

# Action-Oriented Corporate Strategy and International Pathways: Lessons from an Information System Design for a District-Level Hospital

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## ABSTRACT

The Construction of the Information System for District Public Hospitals Needs to Address Numerous Technical Elements Themselves. This paper studies the information system Design initiative implemented by Chongqing Shapingba District Maternal and Child Health Hospital under certain conditions to explore how it intersects with corporate strategies, organisational capabilities, and foreign knowledge transfers in health care informatics. Based on the resource-based view, dynamic capabilities theory, and the Uppsala internationalisation model as their underlying theories, this paper believes that effective hospital Information System Design should be understood as an organised act of Organizational Strategy - it is building internal differentiated Capabilities, changing institutional Workflows, and positioning The Organization in a larger Regional and International Digital Health ecosystem. Analyze the organisation outcomes through identifying core strategic choices made by the project team during System Architecture design, data management and interoperability establishment; draw lessons on such organisations from which can be used for similar projects in resources-poor but healthcare-resourced regions such as those in lower- or middle-income countries where implementing knowledge transmission might have more value.

## KEYWORDS

Hospital information systems; Corporate strategy; Dynamic capabilities; Healthcare informatics; Internationalization; Digital health; Resource-based view

## 1. INTRODUCTION

Since the middle of the 2000s, the digitalisation of healthcare delivery in China's public hospitals has increased significantly as a series of nationwide policies have gradually increased demands for electronic health records, clinical data integration and cross-institutional information exchange at all levels of the health system. In terms of the districts, due to maternal and child health hospitals' special status in specialised prevention and treatment institutions covering specific population groups, there is an inherent difference between them and general hospitals; Therefore, when implementing Information Systems, it may face issues such as lack of resources, organisational problems, difficulties in coordinating with national or provincial policies, etc., affecting its progress.

Chongqing Shapingba District Maternal and Child Health Hospital is an interesting case among all the analysed ones here. As an affiliated general municipal hospital in the jurisdiction of one of China's four direct-controlled municipalities, which has operating conditions facing multiple factors simultaneously: first, meeting the requirements for nationwide digital construction; second, fulfilling the responsibility towards expanding services with diverse demographics; third, being limited by government financial investment strategies; fourth, organizational challenges arise from developing technical and management capabilities among medical staff whose primary role was once more

clinical. The information System Design Initiatives under examination in this study were not caused by pressures exerted on any one of these factors, but rather the outcomes of an integrated plan.

Theoretical innovation in this paper is to combine corporate strategic framework theories - such as the resource-based view, dynamic capability theory and Uppsala internationalisation model - with an analysis field usually conducted based solely on technology or public-health policy perspectives. According to Barney's resource-based View and Penrose's Foundation Theory on Corporate Growth, it argues that The Strategic Significance of Information System Does Not Lie with Itself But Lies in Organisational Capability That They Create and Which Maintains Competitive Advantage Through Time [1, 9]. Teece, Pisano and Shuen's Theory of Dynamic Capabilities states that it is a company's ability to change its own internal resources flexibly according to environmental changes so as to retain strategic validity; Otherwise obtaining more assets will not cause organisation transformation. For application in hospital Information System Design, These Frameworks frame the question from "what systems need to be built" to "which Organisations are being constructed with such realisation".

## **2. THEORETICAL FOUNDATIONS**

Based on the pioneering work by Penrose that laid the foundation for organisational development and later formalised as a condition for generating sustainable competition via resources according to Barney, these constitute the initial base of the theory used throughout this paper. Barney believes that resources can create long-term competitive advantages if they have value, scarcity and uniqueness in imitation as well as non-substitutability - these requirements directly affect the design of hospital Information Systems Strategies [1, 9]. Acquiring a standard commercial hospital information system off the shelf, implementing without organisational adjustment would fail to meet any of the criteria; that is not accessible at all institutions with ample budgets, replicable by others after competition or replaced by alternatives. Therefore, the strategic value of information system investment at hospitals does not lie in the systems themselves, but rather in the organisation's organisational knowledge, workflow integration and data management practices formed during a good-deployed strategy - which is very hard to imitate by other businesses since it has been built into an institution's history or staff skill base.

Based on Teece et al., Pisano and Shuen studied whether organisations have the capability of generating organizational capacities for recognising new environments' demand changes and seizing strategic opportunities through resource integration or ability restructuring due to altered environment [2]. Given that the rapidly developing Digital Health Policy Environment in China has established regular updates to national standard frameworks and expanded Interoperability Requirements across hospital-level and regional health information Platforms Continuously , The Dynamic Capability Perspective emphasises Building Information System Architectures That Are Adaptive Rather Than Functionally Optimised - Systems Designed To Anticipate Future Reorganisation Needs Instead Of Optimising Specifically For Current Constraints.

Uppsala Internationalization model is a concept put forward by Johanson and Vahlne in 1984 to investigate the path of development of enterprises worldwide, driven by knowledge dissemination; Now it has become the third theory basis for research. Johanson and Vahlne's reformation in 2009 of internationalisation as fundamentally a matter of establishing relationships with other actors to embed firms into Networks for Knowledge Exchange has also brought this concept beneficially to Healthcare Informatics. The transfer of implementation knowledge from the experience of Chinese district-level hospitals to comparable institutional contexts, such as institutions in other countries with similar problems of resource-limited digital health transition, follows a pattern of knowledge dissemination and embedded networks that aligns closely with the Uppsala model [3]. Whether it is technical transferability from Chinese hospital informatics solution to other countries; Whether the organisation's know-how embedded in this solution transmission process, or organisational

transformation pathways via the type of institution relationship and iterative learning path described by the Uppsala model.

The WHO's global strategy on digital health (2020-2025) provides the policy background of applying these theoretical frameworks; It is expected internationally that the construction of smart healthcare systems has become a trend in medical development and should therefore be considered to address issues such as training related materials [4]. Li and other researchers have analysed the issues in primary healthcare services across China to identify that information integration plays a significant role in determining the level of service quality among districts and has found several long-standing contradictions between theoretical objectives and institutional realities related to these developments; The aforementioned initiative is aimed at correcting some problems [6].

### **3. INFORMATION SYSTEM DESIGN AS CORPORATE STRATEGY: THE SHAPINGBA CASE**

At Chongqing Shapingba District Maternal and Child Health Hospital, the information system construction project was launched based on a strategy that is sometimes hidden in similar projects; That is, at the architectural level of system design selection will affect both the technical function of the built systems and the organisational capacity of hospitals to be able to work over the next ten years. Therefore, three Domains of Strategic Decisions were established to specify the Project's own features.

The first area is System Architecture Choice. Rather than using an entire integrated commercial hospital information system provided by a single vendor for easy implementation but with longer-term reliance on this provider and weaker adaptability; instead, aiming to build a modular design: Separating the basic Hospital Information System into several parts such as electronic medical records, laboratories and maternity and children's health care modules. Shortliffe and Cimmino's foundational account on biomedical informatics believes that the core technical problem with health informatization lies in interconnectivity; it argues that whether a healthcare Information System is effective depends not so much on how complex or advanced each device is but rather by its ability to transmit data smoothly among different medical Institutions and departments. Shapingba's adoption of a modular design solved this problem by adding interconnectivity requirements to the system design in advance and not considering it a post-event issue; therefore, hospitals can link up with the municipal health information platform after being connected to the regional medical big data cloud service network.

The second domain of data governance. A hospital's strategic significance is realised through the institutionalisation ability to utilise the data accumulated by an IT system in clinical decision-making support, quality supervision, population health administration, as well as administrative planning, etc. Vest and Gamm found that the problems with health information sharing involve many aspects, among which "Data Governance" (i.e., Policies, Procedures, Organisations for managing data quality, access rights and uses) is identified as the key obstacle affecting organisational benefit from healthcare technology applications. Apart from building its technical system independently and failing to establish an organisation for tackling the corresponding problems, there exist deficiencies such as inconsistent clinical coding practices across multiple departments among which reduces data comprehensibility [7]; There also exists deviations arising from lax regulations concerning how utilised data should be applied cause either to constitute unlawful restrictions or caused by people not recognising what roles they need perform during dataset verification activities become issues of legitimacy respectively.

The third category of organisational ability Building. Blumenthal and Tavenner's study on the meaning-of-use regulation of electronic health records in the United States provided evidence showing that the difference between system application rate and system meaningful use—the extent

to which systems have been used in ways to enhance care quality—is mainly an organisational problem, requiring continuous investments in training personnel, adjusting work procedures, etc. [10] The Shapingba initiative resolved this problem by means of a systematic implementation support programme embedding informatics education in clinical processes rather than dispersing technical teaching segments; This Design is more likely to reduce resistance to systems on the part of clinicians and promote the formation of foundational data-literate skills needed for smooth operation.

#### **4. INTERNATIONAL PATHWAYS AND KNOWLEDGE TRANSFER IN HEALTHCARE IT**

Whether or not, as well as to what extent, the organisational knowledge contained within China's district-level hospital information systems' experience transferable into equivalent institutional settings elsewhere would be a practice-oriented problem with theoretical complications. In actual operation, there is still a problem that lower-middle-income developing countries transitioning to a digital healthcare system encounter resource deficiencies, underdeveloped working forces, and lagging infrastructure unable to provide immediate support for direct application of technologies. What they need is organisational knowledge, which has been created by the successful implementation of Chinese hospitals: about architecture choice, data governance and risk management, capability construction and so on.

Kimaro and Nhampossa's analysis of unsustainable health information systems in developing countries revealed a common scenario where technologically advanced systems cannot achieve long-term organisational benefits due to their absence of consideration for the local institutional environment under which such foreign technology can be integrated into and sustained [8]. Directly speaking to foreign countries, there may be problems in the transfer of related technologies; The corresponding units should have a higher level of understanding than the actual application objects, and this situation will change with practice. Chinese District-level Hospital's experiences are most directly related to this transfer problem since they have emerged under institutional Conditions - resource shortage, public healthcare system culture and fast policy fluctuations that are shared by similar institutions across multiple developing countries.

According to the World Health Organization's Framework for Developing Global Digital Health Policies, in line with international standards. Transferred effects do not refer to direct replication; rather, it refers to transforming China's strategy behind these successes through translation from within one country's own national context, making its implementation more acceptable in different national Standards framework Regulatory Environment Organizational culture Context. Johanson and Vahlne's network-based redefinition of the internationalisation process believes that it is more reasonable to translate this concept not through formal technology-export programmes, but by gradually building institutional links – among Chinese hospitals and their corresponding entities abroad; between Chinese health-informatics companies and local implementers; among Chinese health-policy agencies and foreign equivalents - which foster real knowledge dissemination rather than passive technological diffusion [3].

Also has been applied using this method. The architectural decision-making, Data Governance Frameworks, And Capability building pathways created in the Shapingba project cannot be exported as packaging solutions; rather, it is due to strategic reasons such as choosing modularity over monolithisation, combining governance and technology, and measuring systems' benefits based on organisational capabilities that these paths were selected. This is exactly what the emphasis of the Uppsala model on experiential learning and network relations can promote, suggesting that among the many forms of the Internationalisation route for Chinese district-level hospitals' informatization knowledge, institutions forming cooperation under such ties are likely to play a more significant role than those delivering technological exports.

## 5. DISCUSSION

Based on this paper, we have made some observations that go far beyond the particular circumstances of Chongqing Shapingba District Maternal and Child Health Hospital, providing guidance for hospitals' choice of information system strategies abroad and international knowledge dissemination about healthcare informatics management.

The most basic observations are as follows: The strategic frameworks constructed through research in corporate management - such as the resource-based view and dynamic capability theory; Also including the Uppsala Internationalisation Model - all originate from private sector firm studies rather than public hospitals. There are several reasons why these major strategic problems faced by them might be more relevant to non-profit organizations than to commercial enterprises; first, the cultivation of capabilities for creating long-term Value; Second, keep adaptability in the uncertain Environment; third, transfer knowledge among institutions or across different Countries. China's District-level Public Hospitals have faced all of these problems, and the theoretical foundation that underlies their occurrence in a commercial setting would also be applicable to this case.

The second concern is the interaction among technical and organisational investments for hospital Information Systems' implementation. As shown in the health informatics literature, the persistence of this phenomenon: technologically advanced systems are unable to achieve organisational goals - indicates that investment in organisation has not been properly prioritised relative to technology. Shortliffe and Cimino's account of biomedical informatics; Vest and Gamm's research on barriers to health information sharing; Blumenthal and Tavenner's study on the meaninglessness of participation in the programme provide a consensus view: The organisational job of realisation —the construction of governance system, the re-designing of workflow, ability training, culture change —is not subordinate to technological work but constitutes its value. [5, 7, 10] Shapingba's initiative is at the individual level in addition to the entire organisational system, therefore, part of some other organisation's systems.

The third observation on this is that the case-based analysis presented has limitations. The results of single-case research are highly relevant to specific situations but lose some degree of generalisation; therefore, the Shapingba case has reflected a particular institution's context under different settings from other institutions across China as well as abroad. Based on these strategies, we need to consider them as hypotheses for testing with other countries' cases instead of being absolute conclusions that can be adopted directly; therefore, future research needs to carry out a multidimensional site comparison based on this to determine whether the feature contents in Shapingba's reform are institutionally relevant or not.

## 6. CONCLUSION

Hospital information system design is a strategic act whose consequences extend far beyond the technical domain into the organizational capabilities, data governance structures, and institutional relationships that determine whether digital investment generates lasting value. The experience of Chongqing Shapingba District Maternal and Child Health Hospital illustrates how the strategic frameworks of the resource-based view, dynamic capabilities theory, and the Uppsala internationalization model can inform information system design decisions in ways that align technical choices with long-term organizational objectives.

The broader implication of this analysis is that the knowledge generated through China's district-level hospital informatics experience represents a form of organizational capital whose international value has not yet been adequately recognized or systematically mobilized. As lower- and middle-income countries accelerate their own digital health transitions, the demand for implementation knowledge that is grounded in resource-constrained public sector experience—rather than in the high-resource,

high-technology contexts where most international health informatics guidance originates—will grow. Developing the institutional pathways through which Chinese district-level hospital experience can contribute to this demand, in forms that respect the specificity of different national contexts while sharing the strategic reasoning that makes implementation successful, represents both a practical opportunity and a theoretical challenge that future research in health informatics and international business should pursue together.

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