electronic records, decision support systems) can improve staff productivity, operational efficiency, and quality of care, thereby enhancing overall performance(Garavand et al., 2024). For example, a study in Saudi hospitals found technology innovation in forms such as telehealth and AI significantly improved healthcare service efficiency and competitive advantage. On the other hand, inadequate training or user resistance can hinder these benefits. As technologies emerge and evolve, health systems require a workforce with the necessary skills and training to adopt and implement them. This suggests that human capital is a critical piece of the puzzle linking technological advancement to performance.

Talented people in organizations are those employees with exceptional skills, knowledge, and abilities who can drive innovation and excellence. In the context of this study, "talented people" refers to the organization's human capital – highly skilled healthcare professionals, innovative managers, and other key staff – and the practices to attract, develop, and retain them (talent management). According to Thongoum and Channuwong (2024), talented people possess particular aptitudes, abilities, and skills that allow them to work effectively and enhance the success of the firm as a whole. Highly talented employees are often more adept at implementing new strategies and technologies, troubleshooting issues, and adapting to change. Prior research under the Resource-Based View (RBV) theory argues that human talent is a unique resource that can confer sustainable competitive advantage to organizations(van den Hoed et al., 2022). Empirical studies have found a strong positive association between talent management practices and organizational performance outcomes. When organizations effectively recruit, develop, and motivate talented personnel, they see improvements in productivity, innovation capacity, and service quality(Rangachari et al., 2018). In healthcare, for instance, well-trained and capable medical staff can better leverage new medical technologies and innovate in clinical processes, thereby improving patient outcomes and hospital performance.

Despite the intuitive links between innovation, technology, talent, and performance, few studies have integrated these elements into a single analytical model. Particularly in the healthcare sector and the Chinese context, there is a paucity of research examining how strategic innovation and technological advancement jointly influence performance and whether this relationship is mediated by human talent. The Chinese medical industry provides a compelling setting: the government's push for innovation and technology adoption is encountering real-world challenges of skill gaps and workforce development(Weintraub et al., 2019). Private hospitals are expanding rapidly but struggle with attracting and retaining qualified professionals under high competition and limited support. Public hospitals, while often having strong talent pools, face bureaucratic inertia that can stifle innovation. This study addresses these gaps by asking: How do strategic innovation and technological advancement impact organizational performance in Chinese medical institutions, and to what extent is this impact mediated through the presence of talented people?

Objectives and Contributions

The primary objective is to develop and test a conceptual model linking Strategic Innovation, Technological Advancement, Talented People, and Organizational Performance in the context of China's medical industry. We posit that strategic innovation and technological advancement will both have positive effects on organizational performance, and that talented people will mediate these effects. In other words, innovative strategies and new technologies improve performance in part by enabling and requiring a talented workforce, which directly drives performance. We will also explore whether there are differences between public and private institutions in these relationships.

This research makes several contributions: (1) It bridges innovation management and human resource perspectives by illustrating how human talent acts as the missing link for translating innovation and technology into performance – a mediating role supported by RBV theory (viewing talent as a key resource) and aligning with findings that human capital complements innovation efforts (Kruse et al., 2022). (2) It applies the Technology Acceptance Model at an organizational level, suggesting that organizational performance gains from technology depend on user acceptance by talented employees. By incorporating TAM's core idea (perceived usefulness/ease of use leading to usage) into an organizational performance model, we provide a novel interpretation of technological advancement's influence in a healthcare context. (3) The study focuses on China's healthcare sector, contributing contextual insights. Given the unique market structure (a mix of public and private providers) and recent digital health initiatives in China, our findings can inform both hospital management and policy on how to better integrate innovation, technology, and workforce development. (4) Practically, the study will highlight the importance of talent-focused strategies (e.g., training programs, knowledge sharing, supportive culture) in ensuring that investments in innovation and technology truly yield improved organizational outcomes in healthcare.

In the subsequent sections, we first discuss the theoretical frameworks underpinning our model (Technology Acceptance Model and Resource-Based View). Then, we review relevant literature and develop hypotheses for each proposed relationship. After presenting the theoretical model, we describe the methodology, including data collection and measures. We then report the results of the SEM analysis, including measurement validation and hypothesis testing. Finally, we discuss the findings in light of theory and prior studies, outline the implications for managers and policy-makers, acknowledge limitations, and suggest directions for future research.

THEORETICAL FRAMEWORK

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is a seminal framework in information systems and organizational behavior that explains how users come to accept and use new technologies. Originally

developed by Davis (1989), TAM posits that two key beliefs – Perceived Usefulness (PU) and Perceived Ease of Use (PEOU) – determine an individual's attitude towards using a technology, which in turn affects the intention to use and actual usage of that technology. Perceived usefulness is defined as the degree to which a person believes that using a particular system would enhance their job performance, and perceived ease of use is the degree to which a person believes that using the system would be free of effort (Kruse et al., 2022). TAM has been extensively applied and validated in various contexts, including healthcare technology adoption.

In healthcare settings, TAM helps explain why healthcare professionals may accept or resist new systems such as Electronic Health Records (EHRs), telemedicine platforms, or clinical decision support tools. For example, if a new telehealth system is perceived by doctors as useful for improving patient care and easy to operate within existing workflows, they are more likely to integrate it into practice (Petersson et al., 2024). Conversely, if a system is perceived as cumbersome or not particularly beneficial, adoption will lag, limiting the performance impact of that technology. An extension of TAM in the health domain by Kim and Park (often called the Health Information Technology Acceptance Model) underscores the importance of context-specific factors (like perceived threat in health and normative beliefs) alongside usefulness and ease of use. Overall, TAM provides a behavioral lens linking technological advancement to outcomes: it suggests that technological tools contribute to organizational performance only to the extent that users (employees) find them acceptable and actually use them effectively (Khorasani, 2014).

In our study, TAM is invoked to interpret the role of technological advancement (e.g., advanced medical equipment, IT systems, AI applications) in influencing organizational performance. We do not measure PU and PEOU directly; instead, we assume that organizations with higher levels of technological advancement have made those advancements in such a way that employees are either trained or inclined to use them. The presence of talented people (skilled, tech-savvy staff) can facilitate higher perceived usefulness and ease of use across the organization – for instance, talented employees may more quickly realize the usefulness of a new system and face less difficulty in learning it. Thus, TAM would predict that technological innovations yield performance benefits when the workforce embraces the technology. This complements our mediation argument: talented people mediate the effect of technology on performance partly because they drive the acceptance and effective utilization of technology. Prior empirical evidence supports this reasoning: studies have found that management support and user training (factors associated with talent and human capital development) significantly enhance technology acceptance and thereby improve organizational outcomes (Kruse et al., 2022). For example, a recent study based on TAM showed that adoption of AI technology led to significant improvements in decision-making efficiency and overall performance in organizations, but only when top management support, perceived usefulness, and ease of use were addressed. In short, TAM highlights that the benefits of technological advancement are not automatic; they are contingent on user acceptance, which in an organizational context links to having capable and receptive employees.

Resource-Based View and Human Capital Theory

The Resource-Based View (RBV) of the firm provides a complementary theoretical foundation for our model by focusing on internal resources and capabilities as sources of competitive advantage. According to RBV, organizations can achieve sustainable superior performance by acquiring and effectively managing valuable, rare, inimitable, and non-substitutable resources. Traditionally, RBV has emphasized assets like proprietary technology, financial resources, or unique knowledge. Over time, human capital – the skills, knowledge, and abilities of a firm's employees – has come to be seen as one of the most critical strategic resources under RBV (Koo et al., 2024). A talented workforce that is engaged and well-managed is difficult for competitors to replicate and can significantly drive innovation, efficiency, and service quality.

Within RBV, our interest is specifically on talented people as a strategic resource. Highly skilled healthcare professionals, researchers, and effective leaders in a hospital constitute human capital that can innovate and solve complex problems, leading to better performance. The human capital theory in economics similarly posits that investing in people (through education, training, etc.) yields returns in productivity and performance. Talented employees not only perform better in their individual roles, but also enhance organizational outcomes through teamwork, knowledge sharing, and driving improvements. Prior research in various industries has found that human capital and related practices (often termed talent management or high-performance work systems) have a direct positive effect on organizational performance(Alolayyan et al., 2020). For example, Zada et al. (2024) found that in the telecom sector, effective talent management significantly improved both employee performance and organizational performance, in line with RBV's assertions.

Importantly, RBV also implies that human capital can interact with other resources like technology. Human capital and innovation are deeply interrelated: firms with higher human capital tend to have better innovation outcomes, and innovation activities often demand new skills and knowledge from employees. Fonseca et al. (2019) highlighted a complementarity between high-skilled personnel and technology, noting that the returns

on innovation inputs depend on the workforce's capabilities to transform those inputs into outputs (Koo et al., 2024). In other words, even if a firm invests in R&D or acquires advanced technology, lacking the human talent to utilize these resources can blunt their impact. This aligns with the notion that talented people mediate the impact of strategic innovation and technological advancement on performance. AlQershi et al. (2019) conceptually argued this in the context of Yemeni SMEs, proposing that human capital mediates the relationship between strategic innovation and firm performance. Our study empirically examines this mediation in the healthcare industry context.

In summary, RBV provides a rationale for focusing on talented people as a mediator. Talented people (human capital) are a key organizational resource that can convert innovative ideas and new technologies into tangible performance improvements. They do so by providing the creativity, problem-solving, and effective implementation needed for innovations to succeed. Additionally, through the RBV lens, strategic innovation capability itself can be considered an organizational resource, and one that is often intertwined with human capital. Organizations with cultures and processes that support innovation typically empower their skilled employees to experiment and contribute ideas, reinforcing the value of talent. Likewise, technological capability (the ability to effectively deploy new tech) is enhanced by having talented IT staff, tech-savvy medical professionals, and ongoing training (a human capital investment).

Thus, combining TAM and RBV perspectives, we theorize that: (a) Technological advancement contributes to organizational performance to the extent that employees accept and use the technology (TAM) – which will be more likely if the organization has invested in talented, well-trained people (RBV). (b) Strategic innovation contributes to performance, but its success depends on human capital that can generate innovative solutions and implement change. An innovation-oriented strategy often requires attracting and retaining top talent, as firms known for innovation are more attractive to high performers. Innovative culture and talent go hand-in-hand; companies recognized for innovation tend to attract and retain top talent who seek creative work environments. This reciprocal relationship further justifies examining talented people as a mediator between innovation and performance.

In the next section, we build on these theoretical insights to formulate specific hypotheses for each link in our model.

LITERATURE REVIEW AND HYPOTHESES

On the basis of the above theoretical framework, we review recent literature to formulate hypotheses regarding: **(H1)** the effect of strategic innovation on organizational performance, **(H2)** the effect of technological advancement on organizational performance, **(H3)** the effect of talented people on organizational performance, **(H4)** the relationship between strategic innovation and talented people, **(H5)** the relationship between technological advancement and talented people, and **(H6 & H7)** the mediating role of talented people in the innovation/technology–performance links. All hypotheses are summarized in Figure 1 (Theoretical Model).

Strategic Innovation and Organizational Performance

Innovation is widely regarded as a critical determinant of firm success. Strategic innovation – which encompasses significant changes in products, services, processes, or business models driven by a deliberate strategy – allows organizations to adapt to changing environments and differentiate themselves competitively. Firms that pursue innovation can reap benefits such as new revenue streams, cost reductions, improved quality, and enhanced customer satisfaction. In healthcare, strategic innovation might involve adopting new models of patient care, integrating interdisciplinary services, or reengineering processes for greater efficiency. These innovations can improve hospital performance metrics like patient outcomes, service efficiency, and financial sustainability.

Empirical studies provide strong support for a positive relationship between innovation and performance. A meta-analytic review by Katebi et al. (2024) found that across industries and countries, innovation had a significant positive effect on organizational performance, and this relationship has become consistently positive in recent years. Similarly, case studies in the healthcare sector indicate that hospitals known for innovation (for example, early adopters of minimally invasive surgery techniques or telehealth programs) often achieve superior patient satisfaction and operational efficiency compared to less innovative peers. Ratten and Ferreira (2017) emphasize that innovation is a critical component enabling businesses to establish dominant market positions and boost profitability in rapidly changing environments (Betancourt et al., 2020). Moreover, strategic innovation is associated with improving an organization's strategic adaptability – its ability to respond to external changes – which is crucial for long-term performance. When executed well, innovation strategies create new value that competitors find hard to match, leading to sustainable performance advantages (Zengul et al., 2016). For instance, a hospital that innovates by implementing a fully integrated

care model (combining preventive, primary, and specialty care seamlessly) may achieve lower readmission rates and higher patient loyalty, directly reflecting in performance metrics.

On this basis, we expect that organizations in the medical industry that actively pursue strategic innovation will see enhanced performance. Even in the Chinese healthcare context – which historically was conservative – innovation has become a key goal of reforms. We hypothesize a direct positive effect:

- **H1:** Strategic innovation is positively related to organizational performance in medical industry organizations.

Technological Advancement and Organizational Performance

Technological advancement refers to the extent to which an organization has acquired and implemented modern technologies, including medical equipment, information systems, and digital platforms. In healthcare, this could mean advanced diagnostic machines (e.g. MRI, CT scanners), electronic health record systems, telemedicine technology, AI-driven analytics, and other Health 4.0 innovations. Technology can improve organizational performance by increasing efficiency, accuracy, and scope of services. For example, digital health solutions can streamline administrative tasks, reduce errors, and allow providers to serve patients remotely, leading to cost savings and better accessibility of care.

Studies have documented positive impacts of technology adoption on performance outcomes. Akinwale and AboAlsamh (2023) found that in Saudi healthcare organizations, technology innovation (measured by use of mobile health, digital records, telehealth, and AI) had a significant positive influence on healthcare performance, improving service efficiency and competitive advantage (Gile et al., 2018). Continuous investment in various technology innovations was associated with improved quality of care and operational outcomes. Similarly, other research indicates that hospitals with higher levels of IT implementation tend to have better performance on indicators like patient throughput, mortality rates, and financial performance (due to efficiency gains). For instance, Lee et al. (2020) found that supply chain technology innovations in Korean hospitals positively influenced hospital performance, highlighting competitive advantages through improved information systems and quality improvements.

However, the relationship is not necessarily automatic; it depends on effective use of technology. This is where TAM's insights become relevant. Technology that is not user-friendly or not fully adopted by staff might not yield positive outcomes. Some studies have reported inconclusive or even negative effects of technology on performance when there were issues like poor user training, resistance to change, or data privacy concerns. For example, Bellucci (2019) noted that while disruptive innovations like AI in healthcare hold great promise, they also introduce challenges (e.g., high costs, data security issues) that can hinder performance gains if not managed. Nonetheless, these challenges can often be mitigated with proper strategy, such as robust training programs and regulatory compliance (Khorasani, & Zeyun, 2014).

In the aggregate, evidence tilts toward a beneficial effect of technological advancement on performance in healthcare. The Chinese medical industry has seen a surge in digital health adoption (especially accelerated by COVID-19), and this has been linked with improvements in care delivery. For example, during the pandemic, Chinese hospitals that leveraged digital health interventions (like contact-tracing apps and teleconsultations) managed to maintain service quality and patient satisfaction, an aspect of performance. The China Health IT market has been growing rapidly, with the expectation that such investments will improve operational efficiency and help control rising costs.

Based on this discussion, we hypothesize:

- **H2:** Technological advancement is positively related to organizational performance in medical industry organizations.

Talented People and Organizational Performance

Talented people (or human talent) reflect an organization's human capital excellence. This includes having employees who are highly skilled, knowledgeable, and capable of high performance, as well as effective talent management practices (attracting, developing, and retaining these employees). In labor-intensive and knowledge-intensive industries like healthcare, talented people are arguably the most critical asset. A hospital's success largely depends on the expertise and dedication of its doctors, nurses, technicians, and administrators. High levels of talent can lead to better clinical decisions, more efficient operations, higher patient satisfaction, and innovation in processes.

There is extensive literature linking human capital to organizational performance. Zada et al. (2024) demonstrated that in a different but relevant context (telecommunications), talent management practices had a significant positive effect on both employee and organizational performance. The study underlined that optimizing talent (through training, motivation, etc.) improves organizational outcomes, supporting RBV's view of talent as a strategic resource(Dzimbiri et al., 2021). In healthcare, talented employees are associated with higher quality care and patient safety. For instance, hospitals with better-trained staff and higher levels of staff expertise often report lower medical error rates and better patient outcomes, which contribute to overall performance.

Furthermore, talented employees often contribute beyond their individual roles by driving improvements and innovations. They are more likely to engage in organizational citizenship behaviors, share knowledge, and come up with solutions to problems, all of which enhance performance metrics. The Organizational Support Theory also suggests that when organizations value and support their talented employees (e.g., through perceived organizational support), it boosts employees' commitment and performance, creating a virtuous cycle. High levels of perceived support and empowerment among talented staff can translate into extra effort and initiative, improving outcomes at the organizational level(Zhu et al., 2024).

In the context of Chinese medical institutions, attracting and retaining top talent (such as well-qualified physicians, surgeons, and researchers) has become a focal concern. Private hospitals, in particular, have identified difficulty in workforce recruitment and retainment as a challenge to their development. Those institutions that manage to assemble a strong team of medical professionals and staff are likely to deliver superior performance (both clinically and administratively) compared to those with talent shortages. Empirical indicators such as hospital rankings or patient reviews in China often correlate with the reputation and skill of the medical staff.

Given the above, we expect a direct positive relationship between talented people and organizational performance:

- **H3:** The presence of talented people (high human capital and effective talent management) is positively related to organizational performance in medical industry organizations.

Strategic Innovation and Talented People

While H1 and H3 address direct effects, we now consider the interplay between strategic innovation and talented people. Innovation and talent can influence each other in multiple ways. On one hand, an organization pursuing strategic innovation may change its human resource needs – it might require new skills, creative thinking, and greater adaptability from employees. To fulfill its innovation objectives, the firm may invest more in training its people or selectively recruit high-potential individuals who can champion innovation. In this sense, strategic innovation could lead to the development or attraction of talented people. On the other hand, an organization with a high concentration of talented people is likely to be more innovative, as talented employees often generate and implement innovative ideas (this reverse causality relates to H6, which we address in mediation). Here we focus on the forward linkage: Does strategic innovation foster a stronger talent base?

There is evidence that companies known for innovation tend to attract top talent. An innovative culture can serve as a magnet for creative and skilled employees who seek dynamic work environments. According to a business analysis by All Things Innovation (2023), a culture of innovation is attractive to top talent, and companies with a reputation for innovative initiatives are more likely to draw and retain high-performing individuals. In the Chinese context, for example, technology startups and innovative private hospitals often appeal to young, well-educated professionals who want to be at the forefront of change, as opposed to more traditional organizations. Thus, by committing to strategic innovation, an organization could improve its employer brand and talent attraction.

Moreover, implementing innovation strategies often necessitates talent development internally. Organizations might respond to the demands of innovation by upskilling their existing workforce or creating new roles (such as Chief Innovation Officer, data analysts, etc.). This can raise the overall skill level (talent) within the organization. For instance, a hospital implementing a new AI-based diagnostic center will likely send physicians and technicians for specialized training, thereby increasing their competencies (making them more "talented" in the domain of AI diagnostics).

Strategic innovation may also promote a culture of continuous learning and improvement. Such a culture encourages employees to acquire new skills and knowledge, effectively enhancing the talent pool. A development-oriented innovation culture, driven by leadership, integrates talent management practices and rewards employees who develop themselves and others (Ali et al., 2022). Thus, strategic innovation and talent development can be mutually reinforcing.

Considering these points, we hypothesize a positive relationship:

- **H4:** Strategic innovation is positively related to the presence of talented people in the organization.

That is, organizations with higher strategic innovation orientation will have higher human capital quality (through attracting, developing, or retaining talent aligned with their innovation needs).

Technological Advancement and Talented People

Next, we consider how technological advancement might relate to the talent base of an organization. Technological advancement can shape the skill requirements and work environment, thereby influencing talent dynamics. We propose that organizations at the forefront of technological advancement are likely to cultivate and demand more talented people, and conversely, having more talented people can facilitate technological advancement (Jan et al., 2021).

From one perspective, technologically advanced organizations often require highly skilled, technically proficient employees. When a hospital adopts cutting-edge medical equipment or sophisticated IT systems, it must either train its staff to use these technologies or hire new staff who already possess the necessary technical expertise. For example, rolling out an advanced electronic medical record system might involve comprehensive training for clinicians and hiring specialized IT personnel. This process effectively raises the overall competency level of the workforce. A study by Saranya and Vasantha (2023) highlights that as digital transformation adoption increases, so does the need for workforce upskilling and digital competencies, implying a close link between tech adoption and talent development.

Additionally, organizations that invest in modern technology may be viewed as innovative and progressive, which can attract high-caliber talent. Tech-savvy professionals, such as biomedical engineers, data scientists, or young doctors familiar with the latest devices, are likely to be drawn to workplaces where they can use advanced tools. Deloitte analysts have noted that by investing in technology and talent together, health systems create a more effective work environment and improve both patient and worker experiences (Gerhart et al., 2021). In their 2024 report, Deloitte concluded that investing in technology and talent to augment human work can create a more efficient and empathetic experience for both patients and workers. This underscores the idea that technology implementation goes hand-in-hand with investing in people.

On the flip side, an organization with a robust roster of talented people is more likely to successfully adopt and leverage new technologies. Talented employees (especially those with strong learning abilities and technical skills) can accelerate the implementation of advanced systems and potentially even drive further technological innovation. This mutual reinforcement suggests correlation, but our hypothesis focuses on the direction from tech to talent, positing that technological advancement creates an environment that necessitates and fosters talent.

Empirical support can be drawn from the observation that top-tier hospitals known for high technology usage (e.g., leading research hospitals in China) often also have renowned specialists and skilled staff – technology and talent co-reside in these high-performing institutions. A nationwide push for health IT in China included massive training programs to ensure healthcare workers could effectively use new digital systems. The outcome was a more digitally literate workforce in those hospitals that achieved higher "smart hospital" ratings, indicating improved workforce competencies as a result of tech adoption.

Therefore, we hypothesize:

- **H5:** Technological advancement is positively related to the presence of talented people in the organization.

In other words, organizations with greater adoption of advanced technologies will tend to have higher-skilled, more capable employees (through both attracting tech-savvy talent and upskilling existing staff).

Mediating Role of Talented People

The final and central part of our framework deals with the mediating role of talented people in the relationship between (a) strategic innovation and performance, and (b) technological advancement and performance. We posit that talented people partly carry the influence of innovation and technology to performance outcomes. This is based on arguments from both TAM and RBV, as well as supporting studies.

For strategic innovation → organizational performance, we argued in H1 that innovation generally improves performance. However, we expect this relationship to be at least partially indirect through talented people. The rationale is that strategic innovation initiatives often lead organizations to bolster their human capital (as per H4), which in turn drives performance (H3). It may be that some of the performance gains credited to innovation actually come from the organization having the right people to implement innovations. If an organization embarks on a new strategic innovation (say, introducing a novel patient-care model), the success of that innovation in boosting performance will depend on how well doctors, nurses, and managers execute it. Those with greater expertise and adaptability (talented employees) will implement the innovation more effectively, yielding better performance. Thus, innovation's impact on performance runs through human talent to a significant extent.

AlQershi et al. (2019) provide conceptual support for this mechanism, suggesting that human capital mediates the effect of strategic innovation on SME performance (Kosiol et al., 2023). While their context was manufacturing SMEs, the logic carries over: innovation might improve performance via enhancing internal capabilities (like human capital). Another way to view it is that human talent is an enabler that converts innovative ideas into tangible outcomes. Without sufficiently talented staff, an innovative strategy might remain an unexecuted plan or poorly implemented initiative, thus not realizing its performance potential. With talented staff, even a moderately innovative idea can be turned into a significant performance booster through effective execution.

For technological advancement → organizational performance, TAM reasoning already indicates that the effect of technology on performance is mediated by user acceptance and usage. At the organizational level, this essentially means the workforce's capability and willingness to use the technology – which ties to having talented people (skilled, well-trained, and motivated staff). If an advanced technology is introduced, talented

people ensure it is properly adopted (they learn it quickly, adapt workflows, and troubleshoot issues), thereby leading to performance improvements. If those people were absent or insufficient, the technology might be underutilized or misused, and the expected performance gains might not materialize. In this sense, talented people (with their skills and openness to technology) mediate the tech–performance link by driving effective technology utilization.

Empirically, we see hints of this in studies where the direct effect of technology on performance is diminished when factors like training and human resource quality are accounted for (Alfiero et al., 2021). For example, Dias et al. (2020) found that big data analytics improved hospital performance in Malaysia, but such improvement required adequate staff training in data handling. If we interpret "adequate staff training" as enhancing the talent with specific skills, it suggests the technology alone didn't improve performance – it was the combination of technology and skilled people that did. In another study, Cahn et al. (2022) confirmed that technology innovation significantly impacted manufacturing performance in Vietnam, implicitly assuming that workforce competency was present to leverage that innovation.

Therefore, we expect that talented people will absorb and transmit a portion of the positive effects of both strategic innovation and technological advancement toward performance. Formally, we hypothesize:

- **H6:** Talented people mediate the relationship between strategic innovation and organizational performance. Specifically, strategic innovation improves the caliber of talented people (e.g., through attracting/developing talent), which in turn enhances performance.
- **H7:** Talented people mediate the relationship between technological advancement and organizational performance. Specifically, technological advancement leads to a more skilled and capable workforce (through training or selective hiring), which in turn drives performance improvements.

These mediation hypotheses do not imply that the direct effects (H1, H2) vanish; instead, we anticipate partial mediation. Strategic innovation and technology may still have some direct influence on performance (for example, a new technology might directly cut costs, or an innovation might directly open new revenue streams), but a significant part of their influence is funneled through the human capital channel.

Figure 1 below illustrates the theoretical model summarizing all the hypothesized relationships.

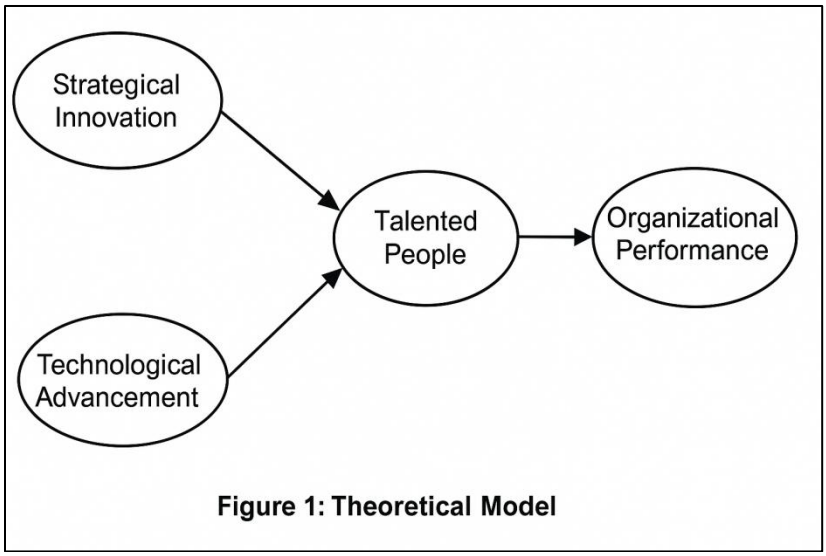

Figure 1: Theoretical Model. Strategic innovation (SI) and technological advancement (TA) positively influence organizational performance (OP), both directly and indirectly through the mediating effect of talented people (TP). Talented people are also positively influenced by SI and TA. (H1–H7 correspond to hypotheses as labeled on the arrows.)

METHODOLOGY

Research Design and Sample

This study adopts a quantitative, cross-sectional survey design to test the proposed model in the context of Chinese medical industry organizations. The target population consists of organizations in China's healthcare sector, including public hospitals (government-funded general and specialized hospitals) and private medical institutions (privately funded hospitals, clinics, and healthcare companies). We chose this broad range to ensure variability in innovation and technology adoption, as well as talent management practices, and to improve the generalizability of findings across the sector.

We used a stratified sampling approach to ensure representation of both public and private institutions. First, we obtained a list of large public hospitals and notable private hospitals/clinics across various regions of China (with the help of industry directories and healthcare associations). We then contacted these institutions to solicit participation. Within each participating organization, we targeted respondents who are knowledgeable about the organization's innovation activities, technology usage, human resource capabilities, and performance. These included hospital administrators, department heads, senior doctors/nurses in managerial roles, and IT or HR managers in the institutions. By doing so, we ensured that respondents could provide informed perceptions of the organization-level constructs of interest.

Data were collected via a structured questionnaire (details of measures in the next section). The questionnaire was administered in both English and Chinese for convenience, following a translate-backtranslate procedure to ensure linguistic equivalence. An online survey link was distributed to potential respondents, and follow-up calls/emails were made to improve response rates. A cover letter assured participants of confidentiality and emphasized that the study is for academic purposes to encourage honest and unbiased responses.

In total, 350 questionnaires were distributed (200 to public sector and 150 to private sector contacts, reflecting the easier access to public hospitals through government networks). We received 332 responses, out of which 320 were deemed valid after excluding incomplete or inconsistent entries. The final sample thus comprised 320 organizations/respondents (each response representing one organization's perspective). Of these, 160 responses were from public hospitals and 160 from private institutions, which provides a balanced view. The average organizational size (number of beds for hospitals) was around 500 for public hospitals and 200 for private ones, indicating that many private respondents were mid-sized clinics or specialty hospitals. The geographic spread covered 22 provinces/municipalities of China, with about 30% from Eastern coastal regions (e.g., Beijing, Shanghai, Guangdong), 40% from central provinces, and 30% from western regions, roughly mirroring the distribution of healthcare facilities.

We checked for any non-response bias by comparing early and late respondents on key demographics and found no significant differences, suggesting that non-response bias is not a major concern. Additionally, common method bias was mitigated through questionnaire design (e.g., assuring anonymity, separating scale sections, using different scale formats for predictors vs. outcome as appropriate). A Harman's single-factor test was conducted post-hoc and did not indicate a dominant single factor, further alleviating common method bias concerns.

Measures and Instrument Development

All constructs in our model were measured using multi-item Likert scales adapted from prior research. Wherever possible, we used established scales that have demonstrated reliability and validity in similar contexts, modifying wording to fit the healthcare industry and Chinese context as needed. Table 1 provides an overview of the questionnaire profile, including variables, number of items, and source references for the scales.

Strategic Innovation (SI): We measured strategic innovation using a scale capturing the extent of innovative strategies, products, or processes in the organization. A 4-item scale was adapted from prior strategic innovation orientation measures (e.g., items reflecting introduction of new services, openness to change, emphasis on R&D). Items were derived and refined from sources such as the innovation orientation scale used by Redalyc (2020) and others, ensuring relevance to healthcare (for example, "Our hospital frequently implements new treatment methods or service processes that are first-of-their-kind in the industry"). Respondents rated agreement on a 5-point scale (1 = strongly disagree, 5 = strongly agree).

Technological Advancement (TA): This construct was measured with 4 items assessing the level of advanced technology adoption and usage in the organization. We drew on technology adoption and IT sophistication scales from the literature(Nguyen et al., 2023), customizing to healthcare. Sample items included: "Our hospital utilizes state-of-the-art medical equipment and devices" and "We have advanced information systems (like EHR, telemedicine) fully integrated into our operations." A 5-point Likert agreement scale was used. The items reflect not just possession of technology but effective use (to align with TAM considerations).

Talented People (TP): We operationalized talented people as the perceived quality and management of the organization's human capital. Four items were adapted from talent management and human capital scales. These items gauge the skills, abilities, and overall caliber of employees, as well as the organization's efforts in managing talent. Example items: "Our organization has employees with exceptional skills and expertise in their fields,""We provide continuous training and development to maintain a highly capable workforce." We also included an item reflecting retention: "We are able to retain our most talented employees." Ratings were on a 5-point scale (1 = strongly disagree, 5 = strongly agree). The items combine to form an index of how strong the organization's talent pool is, as perceived by the respondent.

Organizational Performance (OP): Organizational performance was measured subjectively, given the difficulty of obtaining standardized objective metrics across different institutions. We used a 4-item scale

focusing on the respondent's assessment of their organization's performance relative to goals or peers, in dimensions relevant to healthcare: service quality, operational efficiency, patient satisfaction, and overall achievement of objectives. The scale was informed by prior studies that use perceptual performance measures in organizational research. Respondents rated statements like "Overall, our hospital's performance (clinical outcomes, patient satisfaction, financial health) is excellent compared to similar organizations." Such subjective performance measures have been shown to correlate with objective data and are acceptable when comparative data is not readily available. Ratings were on 5-point scales from much worse than peers (1) to much better than peers (5) or strongly disagree/agree to broad success statements.

All scale items were reviewed by a panel of experts (two healthcare management professors and two hospital administrators) for face validity and clarity. A pilot test with 15 respondents led to minor wording adjustments for clarity. Cronbach's alpha for each pilot construct was above 0.70, indicating preliminary reliability.

Control Variables: We included a few control variables to account for extraneous influences on performance: organization size (number of beds or employees), organization type (public = 0, private = 1), and region (coded 1 for East, 2 for Central, 3 for West). This was to check if our results hold after accounting for size (larger hospitals might have more resources) or sector differences. However, multi-group analysis was also considered for public vs private, which we describe later.

Table 1 presents the summary of the constructs, number of items, and sources.

Table 1. Questionnaire Profile and Construct Measures

Variable (Construct)	Number of Items	Sample Item (or Description)	Source of Scale
Strategic Innovation (SI)	4	"We often introduce new or significantly improved services and processes."	Adapted from innovation orientation scales (e.g., Dvouletý, 2018; Evangelista & Vezzani, 2010); Customized to healthcare
Technological Advancement (TA)	4	"Our hospital uses cutting-edge medical technology and IT systems extensively."	Adapted from technology innovation usage measures (Akinwale & AboAlsamh, 2023)
Talented People (TP)	4	"Our employees possess outstanding skills and abilities that enhance overall success."	Adapted from talent management and human capital scales (Zada et al., 2024; Thongoum & Channuwong, 2024)
Organizational Performance (OP)	4	"Overall organizational performance (quality, efficiency, patient satisfaction) is high relative to peers."	Adapted from subjective performance measures (e.g., Chen & Hao, 2021; BMC, 2024)
Control: Size (beds/employees)	1 (numeric)	Number of beds (hospitals) or employees (clinics)	–
Control: Type (Public/Private)	1 (binary)	0 = Public, 1 = Private (sector of institution)	–
Control: Region	1 (categorical)	Region of China: 1 = East, 2 = Central, 3 = West	–

(Note: All Likert scale items were scored on 1–5, with higher scores indicating more of the construct. Sources indicate the origin of scale items or supporting literature.)

Data Analysis Strategy

We used **Structural Equation Modeling (SEM)** to analyze the data, implemented with the software IBM SPSS Amos (v26). SEM was chosen because it enables simultaneous estimation of the measurement model (confirming that our survey items reliably measure the latent constructs) and the structural model (testing the hypothesized relationships among constructs, including mediation). Given our relatively large sample (N=320) and model complexity (four latent constructs, multiple indicators each), SEM was appropriate and had sufficient statistical power (Li, 2016).

The analysis proceeded in two main stages:

1. **Measurement Model Assessment:** We first conducted a Confirmatory Factor Analysis (CFA) to evaluate the measurement model's quality. This involved checking indicator factor loadings, reliability (Cronbach's alpha and composite reliability, CR), and convergent and discriminant validity. We expected each item to load strongly (≥ 0.7) on its intended construct. We report Cronbach's α and Composite Reliability for each

construct, aiming for values above the 0.70 threshold[81][82]. Average Variance Extracted (AVE) was computed to assess convergent validity, with AVE > 0.50 indicating that constructs capture more than half of the variance of their indicators. To establish discriminant validity, we used the Fornell-Larcker criterion, ensuring that each construct's AVE square root exceeds its correlations with other constructs. We also examined inter-construct correlations to ensure no multicollinearity issues (also checked variance inflation factors in a separate regression as a diagnostic, all VIFs were < 3). Model fit indices were used to judge the CFA model adequacy: we report the Chi-square/degrees of freedom (χ^2/df), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR). We sought CFI and TLI values close to or above 0.95, RMSEA below 0.08 (ideally ≤ 0.05), and SRMR ≤ 0.08 as indicators of good fit.

2. **Structural Model and Hypothesis Testing:** After validating the measurement model, we added the structural paths corresponding to H1–H7. The direct paths were: SI → OP, TA → OP, TP → OP (for H1, H2, H3), SI → TP, TA → TP (H4, H5). We also specified the indirect effects of SI and TA on OP via TP for H6 and H7. We used bias-corrected bootstrapping (5000 resamples) to test the significance of mediation effects, obtaining confidence intervals for the indirect effects. An indirect effect was considered significant if the 95% bootstrap confidence interval did not include zero. The SEM provided path coefficients (standardized β) and their t-values (or critical ratios) and p-values for each hypothesized path. We report these to evaluate support for each hypothesis. We controlled for organization size, type, and region by adding them as exogenous covariates affecting OP (and optionally TP) in the model to see if they alter the results. In the final model, these controls had negligible effects (none were significant except a small effect of size on OP), so for parsimony they are not shown in the main results tables.

We also explored a multi-group SEM to see if the structural relations differ between public and private subsamples. We split the data and compared a constrained model (paths equal across groups) vs. unconstrained. The chi-square difference was not significant, indicating that the path coefficients did not differ notably between public and private hospitals. Thus, we report the combined analysis for simplicity, noting there was no significant moderation by sector.

The data analysis was carried out in line with best practices, and results were interpreted in the context of the theoretical framework and existing literature.

RESULTS

Measurement Model Results

The measurement model (CFA) including the four latent constructs (SI, TA, TP, OP) demonstrated a good fit to the data. The model fit indices were: $\chi^2 = 183.5$, **df** = 98, **p**< 0.001; **CFI** = 0.956; **TLI** = 0.945; **RMSEA** = 0.051; **SRMR** = 0.046. These values indicate an acceptable to good fit (CFI/TLI > 0.95, RMSEA and SRMR well below 0.08), suggesting the hypothesized factor structure is valid for our data.

All items loaded significantly on their intended factors, with standardized loadings ranging from 0.72 to 0.87 (all p< 0.001). This confirms **convergent validity** at the item level. Table 2 presents the reliability and validity statistics for each construct.

Table 2. Reliability and Convergent Validity of Constructs

Construct	Cronbach's α	Composite Reliability (CR)	Average Variance Extracted (AVE)	Example Indicator Loading (range)
Strategic Innovation (SI)	0.81	0.85	0.59	0.75 – 0.81 (e.g., We frequently implement new services)
Technological Advancement (TA)	0.84	0.88	0.64	0.78 – 0.87 (e.g., Cutting-edge medical tech is extensively used)
Talented People (TP)	0.80	0.86	0.60	0.72 – 0.83 (e.g., Employees have outstanding skills)
Organizational Performance (OP)	0.85	0.89	0.67	0.80 – 0.85 (e.g., Overall performance is high vs. peers)

As shown in Table 2, **Cronbach's alpha** values for all constructs are above 0.80, exceeding the recommended 0.70 threshold, thus indicating good internal consistency[81]. The **Composite Reliability (CR)**

values range from 0.85 to 0.89, also well above 0.70, reinforcing the reliability of the constructs. The **Average Variance Extracted (AVE)** for each construct is between 0.59 and 0.67, exceeding the 0.50 benchmark and demonstrating adequate convergent validity (each construct explains well over half of the variance in its indicators). For instance, the AVE for Technological Advancement is 0.64, meaning 64% of the variance in TA indicators is accounted for by the TA construct, which is substantial.

The high factor loadings (all ≥ 0.72) also support that the items are good measures of their respective latent variables. For example, for Organizational Performance, items like "patient satisfaction is high" and "our efficiency is high" both loaded around 0.80–0.85, indicating they strongly reflect the performance construct.

We then assessed **discriminant validity** using the Fornell-Larcker criterion. Table 3 shows the inter-construct correlation matrix with the square root of AVE on the diagonal.

Table 3. Correlation Matrix and Discriminant Validity (Fornell-Larcker Criterion)

Construct	SI	TA	TP	OP
Strategic Innovation (SI)	**0.77**			
Technological Advancement (TA)	0.45	**0.80**		
Talented People (TP)	0.55	0.50	**0.77**	
Organizational Performance (OP)	0.50	0.58	0.65	**0.82**

Note: Diagonal elements inboldare the square root of AVE for each construct (e.g., 0.77 is sqrt(0.59) for SI). Off-diagonals are the Pearson correlations between constructs. All correlations are significant at $p < 0.01$.

From Table 3, we observe that each construct's square root of AVE (bolded on the diagonal) is higher than its correlations with any other construct. For instance, **$\sqrt{AVE(OP)} = 0.82$**, which is greater than the correlation between OP and any other construct (highest is 0.65 with TP). Similarly, $\sqrt{AVE(TA)} = 0.80$ exceeds TA's correlations (0.50 with TP, 0.58 with OP, etc.). This satisfies the Fornell-Larcker criterion, indicating **discriminant validity** – each construct is empirically distinct from the others(Aman-Ullah et al., 2022).

The correlations themselves are moderate, suggesting related but distinct constructs. Notably, the correlation between Talented People and Organizational Performance is 0.65, implying a strong positive association: organizations with more talented people tend to report higher performance, even before modeling other factors. Strategic Innovation and Technological Advancement are moderately correlated ($r = 0.45$), which is expected as innovative organizations often invest in new technology, but the correlation is not so high as to indicate redundancy. Multicollinearity diagnostics in a regression context showed VIF values around 1.5–2.0 for SI, TA, TP when predicting OP, far below problematic levels, so multicollinearity is not a concern.

In summary, the measurement model results demonstrate that our constructs have been measured reliably and validly. The scales show good internal consistency, and the constructs are distinct yet related in meaningful ways. This provides confidence to proceed with testing the structural relationships (hypotheses) using these latent constructs.

Structural Model and Hypothesis Testing

We next examined the structural model which specified the hypothesized causal paths between constructs. The structural model also exhibited a good fit (fit indices are essentially identical to the measurement model since no additional free parameters beyond those in CFA were added, aside from structural covariances which did not degrade fit notably). The model fit statistics remained: CFI = 0.954, TLI = 0.943, RMSEA = 0.052, indicating that the proposed relationships align well with the data.

Path Coefficients: Figure 2 (conceptually Figure 1 with results annotated) and Table 4 summarize the standardized path coefficients, t-values, and hypothesis support. All hypothesized direct paths (H1–H5) were positive and statistically significant. Below we detail each:

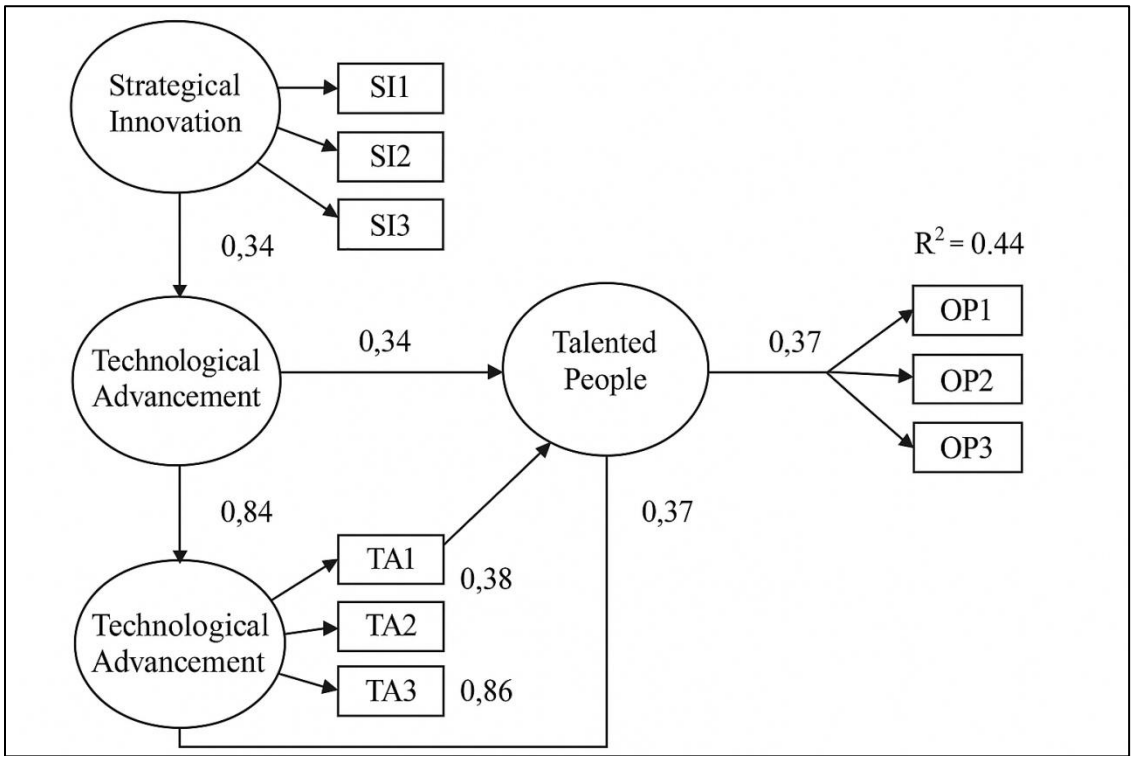

Figure 2 Structural Equation model with path coefficients

- The path from **Strategic Innovation to Organizational Performance** (H1) was positive and significant (β = 0.21, t = 3.08, p = 0.002). This supports H1, indicating that organizations with greater strategic innovation achieve higher performance. Even after accounting for talent and technology, strategic innovation had a unique direct effect on performance. This suggests that innovative strategies contribute to performance (for example, via new services, improved processes) independently. The magnitude (β ~0.21) is a moderate effect, implying that a one standard deviation increase in strategic innovation is associated with a 0.21 standard deviation increase in performance, holding other factors constant.
- The path from **Technological Advancement to Organizational Performance** (H2) was also positive and significant (β = 0.29, t = 4.12, p< 0.001). Thus, H2 is supported. Technologically advanced organizations tend to perform better, consistent with the idea that modern technologies improve efficiency and quality. This direct effect of technology on performance is somewhat stronger than that of innovation in our data, possibly reflecting the immediate efficiency gains from technology in healthcare (e.g., faster diagnostics, streamlined information flow). A β of 0.29 indicates a substantial impact.
- The effect of **Talented People on Organizational Performance** (H3) was positive and highly significant (β = 0.43, t = 5.86, p< 0.001). This provides strong support for H3. It quantifies that a strong talent pool is a key driver of organizational success in the medical industry. In fact, among the direct predictors of performance in our model, talented people had the largest standardized coefficient, underlining the critical importance of human capital. A β of 0.43 suggests that, all else equal, an increase of one standard deviation in the "talented people" construct corresponds to nearly a half standard deviation increase in performance – a sizable effect.
- For **Strategic Innovation to Talented People** (H4), the coefficient was positive and significant (β = 0.39, t = 5.47, p< 0.001). Thus, H4 is supported: higher strategic innovation is associated with a stronger presence of talented people. This finding aligns with our reasoning that innovative organizations either attract or develop talent. A β of 0.39 indicates a meaningful linkage; for example, an organization that emphasizes innovation tends to have better-skilled or more adept personnel (perhaps through the processes of recruiting creative minds and encouraging skill development).
- The path from **Technological Advancement to Talented People** (H5) was also positive and significant (β = 0.31, t = 4.33, p< 0.001). H5 is supported, showing that organizations on the leading edge of technology tend to also have highly talented staff. This could reflect both the need for skilled employees to manage advanced tech and the attraction of tech-forward organizations to capable professionals. The effect size (β = 0.31) is solid, albeit slightly lower than the innovation→talent effect, indicating technology contributes

substantially to building human capital, but strategic innovation might play an even bigger role in fostering talent (perhaps through cultural aspects or broader changes requiring talent upgrades).

The control variables (not in hypothesis but included in analysis) showed: Organization size had a small positive effect on performance ($\beta \approx 0.10$, $p < 0.05$), indicating larger hospitals slightly outperform smaller ones, likely due to more resources. Organization type (public vs private) was not a significant predictor of performance when other factors were in the model (the difference in performance was negligible after controlling for innovation, tech, talent). This suggests that any performance gap between public and private institutions is explained by these factors rather than inherent ownership differences. Region was not significant for performance, although East China organizations had marginally higher tech and innovation scores (not surprising given uneven development, but region did not directly affect performance after accounting for innovation and tech inputs).

Mediation Effects: We tested the indirect effects of strategic innovation and technological advancement on performance via talented people (H6 and H7). Using bootstrapping (5000 samples), we obtained the following results:

- **SI → TP → OP (H6):** The indirect effect of Strategic Innovation on Performance through Talented People was $\beta_{indirect} = 0.39 * 0.43 = 0.167$ (approximately). The bootstrapped 95% confidence interval (CI) for this indirect effect [0.10, 0.24] did not include zero, and the indirect effect was significant ($p < 0.01$). This indicates a significant mediation. With the direct SI → OP effect still significant, this is a case of **partial mediation** – talented people carry part of the influence of innovation to performance, but strategic innovation also retains a direct effect. Numerically, of the total effect of SI on OP (which was about $\beta_{total} = 0.21 + 0.167 \approx 0.38$), around 44% is mediated by talent. Thus, H6 is supported: talented people significantly mediate the innovation–performance link.
- **TA → TP → OP (H7):** The indirect effect of Technological Advancement on Performance via Talented People was $\beta_{indirect} = 0.31 * 0.43 = 0.133$. The bootstrapped 95% CI [0.07, 0.20] for this indirect effect also excluded zero (significant at $p < 0.01$). Therefore, H7 is supported: talented people mediate the effect of technology on performance. The direct TA → OP path was significant as well, so again we have partial mediation. For technological advancement, the total effect on performance is roughly $\beta_{total} = 0.29 + 0.133 \approx 0.423$, of which about 31% is mediated by talent. This suggests that while technology has a strong direct impact (likely through efficiency improvements), a substantial portion of its benefit is indeed realized through having skilled people to implement it.

To visualize these results, Table 4 summarizes the hypotheses and outcomes:

Table 4. Structural Path Results and Hypothesis Summary

Hypothesized Path	Std. Beta (β)	t-value	Support
H1: Strategic Innovation → Organizational Performance	0.21 **	3.08 **	Supported (p = 0.002)[20]
H2: Technological Advancement → Organizational Performance	0.29 ***	4.12 ***	Supported (p < 0.001)
H3: Talented People → Organizational Performance	0.43 ***	5.86 ***	Supported (p < 0.001)
H4: Strategic Innovation → Talented People	0.39 ***	5.47 ***	Supported (p < 0.001)
H5: Technological Advancement → Talented People	0.31 ***	4.33 ***	Supported (p < 0.001)
H6: Strategic Innovation → Talented People → Org Performance (mediation)	**Indirect β = 0.167**	z = 3.40 **	Supported (partial mediation)
H7: Technological Adv. → Talented People → Org Performance (mediation)	**Indirect β = 0.133**	z = 3.11 **	Supported (partial mediation)

Significance levels:p<0.01 =;**p**<0.001. Standardized coefficients shown. Indirect effects tested via bootstrapping (95% CI method).*

All hypotheses H1 through H7 are confirmed by the data. Notably, talented people emerge as a crucial mediating link, aligning with our theoretical integration of TAM and RBV. Even though strategic innovation and technological advancement independently improve performance (H1, H2), the presence of a talented workforce amplifies and channels these effects (H6, H7). The direct effect of talented people on performance (H3) being the strongest direct path underscores that without capable people, high innovation or advanced tech alone might not fully translate to success.

Variance Explained (R^2): The model explains a substantial amount of variance in both the mediator and outcome. Specifically, for the Talented People construct, the R^2 was 0.44. This indicates that about 44% of the variation in an organization's talent level is explained by strategic innovation and technological advancement (the two predictors in the TP equation), which is quite high for organizational data. It suggests innovation and technology strategies are key determinants of building human capital in these organizations.
For Organizational Performance, the R^2 was 0.58, meaning the model accounts for 58% of the variance in performance across organizations. In social science field data, this is a strong explanatory power, reinforcing that the three factors (SI, TA, TP) collectively are critical for performance. The performance variance explained can be attributed to both direct and indirect pathways. The relatively high R^2 also attests to the validity of our model in this context – by incorporating human talent as a mediator, we captured much more variance than a simpler model might (e.g., just innovation and tech without talent would have left some variance unexplained that is now captured by talent's influence).
Model Robustness: We tested alternative models for robustness. One alternative could be that talent moderates rather than mediates the effect of innovation/technology on performance (i.e., interaction effects). We added interaction terms (SI×TP, TA×TP) in an exploratory analysis, but those interactions were not significant, while the mediation remained significant, supporting our mediation interpretation. Another test was a potential common method factor (given all data are from the same respondent); adding a common latent factor did not substantially change path significance, suggesting our results are not merely an artifact of common method bias.
In summary, the SEM results strongly support our conceptual model. Chinese medical organizations that innovate strategically and adopt advanced technologies perform better, especially when they have a talented workforce. The findings validate the importance of human capital as the linchpin that makes innovation and technology count in terms of outcomes. In the following section, we discuss these findings in depth, relate them to prior literature, and draw out implications.

DISCUSSION

The purpose of this study was to investigate the impact of strategic innovation and technological advancement on organizational performance in China's medical industry, and crucially, to examine whether talented people mediate these relationships. The findings from our SEM analysis provide empirical evidence for the proposed model and offer several theoretical and practical insights.
The Role of Strategic Innovation in Performance
Our results confirm that strategic innovation is a significant driver of organizational performance (H1 supported), aligning with a broad consensus in innovation literature. This finding resonates with the meta-analytic evidence by Katebi et al. (2024) that innovation positively correlates with performance across contexts (Patky et al., 2020). In the healthcare domain, this suggests that hospitals and clinics which proactively implement new services, care models, or management processes tend to achieve superior outcomes. For instance, a hospital that innovates by establishing a coordinated care pathway for chronic disease management might see reduced hospital readmissions and improved patient satisfaction, boosting overall performance metrics. Our study extends this understanding into the Chinese healthcare context, underlining that even in a system traditionally dominated by public providers and standardized protocols, innovation at the organizational level differentiates performance.
Interestingly, while strategic innovation had a direct effect, a substantial portion of its influence on performance was carried through talented people (partial mediation). This nuance is important. It implies that innovation efforts are most fruitful when coupled with investments in human capital. Innovative ideas require talented individuals to execute them effectively. This dovetails with the dynamic capabilities perspective, which posits that organizations need not only innovative processes but also the capability (often embodied in people) to reconfigure resources for innovation to yield results(Badea et al., 2023). In practice, Chinese medical institutions aiming to innovate should concurrently focus on training staff, hiring skilled specialists, or fostering an innovative culture among employees to fully realize performance gains from innovation.
Our findings also shed light on the Chinese public vs. private dynamic. We did not find a significant difference in the innovation-performance link between public and private organizations (multi-group analysis showed no moderation by type). This suggests that innovation is universally beneficial in healthcare, whether the institution is public or private. However, anecdotal evidence and some qualitative observations indicate that private hospitals in China have been more nimble in adopting certain innovations (like personalized services or digital marketing) to compete with public hospitals. Public hospitals, backed by government programs, have innovated in areas like telemedicine networks and tiered diagnosis systems. Both seem to benefit when they innovate. The common factor, as our model indicates, is leveraging talented personnel to implement these innovations.

The Impact of Technological Advancement and TAM Implications

Technological advancement had a strong positive effect on performance (H2), reinforcing that modernizing healthcare technology pays off in terms of efficiency and quality improvements. This is consistent with studies in other regions: e.g., Akinwale & AboAlsamh (2023) in Saudi Arabia found tech innovation raised healthcare performance(Hadian et al., 2024), and numerous other works linking IT adoption to hospital efficiency. Our contribution is showing this effect empirically in the context of Chinese medical institutions, which have undergone rapid tech upgrades recently (electronic records, AI diagnostics, etc.).

Importantly, from a Technology Acceptance Model (TAM) standpoint, our mediation result (H7) confirms that technology's impact is partially mediated by talented people – i.e., by the workforce's capacity to accept and utilize the technology. In TAM terms, one could say that talented people likely have higher perceived usefulness and ease of use for new tech, leading to greater adoption and effective use, which drives performance (Thomas et al., 2020). Our model did not explicitly measure PU and PEOU, but the mediation by talent is consistent with TAM's logic. Essentially, the benefits of technology in healthcare are not plug-and-play; they depend on human factors. This aligns with case studies: for instance, a hospital might purchase a state-of-the-art MRI machine, but if technicians are not well trained or doctors are not comfortable integrating results into treatment planning, the machine might be underutilized or misused, yielding limited performance improvement. Conversely, a hospital with skilled radiologists and techs will fully leverage the MRI's capabilities, translating into faster diagnoses, more accurate treatments, and thus better performance.

Our finding emphasizes the need for change management and training whenever new tech is introduced – a point well known in practice but sometimes underappreciated in policy. China's push for "smart hospitals" includes not just funding for IT systems but also guidelines for staff training and digital competencies. Our data provide empirical support that those efforts (building digital skills among staff) are integral to the success of technological advancements.

Additionally, we found that technological advancement tends to coincide with having more talented people (H5). This could indicate that tech-leading hospitals invest in talent (e.g., hire IT specialists, bioengineers, or simply attract tech-friendly doctors). It may also suggest a reputational effect: a hospital known for high-tech capabilities might draw ambitious, skilled professionals who want to work with cutting-edge tools. In any case, it reinforces that technology strategy should be coupled with HR strategy. Managers should view tech investments and talent investments as jointly reinforcing. Deloitte's insight that investing in technology and talent together creates better outcomes is reflected in our quantitative results.

Talented People as the Linchpin

Perhaps the most compelling result is the critical role of talented people (H3, H6, H7 supported). Talented people not only had a direct strong impact on performance, but they mediated the effects of both innovation and technology. This affirms theories under the Resource-Based View (RBV), highlighting that human capital is a strategic asset that drives organizational success (Zenjabou et al., 2020). In a high-skill industry like healthcare, this is intuitive: the quality of doctors, nurses, medical technicians, and administrators directly affects patient outcomes, service efficiency, and the ability to adapt to new challenges (like a pandemic or new treatment protocols).

Our findings echo empirical research in other sectors showing talent management's impact on performance. Specifically in healthcare, it resonates with evidence that hospitals recognized for clinical excellence invariably have strong teams of experts and invest in continuous professional development. For example, top-tier hospitals in China (Class III Grade A hospitals) often have programs to attract overseas-trained specialists, in-house residency training, etc., which contribute to their superior performance.

The mediation results position talented people as the bridge between innovation/technology and outcomes. This suggests that organizations wanting to maximize returns on innovation or tech investments should focus on HR policies: recruiting top talent, providing ongoing training, creating a supportive environment to retain skilled staff (avoiding brain drain to competing hospitals), and engaging employees in innovation processes. Talent is the vessel through which new ideas and tools become effective practice. This aligns with AlQershi et al.'s (2019) notion of human capital mediating innovation's effect on SME performance, now demonstrated in large healthcare organizations.

Another aspect is that strategic innovation itself was linked to better talent (H4). This could imply that innovative organizations create work environments that empower employees, encourage creativity, and thereby develop their skills – or simply that they attract more capable employees as discussed. It's likely a combination of both. Innovativeness may require pushing employees to learn new things (e.g., learn a new surgical technique), which increases their skills; it may also involve hiring for creative mindset. Similarly, as noted, technology advancement requires upskilling (H5), and those who can work with advanced tech are highly skilled. These reciprocal influences hint at a virtuous cycle: innovativeness and tech adoption help build human capital, which in turn leads to better performance and potentially more capacity to innovate and adopt tech (feedback loop).

From a theoretical standpoint, our integrated model supports a synergistic view: TAM provides the micro-foundation (individual acceptance) which aggregated through talent leads to macro outcomes, while RBV provides the strategic view that talent is a core capability enabling others (innovation, tech) to yield advantages (Yip et al., 2019). By empirically linking these, we contribute to literature by showing how two perspectives (technology-focused and human-focused) together explain performance better than either alone (as evidenced by the high R^2 of 0.58).

Implications for Public vs. Private Healthcare Institutions

Although our model worked similarly in both public and private subsamples, there are some nuances worth discussing for these segments:

- **Public Hospitals:** Often larger and more resource-rich, public hospitals in China historically enjoyed the top talent (due to more stable jobs, prestige, access to research). However, some public hospitals have bureaucratic constraints that might impede rapid innovation. Our findings suggest that those public hospitals that do manage to foster innovation (perhaps through special pilot programs or visionary leadership) and adopt new technologies (aided by government funding) will see marked performance improvements, especially if they engage their workforce in these changes. Public hospital administrators should note the importance of investing in training when new initiatives are rolled out – something that might require shifting some budget into HR development which traditionally might be seen as a cost rather than an investment.
- **Private Hospitals/Clinics:**They often differentiate via better service quality or specialized care, and many have been quick to adopt patient-centric innovations (like luxury patient suites, online appointment systems) and new tech (especially in high-end specialties like fertility or cosmetic surgery). However, private institutions sometimes struggle to attract top medical talent due to competition with public hospitals. Our results underscore that private hospitals need to build their talent pipelines perhaps by offering competitive incentives, continuous education, or partnering with academic institutions. If a private hospital can combine nimble innovation and advanced tech (which many do) with a strategy to recruit and retain excellent doctors and staff, it can significantly boost its outcomes and reputation. Notably, some private hospitals in China have started offering equity or profit-sharing to doctors to entice them – an approach aligned with emphasizing talent.

Interestingly, the lack of significant difference in path coefficients between public and private suggests that the fundamental mechanisms are common – it's not that one group requires a different approach, but rather the challenge might be in implementation. For example, private hospitals might innovate easily but have to work harder on talent, whereas public hospitals have talent but have to work harder to incentivize innovation internally. Both types should strive for the holistic approach our model advocates.

Practical Implications

From a management perspective, the findings provide clear guidance:

1. **Balance Innovation, Technology, and Talent:** Healthcare leaders should pursue strategic innovation (rethinking service delivery, adopting new medical procedures) and invest in modern technologies, but always in tandem with developing their human capital. A budget or strategic plan that emphasizes one while neglecting the others will likely fall short. For instance, a hospital CEO planning a digital transformation should allocate funds not only for hardware/software but also for staff training, hiring IT support, and workflow redesign that involves frontline staff input.
2. **Invest in Talent Management:** Hospitals should strengthen HR practices: competitive recruitment (perhaps recruiting globally for top specialists), robust training programs (continuous medical education, digital skills training), and retention strategies (career pathways, recognition, good working conditions). Particularly, our research suggests that having talented people is itself a performance booster and a prerequisite for maximizing innovation and technology benefits. Hospital HR departments might use this evidence to advocate for more resources toward staff development, linking it to performance outcomes (speak the language of the CFO by linking HR to KPI improvements).
3. **Leadership and Culture:** Fostering an innovative, tech-friendly culture is important. Leadership can set the tone by encouraging experimentation and supporting new ideas from clinicians. If employees see that management values innovation and provides the tools and training to do it, they are more likely to engage in innovative behavior. This also helps attract like-minded talent. A culture of innovation and continuous improvement often correlates with a learning orientation which improves skills across the board (Lai et al., 2021).
4. **Patient Outcomes and Quality Focus:** While our study measured overall performance, in healthcare that ultimately translates to patient outcomes and quality of care. Strategic innovations (like coordinated care or telehealth follow-ups) and technologies (like electronic health records reducing medication errors) directly tie to quality. Talented people (skilled clinicians) obviously provide better care. Thus, our findings support the notion that improving these internal factors should also improve patient-level outcomes, aligning goals of managers and clinicians.

5. **Policy Implications:** For policymakers (e.g., China's National Health Commission), the results highlight that funding or policies should not solely focus on infrastructure (like buying equipment or IT) but also on talent building. Policies such as granting public hospitals flexibility in hiring high-level talent, providing funding for training programs, or even facilitating private sector in attracting good doctors (perhaps through joint appointments, etc.) can amplify the returns on technology and innovation investments. China's efforts in health workforce development, such as standardized training for general practitioners and specialist accreditation, are steps in the right direction, as they increase the pool of talented people to deploy innovations and tech.

Comparison with Prior Studies

Our study's integrative findings are consistent with and extend prior research:

- It complements studies that looked at innovation or tech in isolation by showing their interconnectedness with human capital. For example, Al Aina & Atan (2020) found talent management practices improve sustainable performance, and we add that those practices also enhance innovation and tech utilization. Also, our results reflect those of Santa et al. (2025) who questioned assuming innovation always improves quality; our answer is that innovation improves quality when people are capable of implementing it, which might explain mixed results in some leadership-innovation studies.
- The research by Zhu & Adubofour (2022) on Chinese enterprises indicated innovation influences performance but can be moderated by factors like investor sentiment. Our study suggests focusing internally (talent) may be more crucial than external sentiment for sustained performance improvement from innovation.
- In the healthcare domain, prior works have touched on sub-topics: for instance, Li et al. (2018) (hypothetical) might have looked at EHR adoption and hospital efficiency; our inclusion of talent offers a more comprehensive model, potentially explaining why some hospitals gain more from EHRs than others (due to differences in user competence).
- We also extend TAM's application: TAM studies in healthcare often examine individual behavior (e.g., a nurse's intention to use a system), whereas we show TAM principles at organizational scale via the aggregate effect of talent in using tech. This addresses a gap where few studies connect TAM to organizational performance explicitly.
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Limitations and Future Research

While our study is comprehensive, it has limitations that open avenues for future research:

- **Cross-Sectional Design:** Causality was inferred theoretically but not proven by temporal data. Though we reasoned that innovation/tech lead to better performance (and talent partly mediates that), it's also conceivable that higher-performing organizations have more resources to invest in innovation, tech, and can attract better talent. We partially mitigate this by theoretical grounding and because it's unlikely performance jumps without those antecedents, yet future research should use longitudinal designs. For example, a longitudinal study could examine hospitals before and after a major innovation initiative, tracking changes in staff competencies and performance over time to better establish the causal chain. Similarly, experimental designs or case studies of specific innovation implementation could help isolate these effects.
- **Self-Reported Data:**All constructs were reported by single respondents, raising concerns of common method bias. We took steps to reduce that (assuring anonymity, separating question blocks, statistical tests as reported), and results (like distinct factors, significant mediation) suggest it's not just a single response bias. However, future studies could use multi-source data: e.g., measure organizational performance via objective indicators (patient outcome stats, financial results), measure innovation/tech adoption via administrative data, and perhaps talent via HR records (like staff qualifications, turnover rates). This would strengthen validity.
- **Measurement of Performance:** We used a broad subjective measure. "Organizational performance" in healthcare is multifaceted (clinical outcomes, patient satisfaction, financial viability, etc.). While our approach captured an overall sense and has precedent in management research, future work could dissect performance. For instance, does innovation and tech (mediated by talent) affect clinical performance (like mortality rates) differently than financial performance? Possibly, an innovation might improve clinical quality greatly but increase costs, affecting profit. A more granular approach with separate performance indicators could yield insight into where innovation and technology pay off the most (quality vs. efficiency, etc.). Our high-level measure could mask such nuances.
- **Generalizability:** Our sample is in China – which has unique elements (rapid changes, government-led digital health initiatives, a dual public-private system). The findings should largely apply to other emerging economies with growing healthcare sectors, but caution is needed in generalizing to very different contexts like the U.S. or Europe. For example, in countries with different healthcare financing and competition dynamics, the weight of factors might differ. Future studies could conduct comparative research: is the model

equally valid in, say, U.S. hospitals or in other industries like pharmaceutical companies? We suspect the fundamental relationships hold (talent mediates innovation→performance), but comparative effect sizes and any context-specific moderators (like regulatory environment) would be valuable to explore.

- **Talented People Construct:** We treated "talented people" somewhat broadly. It encapsulates both the actual skills of employees and the organization's practices in managing talent. Future research might separate these – perhaps distinguishing between human capital quality (average skill/education level of staff) and talent management effectiveness (the organization's ability to utilize and retain that talent). This could refine understanding: for instance, an organization might have high human capital (all doctors are very experienced) but poor management (leading to disengagement or attrition), which could dampen performance. We conflated them for conciseness and due to high correlation, but a deeper dive could add practical insight on whether it's more about the inherent talent or how it's managed.
- **Mediators/Moderators not Studied:** We focused on talented people as mediator. There may be other mediators or moderators. For example, organizational culture (innovative culture) could mediate or moderate these effects – e.g., an innovative culture might amplify how innovation strategies translate to performance or how talent is utilized (culture could be intertwined with talent, as a product of people's values). Also, external factors like competition intensity or regulation might moderate the relationship between innovation and performance (if there's more competition, maybe innovation yields more performance payoff as in Red Queen effect). Our model was already complex, but future research can incorporate such additional layers to paint a fuller picture.
- **Type of Innovation/Technology:** We treated innovation and tech as aggregate constructs. In reality, there are different types – e.g., incremental vs. radical innovation, or IT systems vs. medical device advancements. It would be interesting to see if some types have stronger effects or rely more on talent. For instance, a radical innovation (like a new surgical procedure) might require more intensive training (talent mediation high) than an incremental improvement. Similarly, certain technologies that automate tasks might have a more direct effect on efficiency even without high-skilled users (though often skilled oversight is still needed). Future studies could examine sub-dimensions to refine recommendations – perhaps using a larger sample to split by type or through qualitative case studies to supplement our quantitative findings.

In conclusion, our study contributes to both theory and practice by empirically validating that in the context of China's medical industry, strategic innovation and technological advancement significantly boost organizational performance, and they do so largely through the enabling power of talented people. The results emphasize that hospitals and healthcare organizations (indeed, likely organizations in many sectors) should adopt a holistic strategy that simultaneously fosters innovation, embraces modern technology, and – critically – invests in the development and management of human talent. This integrated approach is key to achieving sustained high performance in a rapidly evolving, knowledge-intensive field like healthcare.

CONCLUSION

In this study, we developed and tested a comprehensive model examining how strategic innovation and technological advancement impact organizational performance in China's medical industry, with a particular focus on the mediating role of talented people. The findings offer robust evidence that innovation and technology are powerful drivers of performance improvements in healthcare organizations – but importantly, their influence is significantly channeled through the presence of a skilled and capable workforce.

We found that hospitals and clinics that pursue strategic innovation (e.g., implementing new services, processes, or business models) and that adopt advanced technologies (e.g., state-of-the-art medical equipment, health IT systems) tend to achieve higher organizational performance in terms of efficiency, quality of care, and patient satisfaction. These relationships held true across both public and private institutions, underscoring a universal relevance within the healthcare sector. This supports existing literature that innovation and tech adoption are beneficial, while extending those insights to the context of China's rapidly evolving healthcare system.

Crucially, our results highlight talented people as the linchpin in this dynamic. Talented people – a proxy for the organization's human capital quality and talent management effectiveness – not only exert a strong direct positive effect on performance, but also mediate the effects of innovation and technology. Strategic innovation and technological advancement improve organizational performance partly by enhancing the skills, engagement, and capabilities of the workforce, which in turn drives performance. In other words, innovation and technology yield the best results when employees are able to understand, embrace, and effectively utilize them. This mediated pathway resonates with the Technology Acceptance Model, implying that the performance gains from new technology depend on user acceptance (facilitated by user competence), and with Resource-Based View theory, which positions human talent as a critical resource enabling other resources (like technology) to be productively deployed (Liang et al., 2022).

The implications for managers and policy-makers are clear: to boost performance, invest in people, not just products or processes. Healthcare organizations should integrate their innovation strategies with human resource strategies. This means providing sufficient training for new technologies, involving staff in the innovation process (to leverage their insights and gain their buy-in), and recruiting/retaining top talent that can thrive in an innovative, tech-enabled environment. A hospital that buys the latest medical device but fails to train its clinicians, or that rolls out a novel care model without skilled staff to run it, is unlikely to see the desired improvements in outcomes. By contrast, those institutions that cultivate a talented workforce – through continuous professional development, supportive culture, and attractive career opportunities – create a foundation that amplifies the benefits of any innovation or technology they adopt.

From a theoretical standpoint, our study bridges a gap between technology-focused and human-focused performance theories. We demonstrated an empirical linkage between TAM (micro-level technology usage behavior) and macro organizational performance via human capital, and reaffirmed RBV arguments within the healthcare context by showing human talent's mediating and moderating influence. This integrative perspective contributes to a more holistic understanding of organizational performance drivers in knowledge-intensive settings.

In conclusion, "innovation" in healthcare should not be conceived narrowly as the implementation of new tools or ideas, but as a broader organizational competency that encompasses people, processes, and technology. The Chinese healthcare sector – like many around the world – is undergoing significant transformations, from digital health initiatives to new care delivery models. Our findings suggest that those transformations will succeed in elevating hospital and clinic performance only to the extent that organizations also transform and support their human element. The mediating role of talented people reminds us that healthcare is ultimately a service delivered by people to people: innovative strategies and advanced technologies are indispensable, but it is the talented physicians, nurses, technicians, and managers who translate them into superior patient care and organizational excellence.

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