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Exploring Multidimensional PMM Reform within the Complex Dynamics of Multi-level Institutions and Constrained Agency Autonomy: A Case Study of a Public Hospital in China

by

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Abstract

Since the emergence of New Public Management (NPM) and its goal of modernising public healthcare management, a significant body of management accounting literature has explored how the interplay of contextual factors as well as actors from different levels influences management accounting developments, mainly in the Western context. Building on the extant literature, this thesis aims to advance the current knowledge by using an institutional logic perspective to deconstruct the complex interests at play in shaping the performance measurement and management (PMM) of public hospitals at the social, field, organisational, and intra-organisational levels in the context of China's public hospital management. Therefore, this thesis explores how the multidimensional performance measurement and management (PMM) reforms are shaped by the complex and dynamic interplay between multi-level institutions and the constrained autonomy of agents within Chinese public hospital setting—by adopting an Institutional Logics Perspective (ILP).

Employing a case study in a tertiary hospital in the southwest of China, this thesis aims to answer three research questions: 1) How are PMM transformation and institutional complexity dynamics interrelated? 2) How do the organization respond to the institutional complexity dynamics in their environment through PMM reform? and 3) How is the intra-organisational institutionalisation of the PMM reform shaped by situated actors within the organisation? The findings of this research reveal the intricate and multifaceted affects by the coordination between the emerging managerial logic at Chinese public healthcare field and the high-level dominating state logic on shaping the field-level PMM transformation. This study highlights the fundamental influences of institutional complexity at the field level on the proactive managerial response to initiate a PMM reform, as observed in the case hospital. Additionally, the heterogeneity in departmental professional reputation, operational intricacy, and leadership paradigms potentially steers internal medical departments towards diverse reform response strategies and then culminates in internal complexity by internalising diverse departmental PMM practices. Then the inconsistency between the managerial objectives and the actual departmental practises concerning the reforms might result in a means-end decoupling of this PMM reform.

The primary contribution of this study is its extension of the contextual explanation of institutional logics beyond Western public healthcare settings. Drawing on a multi-level study of a case hospital, this research presents a theoretical framework to deconstruct the pathway of the PMM reform across various internal units. This framework highlights the fundamental influences of partial autonomy on causing internal dynamics and diversity of different medical departments in their responses to and adoption of the reform. The study contends that the heterogeneity of subunits poses challenges to designing and implementing a uniform organizational reform aimed at addressing external institutional complexity dynamics. Crucially, an exclusive emphasis on addressing the multifaceted external institutional pressures, without considering subunit diversity, may lead to a 'means-end decoupling' during the reform of public organizations.

Overall, this research sheds light on the complex interplay between institutional complexity, partial autonomy, and PMM reform in public hospitals, highlighting the need for nuanced approaches that recognise the diverse contexts and cultures in which such reforms are implemented. The findings have important implications for policy makers and management seeking to design and implement effective PMM reform in healthcare sectors across different cultural and institutional contexts.

Key Words

Institutional complexity dynamics, multidimensional PMM, public hospital, partial autonomy, contextualised institutionalization

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Research Thesis: Declaration of Authorship

Print name: Linxi Shi

Title of thesis: Exploring Multidimensional PMM Reform within the Complex Dynamics of Multi-Level Institutions and Constrained Agency Autonomy: A Case Study of a Public Hospital in China

I declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
4. Where I have quoted from the work of others, the source is always given. With the exception of such quotations, this thesis is entirely my own work;
5. I have acknowledged all main sources of help;
6. Where the thesis is based on work done by myself jointly with others, I have made clear exactly what was done by others and what I have contributed myself;
7. None of this work has been published before submission.

Signature: Date:.....

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Abbreviations

ABC (journal ranking lists)	Australian Business Deans Council
Activity-Based Costing	ABC
Social Health Insurance	SHI
Contract-Based Budgeting	CBB
Coronavirus Disease 2019	COVID-19
Diagnosis-related Group	DRG
Financial Accountability and Management Journal	FAM Journal
Health and Family Planning Commission	HFPC
institutional logic perspective	ILP
Ker Performance Indicator	KPI
Management Accounting	MA
Management Accounting Change	MAC
Ministry of Civil Affairs	MOCA
New Cooperative Medical Scheme	NCMS
Urban Employee Basic Medical Insurance	UEBMI
Urban Resident Basic Medical Insurance	URBMI
Ministry of Finance	MOF
Ministry of Human Resource and Social Security	MOHRSS
Ministry of Health	MOH
National Development and Reform Commission	NDRC
National Balance Scorecard Performance	
Measurement Scheme	National BSC PMS

National Health Service	NHS
National Healthcare Security Administration	NHSA
National Health Commission	NHC
Neo-Institutional Theory in Economics	NIE
Neo-Institutional Theory in Sociology	NIS
Old Institutional Theory in Economics	OIE
Operational Management Office	OMO
Pay by Results	PbR
Performance Management System	PMS
Prospective Payment System	PPS
Relative Performance Evaluation	RPE
Balanced Scorecard	BSC
Capital Prospective Payment System	CPPS
Top Management Teams	TMT

Chapter 1 Introduction

1.1 Research Background and Motivations

During the 1980s, the arise of "New Public Management" (NPM) movement introduced a significant emphasis on accountability, efficiency, and effectiveness in the public administration domain (Ferlie, 2017a). As part of this movement, public healthcare management began to experience profound and continuous reforms. The changes in reimbursement policies within the US Medicare system and the emergence of Thatcherism, developed under the UK's Thatcher government, marked the beginning of public management reform in public healthcare. NPM in public healthcare was primarily characterised as "decentralization," "accountability," and "competition" (Hood, 1991). Furthermore, developed countries such as New Zealand, Finland, and Sweden were pioneers in public healthcare NPM reform. Late, less developed countries such as China and Vietnam embarked on public service reforms that incorporated lessons from previous NPM reforms and shared some perspectives of NPM.

Accounting reforms have played a crucial role in bolstering NPM in the public healthcare sector by providing crucial data for decision-making, improving the mechanisms of accountability and performance evaluation in terms of effectiveness and efficiency (Brinkerhoff et al., 2015). Under NPM, a more strategic management perspective has been incorporated into the field of management accounting in the public healthcare sector. The increasing importance of NPM has necessitated the adoption of innovative management accounting concepts and methods from the private sector (Dunleavy, 2005; Hood, 1995; Luke et al., 2017). As suggested in the systematic review, the research contribution made to this field is evident in the evolution of research topics over time. Initially, the focus was on budgeting, which then progressed to cost management. Later, research attention shifted towards multidimensional performance management and measurement systems, with a primary focus on developed countries. Thus, performance measurement and management (PMM) in the public healthcare sector, particularly the provision of performance information for public healthcare organisations based on modern notions of efficiency and effectiveness, has emerged as a central aspect of NPM reforms in recent years (Garengo & Sardi, 2021; Kastberg & Siverbo, 2016).

Performance measurement involves addressing an organisation's efficiency and effectiveness in executing its activities (Richard et al., 2009). This procedure entails utilising a variety of indicators that encompass various aspects of organisational performance, including financial performance, shareholder return, operational effectiveness, customer satisfaction, and corporate social

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responsibility, among others. Performance management is the systematic approach that an organisation takes to align its performance with its corporate and functional strategies and goals (Bititci et al., 1997; Brown et al., 2019).

In the context of public healthcare, PMM is an integral component of the management accounting system, serving distinct strategic functions compared to their private sector counterparts (Andrews et al., 2019). Hurst & Jee-Hughes (2001) defined performance measurement and performance management as two related concepts in public healthcare that aim to enhance the effectiveness and efficiency of healthcare systems. Performance measurement involves identifying the objectives of the healthcare system, measuring relevant aspects of its structure, processes, and outcomes, analysing the collected data, and comparing them with appropriate benchmarks. Performance management, on the other hand, involves taking action to improve the performance of the healthcare system to meet the chosen benchmarks. This may involve providing feedback and incentives to healthcare professionals and implementing strategies to enhance the quality and efficiency of care delivery. The ultimate goal of both performance measurement and management is to promote continuous improvement in the quality and effectiveness of healthcare services (Hewko & Cummings, 2016). Hence, the missions and functions of PMM exhibit significant discrepancies in concurrence with the objectives and strategic priorities of public and private entities, respectively.

Unlike private sector organisations, which typically aim to maximise profit, market share, or customer satisfaction (Bozeman & Bretschneider, 1994), public healthcare organisations often pursue multifaceted and ambiguous objectives, not just quality or effectiveness, in their PMM practices. As public entities, they must frequently strike a balance between multiple, potentially conflicting objectives, including efficiency, equity, quality, and accountability (Castelnovo & Sorrentino, 2022; Hvidman & Andersen, 2014). Additionally, public healthcare organisations face challenges in adapting to fluctuating and uncertain socio-economic and political environments. Measuring and attributing performance outcomes can be problematic, as these may depend on a variety of external factors and actors (Voet et al., 2016). As a result, distinctive obstacles arise in the design and development of PMM for the public healthcare sector, necessitating adaptation to the intricate interests of involved actors and a sophisticated contextualised environment.

The extant literature on management accounting (MA) in the public sector has yielded valuable insights into the evolutionary trajectory of public PMM. Among the salient features of this evolution are the shift from performance measurement to performance management, as delineated by Gao (2015) and Garengo & Sardi (2021), and the emergent roles of MA in internal control and strategic management, as elucidated by Bourne et al. (2018) and Sheikh et al. (2022). Additionally, MA has

been recognised as a balanced tool for reconciling the diverse voices and dynamic relationships among various stakeholders (Manes-Rossi et al., 2018) and as a contextualised and stakeholder-interwoven phenomenon that shapes PMM development, as emphasised by Manes-Rossi et al. (2018), Modell (2004), Steccolini et al. (2020), and Vakkuri (2022). In the context of PMM studies in public healthcare, several analogous advancements have been recognised in the establishment of performance management by means of feedback, goal setting, and accountability (Aidemark & Funck, 2009a; Kelly et al., 2015), PMM's significant impacts on a range of organisational internal control aspects, including financial management, quality assurance, and stakeholder engagement (Harlez & Malagueño, 2016; Mahlendorf et al., 2014a; Modell & Lee, 2001), as well as the contextualised PMM for balancing the diverse demands of stakeholders (Guven & Uslu, 2012; Kelly et al., 2015).

While previous studies enhanced our understanding of PMM in the public healthcare sector, significant gaps were identified. Firstly, according to Tran and Nguyen's (2020) assertion, performance measures assume a crucial function in strategic management by facilitating public managers to align their strategies with their objectives, monitor their progress, assess outcomes, and make well-informed decisions. While the strategic significance of PMM has been established in other public sector studies (Bourne et al., 2018), earlier investigations in the public healthcare sector have predominantly overlooked its role in strategic management. Rather, these studies have placed greater emphasis on their political functions (Aidemark & Funck, 2009a; Chang, 2009; Guven & Uslu, 2012). Nevertheless, this thesis aims to shed light on the internal dynamics and determinants within organisations that catalyse PMM reforms and generate deviations in their implementation.

Secondly, as PMM in public healthcare continues to evolve, it has become increasingly apparent that its development is multidimensional (Leatherman et al., 2009). Hence, there is a growing need for research efforts to reflect this reality by analysing the multiple dimensions of PMM models in practise. However, despite some healthcare studies focusing on balanced scorecard (BSC) and quality-related performance measures (Aidemark & Funck, 2009; Dyball et al., 2011b; Eldenburg et al., 2015; Østergren, 2006), there remains a pressing need for more research attention in this area. This thesis, therefore, will observe the design and implementation of a multidimensional PMM reform in public healthcare organisations to explore the roles of multidimensional PMM in addressing the diverse institutional logics that permeate various levels.

Also, despite the growing interests in PMM in public healthcare and other public sectors, there is a lack of dynamic and systematic analysis of the contextualised and stakeholder-interwoven nature of shaping PMM developments (Modell, 2022). This is evidenced by the limited literature available

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in this area, such as recent works by Garengo and Sardi (2021) and Osborne et al. (2022). In their work, Garengo and Sardi (2021) propose contextualised performance measurement as a type of performance measurement, considering the specific context in which it is being used. Meanwhile, Osborne et al. (2022) suggest that contextualised performance measurement can help public sector organisations better understand their performance and identify areas for improvement by considering factors such as organisational culture, stakeholder expectations, and external environmental factors. Numerous studies in the realm of public healthcare have underscored the significance of contextual factors in the successful implementation of a PMM (such as Aidemark & Funck, 2009; Guven & Uslu, 2012).

However, there is currently a dearth of a comprehensive and dynamic multilevel perspective that encompasses the intertwined macro socio-economic factors, organisational field dynamics, and intra-organisational diversity on PMM pathways. Consequently, further research is imperative to shed light on constructing a systematic examination of the contextualised PMM developments and practises in the public healthcare sector (Manes-Rossi et al., 2018; Modell, 2004; Steccolini et al., 2020; Vakkuri, 2022). Thus, this thesis endeavours to explore the multidimensional reform of PMM within public health organisations. More precisely, the study will focus on the continuous interplay of multilevel contextual factors and their impact on shaping the roles of multidimensional PMM in healthcare organisation management. By delving into the intricate interactions between engaged stakeholders and the broader contextual landscape, this study seeks to contribute to the burgeoning discourse on the "multidimensionalization" of "contextualized" PMM in public sector management, particularly in relation to its functionality within complex stakeholder environments.

Empirically, there has been an increasing interest in research centred on emerging economies as a complementary area of study to previous research predominantly focused on the developed countries. The research attention focused on exploring accounting-related theories in emerging and developing countries is regarded as a blind spot by Baboukardos et al. (2021) and Yonce & Barnes (2022). The Chinese public healthcare system is informed by the salient features of the centralized, state-driven, belatedly developed, and weakly professional-associated healthcare system in China, as delineated in this thesis. These characteristics diverge from the widely prevalent NPM settings in Western countries. Thus, this thesis presents a novel perspective on the design and implementation of multidimensional PMMs in healthcare organisations by examining the unique emerging economic context of Chinese public healthcare. In addition, the Chinese public healthcare system faces significant uncertainty due to frequent government policy changes related to funding policies and healthcare service orientations. Meanwhile, the system faces immense pressure to provide equitable and efficient services to a vast population (Yip et al., 2019). This challenging context presents an opportunity for this thesis to examine the critical PMM change processes that

are entwined with external political and societal environmental dynamics, as well as the diverse perspectives of internal stakeholders.

In addition to identifying research attention gaps, it is imperative to acknowledge the theoretical gap in studies pertaining to PMM within the context of public healthcare. Previous studies on PMM in the public sector have largely relied on organisational management theories, such as goal setting theory, expectancy theory, and stakeholder theory (Sheikh et al., 2022), to explore the roles and evolutions of PMM. There is a lack of in-depth understanding of the multidimensional evolution of PMM models and contextualised PMM developments, which require a more socialised theoretical lens to explore the interactions of social actors from different levels within society. While there are more and more studies incorporating new institutionalism in sociology (e.g., Conrad & Uslu (2011); Grafton et al. (2011)), such discussions still rely on relatively outdated NIS theories and simplistic theoretical frameworks (Bourne et al., 2018; Modell, 2022). This highlights the need for a comprehensive and dynamic sociological theoretical framework to better understand the motivations and impacts of multidimensional PMM models on public management and how PMM reforms are contextualised dynamically within the work of multi-level social actors.

To develop a more comprehensive and dynamic sociological framework for studying the multidimensional nature of PMM in the public sector, this study utilises the institutional logic perspective (ILP) approach from the field of New Institutional Sociology (NIS). The goal is to create a multi-level, contextualised, and dynamic institutional complexity framework for PMM reform that enables an in-depth analysis of the developments and impacts of public PMM. By employing the ILP approach, this study seeks to better understand how the various institutional logics that shape the public sector influence PMM reform. The resulting framework will be able to account for the complex interplay between different institutional logics at multiple levels of analysis, including the organisational, sectoral, and societal levels.

The New Institutionalism in Sociology (NIS) has been extensively employed in public management accounting reform studies to examine the interplay between the broader institutional environment and existing internal institutional arrangements on public organisations' management accounting systems and practises (Brignall & Modell, 2000; Goddard, 2010; Scapens & Bromwich, 2010). The NIS is characterised by society's cultural-cognitive, normative, and regulative pillars (Meyer & Rowan, 1977; Scott, 1995), which serve as a framework for organising social life that is taken for granted. The NIS aims to offer a more comprehensive and nuanced understanding of the social and institutional contexts of management accounting change (Arroyo, 2012; Scapens, 2012). This approach helps to explain the persistence and diffusion of specific accounting practises across diverse organisations and sectors (Siti-Nabiha & Scapens, 2005). Consequently, an NIS theoretical

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lens is utilised to investigate the diffusion process and outcomes of management accounting reform within the broader institutional context, taking into account the involvement of various agencies.

Nevertheless, the NIS still falls into the theoretical conundrum of elucidating the autonomy of embedded agency in institutions that foster institutional change (Seo & Creed, 2002). To further address the embedded agency paradox, it is essential to theorise the distinctions among various institutional prescriptions, acknowledge the dynamics that occur in institutional life, and theorise agency's diverse reactions (Lok & Willmott, 2019; Thornton & Ocasio, 2008). The institutional logic perspective (ILP) derived from NIS has gained increasing attention in this research domain (Nasreen & Baker, 2019).

The ILP has been proposed to account for the influence of agency during institutional reproduction while maintaining institutional embeddedness and striking an optimal equilibrium between the institutional effects on actors and the reflection and impact of embedded agency on the institutional environment (Lok & Willmott, 2019; Thornton & Ocasio, 2008). Institutional logic is delineated as "the central organising principles and actions derived from cultural discourses and material practises prevalent in distinct institutional or societal sectors" (Thornton, 2004, p. 2).

In public organisations where complex stakeholders influence organisational behaviours, the ILP offers significant advantages in theorising various agencies and their associated values and interests (Broek et al., 2014; Cai & Mountford, 2022). Concurrently, the ILP has been proposed to provide rich and dynamic insights into organisational practises and transformations (Greenwood et al., 2011; Thornton & Ocasio, 2012). This approach is beneficial for tracking the process of organisational change, as it views such changes as ongoing interactions among actors based on their distinct power dynamics and reflexivity (Lok & Willmott, 2019).

Nonetheless, previous investigations in public management utilising the ILP have yet to provide an extensive and dynamic contextual understanding of changes in public management accounting amidst the changing institutional complexities (Ponte & Pesci, 2022). Therefore, there is an imperative need to conduct a balanced analysis of human agency and institutional roles in the institutionalisation of management accounting practises (Modell, 2022), which can be further enhanced through the application of an ILP approach.

The overarching objective of this thesis is to bridge the empirical and theoretical gaps in the literature pertaining to PMM reform in public hospitals. To accomplish this, a distinctive opportunity has been seized to undertake a multi-level investigation within the Chinese public healthcare landscape, which is characterised by a weak professional association and a late development stage and operates under the essential influence of state power. Moreover, this study

aims to provide a more comprehensive and dynamic sociological theoretical framework to better understand the detailed processes and impacts of multidimensional PMM developments within public management. To achieve this, the study utilises the ILP to provide a context-sensitive and dynamic examination of PMM reform in the public sector, including how such reforms are contextualised within the work of multi-level social actors. In detail, the research integrates two established frameworks: the Institutional Complexity Framework by Greenwood et al. (2011) and the Institutional Relational Dynamic Framework introduced by Dillard et al. (2004). This integration results in a holistic and dynamic institutional complexity framework that facilitates the analysis of management accounting transformations in public healthcare across social, organisational, and organisational levels. Furthermore, the framework explicitly integrates an intra-organisational perspective, allowing for a deeper exploration of the interplay between human agency and institutional forces in driving organisational change.

1.2 Research Questions

The main objective of this thesis is to conduct a comprehensive analysis of how performance measurement and management in public organisations are influenced by various actors and the complex institutional environment in which they operate.

Therefore, this study aims to answer the research problem identified—*lack of understanding of how the multidimensional performance measurement and management (PMM) reforms are shaped by the complex and dynamic interplay between multi-level institutions and the constrained autonomy of agents within the Chinese public hospital setting*—by adopting an Institutional Logics Perspective (ILP).

A prominent tertiary public hospital situated in the southwest of China was chosen for this case study. This institution not only functions as a general hospital but also stands as the province's primary mental health centre. Its professional reputation is highly regarded within the local community. Given the significant social challenges in China, especially the difficulties patients encounter in accessing and affording medical care, a comprehensive health reform was launched in 2009. This reform saw the Chinese government intensify its financial contributions and policy guidance to strengthen and monitor the expansion of the public healthcare system. A notable shift in performance management has been observed, with a focus now on care quality, delivery efficiency, and patient satisfaction, moving away from a purely financial performance metric. In response to these changes in institutional environment, the hospital embarked on a comprehensive PMM reform in 2017, replacing its previous financially centric performance measurement system.

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This case provides a unique lens to examine the multidimensional PMM reform in public hospitals within an evolving institutional complexity.

Based on this case study, the research problem identified above is further unpacked into three separate research questions, as follows:

To investigate the institutional logics within the Chinese public healthcare system, it is important to consider the broader socio-economic and political factors that influence it. Moreover, the field of performance measurement and management (PMM) is undergoing transformation, driven by the relational dynamics behind institutional logics, as discussed by Dillard et al. (2004) and prior literature on the institutional logics perspective (ILP). Thus, the first research question is proposed as:

RQ₁: How are PMM transformation and institutional complexity dynamics interrelated?

This research question aims to shed light on how the isomorphic PMM reform model at the field level is shaped by current institutional complexity dynamics. Chapter 6 addresses this research question.

In order to address the organisational response to the shifting external institutional complexity and emerging institutional logic within the field-level performance measurement and management (PMM) transformation, this study explores the interactions between constrained agency and emerging logic, drawing from agency reflexivity in NIS (Thornton & Ocasio, 2012), Greenwood et al.'s (2011) framework for organisational responses to institutional complexity, and prior literature on organisational responses to emerging logics within the Institutional Logics Perspective (ILP). This leads to the second research question proposed:

RQ₂: How do the case hospital respond to the institutional complexity dynamics in their environment through PMM reform?

This research question aims to shed light on the role of human agencies and changing institutions in designing PMM reform to respond to institutional dynamics. Chapter 7 delves into this research question in greater depth. To examine how the institutional logics dynamics and intra-organisational agency interact to shape the institutionalisation of the multidimensional PMM reform within the hospital, while drawing on the literature on partial autonomy of embedded agency (Thornton et al., 2012) and prior research on contextual factors influencing agency reactions, the third research question is proposed as:

RQ₃: How is the intra-organisational institutionalisation of the PMM reform shaped by situated actors within the case hospital?

The aim of this research question is to provide novel insights into the implementation process of PMM reform and to explore how it interacts with internal actors, leading to varying levels of institutionalisation within an organisation. Chapter 8 explores this question in detail.

This thesis employs three key research questions to undertake a critical examination of the institutionalisation of multidimensional PMM reform within organisations while, at the same time, considering the situated influences arising from the complex interplay between institutional dynamics and the partial autonomy of agency actors.

1.3 Research Methodology

The intricate institutional environment of Chinese public healthcare offers a valuable context for exploring the above research questions by applying the ILP to examine the interactions among various actors based on their distinct logics (Bitektine & Song, 2023; Oppi et al., 2019). Management accounting in the domain of public healthcare has undergone significant advancements, particularly in the area of PMM (Abernethy et al., 2006; Ellwood, 2009; Malmmose, 2019; Oppi et al., 2019).

The study aims to investigate the reforms in public multidimensional PMM in the context of Chinese public healthcare. To achieve this objective, a qualitative case study methodology is employed to explore the multidimensional PMM reform in a Chinese public hospital. The case study methodology is chosen due to its ability to provide an in-depth understanding of the phenomenon under investigation. The case study was conducted at TPH, a Grade-A tertiary hospital authorised as the provincial mental health centre in southwest China. In 2018, the hospital introduced a multidimensional performance measurement system (PMS) as part of its PMM reform. This scenario provides an excellent opportunity to investigate the PMM reform process at TPH.

The research design involves a range of data collection techniques, including interviews, focus group meetings, scrutiny of documentation, observations, and examination of pre-existing industrial secondary data. The utilisation of multiple data sources and methods is intended to enhance the credibility, validity, and reliability of the research findings. To elaborate on the findings of the research, the data analysis consists of three stages of coding. First, all raw data, including interview transcripts, observation recordings, focus group meeting records, documentation, and other secondary data, are subjected to open coding using line-by-line coding. In the second step of category coding, the initial codes are sorted into categories and subcategories. The final phase of thematic coding involves establishing connections between code categories and generating theoretical findings.

1.4 Research Contribution and Implications

By answering the three research questions, this study has both theoretical contributions and practical implications:

First, this study develops a dynamic, multi-level, contextualised theoretical framework for explaining the intra-organizational institutionalisation process of management accounting reforms in public healthcare organizations. This framework recognises the complexity and dynamics of field-level institutional complexity while highlighting the critical role of intra-organizational factors in driving the institutionalisation process forward.

Second, this study enriches the institutional complexity discussions of the public healthcare sector in China and provides dynamic tracking of Chinese field-level institutional complexity dynamics. The findings will help in studying institutional logics in the public healthcare sector of emerging economies. Moreover, it emphasises the importance of considering the situated cultural values and beliefs that shape institutional logics.

Third, this study explores the concept of partial autonomy of embedded agency in the face of institutional complexity and provides empirical evidence to support the field-level and organizational-level attributes proposed by Greenwood et al. (2011) as determinants of field-level institutional complexity and organisational responses to it. Furthermore, this study challenges some of the assumptions made in prior literature regarding the effects of situational factors on agency autonomy. Additionally, it extends our analysis to the intra-organizational level by examining the influence of situational factors on subunits' responses.

Fourth, this research provides new insights into how healthcare organisations employ multidimensional PMM reform as a strategic tool to incorporate emerging field-level logics into both organisational and intra-organizational institutional diversity. It highlights how the PMM reform has facilitated the transmission of both state and emerging managerial logics to TPH.

Fifth, by examining the internal institutional mismatch within TPH, which was brought about by the top management team's reflexivity in promoting their adoption of managerial logic, the study reveals the significant impact of internal dynamics on an organization's ability to respond to external pressures. As such, this research sheds light on the critical role played by internal actors and factors in shaping organisational PMM reform, contributing to the broader literature on institutional change.

Sixth, the present study adds a crucial reminder of how subunits and individuals may respond distinctively to emerging logic within their respective practices. This underscores the importance of

recognising the varied subunit responses that contribute to differential outcomes of PMM reform at the intraorganizational level. Furthermore, it illuminates the pivotal role of hybrid clinical managers in skilfully navigating institutional complexity and facilitating the integration of reform initiatives.

This research also has practical implications for future hospital PMM reforms. This study suggests to managers of healthcare organisations that the diverse leadership styles of subunits and personal aesthetics have a substantial effect on clinical managers' management capability when confronted with the new PMM system. Specifically tailored training and support are required. In addition, failure to align the goals of the current organisational system with the reform may result in future risks such as decoupling.

This study also suggests to policymakers the incorporation of management knowledge into the degree curriculum of medical professionals to equip them with fundamental managerial knowledge for their future career advancements in hospital management and to cultivate hybrid talents for hospitals. Furthermore, design and implementation of management reforms must go beyond superficial measures; they must be comprehensive and far-reaching. This requires the development of reform initiatives that promote substantive and long-lasting changes in hospital management. By closely observing the role of PMM reform in hospital operational management, healthcare administrators can ensure that these reforms are not merely planned but are effectively implemented.

1.5 Structure of the Thesis

The thesis comprises a total of nine chapters. Chapter 1 serves as an introduction, providing the background and research question for the study.

Chapter 2, conduct a systematic review of the literature on management accounting in public healthcare settings. The aim of this review is to identify gaps in research pertaining to contextualised management accounting in public healthcare to inform the research direction and support knowledge for this study.

Chapter 3 elaborates on the background of China's public healthcare reforms, based on three substantial healthcare periods. It provides a comprehensive and holistic overview of the developments of Chinese public healthcare within broader social environments, focusing on the funding system, governance structure, and PMM developments.

Building on the rich literature on NIS and ILP studies, Chapter 4 constructs a dynamic, multidimensional, contextualised theoretical framework for this case study. It integrates the

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contributions of Greenwood et al. (2011) on the relationships between institutional complexity and organisational responses and Dillard et al. (2004) on the multilevel institutional relational dynamics to build the framework skeleton and refers to prior pertinent ILP research to enrich the detailed assumptions. Chapter 5 provides a detailed explanation of the research philosophy and methodology, justifies the choice of a qualitative case study for this research and presents the data collection method and data analysis process.

Chapters 6 to 8 present the findings of the thesis based on the three research questions. This starts with the findings related to field-level dynamic institutional complexity and its interactions with field-level PMM transformations. Then it explains how the PMM transformations, as isomorphic PMM reform pressures, together with external and internal institutional actors, promoted the responses of the case hospital. Last, it gives significant attention to demonstrating how the intra-organisational institutionalisation of the PMM reform walked along different paths within interactions with the situated actors.

Finally, Chapter 9 provides a discussion of each research question's related findings and develops a revised dynamic and multi-level contextualised framework for studying organisational PMM reform. Based on these findings, the theoretical contributions and practical implications of this study are presented. Following that, the limitations of this study are acknowledged, and concluding remarks are given.

Chapter 2 Literature Review: Multi-level Contextualised Public Healthcare Management Accounting Reforms since the NPM Reform

2.1 Introduction

Healthcare management has undergone significant reforms since the 1980s, with the rise of New Public Management (NPM) reforms characterised by decentralisation, accountability, and competition. This has resulted in a surge of public management accounting studies (Hyvönen et al., 2009; Järvinen, 2006; Macinati, 2010; Modell, 2001; Pettersen, 1999, 2001), as management accounting became a significant technique for internalising business-like concepts in public sector management. Healthcare management accounting reforms in many countries involved changes in budgeting, costing, and performance measurement systems at the field and organisational levels. Despite the significant attention given to healthcare management accounting, research lacks dynamic perspectives that explore the development of healthcare management accounting in the context of its continuous interactions with macro- and micro-level factors, as Malmrose (2018) suggested.

Against this backdrop and in line with the current research topic, which aims to examine the dynamic processes involved in implementing management accounting reforms in public healthcare organisations within a multi-level contextualised setting, the primary objective of this review is to provide a comprehensive analysis of the current state of research on healthcare management accounting. The focus is on the intricate interplay between management accounting changes and complex and multifaceted contextual environments and participants. The investigation aims to identify significant themes, theories, and gaps in the existing literature on this topic.

Specifically, this literature review explores new management accounting techniques or systems developed in healthcare management accounting, such as full accounting, activity-based costing, and multidimensional performance measurement. The review also considers the different stakeholders involved in healthcare management accounting, including healthcare providers, patients, insurers, and policymakers, and their roles in continuously shaping new management accounting techniques and practices. Furthermore, the review synthesises the findings of multi-level contextualised accounting developments, taking into consideration the macro-socio-economic and political environment as well as the inter- and intra-organisational contexts.

Chapter 2

The primary objective of this literature review is to make a significant contribution to the ongoing discourse on healthcare management accounting by providing a comprehensive analysis of the current state of research while identifying key areas that require further investigation. The review employs a rigorous approach to selecting relevant papers, beginning with a search of academic search engines using the key words defined by the review question. The review then uses a predefined list of high-quality academic journals to screen relevant papers. The key words pertain to four aspects of management accounting within the public healthcare sector: performance management, costing, budgeting, and management accounting systems.

This chapter is structured as follows: Section 2.2 focuses on the theoretical underpinnings of the study, while Section 2.3 describes the research methodology of the systematic review and the data collection process. Section 2.4 discusses the results of the descriptive analysis based on the general characteristics of the collected research, including the research focus, theories used, and research methodologies involved. Section 2.5 further discusses the key themes derived from the systematic review that address the research question based on the underlying theoretical framework. Finally, the chapter concludes with Section 2.6.

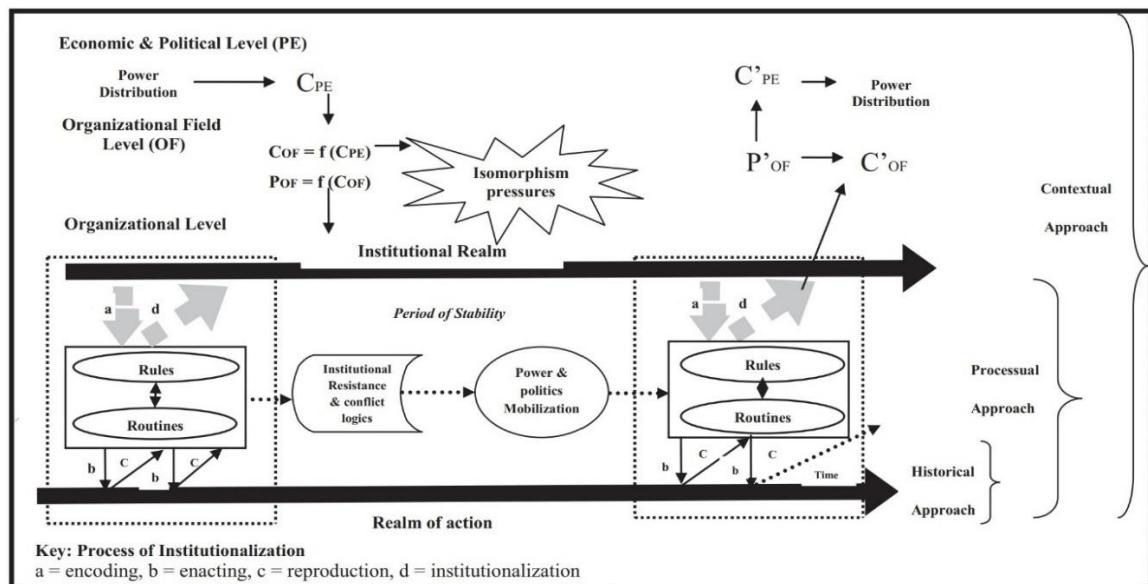
2.2 Theoretical Underpinning: A General MAC Contextual Framework

Management accounting researchers suggest that accounting change is context-specific, necessitating research into the impact of both external and organisational factors on accounting change (Briers & Chua, 2001). Public healthcare can be considered a broad system or enterprise that is responsible for the healthcare of the public and is supported by the government (Turnock, 1998). Public healthcare is predominantly funded through fiscal means and is a highly knowledge-intensive sector. Consequently, public healthcare institutions face diverse requirements from different stakeholder groups, leading to complicated relationships in the management process (Järvinen, 2006). As a result, the multifaceted interests of groups, as well as the continuous effects of contextual factors such as existing relevant systems, material objects, and ideological transformations, will shape the development of management accounting systems (MASs) in the public healthcare sector (Oyewo, 2022; Pipan & Czarniawska, 2010; Shahzadi et al., 2018).

To address the complexity and dynamic nature of management accounting change processes, Alasharari et al. (2015) developed a conceptual and contextual framework to understand the interrelated factors that influence management accounting change at multiple institutional levels. This framework is developed under the lens of new institutionalism by integrating Dillard et al.'s (2004) multi-level framework and Burns and Scapens' (2000) institutionalisation process framework. Figure 2.1 illustrates this framework, which theorises the multi-level interactions of

significant criteria and practises surrounding management accounting change and how it will ultimately be institutionalised. In this framework, intra-organisational institutionalisation is theorised as the realm of action that refers to the micro-level practises executed by internal actors and systems under the isomorphism pressures of the institutional realm. This framework effectively demonstrates the multi-level contextual dynamics involved in the initiation, dissemination, penetration, embedding, and reverse-engineering of healthcare management accounting (MAC) using a neo-institutionalist lens. Thus, this review adopts the aforementioned contextual framework to address the previously listed review question.

Figure 2.1. The MAC contextual framework by Alasharari et al. (2015, p. 491)



To guide the systematic review of all relevant studies on healthcare management accounting changes and to focus on management accounting change (MAC) in the organisational field and organisation, this review adopts Alasharari et al.'s (2015) framework and revises it to be a more general contextual framework (see Figure 2.2). The theoretical framework is designed to recognise the multi-level factors that influence hospital MAC differently from a dynamic perspective.

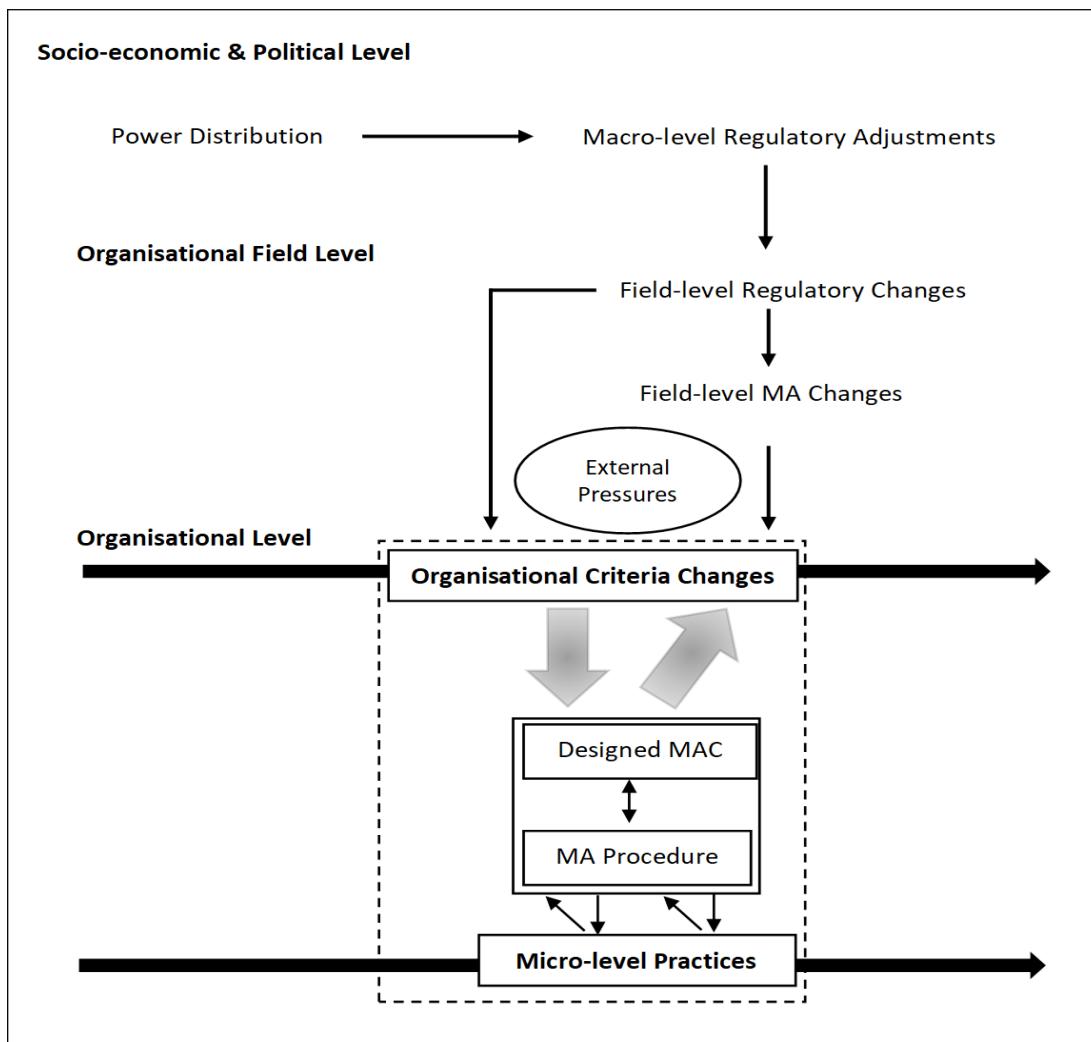
As explained in Figure 2.2, socio-economic and political changes have the potential to alter the distribution of power at a macro level, influencing decision-making about public healthcare (Alasharari et al., 2015). This may lead to regulatory adjustments in healthcare policies at the macro level, for example, in funding policy. This in turn would lead to regulatory environment changes in the relevant public healthcare fields, such as cost-standardised regulations enforced under austerity funding policies. The field-level regulatory changes would then result in field-level management accounting changes (MAC), for example, with full-costing methods becoming popular under cost-standardised regulations.

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The new regulatory environment and field-level practises would exert external pressure on public healthcare organisations to adopt new criteria for their management accounting systems, leading to changes in the design and operational procedures of the entire management accounting process within the organisation. The process of management accounting change, encompassing both design and practical procedures, would undergo iterative developments through interactions with different internal groups at the micro level. These developments would finally shape the management accounting change and return to impacting the organisational criteria.

Thus, this review draws on the revised contextual framework of MAC to recognise the multi-level factors that influence hospital MAC differently from a dynamic perspective, providing a comprehensive analysis of the current state of research on healthcare management accounting and its interplay with complex and multifaceted contextual environments as well as the participants involved (Alsharari et al., 2015).

Figure 2.2.A comprehensive multi-level contextual analysis framework for healthcare management accounting (MAC)



2.3 Review Methodology

This review adopted a systematic review approach to address the research questions in this study. Although originally developed for medical research (Group et al., 2015), this method has gained popularity in other areas, including accounting research, in recent years. This method helped to improve transparency and objectivity in conducting the review by utilising transparent coding systems and robust descriptive analysis, thereby standardising the systematic review process and producing reproducible results (Cinar et al., 2018).

To ensure that the systematic review was conducted in a standardised way, the researcher followed the procedure recommended by Torchia et al. (2015), which involved searching for relevant papers and synthesising their contributions to understand pre-designed directions. The following five search strings were employed when searching different search engines:

1. The journal language will be limited to only English.
2. The time range for searching will be defined as 1980 to 2019.
3. The type of article should be limited to the peer-reviewed published article, which also includes the review type papers.
4. The searched journal sources are predefined according to ABC ranking lists.
5. The topic of this searching should satisfy the area of management accounting and public healthcare.

The thesis focuses on the healthcare landscape in China, indicating the relevance of Chinese publications. While the author conducted a preliminary review of pertinent publications from Chinese sources, the absence of a systematic academic evaluation for these sources could potentially undermine the reliability of the review's findings. To maintain a consistent quality in this systematic review, the thesis opted to exclude Chinese publications. The review period is set from 1980 to 2019¹. considering the implementation of NPM to cover the essential reform periods (Ferlie et al., 1996; Hsu & Qu, 2012). For screening out the high-quality academic papers, this review limits the search results with referring to global academic journal ranking for accounting and public management journals, this review refers to the ABDC journal quality list²; for medical journals, this

¹ This time frame only supports the literature review in this thesis and the new publications until 2022 was updated into the separate systematic review writing for publication.

² The ABDC journal quality list is portrayed as a well-recognized standard in the academic community and provided a valuable guide for assessing journal quality (Villiers and Hsiao, 2018).

review refers to the Scimago Journal Rank (SJR)³.

The search criteria, the searching process, and results are explained below.

2.3.1 Search criteria

To navigate and narrow down topics on management accounting and public healthcare, this review developed keywords based following key areas in management accounting: performance management, cost management, budgeting, accounting information, and management accounting to include as many relevant papers as possible for the review :

- a) performance measure, performance manage, performance evaluate, performance system, balanced scorecard,
- b) costing, cost management, cost control, cost measure, costing effectiveness,
- c) budget, accounting, management accounting, management control, accounting information.
- d) healthcare, hospital, public health,

Referring to previous review papers (Cinare et al., 2018; Mauro et al., 2017; Torchia et al., 2015), and considering the discipline area of management accounting, this review utilised the Business Source Premier, Web of Science (Web of Science Core Collection), and Scopus academic search platforms. The search strategy uses Boolean logic to create the following three search commands:

- 1) "((performance measure*) OR (performance manage*) OR (performance evaluate*) OR (performance system)) AND (health* OR hospital*)"
- 2) "((costing*) OR (cost management) OR (cost control) OR (cost measure*)) AND (health* OR hospital*)"
- 3) "((budgeting) OR (accounting) OR (management accounting) OR (management control) OR (accounting information)) AND (health* OR hospital*)"

After conducting preliminary searches using the three specified commands, this review further refined the selection based on the academic journal ranking lists referenced herein. To ensure the

³ As Walters (2017) suggests, the SCImago Journal Rank (SJR) indicator, developed to reflect the average number of citations to articles published in a journal, innovatively incorporates the prestige of the citing journal, and considers the thematic proximity between citing and cited journals, offering a nuanced, robust, and more balanced metric that accounts for both the quality and impact of the journal in the scientific community.

quality and reliability of the sources, only publications from top-tier journals⁴ in the fields of accounting, public management, and medicine were ultimately chosen.

Striking a balance between bias and quality in systematic reviews remains a challenge. To ensure the rigor of this systematic review, only journals that rank highly within the fields of accounting, public management, and medicine were selected, based on established academic journal ranking systems. However, there is growing criticism that focusing solely on top-tier journals may introduce bias into reviews. To address this concern, this review began with a comprehensive search of relevant papers, followed by a screening process that took into account the quality of their respective journals. This approach allowed for the inclusion of journals that have made significant contributions to research, even if they are not top ranked, such as the *Asian Review of Accounting* and the *Australia Accounting Review*.

Finally, the collects papers are from 19 highly ranked accounting journals, one public management journal, and one medical journal⁵. These journals include:

Accounting journals: *The Accounting Review*; *Accounting, Organisations, and Society*; *Journal of Accounting Research*; *Contemporary Accounting Research*; *European Accounting Review*; *Abacus*; *Accounting and Business Research*; *Accounting Horizons*; *Accounting Forum*; *Accounting, Auditing and Accountability Journal*; *British Accounting Review*; *Critical Perspectives on Accounting*; *Management Accounting Research*; *Journal of Accounting and Economics*; *Journal of Accounting and Public Policy*; *Journal of Accounting, Auditing, and Finance*; *Financial Accountability and Management*; *Australian Accounting Review*; and *Asian Review of Accounting*.

Public management and medical journals: *Public Management Review* and *Health Services Research*.

By including these journals, this review provides a comprehensive analysis of the current state of research on healthcare management accounting, drawing on a wide range of high-quality academic literature.

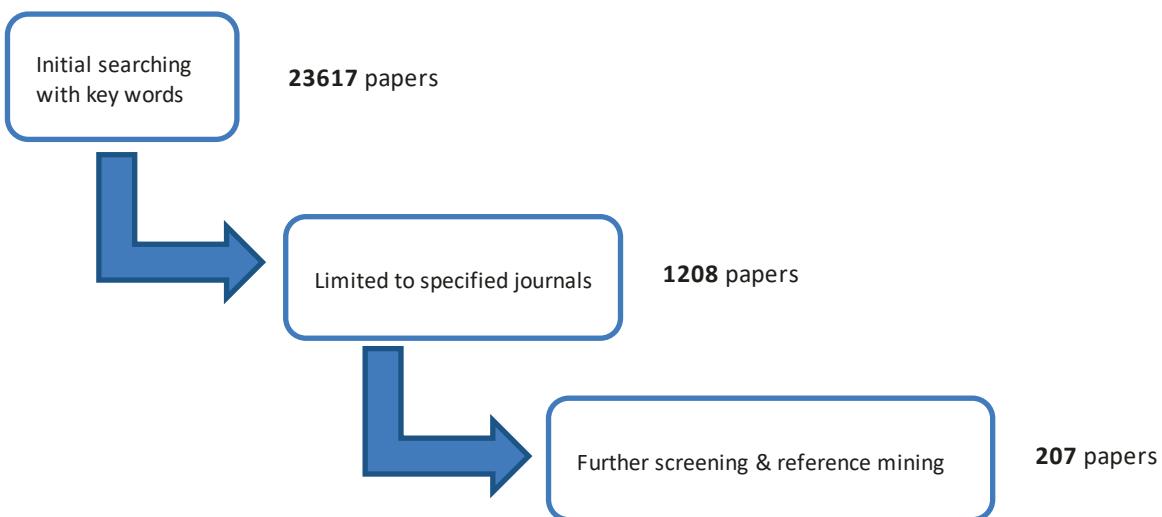
⁴ In this review, we have included journals from the fields of accounting and public management that are rated as 3, 3*, 4, and 4* by the ABDC. Simultaneously, we have also considered journals ranked in the Q1 category by SJR, representing the top 25% of publications.

⁵ Although this review aims to encompass prominent medical journals related to the research subject, the search outcomes indicate that only one specific medical journal has published research pertinent to this theme, while papers from other medical journals predominantly concentrate on medical domains.

2.3.2 The searching process and results

The identified keywords were searched using Boolean logic on Web of Science, Business Source Premier, and Scopus. The application of five search strings generated 23,617 papers as the initial result. After screening these papers using the specified journals, 1208 papers were left for further

Figure 2.3. The search process



screening. Next, the title, abstract, keywords, and full context (if necessary) were screened for further elimination, and duplicates were removed. Simultaneously, reference mining was also utilised to capture omitted papers. The search process is illustrated in Figure 2.3. This search ultimately provided 207 relevant papers for this review, including one study from a public management journal, 11 papers from medical journals, and 195 studies from accounting journal papers.

The data obtained from the included studies is synthesised using NVivo, a software programme specifically designed to facilitate qualitative data analysis. The synthesised data are then subjected to a systematic and rigorous coding process for thematic analysis, which aims to identify and examine key themes, theories, and gaps present in the existing literature. The results of the analysis are presented in a comprehensive and detailed manner, which includes the use of tables, charts, and diagrams where appropriate.

2.4 Descriptive Analysis

This section presents detailed findings based on a descriptive analysis of publication journals, research regions, research settings, research focus, research methodology, and theories in use.

2.4.1 Publication journal sector and research geographic location

Table 2.1 indicates that the primary focus of this review is on papers from accounting journals. Focusing on the relevant literature, the FAM Journal stands out, accounting for 34% of all papers with 71 publications in this research area. Additionally, the MAR and AOS journals contribute 13% and 11% of the total, respectively. However, it appears that papers published in public management journals have limited circulation, and only 11 pieces from medical journals mainly focus on accounting techniques research. This suggests that there is a lack of attention to this research topic in public management and medical journals. These findings are consistent with other review publications, such as Anessi-Pessina et al. (2016) and Malmrose (2019).

Table 2.1. Distribution of the selected articles across the types of journals

Journals		No paper(s)
Accounting journals		
	Abacus	3
	Accounting, Organisation and Society	22
	Accounting and Business Research	1
	Accounting Forum	5
	Accounting Horizons	4
	Accounting, Auditing and Accountability Journal	13
	Asian Review of Accounting	1
	Australian Accounting Review	1
	British Accounting Review	4
	Contemporary Accounting Research	8
	Critical Perspectives on Accounting	5
	European Accounting Review	12

	Financial Accountability and Management	71
	Journal of Accounting and Economics	3
	Journal of Accounting and Public Policy	7
	Journal of Accounting Research	2
	Journal of Accounting, Auditing and Finance	1
	Management Accounting Research	27
	The Accounting Review	5
Public management journal	Public Management Review	1
Medical journal	Health Services Research	11
Total		207

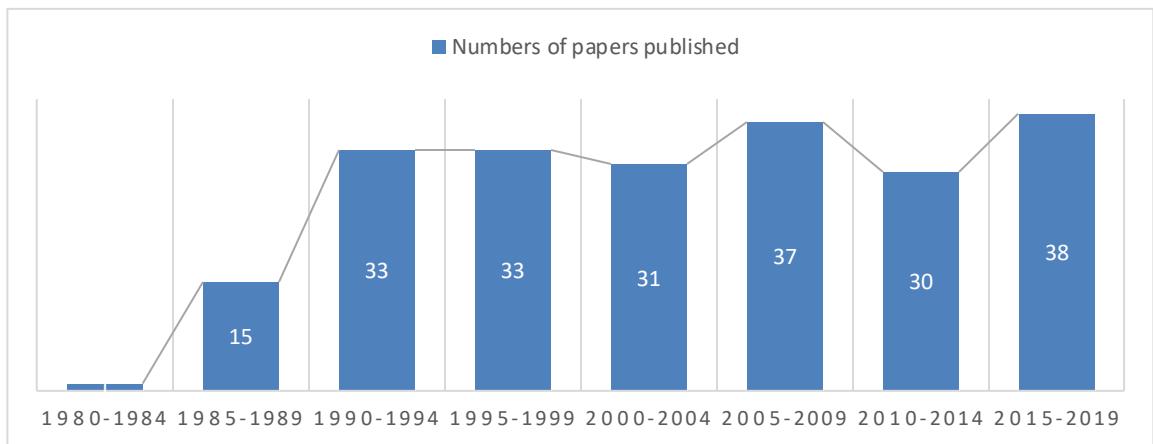
Figure 2.4 shows a gradual increase in the number of publications from 1980 to 2019, indicating a growing focus on management accounting research in the healthcare field (Yonce & Barnes, 2022). Although the prevailing trend does not present significance, it is imperative to underscore the necessity for an intensified focus on research within management accounting in the context of public healthcare. This approach necessitates a broader opportunity for publications related to healthcare accounting, thereby enriching the literature and potentially contributing valuable insights to the field.

The ongoing COVID-19 pandemic has highlighted the importance of healthcare systems, making it necessary to explore the role of management accounting in mitigating its impact. In particular, the pandemic has revealed the need for effective resource allocation and cost management, making this area of research increasingly relevant and important (Shahid et al., 2020).

Overall, the findings suggest that management accounting research in the healthcare field has increased over the past few decades, but there is still much to be done to address the gaps in the existing literature. Specifically, there is a need for more research on the role of management

accounting in public healthcare, particularly in the context of the COVID-19 pandemic (Karim et al., 2021; Shahid et al., 2020).

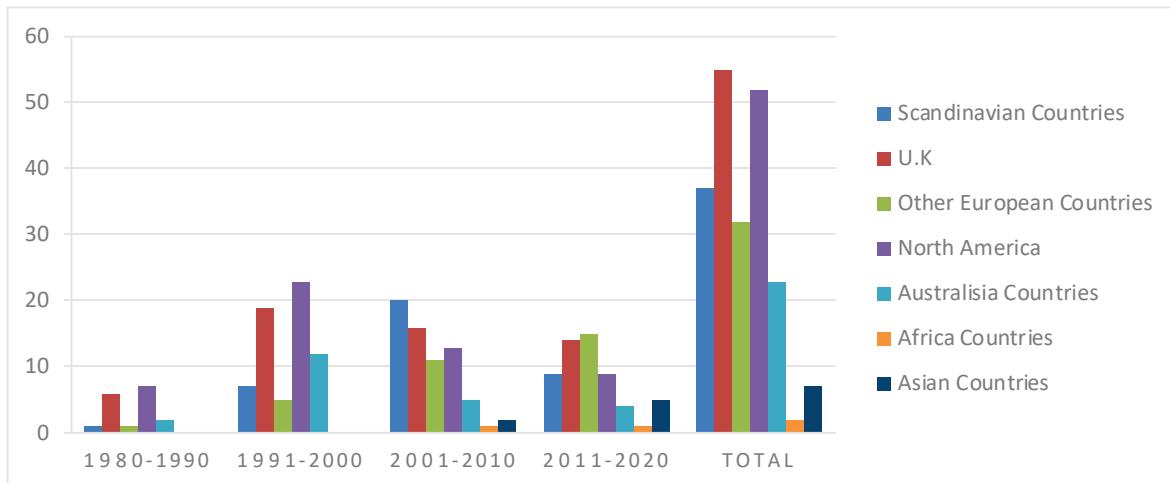
Figure 2.4. Trend of publication of articles over time in total



In terms of geographical distribution, Figure 2.5 depicts the growth trend in the number of research studies conducted in specific regions over time. This trend is consistent with previous findings by Helden (2005) and Malmrose (2019), which indicate an increase in research from developed countries. Notably, the majority of research in healthcare management accounting has been conducted in the United Kingdom (UK) and the United States (US), while studies from Asian countries have been limited to seven studies covering Japan, Taiwan, Sri Lanka, India, and Iran. Only one study (Bobe et al., 2017) has explored the African context, indicating a lack of attention to underdeveloped countries in this research area. As noted by Helden (2016, p. 61), "the public sector M.A. in emerging economies is still in its infancy" and requires more attention to boost its development. Also, despite this limited attention, several developing countries, such as China, India, and Vietnam, have implemented NPM reforms or other public healthcare reforms (Larbi, 1999).

Thus, the literature on healthcare management accounting has been predominantly focused on research from developed countries, with limited attention given to underdeveloped countries. However, given the recent implementation of healthcare reforms in emerging economies, there is an increasing need for greater scrutiny of healthcare management accounting practices in these regions (Yonce & Barnes, 2022).

Figure 2.5. Analysis of the regional location of study⁶



In conclusion, this review of healthcare management accounting research highlights that the majority of studies are published in accounting journals, with limited attention given to this topic in public management and medical journals. Moreover, the research has primarily been conducted in developed countries, with underdeveloped countries receiving little attention. Nevertheless, with the implementation of healthcare reforms in emerging economies, there is a need for increased focus on healthcare management accounting practises in these regions. The COVID-19 pandemic has emphasised the importance of effective healthcare management accounting practises in mitigating its impact on healthcare systems. Therefore, further research in this area is crucial to developing more efficient and effective healthcare management accounting practises that can contribute to improving the quality and sustainability of healthcare systems worldwide.

2.4.2 Research method

Table 2.2 illustrates the number of studies conducted using various research methodologies, with qualitative methodologies, particularly case studies, appearing to have made the most significant contributions. These findings align with previous reviews by Helden (2005) and Malmrose (2019) and support Carter et al.'s (2014) recommendations. Overall, qualitative healthcare management accounting (MA) studies provide valuable insights into the MA process and address a wide range of participant concerns (Parker, 2012). Additionally, case studies are believed to offer unique insights into specific research contexts (Baškarada, 2014) and are frequently adopted in research due to

⁶ This review used "Scandinavian nations" to include Sweden, Finland, Denmark, and Iceland. Then, the UK is separately listed due to its significant proportion within the full review. The remaining countries were categorised with their located Continents: Other European Countries, in a broad sense, including the Netherlands, Belgium, France, Germany, Italy, Greece, Spain, and Portugal; North America, including the USA, Canada, and other North American countries; Australasian Countries (Australia, New Zealand); African Countries, which contain Ethiopia and Ghana in this review; and Asian Countries, which include Japan, Sri Lanka, China, Thai, India, and Iran.

their superior ability to analyse particular management accounting (MA) processes (Baškarada, 2014; R. Yin, 2009).

As depicted in Table 2.2, this review has identified some longitudinal studies and comparable case studies in the healthcare MA topic, while case studies have been the most commonly used approach among previous researchers. Recent scholarly discussions have encouraged the use of longitudinal and comparative case studies. By using a longitudinal case study approach, researchers may be better able to explore the dynamic processes over time and overcome the limitations of applying the findings of a single case, thus making the research findings more robust (Modell, 2009).

Approximately 27% of publications used a quantitative approach in their studies, relying on positivism (Chenhall & Moers, 2007; Edmondson & Mcmanus, 2007). However, such an approach has limitations, including the inability to capture different perceptions and convey the story of internal actor interactions, as well as the effects of complex internal and external environments (Ahrens, 2008; Modell, 2005; Vaivio & Sirén, 2010). Hence, it is apparent why quantitative research was not the most popular approach for studying this research trajectory compared to qualitative methods. While some scholars have advocated for a hybrid approach (Ahrens, 2008; Modell, 2005, 2010; Vaivio & Sirén, 2010), our findings reveal that research adopting mixed methodologies is still in its infancy.

In conclusion, Table 2.2 highlights the research methodologies used in healthcare management accounting studies, with qualitative methodologies, particularly case studies, making the most significant contributions. The review suggests that qualitative methodologies, particularly case studies, provide valuable insights into healthcare management accounting processes and participant concerns. Future research should consider incorporating longitudinal and comparative case studies to enhance the robustness of research findings. The adoption of mixed methodologies could also provide a more comprehensive understanding of healthcare management accounting practices.

Table 2.2.The number of papers by research methods

Research Method	Number (s) of Papers
Qualitative Research	130
Discussion Paper	16
Conceptual Paper	4
Case Study	54
Comparative Cases Study	7
Field study	15
Longitudinal Field/Case Study	18
Other Qualitative Studies	17
Quantitative Research	55
- data collection	
Survey	18
Database	10
Documents	25
Historical	2
Mixed Methodology	15
Review	6
Total	207

2.4.3 Research foci and fundamental theories in use

Based on the coding used in this review, research focus considered the main elements of MA research, which include performance management, cost management, budget management, accounting control system, and accounting information and others.. As Figure 2.6 explains, the number of papers published addressing healthcare MAS in general increased between 1980 and 2019, suggesting that management accounting research in the healthcare field has received more attention over the period since the introduction of reforms.

Since 1980, the pressing need for cost-cutting, sensible resource allocation, and efficient resource utilisation has dominated. It appears that budgeting, followed by cost management, was the priority before 2000. The focus then shifted towards performance management. The study's analysis revealed that a significant share of research in relation to costing-based research, following

the global economic slump, austerity, and fiscal constraints in many countries, implies that cost management remains a critical requirement for managing public hospitals.

Confirming the argument that performance management plays an integral role in modernising public hospital management (Lapsley, 2001), performance management-based research has clearly increased over the years and has gained significant attention since 2010. It also reflects the growing focus on performance management in public healthcare organisations. The findings are consistent with those of other public MA assessments. However, certain discrepancies also emerged, such as the highlighting of budgeting by Helden (2005) in their review of public MA research.

Figure 2.6. An analysis of the published years of research focus-specified studies

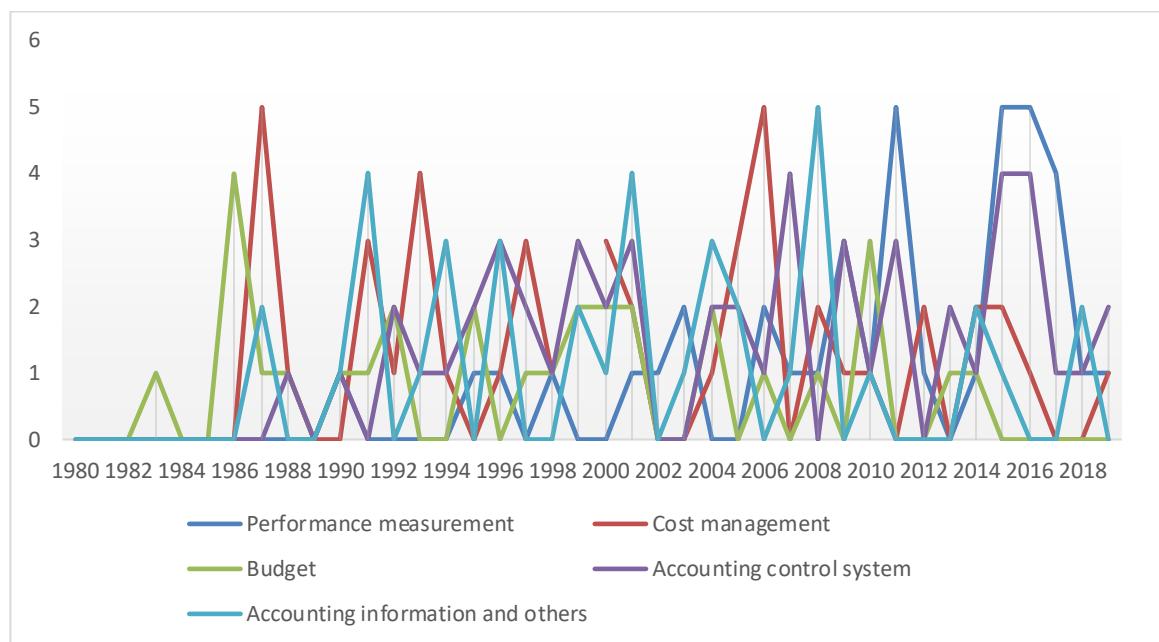


Figure 2.7 illustrates the basic theories used in public healthcare management accounting research, categorised under different research focuses. Among the theories adopted, organisational theories were prominent, including institutional theories (old and new), contingency theory, actor-network theory, agency theory, economic theory, and other organisational theories. In addition to organisational theories, sociological theories such as those espoused by Foucault (1991), Miller and Rose (1990), and Habermas (1987) accounted for a relatively significant proportion of studies. However, the use of sociological theories in MA research is still limited, despite the unique insights that they provide on linking MA practises to human actions and social relationships. Researchers also adopted other theoretical concepts outside organisational and sociological domains and used prior literature with no explicit theoretical foundation as a framework for analyses.

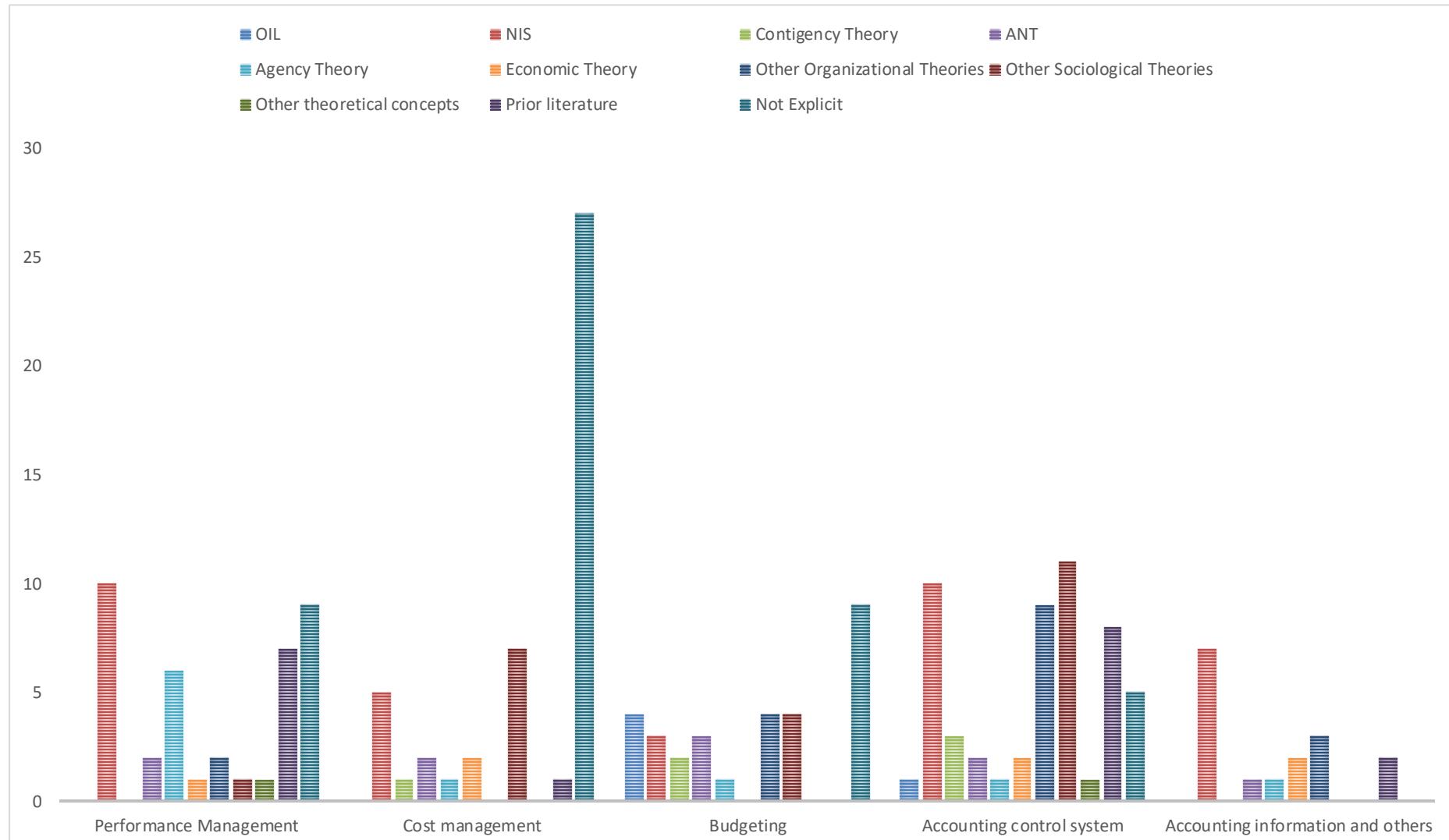


Figure 2.7. The allocation of theories applied in studies referring to diverse research focus

The adoption of new institutional theories was prominent in all areas of research (Figure 2.7), indicating that institutional theories play a major role in examining MA in public healthcare. This is consistent with the findings of Scapens and Bromwich (2020) and Helden (2005). The new institutional theory provides powerful concepts such as institutional logic to facilitate research into various environmental elements (macro level, organisational field, and organisational level). Institutional logic is used as a theoretical lens for seeing and explaining the fundamental motivations behind actors' responses. Meanwhile, the new institutional theory helped elaborate on the interactions that occurred between actors and institutions, as some scholars developed theoretical frameworks based on NIS to guide the observation of management accounting changes.

As illustrated in Figure 2.7, agency theory plays a crucial role in performance management-based studies. It provides the foundation for research into the relationship between performance incentives and the behaviour of those who are influenced by them. Budgeting and management control studies frequently employ contingency theory, which introduces the notion of "fit" to aid researchers in determining how the system can be compatible with the organisation and what organisational characteristics should be considered while creating the MA system. Actor-network theory is also used in all research areas to describe the dynamics of MAS, as it advises employing a "translation" process. Actor-network theory-based investigations considered non-human variables—the earlier MA system or existing operational mechanism—impacting the transition process, as the actors would include both human and non-human actors.

This section explores the key elements and theories that dominate healthcare management accounting research. The research focus mainly revolves around performance management, cost management, budget management, accounting information, and management accounting control systems. The analysis indicates that cost management remains a critical requirement for managing public hospitals due to the global economic slump, austerity measures, and fiscal constraints. The study also confirms the growing focus on performance management in public healthcare organisations, which plays an integral role in modernising public hospital management. Furthermore, the review highlights the prominent use of organisational and institutional theories in healthcare management accounting research, particularly the adoption of new institutional theories. However, the use of sociological theories is still limited, despite their unique insights into linking management accounting practises to human actions and social relationships.

In summary, this review of healthcare management accounting research provides a comprehensive analysis of the current state of research on this topic. The study highlights the lack of research attention given to developing countries and confirms the increasing focus on performance management in public healthcare organisations, which plays a crucial role in modernising public

hospital management. Moreover, the review emphasises the importance of utilising longitudinal and comparative case methods to enhance the robustness of research findings in future studies. Additionally, the analysis underscores the prevalent use of organisational and institutional theories in healthcare management accounting research, particularly the adoption of new institutional theories.

2.5 Findings

Descriptive analyses of the reviewed articles indicate that healthcare management accounting research has evolved over the past four decades since the global implementation of healthcare reform practices. This section examines the multi-level contexts that shape MAC, focusing on the socioeconomic, political, and organisational fields, and organisational factors. The researcher also analyses the resulting MAC practices at both the field and organisational levels to gain a deeper comprehension of MAC's complexity.

2.5.1 Multi-level contexts and relevant actors

The revised multi-level contextual framework of MAC identifies socioeconomic and political contexts, organisational field contexts, and organisational contexts as the multi-level contexts that shape MAC. Each level interacts with the others, resulting in modifications to MAC procedures. As prior studies demonstrate, MAC is significantly shaped by socioeconomic and political factors, with government policies, regulations, and economic conditions playing a crucial role (Burns & Vaivio, 2001). At the organisational field level, interactions between organisations within a particular industry or sector and the shared norms and values of those organisations shape the MAC practises within that field (Modell, 2012; Scapens, 2006; Siti - Nabiha & Scapens, 2005). At the organisational level, internal factors such as culture, structure, leadership, and individual member actions impact MAC practises (Busco & Scapens, 2011; Kärreman & Mats, 2008).

2.5.1.1 The interconnected socio-economic and political factors

The reviewed studies have revealed three main elements in the broad environment that trigger MA changes and co-shape the roles of management accounting systems (MAS): the economic environment, political interests, and public concerns.

The literature on MA practises in public healthcare highlights the interplay between macro-level factors, such as economic conditions, public expenditure pressures, and political priorities, and the roles and practises of MA. Studies have shown that these factors can have a significant impact on

the power dynamics and focus allocation of relevant stakeholders involved in the development of MA systems in the public healthcare sector.

The economic environment has been identified as a key driver of MA changes in public healthcare, with the introduction of innovative practises becoming essential during times of economic depression (Alcouffe et al., 2008; Lowe, 2000). Meanwhile, changes in macroeconomic policy, such as the adoption of austerity policies, can have a negative impact on the institutionalisation of accounting reforms (Major et al., 2018).

The role of political preference has also been extensively studied in the literature, with Groot (1999) examining budgetary reforms in the healthcare and higher education sectors in the Netherlands and finding that government attention played a crucial role in shaping the objectives of budgetary reforms. Kantola and Järvinen (2012) argued that the transfer of responsibility for public healthcare from the state to municipalities had a significant impact on the balance of competing logics in the sector and might have affected the timing of MA changes. Bobe (2017) suggested that the Balanced Scorecard (BSC) be implemented as a sector-wide system aimed at aligning the strategies of the healthcare sector with the operations of specified hospitals and promoting the monitoring and evaluation of their performance.

Public concerns about healthcare expenditures and service efficiency have also been identified as drivers of MA changes, with Covaleski et al. (1993) contending that the adoption of case-mix accounting systems in hospitals was necessary to conform to societal expectations and promote rationality. Jones and Mellett (2007) posited that accounting practises are shaped by social pressures, which can impact the roles and practises of MA in healthcare organisations. Furthermore, the financial crisis, economic recession, or growing healthcare demands can lead to changes in MA practises in response to public concerns about improving hospital efficiency and saving costs (Carr & Beck, 2020; Conrad & Uslu, 2011).

Discourse contests arising from public management reform efforts aimed at "modernizing" public hospital management can also significantly impact the direction of MA practices. The increasing pressures on healthcare costs and service efficiency have intensified the potential conflicts and contests between different actors within society, such as management and physicians (Gebreiter, 2016; Preston, 1992).

As prior studies have evidenced, the accounting practises in healthcare cannot be fully comprehended without taking into account the broader socio-economic and political contexts in which they arise. This approach acknowledges the interconnected nature of accounting practises and the discourses that shape them and necessitates a comprehensive understanding of the

intricate and dynamic relationships between MAC in public healthcare and macro-level factors, such as economic conditions, public expenditure pressures, and shifting political priorities. An extensive body of literature exists that explores the impact of macro-level factors on the implementation of management accounting changes in public healthcare. However, limited research has examined how management accounting practises in public healthcare interact continuously with macro-level factors. As Ferlier (2007) suggested, the concepts of "New Public Management" (NPM) have been continuously developed with the enrichment of reform practises in different contexts. Management accounting modernization has acted as a key part of NPM, becoming an inspiration to develop public management concepts. It is worth noting for future research how management accounting changes in public healthcare reciprocally nourish public management developments and further impact the discourse toward public sectors, macroeconomic policies, and political preferences.

2.5.1.2 Organisational field-level factors

The implementation of healthcare regulations can have a significant impact on the accounting policies and MA practices of hospitals. However, the effectiveness of these regulations is often contingent upon their alignment with local hospital contexts. For example, while government-led MA reforms are commonplace in public healthcare, these reforms may not always be suitable for local hospitals, potentially leading to unintended consequences and tensions between hospital managers and physicians (Chang, 2006). Furthermore, performance measurement changes are often driven by political interests, leading to short-termism in hospital performance management (Conrad & Uslu, 2012). Gebreiter (2016) suggested that a centralised and single-funded healthcare system, which utilises simple management accounting techniques, effectively facilitates the constraint of healthcare expenditures.

Regulations can also lead to deliberate MA behaviours, which can be problematic. For example, the introduction of the capital prospective payment system (CPPS) in the USA led to cost-effective behaviours in non-proprietary hospitals, contrary to expectations (Barniv et al., 2000). Similarly, revenue constraints set for public hospitals motivated biasing behaviours in budgeting and contractual adjustments, leading to cost-shifting (Blanchard et al., 1986; L. Eldenburg & Soderstrom, 1996). Capped budgets in German hospitals resulted in the manipulation of patient choices to meet budgetary targets (Ernst & Szczesny, 2008).

In contrast, some regulations, such as market-oriented policies, have stimulated reforms in MA in public healthcare (Järvinen, 2006; Jones, 1999a; Lapsley, 1994). The implementation of management budgeting in Scottish hospitals was successful due to the competitive and tense environment created by quasi-market reforms (Lapsley, 2001). Similarly, payment method reforms

in China have led to the development of a new organisational change pathway, "reorientation through manipulation" (Cui et al., 2019).

However, regulations can also be decoupled from practices, as observed in the introduction of the Prospective Payment System (PPS) in Norway (Pettersen, 1999). It is, therefore, crucial to consider the specific hospital context when formulating and implementing regulatory policies rather than adopting a "one size fits all" approach.

In addition to the healthcare regulatory environment, field-level structure, market competition, and ownership type are also important factors that influence management accounting practises in public healthcare. Gebreiter (2016) suggested that a centralised and single-funded healthcare system, which used simple management accounting techniques, effectively facilitated the constraints of healthcare expenditures, while a decentralised and multi-funded healthcare system may impede the use of MA to achieve cost control and provide more opportunities for strategic accounting use. Previous research has shown that competition has a positive effect on the adoption of hospital cost systems (Hill, 2000). Moreover, the intensity of competition has been found to positively influence the need for accounting information when facing price competition (Krishnan, 2005). Furthermore, dominant hospitals in the market with low inter-organisational dependence were found to accept revenue-increasing strategies in cost management rather than relying on reducing or transferring costs when facing the US's dual payment system (Hsu & Qu, 2012).

The ownership structures of hospitals have a significant influence on how public and private hospitals respond to management accounting practices. Public hospitals typically receive reimbursements from the government, whereas private hospitals are self-sufficient and rely on operational revenues. The distinct organisational missions assigned to these hospitals by their respective governing bodies and shareholders guide their management accounting changes.

Prior studies have found that different hospitals react differently to regulatory changes and choose different types of accounting information to establish performance incentives. Eldenburg and Krishnan (2008) conducted a cross-sectional and quantitative study that investigated how different ownership structures affect the relationships between accounting information using and incentive contracts when external regulations change. The study suggested that public hospitals were less likely to use incentive contracts than private hospitals (including for-profit hospitals and not-for-profit hospitals) due to government regulations or constraints on their governance and incentives. Furthermore, public hospitals' accounting information expenditures aimed to obtain precise accounting data in budgeting management and to ensure legitimacy from stakeholders, while private hospitals, particularly for-profit hospitals, spent more on obtaining accounting information for making incentive contracting judgments. Eldenburg et al. (2015) also used cross-sectional

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quantitative methods to observe how different ownership structures affect the relationship between profit-based incentives and the provision of charity services. In contrast with private-owned hospitals, no significant association existed between providing charity care and managers' performance incentives in public hospitals because of the different institutional pressures that these two types of hospitals face.

In contrast to the two quantitative studies, Lachman et al. (2016) employed comparative case studies of hospitals to focus on the adoption of PMS and clinical staff's incentives to introduce diagnosis-related group (DRG)-based quality assurance programmes in Germany. This study provided novel insights into performance measures directed at clinical staff. Public and private hospitals relied more on objective measures, while public hospitals employed quality-oriented measures. This processual study suggested that physicians gradually developed financial awareness in their decision-making while physicians' and managers' conflicts were still pressing in public hospitals. The degree of adoption of performance measures was also different among professional groups such as physicians and nursing groups. Furthermore, hospitals with different ownership structures had different responses to regulatory changes. Holzhacker et al. (2015) suggested that hospitals would modify their cost functions in response to price regulation and that ownership and the related institutional constraints would affect the extent of their responses.

Generally, healthcare regulations have a significant impact on the accounting policies and management accounting practises of hospitals. However, the effectiveness of these regulations is contingent upon their alignment with the unique contexts of individual hospitals. While regulations can be effective in influencing deliberate management accounting behaviours, their success should be continuously evaluated to minimise any unintended consequences. It is important to note that various factors, such as market competition, healthcare system structure, and ownership type, can influence the management accounting practises of both public and private hospitals, echoing Eldenburg et al.'s (2017) review findings. The adoption of different types of accounting information, the provision of performance incentives, and the degree of adoption of performance measures can all vary based on the ownership structure of the hospital.

Previous studies in the healthcare setting, however, have not extensively discussed the possible impacts that field-level management accounting changes or significant organisational management accounting practises may have on field-level transformations. Research on field-level management accounting has mainly focused on the detailed changes applied within internal organisations, lacking interactional insight into the field-level changes that follow. Additionally, only a few studies have examined the influences of market competition or economic rationale on public healthcare management accounting changes. Despite the introduction of marketization into Western public

healthcare through New Public Management (Krachler et al., 2022; Mikuła & Kaczmarek, 2018) and the subsequent appearance of competition, studies on this topic remain limited.

2.5.1.3 Organisational factors and actors

Organisational attributes

Previous studies have revealed valuable insights into the influence of organisational attributes on organisational MAC and related practices. These attributes include basic organisational characteristics, such as size and management structure, as well as more abstract characteristics such as strategy, culture, and organisational change.

Research has found that basic characteristics of hospitals, such as size, management structure, and employees' backgrounds, can influence MA practices. For instance, larger hospitals and more complex business structures are usually associated with the introduction of budget preparation in written form (R. King et al., 2010). Additionally, larger hospitals whose professionals and managers have higher education backgrounds are more likely to embrace cost management in their daily operations (Arai, 2006; Hill, 2000).

Abstract organisational attributes have also been identified as having an impact on the implementation of MA changes. Abernethy and Lillis (2001) underscored the importance of a fit between strategy, structure (structure autonomy), and PMS to enhance organisational performance. Weak strategic controls on performance measurement practises can lead to inconsistent PMS and weak performance measurement practises that lack clear directions (Silva & Ferreira, 2010). Moreover, cultures interact with the design and use of MAS, with the MA system being designed to align with the hospital's culture, which would consequently be shaped in turn (Jones, 1999). Agrizzi et al. (2016) proposed the "reorientation" of defining MA changes in healthcare organisations rather than colonisation, with hospital participants accepting some aspects of the changes and resisting others. Changes cannot be regarded as colonisation but rather reorientation due to the unchanged interpretative schemes in public hospitals.

In the hospital context, existing institutions and mechanisms can impede the institutionalisation of new MA changes or become part of the new MA system. Multiganda (2013) found that institutionalised accounting changes still jointly affect clinicians' activities along with other old hospital management mechanisms. Pollitt et al. (1988) and Macinati (2010) suggested that changes become institutionalised and are reproduced after integrating with existing institutions. Hyvönen and Järvinen (2006) also noted that the adoption of contract-based budgeting (CBB) was not revolutionary but incorporated into existing institutionalised practices. Thus, it is essential to reinterpret the designed changes to be gradually compatible with existing systems and consistent

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with the requirements of different actor networks in order to embed changes in the whole management system (Bobe et al., 2017).

In summary, this study highlights the importance of considering various organisational attributes when exploring MA practises in hospitals. The size, management structure, strategy, culture, and organisational changes of hospitals can all influence MA practises and their effectiveness.

Organisational changes

Organizational change is a concept that has been widely studied in the context of public hospitals. It involves changes in operational routines and strategies that can have a significant effect on the organisation (Herold et al., 2008). Accounting changes are often associated with organisational changes (Hopwood, 1983), providing opportunities and demands for reforming management accounting (MA). Abrahamsson et al. (2011) state that there are two reciprocal relationships between organisational changes and accounting changes: MAS can facilitate the identification of demands necessary for motivating organisational changes, and MA must also change to accommodate the changes in the organisational environment.

Studies have shown that MAS can play an interactive or diagnostic role in hospitals, with interactive roles being more effective in promoting and implementing changes (Abernethy & Brownell, 1999). Naranjo-Gil and Hartmann (2007a) and Naranjo-Gil and Hartmann (2007b) suggested that different actors use MAS differently during changes, with top professional management using it interactively and administrative top management using it diagnostically. Kastberg and Siverbo (2013 & 2016) also noted that the decentralisation of hospital management requires a non-financial, horizontally oriented system that focuses on providing interactive accounting information to both physicians and managers.

Furthermore, MA is also essential for both promoting and being affected by organisational changes. Budgeting, for example, has been proposed as a medium for making clinical activities visible and accountable during NPM reforms (Jacobs, 1995). Accounting has also been found to have a “constitutive” role in building the core towards modernising healthcare during many European healthcare reforms (Marcon & Panizzo, 1998). Furthermore, organisational changes can induce specific changes in MAS, with significant organisational culture changes prompting care agencies to value the role of cost information in enhancing cost-effectiveness in delivering care (Llewellyn, 1993).

In conclusion, it is important to consider the interactive or diagnostic roles of MAS and their adaptation to organisational changes when designing and implementing MA practises in hospitals. MA can act as a promotional tool in pushing through organisational changes or can be the weak

component in hampering the changes and is continuously affected by the changes, adapting to the organisational environment.

Internal actors

Evidence has shown that the interaction between internal actors is significant in shaping the practises of management accounting (MA) in public hospitals. Different actors will react differently and take on different roles based on their distinct orientations. Pioneers who worked to import changes and convince other actors to accept the innovations as "solutions" in the initial period played a significant role in motivating the diffusion of changes (Alcouffe et al., 2008). According to Lowe (2000), the degree of negotiating difficulties between the actors will influence the type of innovation (e.g., incremental or radical). Leotta and Ruggeri (2017) concluded that the essential differences between management agencies and professional agencies in management and the distinct needs and interests of different "actants" toward healthcare services contribute to the "problematization" stage.

Medical professionals possess a relatively high level of autonomy in their daily work (Abernethy & Brownell, 1999). While modern management accounting seeks to build a transparent and robust control system that can penetrate the hospitals' overall operation (Kurunmäki, 2004), clinicians may be reluctant to accept changes due to the risk of reducing autonomy and may interpret the reform contents as getting more resources (Preston, 1992). Pettersen (1999) found that physicians did not respond to the new incentive system. The accounting change ultimately decoupled by physicians, and nurses also did not include the reforms in their beliefs, norms, and values which guide their actions. Lehtonen (2007) found that the application and use of accounting information from the new DRG-based prospective pricing and case-mix accounting system varied between organisational levels and between individuals.

Communication, participation, and collaboration are critical to persuading clinicians to follow the system. Jones and Dewing (1997) proposed that the impact of change was best at the intermediate level, while clinicians adopted various strategies to address the tension between their culture and management requirements. When policymakers focused on softening the tensions between administrators and clinicians by adopting managerial initiatives, Jones (1999) observed initial success. Groot (1999) suggested maintaining consistency between the design of MA and professionals' opinions and attitudes. When the changes interested clinicians and echoed with the management matters that they also paid close attention to, clinicians would tend to gradually accept taking on the financial responsibilities during their work while maintaining their professional responsibilities.

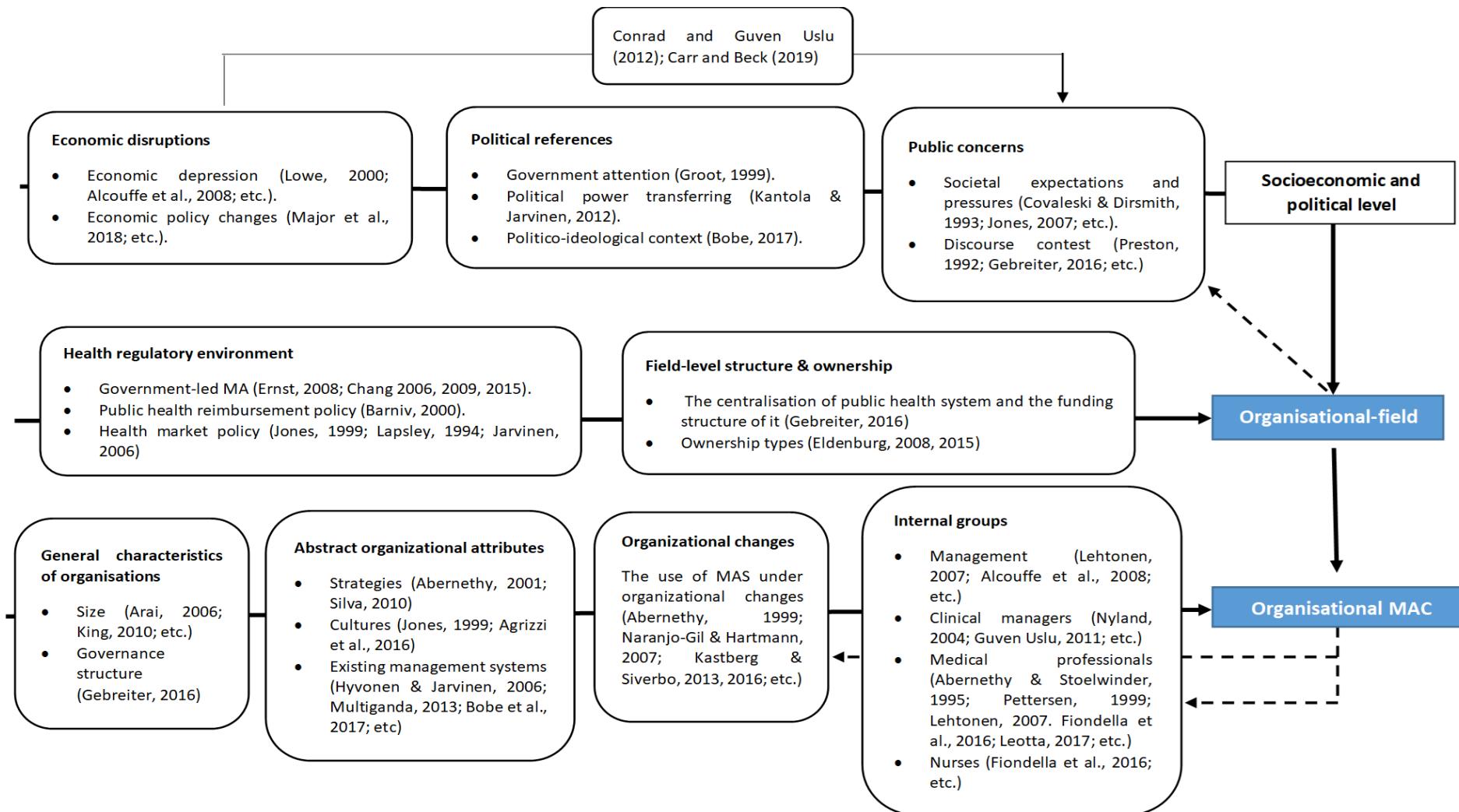
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Furthermore, providing enough discursive space and supporting the clinicians' training to achieve collaborations with managers on management will help reduce the resistance (Guven - Uslu & Conrad, 2011; Lowe & Doolin, 1999). It also contributes to improving the relevance of accounting information produced for physicians' decision making rather than the final loose coupling between physicians' actions and the accounting system (Nyland & Pettersen, 2004). Physician managers who act in management roles with medical professionals' identities could also work as key mediators between top managers and normal physicians among the conflicts over different orientations (Nyland & Pettersen, 2004).

Overall, prior studies suggest that the interaction between internal actors has been shown to be significant in shaping the practises of MA in public hospitals. Different actors have distinct orientations and will react and act in different ways. Pioneers who introduce changes and convince other actors to accept them as solutions in the initial period have been found to play a crucial role in the diffusion of changes. Medical professionals have a relatively high degree of autonomy in their daily work, and modern management accounting seeks to build a transparent and robust control system that can penetrate the hospitals' overall operation. However, clinicians may be resistant to change due to the risk of reducing autonomy and may interpret the contents of the reform to secure more resources. Communication, participation, and collaboration are essential to persuading clinicians to follow the system; providing enough discursive space and supporting the clinicians' training to achieve collaborations with managers on management will help reduce the resistance. Physician managers who act in management roles with medical professionals' identities can also act as key mediators between top managers and normal physicians among the conflicts over different orientations.

This review highlights the limited attention that has been given to the different levels of autonomy that subunits have in management accounting practises (Kaplan, 2006). Meanwhile, previous research has significantly focused on internal actors, while little attention has been paid to differences within the same internal groups, such as variations among managers, physicians, and nurses (e.g., Bracci et al. 2015). Generally, it has been largely assumed that members of the same group will have similar attitudes and reactions. However, the influence of personal characteristics other than managerial responses to management accounting practises has been largely overlooked, with clinical managers and head nurses being the most notable omissions.

Figure 2.8. The analysis of the effects of the multi-level contextual factors and actors to MAC



In summary, as Figure 2.8 demonstrates, this study has highlighted the complexity of the factors that influence the adoption and implementation of management accounting practises in public healthcare. At the macroeconomic level, changes in public funding conditions, disruptions in the macroeconomic environment, and emerging public concerns have a significant impact on the power dynamics and focus allocation of relevant stakeholders. Meanwhile, possible influences from field-level management accounting changes on public discourse were suggested. At the organisational field level, healthcare regulations have a significant impact on the accounting policies and management accounting practises of hospitals, but their effectiveness is contingent upon their alignment with the unique contexts of individual hospitals. At the organisational level, various organisational attributes—such as size, management structure, strategy, culture, and organisational changes—can all influence management accounting practises and their effectiveness. Furthermore, the interactive or diagnostic roles of MAS should also be taken into consideration when designing and implementing MA practises in hospitals. Finally, communication, participation, and collaboration between internal actors are essential to the successful adoption and implementation of MA practices, particularly in public healthcare.

2.5.2 Healthcare management accounting changes and practices

Following the last section, this section explores the management accounting changes and related practises that have resulted from the interrelationships of the multi-level contextual factors and relevant actors previously reviewed. The findings of prior studies on field-level management accounting changes are synthesised, and the detailed management accounting change-related practises in public healthcare organisations are reviewed.

2.5.2.1 Management accounting changes in the public healthcare sector

The developments in costing and budgeting in public healthcare management

Since the late 1980s, cost control has been emphasised in public discourse and government policies towards the public healthcare sector in order to minimise fiscal pressures due to the economic recession. This has led to the introduction of cost awareness into hospitals through the adoption of private sector costing techniques in order to reduce costs. As a result, two fundamental dynamics have emerged in the healthcare costing field: the internalisation of cost in hospital management and the updating of hospital costing techniques.

In order to increase cost efficiency, many countries' public hospitals have developed and upgraded cost management systems since the 1980s. However, the process and outcomes have been mixed. Some proposed adjustments to supplement the UK government's special costing system in the

National Health Service (NHS), such as the establishment of patient costing measurements (e.g., DRG) and the development of a budgetary control system, have been implemented. In the US, the largest healthcare organisation combined two costing systems—one based on workload numbers and the other on production procedure costs—in order to eliminate errors. In Japan, however, the route to establishing a cost management system has been obstructed and long. In China, on the other hand, Cui et al. (2019) reported successful internalisation of the costing method in public hospitals.

Private-sector costing tools such as activity-based costing (ABC) have been adopted with the rise of cost management in healthcare. DRG-based pricing has been established in most Western countries to measure their funding for healthcare institutions. In Finland, Järvinen (2006) investigated ABC adoption in two university hospitals, finding that, in one case, there was a decoupling between the ABC system and the hospitals' core activities. In Taiwan, Eldenburg et al. (2010) discovered that physicians used resources more efficiently and focused more on severely ill patients after the adoption of ABC. Thus, it is evident that the adoption of private sector costing techniques has had a positive impact on cost efficiency in hospitals.

The role of budgeting in public healthcare has been the subject of much debate, with mixed results. Prior studies have shown that modernised budgeting can help improve operational efficiency, but it can also lead to a decoupling between budgets and actual operations. Furthermore, budgeting can be used to influence clinicians and shape their behaviour in order to achieve organisational strategies.

Groot (1999) compared the budget systems established for the Dutch higher education and healthcare sectors and found that the budgeting approach at hospitals was more input-focused on operations. Pettersen (1995) and Nyland and Pettersen (2004) showed that budgeting had little effect on influencing internal professionals and improving management due to the decoupling that occurred when it deviated from professionals' routines.

Lowe and Doolin (1999) demonstrated that some control effects could be achieved with a case -mix budget system, although resistance from physicians was seen when limited discourse space existed. Lowe (2001a) examined the importance of accounting inscriptions in enabling a system of "remote" management control and found that the case-mix budget system was increasingly relied upon by internal actors. Lowe (2001b) followed up on Lowe's (2001a) case and observed that clinical practises had changed rather than decoupling. Lapsley (2001) also noted a successful clinical budget reform in one UK NHS trust, which made it possible to make clinicians financially accountable for their actions.

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In conclusion, the introduction of cost awareness into hospitals through the adoption of private sector costing techniques has had a positive impact on cost efficiency. While some hospitals have struggled to implement cost management systems, others have seen successful internalisation of these techniques. Meanwhile, budgeting plays an important role in public healthcare, although the outcomes can vary depending on the context. In order to ensure the most effective outcomes, it is essential for budgeting systems to be designed to give adequate space for internal professionals to participate and to be closely linked to core activities.

The diverse roles of MACs as control systems

The role of MAS in the public healthcare sector has been of special focus in the past few years, as the sector has seen the emergence of a contract and competitive culture. MAS can be used in a variety of ways to support the internal management and external legitimacy of public hospitals. Internally, the roles of MAS can be diverse, depending on the groups that employ them.

Organizational control mixes have been developed in Australian healthcare organisations with the aim of increasing budgetary consciousness and developing a clinical costing system to strengthen internal control (Abernethy & Chua, 1996). However, the role of MAS in internal control can be limited in a more horizontal organisation where professionals are dominant and may not respond to management accounting-based content if it conflicts with their identities (Kastberg & Siverbo, 2013; 2016).

Systematic differences have been observed between professional and administrative Top Management Teams (TMT) in their use of MAS. Professionals are more likely to use MAS interactively, providing feedback to administration, while administrative teams are more inclined to use MAS diagnostically, with the aim of controlling professionals (Naranjo-Gil & Hartmann, 2007b). This can lead to different management control practises under the same system (Østergren, 2009). As Naranjo-Gil & Hartmann (2007b) suggested, some uses of MAS are interactive, while others are diagnostic. Finally, MAS can also be used as a medium through which organisations can negotiate between multiple and conflicting objectives and choose institutional logics in the organisational field (Järvinen, 2006).

Overall, prior studies suggested that MAS are playing an important role in the public healthcare sector, and the ways in which they are employed can have a significant impact on the functioning of organisations. It is, thus, essential that healthcare organisations take into consideration the various roles of MAS and the ways in which they can be used to achieve their objectives.

This review highlights the main management accounting themes discussed in prior studies, including the significant attention given to multidimensional performance measurement and

management in public healthcare. The findings also indicate the emergence of managerial tasks for management accounting in hospital management that went far beyond traditional functional responsibilities. However, the effectiveness of managerial roles performed by management accounting is largely influenced by their interactions with specific contexts and involved actors.

Multidimensional performance measurement and management reforms

Multidimensional performance evaluation methodologies have been widely adopted in public healthcare institutions since the introduction of "NPM" in the 1980s. The BSC has been used to replace single-dimensional performance measurement in the United Kingdom NHS trust and Ethiopian hospitals (Bobe et al., 2017; Chang, 2006). Chang (2015) explored how the multidimensional performance framework was used in the NHS in the United Kingdom. In Sweden, the BSC-based performance measurement system has been adopted by clinic units and has led to quality improvements (Dyball et al., 2011). Non-financial measures have also been identified and emphasised, such as patient satisfaction, which is often measured through patient questionnaires in American hospitals (Pflueger, 2016). Norwegian public hospitals measure patient satisfaction by collecting replies from known patients (Østergren, 2006).

Relative Performance Evaluation (RPE) has also been applied in public healthcare. The United Kingdom's health authorities have devised a multidimensional star rating system that includes important waiting time targets, clinical focus BSC, patient focus surveys, and the NHS trust's capacity and capabilities (Chang, 2009; Conrad & Uslu, 2012). The United Kingdom has also advocated national benchmarking methods to measure the cost-containment ability of different NHS trusts (Jones, 2002) based on reference cost data (Northcott & Llewellyn, 2003). In Germany, the RPE has been used to provide performance feedback to local hospitals' nurses (Mahlendorf et al., 2014b). In Norway's public healthcare system, a performance measuring instrument based on DRG, and an activity-based payment have been used to assess unit cost efficiency (Lægreid & Neby, 2016). Buckmaster and Mouritsen (2017) studied a more complete benchmarking system in the Australian public healthcare system and how to utilise its reference data in various local settings.

Finally, an operational efficiency-based measurement has been developed to better measure the operational efficiency of healthcare organisations. A Pay by Results (PbR) policy has been applied in healthcare performance management (Conrad & Uslu, 2011; Roland & Dudley, 2015), shifting the public service part of healthcare service provision toward more business-oriented management techniques. Trusts can benefit from small groups of clinical, accounting, and management staff to help them make sense of and formulate operational strategies based on performance data.

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Generally, recent research on public healthcare PMM reforms has focused on three main topics, which are in line with Modell's (2005a) proposition. These topics include multidimensional performance measurement reforms, such as the BSC and star rating systems (Bobe et al., 2017; Chang, 2009), and RPE reforms, such as inter-organisational benchmarking and national ranking (Jones & Spiegelhalter (2012); and goal-directed performance measurement reforms, such as PbR policy (Conrad & Uslu, 2011).

In conclusion, the evolution of costing and budgeting in public healthcare management has been a subject of discussion and research for several years. While the adoption of private sector costing techniques has positively impacted cost efficiency in hospitals, the implementation of cost management systems has yielded mixed results. The role of budgeting in public healthcare is crucial, but the outcomes vary depending on the context. The recent focus on MAS in the public healthcare sector has shed light on its impact on organisational functioning. Since the introduction of "NPM" in the 1980s, multidimensional performance evaluation methodologies have been widely adopted in public healthcare institutions.

The previous studies indicate the emergence of managerial tasks for management accounting in hospital management that go beyond traditional functional responsibilities. However, the effectiveness of these roles depends on their interactions with specific contexts and involved actors. Therefore, it is vital for healthcare organisations to consider the various roles of MAS and how they can be used to achieve their objectives.

Recent research on public healthcare PMM reforms has concentrated on multidimensional performance measurement reforms, relative performance evaluation reforms, and goal-directed performance measurement reforms. These developments have improved the operational efficiency of healthcare organisations and shifted the public service aspect of healthcare service provision towards more business-oriented management techniques.

2.5.2.2 Organisational-level MAC and practices

A body of new research has emerged that examines the effectiveness of management accounting (MA) reforms in public hospitals. These studies have proposed that these changes have ultimately failed in their actual implementation. Pettersen (1991, 2001) found that the changes were implemented to attain legitimacy but that the decision-making and activities of professionals remained unchanged. Top-down diffusion patterns of changes, which lacked the involvement of professionals, have been identified as one of the factors that contributed to the failure of the reforms.

Other researchers have suggested that the reforms were institutionalised and decoupled (Hyvönen et al., 2008). Macinati (2010) noted that the changes were initially decoupled but were eventually institutionalised, with some aspects inherited from existing institutions. Multiganda (2013) argued that the institutionalisation of MA rules should not be taken for granted. Preston (1992) suggested that the fabrication process of MA changes does not end until the changes are blocked in systems and that the dichotomy of success or failure of changes is superficial.

Colvaleski et al. (1993) and Lapsley (1994, 2001) suggested that MA changes should be viewed as an unfinished process and that new reforms may emerge from the current ones and promote changes to be fully implemented in hospitals. Groot (1999) argued that enhancing management control in public hospitals would benefit from the involvement of more related actors, particularly physicians, in the design and implementation of MA changes. Pettersen (2001) and Multinati (2010) also suggested that organisational changes should be established to better match the required MA changes and improve the results of the change.

Thus, this review of the literature indicates that some doubt over the dichotomy between success and failure of the MA reforms was observed. However, most of the studies found that the changes had a more complex effect on the organisations, with both positive and negative outcomes. In particular, the concept of a "black box" was discussed, which refers to a stable system created by changes that is resistant to competition. This "black box" is an important concept to consider when assessing the effects of management changes in healthcare organisations. Following prior discussions about the interactions between MAC and organisational attributes as well as internal actors, this review synthesised the results of the organisational management accounting changes, highlighting the need for continuous observation.

Prior research has highlighted the varying outcomes of management accounting changes resulting from the interactions between these changes and internal actors, including decoupling, success, or long-term evolution with existing systems embedded within. However, a significant portion of prior research has overlooked the crucial management roles of clinical managers in public healthcare organisations, instead focusing primarily on senior managers. Therefore, future research should pay greater attention to the responses of clinical managers and middle-level management accounting practices, such as the utilisation of management accounting information by clinical managers in their departmental management. This approach is exemplified by studies such as those of Macinati and Rizzo (2014) and Goretzki et al. (2015). Thus, this review serves as a reminder that the results of management accounting changes may be mixed due to the diverse uses of management accounting information at the middle level.

2.6 Summary

Recent research indicates that research activities on public healthcare management accounting systems (MAS) have significantly increased over the past four decades. However, the focus of the research has primarily been on developed countries, and the research topics have evolved from budgeting to cost management and, subsequently, to multidimensional performance management and measurement systems. Qualitative methodology has been the primary research method employed in this area, with case studies being the most common. Additionally, new institutionalism has emerged as the primary theoretical lens used to analyse management accounting changes in relevant studies.

The adoption and implementation of management accounting practises in the public healthcare sector are influenced by various multi-level factors. At the macroeconomic level, changes in public funding conditions, disruptions in the macroeconomic environment, and emerging public concerns significantly impact power dynamics and focus allocation. At the organisational field level, healthcare regulations significantly impact the accounting policies and management accounting practises of hospitals, but their effectiveness depends on their alignment with the unique contexts of individual hospitals. At the organisational level, various organisational attributes such as size, management structure, strategy, culture, and organisational changes can influence management accounting practises and their effectiveness. Communication, participation, and collaboration are essential to persuading clinicians to follow the system and reducing resistance, with physician managers acting as key mediators between top managers and physicians.

Research on public healthcare management accounting changes highlights the multi-dimensionalization of performance measurement and management, as well as the introduction of costing techniques, awareness, and budgeting into hospital management. These changes have a complex effect on organisations, emphasising the need for dynamic and continuous observation.

This study highlights the limited attention given to the interactions between macro-level factors and management accounting practises in public healthcare. The review emphasises the importance of clinical managers and middle-level management accounting practices, with a few studies focusing on their responses and use of management accounting information. Additionally, the review highlights the mixed outcomes of management accounting changes due to their diverse interactions with specific intra-organisational contexts and the actors across and within groups, suggesting the need for future research to explore these interactions more thoroughly.

This systematic review identifies research gaps and provides direction for the present thesis. Specifically, the study focuses on the modernization of public healthcare management accounting

in a developing country, with a focus on the multi-dimensionalization of performance measurement and management. Moreover, the present thesis seeks to delve deeper into the multi-level dynamics that influence hospital management accounting based on the multi-level contextual influences on management accounting practises synthesised by this review. Additionally, this study aims to provide intra-organisational insights into the critical managerial roles of clinical managers in subunits.

However, this review has two limitations:

- 1) Due to the absence of reliable academic journal ranking systems for non-English publications, especially for Chinese publication sources in this review, pertinent articles from Chinese journals were not included to maintain consistency in research quality and to mitigate potential unreliability risks. Subsequent reviews, provided they have access to comprehensive academic evaluations for non-English publication sources, should consider incorporating relevant publications in other languages.
- 2) While the intent of this review is to cover accounting, public management, and medical journals concerning the research topic, the results reveal that just a single medical journal has featured research relevant to this subject. The search outcomes may suggest a limited engagement in cross-disciplinary research activities within medical journals, particularly concerning healthcare management accounting issues. This scarcity highlights a potential limitation of this review, as the limited number of medical journals included may not fully represent the interdisciplinary nature of healthcare management accounting. Future reviews could benefit from collaboration with scholars in the medical field to identify relevant research that may not be immediately apparent in standard academic searches. This approach would help overcome the current limitation and potentially unveil a richer, more diverse range of data and perspectives.

Chapter 3 The Path of Chinese Public Healthcare Reform

China is home to the world's largest population, with 1.4 billion people in 2019. Since the economic reform began in 1978, China's economy has grown rapidly, resulting in improved social living standards and more diverse and complex healthcare needs for citizens (Ravallion & Chen, 2007). Public hospitals—the main actors in the Chinese healthcare service delivery system—provide 90% of all outpatient and inpatient services, and most of these services are delivered in tertiary hospitals with more than 500 beds (Yip, 2012). Public hospitals have acted as the "vanguard" during Chinese health reforms, leading the way in providing quality care for the country's citizens. In order to meet the increasing demands of healthcare services, the Chinese public hospital management system has undergone a series of reforms.

Chinese public hospital systems have gone through three main periods of transformation since 1949: pre-reform, market-oriented reform, and comprehensive health reform. During the stage of the planned economy (1949–1978), public hospitals were mainly funded by the government and managed by the Ministry of Health, with hierarchical and top-down governance structures and performance management based on the number of patients treated and the number of beds occupied. In the stage of market-oriented reform (1979–2008), the Chinese government implemented reforms to increase the autonomy of public hospitals and introduce market-oriented incentives, resulting in a shift in funding sources from the government to patients and third-party payers. Governance structures also became more decentralised, and performance management began to focus on the quality of care and financial performance. In the current comprehensive health reform stage since 2009, the Chinese government has further increased the autonomy of public hospitals, allowing them to compete with private hospitals for patients and third-party payers. Furthermore, the government has provided more funding and policy guidance to support the development of the public healthcare system. Governance structures have become more collaborative, and performance management has shifted to focus on quality of care and patient satisfaction.

This chapter provides a comprehensive overview of the transformations experienced by Chinese public hospitals during China's healthcare system reforms. The analysis of these periods reveals key changes in the funding structure, governance structure, and performance management of Chinese public hospitals. Furthermore, the research also shows convergences in Chinese public hospital reforms towards NPM in Western countries as well as their current diversities due to the Chinese-specific institutional environment. This provides a unique insight into the Chinese context, which is of great significance for research.

3.1 Chinese Public Healthcare Transformations

3.1.1 Public healthcare in China during the planned economy period (1949-1978)

Prior to the economic reforms of 1978, China's economy was in a state of underdevelopment. The Chinese government's focus on achieving social equality had a significant impact on the country's political, economic, and distribution systems. The implementation of a highly centralised, top-down planned economy system also extended to the healthcare sector. The Ministry of Health established a unified administration that encompassed medical services, insurance, medicines, food security, health and disease prevention, and health supervision. Administered by the Chinese government under a highly centralised governance mechanism, public hospitals' internal management strictly followed the government's governance and orders. The entire management system within hospitals was bureaucratic (Li & Fu, 2017).

Furthermore, public hospitals were fully funded by the Chinese government. The government priced medical services below the marginal cost and took full responsibility for the resulting hospital deficit (Wang et al., 2013). Specifically, health financing was composed of urban employee insurance (funded by state-owned enterprises), direct government funding, and a cooperative medical scheme in rural areas (Xingyuan et al., 1993).

The performance of public hospitals was mainly evaluated based on a few fundamental financial measures, such as the rough costs and revenues of medical services provided (Lin et al., 2014). The results of these performance measurements were used by governments to allocate budgets. Meanwhile, health staff in hospitals were hired and paid by the government with fixed compensations, with no link between health professionals' income and the quantity or quality of services they provided. As a result, health staff lacked the motivation to improve efficiency and quality, causing a lack of performance management and unclear hospital management strategies (Li et al., 2022). The entire public hospital system operated inefficiently in a government-led environment.

The shortages of doctors and drugs have been a pressing issue since the planned economy period. Additionally, public hospitals lacked the authority to generate revenues, leading to severe deficits. Meanwhile, health demands sharply increased due to "both economic and epistemological transitions" within the upcoming market reform (Shi, 1993). This caused an imbalance between health supply and demand, placing the Chinese government under heavy financial pressure to continue fully funding public hospitals. Consequently, reforming public hospitals to increase the supply of healthcare services and reduce the government's financial burden became a vital part of the upcoming market-oriented health reform.

3.1.2 Market-oriented health reform period and emerging social challenges

3.1.2.1 Market-oriented health reform (1979-2008)

Since 1979, a socialist market economy has been developed in China to replace the prior planned economy system. This market reform has caused a shift in social expectations regarding public healthcare, leading to the need for improved capacity and quality of services to meet the sharply increasing demands (Yip et al., 2012). Furthermore, the inefficiency of management and operations that was present in the planned economy stage caused a sharp rise in production and operational costs in public hospitals due to the marketization of medical materials, equipment, and other elements (Wang et al., 2013). With public demands for healthcare services continuing to grow and deficits in public hospitals becoming increasingly severe, local governments were unable to provide major funding to healthcare institutions (Liu & Mills, 2005).

In response to market-oriented health reform, the Chinese government shifted away from fully funding public hospitals' operations and implemented policies to incentivize public hospitals to generate income to combat their deficit situation (Yip & Hsiao, 2009). This caused the Cooperative Medical System—a community-based cooperative health insurance scheme created in rural areas of China to reduce the economic risk of illness for farmers (Wagstaff et al., 2009)—to collapse due to the lack of funding. As a result, rural areas did not have an insurance system until 2003. In urban areas, the direct government funding and labour insurance system were replaced with a city-based social health insurance (SHI) scheme that only covers approximately half of the urban population (Yip & Hsiao, 2017).

To stimulate public hospitals' operational vitality, the State Council approved and forwarded the Ministry of Health's Report on Policy Issues in Health Reform in 1985. This report authorised public hospitals to generate financial surpluses by charging users and applying drug markups. The 1985 Report also granted public hospitals the autonomy to use these surpluses to enhance daily services, such as by increasing the scope and patterns of services as well as paying bonuses to employees. Prior to this reform, any surplus from public hospitals' income had to be transferred to the local government, and the hospitals were not permitted to use it.

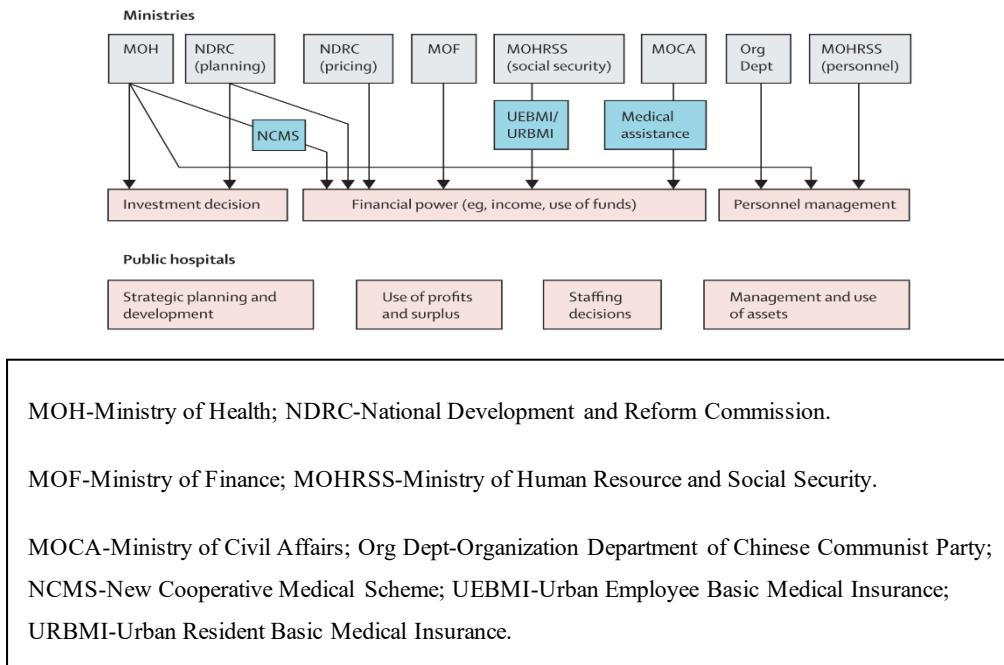
Following the reform, the Chinese health administration system was decentralised and streamlined, granting subnational governments and central government ministries' local offices greater power (People's Republic of China Health System Review, 2015, p. 34). However, Chinese public hospitals were still managed as government agencies (Jin, 2016). The government maintained a considerable level of administrative control over the hospitals, particularly in terms of human resource management, pricing, and salary schemes (Wang et al., 2013). Multiple ministries assumed

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different responsibilities for these issues (see Figure 3.1). As a result, public hospitals experienced a period of "bureaucratic marketization" (Li & Fu, 2017). Moreover, the Ministry of Health did not have sole control over public hospital governance. Different ministries held varying interests and goals, which resulted in conflicting rules and policies for public hospitals, leading to chaos and losses in the reform process.

Figure 3.1. The Governance Structure Over Chinese Public Hospitals

(referring to Yip et al. (2019, p. 835).



Amidst the upheaval of reform, hospitals have been confronted with a drastic change in the implementation of a market economy and the sources of financing and have been obliged to adjust to the evolving healthcare landscape by functioning as revenue-generating organisations while still strictly adhering to the instructions of higher government agencies (Blumenthal & Hsiao, 2015). This has resulted in continued rigid hospital management with the addition of a focus on profit-seeking.

In 2002, the Chinese government implemented a new distribution system for health workers by issuing *Guidance on the Reform of the Distribution System within Health Institutions (Trial)*, which included fixed wages and a portion of performance-based incomes. This system also identified performance indicators to be used by hospitals in calculating performance-based payments.

Together with the marketization of public health, the Chinese government issued *The Notice on the Request Report Regarding the Issue of Allowing Individuals to Practice Medicine Privately*

In this period of market-oriented reform, public hospitals were motivated to increase their income, but this did not lead to improved efficiency in their management or operations. Instead, most public hospitals adopted revenue-oriented performance measurement and incentive systems that focused on short-term financial performance without responding to the Chinese government's proposed goals of "efficiency" and "quality" (Yip et al., 2010).

3.1.2.2 The emerging social issue: 'kan bin nan, kan bin gui'

During the marketized health reform, the introduction of a fee-for-service payment system in public hospitals allowed the hospitals to generate more revenue from medical services and drugs than from cost savings and quality contributions (Cui et al., 2019; Yip et al., 2010). This enabled public hospitals to transfer their financial pressures to the patients. Health workers were also incentivized to provide more medical services and over-prescribe medications in order to maximise their own profits, leading to a rapid increase in medical expenses for patients (Liu et al., 2018; Ramesh et al., 2014). Meanwhile, the Chinese government retreated from funding public health and the basic medical insurance system waited to be reconstructed and restructured. Patients had to pay high out-of-pocket charges. The sharply increasing medical material costs with the marketized reform in Chinese healthcare market further worsened this situation. These finally caused the 'kan bin nan, kan bin gui' issue in Chinese society and led to serious public complaints. The 'kan bin nan, kan bin gui' conclude the hard situation for patients as the difficulty to seek medical care and the expensive price to get medical care in China (Gordon G et al., 2009).

Under this situation, the unethical medical behaviors of medical professionals in public hospital systems further enhanced the complaints and hostility of patients toward doctors and the whole public healthcare system.

Due to government's no longer taking of the main funding role in supporting public hospitals and the fee-for-services payment system for hospital health professionals, Chinese public hospitals as well as health professionals reach an agree on making profits and transfer costs to patients via out-of-pocket payment. Under this situation, doctors provided over-prescribed drugs and tests, and hospitals raced to introduce high-tech services and ex-pensive imported drugs that give them higher profit margins (Yip and Hsiao, 2008). Meanwhile, 'red pocket' and kickback problem by health workers increased the informal payment of patients (Fang, 2008).

In China, as 2003 *Third National Health Services Survey Analysis Report*⁷ states, the proportion of urban and rural residents in China who should have sought medical care but did not had increased

⁷ <http://www.nhc.gov.cn/mohwsbwstjxxzx/s8211/201009/49162.shtml>

from 36.4% in 1993 to 48.9%. The percentage of patients who required hospitalization but did not receive it was alarmingly high at 29.6%. Among hospitalized patients, 43.3% requested early discharge, with over 60% of these cases attributed to the inability to afford associated costs. The situation was even more pronounced among rural inhabitants, where the proportion of those needing but not receiving hospitalization surged from 63.7% in 1998 to 75.4%. Poverty induced by illness, or further impoverishment due to medical expenses, accounted for 33.4% of all impoverished rural residents. In rural areas of the western regions, 62% of patients did not receive necessary treatment due to financial constraints, and 75.1% requested discharge before medical clearance due to unresolved health issues. The sharply increasing medical expenditure caused unaffordable medical charges for patients, family bankrupt and becoming impoverish had been an urgent social problem in China (Liu et al., 2003).

It initiated serious social complaints and physical violence against doctors (Bloom et al., 2008). As a Report established by Ding Xiang Yuan (a prominent online medical and healthcare platform in China) in 2006 states, mainland China experienced 9,831 incidents severely disrupting medical order, resulting in 5,519 medical personnel injured and hospital property losses exceeding 200 million yuan. The issues of difficulty and expense in receiving medical treatment, along with the ensuing incidents of disturbances in medical settings, have sounded the alarm for public medical safety and equity in China.

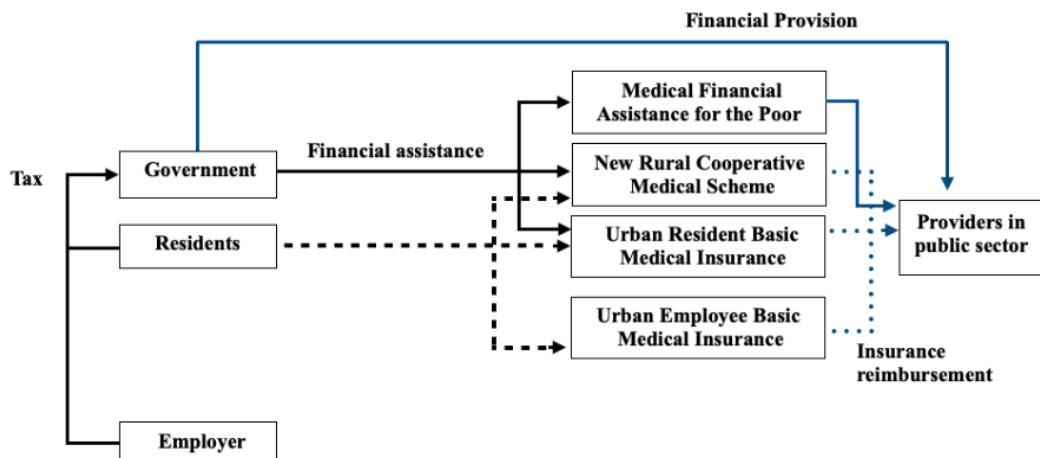
3.1.3 The comprehensive healthcare reform period (2009–2020)

Following the market-oriented reforms, the affordability and accessibility of healthcare became pressing issues in China. In response, the Chinese government initiated a comprehensive healthcare system reform in 2009, indicating a shift away from marketization and towards emphasising public welfare. In March 2009, the Chinese Communist Party and the State Council issued the policy document, *Deepening the Health System Reform*, with the goal of achieving universal health coverage by 2020 and improving the efficiency of public hospitals. This policy document outlined key components of the reform, such as expanding health insurance coverage, establishing a zero-markup essential medicine system (Hougaard et al., 2010), expanding public healthcare services, and reforming public hospital management.

To curb irrational prescribing and over-prescribing by physicians and improve the operational efficiency of healthcare institutions, the government has implemented alternative payment methods to replace the traditional fee-for-service method of reimbursing public hospitals. This includes capitation, case-based, and DRG-based methods. With the introduction of zero markups and alternative payment methods nationally, public hospitals' primary sources of income shifted

from the combined revenue of drug sales, fiscal funding, and medical service charges to insurance payments and direct government subsidies (see Figure 3.2). To make up for the lost revenue from drugs, the government also implemented a fee schedule adjustment to increase fees for services that require more labour, such as physician visits and nursing. Furthermore, local governments were asked to increase fiscal subsidies to hospitals to support their finances. In this period, Chinese governments returned to public hospitals' primary funding providers in the comprehensive health reform to support public hospitals refocus on public welfare (they increased the budget for health from 16% of national health spending in 2001 to 30% in 2013⁸). The basic medical insurance system supported by the Chinese government has been established to subsidise public healthcare.

Figure 3.2-The funding sources of public hospitals (referring to the People's Republic of China Health System Review, 2015, p. 77)



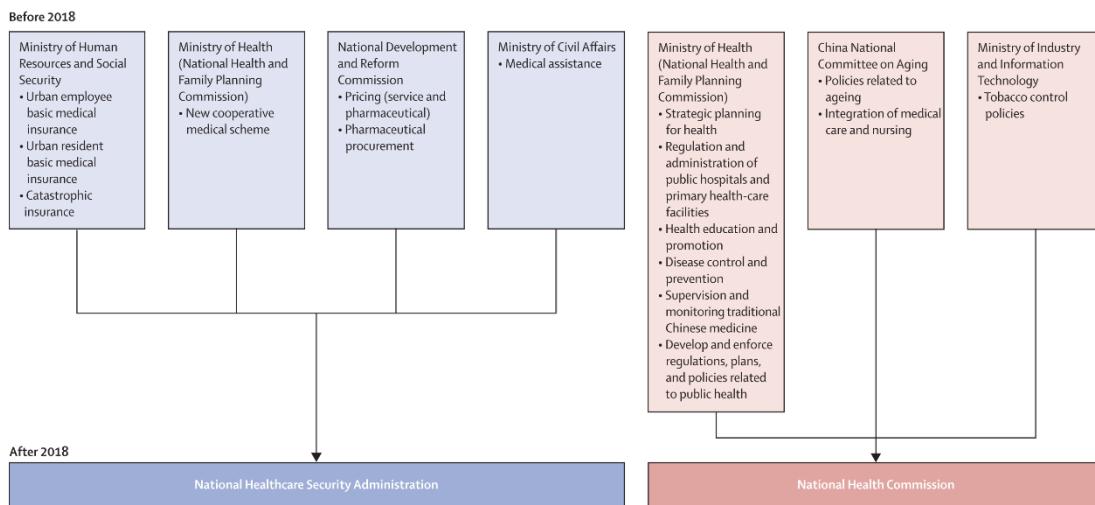
In 2018, the Chinese government initiated a reform of the healthcare system in order to address the conflicting political interests and goals imposed on public hospitals. As a result, the macro-governance structure of healthcare was significantly restructured, with a clear separation of healthcare provisions and financing (Yip et al., 2019). To coordinate policies between the various ministries on financing, regulating, and managing hospitals, the National Healthcare Security Administration (NHSA) and the National Health Commission (NHC) were both established (see Figure 3.3). The NHC is responsible for promoting the reform of China's medical and healthcare system, supervising the medical sector and public healthcare conditions, managing public healthcare emergencies, and overseeing the integration of medical care and pensions. On the other

⁸ Past, present, and future of global health financing: a review of development assistance, government, out-of-pocket, and other private spending on health for 195 countries, 1995–2050 - [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(19\)30841-4/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(19)30841-4/fulltext)

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hand, the NHSA is tasked with overseeing the operation of the insurance fund, centralised purchasing of drugs and medical supplies, regulating healthcare service providers and drug manufacturers, ensuring fair access to basic healthcare services for all citizens, and coordinating with other departments on health-related issues. This restructuring of the macro-governance structure of Chinese healthcare is a crucial step towards assuring the dominant role of the National Health Commission in governing the healthcare system and clarifying the public hospital systems' strategic orientation of efficiently providing social welfare (Chen et al., 2018; Li et al., 2022).

Figure 3.3-The restructuring of the macro-governance structure of Chinese healthcare (referring to Yip et al. (2019, p. 1195))



Subsequently, in response to the need to tackle the public hospitals' inefficiency and profit-seeking activities, the NHC has implemented reforms that prioritise reforming the public hospitals' internal operational management and performance measurement (Fu et al., 2017). As part of this effort, 17 cities were chosen to pilot public hospital reforms⁹ that focused on governance structure, internal operations, reimbursement systems, and residency training systems. Some successful cases emerged, such as the Dongyang model, which established a comprehensive hospital-based performance assessment system, and the Sanming model employed in Fujian province, which reduced hospitals' costs significantly while retaining their service quality and efficiency (Fu et al., 2017).

In 2017, the General Office of the State Council further clarified the requirements for public hospitals on improving efficiency and quality in the *Guidelines on Establishing a Modern Hospital*

⁹ Past, present, and future of global health financing: a review of development assistance, government, out-of-pocket, and other private spending on health for 195 countries, 1995–2050 - [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(19\)30841-4/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(19)30841-4/fulltext)

Management System. This included separating the government's administration from hospital management, giving hospital directors more autonomy in daily management and hospital management reform, and holding them accountable for hospitals' performance¹⁰. The performance evaluation system of public hospitals should be designed by the relevant Health and Family Planning Commission (HFPC) or professional public hospital management agency and should emphasise public hospitals' functions, responsibilities, expenditure control, operational performance, financial management, cost control, and social satisfaction¹¹. Moreover, the results of the performance evaluation should be made available to the public and linked to public hospitals' fiscal subsidies, insurance payments, total remuneration, appointment or removal, and rewards or punishments.

The Central Government has proposed a National Balance Scorecard Performance Measurement Scheme (National BSC PMS) in 2019 to evaluate the performance of tertiary hospitals and their directors. This scheme requires public hospitals to improve their performance measurement and management systems based on 55 indicators related to service volume, expenditure control, hospital development, and patient satisfaction¹². A provincial ranking of tertiary hospitals' performance is then given based on their evaluation results, and the Central Government will monitor public hospitals' performance with the analysis of the related indicators. Consequently, it is essential for public hospitals to reform their performance management systems and compensation distribution programmes in order to meet the government's requirements and improve efficiency.

The Chinese healthcare system has undergone a transformation, resulting in a difficult reform pathway for public hospitals. To offset the loss of revenue from the abolishment of income from drug sales and medical treatments, public hospitals are expected to improve their efficiency. To achieve this, the macro-governance structure of the healthcare system was restructured, with greater autonomy given to hospital directors to undertake daily management and reforms. The government has also proposed specific requirements for developing a multidimensional performance measurement system and a modernised performance management system. Public hospitals must reform their profit-oriented performance incentives and ensure that their services are of a high quality and efficient, while also upholding their mission of public welfare.

¹⁰ The State Council issued the *Guiding Opinions on Comprehensive Reform Pilots for Urban Public Hospitals* to promote the successful reform lessons to all public hospitals.

¹¹ http://www.gov.cn/zhengce/content/2017-07/25/content_5213256.htm

¹² In 2019, the State Council published *Opinions on Strengthening the Performance Measurement of Tertiary Hospitals* to issue a comprehensive performance evaluation framework for providing more specific and clearer guidance on building public hospitals' performance measurement framework.

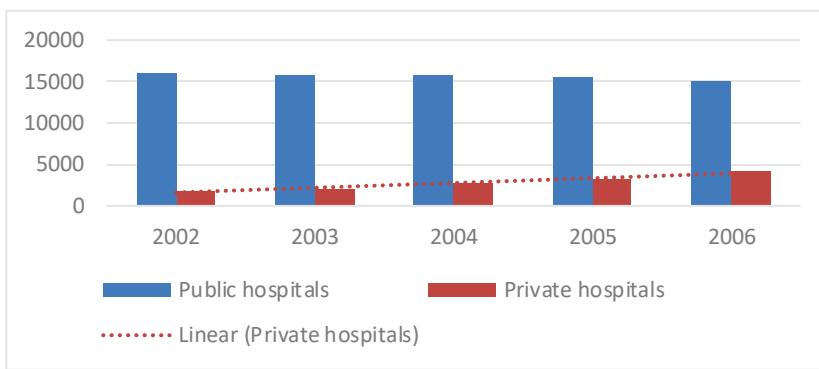
3.1.4 The roles of private healthcare in Chinese public healthcare transformations

Following the establishment of the nation in 1949, the government initiated a comprehensive reorganization of established hospitals, transitioning their ownership to the public sector. For this period, most public healthcare institutions are public owned.

In the context of marketized health reform, the Chinese government has initiated support for the growth of private medical professionals and non-state-owned hospitals. The healthcare sector has incrementally become accessible to private investments and healthcare providers, contingent upon the expanding permissions granted by the Chinese authorities. The 1980 Notice recognized individual medical practice as a valuable adjunct to public healthcare. Subsequently, the release of the 1985 Report and the 1994 Regulations further bolstered the private medical sector and private hospital establishments. This culminated in a significant surge in the development of privately-owned hospitals, as depicted in Figure 3.4, prior to the comprehensive health reform.

Figure 3.4. The increasing number of private hospitals in China from 2002 to 2006

(sources from 2003-2007 China Health Statistics Yearbook)



In light of comprehensive health reforms, there has been a strategic attention towards supporting non-public hospitals and individual medical practitioners. The 2009 Opinion delineated measures to relax policy constraints, enhance the operational environment for private hospitals, and bolster the growth of private medical institutions. As illustrated in Figure 3.5, the quantity of private hospitals has subsequently significantly increased and surpassed that of public ones. Significantly, as indicated in Figure 3.6, public hospitals maintain a predominant stance in terms of scale, offering a comprehensive range of primary and highly advanced medical services to the population. Thus, despite the numbers of private hospitals, most private hospitals struggle to compete with the scale and scope of services offered by large public tertiary hospitals. While the government has made efforts to improve private healthcare's development by refining initiatives, increasing subsidies, reducing co-insurance rates, raising the reimbursement ceiling, and expanding service coverage (Yip et al., 2019).

Figure 3.5. The number of healthcare institutions in China from 2009 to 2017

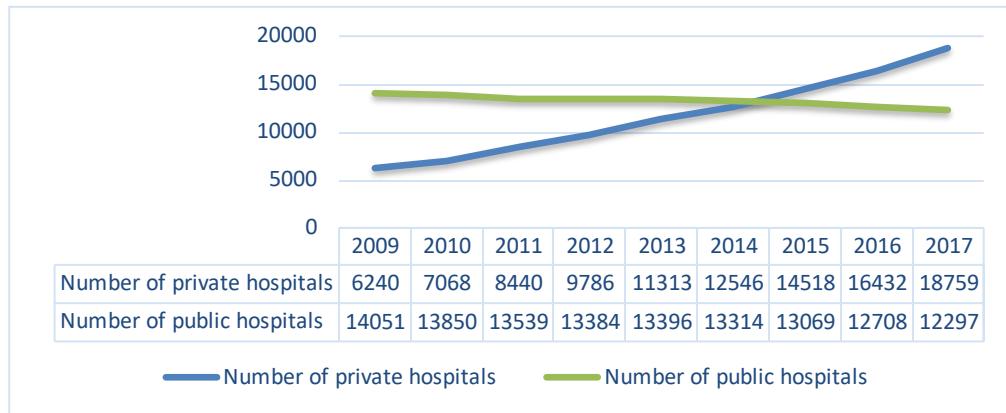
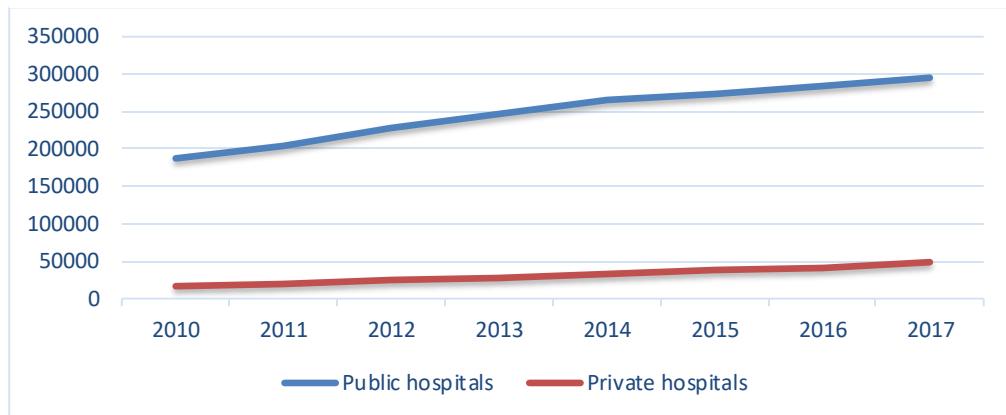


Figure 3.6. Number of Patient Visits in Public and Private Hospitals from 2010-2017.



As Chinese government proposes in the 2009 Opinion, private medical institutions are expected to complement the public health sector, addressing the prevailing insufficiencies in healthcare provision. Private hospitals could provide alternative channels for patients to get required medical services and to break up the monopoly of public hospitals to inject fresh blood into healthcare market development.

In practical terms, as Ning et al. (2015) suggest, numerous private hospitals have embarked on a path of group-oriented expansion and public listing. They possess high-quality specialisation in some popular medical fields, clearly defined within their marketing strategies, complemented by more flexible and modernised management practices. Furthermore, they provide attractive salaries to absorb top-tier professionals. These organisations demonstrate advantages in capital utilisation, talent acquisition, and marketing—facets not prevalent in their public counterparts—thereby exerting new competitive pressures and challenges in talent retention and patients' maintenance for public hospitals.

Simultaneously, the flexibility and vitality observed in private healthcare institutions serve as a catalyst, drawing attention to the necessity for reform on the rigid management model of public hospitals and stimulate the managerial awareness in public hospital reform (Hua-wei et al., 2018).

3.2 New Public Management and Chinese Healthcare Reforms

3.2.1 Similarities between developments in New Public Management and the pathway of Chinese Public Healthcare Reforms

The NPM reforms, which have been established in the United Kingdom, the United States, and New Zealand, and have been promoted in other Western countries since the 1980s, aim to improve the efficiency of providing public services, stimulate the vitality of public organisations' operations, and guarantee citizens' social welfare (Schedler & Felix, 2000).

The NPM model mainly borrows advanced management concepts and tools from the private sector, attempting to mimic business management structures (Lane, 2002). It also seeks to create a market environment by introducing competition and economic logic into the public sector (Kurunmäki et al., 2016). Dunleavy and Hood (1991) further outlined the NPM paradigm with three main themes: disaggregation, which flattens the hierarchies of the public sector and the internal structures of organisations; competition, which allows for competition between multiple providers through purchaser/provider separation policies; and incentivization, which emphasises specific performance incentives for rewarding managers and staff (Dunleavy & Hood, 1994).

The introduction of NPM reforms in public healthcare has had a profound and long-lasting impact on the sector. Through the introduction of a "quasi-market," providers and purchasers of healthcare services have been split into separate organisations and have been required to enter into contracts for the provision of healthcare services (Dawson & Charlotte, 2005). This has led to an increased focus on market orientation and competition within the public healthcare sector (Bekkers et al., 2011). Moreover, the implementation of NPM reforms in the public healthcare system has led to a decentralisation of decision-making power, with local healthcare authorities and medical units being granted greater autonomy (Lindlbauer et al., 2016). This shift away from the traditional, bureaucratic organisational architecture, which was characterised by tight governmental control over funding and decision-making, has allowed public hospitals to benefit from increased financial and operational autonomy (Saltman & Duran, 2016). Consequently, the corporatization and neo-liberalism reforms of public healthcare organisations have been facilitated.

The transformation of public hospital management has seen a shift towards a more business-oriented approach, with increased power given to non-clinical management in decision-making and

incentivization (Dawson & Charlotte, 2005, p. 35; Ferlie et al., 1996). This shift has been motivated by the need to improve operational efficiency and service outcomes, as well as to gain legitimacy, rather than just cutting costs (Noordegraaf, 2007). As a result, different stakeholders in the healthcare system are competing to guide public hospitals' and healthcare professionals' behaviours (Reay & Hinings, 2009; Ruef & Scott, 1998). This has led to a shift away from the "professional-bureaucracy" model of public hospital management (Glouberman & Mintzberg, 2001) towards more diverse and context-specific types.

The pathway of Chinese healthcare reforms has shown strong alignment with the themes of NPM, such as disaggregation, competition, and incentivization. Marketization has been adopted through a market-oriented financing reform, granting public hospitals more financial autonomy and requiring them to self-finance until the comprehensive health reform in 2009 (Lee et al., 2012). Decentralization has been implemented across the market-oriented health reform and the comprehensive health reform, transferring partial decision-making power to local healthcare authorities (Deepening Health Reform in China, 2016¹³). Last, incentivization has been implemented through the comprehensive health reform, establishing a BSC performance assessment framework to measure the performance of hospitals and promote their internal PMM developments (Yip et al., 2019). Therefore, it is clear that China's two-stage reforms echoed the principles of NPM.

The debate surrounding the traditional NPM concepts and the more recent post-NPM concepts has grown increasingly heated. The literature suggests that NPM reforms impeded the public sector's ability to address social issues (Dunleavy, 2005; Kickert, 2003). In their post-NPM literature, Christensen et al. (2019) and Christensen & Lægreid (2011) discuss how marketization has put pressure on inter-coordination and threatened the quality of public service delivery, leading to criticisms of the NPM concepts. Consequently, post-NPM regimes have been created to either supplement or replace the previous NPM concepts (Andresani & Ferlie, 2006; Dunleavy et al., 2006; Hartley et al., 2002; Osborne, 2006). Some of these ideas propose, for instance, a revival of administrative reintegration and centralization (Osborne, 2006) or the emphasis on "public value" in the strategic management of public organisations (Christensen et al., 2008; Dunleavy et al., 2006; Lodge & Gill, 2011; Shaw, 2013).

In China, the marketization of the public healthcare system has been linked to a focus on financial performance over service output quality. As proposed by prior scholars in the Western setting, this has led to numerous social issues, such as public discontent over unprofessional behaviour and high

¹³ <https://openknowledge.worldbank.org/server/api/core/bitstreams/ab618635-7f02-5459-bfd1-cee55d848960/content>

service costs. In response to this, the Chinese government has taken steps to halt the marketization of the public healthcare system, introducing a universal basic medical insurance scheme and implementing a national BSC PMS in order to emphasise both quality and efficiency. This reform path echoes the criticisms of marketization made by Christensen et al. (2019) and Christensen & Lægreid (2011) and the re-integration of supervision proposed by Osborne (2006) in their post-NPM elaboration.

Thus, the pathway of Chinese healthcare reforms has demonstrated some similarities with the development of NPM in the Western healthcare industry, such as the marketization of the public healthcare sector (the market-orientation health reform); the decentralisation of the health administrative system (the market-orientation health reform and the comprehensive health reform); and the incentive-based public hospital system (the comprehensive health reform). In post-NPM Western theories, marketization issues encountered in Chinese reforms and reintegration for intra-system management are also echoed.

3.2.2 Uniqueness of the pathway of healthcare reforms in China

Chinese public hospitals' reforms displayed significant differences compared to NPM, which were largely influenced by the specific Chinese politico-administrative regime, the existing degree of marketization in the Chinese healthcare industry, and the historical governance structure of Chinese public hospitals, apart from the homogeneities discussed in the preceding section.

The Chinese public healthcare system and public hospital administration have long been subject to strong political influences, resulting in limited decision-making and strategic management authority for management and clinicians. The decentralisation of power in the public hospital system has been a gradual process, beginning with financial autonomy and culminating in operational autonomy. The current comprehensive healthcare reform seeks to significantly decentralise hospital management, allowing for greater autonomy in strategic, internal, and human resource decisions and repositioning public hospitals as publicly owned social enterprises.

Although the market-oriented reform sought to introduce market mechanisms into the industry, which is similar to NPM, centralised control was retained (Cooke & Zhan, 2013). As a result, a marketized bureaucratic hierarchy system emerged in Chinese public hospitals, which became reliant on revenue generated from services and drug sales, but their operations remained subject to government interventions and protection (Christensen & Fan, 2018). Under the one-party, centralised health administrative system, Chinese public hospitals' operational autonomy has been limited by upper-level governance bodies in the hierarchical health system. Different State Council departments take responsibility for planning, financing, health insurance, and public hospitals'

human resources issues (W. Yip et al., 2012). However, these ministries may pursue their own bureaucratic interests, establishing policies that conflict with public hospitals' social missions (Hsiao, 2017). This has led to an infiltration of political bureaucracy into the internal administrative structure of hospitals, leaving them uncertain about their responsibilities and accountabilities, resulting in a rigid adherence to the government's measures.

In response, the current comprehensive health reform seeks to significantly decentralise hospital management, grant greater autonomy in strategic, internal reform, human resource decisions, and reposition public hospitals as publicly owned social enterprises. Although this reform seeks to reduce the power of political preferences, their far-reaching influence remains.

Furthermore, compared to the established public healthcare systems in the West, the Chinese healthcare market is relatively young. It began in 1949 and has existed for fewer than 80 years. As explained above, the Chinese healthcare market has remained underdeveloped, leaving the government to control both the production and distribution of healthcare (C. Wang et al., 2013). Moreover, it is worth noting that the healthcare personnel in Chinese public hospitals have been appointed by the government for a significant period of time, as evidenced by Barber et al. (2014). This long-standing arrangement has contributed to the perception of clinicians as public officials whose primary duty is to provide essential public services. Together with the late market development, these factors have resulted in weak alliances among industry health professionals, whose voices have been difficult to hear. The absence of well-established medical associations and, consequently, the lack of professional power for supervision have created the potential for profit-seeking risks during the period of marketization, highlighting the need for a comprehensive health reform to emphasise "professionalism" and "public service" once again. This has made it crucial to stimulate the management vitality and effectiveness of Chinese public hospitals and to advance the industry's medical professionalism (Yip et al., 2019).

In conclusion, Chinese public hospitals have been subject to strong political influences for a long time, resulting in limited autonomy for management and clinicians in terms of decision-making and strategic management. The current comprehensive health reform seeks to decentralise hospital management and grant greater autonomy in terms of strategic internal reforms and human resource decisions while still retaining centralised control. However, due to the Chinese healthcare market's relative youth, weak alliances among industry health professionals, and lack of professional power for supervision, the challenge of reforming Chinese public hospital management is to reconcile the legacy of political bureaucracy with the need for modernization and professionalism (Chan & Chow, 2007).

3.3 Summary

This chapter provides an overview of the reform pathway of public healthcare in China, covering its funding structure, governance structure, and performance measurement and management during the relevant period. Additionally, the chapter explores the similarities and differences between the Chinese public healthcare reform pathway and the NPM paradigm. The Chinese public healthcare reforms have inevitably been influenced by the NPM paradigm developed in pioneering countries such as the United Kingdom and the United States. However, the specific political regime of China, the different historical contexts of Chinese public hospitals, and the underdeveloped Chinese health market and medical associations have contributed to the bureaucratic and weak professionalism of the Chinese public hospital system. In the market-oriented health reform, Chinese public hospitals were shaped as marketized bureaucracies. While the government granted Chinese hospitals financial autonomy, the hospital management remained bureaucratic under the long-term political paradigm, and professionalism and managerialism were given weak voices. The marketization of Chinese public hospitals without adequate regulatory authorities and monitoring generated unexpected social problems.

Comprehensive health reform has replaced the prior market-oriented reform, allowing the government to return to being the main funding provider for hospitals, shrinking hospitals' financial autonomy, and re-emphasising their public welfare orientation through national incentivization. This has been achieved via a national BSC PMS (C. Wang et al., 2013). The Chinese government has established the national BSC PMS for public hospitals to implement control over them. Furthermore, the government has put forward additional requirements for public hospitals to reform their performance measurement systems to align with this framework.

This study provides an empirical opportunity to examine the PMM reform in Chinese public hospitals in the context of comprehensive health reform. The unique Chinese healthcare background, characterised by political dominance and weak professionalism, offers a unique perspective on the advancement of management accounting in the field of public management. As Funck and Karisson (2019) suggested, taking a research approach tailored to the Chinese context is essential for overcoming the "one-sided perspective" of NPM given the preponderance of studies conducted in Western countries.

Chapter 4 Theoretical Framework

The objective of this thesis is to examine the process of performance measurement and management reform in Chinese public hospitals, considering the impacts of external and internal contexts and actors. This research goal is informed by the literature review presented in Chapter 2 and the background elaboration of the Chinese public healthcare reform path in Chapter 3.

As highlighted by the systematic review in Chapter 2, the theories that contributed to management accounting research in the public healthcare sector included institutional theories, actor-network theory, agency theory, and contingency theory. New institutional theory in sociology was most often used in qualitative research (e.g., case studies) to explore the dynamics of intra-organisational management accounting changes and the interactions between different actors and systems within the complicated institutional environment (Goddard, 2010; G. J. V. Helden, 2005; Scapens & Bromwich, 2010). The new institutionalism in sociology is proposed to provide a broader and richer understanding of the social and institutional context of management accounting change (Arroyo, 2012; Dai et al., 2017). It helps to explain the persistence and diffusion of certain accounting practises across different organisations and sectors (Siti - Nabiha & Scapens, 2005). For this study on the PMM reform in Chinese public hospitals, an NIS theoretical lens is employed to help investigate the diffusion process and results of the reform in the case hospital within the broader institutional context, taking into account the involvement of various agencies.

The previous concepts of NIS, however, such as isomorphism and decoupling, have faced criticism for their overemphasis on homogeneity and disregard for institutional change as an ongoing process that involves interactions between diverse actors. This renders them inadequate in addressing the paradox of embedded agency and the complicated institutional environment (Seo & Creed, 2002). As Pache and Thornton (2020) proposed, the institutional logic perspective (ILP) could be regarded as a development of NIS for allowing more diverse agency and actions involved in organisational practices. For public hospitals where the complicated stakeholders work on organisational behaviours, the ILP becomes more advantageous to theorise the different agencies and their related values and interests (Broek et al., 2014; Ponte & Pesci, 2022). Meanwhile, the institutional logic perspective was suggested to provide rich and dynamic elaborations of organisational practises and changes (Greenwood et al., 2011; Thornton & Ocasio, 2012). It would benefit the tracking of the process of change in organisations to regard organisational change as an ongoing process of interaction among actors based on their different powers and reflexivity (Lok & Willmott, 2019). Thus, the ILP also provides the theoretical lens to investigate the diverse social

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institutional arrangements' different impacts on internal agencies, considering these embedded agencies' limited autonomy (Ferlie, 2017b).

Hence, this thesis chooses the ILP as the primary theoretical lens for better exploring the dynamic interconnections among the diverse institutional interests shaping the continuous PMM reform process. Furthermore, beyond the theoretical framework proposed by the early NIS institutionalists and the old institutionalists, this study employs the ILP to analyse the partial autonomy of participating agencies in reacting differently to multiple-level institutional logics.

This chapter reviews the evolution of the ILP and explores the feasibility of enriching the ILP's use in micro-level analysis while taking into account the influences of multi-level institutional dynamics.

The chapter is organised as follows: First, an explanation of neo-institutional sociology (NIS) is provided, tracing its evolution from its early iterations to its current institutional logic perspective (ILP) approach. Next, the chapter demonstrates the developments of NIS, including the notions of institutional complexity, partial autonomy, and reflexivity. It also addresses the mechanisms available for managing multiple logics at both the organisational and individual levels and explains the multi-level contextual framework developed by prior ILP theorists. The chapter then introduces various institutional logics and their elaborations in a healthcare setting, followed by an examination of how PMM has adapted to the competing interests of these logics. Finally, the chapter presents an elaboration of an integrated theoretical framework for analysing the institutional change of PMM reform in public healthcare organisations, developed by this thesis.

All of these serve as the foundation for the development of an integrated theoretical framework regarding the changes in organisational PMM caused by multi-level institutional complexity dynamics.

4.1 Developments of NIS

Institutional theories view institutions as a framework for organising social life that is taken for granted. Since the 1970s, institutional theories have experienced a new phase of development and extension, during which the organisational field has been identified as a critical area in neo-institutional research (Scott, 1995). Neo-institutional theories mainly include two mainstreams in organisation studies: neo-institutional theory in economics (NIE) and neo-institutional theory in sociology (NIS).

The ILP is a new theoretical development within NIS that has gained increasing attention in recent years while still being based on the assumptions of NIS (Pache & Thornton, 2020). Therefore, before

introducing the ILP approach and justifying its use in this study, this subsection provides an overview of NIS. It expands on the definitions of institutionalisation and highlights important NIS terms such as decoupling, legitimacy, and isomorphism. These NIS terms serve as the foundation for the development of the ILP approach in empirical research, supporting further investigation of micro-level institutional dynamics and practices.

4.1.1 Early developments of New Institutionalism in Sociology

Institutional theories have been extensively used as a fundamental and influential theoretical foundation in social science, contributing to various disciplines such as economics, sociology, and philosophy. Before the development of NIE, the old institutional theory in economics (OIE) emphasised the understanding of cumulative behaviour in economics. According to the OIE, individuals' tastes and preferences are shaped by multi-institutional factors such as rules, habits, routines, and taken-for-granted assumptions (Moll et al., 2006). This rejects the fundamental assumptions of neoclassical economics that individuals are rational and will optimise their interests (Jacoby, 1990). With the extensive development and extensions proposed by institutionalists, institutional theories have entered a new phase since the 1970s, during which the organisational field was constructed as a crucial field in neo-institutional research (Scott, 1995).

Neo-institutional theories mainly cover two mainstreams in organisation studies: NIE and NIS. Compared with OIE, NIE accepts the concept of "bounded" rationality for optimising their interests in behaviour (North, 1992; Simon, 1997). Furthermore, in contrast to the rational behaviour assumption, NIS assumes that external factors primarily form the organisation's structures and operational procedures. NIS institutions are defined as comprising the cultural-cognitive, normative, and regulative pillars (Meyer & Rowan, 1977; Scott, 1995). The emergence of new institutionalism provides theoretical tools for the depth and richness of accounting research findings while also overcoming difficulties in empirical application.

In accordance with NIS, institutions are defined as "more-or-less taken-for-granted repetitive social behaviour underpinned by normative systems and cognitive understandings that give meaning to social exchange and thus enable self-reproducing social order" (Greenwood et al., 2008, p. 4). Institutionalization is a process that often results from interactions between diverse mechanisms that strengthen each other (Scott, 2005).

The early NIS research aimed to explain why organisations become similar and what leads to diffusion. Key NIS concepts, including legitimacy and isomorphism, were developed by Meyer and Rowan (1977) and DiMaggio and Powell (1983). Meyer and Rowan (1977) proposed that formal organisational structures are not necessarily caused by technical efficiency. Instead, they may result

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from legitimacy-seeking behaviour, which leads to conformity to the organisation's institutional environment. Legitimacy is crucial for organisations to survive within their surrounding institutional environment, and, for NIS-based research, legitimacy has been used as an underlying assumption to understand the rationality behind institutional changes.

DiMaggio and Powell (1983) built on Meyer and Rowan's (1977) work and argued that organisations become more similar through the pursuit of structuration (Giddens, 1979) of the organisational fields. They defined isomorphism as "a constraining process that forces one unit in a population to resemble other units that face the same set of environmental conditions" (p. 143). They described two types of isomorphism: competitive and institutional. Competition in organisational fields causes organisations to seek the best economic fit, while institutional legitimacy promotes "social fit." DiMaggio and Powell (1983) reinforced the emphasis on institutional isomorphism, focusing on coercive, normative, and mimetic mechanisms that "make organisations more similar without necessarily making them more efficient" (p. 147). Rather than optimising economic fit, NIS organisations seek institutional isomorphism to achieve social fit and social legitimacy.

Regarding isomorphism in seeking legitimacy, Meyer and Rowan (1977) found that organisations might look more similar in form while forms might decouple from practices. Although organisations conform to the institutional environment and make institutional changes to structures and rules, Meyer and Rowan (1977) argued that participants' activities are often "decoupled" from these formal structures. The actual behaviour of organisational members frequently does not conform to official prescriptions or accounts. This suggests ceremonial conformity (or "sagacious conformity") when institutional pressures hamper technical efficiency. Many empirical studies have validated and supported this proposition, such as Edelman (1992) and George et al. (2006). Decoupling has become increasingly critical in NIS research in a gradually heterogeneous environment (Heimer, 1999).

These studies referred to above have examined the mechanisms of isomorphism and decoupling, establishing the core concepts of NIS legitimacy. The adoption of new management accounting practises and the development of more similar formal structures in the organisational field can be explained by organisations seeking legitimacy via the mechanisms of isomorphism. In subsequent institutional studies, decoupling between activities and formal structures has been identified as a crucial mechanism for some organisations to achieve legitimacy and buffer internal routines (Boxenbaum & Battilana, 2005; Westphal & Zajac, 2001). Furthermore, this provides theoretical inspiration for investigating the heterogeneity of management accounting practises at the inter- or intra-organisational levels within similar institutional contexts.

4.1.2 An Institutional Logic Perspective

As discussed in the previous section, the early development of NIS was primarily focused on explaining the homogeneity of practises and structures, relying on core concepts such as legitimacy, with little attention paid to institutional changes and differentiation (DiMaggio, 1988; Hirsch & Lounsbury, 1997; Seo & Creed, 2002). However, these NIS concepts have been criticised for being too rigid and for overly emphasising a socialised view of human actions (Seo & Creed, 2002). If actors are embedded in the institutional environment and their behaviour is shaped by the institutional context, institutional change becomes impossible. This contradiction between social structuration and human agency has a much longer history than institutional theory (Giddens, 1979; Holm, 1995). Although institutional theory takes external influences into account when conceptualising actors' behaviour, it still faces the paradox of embedded agency. The concepts of legitimacy and isomorphism suggest that actions are influenced by the environments in which they are embedded, making this paradox evident in institutional research. This has generated challenges for institutionalists seeking to explain institutional changes (Seo & Creed, 2002).

DiMaggio (1988) and Oliver (1991, 1992) drew attention to the agency of actors and how embedded agency affects the institutional environment in which they operate (Greenwood et al., 2008; Greenwood & Hinings, 1996). In their studies, actors were not assumed to be passive acceptors of institutional influences but were recognised as being capable of changing the environment around them. For example, Fligstein (1985) found that actors used distinct rationalities during organisational change, and power struggles between competing logics of practises and corporate logic were identified.

The diversity of institutions that organisations are confronted with endows agencies with limited autonomy in interacting with institutional changes. Unlike some new institutional scholars who emphasise isomorphism at the social and organisational field levels (e.g., Meyer & Rowan, 1977; DiMaggio & Powell, 1983), the institutional logic perspective in new institutionalism places greater emphasis on the differentiated institutional logics of individuals and organisations within various contexts. Fligstein (1985) initiated the earliest discussion on the pluralism of institutional logics existing in organisations, in which the profession, the organisation, and the state implicitly interacted. The institutional logics perspective was significantly developed by Thornton and Ocasio (2008), focusing more on the differentiated institutional logics of individuals and organisations within various contexts.

To address the paradox of embedded agency, an institutional logics perspective has been developed to consider the effects of agency when considering institutional reproduction, keeping institutional embeddedness in mind, and achieving a better balance between institutional effects

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on actors and embedded agency's reflection and impacts on the institutional environment (Thornton & Ocasio, 2008; Lok & Willmott, 2019). "Institutional logics" were introduced by Alford and Friedland (1985), who argued that there are inherent contradictory practises and beliefs in the three institutional orders of modern Western societies: capitalism, state bureaucracy, and political democracy. These three institutional orders shape how individuals act differently, making the entire society an inter-institutional system that compromises multiple institutional orders. Friedland (1991) further explored the interrelationships between individuals, organisations, and society. They define institutional logic as "a set of material practises and symbolic constructions that constitute its organising principles and are available to organisations and individuals to elaborate on" (p. 248). Their definition emphasises the basic assumption of ILP that each institutional logic has both material and cultural aspects. Although it is often regarded as a further development of neo-institutionalism, it distinguishes itself from the neo-institutional theory school. For example, Friedland and Alford (1991) explicitly criticised DiMaggio and Powell's (1983) isomorphic organisational fields and argued that fields should have tremendous potential to produce and highlight contradictions, conflict, and the partial autonomy of practices, not just isomorphism.

Thornton and Ocasio (1999) then introduced the concept of institutional logics into empirical research and developed institutional logics with a relatively complete view: "the socially constructed, historical patterns of material practices, assumptions, values, beliefs, and rules by which individuals produce and reproduce their material subsistence, organise time and space, and provide meaning to their social reality" (p. 804). This definition of institutional logic provides a link between individual cognition, agency, and individual practices. It deepens Alford and Friedland's definition to provide a sound theoretical lens for exploring institutional logics and relative practises on the organisational and individual levels. This definition also provides a framework for analysing the associations among individuals, organisations, and institutions in the inter-institutional social system.

Thornton (2004) revised the definition of institutional logic as "the axial principles of organisation and action based on cultural discourses and material practises prevalent in different institutional or societal sectors" (p. 2). The concept of inter-institutional system idea types, as shown in Table 4.1, forms the theoretical foundation for ILP to elaborate on the various institutional configurations and observe the various cultural components and practises underlying different logics. The horizontal X-axis of Table 4.1 represents the ideal types for institutional orders, and Thornton and Ocasio (2012) developed the seven institutional orders based on seven sectors—markets, corporations, professions, states, families, communities, and religions—each with their distinct logics. Ideal types are abstract models that systematically define and identify the boundaries of institutional orders, serving as key measures for identifying the logics that organisations and

individuals face. The Y-axis includes categorical elements of institutional orders in the inter-institutional system that reflect cultural symbols and material practices. These elements provide essential information to identify the logics anchored by organisations and actors in practices, such as root metaphor, sources of legitimacy, sources of authority, sources of identity, basis of norms, basis of attention, basis of strategy, informal control mechanism, and economic system.

According to the inter-institutional system idea types revised by Thornton et al. (2012, p. 73), family logic represents unconditional loyalty to family, identity based on family reputation, and strategic orientation towards increasing family honour. Religion logic emphasises the importance of faith and allocates attention to events based on their relation to the supernatural. State logic implies legitimacy stemming from democratic participation and authority from bureaucratic domination, with the status of interest groups shaping attention allocation for state logic and the basis of strategy making based on increasing community welfare. Market logic derives from transactions and formulates norms based on self-interest, with legitimacy from share prices, authority from shareholders, attention focused on organisational status in the market, and the orientation of strategy towards profit-increasing and efficiency-seeking outcomes. Professional logic is born in the professional network, with professional expertise proving the legitimacy of organisations and individuals. Quality of care and personal reputation are sources of professional identity, and the orientation towards strategy-making is to increase personal reputation. Corporation logic identifies the bureaucratic roles of actors in the hierarchy of a corporation, with the board of directors and top management team granted authority in practices, organisational culture serving as the informal control mechanism, and the market position of firms constituting the legitimacy of corporation governance. The basis for strategic management is to increase organisational size and achieve diversification, with organisational actors' attention shaped by their status in the hierarchy. Community logic comes from communities that share a common boundary, with the unity of will, trust, and reciprocity laying the foundation for community legitimacy and community value and ideology serving as sources of authority. Personal identity under community logic is based on emotional connection and reputation, and the strategies following community logic focus on increasing the honour of members.

As Pache and Thornton (2020) proposed, ILP can be seen as a development of NIS that allows for more diverse agency and actions involved in organisational practices. Meanwhile, Thornton et al. (2012) theoretically constructed seven logic paradigms for different social orders to help researchers identify different ideal types and related values, identities, and interests that work in institutionalisation. This development helps institutionalism researchers further understand complicated multi-level institutional environments, access ways to explain institutional dynamics, and recognise agency's reflexivity with a logic lens.

Table 4.1. The inter-institutional system idea types revised by Thornton et al. (2012. P. 73)

Y-AXIS	X-AXIS: INSTITUTIONAL ORDERS						
Categories	Family	Community	Religion	State	Market	Profession	Corporation
Root Metaphor	Family as a firm	Common boundary	Temple as bank	State as redistribution mechanism	Transaction	Professional as relational network	Corporation as hierarchy
Sources of legitimacy	Unconditional loyalty	Unity of will Belief in trust & reciprocity	Importance of faith & sacredness in economy & society	Democratic participation	Share price	Personal expertise	Market position of firm
Sources of authority	Patriarchal domination	Commitment to community values & ideology	Priesthood charisma	Bureaucratic domination	Shareholder activism	Professional association	Board directors; Top management
Sources of identity	Family reputation	Emotional connection; Ego-satisfaction & reputation	Association with deities	Social & economic class	Faceless	Association with quality of craft; Personal reputation	Bureaucratic roles
Basis of norms	Membership in household	Group membership	Membership in congregation	Citizenship in nation	Self-interest	Membership in guild & association	Employment in firm

Basis of attention	Status household in	Personal investment in group	Relation to supernatural	Status of interest group	Status market in	Status profession in	Status hierarchy in
Basis strategy of	Increase family honor	Increase status & honor of members & practices	Increase religious symbolism of natural events	Increase community good	Increase efficiency profit	Increase personal reputation	Increase size & diversification of firm
Informal control mechanism	Family politics	Visibility of actions	Wordship of calling	Backroom politics	Industry analysts	Celebrity professionals	Organisation culture
Economic system	Family capitalism	Cooperative capitalism	Occidental capitalism	Welfare capitalism	Market capitalism	Personal capitalism	Managerial capitalism

4.2 Developments of ILP

The discussion above presents the institutional logic perspective as a new branch of NIS for theorising the complex institutional environment and addressing the paradox of embedded agency. This section then reviews prior literature on the existence of different logics at the institutional and organisational field levels that shape organisational and individual behaviours. It then explores the concept of partial autonomy and how it is reflected in the diverse relationships among these institutional logics as developed by embedded agency. Next, a theoretical framework developed by Greenwood et al. (2011) called "Organizational Responses Under Multi-Level Institutional Complexity" is introduced to provide a multi-level perspective on investigating the various powers and relevant factors influencing institutionalisation.

4.2.1 Institutional complexity

Before the implementation of the inter-institutional system, previous studies had already suggested that varying institutional logics influence agencies' reactions to isomorphic pressures (Haveman & Rao, 1997; Townley, 1997). For example, when UK universities faced governmental pressure to introduce performance measurement modifications, Townley identified a competition between the "ideal liberal academy" logic (p. 276) and the market logic endorsed by the government within the UK university sphere. Academic groups adhered to an academic logic that valued reason, facts, and impartiality and reflected the culture and practises of academic institutions, such as autonomy, collaboration, and peer evaluation. As a result, they either resisted internal management changes or adopted them symbolically.

Haveman and Rao (1997) posited that the emergence of progressivism, a mentality that affected the functioning and conduct of various organisations across sectors like education, politics, business, and social welfare, altered institutional logics at the societal level and influenced alternative organisational forms in the California thrift industry. In accordance with the inter-institutional system, society is considered pluralistic, with individuals and organisations consistently maintaining multiple roles and identities (Thornton et al., 2012). The conflicting roles and identities stemming from diverse institutional orders generate complex pressures on the cognition and behaviour of organisations and individuals.

In the context of China, some recent studies have begun to examine the complicated institutional environment in China by employing an ILP lens and recognising the co-existence of diverse logics. Greve & Zhang (2017) illustrated that contrasting institutional logics, such as state socialism and market capitalism, can coexist within firms during phases of economic transition. The study

depicted state socialism logic as rooted in a redistributive economy, where companies are responsible for implementing government plans, fulfilling production quotas in response to demand, and sustaining stable employment rates. Conversely, market capitalism logic perceives firms as entities maximising profits while seeking economic efficiency through market exchange and competition. Their paper emphasises that the power dynamics between these competing institutional logics evolve and shift over time as each logic develops and gains prominence. Zheng et al. (2018) proposed that four institutional logics coexist within the Chinese doctoral education system. First, state logic views doctoral education as a public good, representing the interests of the state government. Second, professional logic asserts that an individual's standing within doctoral education depends on their personal expertise in disciplinary research. Third, market logic regards doctoral degrees and graduates as lucrative commodities and valuable assets in the marketplace. Finally, corporate logic highlights the significance of efficiency in doctoral education and promotes performance-based management within the organisational structure of doctoral education. Concerning Chinese public accounting professions, Yee (2020) identified the transition from state logic to professional logic within the Chinese accounting profession. State logic implies that accounting firms should be state-owned, fulfilling the requirements of the State's open economy policy and revitalising the internal economy policy within a state logic framework. In contrast, the academic profession logic aligns with the notion that the accounting profession should demonstrate a high degree of professionalism and that accounting firms should maintain independence and disaffiliate from sponsoring government agencies. In the Chinese university academic personnel system, Wang and Jones (2021) proposed that the administrative rationale served as an extension of the governmental rationale, which, in turn, dominated the scholarly professional logic, causing it to be underpinned by both the administrative and state rationales. These studies emphasised the diverse institutional logics in the Chinese background; meanwhile, they also noticed the significant position of state logic among these logics.

This thesis draws on the concept of institutional complexity, introduced by Greenwood et al. (2011), which suggests that various institutions have distinct values, expectations, and norms that can potentially conflict with each other. This concept is used to examine the intricate interplay of institutional logics within the Chinese healthcare sector.

4.2.2 Partial autonomy and reflexivity

The selection of various logics, or logic elements, by organisations and individuals, as well as the distinctive practises performed under specific institutional complexity, elucidate the partial autonomy of both individuals and organisations. As argued by Thornton (2004), institutional logics shape both rational and mindful behaviour, while individuals and organisations have the ability to

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shape and influence institutional logics. Therefore, the Institutional Logics Perspective (ILP) has the potential to resolve the embedded agency problem (Greenwood & Suddaby, 2006; Seo & Creed, 2002), which seeks to address how embedded agency can initiate change while simultaneously facing constraints imposed by embedded institutions. This perspective was initially posited by Friedland and Alford (1991), who argued that societal-level logics do not wholly dictate the behaviours of organisations and individuals. Partial autonomy denotes the limited autonomy of individuals and organisations to make choices and anchor themselves in the specific logics of diverse institutional orders. This perspective negates the complete determinism of institutions on social actors' behaviours and suggests bounded autonomy for the institutional field, organisations, and individuals in response to different institutional orders.

Drawing upon the concept of agency autonomy, Seo and Creed (2002) posited that four sources of institutional contradictions often interplay within organisations, driving institutional change. Besides the disruptive external environment acting as a catalyst for such change, existing interest conflicts faced by organisations, functional inefficiencies in organisational operations, and institutional conflicts arising from co-existing institutional arrangements collectively contribute to potential shifts in the behaviour of embedded agencies. As a result, institutional changes may be shaped by both endogenous and exogenous forces. In other words, the impact of internal organisations advocating for institutional change should not be underestimated in the process.

Thornton et al. (2012) further explained partial autonomy using the "nearly decomposability" (p. 15) of the inter-institutional system and institutional orders and the transposable categorical elements of institutional orders. Under nearly decomposability and transposability, it is possible for actors to decompose and recombine the elements of institutional logics to change the logics or create new ones. This idea offers a theoretical underpinning for exploring a variety of relationships among various coexisting logics that influence agencies developed by organisations or individuals.

In addition to partial autonomy, reflexivity, as defined by Suddaby (2010) based on broader sociological concepts, refers to an individual's overall awareness of the limitations and possibilities arising from the norms, values, beliefs, and expectations of the social structures in which they are embedded, reflecting an agency's subjectivity. Battilana and D'Aunno (2009) proposed a model that illustrates how reflexivity impacts institutional work along two dimensions: the source of reflexivity (internal or external) and the direction of reflexivity (inward or outward). Smets et al. (2012) proposed a multi-level model that explains how practice-driven institutional change unfolds over time across three levels: individual, organisational, and field. They suggest that reflexivity plays a distinct role at each level. At the individual level, reflexivity triggers improvisation, enabling actors to cope with unexpected challenges or opportunities in their work environment and generate

innovative solutions that may challenge existing institutions. At the organisational level, reflexivity facilitates consolidation, which is the process through which improvisations are repeated, shared, evaluated, and refined within an organisation. At the field level, reflexivity fosters diffusion, which is the process through which consolidated practises are disseminated across organisations within a field. Diffusion enables actors to influence other organisations by demonstrating the benefits of their new practices, creating alliances and networks, and mobilising resources and legitimacy that may challenge existing institutions.

The notions of partial autonomy and reflexive agency furnish a robust theoretical underpinning for Subsection 4.3.3, which delves into the strategic responses of organisations and internal constituents to the multifarious institutional logics they encounter as well as the execution of institutional transformations.

4.2.3 Mechanisms for managing multiple logics

Following the discussion of the partial autonomy and reflexivity of embedded agency in response to institutional complexity in the previous subsection, this section reviews the various mechanisms used by organisations and individuals to manage diverse logics in their long-term operations.

Loose coupling or decoupling can occur when organisations and actors want to respond to various roles and identities while avoiding cognitive conflicts with different norms, according to Weick (1976) and Meyer and Rowan (1977). Under the diverse logics proposed by the ILP, organizations' and actors' recognition and behaviour may face the temptation of loose decoupling more frequently, allowing them to manage multiple social identities from different institutional orders. For instance, Kurunmäki (2004) found that professionals in the UK NHS eventually decoupled accounting changes by simply applying ceremonies. In a Norwegian hospital, Nyland (2004) also noted the loose coupling between the actions of the doctors and the management of the hospital budget. The doctors ceremoniously followed managerial orders while acting logically in line with their professional logic.

The ILP studies go beyond previous research that focused solely on decoupling and instead investigate the intricate relationships among multiple institutional logics and their impacts on organisations, while also recognising agency's partial autonomy. In earlier empirical studies, the relationship between dominant and non-dominant logics was emphasised. The coexistence of multiple logics was viewed as temporary, with competition for dominance resulting in the dominant logic shaping individual and organisational behaviours (Lounsbury, 2002; Thornton, 2001, 2002). Non-dominant logics were described as having limited and weak effects. For example, Thornton (2001, 2002) showed a historical shift from editorial logic—which valued excellence and originality

in publishing products and services and respected the independence, imagination, and skills of editors—to market logic, which prioritised market capitalism in the higher education publishing market. Following the rise of market logic and the weakening of editorial logic, publishers changed their strategies to conform to the current dominant logic. Lounsbury (2002) explained how dominant institutional logic changes at the field level shape professionals' professionalisation in the finance field in the USA, with professionals becoming key actors in logic transformation.

Recent studies have increasingly focused on the long-term relationships of multiple institutional logics at the different research levels (institutional field level, organisational level, individual level). Scott et al. (2000) provided an early description of the co-existence of multiple logics: even when the market logic came into the healthcare sector, the other two competing logics (professional logic and community logic) also co-existed. Healthcare organisations realised they are situated in a pluralistic environment and need to compromise and negotiate to balance the conflict pressures caused by the multiple logics. Dunn and Jones (2010) also identified two central logics of the healthcare profession in medical education: care logic and science logic¹⁴. They found that these two logics were supported by different interest groups and created continuous and dynamic conflicts and debates in applying education patterns.

As suggested by Tracey et al. (2011), while decoupling and compromising may be effective in reconciling tensions in the short term, they are likely to fail in the long run. In the case of long-term practices, the relationships among coexisting logics are not only competitive but can also be managed to avoid rivalry or to cooperate, as shown in empirical studies. Recent studies have proposed mechanisms for organisations and individual actors to manage these compatible or competing logics over the long term in order to maintain the long-term coexistence of multiple or competing logics (Besharov & Smith, 2014; Pache & Santos, 2013; Reay & Hinings, 2009; Smets et al., 2012, 2015).

Hybridization is a mechanism proposed in recent ILP studies to explain how competing or compatible logics can coexist in the long term within organisations and individuals, coping with institutional complexity and creating novel organisational forms that combine elements from different logics (Smets et al., 2012). For organisations, two mechanisms they use to achieve a hybridization of multiple logics were identified by Smets et al. (2015): compartmentalising and

¹⁴ Dunn and Jones (2010) described two ways of thinking about medicine that have influenced how doctors are trained in the US since 1967. *Care logic* values being kind, understanding, and focused on patients. It stresses the importance of good social skills and treating patients as whole persons. *Scientific logic*, on the other hand, values being logical, factual, and evidence based. It emphasises the need for scientific knowledge, technical skills, and research abilities. These two ways of thinking support different approaches to practicing medicine.

blending. Compartmentalizing involves organising different logics into separate units such as departments, teams, or roles, allowing organisations to accommodate diverse logics without compromising their coherence or efficiency. On the other hand, blending involves creating a new logic that combines elements from multiple logics, such as a mission statement, a strategy, or a culture, enabling organisations to innovate and differentiate themselves from their competitors.

Reay and Hinings (2009) identified four mechanisms that organisations use to achieve hybridization and manage competing institutional logics in Canadian healthcare. These mechanisms "provide a way for competing logics to coexist and separately guide the behaviour of different actors" (Reay & Hinings, 2009, p. 629). The concept of separation involves creating physical or social boundaries between actors who adhere to different logics. This can be achieved by separating them by location, department, or role, which can help reduce the potential for conflict and enable actors to maintain their distinct identities and practices. On the other hand, demarcation involves establishing clear rules or norms that specify when and how each logic should be applied, such as through different policies, procedures, or standards. This can assist actors in coordinating their actions and avoiding confusion or ambiguity. Accommodation refers to acknowledging and respecting the existence and legitimacy of different logics, which can be fostered through dialogue, compromise, or mutual support. This approach can lead to a sense of trust and collaboration among actors who share common goals or interests. Finally, domination involves imposing one logic over another through power or authority, which can be achieved through coercion, persuasion, or manipulation. This approach can create a hierarchy of logics and influence the behaviour and outcomes of actors who are subject to the dominant logic. These four mechanisms encourage the formal and informal participation of physicians in healthcare decision-making, particularly in medical expertise. They suggest the possibility of physicians and management uniting against a third party embedded in a third logic from the outside to guarantee their mutual benefits.

Pache and Santos (2013) also suggested using selective coupling to create organisational hybridization, which takes elements from each logic and uses them in practise to solve problems that come up when logics conflict. Its risks and costs are lower than those of decoupling and compromising, as criticised in Tracey et al. (2011). Four types of selective coupling were developed by Pache and Santos (2013): 1) Compartmentalization: this type involves creating separate units or domains within the organisation that are aligned with different logics. This allows the organisation to maintain legitimacy and access resources from multiple institutional environments. 2) Integration: This type involves creating a common framework or identity that incorporates elements from different logics. This enables the organisation to create synergies and innovations by combining diverse logics. 3) Specialization: This type involves focusing on a single logic that is dominant or distinctive in the organisation's field. This helps the organisation achieve excellence

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and differentiation in its core activities. 4) Aggregation: This type involves combining elements from different logics without creating a coherent whole. This allows the organisation to adapt flexibly and opportunistically to changing institutional demands. Selective coupling provides organisations with the ability to embrace diverse institutional logics and the benefits they offer while minimising the risks and costs of decoupling and compromising. It offers a range of options for organisations to strategically hybridise their practises to better address the complexities of the institutional environment.

For organisational actors, hybridised behaviours were also observed. Smets et al. (2015) identified three balancing mechanisms for individual actors in organisations to achieve hybridization over multiple logics based on the hybridization concept: segmenting, bridging, and demarcating. Individuals can use the organisational structure to act on multiple logics in different locations and for different audiences in their practises (segmenting); selectively combine the practises shaped by competing logics to achieve complementarities (bridging); and restate and reinforce the boundaries of different logics in the event of "inadvertent logic blending or slippage" (demarcating) (Smets et al., 2015, p. 35). These three mechanisms are logically related in that segmenting initiates bridging and bridging requires demarcating. In Chinese public accounting professions, the professional logic, in fact, incorporates elements of state logic, particularly as the legitimacy of the profession is still very much grounded in serving the economic agenda of the State and in acting according to policies and regulations promulgated by the government (Yee, 2020).

For healthcare professionals, McGivern et al. (2015) investigated the identities of professional managers in the UK's National Health Service (NHS) who faced increased pressure in management roles. They found that clinical managers' identities become hybridised through the integration of professionalism and managerialism, creating a more legitimate hybrid professionalism in their managerial context (McGivern et al., 2015, p. 412). Two types of hybrids were identified—incidental hybrids and willing hybrids—which represented traditional professionalism in hybrid roles temporarily and created a hybrid identity at formal work.

The hybridization of physicians has also been observed in other healthcare studies (Ferlie et al., 2005; Noordegraaf, 2011; Pettersen & Solstad, 2014; Thomas & Hewitt, 2011; Wikstrøm & Dellve, 2009). The hybridization of health professionals can facilitate the coexistence of multiple logics in healthcare organisations by reducing conflicts among different groups and negotiating differences. This type of hybridization was initially viewed as mediation in some early studies, involving the negotiation and translation of different forms of knowledge across professional and managerial boundaries (Doolin, 2002; Waring & Currie, 2009).

In addition to the considerable research attention given to hybridization, Arman et al. (2014) proposed that individuals utilise a hierarchy of multiple logics to simplify competing logics. Through this mechanism, the primary logic dominates their behaviour, while the subordinate logics coexist and compete in practice. Wright et al. (2020) employed the perspective of professional values to discuss how professionals handle multiple logics through the hierarchization mechanism. They also revealed that professionals can categorise their professional values into superordinate, subordinate, and basic values based on their local contexts and relative importance. Consequently, professionals take different actions and have varying degrees of motivation for these different values. In Chinese M&As of firms, the findings suggest that the coexistence of competing logics is distinct from the concept of "hybrid" logics, which involve a blending of viewpoints. Instead, each coalition, by a certain logic, favours promoting its own agenda.

Andersson and Liff (2018) put forth the concept of "co-optation" as a strategy employed by healthcare professionals and managers to navigate the complexities of competing institutional logics. This approach entails the selective adoption of components from an alternate logic to secure legitimacy and influence while preserving the dominance of one's primary logic. As described by Andersson and Liff (2018), co-optation exemplifies a power struggle between professionals and managers, with each party endeavouring to co-opt the opposing logic to further their respective interests and agendas.

Against a Chinese backdrop, Liu et al. (2016) posited that, as organisations undergo transformations and grapple with enduring logic conflicts, actors develop a diverse array of responses, including prioritising, assimilating, blending, and balancing logics. These strategies facilitate the temporary alleviation of conflicts, address pressing concerns, and generate provisional solutions, empowering actors to leverage the multiplicity of logics in negotiating innovative organisational forms. This observation aligns with previous Western literature's propositions on hierarchization, co-optation, and hybridization.

Finally, Table 4.2 provides an explanation of various mechanisms recognised by institutionalists that contribute to the long-term compatibility of multiple logics at both individual and organisational levels. The hybridization mechanisms developed by organisations and individuals, along with other methods for managing multiple logics, reflect the partial autonomy of embedded agencies, which enables them to strategically respond to the various logics. These mechanisms also highlight the potential for collaboration between multiple logics to facilitate organisational goal achievement and produce management synergy (Numerato et al., 2011; Reay & Hinings, 2009). It is worth noting that professional and managerial logics should not be viewed solely as rivals, as their co-use may

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ultimately combine their respective strengths and enhance resistance to new logics (Boxenbaum & Jonsson, 2008; Cappellaro et al., 2020; Numerato et al., 2012; Reay & Hinings, 2009; Townley, 1997).

The absence of discussion on intra-organisational mechanisms for maintaining long-term multiple logic co-existence and avoiding conflicts in prior studies is a notable gap that requires attention in this research area. While existing literature has provided valuable insights into mechanisms employed at both the organisational and individual levels, the absence of attention to intra-organisational mechanisms limits our understanding of how internal groups navigate and manage the multiple logics present during the reform process. Without a thorough examination of the intra-organisational mechanisms, the research on the PMM reform process will again fall into the paradox of embedded agency by ignoring the intra-organisational diversity. Therefore, it is necessary to address this gap and explore the various intra-organisational mechanisms that facilitate the long-term co-existence of competing logics.

Table 4.2. Mechanisms for managing multiple logics in the long term

<i>Research level</i>	<i>Logic-relationship</i>	<i>Definition</i>	<i>Mechanisms</i>	<i>Sub-mechanisms</i>	<i>Reference</i>
Organisational level					
	Decoupling	It was suggested that by keeping their core operations distinct and unaltered, organisations could conform to institutional pressures through rituals.	Decoupling		Nyland (2004)
	Hybridisation	Hybridization is a mechanism proposed in recent ILP studies to explain how competing or compatible logics can coexist in the long term within organisations, coping with institutional complexity and creating novel organisational forms that combine elements from different logics.	Compartmentalising		Smets et al. (2015)
			Blending		Smets et al. (2015)
			Separation		Reay and Hinings (2009)
			Demarcation		Reay and Hinings (2009)
			Accommodation		Reay and Hinings (2009)

Individual level	Decoupling	It was suggested that by keeping their core operations distinct and unaltered, actors could conform to institutional pressures through rituals.	Decoupling	Kurunmaki (2003)
	Hybridisation	Hybridization is a mechanism proposed in recent ILP studies to explain how competing or compatible logics can coexist in the long term at the individual level, coping with institutional complexity and creating novel individual behaviours that combine elements from different logics.	Segmenting	Smets et al. (2015)
			Bridging	Smets et al. (2015)
			Demarcating	Smets et al. (2015)
	Domination			Reay and Hinings (2009)
	Selective coupling			Pache and Santos (2013)
	Compartmentalisation			Pache and Santos (2013)

		Incidental hybridising	McGivern et al. (2015)
		Willing hybridising	McGivern et al. (2015)
Hierarchisation	It suggests that individuals will establish a hierarchy for the multiple logics for the purpose of simplifying the competing logics. The main logic still dominates their behaviour, while the subordinate logics will continue to coexist and compete in practices.	Hierarchising	Arman et al. (2014)
Co-optation	This strategy involves selectively adopting elements of the other logic to gain legitimacy and influence while maintaining one's own logic as dominant.	Co-optating	Andersson and Liff (2018)

4.2.4 Multi-level contextualized institutional complexity and intraorganizational response

Following the discussion of the various mechanisms that organisations and individuals can employ to manage the diverse logics in the last subsection, this section further explores the theoretical findings on how organisational responses are shaped within the multi-level contextualised institutional complexity.

As discussed in the previous subsection, the concept of "partial autonomy" is crucial for recognising the autonomy of embedded agency and the constraints imposed by upper-level institutional structures, such as the institutional field and the societal level, as well as situational factors. Actors are not completely determined by institutional logics but can also exercise some choice and creativity in their actions. Meanwhile, agency reflexivity—which is a process of questioning and challenging the assumptions, values, and beliefs that shape one's actions and interpretations of reality—significantly reflects the ability of agency to challenge the dominant logics they are operating within. Reflexivity can help actors recognise and cope with competing or conflicting institutional logics that influence their behaviour and identity. It can also enable actors to change or transform institutional logics by creating new meanings and practises that are more aligned with their interests and goals (Durand et al., 2016; Verwoerd et al., 2021).

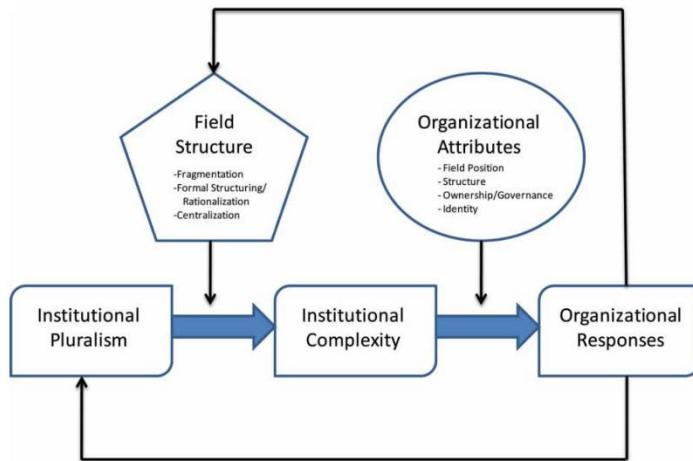
First, it is important to acknowledge that organisations and individuals are always influenced by a range of situational factors and are unable to escape the constraints of institutional structures (Greenwood et al., 2011; Thornton & Ocasio, 2012). Prior ILP studies suggested that situated factors have a significant impact on organisations' and individuals' responses and attitudes toward various institutional logics, which may eventually lead to institutional changes. Haveman & Rao (1977) and Thornton & Ocasio (1999) stated that the change in dominant logic in the industry was motivated by many factors, including competition and the political environment. Political factors were also emphasised in affecting the logic changes at the organisational field level (Reay et al., 2015). Furthermore, the situated factors lay the groundwork for the long-term existence of multiple logics in specific organisational fields. Purdy and Gray (2009) employed multi-level research in an emerging field and proposed five conditions that encourage the long-term existence of multiple logics at the field level: field characteristics (i.e., lack of unified goals), multiple local contexts for organisations, limited (unstable) funding pools, lack of field-level regulations, and lack of support from the central institutional structure. Lounsbury (2007) and Greenwood et al. (2010) also suggested that the regional differences in the organisational field made the coexistence of different logics possible.

Recently, Pache & Thornton (2020) defined situated factors as the contextual elements that influence how actors perceive and respond to institutional logics. These factors include the level of analysis (individual, organisational, or field), the type of logic (dominant, challenger, or hybrid), the mode of logic interplay (compatibility or conflict), and the source of logic change (internal or external). Accordingly, it is crucial to develop a comprehensive framework that can provide theoretical insights into the relevant contextual factors driving organisational change. Such a framework should encompass multi-level and dynamic analyses that consider the diverse internal and external institutional arrangements as well as the multi-level conditions (such as field characteristics and organisation characteristics) that are closely associated with organisational changes.

This thesis applies the multi-level contextualised framework for organisational responses to institutional complexity proposed by Greenwood et al. (2011). This framework is based on the concept of institutional complexity, which refers to situations where organisations face a multiplicity of pressures from diverse institutional logics (Greenwood et al., 2011, p. 357). In detail, Greenwood et al. (2011) used institutional complexity to construct a systematic approach for exploring how organisations respond to this complexity under the effects of the structural dimensions of situated factors: 1) field structure (fragmentation, formal structuring, and centralization); and 2) organisational attributes (field position, structure, ownership/governance, and identity). Thus, the situated factors at different levels were systematically described in this approach (see Figure 4.1).

According to Greenwood et al. (2011), institutional pluralism and institutional complexity are related but distinct concepts within this framework. Institutional pluralism refers to the presence of multiple institutional logics in an organisational field, while institutional complexity refers to the experience of conflicting prescriptions from multiple logics within organisations. In other words, institutional pluralism is a property of the external environment, while institutional complexity is a property of the internal organisation. Whereas, in this study, institutional complexity is referred to not only for organisational institutional diversity and the field-level multiple logics, as many of the authors of prior literature have supposed (G. Martin et al., 2017; Reay et al., 2017). As Greenwood et al. (2011) assumed, the higher degrees of centralization, higher formal structuring, and lower fragmentation of the organisational field would contribute to the lower diversity and instability of institutional logics. Conversely, a low-centralized, informally structured, and highly fragmented organisational field would accept more diverse institutional logics and a more unstable institutional environment because of the easy entry for other logics.

Figure 4.1. The institutional complexity under the level filters – Greenwood et al. (2011)



Following the filtering of the field structure, organisational responses towards institutional complexity at the organisational level are further shaped by four organisational attributes: field position, structure, ownership/governance, and identity. Regarding the field position of an organisation, Greenwood et al. (2011) proposed that peripheral organisations and centre organisations might experience different intensities of institutional complexity in the organisational field. Peripheral organisations, compared to centre organisations, may accept lower institutional expectations from the field and face an easier institutional environment. On the contrary, centre organisations are essentially bundled with the existing institutional logic, enjoy the advantages brought by the current logics, and may find it hard to adopt the emerging logic. However, this conclusion might not work for a mature organisational field where the emerging institutional logics might already be formalised into field-level institutional prescriptions under a highly centralised and formalised field infrastructure, which puts more pressure on centre organisations to adopt the new logic. For example, Arman et al. (2014) pointed out that professionals from emerging healthcare areas (in this case, psychiatric care) are more vulnerable to managerial logic.

The organisational structure, which is reflected in the presence of different internal groups, also affects the institutional complexity faced by organisations. Conrath-Hargreaves & Wüstemann (2019) found that different organisational characteristics would have significant effects on filtering various logics. Some characteristics are more influential in promoting organisations to be more sensitive to certain logics, such as organisational structure and ownership. Lepori & Montauti (2020) also highlighted the role of organisational structures in negotiating hybrid logics in practices. As a result, the complexity of organisational structure may increase institutional complexity's influence over organisations and increase the diversity of internal group responses.

As Greenwood et al. (2011) proposed, ownership and governance structures are also crucial filters within institutional complexity. In essence, the ownership and governance structure of an organisation reflect the power relationships among relevant influential groups. Organizational responses to various institutional demands are shaped by power structures. The institutional prescriptions that a powerful group supports are more likely to be given priority over other institutional demands when compared to those of weaker groups.

Furthermore, it is proposed that organisations' identities play a significant role in determining their responses to institutional complexity. The separation of an organisation's identities into institutional identity and organisational identity was suggested by Greenwood et al. (2011). The claims of legitimacy made by organisations within the institutional environment are referred to as "institutional identity" (Kraatz & Block, 2008; Thornton & Ocasio, 2012). The characteristics that distinguish an organisation from others in the same institutional category are referred to as its "organizational identity" (King et al., 2011). In order to gain a competitive advantage, organisations can be identified by their identity. Institutional identity and organisational identity co-shape the structural roles that organisations play within the intricate institutional environment.

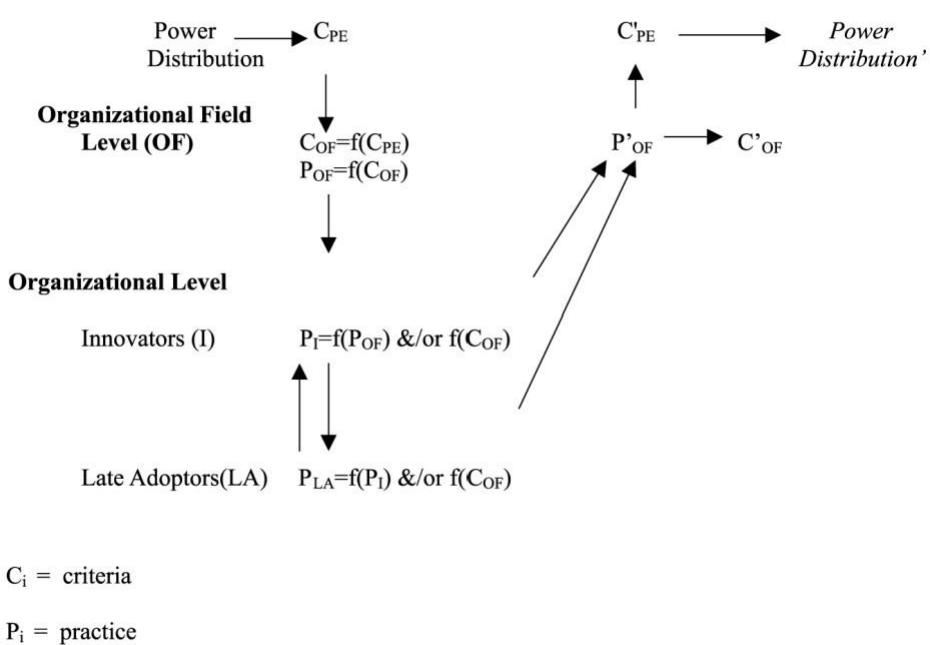
The theoretical framework presented in Figure 4.1 serves as the foundation of this thesis for examining how organisations manage the multiple logics involved in PMM reforms strategically while also considering contextual factors. In addition to the field-level and organisational-level filters, this research aims to explore the intra-organisational factors and agency reflexivity that affect subunits and internal actors' responses to multiple logics.

Previous studies have identified several intra-organisational factors that influence individuals' responses to multiple logics. For instance, Carlsson-Wall et al. (2016) discovered that the compatibility of logics can vary not only between fields and organisations but also between situations within an organisation. Currie & Spyridonidis (2016) suggested that individual actors' social positions and contextual factors shape their (re)interpretation of different logics. Furthermore, Creed et al. (2019) introduced the concept of "personal aesthetic," which refers to "this way of knowing that combines humans' innate sensory capacity to engage the world with their learned capacity to evaluate what they encounter" (p. 415). It is assumed that personal aesthetics shape individuals' understanding and evaluation of institutions, which subsequently influences their attitudes and behaviours towards institutional arrangements.

Furthermore, to examine the dynamics of institutional complexity at both the field and organisational levels, as well as the pathways of institutional change in organisations within this context, this thesis refers to Dillard's (2004) three-level institutional change model. As Figure 4.2 explains, Dillard (2004) elucidated how the structure of the cross-level institutional dynamic

penetration in dynamic economic, political, and social environments incites alterations in legitimate standards for organisational fields. As a result, the legitimacy of various social logics in affecting changes within organisational fields also experiences shifts. This, in turn, propels the dynamics of institutional complexity at the organisational level, such as the entry or exit of specific social logics or alterations in the dominant logic (Lounsbury, 2002; Thornton, 2001, 2002). The field-level dynamics of institutional complexity then prompt central organisations to modify their institutional logics and practices, ultimately leading to institutional change. Subsequently, due to isomorphic pressures to maintain legitimacy, other organisations follow the lead of central organisations in implementing institutional changes.

Figure 4.2. The institutional relational dynamics from Dillard et al. (2004, p. 512)



By integrating the basic structure of Dillard's (2004) model with the institutional complexity framework proposed by Greenwood et al. (2011), this thesis aims to construct a dynamic multi-level theoretical framework for exploring the institutionalisation pathways of performance measurement and management reforms in organisations. This framework guides this thesis in investigating how both field-level institutional complexity and intra-organisational interactions contribute to shaping reforms within a dynamic context.

4.3 Current Developments in Institutional Complexity in Healthcare and PMM

In the previous section, key concepts of partial autonomy and reflexivity were introduced to address the paradox of embedded agency, alongside an examination of various mechanisms for agency in relation to multiple logics and a multi-level contextualised framework for analysing organisational responses to institutional complexity. Building upon these foundational concepts, this section delves into a comprehensive review of the recent literature on ILP in the domains of healthcare and management accounting. This also serves as theoretical support for the forthcoming discussions in this thesis.

4.3.1 Institutional complexity in public healthcare

The definition of institutional logic is abstract, can be ambiguous, and requires contextual elaboration, as noted by Thornton et al. (2012). Therefore, healthcare related ILP studies often provide rich interpretations of these logics based on empirical settings (see Table 4.3). In the public healthcare setting, multiple logics, including state logic, market logic, professional logic, and corporate logic, are significantly involved.

Table 4.3. Institutional logics of the public healthcare sector based in healthcare literature

INSTITUTIONAL LOGIC	GOAL	FEATURES
Professional	Providing best cure & care to patients	Autonomy; patient-centered care
Managerial	Efficiency & cost saving	Market-like
Market	Profit-seeking & efficiency	Consumer-oriented; supply and demand determining prices
Corporate	Increasing competitiveness & size	Hierarchical management control; Bureaucratic rulemaking by top managers
State	The equality for the public to access healthcare goods	Legislation determining the nature, prices, and quality of services

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Public healthcare is influenced by political expectations within the societal environment while simultaneously relying on medical professionals and nurses. The tension between bureaucratic (state) and professional logic persisted for a period before experiencing a shift in the dominant logic from bureaucratic to professional (Mintzberg, 1993). In healthcare settings, state logic prioritises public service value and emphasises the role of the state as a regulator, funder, and provider of public services (Martin et al., 2017). In contrast, professional logic is expertise-oriented, with physicians enjoying high autonomy in their practise while being held accountable for their skills in providing medical services to patients (Andersson & Liff, 2012, 2018; Arman et al., 2014; Reay et al., 2017). However, various professional groups may hold differing perspectives on professional logic, and the content of professional logic may evolve as other logics are integrated (Arman et al., 2014; Currie & Spyridonidis, 2016; Martin et al., 2015).

The adoption of NPM principles—such as marketization, competition, accountability, and business-like management—in public sectors in Western countries, particularly healthcare, has facilitated the infiltration of corporate and market orders into the public healthcare sphere (Martin et al., 2015). Managerial and market logics, which hold dominant positions in the private sector, have emerged in public healthcare and increasingly garnered more resources, thus becoming influential in competition with hospitals' professional logic. Managerial logic point up efficiency, cost savings, and financial accountability in hospital management and prioritises market-like strategies and practises within the NPM framework (Christensen & Lægreid, 2011). Conversely, market logic is customer-oriented and signifies "unregulated competition with consumer preferences" (Goodrick & Reay, 2011, p. 379), under which professionals, corporations, and the state cannot exert control.

There are limited ILP studies within the Chinese healthcare context, with Xing et al. (2020) being a notable exception. Their study investigated the impact of government logic, which underlines the core principle of hospital operations as facilitating equitable access to healthcare and ensuring sustainable development. Furthermore, the study explored the commercial logic, emphasising the provision of high-end healthcare services through premium pricing, and the state logic, which requires healthcare organisations to generate social value and engage with local communities through philanthropic or voluntary services. Unlike previous Western literature, this study differentiated between state logic and government logic by focusing on healthcare equality and social value, respectively.

The existing body of literature on ILP has thoroughly explored the various logics operating in public healthcare settings. Nevertheless, these discussions have largely been framed within a Western context, leading to a scarcity of insights regarding non-Western healthcare environments. Consequently, it is essential to investigate the applicability and pertinence of these logic-related

analyses in non-Western healthcare contexts, with the aim of fostering a comprehensive understanding of institutional complexity as it relates to diverse settings.

4.3.2 The roles of PMM in the context of institutional complexity

In addition to the comprehensive discourse that has explored the institutional complexity in public healthcare settings, existing research has provided limited focus on the roles of PMM confronted with institutional complexity.

General management accounting practises have already been found to mitigate conflicts stemming from competing logics and promote the sustained coexistence of diverse logics (Busco et al., 2017; Chenhall et al., 2013; Dai et al., 2017; Lepori & Montauti, 2020; Rautiainen & Järvenpää, 2012). Furthermore, it evolves into socio-technical dyads (Gerdin, 2020) within the institutional framework. As Miller and Power (2013, p. 592) stated, accounting is a “variable bearer” of multiple logics that offers the mechanisms to make these logics be seen and said at the organisational level. Busco et al. (2017) demonstrated that the co-existence of competing logics can be maintained via the mediating role of accounting and control practices. Accounting and control do not specify a certain logic. Instead, it links to different groups embedded in different logics and lets them be involved in the accounting innovation to protect their logics. Then, management accounting's hybridised practises can help maintain the co-existence of multiple logics in the firms (Dai et al., 2017). Kaufman and Covaleski (2019) also stated that formal and informal budget process changes can act as a tool to manage institutional complexity. Budgeting provides the forum for negotiating the conflicts between different institutional logics. Jayasinghe et al. (2021) illustrated how the implementation of government accounting reforms in Sub-Saharan African nations was instigated and shaped by pre-existing professional, market, and state logics, as well as by the emerging generalised assumptive logic within international organisations and their interrelationships.

Therefore, management accounting systems, as socio-technical dyads (Gerdin, 2020), are co-shaped by diverse logics and adopt hybrid practises to compromise and reflect the influential logics within organisations (Amans et al., 2015; Dai et al., 2017). In turn, management accounting systems can reconcile competing logics by reducing conflicts and negotiating their demands during accounting changes (Busco et al., 2017; Rautiainen et al., 2017). Management accounting has evolved into a tool and forum for negotiating the different institutional demands of multiple logics (Kaufman & Covaleski, 2019).

As an essential element of management accounting systems, the PMM domain has garnered relatively scant attention in terms of examining its role with respect to institutional complexity. Although there have been limited studies based on ILP that shed light on the development of PMM

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in public healthcare, previous studies on PMM in healthcare still play a valuable role in explaining how PMM can balance multiple logical interests and demands from an institutional perspective. Under NPM, the emerging managerial logic, the powerful forces of external state logic, and the long-standing internal professional logic present challenges for public healthcare organisations in designing their performance measurement and management strategies (Leotta & Ruggeri, 2022). Ideally, healthcare's non-profit contents should be evaluated based on the three E's—economy, efficiency, and effectiveness (Carter et al., 1995; Rouse, 1999). Therefore, public healthcare organisations have increasingly turned to sophisticated and comprehensive multidimensional performance measurement methods. These methods go beyond traditional financial measures and are based on organisational strategies, such as the BSC (Chang, 2006).

Thus, Carlsson-Wall et al. (2016) demonstrated that performance measurement systems (PMS) act as structural solutions to conflicts arising from competing logics by making various institutional demands explicit within the measurements. Rautiainen et al. (2017) argued that discrepancies between institutional logics can be alleviated by focusing on a common goal in the development of key performance indicators (KPIs). Leotta and Ruggeri (2022) asserted that a PMS can facilitate the concurrent comprehension of both societal- and field-level logics, assuming that it enables coherent communication and achieves value coherence.

Although multidimensional performance measurement designs have been established in public healthcare performance measurement and management reforms, the imbalance of power among actors embedded in the diverse logic of shaping the public healthcare PMM system has become a major impediment to the practical use of non-financial indicators (Guven - Uslu & Conrad, 2011; Modell, 2001; Østergren, 2006). Previous literature has highlighted the significant impact of state logic on shaping the PMM practises of public hospitals. In many cases, policymakers at the centre have initiated multidimensional PMM reforms based on state logic, resulting in a design process that is not neutral and is dominated by the interests of the more powerful government (Chang, 2009). Consequently, the use of multidimensional frameworks has failed to satisfy the diverse interests of different stakeholders. For instance, Chang (2009, 2015) argued that multidimensional performance measurements influenced by political interests did not result in a balanced development of performance improvements but, instead, caused various distortions and dysfunctional behaviours that impeded the original aims of the NHS reforms. The PMM system became a control mechanism for the central government to enforce hospitals to act in line with government expectations.

In some cases, studies (primarily concerning the BSC) indicate that the application of multidimensional PMM highlighted the areas of public hospitals that urgently required efficient

management, as emphasised by managerial logic. Aide & Funck (2009) examined a voluntary BSC reform in a Swedish public healthcare organisation and proposed that the BSC could answer unanswered questions regarding operational processes and service quality. Chen et al. (2006) evaluated the efficacy of the BSC in both Chinese and Japanese hospitals. Their research indicated that the BSC could help highlight existing management issues and suggest major changes. Furthermore, Lin et al. (2014) conducted a comprehensive national survey in China and discovered that the BSC application improved the operational performance of hospitals.

Nevertheless, when juxtaposed with the wider management accounting literature, research on performance management and measurement (PMM) has offered limited insights into the possible roles that PMM might play in mitigating, resolving, or even intensifying logic conflicts within its practices. Thus, this study aims to explore the roles of PMM in addressing the diverse logics that permeate various levels, with a focus on both the design process and reform practices. Meanwhile, in the face of powerful state logic and emerging managerial logic emphasising "accountability" and "efficiency," respectively, the NPM reforms in many countries provided opportunities to introduce the private sector's multidimensional PMM techniques into public healthcare. Unfortunately, as many PMM reforms in public healthcare have been predominantly propelled by government-led initiatives, the research devoting attention to other institutional contexts and intrinsic motivations is limited. The current scholarly discourse has largely concentrated on the ramifications of excessive political influence in PMM reform processes, thereby overlooking crucial factors originating from hospitals that also contribute to the observed discrepancies in PMM practices. Consequently, this thesis aims to shed light on the internal dynamics and determinants within organisations that catalyse PMM reforms and generate deviations in their implementation.

4.4 The integrated theoretical framework for institutional changes

Prior ILP literature first provides the theoretical lens for identifying the different institutional logics playing out in the public healthcare sector. As Friedland & Alford (1991) and Thornton et al. (2012) suggest, the entire society functions as an inter-institutional system comprising seven social logics that correspond to relevant institutional orders. Previous management literature on public healthcare in the West has effectively demonstrated the crucial roles of state logic, professional logic, market logic, and corporate logic in shaping the cultural cognition and material practises behind hospital management reforms since the NPM reforms (Goodrick & Reay, 2011; G. Martin et al., 2021; Reay et al., 2017).

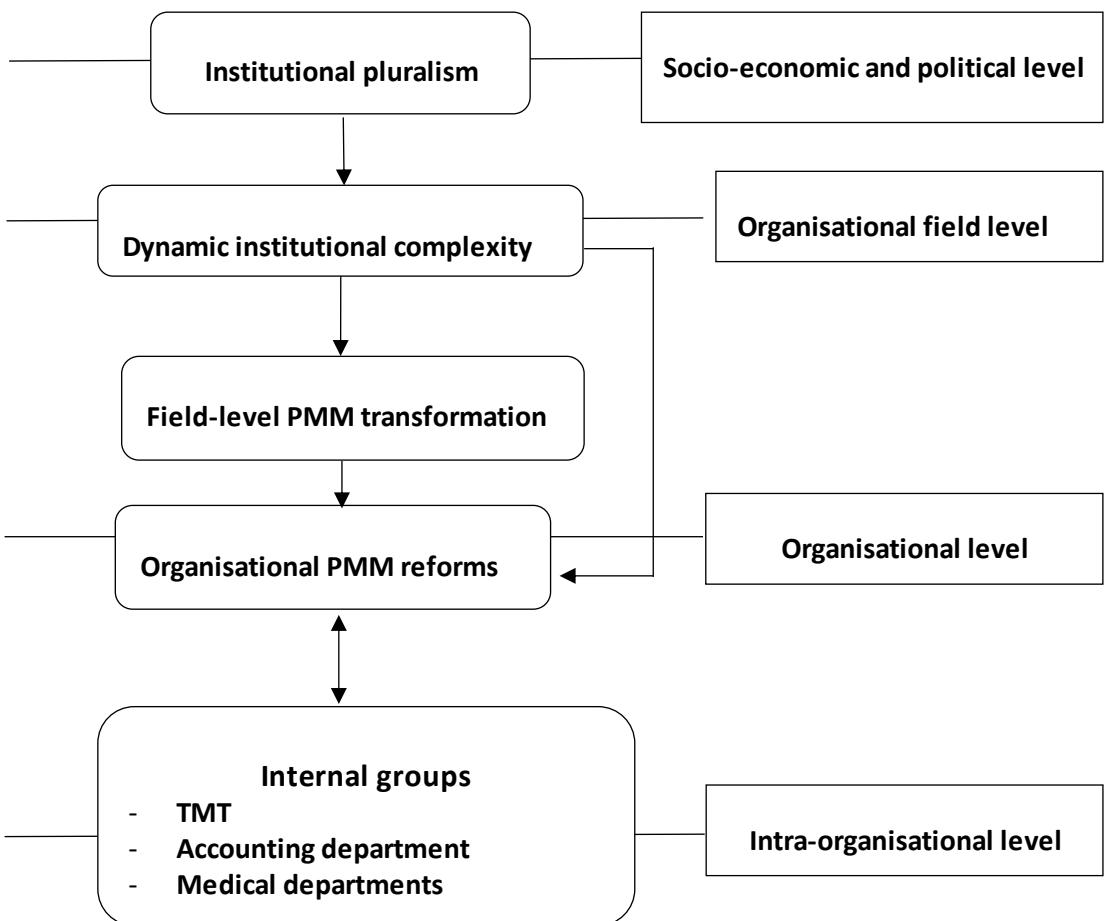
According to Thornton et al. (2012), despite institutional complexities that impose limitations on agency, individuals and organisations possess partial autonomy and agency reflexivity. This is

attributed to the nearly decomposable and transposable nature of institutional logics, which allows for strategic responses to different logics and enables participants to instigate institutional changes. Agency reflexivity permits participants to adapt to and shape institutional structures, thus enabling them to exercise reflexivity in the face of the current institutional situation. This concept contributes to the existing literature on the various mechanisms that agencies utilise to alleviate the pressures of multiple logics in healthcare (Arman et al., 2014; Kurunmaki et al., 2003; Leotta & Ruggeri, 2022; McGivern et al., 2015; Nyland & Pettersen, 2004; Pache & Santos, 2013; Reay & Hinings, 2009). The aforementioned studies offer crucial theoretical direction for examining the interactions between the actors involved and the institutional complexity that underlies the contemporary multidimensionality of PMM and its socio-technical function.

Building upon the extensive discourse regarding agency autonomy and institutional complexity that underlies the interactions between relevant actors and PMM reforms in prior literature, the primary objective of this study is to reveal a dynamic and comprehensive understanding of how the contextualized, multilevel interactions between embedded agency and institutional complexity shape organisational PMM reform design and implementation.

To conduct a thorough investigation of institutional dynamics and PMM reform pathways, this thesis integrates the institutional relational dynamics framework developed by Dillard et al. (2004) with Greenwood et al.'s (2011) multi-level institutional complexity framework. Dillard et al.'s (2004) institutional relational dynamics framework, based on the institutional dynamic perspective, comprises three institutional levels—socioeconomic, organisational field, and organisational level—that enable an iterative analysis of institutional dynamics encompassing both institutional prescription and related practices. This framework provides a theoretical lens to reveal the dynamic nature of institutional complexity across and within different levels. Subsequently, Greenwood et al.'s (2011) multi-level institutional complexity framework, based on the organisational response perspective, considers contextualised factors, including field structure and organisational attributes, as filters that shape field-level institutional arrangements and organisational responses, respectively. The integration of these two frameworks allows for tracing the transmission of institutional dynamics from the macro to the organisational level within contextualised factors, thereby providing a comprehensive and nuanced understanding of how organisations navigate and respond to their complex institutional environments (see Figure 4.3).

Figure 4.3. The integrated multi-level institutional relational framework for analysing a public healthcare organisation's PMM reform



The integrated theoretical framework, as shown in Figure 4.3, first presents a conceptualization of the institutional complexity dynamics resulting from changes at the socioeconomic and political levels. These dynamics then lead to the field-level PMM transformation. It serves as the theoretical basis for our first research question, which examines how field-level institutional dynamics are influenced by socioeconomic and political changes, leading to PMM transformations.

This theoretical framework posits that isomorphic pressures resulting from the dynamics of field-level institutional complexity and PMM transformations give rise to the reform forces driving organisational PMM reforms. Additionally, Seo and Creed (2002) have identified four sources of institutional contradictions that theorise the forces of institutional change from both internal and external sources. According to this framework, the internal reform forces at the intra-organisational level are influenced by external institutional logics, which, in conjunction with external institutional pressures, drive the decision-making of organisational PMM reforms. This serves as the theoretical

foundation for the second research question, which investigates the response of TPH to the dynamic institutional complexity of its surroundings through the implementation of PMM reforms.

Moreover, the integrated theoretical framework develops the intraorganizational level based on prior ILP studies, exploring the intra-organisational actors' continuous reactions to external institutional complexity dynamics in the PMM reform. In detail, following the essential guidance of institutional logics in practises while acknowledging the partial autonomy of agency, this thesis examines the PMM reform practises in the case hospital to further explore how different logic values and interests interact with each other during the PMM reform and how internal actors exercise their partial autonomy in these interactions. As discussed in prior literature, the internal groups (as Figure 4.3 shows, including the top management team, accounting department, medical departments, and functional departments) of public healthcare organisations are embedded in different logics, and their logics—as well as their situated contexts—might direct them to respond differently to external institutional changes and interact with other groups on PMM reform to defend their logics (Campanale & Cinquini, 2016; Conrad & Uslu, 2011). Consequently, based on their logics, their interactions with one another and the PMM reforms will ultimately shape their attitudes and practises in the institutionalisation of the PMM reform, which, in turn, influences organisational institutional complexity (Carlsson-Wall et al., 2016; Leotta & Ruggeri, 2022). The aforementioned serves as the theoretical basis for the third research question, which examines how the reform of the PMM is institutionalised intraorganizationally.

Generally, this integrated theoretical framework for this thesis is designed to investigate the case hospital's responses to multilevel contextualised institutional complexity and the related internal performance measurement and management practise developments. By providing an empirical articulation of the contextualised institutional complexity and resulting field-level, organisational-level, and intra-organisational-level institutional arrangement competition and practise formation within a non-Western social culture, this thesis aims to enrich the framework with new insights and perspectives.

Chapter 5 Methodology

In this chapter, a comprehensive overview of the research design and methodology employed in the study is provided. The chapter is organised into five sections, each focusing on a critical aspect of the research process. These sections include an overview of the research design, which outlines the overall structure and approach of the study. This is followed by a discussion of the research philosophy, which delves into the underlying assumptions and beliefs that guided the research. Next, the data collection section describes the methods and techniques employed to gather empirical evidence. Then the data analysis section details the process of interpreting and making sense of the collected data. Finally, ethical considerations are addressed, highlighting the steps taken to ensure the research was conducted responsibly and with respect for the rights and well-being of all involved parties. By providing a clear and concise account of the research methodology, this chapter aims to enhance the study's rigor, transparency, and credibility.

5.1 Overview of the Research Design

This study is driven by the unique opportunity to conduct a longitudinal, in-depth examination of a public healthcare organisation's PMM reform practises and the broader field in which the organisation is embedded. In addition to gaining access to this healthcare organisation, the researcher was able to analyse documents and materials from the same field. This level of access has offered an unparalleled opportunity to investigate the micro-dynamics of longitudinal PMM practices as well as the macro-environment and context that influence PMM reform.

The research project was designed as a single, in-depth longitudinal case study of one of the best public hospitals in a local city, focusing on the micro-dynamics of PMM reform within multi-level institutional relational dynamics and contexts. Several key research questions were identified and incorporated into the research design. These research questions guided the research process:

RQ₁: How do institutional complexity dynamics trigger PMM transformation? (How do macro-socioeconomic and political changes induce institutional dynamics in the Chinese public healthcare sector? What are the multiple institutional logics at play in the field? How do the relational dynamics behind these logics trigger PMM transformation?)

RQ₂: How does TPH respond to the surrounding institutional complexity dynamics via PMM reform? (How has the institutional complexity of TPH changed under field-level institutional dynamics and PMM transformations? How do the institutional dynamics of TPH shape PMM reform?)

RQ₃: How is the PMM reform intra-organizationally institutionalised? (How do intra-organisational

units respond to institutional changes during PMM reform? How do the intra-organisational institutional complexity and relevant contextualised factors of internal actors shape the institutionalisation of PMM reform at the intra-organisational level?)

The primary components of the research design are a case study and a field-level qualitative document analysis. For the primary case organisation—the Third People's Hospital in Mianyang—the case study methodology was selected. Despite the use of two distinct research methods for data collection, the data analysis was conducted in an integrated manner. Both the analysis and findings of the case study and the qualitative document analysis from the field inform and justify one another. This iterative procedure involves alternating between the two empirical study components. Collectively, these elements create a unified narrative and provide a comprehensive depiction of performance management practises in Chinese public hospitals.

In the following section, this thesis first elaborates on the research philosophy and the relevant methodology adopted for this study. Subsequently, it demonstrates how the data were collected, analysed, and theorised. Finally, the ethical considerations and limitations of the research design are acknowledged.

5.2 Research Methodology

5.2.1 Research Philosophy

Ontology is a branch of philosophy, and social ontology is concerned with the nature of social entities. The central point of orientation here is whether social entities can and should be considered objective entities that have a reality external to social actors or whether they can and should be considered social constructions built up from the perceptions and actions of social actors (Bryman, 2008). There are two ontological positions in social research: objectivism and constructivism. Objectivism asserts that the social phenomena constituting our social world have an existence of their own, apart from and independent of the social actors (humans) involved (Matthews & Elizabeth, 2010). The researcher is an objective observer of the social world and the social phenomena they study. Natural scientists studying the way that the natural physical world behaves often adopt this position. This position emphasises the objectivity and independence of social researchers (Hoon, 2013).

Constructivism, on the other hand, posits that the social phenomena comprising our social world are only real when their constructed ideas are continually reviewed and reworked by the social actors involved in them through social interaction and reflection (Bryman, 2012). Social reality is not separate from the meaning of the social phenomenon for the participants. The meanings

(helping to understand a social phenomenon) constructed by the social actors are available for study. Social researchers are part of the social world and bring their meanings and understandings to their studies (Guba & Lincoln, 2005).

The topic of this study is to observe and understand the changes that occurred in one organisation. In this case, the author believes that social actors, particularly organisational actors, significantly construct the meanings and behaviours of organisations. To study the behaviour of an organisation will inevitably involve the observation of relevant actors and discussions of their interactions and reflections. Hence, this study adopts constructivism to guide the choice of methodology.

"An epistemology is a theory of knowledge; it presents a view and a justification for what can be regarded as knowledge—what can be known and what criteria such knowledge must satisfy in order to be called knowledge rather than beliefs" (Blaikie, 2017, p. 19). Two distinct epistemological positions have been developed: positivism and interpretivism. Positivism asserts that knowledge is objective and exists independently of human experience. The core concept of positivism is that the world exists externally, and the properties of this world should be measured through objective methods. Positivist epistemology is linked to objectivism. These schools argue that humans can explain, share, and predict what happens in the social world by researching causal rules and relationships among variables. Hypothesis testing, confirming the correct ones, and refuting the incorrect ones (Ritchie et al., 2014) improve human knowledge.

In contrast, interpretivism suggests that knowledge is subjective and that understanding the social world depends on human beliefs. Ritchie et al. (2014) proposed that knowledge is produced by "exploring and understanding the social world of the people being studied, focusing on their meanings and interpretations" (p. 5). Thus, this position prioritises people's subjective interpretations and understandings of social phenomena and their actions and can be linked to the ontological position of constructivism—where the nature of a social phenomenon lies in the understanding and meanings ascribed to the social phenomenon by social actors (Blaikie, 2017). Based on constructivism, this study adopts interpretivism to gather knowledge, encompassing people's interpretations and understandings. An interpretivist approach to social research typically involves collecting qualitative data in detail and describing and studying subjective meanings.

5.2.2 Qualitative Methodology

Grounded in interpretivism, this study adopts a deductive approach that begins with research questions informed by existing theory. This approach involves gathering data and generating explanations to develop theories. The findings are then integrated back into the existing body of theory, enriching the research findings associated with a specific domain of inquiry.

Among various research methodologies, the quantitative methodology is characterised by numerical data collection, a deductive view of the relationship between theory and research, and an objectivist conception of social reality. In contrast, qualitative methodology possesses an epistemological position described as interpretivism and an ontological position described as constructivism (Bryman, 2012).

Therefore, based on the ontological position of constructivism, the epistemological position of interpretivism, and the deductive approach applied in this study, a qualitative methodology is selected. Qualitative methods aim to explain social reality by interpreting social structures, shared meanings, and circumstances (Gasson, 2004) from interpretative perspectives. As Auerbach and Silverstein (2022) argued, "the qualitative paradigm focuses on the voices of the participants... it allows us to hear these silenced voices" (p. 19). Consequently, qualitative methods can provide a comprehensive view of the reform process and take into account the concerns of various participants (Parker, 2012).

5.2.3 Research Method

The qualitative methodology encompasses various research methods, such as case studies and ethnographic research. Among the different qualitative research methods, a case study is particularly beneficial for exploring complex organisational phenomena within a specific context (Merchant & Stede, 2006; Yin, 2012). To investigate public hospitals' PM reforms, taking into account organisational context and the broader external environment, the author chooses to conduct a case study.

Yin (2012) proposed five types of cases for case studies: the critical case, which provides a better test of theory-based hypotheses; the unique case, which demonstrates a unique phenomenon commonly used in clinical studies; the typical case, which offers a suitable context as a member of a broader category to answer specific research questions; the revelatory case, which provides an opportunity to investigate previously inaccessible phenomena; and the longitudinal case, which allows for the study of two or more junctures over time.

This research selects the typical case for two reasons: first, the typical case provides a suitable context for addressing the three research questions in this thesis. Second, typical cases offer the opportunity for researchers to investigate the reform process within the case (Ridder, 2017).

Theoretically, there are diverse definitions of the "field" in institutional research, and different types of the "field" are given (Zietsma et al., 2017). Adopting the concept of "issue field" proposed by Hoffman (1999) and a further development by Meyer and Höllerer (2010), this study employs the issue field, which "forms around a central issue—such as the protection of the natural

environment—rather than a central technology or market field—and becomes centres of debates in which competing interests negotiate over issue interpretation" (Hoffman, 1999, p. 351). In this study, an issue field is constructed around the PMM transformation in the Chinese public healthcare sector in order to track the joint effects of competing participants in forming it.

Based on that, generic purposive sampling is initially employed to refine the criteria for selecting the most suitable case for addressing the research questions, which encompass the study's objectives and identified gaps (Ellis et al., 1992, p. 181). TPH was chosen for this study as it perfectly satisfies the criteria of being a tertiary public hospital in China that has undergone a PMM reform.

5.2.4 Case hospital background

In this study, a case analysis was undertaken at a tertiary hospital, referred to as 'TPH', situated in a southwestern city of China. During the early stages of China's reform and opening up, TPH reinforced its focus on mental health treatments while expanding the range of its services. Subsequently, it evolved into a tertiary Grade-A hospital, recognised as a health centre within the local province, possessing exceptional medical resources in brain systems and geriatric medicine. In 2020, the hospital had four specialties: primary internal medicine, major surgery, the psychiatric department, and the outpatient department. There are over 60 clinical disciplines in the system.

Three practical reasons justify selecting the TPH. First, as a vital public healthcare centre, TPH has been chosen as a pilot for national performance-based compensation reforms by the central government since 2017. Consequently, it has attracted attention from the local government and wider society. This selection provides the study with an opportunity to explore the cross-level interactions of different stakeholders (and forces) in the reform process. Second, according to the National BSC PMS, only tertiary hospitals are required to execute the Chinese government's performance assessment model. As a public tertiary hospital, TPH offers the researcher an opportunity to observe the policy's impacts on its PMS. Third, a pilot study conducted in 2019 involving an interview with TPH's chief accountant revealed that, since 2018, the hospital has implemented a PMM reform by introducing a new multidimensional performance measurement system. This situation presents an excellent opportunity to investigate the PMM reform process at this hospital. Access to information sources has been secured by TPH's top management team (TMT) following the pilot study.

5.3 Research Design

5.3.1 Data collection method

Various data collection approaches can be employed in case studies, including interviews,

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documentation, observation, and other supplementary methods. As suggested by Carter (2014), data triangulation is crucial in qualitative research to overcome subjectivity and potential biases in data collection. This can be achieved by combining interviews, observation, documentation, and other relevant sources. Thus, in this study, a range of data collection methods are utilised to ensure robust results. These methods include semi-structured interviews, focus group meetings, observation, and documentation. Meanwhile, field-level secondary data are employed to establish comprehensive narratives for field-level exploration.

This study primarily utilised semi-structured interviews, which consist of general questions without a fixed sequence, allowing the interviewer to delve deeper into significant responses (Paoli & Foss, 2019). Additionally, some unstructured interviews were conducted on an informal basis to further explore intriguing points that emerged during the semi-structured interviews. As Chauhan (2022) suggested, the capacity of unstructured interviews to capture the intricate nuances of human experience and their potential to generate novel insights are noteworthy.

The study also incorporated observations from the case study's operational management meetings as well as daily PMM practices. Observation as a research method provides first-hand data collection, enabling exploration of complex and sensitive phenomena and revealing discrepancies between verbal reports and actual behavior, which contributes to generating detailed and accurate data for hypothesis generation and explaining patterns of human behaviour (Smit & Onwuegbuzie, 2018).

Furthermore, the researcher conducted focus group meetings with professional participants to discuss their perspectives on PMM reform. To supplement the field-level and organisational-level data analyses, the study also collected hospital documents, official documents, Chinese literature, and secondary data from Chinese databases. The utilisation of focus group discussions represents a valuable methodology for comprehending individuals' perspectives regarding conservation, evaluating conservation and livelihood practices, scrutinising the obstacles and repercussions of resource management interventions, and documenting the significance of indigenous knowledge systems (O.Nyumba et al., 2018).

5.3.2 Data collection process

The data collection for this study was divided into three phases: Phase 1—the pilot study; Phase 2—the initial online data collection; and Phase 3—the main fieldwork. As Table 5.1 and Table 5.2 show, each data collection phase involved various data collection activities, with documentation and secondary data collection accompanying each phase.

In the Phase 1—pilot study (2019), the research carried out purposive sampling to select the typical case in 2019. Before conducting the case study, field-level secondary data from the Chinese literature, government health documents, and Chinese healthcare database were gathered and analysed. The process of analysing the relevant secondary data lasts for the whole research period to update relevant field-level knowledge.

In Phase 2—initial online data collection (2020), the researcher faced challenges due to global flight restrictions resulting from the COVID-19 pandemic, making it impossible to access the case hospital located in China. To continue the research without missing real-time reform progress, the researcher opted for partial online interviews. Alongside the online interviews, important documents related to TPH's PMM reform and relevant government policies were provided by the top management team of TPH and officers from the local health department. During this period, the researcher collected detailed information about the reform background and reform programme.

In Phase 3—the main fieldwork (2021), following the removal of global flight restrictions, the researcher was granted access to the case hospital under investigation. Utilizing the interview guide devised during Phase 1, a substantial number of interviews and focus group discussions were conducted to gather valuable insights. In addition, observational research was carried out to further examine the phenomenon. This period provided critical information regarding the intricate execution of the PMM reform and the corresponding internal reactions within the organisation.

5.3.3 The primary data collection: interview, observation, and focus groups meeting

A combination of generic purposive sampling and snowball sampling was employed to select participants for data collection in this case study. This study aimed to ensure that participants were significant actors involved in the PMM reforms at the case hospital. To capture information about the connections between the three levels (field level, organisational level, and individual level), participants from the Chinese government, the top management team of TPH, and internal clinician groups, as well as nurse groups, were purposefully selected. In order to gather diverse and in-depth information and experiences from participants, individuals were chosen from various internal groups, departments, and positions within TPH.

Throughout the purposive sampling process, snowball sampling was utilised, asking initial participants to suggest other potential interviewees (Etikan, 2016). This method helped to extend the pool of interviewees, observations, and focus groups meeting while reducing time waste and increasing data accessibility.

5.3.3.1 Interview

In total (see Table 5.1), this study carried out 31 semi-structured interviews with 28 interviewees, including one head of the local health department, two internal TMT members, five functional department members, and 20 medical professionals.

Face-to-face interviews were predominantly employed in the pilot study and main fieldwork to facilitate relationship-building, enhance interaction with interviewees, and observe their body language. The researcher conducted two unstructured interviews with TPH's chief accountant and the leader of the operational management section responsible for PMM reform. These interviews helped the researcher become familiar with the hospital's context and gain a general understanding of the reform, further justifying TPH as a suitable case for this research. Additional communications and relevant documents were promised by the interviewees. The chief accountant also introduced two OMO members to the researcher in case more information was needed at the time. Contacts were kept, making interviews and documentation highly feasible in this case. After each interview, the researcher transcribed the conversation to gather initial information about TPH's background, reform contents, PMM reform plans, and participants. These interviews with key PMM reform leaders in TPH (the chief accountant and OMO leader) helped the researcher develop a detailed question guide for subsequent data collection based on five general themes:

1. Why undertake these PMM changes?
2. Who is involved in promoting the PMM changes, and what are their responsibilities?

3. What are these changes?
4. How does the process unfold?
5. What are the current effects of these changes on health professional groups and the whole hospital?

The five themes questioned the main content for addressing the research goals and allowed interviewees to answer freely based on their perspectives. After designing the interview guide, a pilot test was conducted to "confirm the coverage and relevance of the content of the preliminary guide, identify the possible need to reformulate questions, and test its implementation" (Kallio et al., 2016, p. 2960) with the supervisor teams. Internal testing and field testing were used to make informed changes and adjustments to the interview questions, improving data quality during collection (Chenail, 2016). Following the pilot testing and adjusting the interview guide based on the information from the pilot, a complete interview guide was compiled (shown in Appendix. B).

Due to COVID-19, however, interviewee accessibility was severely affected in 2020. To continue data collection, online interviews via social apps and telephone interviews were conducted. Prior to the interviews, interviewees were contacted and informed about the study. After scheduling the interview date and time with the participants, a consent letter was sent or presented, explaining the study's purpose, participant expectations, and confidentiality issues. Signed consent letters were obtained, and interviews were recorded, transcribed, and coded. All interviews were conducted in Chinese, with English transcript summaries created for each interview. Face-to-face interviews were conducted (see Table 5.1) until the main fieldwork phase began.

In interviews, all interviewees were asked about general themes in a logical order (Krauss et al., 2009). To make the theme questions easily understood and ensure consistency in the interviewees' answers, follow-up questions were employed (Baumbusch, 2010; Turner, 2014). These questions were partially pre-designed and partially improvised based on the interviewees' replies. This approach balanced consistency and the exploration of interesting points (Whiting, 2008). Verbal and non-verbal techniques were applied during the interviews, including repeating and verbally agreeing with interviewees' points to show understanding and pausing at times to encourage improvisation (Whiting, 2008).

These interviews were transcribed and subjected to content analysis. The transcripts are stored on both the university's online storage and an external hard disk. To ensure the accuracy of the transcription and the validity of the coding, the author retained follow-up communications with interviewees in case of vague responses or questions. The description notes of these two participant observations were written up.

5.3.3.2 Observation

To enhance our understanding of the roles and practices of OMO and the dynamics between management and professionals within the case setting, the present study employed observation as a data collection approach, as recommended by Smit and Onwuegbuzie (2018).

The study employed four non-participant observations to meticulously examine the routine practices of OMO regarding performance measurement and management, as well as the dynamics of interaction between management and professionals amid the PMM reforms. Within this framework, the researcher was present at various meetings, adopting a role strictly limited to observation. This approach ensured an unobtrusive collection of data, focusing on events, interactions, and behaviors, without the researcher's direct participation in the activities.

Prior to the commencement of these observations, ethical protocols were diligently followed, securing permissions and informed consent from all participants involved, thereby safeguarding their rights and confidentiality. All observations were conducted within the premises of the case hospital, providing a consistent environmental context for all observations.

A semi-structured observation technique was utilized, offering a balance between an open-ended approach and a guided one based on specific criteria relevant to the research questions. Throughout these sessions, the observer took detailed notes, capturing not only the factual content of discussions but also the nuanced behaviors and emotional responses of the participants.

The observations encompassed a diverse set of meetings, detailed in Table 5.2, including:

1. An OMO Meeting situated in the Finance Meeting Room, focusing on the reform performance discussions.
2. A part of OMO's daily operations, highlighting the use of new performance measurement software.
3. An informal, yet crucial, discussion for nurse performance measurement in TPH's Canteen, featuring a dialogue between the nurse leader and the chief accountant.
4. A monthly operation management meeting conducted in the department meeting room, covering the communication on the monthly performance analysis of Hepatobiliary and Pancreatic Surgery department.

A critical aspect of these observations was the careful examination of participants' attitudes and emotional responses during interactions. Special attention was paid to these subtle cues, providing deeper insight into the group dynamics and individual sentiments regarding the PMM reforms. It provides the direct data to reflect the attitudes of internal actors toward the reform.

In the data analysis stage of this research, the notes compiled during these observational sessions were carefully processed and coded, aligning with the qualitative data analysis methods employed in this study. This coding was not conducted in isolation but was integrated with the analysis of interview transcripts to ensure a comprehensive and multi-dimensional understanding of the data.

5.3.3.3 Focus groups meeting

A focus group is a qualitative research strategy where a demographically aligned group engages in guided discussions on a targeted subject, commonly utilised across disciplines like marketing and social sciences. This method hinges on the dynamic exchange within the group, highlighting the diversity in experiences and opinions, thereby offering nuanced insights into the topic under exploration (Hennink, 2014).

In this study, the methodology employed focus group discussions to collect detailed insights regarding participants' perspectives on the PMM reform. The initial phase of this approach involved the researcher crafting a specialised discussion guide, anchored by the central research questions, to steer conversations towards the participants' experiential feedback on the implemented changes. Participant selection was strategically conducted, with individuals grouped based on their respective medical departments. The emphasis was placed on including departments identified as having complex core operations (Table 5.2). This department-based focus group was intended to foster a holistic and candid discourse by following their familiar environment, thereby enhancing the depth and breadth of the data collected.

Prior to convening the focus groups, ethical research protocols were diligently followed, with all participants providing informed consent after a thorough briefing on the study's objectives, their role, and their rights within the research. During the meetings, the researcher assumed a dual role, functioning as both the moderator and notetaker. The researcher ensured that each participant had the opportunity to contribute, thereby capturing a multiplicity of viewpoints while concurrently steering the conversation in line with the established discussion guide. Meanwhile, the researcher diligently documented detailed accounts of the discussions, extending beyond verbal expressions to include nuanced observations of participants' body language and emotional cues, thereby ensuring a multifaceted capture of the interactive dynamics. The notes were subsequently shared with the participants. This step was undertaken to affirm the accuracy of the representations, ensuring that the documented discussions faithfully reflected each participant's contributions and perspectives during the meetings.

During the data analysis phase of this study, the records gathered from the focus group sessions underwent a meticulous coding process consistent with the evaluation of interview transcripts and

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observation notes, guaranteeing an in-depth and multifaceted interpretation of the data.

Table 5.1.Interviewee information list

NO. OF INTERVIEWEE	GROUP	INTERVIEWEE	DEPARTMENT	TIME FRAME	NUMBER OF INTERVIEWS	INTERVIEW DATE	NO. OF INTERVIEW
1	External group	The leader of the local health department	Local health department	60 minutes + 30 minutes	2	10/07/2019 (online interview) 31/08/2021	1 2
2	Internal TMT	Hospital director	Top Management Team	45 minutes	1	20/08/2021	3
3		Chief accountant	Top Management Team	60 minutes + 90 minutes + 90 minutes	3	11/07/2019 (online interview) 01/09/2020 (online interview) 20/08/2021	4 5 6
4	Internal functional departments	Leader of OMS	Operational Management Section	45 minutes	1	12/07/2021	7
5		OMS member A	Operational Management Section	45 minutes	1	10/09/2020 (online interview)	8
6		OMS member B	Operational Management Section	60 minutes	1	19/09/2020 (online interview)	9
7		Leader of Financial Section	Financial Section	45 minutes	1	07/11/2020 (online interview)	10

8	Leader of Human Resource Department	Human Resource Department	30 minutes	1	20/08/2021	11
Internal medical departments						
9	Director A	Department of Obstetrics	60 minutes	1	13/08/2021	12
10	Head Nurse A	Department of Obstetrics	60 minutes	1	13/08/2021	13
11	Director B	Department of Emergency	60 minutes	1	13/08/2021	14
12	Head Nurse B	Department of Emergency	45 minutes	1	13/08/2021	15
13	Director C	Hepatobiliary and Pancreatic Surgery	60 minutes	1	15/08/2021	16
14	Head Nurse C	Hepatobiliary and Pancreatic Surgery	45 minutes	1	15/08/2021	17
15	Director D	Department of Respiration	90 minutes	1	15/08/2021	18
16	Head Nurse D	Department of Respiration	45 minutes	1	15/08/2021	19
17	Director E	Psychiatry Department	60 minutes	1	16/08/2021	20
18	Head Nurse E	Psychiatry Department	60 minutes	1	16/08/2021	21
19	Clinician A	Psychiatry Department	60 minutes	1	10/06/2019 (online interview)	22

20	Director F	Neurology Department	45 minutes	1	16/08/2021	23
21	Director G	Department of Neurosurgery	90 minutes	1	17/08/2021	24
22	Head Nurse G	Department of Neurosurgery	45 minutes	1	17/08/2021	25
23	Director H	Department of Cardiothoracic Surgery	45 minutes	1	18/08/2021	26
24	Head Nurse H	Department of Cardiothoracic Surgery	45 minutes	1	18/08/2021	27
25	Director I	Department of Urology	45 minutes	1	18/08/2021	28
26	Head Nurse I	Department of Urology	45 minutes	1	18/08/2021	29
27	Director J	Department of Ophthalmology	30 minutes	1	20/08/2021	30
28	Leader of Nurse Section	Nurse section	60 minutes	1	20/08/2021	31

Table 5.2. Other data collection methods employed

NO. OF DATA COLLECTION	DATA COLLECTION	SOURCES/ACTORS	DEPARTMENTS	TIME FRAME	LEVEL OF ANALYSIS	CONTENTS	LOCATION	METHOD
	Observation							
1		OMS members	OMO	19/09/2021	Intra-organisational level	OMS meeting	Finance meeting room	Over a span of two hours, observations were conducted, encompassing the pre-meeting preparations, the meeting itself, and the subsequent discussions that followed.
2		OMS members	OMO	19/09/2021	Intra-organisational level	The daily operations of OMS performance measurement software	OMO	Observations were conducted over a span of four hours, within the morning segment of their operational hours
3		The head of nurse section & chief accountant	Nurse Section & TMT	20/08/2021	Intra-organisational level	Meeting for nurse performance measurement	The tea area in the canteen of TPH	Over the course of one hour, observations were conducted on participants as they engaged in an informal discussion regarding the reform
4		The Department of Hepatobiliary and Pancreatic Surgery & OMS & chief accountant	Department of Hepatobiliary and Pancreatic Surgery & TMT	20/08/2021	Intra-organisational level	Monthly operation management meeting	Department meeting room	Observations were conducted over a span of two hours, covering the pre-meeting preparations, the meeting itself, and the subsequent discussions that followed.
	Focus group meeting							

(researcher as participant)							
1	Director of department, head nurse, clinicians, and nurses of the Department of Neurosurgery	Department of Neurosurgery	17/08/2021	Intra-organisational level	Discussions on the PMM reform	Department meeting room	Invite the participation of all medical professionals within this department to partake in this group discussion. Pose open-ended inquiries concerning the participants' perceptions of the reform. Gather feedbacks through verbal communication and structured surveys.
2	Director of department, head nurse, clinicians, and nurses of the Department of Cardiothoracic Surgery & Department of Urology	Department of Cardiothoracic Surgery & Department of Urology	18/08/2021	Intra-organisational level	Discussions on the PMM reform	Department meeting room	Invite the participation of all medical professionals within this department to partake in this group discussion. Pose open-ended inquiries concerning the participants' perceptions of the reform. Gather feedbacks through verbal communication and structured surveys.
Documentation							
	Chief accountant		18/11/2019	Organisational level	Internal documents & meeting minutes about the reform contents and process		
	Chief accountant		18/11/2019	Organisational level	Local public hospital PMM reform policy documents		

Chief accountant	23/07/2020	Organisational level	Academic resources about TPH's PMM reforms
Secondary data			
Hospital	Organisational-field level	Chinese first 100-ranking public hospitals' PMM reforms related documents.	
Management Institute, Fudan University	Organisational-field level	Healthcare related policy documents	
The central government	Organisational-field level	related newspaper and journals	
Social media	Organisational-field level	Related academic papers from China National Knowledge Infrastructure (CNKI)	
Academic research	Organisational-field level		
Interview			
Internal actors	Intra-organisational level	Designed questions about research topic	

5.3.4 Data Analysis

For elaborating on research findings, the data analysis process comprised three stages, as illustrated in Figure 5.1. In the first stage, open coding was applied to all the raw data, including interview transcripts, observation recordings, focus group meeting records, and documentation, as well as other secondary data. Line-by-line coding was employed, resulting in the identification of 547 open codes, which were then organised into 16 open code categories (see Figure 5.1).

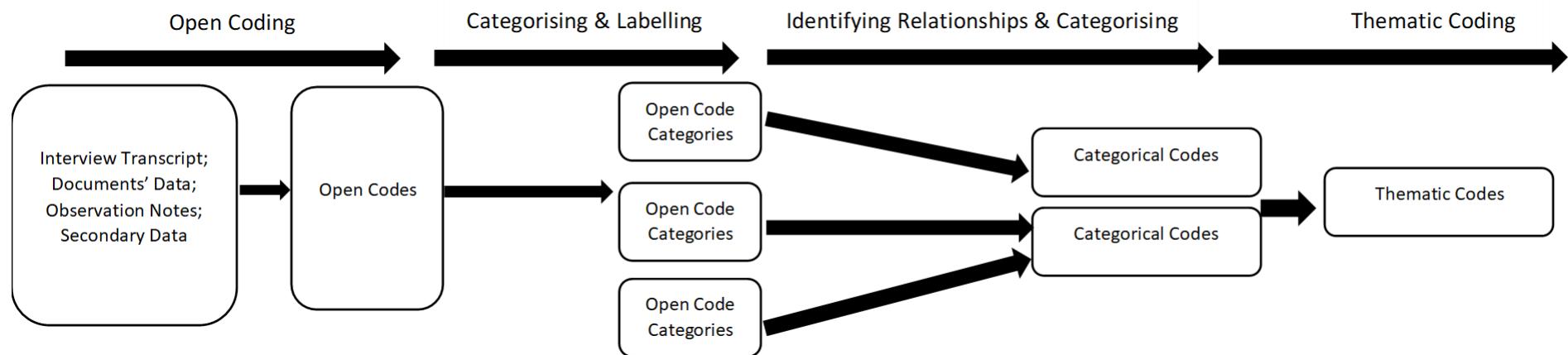
The second stage of data analysis involved sorting the initial codes into categories and subcategories. As described by (Saldaña, 2014), similar or comparable codes were clustered into groups for pattern construction and further analysis. After grouping these codes into categories, each group was assigned a label. Consequently, five categorical codes and their corresponding subcategorical codes were produced (see Figure 5.1). Figure 5.1 also illustrates the logical relationships between different categorical codes.

In the third stage, thematic coding was performed. A theme is defined as an outcome of coding, categorization, and analytical reflection (Saldaña, 2014). The construction of themes involved identifying repetitive or patterned relationships (interrelationships) between or within categorised codes. Exemplary expressions were then selected and assembled into coherent clusters, following Patton's (1990, p. 192) suggestion of organising them into "piles of things that go together." Furthermore, thematic connections based on causation and interaction were established (Saldaña, 2014). Ultimately, four themes were generated through the coding analysis (Figure 5.1). The findings of this thesis are presented based on these coding results.

As depicted in , the open coding stage yielded 18 open categories. The second coding stage produced 6 categorical codes, followed by the development of 3 thematic codes in the final stage.

- The first thematic code contributes to explaining the finding of how PMM transforms under the dynamics of institutional complexity within the Chinese public healthcare sector.
- The second thematic code demonstrates the finding regarding the initial responses of significant internal actors toward the preparation, design, and implementation of the PMM reform.
- The third thematic code elaborates on the finding that the PMM reform in TPH is met with varying responses at the intra-organisational level.

Figure 5.1. The coding process



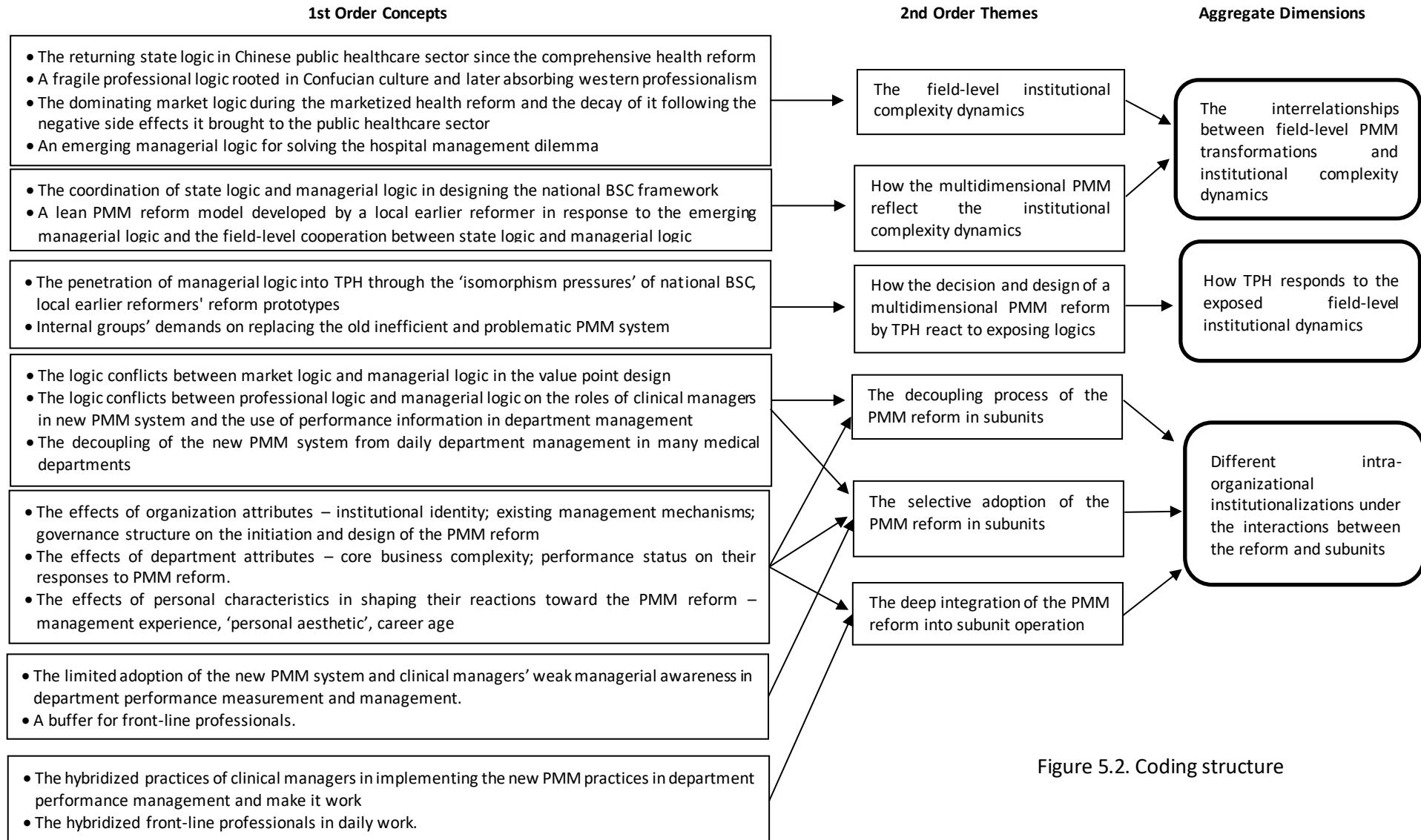


Figure 5.2. Coding structure

5.4 Ethical Consideration and Data Quality

5.4.1 Ethical consideration

A researcher based in the EU who collects personal data about a participant from any location globally must adhere to the standards and regulations set forth by the General Data Protection Regulation (GDPR) and the Data Protection Act 2018 (DPA). The DPA and GDPR outline six principles that researchers must comply with when processing personal data. All data must be processed lawfully, fairly, and transparently; be limited to the original purpose; be minimised (i.e., only collect necessary personal data); uphold accuracy; be removed if no longer necessary; and maintain confidentiality and integrity (Article 5 of the UK GDPR). This section demonstrates how the data collection and processing in this study comply with these standards.

Regarding lawful, fair, and transparent processing, this research has received approval from the Faculty Ethics Committee with ERGO ID: 60579. The five primary ethical forms have been completed and submitted online via www.ergo.soton.ac.uk, including the participant consent form, debriefing form, ethics application form, participant information sheet, and risk assessment form. Participant consent has been obtained for data collection, and information regarding the research topic, data collection, data usage, data storage, and potential data security risks has been provided for the participants to review. Sample selection is based on the research design and actual accessibility to the sample and participants, rather than the researcher's preference. Data collection strictly adheres to the contents set out in the ERGO application. Sample selection and data collection processes are detailed in Section 5.3.

This study employed linked anonymity, wherein complete anonymity could not be guaranteed, as participants could be identified through the information provided. To mitigate the risk of participant identification, the researcher did not disclose any identifying information (including real names and confidential information) to third parties. Furthermore, the data would be used solely for research purposes (the use of linked anonymity also minimises personal data usage without affecting data analysis). All unnecessary data would be identified and removed, and different codes would be used for participant coding.

To ensure the confidentiality and integrity of the collected data, multiple methods of data recording and storage are utilised, preventing unauthorised third-party access. Documents and interviews are recorded without any alterations. Given the risks of theft, damage, and loss of personal data and study results, the personal data and study results are stored in the research file store provided by the University of Southampton. Additionally, two backup copies of the data are prepared and stored

separately on a mobile hard drive and the researcher's personal computer. The consent forms and participant information sheets are securely stored in a locked filing cabinet.

In summary, this study's data collection adheres to GDPR standards and has been approved by ERGO. Although there are potential risks to participant confidentiality and data security, the research employs different participant codes and prevents third-party access to the data. Multiple data storage methods are used to ensure the integrity and security of the collected data. All data will be stored for a maximum of 10 years following the study's completion.

5.4.2 Quality of data and process

The final sample in the case study was selected through general purposive sampling and snowball sampling to obtain an accessible sample. No intentional selection was present during the sampling process. Consequently, the research conclusions are random and representative, devoid of manipulation.

In this study, data were collected using interviews, observations, and document analysis. Semi-structured and unstructured interviews were employed to minimise the interviewer's influence on the interviewees. In the semi-structured interviews, topics were utilised to maintain focus, while the researcher refrained from interrupting or asking questions with preconceived assumptions. During observations of social activities, the researcher remained silent until the end, conducting follow-up interviews afterward. This approach minimised the researcher's impact on the responses. Although participant observations were also employed, the researcher acted passively to reduce their influence.

A pilot study was conducted before data collection to gain a thorough understanding of the case's context, which formed a solid foundation for data interpretation. The contextual information will also be useful for others to compare contextual similarities and make better use of the conclusions. Furthermore, the data collected met the requirements of data triangulation, which comprises interviews, document collection, and observations. The data collection process spanned two years and covered the most relevant period, ensuring comprehensive and rich data for the case study.

Due to the effects of COVID-19, the data collection procedure deviated from the original plan, extending the process by two years. Initially, interviews were conducted online due to travel restrictions, but they transitioned to face-to-face interviews after the restrictions were lifted. Only a small portion of the interviews were affected by COVID-19, while document collection and subsequent observations remained unaffected.

The research method chosen for this study was based on the research questions. To analyse the unfolding of the reform and the interactions between various actors, a case-based study is the optimal approach for capturing the process and interactions. Additionally, a case-based qualitative method is most suitable for elucidating the contents of institutional logics within the context under investigation and examining actors' reactions embedded in different logics.

Finally, the coding process developed theoretical categories from descriptive ones, exploring the connections between different theoretical categories to generate findings and theoretical contributions. The entire coding process was guided by the theoretical framework developed in this thesis. Throughout the coding, all questions raised concerning the data were noted for repeated review, and interview memos were created for process and information verification.

5.4.3 Limitations of the research design

This study employs a single case study design, focusing on a solitary organisation, which inherently limits the generalizability of its findings. Although the insights derived from this specific context make valuable contributions to understanding the research topic, they may not be universally applicable or directly transferable to other organisations, locations, or populations.

Additionally, the study's use of a snowball sampling strategy may not result in a fully representative sample. This method depends on the researcher's existing contacts and participants' networks to identify further participants, potentially introducing selection bias.

Moreover, the potential influence of researcher bias on data collection and interpretation is a critical concern in this research, given its intrinsic subjectivity. The researcher's personal beliefs, values, and experiences might inadvertently shape the manner in which they approach the study, interact with participants, and interpret the collected data. This subjectivity could lead to unintended biases, ultimately impacting the study's findings, reliability, and validity.

Despite these limitations, it is essential to recognise the contributions this study offers to the field. The researcher acknowledges these constraints and considers employing strategies such as data triangulation and peer debriefing to minimise biases and enhance the study's credibility.

Chapter 6 The PMM transformation in Chinese public healthcare under institutional complexity dynamics

Diverse institutional logics compete for meaning, resources, and decision-making in the field, resulting in institutional complexity, as Greenwood et al. (2011) defined. In an issue field, different internal groups may have different institutional logics and induce change when new issues change the way that these groups relate to each other (Hoffman, 1999). Changes in the social-economic and political environment surrounding field-level institutional formations, according to Dillard et al. (2004), essentially enable institutional dynamics.

To address the first research question, this chapter investigates the ways in which macro-environmental changes have triggered institutional complexity dynamics at the field level, leading to the transformation of the PMM. Firstly, it presents findings on how the dynamics and confluence of various logics, including the state, professional, market, and managerial logics, have influenced the configuration of institutional arrangements in China's public healthcare sector within the socioeconomic and political changes of the country. Secondly, this chapter demonstrates how these institutional complexity dynamics within the field-level context have triggered the implementation of individual-based performance management reforms in many public hospitals, commonly known as "lean PMM," following a lean hospital management methodology.

6.1 The dynamic and interwoven influence of multiple logics: a health reform perspective

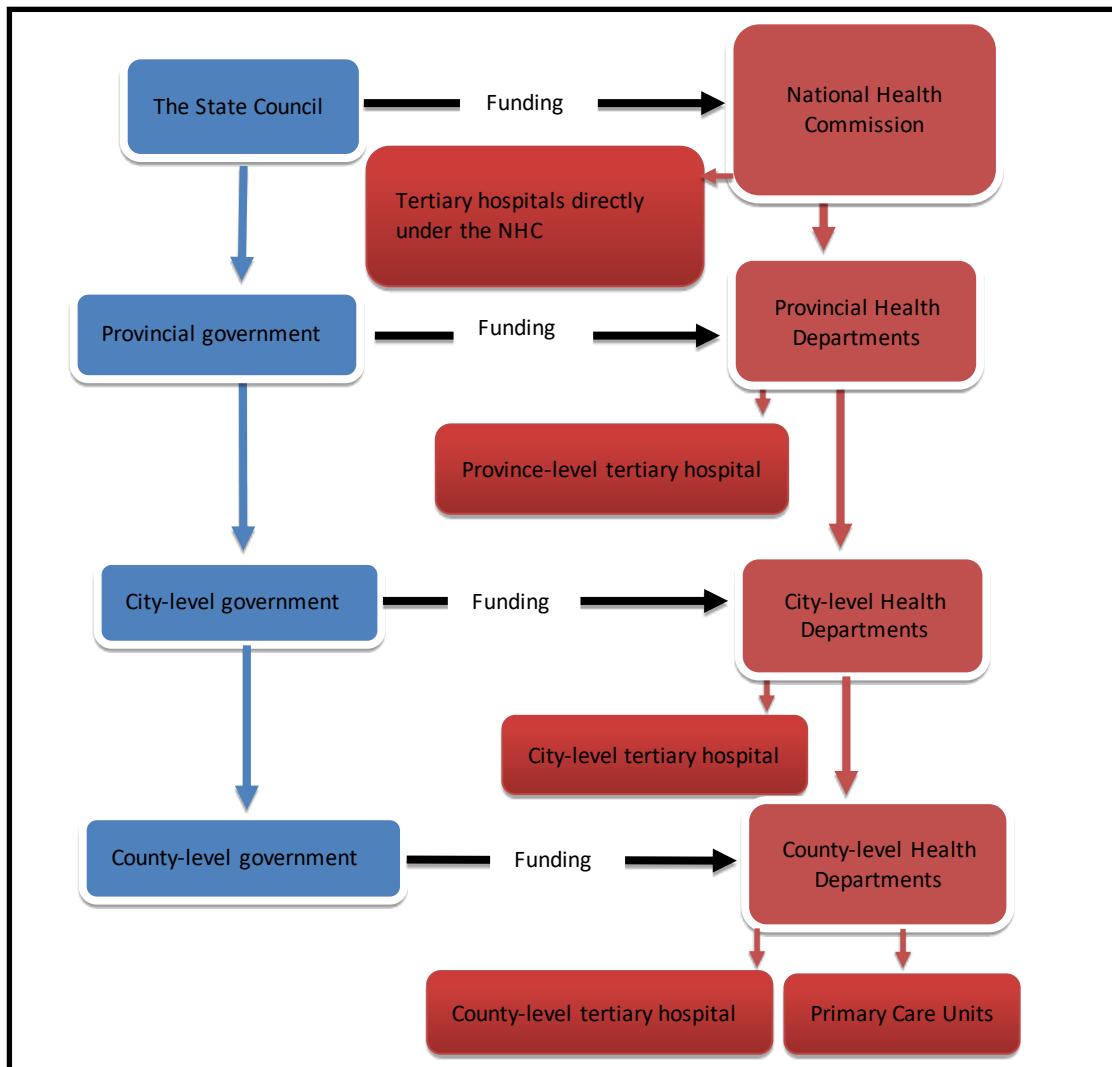
This sub-section illustrates the dynamics of institutional complexity in the Chinese public healthcare system from a health reform perspective. By examining the significant "window periods" of the Chinese public healthcare sector, namely the two public health reforms, this sub-section identifies the emergence and obsolescence of certain institutional logics as well as the evolving interrelationships among co-existing logics in shaping the goals and reform initiatives of these two Chinese public health reforms.

6.1.1 The dominance of state logic in the management of public hospitals

The Chinese public healthcare system's governance structure is largely centralised. The role of the state as a regulator, funder, and provider of public healthcare services was dominated prior to the marketization reform from 1979 to 2008 and has been reemphasized in the new comprehensive reform since 2009. The Chinese government has built a focus on both the quality and quantity of public medical services into the public health system by regulating the characteristics, costs, and standards of healthcare services. This initiative endowed the mission and established objectives for the Chinese public health sector, aiming to guarantee fair and inclusive availability and provision of medical services within the public healthcare system.

The Chinese healthcare administrative system provides the mechanisms for top-down regulation and governance. As Figure 6.1 shows, the current Chinese health administrative system contains four levels from top to bottom: the NHC and healthcare institutions at provincial, city, and county levels. Following the guidance and regulations from upper-level health authorities, health authorities at the provincial, city, and county levels are responsible for their respective jurisdictions. The central government regulates the legitimate roles of public hospitals in providing public medical services, with a basic focus on improving the quality and quantity of public medical service provision.

Figure 6.1. The governance structure of Chinese Public Healthcare System



In marketized health reform, the Chinese government has adopted a strategic attitude that temporarily maintains a certain level of distance from exerting influence over the specific operational and procedural aspects of the public hospital system. The government acted to maintain a central governing body with broad jurisdiction and substantial decision-making power, enabling public health institutions to exercise some discretion on their operation and finance and act as needed. However, the People's Republic of China has experienced substantial population growth since its establishment¹⁵. In the foreseeable future, the Chinese public healthcare system is poised to confront two predominant societal challenges: a vast populace requiring healthcare and an ageing demographic. Consequently, it is imperative for the Chinese government to augment its political involvement in public healthcare to address the pressing issues of unaffordable and

¹⁵ In 1982, the population crossed one billion and, in 2021, it rose to 1.41 billion. Due to rising life expectancy and falling birth rates, the WHO predicted that 28% of China's population is expected to be over 60 by 2040.

Chapter 6

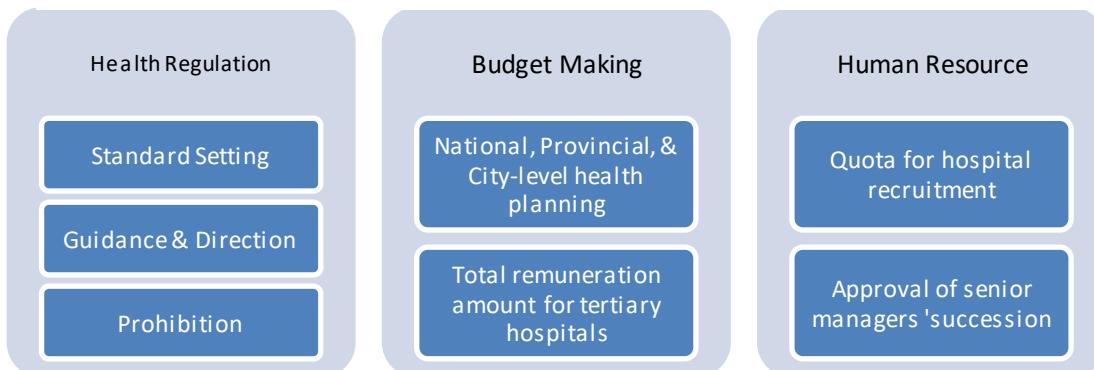
inaccessible medical services while simultaneously preparing for the impending ageing population. The efficacy and capacity of China's public healthcare system must be enhanced to ensure the provision of high-quality medical services.

Subsequently, the Chinese government chose to intensify its political engagement and guidance in public healthcare for reassuring the mission and goals of public health system on quality and quantity. The extensive healthcare reform initiated in China in 2009 has witnessed the re-emergence of the Chinese government's role in steering the public healthcare sector reform, specifically in health financing and policy formulation. As delineated in Section 3.2.3, the Chinese government has instituted a universal basic medical insurance scheme and promulgated a series of comprehensive policy documents to regulate the various aspects of healthcare reform. As the 2016 Notice stated:

The primary goal of developing Chinese public healthcare is to ensure that public health is equal and accessible to all citizens.

As Figure 6.2 shows, the power of the Chinese government has further permeated the Chinese public hospital system, impacting a variety of facets of hospital administration, such as budgeting, the management of human resources, and health regulation. Chinese public hospitals must carefully obey health regulations set by local governments and guidance from them or from upper-level governments in their decision-making and operations. The Opinion for Tertiary Hospitals' Performance Assessment was released by the State Council in 2019. It placed a premium on public welfare and emphasised medical quality, operational efficiency, long-term development, and patient satisfaction. The 2019 Opinion establishes a national BSC performance evaluation framework as the foundation for public hospitals to reform their performance measurement systems, with a focus on medical quality and efficiency. The national BSC system created a conduit for the Chinese government to track the performance of public hospitals.

Figure 6.2. The roles of the central government and local governments in the Chinese public healthcare system



In the meantime, local health departments administer hospital annual budgets, and the local health departments set the total remuneration amounts allocated to hospitals each accounting year based on hospital performance as measured by the national performance framework. It gives the government a stronger voice in influencing how public hospitals measure and manage their performance. Also, the appointment and compensation of senior managers of public hospitals must be approved by the local government. Professional recruitment and remuneration are also based on quotas and total remuneration levels set by the local health department for each public hospital. This means that the internal administration and performance of public hospitals are heavily influenced by the local government's regulations. According to an open interview with the director of WCH:

To some extent, our public hospital can be considered a government body. Political attention has a huge impact on our decisions and operations. Our budget, recruitment, remuneration structure, and significant reforms must be approved by our local health agency. Even though we are being restructured to become a separate legal entity, we are still managed and controlled by our upper health institutions in practically every way. It is an undeniable fact...

In the Chinese public health system, state logic has consistently served as the predominant governing mechanism over other institutional logics. Under the framework of this institutional logic, the valuation of medical services is determined by the Chinese government, which also exercises oversight over the operations of public hospitals and recognises the vital responsibilities played by these institutions. During the process of marketization, the government temporarily distanced itself from the tactical operations of the public hospital system. However, it has subsequently assumed an active role in guiding current hospital reforms. This is done with the strategic aim of ensuring both the quality and volume of medical services, ultimately striving for the mission of health equity and accessibility.

To summarise, the state logic within the Chinese public healthcare system is focused on ensuring the equitable and accessible provision of medical services to the population. In order to achieve this objective, the central government empowers public hospitals to execute their assigned functions and establishes the service standards they must adhere to. Prior to 1979, state logic predominated public hospital decision-making processes and entirely supported their operations. However, with the advent of market-oriented health reforms, the state logic temporarily maintains a certain level of distance from exerting influence over the specific operational and procedural aspects of the public hospital system, and the Chinese government required public hospitals to attain financial self-sufficiency. In light of the unintended ramifications stemming from the pervasive market-driven approach, state logic has re-emerged to guide reforms within the public hospital systems in the wake of the comprehensive health

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reform initiative.

6.1.2 The rise and the fall of the market logic

Since 1979, China has implemented market-oriented economic reforms and opened up its economy to the world. The market-driven health reform that took place from 1979 to 2008, which replaced the previous, centrally planned system and was driven by market forces, saw the Chinese government adopt a market-oriented approach. During this reform period, this involved granting public hospitals financial autonomy and allowing them to become self-sufficient. The release of some levels of financial autonomy for public hospitals was intended to spur marketization, but it also resulted in a reduction of the government's role in public healthcare management.

In the wake of economic reforms and the open-up policy in China, public hospitals began transitioning towards market-oriented financing. Consequently, medical income and drug revenue emerged as the primary sources of operational funds for these institutions. This shift engendered a profit-oriented mindset within hospital management. Concurrently, the government fostered the growth of private health institutions, the competition between the private and public healthcare sectors naturally appeared. In response to this evolving landscape, Chinese public hospitals adopted revenue-centric metrics to incentivize professionals to augment revenue streams. These institutions also exhibited a pronounced ambition for scale expansion, with the objective of securing a larger market share. A significant number of Chinese public hospitals selected performance indicators based on the profitability of health workers. These indicators, which were pivotal in determining performance-based remuneration, underscored the financial contributions of health employees to the hospital's revenue, primarily through charges for medical services and pharmaceuticals. Consequently, profit-driven awareness penetrated within the front-line professionals.

Thus, the actions motivated by financial gain, the desire to increase market presence, and the quest for competitiveness indicate the adoption of a market-oriented approach by public hospital managers. Simultaneously, as demonstrated in 6.1.1, for activating the market vitality of healthcare industry during the marketized health reform, the government deliberately maintains a certain level of distance from exerting influence over the specific operational and procedural aspects of the public hospital system. The state logic functioned as a high-level controller in determining the path of reform but refraining from direct involvement in the specific implementation of reforms inside the public hospital system. Hence, the public health system was swiftly dominated by market logic at both the tactical and practical levels under the marketized health reform.

Nevertheless, the infiltration of market principles among medical practitioners has led to a situation where they are motivated to excessively offer medical services and prescribe medications to

maximise their financial gains, resulting in a significant surge in patient healthcare costs. As the government news reported¹⁶:

Some public hospitals were profit-driven and disobeyed their "public" characteristics for a long time. The prevalence of overprescribing and overtreatment in public hospitals has severely damaged public trust.

The market-oriented health reform was defined as a failure, as the leader of the Policy and Regulation Section of the Chinese Health Department in 2005 said:

Marketisation is not the right direction for Chinese healthcare reform.

The market-driven, profit-oriented, and competitive strategies of market logic compelled Chinese public hospitals to establish their legitimacy by securing a favourable market position and generating profits. On the other hand, poor hospital management was aggravated in public hospitals when they were preoccupied with rapid growth while putting less emphasis on improving the quality and efficiency of their services. Li et al. (2014) concluded the Chinese public hospital extension until 2009 in *Chinese Health Economies*, an official journal of the National Health and Family Planning Commission:

The scale of many comprehensive hospitals manifests as excessively large and shows a tendency for further expansion.

As Dong et al. (2013, p. 36) further noted:

The expansion of public hospitals partially satisfied the growing medical needs of patients and alleviated the "kan bing nan" problem. In contrast, blind extension led to low resource utilisation and worsened unprofessional conduct in our public hospitals.

The head of the local health department where the case hospital is located admitted:

When we granted public hospitals some financial autonomy to encourage them to perform better and ease our fiscal burdens, they (public hospitals) went through a "wildwood" era. We noticed that they were overly focused on increasing income and expanding their scale. It went against our original aims to some extent.

The prior market-oriented approach to healthcare reform has exacerbated the issue of inaccessibility to public medical care by increasing healthcare costs and compromising the quality and efficiency of healthcare services. As a result, the Chinese government has recognised the

¹⁶ In 1982, the population crossed one billion and, in 2021, it rose to 1.41 billion. Due to rising life expectancy and falling birth rates, the WHO predicted that 28% of China's population is expected to be over 60 by 2040.

excessive power of market-based behaviours and reaffirmed the fundamental basis of healthcare strategy, which is to ensure that medical services are accessible and equitable for all citizens in accordance with state logic. To address the pressing issues of unaffordable and inaccessible medical services, the Chinese government has concluded that returning to its role in intervening in public healthcare developments at the tactical and practical levels to improve efficiency and quality is necessary. Consequently, the Chinese government has policy-abandoned market logic in favour of a comprehensive health reform that emphasises efficiency. As the 2016 Notice stated:

The primary goal of developing Chinese public healthcare is to ensure that public health is equal and accessible to all citizens.

Accordingly, the market logic, which is oriented towards maximising profit and increasing market share and confers legitimacy upon public hospitals based on their market positions, was popular during the market-oriented health reform from 1979 to 2008. The state logic left a space at the tactic level for introducing market logic aiming to stimulate the internal vitality of hospital production. Market logic emerged in Chinese public healthcare and gradually dominated the decision-making and management of the public hospital system. However, profit-seeking orientation led to excessive scale expansion and unprofessional behaviour during this time period, which caused serious social problems. Simultaneously, this study saw the erosion of profit-seeking behaviours in medical professionals and the damage that it did to their professional logic when facing an overly profit-stimulating PMM system under market logic. In light of the prevailing conditions, the Chinese government took decisive action to retreat from market-oriented reforms and reemphasize the importance of prioritising public welfare. Consequently, the following reforms aimed to restore state logic and constrain the influence of market logic.

6.1.3 The compatibility between the emerging managerial logic and state logic

With the comprehensive health reform aimed at moving away from market-oriented reforms and prioritising public social welfare, the importance of efficiency and effectiveness in providing healthcare services has been increasing. To address this issue, the Chinese government has advocated for a managerial paradigm that focuses on a lean hospital management approach to emphasise efficiency improvement in hospital management. Lean hospital management is characterised as a way of thinking that aims to maximise the utilisation of inputs to generate more outputs for customers, emphasising efficiency. The increasing emphasis on the managerial paradigm, underscored by a focus on efficiency enhancement and lean management, signifies the appearance of managerial logic within the Chinese public healthcare sector.

The lean concept has been adopted in healthcare production and management, with "lean" being used to prioritise patient comfort and increase efficiency while decreasing waste (Teich & Faddoul, 2013). In Chinese public healthcare, lean thinking is used in operational management by the operational management office and the chief accountants in costing, budgeting, and performance management to maximise hospital outputs by making decisions that best utilise personnel, facilities, and other resources. As the *Opinion 2021* revised:

Integrate the medical, education, and research business systems with the human, financial, and material resource systems; develop decision-making support systems for hospital operational management; and promote the scientific, standardised, and lean aspects of hospital operational management... in order to increase efficiency, save money, and reduce patient costs.

According to the Chinese government's predictions, implementing a lean management approach in hospitals and then planting a managerial logic is expected to improve the accessibility and service quality of public healthcare services, both of which are highly interested by state logic. As a result, lean management has been proposed as an integral component of the government's political agenda for the development of public hospitals. Since the implementation of comprehensive health reform, lean management has started to play a considerable role in the public healthcare sector under the promotion of political preferences. As the *Opinions 2015*¹⁷ began to propose:

Public hospitals are enterprise legal persons, and their operational autonomy should be given and encourage them to achieve a better science management.

For promoting public hospitals' adoption of lean management, the 2017 Policy issued by the Chinese government iterated the need for public hospitals to implement a modernised hospital management system to achieve lean and scientific management for the preservation of public welfare, activation of internal vitality, and sustainability. As it stated:

Basically, by 2020, public hospitals should construct their modern hospital management systems with complete governance, efficient operation, and scientific management...

In addition, the introduction of the chief accountant and the operational management office bred the internal gene of lean operational management in Chinese public hospitals. As required by the Chinese government in 2017, Chinese public hospitals must implement a chief accountant system that will be used to improve hospital operational and economic management. The chief accountant

¹⁷ The 2015 Guiding Opinions of the General Office of the State Council on the Pilot Program of Comprehensive Reform of Urban Public Hospitals - http://www.gov.cn/zhengce/content/2015-05/17/content_9776.htm.

should be a significant member of the top management team of public hospitals. According to the official document ¹⁸:

The chief accountant oversees assisting the hospital director in managing the hospital's economic and operational tasks.

Consequently, this study acknowledges that the Chinese government has actively promoted the integration of managerial awareness into the public hospital system, advocating for a lean management approach to embed a managerial paradigm within public hospitals.

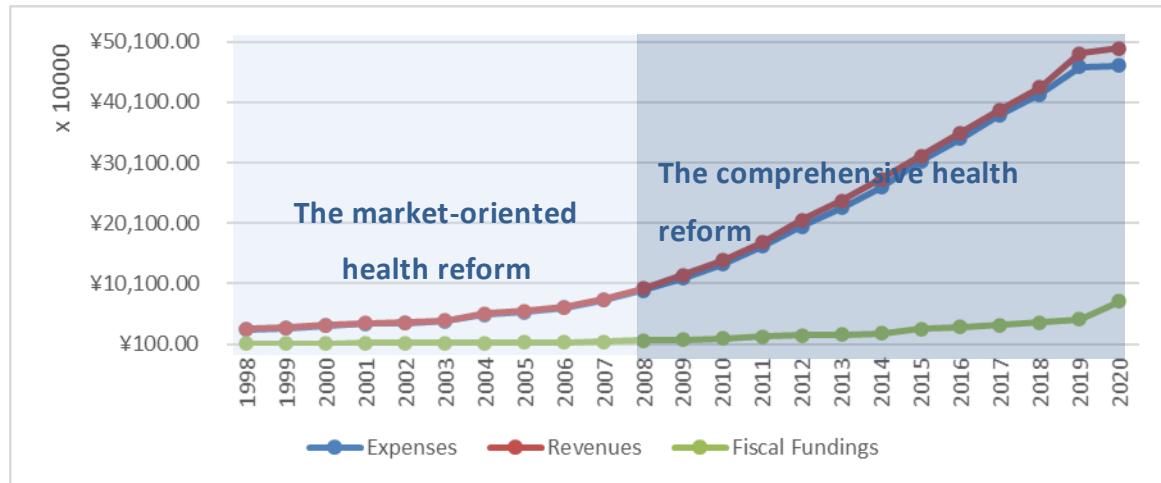
In addition to this welcome of emerging managerial logic by the Chinese government, attributed to its compatibility with state logic, many high-ranking public hospitals in China have embraced the adoption of managerial logic as a solution to their development and operational challenges. Externally, because of rising costs and growing competency, the industrial environment for Chinese public hospitals is becoming less favourable. The financial pressures on public hospital systems in China have risen, as shown in Figure 6.3. The cost of medical services and hospital operations has risen considerably in the health care system along with economic development, far outpacing increases in fiscal spending. Even in the comprehensive health reform that established the fundamental medical insurance system, the continuing requirements of the Chinese government to ensure that public hospitals remain accountable for their own profits and losses impose a considerable financial burden upon these institutions in the given context. According to the data provided by the Chinese government¹⁹, the loss rate for tertiary hospitals in 2017 was 24.85%. The Director of the Neurology Department at TPH has expressed his dissatisfaction with it, saying,

¹⁸ Opinions on accelerating the establishment of the chief accountant system in tertiary public hospitals – 2017. <http://www.nhc.gov.cn/caiwusi/s7785t/201706/13693b61f54c40e38727a822cfbe9092.shtml>

¹⁹ http://www.gov.cn/xinwen/2021-03/31/content_5597121.htm

The price of our medical services was designed and published in 2004. It's been eighteen years, and you wouldn't believe that we still have to apply it, even though our relevant costs rose a lot. No extra subsidy is given to help us.

Figure 6.3. The trends in average Chinese public hospital expenses, revenues, and fiscal funding (1998–2020)



Meanwhile, as 3.1.4 demonstrates, the Chinese government has made it easier for private investors to enter the healthcare market during the comprehensive health reform. It breathed new life into China's healthcare sector while simultaneously increasing competition for public hospitals. These have further weakened public hospitals' advantages over private hospitals in terms of market competence.

Due to the adoption of managerial logic, which emerged based on the heightened role of a lean management strategy and underlines the leadership roles of top management to enhance internal operational and product effectiveness, Chinese public hospitals are anticipated to break the operational vicious cycle characterised by poor performance, financial deficits, and reduced competitiveness. Consequently, numerous public hospitals have implemented the chief-accountant system and established operational management offices as the primary responsible centres for driving the adoption of lean management. According to the official reports on the national hospital performance ranking in 2019, around half of the Chinese public hospitals implemented the chief accountant system. Meanwhile, most of the Chinese first-100-ranking public hospitals established an operational management office to oversee hospital operations and assist the chief accountant's management work, according to the official documents. In the case-located city, the operational management office has also been significantly established in local public hospitals. As the head of the local health department stated:

We are pleased to see that all our tertiary hospitals have established operational management offices. More importantly, we see evidence of real work of the operational management offices in their department operation management, such as financial management, operational analysis, and performance measurement.

With the establishment of an operational management office, a lean management methodology that emphasises lean thinking in hospital management and aims at maximising production with certain inputs in public hospitals has been increasingly implemented. It urged top management teams in public hospitals to prioritise comprehensive lean management to improve efficiency. As per the hospital news released by one of China's top-ranked hospitals²⁰,

We achieved lean financial management in our hospital management by embedding the budget management, financial accounting, and cost accounting into an IT-based integrated financial management system, which reduced or removed human operations and improved the efficiency of financial management.

Thus, the emphasis on implementing lean management practises in public hospitals across China, as advocated both by the Chinese government in its political agenda and by the Chinese public hospitals' focus on reforms, serves as an indication of the growing influence of managerial logic in shaping the ongoing reform initiatives of the public healthcare system. This also highlights the compatibility of managerial logic with state logic. That is, in the Chinese public healthcare sector, driven by managerial logic, "lean management" is used as a catchphrase to anchor hospital strategy on efficiency enhancement. Public hospitals are expected to operate and be managed as corporations, with significant roles played by the internal management team. The state logic has welcomed the managerial logic that emphasises lean hospital management as a replacement for the market logic in guiding public hospital reform to break the vicious cycle of public hospital development, return them to a welfare-oriented position, and improve their management efficiency.

6.1.4 Fragile medical professionalism in Chinese public healthcare

Contrary to the early establishment of national medical professional associations in the United Kingdom and the United States, which took place in 1832 and 1847, respectively, Chinese medical professionals lacked a representative association to foster and enhance their professionalism, relying solely on pertinent government legislation. It was not until 2002 that the Chinese Medical Doctor Association (CDMA) was founded to represent and

²⁰ <https://www.chima.org.cn/Html/News/Articles/15801.html>

lead Chinese physicians, surgeons, medical researchers, and healthcare workers. Thus, the CDMA has only had two decades to guide and cultivate professionalism within the Chinese healthcare sector.

Before the CDMA was established, Confucian values served as the fundamental ethical guidance for medical professionals. Confucian culture emphasises "goodness" and "rites" of morality and ethics, which have also become key points in guiding Chinese medical professionals' ethics codes (Guo, 1995). To explain the professionalism principles that medical professionals should uphold, the phrase "Ren Xin" which translates as "be merciful," proposed by Mèngzǐ²¹ (372 – 289 BC) has also been applied by the ancient Chinese physicians, and 'Yi Zhě Rén Xin' has been developed as the core concept representing the medical professionalism; it means that "the doctor should have a merciful heart." Chinese physicians are not just medical professionals; in their practise of the Confucian virtues, they are a model of moral rectitude and virtuous behaviour. As Fan and Li (2004, p. 184) state:

Confucianism takes medicine as "the art of ren (virtue)." Ren is the fundamental human virtue that binds people together first in appropriate familial relations and then directs other social relations by the model of familial relations. In this regard, a Confucian physician is not an ordinary person. He is ideally a kind-parent-like master practicing the virtue of ren with special medical skills for pursuing the Confucian moral ideals...

Consequently, prior to the establishment of the CDMA, Chinese medical practitioners experienced restricted oversight with regard to professional standards. Their professional identities were profoundly influenced by Confucian cultural values, which emphasised "mercifulness" as a core ethical principle guiding their conduct. As the Chinese scholar Guo (1995) explained:

to attach great importance to the value of life; to do one's best to rescue the dying and to heal the wounded; to show concern to those who suffer from diseases; to practise medicine with honesty; to study medical skills painstakingly; to oppose a careless style of work; to comport oneself in a dignified manner; to respect local customs and to be polite; to treat patients, noble or humble, equally, and to respect the academic achievements of others, etc...

²¹ Mèngzǐ is a philosopher who is a key representative figure of Confucian culture during the Epoch of Warring States.

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As a result, the professional logic in Chinese public healthcare is founded on the value of "Yi Zhě Rén Xin" which originated in Confucian culture. Based on this, medical professionals in Confucian society connect their professionalism to their social reputation. Being "merciful" as a physician is fundamental to their decision-making.

However, due to the lack of a powerful professional association, the Chinese medical professional group failed to develop formal standards or a common understanding of their medical professionalism. With the establishment of the CDMA, the meaning of professionalism from the Western medicine system was adapted for developing the common understanding of professionalism and establishing professional identities in Chinese medical professional groups. As defined by the CDMA²²:

Professionalism is the basis of medicine's contract with society. It demands placing the interests of patients above those of the physician, setting and maintaining standards of competence and integrity, and providing expert advice to society on matters of health.

The adoption of Western professionalism assists Chinese medical professional groups in constructing their professional identity and relevant professional codes. The combination of the social standing conferred by Confucian culture and the professional identity bestowed by Western professionalism resulted in the enrichment of the content of professional logic and the strengthening of its power in guiding professionals.

Following that, the penetration of professionalism into Chinese professional groups and the ability to essentially guide their behaviour should have taken a long time of development and training. However, the market-oriented health reform, which brought marketization into the Chinese healthcare market, further undermined the development and power of professionalism by introducing a focus on economic interest. During this period, 'red packet'²³, 'over-prescription', and 'over-treatment' became the norms in medical practices as a letter to the People's Daily from an old patient²⁴ said:

The hospital I went to is one of the best public hospitals in China [...] However, I had to give expensive tips to the doctor secretly so the doctor would make more effort to cure my illness. It became the potential rule in many public hospitals...

²² http://www.cmdae.org/?page_id=25

²³ 'Red Packets are informal payments provided by patients and their families to doctors' – Yuan and Xu (2022, p. 2).

²⁴ <http://cpc.people.com.cn/n/2015/0527/c83083-27063632.html>

In conclusion, in the Chinese context, the key source of authorization for professional logic was commitment to Confucian values. Under Confucian values, Chinese professional logic also emphasises patient-centred behaviours, but they work as fundamental moral values (Guo, 1995) without the help of powerful professional associations to establish a detailed code of conduct. Until 2002, the establishment of the Chinese Medical Doctor Association (CDMA), a national medical association, initiated the development of professional standards and codes. Professional logic has begun its development with the absorption of Western professionalism. Yet, due to the late development of medical professionalism, professional logic in Chinese healthcare lacks the strong and uniform common sense guiding the behaviour of the medical professional groups and is fragile when faced with the conflict of economic interests under the dominating market logic.

Targeting the promotion of emerging managerial logic and the assurance of professional logic, the Chinese government further built a national BSC performance assessment system to achieve benchmarking management and to further promote and supervise public hospital lean management and quality control based on four dimensions (*medical quality, operational efficiency, satisfaction, and sustainable development*). As the official document disclosed by the National Health Commission reported:

Our national performance assessment and monitoring programme has completed the performance analysis of 2,413 tertiary hospitals after collecting the pertinent performance indicator data from tertiary hospital performance system and conducting a sample review.

Moreover, the performance ranking results of public hospitals will directly influence the appointment and dismissal of directors of tertiary hospitals, as well as their compensation. The ranking results of tertiary hospitals will be made public, which will have a further bearing on their industrial legitimacy. That is, the provincial and national rankings would be used by governments to monitor all tertiary hospitals' performance and make their findings public, which would have a direct impact on their reputations in the public healthcare industry and in society. Simultaneously, their performance ranking results will influence the Chinese government's policy preferences toward them, such as funding opportunities for science and education project development. As the chief accountant of TPH said:

The outcome is crucial to us. The national BSC assessment is similar to a "final exam" administered by our "teacher", the government. The "grades" we receive affect our hospital's standing in the healthcare industry and government's perceptions of us.

This exerts direct pressure and draws their attention to how to improve their comprehensive performance, including medical quality, operational efficiency, and patient satisfaction, providing a

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platform for the compatibility of state logic, managerial logic, and internal professional logic in hospital management.

Table 6.1 summarises and explains the various institutional logics observed in the Chinese public healthcare sector (state logic, market logic, professional logic, and managerial logic) in reference to the sources of legitimacy, source of authority, source of identity, and basis of strategy. The state logic in the Chinese public healthcare system prioritises the equitable and accessible delivery of medical services to the public. In this regard, the central government authorises public hospitals to fulfil their designated roles and determines the service values they are to provide. The professional logic in Chinese public healthcare has been rooted in Confucian culture and combined with Western professionalism. The sources of authority are the professional level determined by Western professionalism and the commitment to Confucian values—‘Yi Zhě Rén Xin’. Thus, seeking a good professional reputation and adhering to the virtue of "mercifulness" become the basis of professional strategy-making. Following the constrained influence of the market logic due to the retreat from the marketization reforms, a managerial logic emerged based on the heightened role of a lean management strategy and underlining the leadership roles of top management to enhance internal operational and product effectiveness. The changes in the strengths of different institutional logics and their interrelationships are depicted in Figure 6.4.

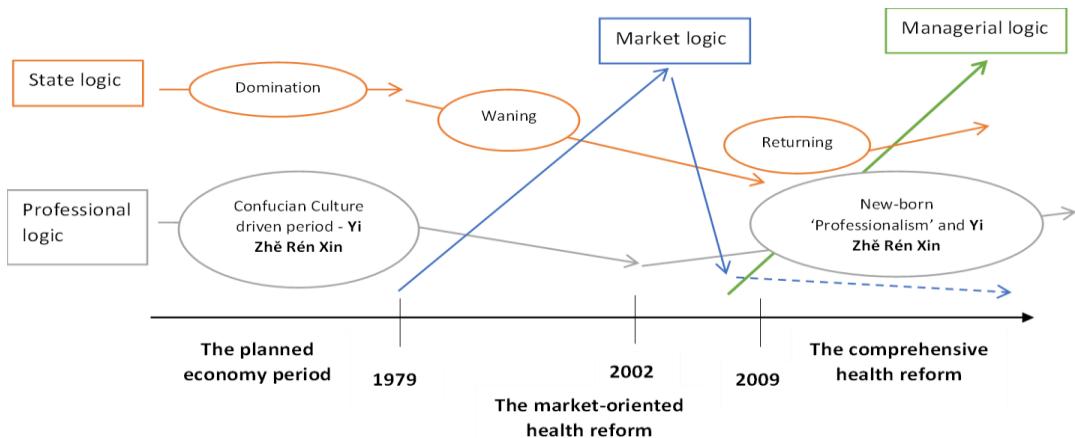


Figure 6.4. The dynamics of institutional complexity in Chinese public healthcare

Table 6.1.The elaboration of diverse institutional logics in the Chinese public healthcare background

	State Logic	Professional Logic	Market Logic	Managerial Logic
Source of Legitimacy	The value of services is significantly determined by the relevant government authority.	The value of services is determined by the professionalism level and the levels of physician developed under Confucian values (good physician, great physician, saint physician).	The value of services is determined by the market.	The value of services is determined by the industrial standards.
Source of authority	Authority comes from the central government.	Authority comes from the professional level under the Western professionalism system and commitment to Confucian value—“Yi Zhě Rén Xin”.	Authority comes from the market position.	Authority comes from the top management team.
Source of identity	The legitimated role regulated by the government.	The professional reputation based on their professionalism level under the Western professionalism system; and ego-satisfaction and social reputation under Confucian society.	The market reputation and market competitiveness.	The management roles conferred by the organisational structure.
Basis of strategy	Improving the quality and quantity of medical services. Ensuring the equity and accessibility of medical services delivery.	Developing professional skills and providing high-quality medical treatments to improve professional reputation. The Confucian ethics—be merciful.	Improving profits and market competitiveness.	Lean management and efficiency.

6.2 The lean PMM model: an individual-based approach

As explained above, in seeking to solve the management and development vicious cycle in public hospitals, the state logic shows positive compatibility with the emerging managerial logic in the Chinese public healthcare sector. Operational efficiency has been significantly emphasised in government policies for guiding public hospitals. As the *2017 Opinion* said:

To continuously improve medical service quality and achieve the combination of social effectiveness and operational efficiency...realize the modernisation of hospital management system...

In order to introduce a managerial logic and facilitate the implementation of lean hospital management since the Comprehensive Health Reform, a Lean PMM Reform Model has been disseminated and implemented in various high-ranking public hospitals. This model aims to achieve three levels of hospital-department-individual index measurement based on personalised indices and integrated multi-service system data resources. Concurrently, a National Balanced Scorecard (BSC) Performance Measurement Framework for evaluating and classifying public hospitals' multi-dimensional performance was launched in 2019.

The Lean PMM Reform Model, widely adopted by Chinese high-ranking public hospitals, reflects the multidimensionalization of performance measurement in Chinese public hospitals. It serves to respond to and integrate the dominant state logic, the emerging managerial logic, and the essential professional logic. In detail, the Lean PMM Reform Model introduces a tripartite measurement system tailored for various hospital professional groups, including clinicians, internal medicine doctors, and nurses, with a focus on output, input, and workload value, respectively. However, the index design for measuring output, input, and workload value takes into account factors such as professional skill levels, risk level, cost level, and strategic priority level.

Hence, the implementation of multidimensional performance objectives reflects the responses of the Chinese public hospital system to integrate the institutional requirements of an emerging managerial logic, a returning state logic, and an essential professional logic.

The *2009 Opinion*, which works as the fundamental policy document guiding the comprehensive health reform, proposed the trial hospital reform plan:

Promote the trial reform in public hospitals. Reform the hospital management system, operational mechanism, and supervising system...Improve service quality and efficiency...

It demonstrates the value placed on managerial logic by higher-level state logic in the modernization of hospital management. Under it, many high-ranking Chinese public hospitals have

embraced a PMM model that is looking to achieve efficient individual-based performance measurement and management based on three different performance measurement systems for the different medical professional groups: a monthly RBRVS-based PMS for surgical departments, a DRG-based PMS for internal medicine departments, and a workload-value-based PMS for nurse units.

This subsection utilises the Lean Performance Management Model (PMM) reform at a centrally located public hospital, West China Hospital (WCH), as an exemplar to elucidate the archetypal model of Lean PMM reform in the Chinese public hospital system. As the Chief Accountant of TPH indicated, the reform model implemented at WCH served as a source of inspiration for the PMM reforms at their local hospitals. Consequently, this study employs the PMM reform enacted at WCH as a basis for analysing the isomorphic PMM reform pressure exerted at the field level upon TPH. It expounds upon the field-level solutions addressing institutional complexity dynamics and the components of the isomorphic structure as they pertain to TPH.

6.2.1 A lean HRM reform in WCH—the system foundation for individual-based PMM

In WCH, to provide a high-efficiency human resource management system and to achieve better control over talent development, the old, government-guided, rigorous human resource verification system was replaced by a new, job-based human resource management system. This new human resource management system refined the detailed job responsibilities for each medical professional job. It developed a human resource management system for combining performance measurement and job management under dynamic, individual-level control. As Lin (2022) concludes: 1) implementing personnel classification management for both staffing and contracted employees; 2) developing a three-dimensional, serial, hierarchical, and dynamic personnel management system that encompasses five functional areas: medical treatment, medical science, medical education and research, administrative administration, and logistic service, with job management at its core; and 3) distinguishing job positions into 12 employment levels, in addition to the three basic levels of primary, medium, and senior.

Based on that, compensation for individuals is designed to be directly correlated with their job levels. Thus, WCH links the employment period assessment, job appointment, and level divisions of jobs closely to the performance measurement to adjust the job levels based on the performance measurement results and avoid a lifelong job level.

The lean HRM system serves as the basis for the implementation of the lean PMM reform, which aims to establish three distinct PMSs. These include an RBRVS-based PMS, a DRG-based PMS, and a workload-value PMS that caters to surgical departments, internal medicine, and nurse units,

respectively, in accordance with their unique service characteristics.

6.2.2 An RBRVS-based PMS in surgical departments: individual output and professional values

The RBRVS-based system was first adopted by the Centers for Medicare and Medicaid Services in the USA. It is based on the idea of output-focus that remuneration for medical services should adjust to reflect the costs of resources used to offer those services. Therefore, it calculates the medical charges by using the conventional factors (relative value units (RVUs)) to reflect three parts (computed by the US Government Accountability Office in 2005): physicians' work (54%), practical expense (41%), and malpractice expense (5%). The performance pay for surgeons is computed by multiplying the combined cost of a service by a conversion factor and accounting for resource cost variations due to geography, as:

Surgeons' performance=

A lengthy designation of the relative value units of core medical items was made in WCH during the designation phase, which required the full participation of surgical departments to standardise the surgery name, meet pricing guidelines from national health insurance plans, and then match the classification of medical items in RBRVS. The design of the RVUs in the RBRVS-based PMS was primarily influenced by the professionals at WCH, who brought strong professional logic to the table. As the hospital director of WCH said in a conference:

We borrowed the detailed RVUs from the Taiwan and American healthcare systems and localised them. The standardisation of the surgery names engaged all surgeons, and it took us six months to create a database of 3803 standardised surgical names. However, there are 1000 items in our national insurance reimbursement program. Matching the names of our surgeries with the reimbursement items took us six months. Then we classified the surgery's insurance pricing into the RBRVS's calculation.

After finishing the design of RVUs and the construction of a RBRVS system, the performance pay allocation for clinicians is then calculated by considering the diverse coefficients of job levels and the seniority coefficients of individual professionals, as follows:

Individual Performance=

In accordance with the job-based Human Resource Management (HRM) system, the performance distribution of clinicians within the Resource-Based Relative Value Scale (RBRVS)-based PMS is predominantly individual-centric, accounting for 85%. A mere 15% of the performance

compensation is overseen and allocated by the surgical department for collaborative efforts that cannot be assessed individually.

6.2.3 A DRG-based PMS for internal medicine: resource input and disease severity

Unlike the surgical department, the internal medicine department has few surgeries involved but might have multiple medical cases involved for a single patient's prescription, related medical examinations, and necessary medical judgement provided by professionals. As a result, for the departments of internal medicine, WCH implemented a DRG-based PMS to reflect the resource consumption and employ disease severity in the case mix to reflect the professional skills involved. Patients will be categorised based on their diseases.

The DRGs are a medical payment system developed by the Yale School of Management with the definition of "a system for defining hospital products based on the characteristics of patients receiving similar sets of services has been developed" (Fetter & Freeman, 1985, p. 41). It also reflects how similar levels of hospital resources should be allocated for treating these diseases (Baker, 2002). Because individual patients receive varying amounts and types of services, the hospital can be viewed as a multiproduct firm with a product line that "is as extensive as the number of patients it serves" (Fetter et al., 1980, p. 1). The specific product provided to each patient is determined by the patient's condition as well as the treatment process he or she goes through during his or her stay. The proportions of the various types of cases treated by the hospital are its case mix. Then, the case mix index (CMI) of a DRG for a given time period is an indicator of the number of resources required to treat that particular disease process and includes all costs associated with that stay (Adams, 1996). The calculation of reimbursement for a DRG is as follows:

*The reimbursement of a DRG = CMI * hospital payment rate*

Prior to the implementation of a DRG payment system, the internal medicine departments of WCH were engaged in coding the "first page" of the medical report to correspond with the DRGs and completing the CMI calculation. Hence, medical professionals performed their roles significantly in the production of the CMI and applied professional logic to significantly shape the design of the DRG-based PMS. As the hospital director of WCH said in WCH's hospital magazine:

Since October 1st, 2010, all clinicians have been required to be familiar with the standards and contents of DRGs, as well as to code their first sheets of medical reports on their own.

The senior professionals in these departments also guided the calculation of CMI in the DRG system.

Based on the DRG system, the performance distribution of internal medicine in WCH is made up of

60% individual performance distribution and 40% departmental distribution (for teamwork performance that cannot be measured individually) as follows:

*Individual performance = relative weight * job coefficients + distribution of departmental performance*

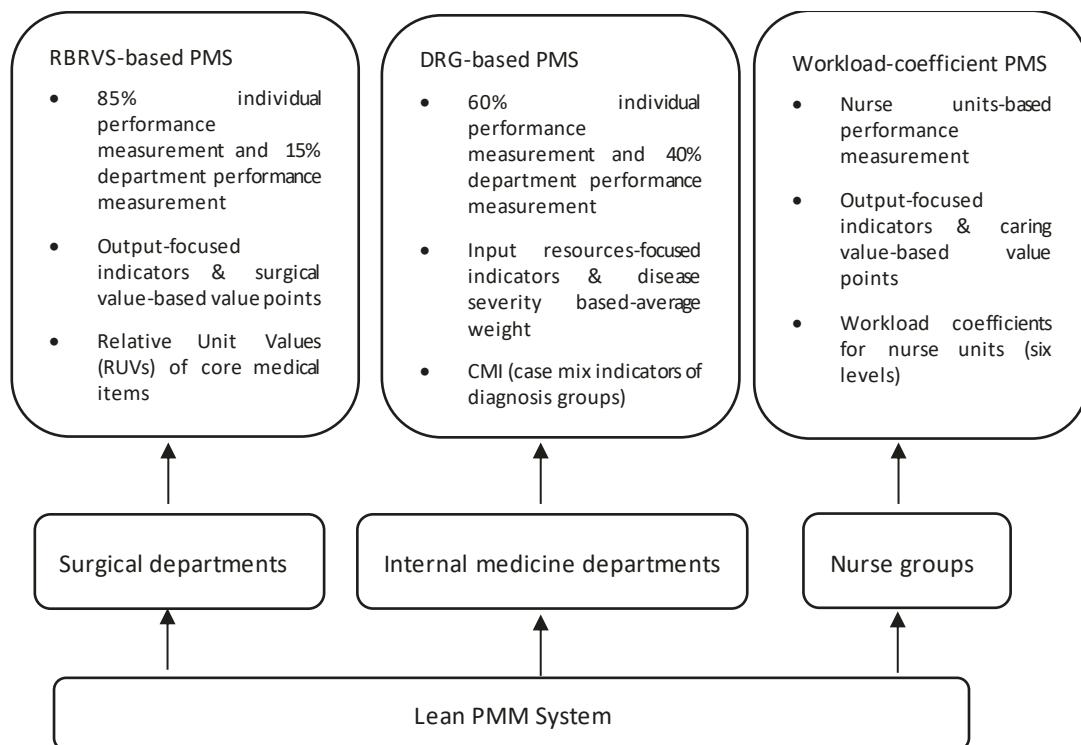
6.2.4 A workload-value PMS for nurse units—resource input and caring value

In addition to the RBRVS-based performance measurement for surgeons and the DRG-based performance measurement for physicians, the nurse department implemented a workload-value performance measurement system. This workload-value PMS absorbed the "resource consumption" concept and the "relative value units" concept of the DRG and RBRVS systems, respectively. This system classified the various nurse units into six tiers based on their workload intensities and work difficulties. Based on the quantity and complexity of the care they provide per day, senior nurses grade the workload intensities of their nurse units. When determining how well nurses performed, these six levels were assigned different values. Ideally, the individual nurse's basic value can then be calculated by multiplying the nurse's unit value by the professional job coefficient and the management job coefficient. Then the individual nurse performance calculation is as follows:

*Individual nurse performance pays= (the nurse unit value * professional job coefficient * management job coefficient) * hospital payment rate*

Due to the large amount of caring work that has to be conducted through teamwork and the practical difficulties in calculating each individual's performance, the performance measurement for nurse units is unit-based (see Figure 6.5 for information on these three PMSs).

Figure 6.5. The lean PMM reform in WCH



6.2.5 Balancing logics within the Lean PMM Framework

The three performance measurement tools employed by clinicians—internal medicine doctors and nurses—all integrate managerial rationale with professional value in their index design. In the RBRVS system for evaluating the performance of clinician groups, RVUs are crucial for achieving RBRVS-based performance calculations. These units enable the proportional conversion of local pricing levels, surgical risks and difficulties, and actual expenses into RVUs based on the core tasks completed by clinicians. This approach allows for the representation of both the value of professional surgical work and the output generated by clinicians. WCH and the local government perceive the RBRVS-based PMS as an ideal method for assessing clinicians' performance, as it addresses managerial considerations from a lean operational logic and professional values from a professional logic. As the head of the local health department stated:

In our view, the RBRVS approach more accurately captures the risks, difficulties, and volume of what physicians truly accomplish. Our physicians have the opportunity to express the challenges they face in their work, which influences their compensation. This is not possible with the current system.

The local government regards the DRG-based system for internal medicine as analogous to the use of RBRVS-based PMS in surgical departments, providing an efficient and precise

measurement of professionals' managerial-oriented performance and professional performance. Since the outputs of internal medicine are difficult to quantify, the focus is on resources consumed rather than outputs. Under the DRG-based PMM system, the case mix index (CMI) becomes the critical indicator reflecting the severity of patients' conditions. Consequently, it serves as a key performance indicator for evaluating physicians' performance concerning professional skills and resource consumption. The workload-value-based system for nurses involves grading nursing units with the active participation of senior nurses to assess both resource utilisation and exhibited care values. The hospital director of WCH anticipates that the design of the workload-value PMS will also achieve both managerial orientation and professional values, as stated in WCH's annual report:

We have developed a performance measurement system for nursing groups that considers their caring values and daily workload using different workload values. It is a more suitable and effective tool for comprehensively measuring their performance.

In addition to the integration of managerial and professional logic in the design of the PMS model, the job-based performance measurement framework provides a lean performance management process. As elaborated in Section 6.3.1.1, to prepare for the lean PMM reform, WCH established a clear, flexible, and dynamic performance assessment system and promotion procedures for its employees. Each job level is assigned a specific job coefficient when calculating performance allocation. Performance-based pay and promotion decisions rely on the results of these assessments to ensure a consistent flow of talent and strong motivation. The lean HRM reform ensured the feasibility of implementing the job-based PMM reform. With the exception of nursing units, which are difficult to evaluate individually due to the significant amount of invisible teamwork, the assessment of clinicians and internal medicine doctors primarily relies on their individual contributions and job responsibilities. As a result, performance outcomes are intrinsically linked to each professional, allowing for a comprehensive analysis and management of individual performance. This approach facilitates streamlined control over individual professionals, enhancing the efficiency of performance management. As the hospital director of WCH mentioned in their hospital newspaper:

In this way, we can monitor the output and daily productivity of individual professionals. It serves as the foundation for achieving our lean internal management.

In summary, following the new institutional arrangement developed under the prevailing state logic, the design of the lean PMM model incorporates a compatible combination of emerging managerial logic and professional logic, which has been encouraged by the Chinese government. The government has promoted lean hospital management to modernise hospital governance systems in response to the emergence and growing influence of managerial logic in Chinese

public hospitals, supported by the re-emerging state logic. As a significant aspect of lean hospital management, lean PMM reform has gained popularity in top-tier Chinese public hospitals. A job-based human resource management system offers an individual-based, lean human resource management approach. Building on this, the lean PMM model introduces an RBRVS system for surgical departments, a DRG system for internal medicine, and a workload-value system for nursing units, aiming to achieve individual-based performance measurement and management. As the leader of the local publicity department stated:

In WCH, we saw the success of the PMM reforms. It served as the local public hospitals' leader and encouraged PMM transformation in other hospitals. It discovered a path for transformation that has been shown to be effective. The RBRVS- and DRG-based PMM reforms then have started to become a trend as we expected.

In the case of the subject hospital of this study, TPH, the lean PMM transformation implemented by WCH served as the primary source of isomorphic pressures for PMM reform. Consequently, these isomorphic pressures led TPH management to inherently adopt WCH's PMM reform as the reform prototype. As TPH's chief accountant said:

We were not among the first to use this new system. It has already been adopted by many public hospitals in our province. WCH is the first hospital to use it. It is also our province's best hospital. WCH taught us a lot after we decided to pursue our reform. We absorbed and referred to WCH's system design and experience to a large extent.

6.3 Summary

Chapter 6 investigates the ways in which macro-environmental changes triggered field-level institutional complexity dynamics, leading to the transformation of the PMM at the field level.

This chapter first explained how the confluence of various logics, including state logic, professional logic, market logic, and managerial logic, influenced the configuration of institutional arrangements in China's public healthcare sector. It delved into the localised meanings of these logics within this context. Within the Chinese public healthcare sector, the state logic places emphasis on providing equitable and accessible medical services to the public. As a result, public hospitals are authorised by the central government to fulfil their designated roles and are subject to predetermined service values. The professional logic in Chinese public healthcare has its roots in Confucian culture and has assimilated Western professionalism. The personal expertise and ranking of Confucian doctors determine the legitimacy of this logic. Authority is derived from professional levels established by Western professionalism and adherence to Confucian values such as "Yi Zhě Rén Xin." The identity of healthcare professionals is based on their professional reputation, which is determined by their

professionalism and ego-satisfaction, as well as their social reputation in a Confucian society. Consequently, building a good professional reputation and following the virtue of "mercifulness" are the foundations for professionals' strategy-making. Furthermore, market logic, which is centred on maximising profit and increasing market share, bestows legitimacy on public hospitals based on their market positions.

The recent comprehensive health reform has introduced a managerial logic that emphasises corporate-style internal management. This new approach adopts a lean management strategy and places greater emphasis on improving internal operations and product effectiveness. This reform marked the return of state logic in guiding public hospital development in the field. In order to restrict the influence of market logic, a managerial logic based on private business principles of internal efficiency management has been encouraged by the state. This has enabled institutional compatibility between the two logics and facilitated the penetration of managerial logic within the public hospital environment. Efficiency and lean management have become the localised focus of managerial logic and have gradually gained prominence in the Chinese public healthcare sector. The Chinese government has also sought to balance the demands of the state, managers, and professionals by developing a national BSC performance assessment system aimed at promoting benchmarking performance management practices. This system has been integrated into the annual multidimensional performance measurement systems utilised by most public hospitals, bringing attention to non-financial aspects and suggesting measurements of hospital performance based on patient, professional, and management perspectives.

Second, this chapter demonstrates how these institutional complexity dynamics within the field-level context have then triggered the implementation of individual-based performance management reforms in many public hospitals, commonly known as "lean PMM," following a lean hospital management methodology. The lean PMM model has been designed to incorporate the fundamental focus of emerging managerial and professional logic, which prioritises work efficiency and professional value when calculating the value of service items. These institutional complexity dynamics within the field-level context have triggered the implementation of individual-based performance management reforms in many public hospitals, commonly known as "lean PMM," following a lean hospital management methodology.

Chapter 7 TPH's Exposure to Dynamic Institutional Complexity: An Integrated PMM Reform Design

Chapter 7 examines the design of a multi-dimensional performance measurement system (PMS) in TPH. The reform, started in 2018, was carried out due to the emergence of isomorphism pressures from the powerful influence of state logic on local institutional arrangements, and the penetration of managerial logic within TPH's upper management.

This chapter starts with an introduction to TPH's governance structure and the development of the PMM prior to the reform, followed by the triggers of the reform and the main features of the new PMS.

7.1 TPH Governance Structure

The TPH is a tertiary hospital that serves the provincial mental health centre and is one of the top three public hospitals in the city. The TPH operates under a centralised leadership structure, with the hospital director holding the most authoritative power within the top management team, as shown in Figure 7.1. Vice directors and the chief accountant are involved in decision-making based on the management regions they oversee. The financial affairs and internal operations of TPH are under the purview of the chief accountant, who is responsible for their management. While the hospital director and top management team have centralised decision-making authority, the lower-level design is horizontal, with independent responsibilities assigned to each department and no mutual subordination relationship.

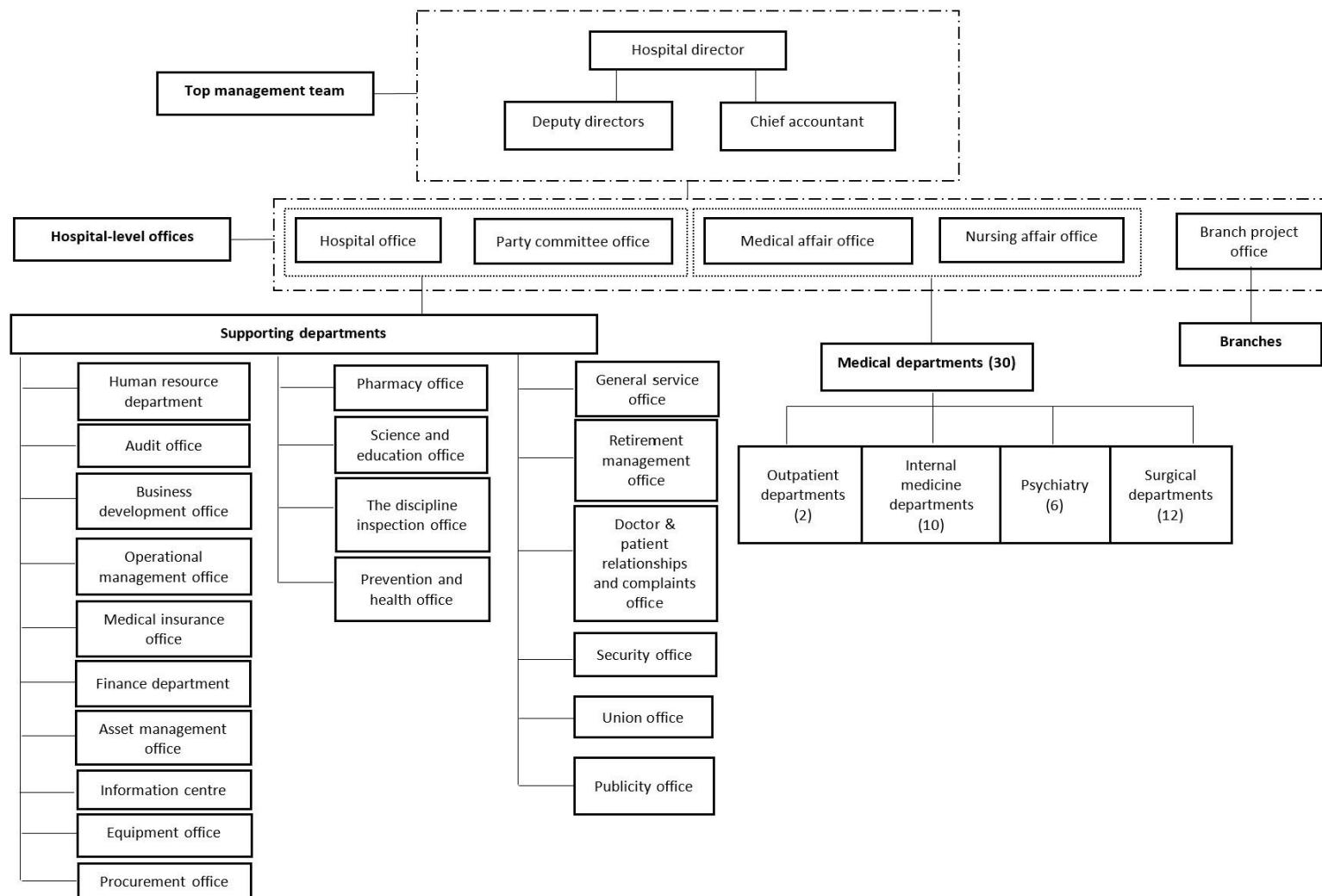
The principal functional units comprise the medical departments, totalling 30 in number, encompassing outpatient care (2 departments), internal medicine (10 departments), psychiatry (6 departments), and surgical services (12 departments). The supporting departments include hospital-level departments, management support departments, professional development support departments, and other service departments. The hospital-level departments supervise daily operations, with the Medical Affair Office and Nurse Affair Office responsible for managing physicians and nurses, respectively. Management support departments realise daily hospital management, with the Operational Management Office (OMO) responsible for PMM. Professional development support departments manage internal professional development, while other service

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departments handle general matters like retired employee services and monitoring the doctor-patient relationship.

The hierarchical structure of TPH determined the main responsibility of the top management for the decision-making process related to the reform. Their response to external institutional pressures led to the formulation of a plan for the implementation of a multi-dimensional PMM reform at TPH.

Figure 7.1. The organisational structure of TPH (source from the official document of TPH)



7.2 PMM practices at TPH prior to the reform

As demonstrated in Figure 7.2, during the period of planned healthcare, public hospitals were sustained through governmental fiscal outlays. The Chinese state's provision of substantial funding to the hospital made providing regulated medical services the primary focus for the hospital director. The Chinese government's support had a considerable impact on their external legitimacy and access to resources. During this time, the local government provided remuneration for internal medical personnel based on a quota pay system that established the salary for different ranks of professionals. Thus, there had no performance evaluation been implemented in TPH and medical professionals provided basic medical services to patients following government's requirements, getting a planned reimbursement. This underscores the prevailing influence of state logic over TPH during that time.

The marketized reform since 1979 then has shifted the funding structure of public hospitals from full government subsidisation to near self-sufficiency. The TPH has been obliged to embrace a market-oriented mentality emphasising profits in order to guarantee its own survival. In this period, the principal operational objectives of TPH were to optimise its income. As the hospital director said:

Given our political climate now, it would be best to avoid making any definitive statements about our motivations during that period. However, in retrospect, it is evident that our decisions were largely driven by a desire to increase our profits.

The discourse of the hospital director epitomizes the assimilation of market logic into their cognizance of hospital management and operation during that period. In practices, from the early 1980s to the 1990s, TPH broadened its scope of services from a mental health facility to a general hospital, including internal medicine, surgery, respiratory therapy, and neurology departments. To reflect the varying workloads of the different departments, TPH began to utilise a "bonus" system as an initial performance measurement for the brain-related departments, such as neurology and psychiatry, which were the core units of TPH's medical service provision and were characterised by a higher intensity, workload, and risk than other clinician departments. To calculate their bonuses, the departmental revenues were employed to signify their workload, and the bonus ratios for departments were based on the numbers of employees and the professional titles of employees (the government regulated the salary level for different titles of health professionals). The bonus for an individual doctor or nurse was then computed as the general department revenue minus estimated department costs, multiplied by the department bonus ratio, and divided by the number of doctors or nurses in the department; the bonuses for doctors and nurses were the same.

The bonus payment system was employed by TPH for an extended period. There was not a distinct performance management system apart from this straightforward "revenue minus expenses" performance evaluation model, and the government had no precise regulations regarding the measurement and management of hospital performance. The whole performance management process was focused on attaining market legitimacy (profits) bestowed by market logic. As the chief accountant said:

At the time, we were lacking a reliable performance measurement system and an effective performance management process. The hospital had a limited understanding of performance management, so we mainly focused on how to increase the departmental income and gave bonuses for successful attainment. Additionally, there was no official documentation from the government outlining the correct procedure.

In 2001, TPH underwent a significant organisational restructuring, which included the refinement of its medical departments. To better measure costs and accurately account for personnel costs, TPH implemented full costing in its "revenue minus expenses" system to include administrative costs, depreciation of intangible assets, utility bills, and other related expenses.

To conclude, prior to the PMM reform, TPH's performance measurement system transitioned from a state-mandated quota system to a market-oriented, revenue-oriented financial performance measurement system. In the previous chapter, we examined the institutional logics historically performed in Chinese public hospital system in its entirety. Similarly, in TPH, prior to the marketization phase, the state logic predominantly governed the performance paradigm in TPH. However, during the marketized reforms, there was a discernible shift, allowing room for market logic to influence the tactics and practices of TPH's performance measurement and management. TPH management devised internal systems to incentivize employees to prioritize revenue generation.

7.3 Triggers of the PMM Reform in TPH

The PMM reform in TPH is triggered by local political forces and the pervasive discourse surrounding lean hospital management in the Chinese public hospital system.

7.3.1 The government policy pressure for PMM reforming

This section explains the resurgence of state logic in shaping the institutional arrangements of TPH, considering the government's comprehensive policies and regulations pertaining to the regulation and guidance of public healthcare development. It indicates how overarching state logic facilitates the penetration of managerial logic at the tactical and operational levels in the transformation of

the public hospital system. Both the central and local governments issued detailed policy documents to apply step-by-step pressure on TPH to adopt a multi-dimensional performance measurement system.

As a centre-level hospital in the local public hospital system, TPH has been the first to face political pressure from the local government. As stipulated in the policy document, TPH, along with the first three public hospitals in the local city, was mandated to serve as a reform pilot for the individual-based and multidimensional performance measurement and management reforms that were outlined. According to the director of the local health department,

TPH is the most significant mental health centre in the province. It provides excellent mental treatment and conducts cutting-edge mental research. It should also be at the forefront of hospital management reform.

Given TPH's prominent institutional position at the local level, it was inevitably the primary site to confront the intensified state intervention in its PMM reform. Moreover, it served as a testing ground by local government for the integration of managerial logic into reform tactics and practices.

Figure 7.2. The policy developments on reforming public hospitals' PMM

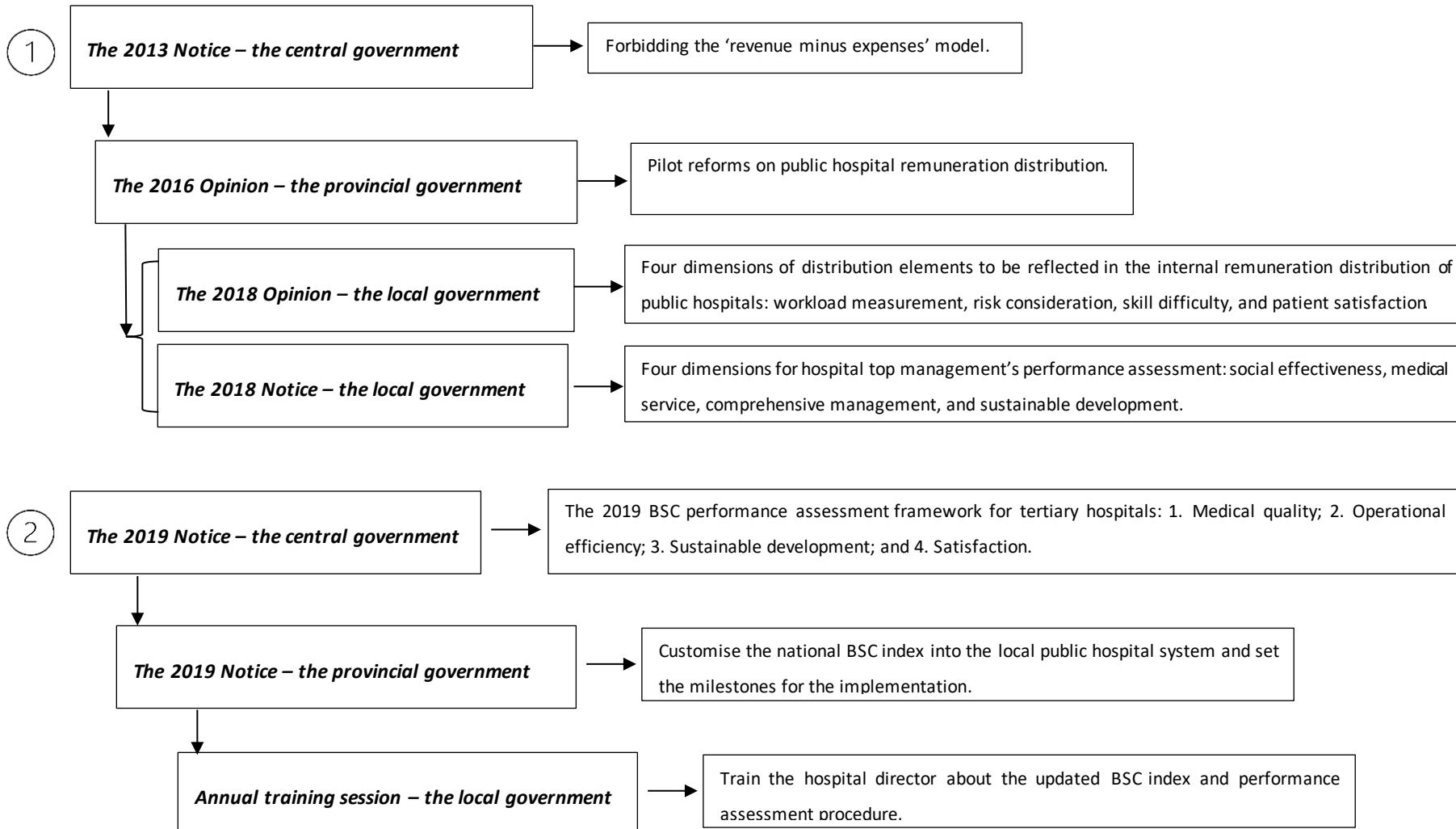


Figure 7.2 above elucidates the local policy contents that engender awareness of the PMM reform among TPH and how they direct the reform trajectory for TPH.

The primary objective of both the central and local governments in promoting performance-related reforms is to enhance the quality of healthcare services by severing the connection between performance incentives and hospital revenues. It indicates the overarching effects of state logic on initiating the PMM reform in TPH. As Figure 7.2 part ① explains, the *2013 Notice*²⁵ issued by the central government stipulated a prohibition on the "revenue minus expense" model in hospital internal remuneration distribution. Subsequently, the *2016 Opinion*²⁶ issued by the local province, which mandated the pilot reforms of public hospital remuneration distribution in four cities, including the city where TPH is located, said:

It is the policy of the public hospitals in these four cities to improve their monitoring of the hospital remuneration system reform ... in order to sever the direct link between drug charges and the performance of professionals ... to achieve effective motivation for them, thereby advancing the quality and level of medical services.

The local city government issued the *2018 Opinion*²⁷, recommending four dimensions of distribution elements to be taken into account in the internal remuneration distribution of public hospitals. This provides the earliest performance measurement design guidance for the local public hospital system, incorporating workload measurement, risk consideration, skill difficulty, and patient satisfaction. As explained in the *2018 Opinion*:

The internal remuneration distribution for medical professionals in public hospitals should be based on an evaluation of job responsibilities, work efficiency, comprehensive performance, and talent development, incorporating appropriate scientific performance measurement methods such as the coefficient method and a scoring system. Additional criteria for evaluation should include workload, risk coefficient, skill difficulty, and patient satisfaction...

The four dimensions outlined in this local policy document emphasize both management efficiency

²⁵ National Health and Family Planning Commission and State Administration of Traditional Chinese Medicine Notice on Issuing the Strengthening of Medical and Health Work Style Construction 'Nine Prohibitions' – 2013

<http://www.nhc.gov.cn/jcj/s7692/201312/09bd7a8be8f8420d91997a0041aa868e.shtml>

²⁶ Guiding Opinions on Carrying out Pilot Work on the Reform of the Salary System in Public Hospitals in Sichuan Province-2016 <https://www.sc.gov.cn/10462/10464/10797/2017/2/16/10414247.shtml>

²⁷ Guiding Opinions on the Internal Salary Distribution in Public Hospitals-2018 <https://www.sc.gov.cn/10462/10464/10465/10595/2019/1/16/199f3fdf4c824513a64dd33c0c249e36.shtml>

and quality. As elaborated in Chapter 7, a combination of external social complaints and internal management inefficiencies pushed the public hospital system, including TPH, into a dilemma. Consequently, beyond the political discourse rooted in state logic, the local government also urged TPH to adopt the managerial dimensions in performance measures, emphasizing the measurement of efficiency and workload. This also suggests the integration of managerial logic with state logic in the context of hospital reform practices, aimed at long-term hospital development.

Targeting the top management teams of public hospitals, the local government further issued *the 2018 Notice*²⁸ (*about hospital leadership performance evaluation*) announcing the new regulations on the performance measurement of the top management teams of these three pilot hospitals in order to guarantee the effectiveness of the top management roles in their PMM reforms. *The 2018 Notice outlined new regulations for the performance measurement of top management teams in the three pilot hospitals to ensure the efficacy of the PMM reforms.* The four performance monitoring dimensions specified in the *Notice*, mirroring the four performance dimensions outlined in *the 2018 Opinion (about internal salary distribution)*, included social effectiveness, medical service, comprehensive management, and sustainable development. The greater the performance result, the higher the remuneration allowed for top management by the local government. As *the 2018 Notice* said,

The measurement of top management performance shall be conducted in accordance with the national performance measurement requirements and the responsibilities set out therein, which shall include social effectiveness, medical service, comprehensive management, and sustainable development, for the purpose of reinforcing the urban hospital comprehensive reform and expediting the construction of a modernised hospital management system.

This policy emphasizes management efficiency and service quality as primary metrics for evaluating TPH managers by local government. Furthermore, it ensures that the performance incentives for senior managers are directly aligned with the four dimensions of performance outlined in *the 2018 Opinion*. This mandates that TPH managers consider these four dimensions in their performance management practices consistently. It also stimulated an awareness to the emerging managerial logic by TPH managers. As the hospital director said:

We started self-sufficient under marketised health reform, and this pushed us to become overly focused on revenue maximisation. Our performance measurements were mainly

²⁸*Urban Public Hospital Leadership Performance Evaluation Measures (Trial)-2018*
<http://www.my.gov.cn/mlmy/mygk/mynjian/mynj2020/25820761.html>

geared towards revenue, which is not in line with our current policies. As government expect, we should be more efficient, instead.

As Figure 7.2 part ② demonstrates, the central government provided a more comprehensive and standardised multidimensional performance assessment framework for tertiary hospitals in the *2019 Opinion*²⁹, which is referred to as the 2019 BSC performance measurement framework. Subsequently, the local province-level health department issued the *2019 Notice*³⁰, which further tailored the national index system to a provincial-level application for all local public hospitals and established the milestones for implementation:

By 2019, a preliminary performance evaluation index system will be established to initiate the performance evaluation process ... By 2020, a comprehensive tertiary hospital performance assessment system will be developed ... In 2021, the performance evaluation index will be expanded, and the scope of the evaluation will be gradually broadened

This provincial *2019 Notice* required that local tertiary hospitals immediately learn and adopt the 2019 BSC framework for performance measurement and operational management. Driven by it, in April 2019, the local city-level health department organised a training session (which was further scheduled as an annual training session) and invited all directors of local tertiary hospitals to participate to explain to them the contents and procedures of the National BSC PMS and the *2019 Notice* issued by the local provincial health department. As the meeting minutes for the 2019 session were recorded, the leader of the health department emphasised the significance of producing the supporting performance data for the national performance assessment.

At the training session organised by the local city-level health department in April 2019, all directors of local tertiary hospitals were invited to discuss the requirements of *the 2019 Provincial Notice*, which proposed the adoption of the National BSC PMS for performance measurement and operational management. The leader of the health department emphasised the importance of collecting the necessary performance data for the national performance assessment, as the meeting minutes recorded:

The 2019 Opinion must be taken seriously by every tertiary hospital. First, attach high importance and ensure rapid response; second, strengthen leadership and the people's responsibility; third, provide complete staff training and acknowledge policy; fourth, benchmark quickly and close loopholes ... and seventh, apply the results and promote

²⁹ *Opinions of the General Office of the State Council on Strengthening the Performance Appraisal Work of Tertiary Public Hospitals-2019* <http://wjw.my.gov.cn/tpxw/10813951.html>

³⁰ *Implementation Plan for Performance Evaluation in Level-Three Public Hospitals in Sichuan Province -2019* <https://www.sc.gov.cn/10462/c103046/2019/6/27/6efed3f35510465d96a129088e4a5e12.shtml>

developments.

At the training session, the National BSC PMS and the accompanying requirements specified by the local health department to the directors of local tertiary hospitals for its adoption were elucidated. Subsequently, in addition to *the 2018 Notice* issued by the local government that initially proposed four dimensions for assessment of top management performance, the central government's *2019 Notice* regulated the standards and procedures for multi-dimensional performance measurement and national benchmarking for tertiary hospitals. In light of this, the director and chief accountant of TPH requested that the Organization Management Department (OMO) design their annual Key Performance Indicator (KPI) system to align with the National BSC PMS promptly. As the leader of the OMO said:

Our top management required that all our annual KPIs must be designed to be comparable to the national BSC index.

Finally, the 2019 Notice directly guided TPH managers on how to design the detailed performance indexes for measuring the four dimensions. It prompted the introduction of TPH's yearly multi-dimensional KPI system and initiated the PMM reform endeavour at TPH. Local government health policies necessitated that TPH reform its PMM reform as a prototype reform for the local system and mandated it to construct a multi-dimensional one that accentuated medical quality, operational quality, and professional quality. As a result, state logic was instrumental in both initiating and offering comprehensive guidance for TPH's PMM reform. This underscored the importance of service quality within the non-financial dimensions of TPH's reform objectives. Moreover, state logic wished to foster managerial cognizance at both the tactical and operational stages of the TPH reform, with the overarching goal of ensuring the long-term sustainability of public hospitals in delivering high-quality services. It shows the cooperation between state logic and managerial logic.

To sum up, this study observes the resurgence of state logic in shaping the reform direction of TPH, considering the government's comprehensive policies and regulations pertaining to the regulation and guidance of public healthcare development. Both the central and local governments issued detailed policy documents to apply step-by-step pressure on TPH to adopt a multi-dimensional performance measurement system. In response to the provincial government's initiative to reform the hospital's internal distribution system, the local city was designated as a pilot site, and, subsequently, TPH was selected as a pilot hospital for the reform of performance measurement by the local government. These policies necessitated a departure from the revenue-centric performance measurement approach and the adoption of a more comprehensive performance measurement system that encompasses outputs, patient perspectives, and professional skills, to coordinate with managerial logic for ensuring the long-term sustainability of TPH.

7.3.2 Assimilation of lean awareness from the sector by TPH management

The sector-level PMM transformation to a lean PMM model has provided TPH with extensive reform expertise and learning opportunities and put isomorphic pressure on them. Representing a prominent component of managerial logic, lean hospital management has become increasingly prevalent in the Chinese public hospital system, as outlined in Section 6.2.4. The West China Hospital (WCH), a local benchmark hospital, has implemented a lean PMM reform that has had a significant influence on stimulating the top management of TPH's managerial consciousness. This, in addition to multiple policy pressures, has been a driving factor in reforming TPH's PMM system.

In March 2016, two weeks after the establishment of the Operational Management Office (OMO), it assumed responsibility for TPH's operational management and became the responsible entity for the expected PMM reform. In pursuit of this objective, the OMO leader, guided by the TPH director, visited WCH to learn their operational management procedures based on lean principles. The purpose of this visit was to provide TPH with the essential theoretical and practical understanding needed to implement a lean PMM reform, addressing the current emphasis on attaining improved operational efficiency. As the OMO member said:

Having spoken with staff from WCH, we realised that the reform had caused a shift in the ideology of our public healthcare system. This shift has seen the healthcare sector move away from scale expansion, extensive management, and "doctors living on medicine" and towards a focus on quality and efficiency, lean management, and fair compensation for healthcare professionals.

It consequently provided the fundamental framework for OMO to act as the operational management hub for future hospital management reforms, thus allowing lean thinking to permeate TPH's management practices. As the leader of OMO said:

We weren't aware of the responsibilities or operational functioning of the OMO when we initially set it up. However, we gained a lot of valuable insights from observing it and speaking with its OMO representatives in WCH.

In 2017, the director of TPH invited the WCH Operational Management Team to provide a two-month training programme for OMO members on their understanding of lean PMM-related contents and procedures. Selected OMO members were sent to WCH for training, which enabled TPH's OMO members to gain a comprehensive understanding of the lean PMM system. As the member who was trained said:

My colleagues and I interviewed the OMO leader at WCH to gain insight into the design and implementation of their new lean PMM system. We observed their daily operational

management to further our understanding of the system.

This two-month training programme served as a fundamental basis for the design of TPH's PMM reform. The members sent to WCH for training were then able to take on the role of the TPH responsibility centre for the lean PMM reform. As an OMO member put it,

I found the two-month course to be incredibly beneficial. I noticed how WCH created a comprehensive performance monitoring and feedback system. They used the PMS as a means of gathering operational data and making managerial decisions, as well as evaluating performance. Their management accountants acted as decision-making advisors, as well as accountants. It is a skill that we must all learn.

Through engagement in these learning activities centered on the lean PMM model, avenues were established for the reform-centric unit of TPH to gain insights into the managerial consciousness that underpins operational efficiency. Their discourse indicates that this exposure to managerial logic enhanced their comprehension of hospital lean management and the methods to implement it within the operational management cycle.

In August 2018, WCH further organised two hospital management forums, inviting the director of TPH and the chief accountant to discuss modernised hospital management and lean performance measurement. These events were essential platforms for TPH's top management to be exposed to managerial logic. Through promoting the hospital director and chief accountant to comprehend and apply lean hospital management, these two forums hosted by WCH significantly encouraged TPH's senior management to further understand a lean performance measurement and management model. As the chief accountant said:

WCH offered us comprehensive instruction and assistance. Without this, it would have been challenging for us to build an ideological base and a practical base on which to analyse a lean PMM reform.

The introduction of lean management to TPH's top management revealed the diffusion of managerial logic. The fundamental concept of managerial logic—lean management—changed the top management's outlook on operational management from "revenue maximisation" to "efficiency enhancement," which necessitated effective internal performance management to monitor and motivate service provision. As the hospital director explained:

TPH is a public enterprise that is dedicated to improving medical services and providing the best care possible to the public. However, we're facing some challenges with our efficiency and the changing environment around us that have contributed to the decline in our performance and the risk of losing our sustainable edge. We're working hard to learn how to better manage our hospital to ensure that we can continue to provide quality care.

Thus, beyond the trainings provided to the OMO, key figures in senior leadership, specifically the Director and Chief Accountant of TPH, actively participated in in-depth discussions with WCH managers. This was undertaken to acquire a thorough comprehension of the foundational principles and tenets of lean operational management. Their proactive engagement with lean management principles significantly bolstered their adoption of a managerial paradigm advocated by the government and their internal reform awareness.

7.3.3 Internal demands on PMM reform

Following the learning of lean management from the sector, the TPH top management team recognized the shortcomings of the previous revenue-based performance measurement model. Given the current zero markup regulations, the earlier revenue-focused performance evaluation did not provide adequate incentives and was inherently defective. Furthermore, TPH management noted that the previous PMM system was inaccurate and short-term in its approach to delivering performance information.

In the past, TPH's main sources of revenue were drug charges and medical examination charges. The implementation of zero markup and new payment method reforms in 2012 with the issuing of *2012 Tasks*³¹ has caused a decrease in the revenue, significant reduction of TPH's profit margins, and impacted the performance pay of its internal medical departments. As a result, increasing prescription and medical examination charges, which had previously enabled TPH to achieve better financial performance, is no longer a viable strategy. The medical insurance authority has set prices for medical treatments with the aim of keeping costs low for patients, resulting in the elimination of drug profits. The performance incentive model, guided by past operational strategies based on drug profits, was no longer feasible with the sharp decrease of physicians' revenue-related performance. As the director of the Emergency Department said:

With the establishment of the zero-markup policy, our monthly performance-based bonus decreased obviously. Because we can't get any return on drug and medical examination charges... It means we've had to do more work with less pay.

This factor exacerbated the already-existing lack of intrinsic motivation among medical professionals in TPH and further enhanced the disadvantageous position of TPH in terms of retaining talent. As the medical director of the Department of Neurosurgery complained:

Our pay is way lower than private hospitals...A bunch of doctors left for higher remuneration

³¹ *The main tasks for the deepening of the healthcare system reform* in 2012 - http://www.gov.cn/zhengce/zhengceku/2012-04/17/content_6089.htm

in private hospitals.

In comparison to public hospitals, whose total remuneration is restricted by a quota, profit-oriented private hospitals are able to provide greater remunerations in order to entice personnel. This puts TPH at a disadvantage in retaining talent. As the Chief accountant said:

Given the talent competition posed by private hospitals, we are at a severe disadvantage due to our government's cap on total compensation. This means that we cannot offer competitive salaries to attract physicians from public hospitals. It will not benefit our long-term development.

It highlights her concerns from a managerial logic perspective regarding the sustainable development of TPH. As she said, the revenue-oriented performance assessment exacerbated the deleterious effects on TPH's internal motivation and talent sustainment.

Meanwhile, the OMO in TPH identified the inaccuracy and short-term nature of the former PMM system in providing performance information as issues. There have been longstanding debates among internal professional groups surrounding the accuracy and equity of the old system for assessing and distributing performance among nurses and doctors, as well as between distinct medical departments. Many medical professionals have held the view that performance appraisals for nurses and physicians should be conducted independently. It was believed that nurses diluted a portion of doctors' performance awards when they were issued jointly via the secondary performance allocation. As one clinician from psychiatry said:

I believe that, prior to the reform, some of the performance payments that belonged to clinicians were taken away by nurses. For instance, when we distributed the bonus for introducing new technology into our department, part of it was given to nurses, even though it was intended as a bonus for clinicians. This is not equitable to us.

Thus, it was necessary for TPH to implement distinct PMSs for nurses and doctors, each with tailored performance indicators. In this way, performance distribution between nurse and physician groups can be distinctly delineated, thereby eliminating any previous misperceptions of performance. According to the OMO leader,

We have to create separate performance management systems for nurses and physicians, each with their own distinct areas of focus. This way, it will be fairer.

The utilisation of a traditional approach that highlights revenue has been observed to engender a short-term orientation in professional conduct, leading to overtreatment cases and low investments in TPH medical departments. As the member of OMO added:

We must acknowledge that the old 'revenue minus expenses' model, while intended to pay

professionals based on their contributions to hospital revenues, resulted in a logic reversal where professionals prioritised revenue over patient care, which in turn caused some unnecessary treatments to occur.

In order to minimise operational costs, medical department directors adopted a frugal approach to equipment acquisitions and talent recruitment. This entailed the procurement of basic equipment to avoid high depreciation costs, as well as the recruitment of graduate students instead of doctoral students to reduce labour expenses. This enabled the departments to gain higher discretionary income for secondary allocations; however, it also came at the cost of long-term development, which is counter to the objectives of efficiency improvement set by TPH. As the chief accountant said:

The department directors' decision to refuse to purchase equipment was misguided, as it will be essential for them to develop their professional skills further. While they may have hoped to save money in the short term, this was not the way to do it. The "revenue minus expenses" model appears to have encouraged short-term thinking, but this is not the best approach. In order to increase efficiency and improve their skills, the directors need to invest in good medical equipment.

The critique of the previous system, which inadequately evaluated and promoted departmental productivity and efficiency, underscores a managerial paradigm in TPH management. Meanwhile the implementation of lean thinking, which emphasises resource utilisation and productive output, provides TPH's top management with a viable path to facilitate operational management and drive efficiency, as the chief accountant said:

Our top-level hospitals have discovered that this lean PMM model with an emphasis on internal efficiency is the most ideal means for measuring and managing performance. Since we can't raise our income by a lot now, we need to focus more on improving our internal efficiency.

After adopted a managerial logic, it is generally accepted by TPH management that the Lean PMM Reform marks the inception of a stimulating lean management approach and is seen as a cornerstone for the implementation of future operational management strategies. It will make the hospital efficiency improvement visible and controllable. While the prior PMM system could not satisfy with these management ambitious. As the chief accountant said,

We hope that the PMM system will be more than just a performance management tool. It will be a powerful operational support system and is expected that will be utilised to identify operational issues, help create operational strategies, and ultimately improve operational performance.

Overall, due to the current zero-markup regulations, the previous performance assessment framework, which was primarily focused on revenue, could not provide adequate incentives and was thus inherently flawed. This situation worsened the negative impacts on TPH's internal motivation and talent retention efforts. Additionally, the TPH's OMO identified inaccuracies and the short-term nature of the previous performance measurement system as key issues. Furthermore, the earlier PMM system was inadequate in evaluating and promoting lean management practises within departments, necessitating the adoption of a more effective lean performance management system.

The recognition of inadequacies within the prior revenue-based performance measurement model and its incongruity with the prevailing lean management methodology served as a catalyst for TPH management to implement a PMM reform. This led to the generation of an internal impetus for the implementation of a PMM reform. Subsequently, as the widespread adoption of the popular lean PMM model became an accepted and taken-for-granted choice at the field level, TPH's management similarly began to view it as the preferred option.

7.4 The design and features of the PMM reform

7.4.1 The design and implementation process

According to the official document from TPH, the completion of the PMM reform by TPH, encompassing the stages of preparation, design, and implementation, took a total of five years.

TPH has been actively involved in PMM reform over the past five years, as shown by Figure 7.3. In 2016, external training was conducted to familiarise all members of the Operational Management Office (OMO) with the lean PMM model. In 2017, a consulting company was contracted to develop new performance measurement software for the PMM reform. To facilitate the implementation of the reform, OMO appointed an operational assistant to each medical department and customised an RBRVS-based PMS and a workload-coefficient PMS for surgeons and nurses, respectively. After determining detailed RVUs and care levels, clinical managers and head nurses were mobilised to participate in the implementation of the new system and were trained to understand their roles in performance management. In 2019, a parallel trial operation of the new PMSs and the old performance measurement system was utilised to identify any discrepancies and make necessary adjustments. In addition, a DRG-based PMS was customised for the internal medicine departments, and clinical managers of these departments received pre-reform training to facilitate their comprehension of the DRG system and the relative value of medical items. In 2020, the OMO requested that the medical service items be standardised in accordance with the government supplied DRG lists.

Finally, in 2021, the DRG-based PMS was implemented in the internal medicine departments, and clinical managers were mobilised to take a leading role. Adjustments were made in response to physicians' feedback on the new system and the significant differences between the old and new performance data. Furthermore, in 2019, the OMO designed an annual KPI system that is strongly connected to the National BSC PMS. The system illustrates how professionals are performing in terms of the national BSC measurement. Overall, these efforts demonstrate TPH's commitment to PMM reform and to improving the quality of the healthcare services it provide.

Figure 7.3.The process of the lean PMM reform in TPH

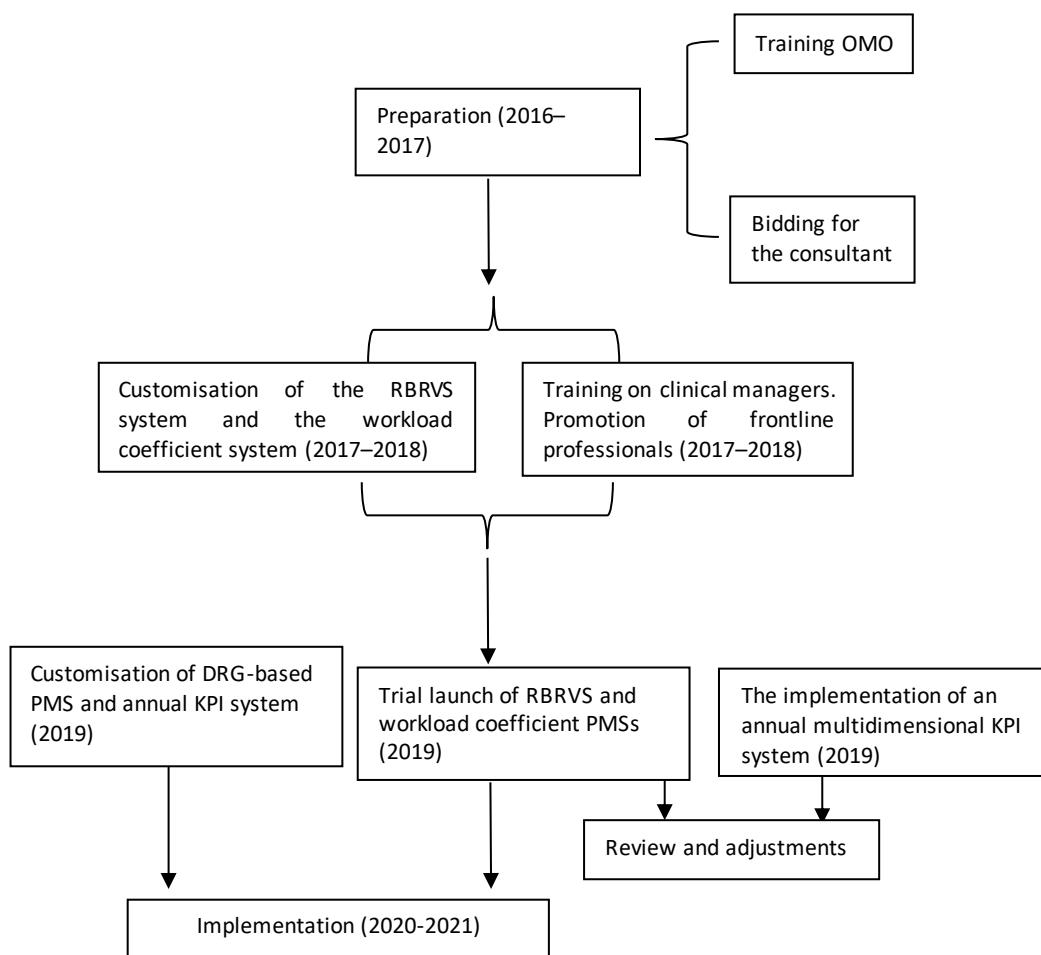
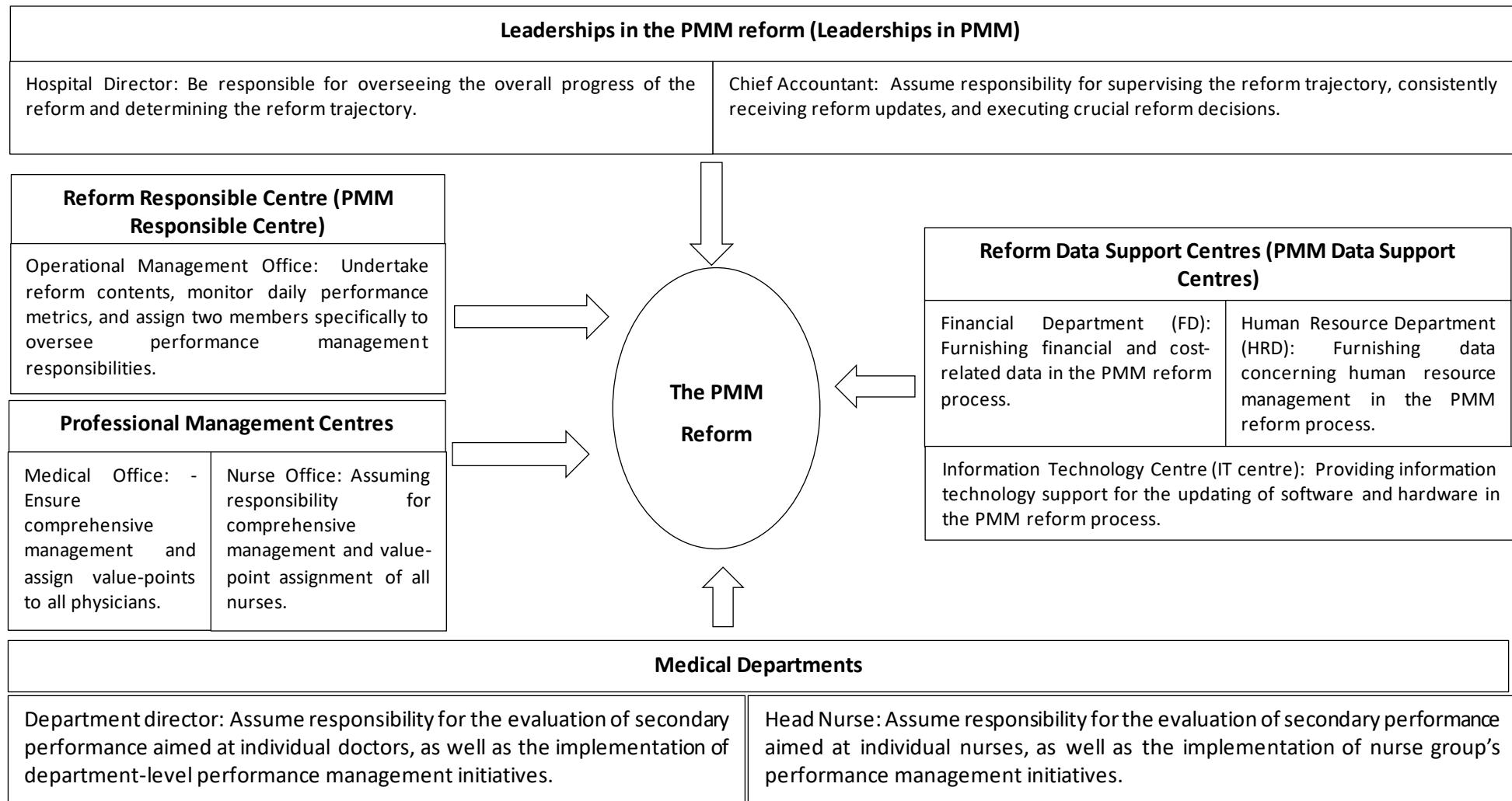


Figure 7.4. The assigned responsibilities of internal participants in the PMM reform implementation



As depicted in Figure 7.4, TPH's top management team was committed to the reform. The hospital director was responsible for monitoring the direction and progress of the reform, while the chief accountant was responsible for overseeing the detailed implementation of the reform, collecting reports from the OMO, and making crucial decisions.

The OMO, serving as the reform's hub, was responsible for the detailed PMM reform work, performance measurement, and the two members in charge of work related to performance management. When required, the financial and human resources departments provided data to the OMO. Furthermore, the professional management centre, including the medical and nurse offices, managed the physician and nurse groups separately and controlled the value point assignment for medical items.

Finally, the director of the medical department and the head nurse were tasked with evaluating individual professionals' performance and implementing intra-department performance management initiatives. This distribution of responsibilities was to ensure that each internal participant played a crucial role in the successful implementation of the PMM reform.

7.4.2 The department-level multidimensional performance measurement systems

Adopted from field-level lean PMM reform, three bespoke monthly performance measurement systems were created for the surgical, internal medicine, and nurse units (as illustrated in Figure 7.5), while an annual KPI system was devised for all medical departments. These systems were mandated by TPH's top management with the aim of assessing operational efficiency in terms of both professional and public value and gauging the departments' ability to optimise resource utilisation in order to create higher value. As the leader of OMO said:

We wish to assess professionals' performance based on the value they generate, which is no longer limited to just their revenue. Consequently, we evaluate their outputs by measuring the quantity and quality of their services. Medical departments, particularly those in internal medicine, are unable to quantify their output accurately, we assess their resource usage per patient and how many patients they treated.

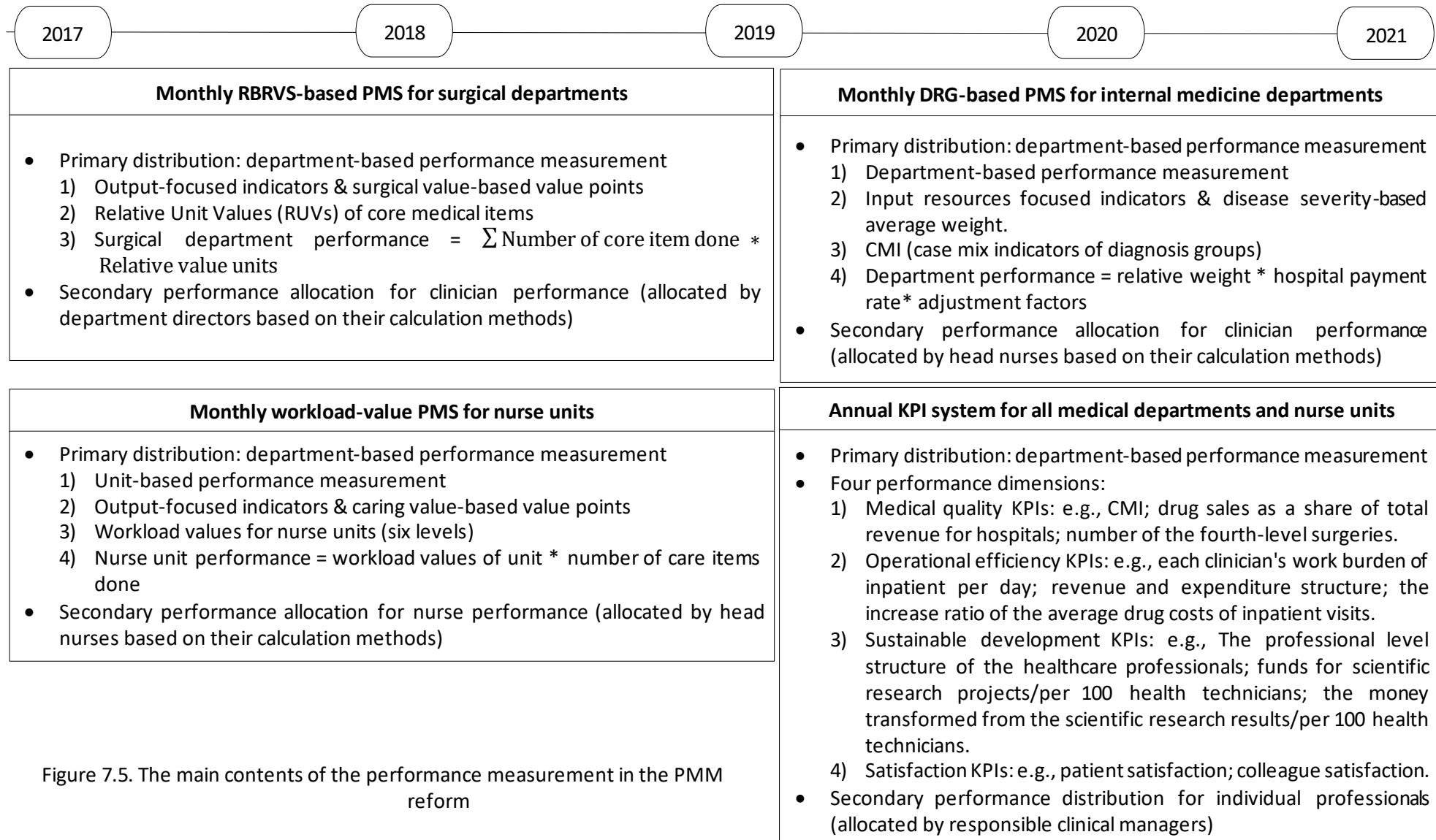


Figure 7.5. The main contents of the performance measurement in the PMM reform

However, at the inception of its lean hospital management reform, TPH maintained its outdated human resource system, which is based on the government's personnel quota system. This approach led to an inflexible and antiquated human resource system. Consequently, TPH faced significant delays in implementing its human resource management system, which, in turn, impeded the organisation's capacity to assess individual performance. As a result, TPH was only able to deploy four sub-performance measurement systems at the departmental level. Therefore, the OMO was responsible for conducting the primary measurement for each department, with the secondary measurement implemented at the intra-departmental level by the department leader (clinical managers). The primary measurement determines the "cake" or resources that a department can allocate for internal distribution in its secondary performance measurement. Clinical managers continue to utilise secondary measurements for evaluating the performance of individuals within their respective departments. Individual performance in the secondary performance measurement is still measured by relevant clinical managers. As the chief accountant said,

We could have designed the new system to provide us with greater control over intra-departmental performance, thereby reducing our conflicts with clinical managers. In addition, medical professionals would admit their performance results frankly.

For surgical departments, a monthly performance management system (PMS) based on the Resource-Based Relative Value Scale (RBRVS) was implemented in order to measure their performance using relative value units (RVUs). These RVUs were utilised to correlate the resources associated with the surgery with the resultant outcome. The performance calculation is as below:

Surgical department performance = \sum Number of core item done * Relative value units

The quantity of surgeries documented by hospital-specific IT systems would reflect the number of core items completed. This is then multiplied by the RVUs to get values that take into account the number of surgeries performed for the general public, the level of difficulty in performing these surgeries, and their strategic significance in development.

For nurse units, a monthly workload-value Performance Management System (PMS) was established to evaluate and emphasise their unit performance with regards to caring output and values, as below:

Nurse unit performance = workload values of unit * number of care items done

The nurse unit's workload value (quality) was anticipated to be indicative of the difficulty of nursing care and the workload shouldered by each nurse unit. The OMO provided nurse units with the autonomy to assign a caring level to each nurse unit. Upon doing so, a specific workload coefficient was allocated to each level for the purpose of computing the care value. Each nurse unit would also

be evaluated at one level. As the leader of OMO explained:

We delegated the authority for nurse units to grade the various risks, challenges, and workloads associated with their providing specialised care, and it serves as the basis for determining their output value.

Besides, the number of care items carried out (quantity) was recorded daily by the head nurse and then updated in the relevant IT system. The output of surgery departments is easily quantifiable, as it is measured by the number of surgeries performed, the duration of each operation, and patient outcomes, such as mortality and complication rates. These metrics can be monitored and recorded over time, enabling additional measurements. However, the output of internal medicine departments is difficult to quantify due to the wide range of services they offer, including diagnosis, treatment, and preventive care. In addition, many of the services involve subjective evaluations and decisions, making it difficult to measure outcomes precisely. Thus, a monthly DRG-based PMS highlighting resource input and disease severity was employed to assess internal medicine departments' performance in TPH. This system uses diagnosis-related groups (DRGs) to classify patients into categories based on diagnosis, treatments, and other medical factors. The average costs for each DRG are the most important factor in calculating performance and making comparisons, as below:

Department performance = total relative weight * hospital payment rate * adjustment factors

The relative weight of case mix, also referred to as the "case mix index" (CMI), is a metric used to assess the intricacy of a patient's healthcare requirements. This index is calculated by dividing the average cost of treating a particular patient by the average cost of treating all patients with TPH. The local health department determined the hospital payment rate for TPH's DRG. To further motivate physicians, TPH implemented adjustment factors (such as the strategic priority factor and the policy priority factor) to augment professional performance pay by a certain amount based on the regulated hospital payment rate. Consequently, the total relative weight imparted by the medical department over the course of a month was indicative of their monthly performance and could be used as a basis for performance comparison. As one OMO member said:

The CMI is a great index for evaluating a physician's efficiency, as it allows for comparison between different medical professionals. For the different DRG, CMI can be used to measure the complexity of a patient's disease severity, as the higher the CMI, the more complex the condition is. For the same DRG, the lower the CMI, the lower the cost of treatment and the higher the efficiency of the physician in providing care. Ultimately, CMI helps to measure the professional knowledge and efficiency of a physician in providing treatment.

In order to evaluate the annual bonuses of all professionals, an annual KPI system was conceived at the departmental level. This system encompassed all medical departments and nurse units and was based on four performance dimensions: medical quality KPIs, operational efficiency KPIs, sustainable development KPIs, and satisfaction KPIs. The KPI system was used to calculate the end-of-year incentive or penalty for medical departments, with the operational management office determining the annual KPI performance targets based on national benchmarks. Departments that exceeded the targets would be rewarded with year-end bonuses, while those that failed to meet them would be subject to deductions. This annual KPI system is strongly linked to the National BSC PMS, providing a non-financial approach to assessing the quality of services delivered by medical professionals and their professional growth.

Hence, it was anticipated by the TPH management that the monthly performance measurement systems would collaboratively demonstrate the operational efficiency for providing public wealth and professional worth yielded by medical departments and nurse groups. That is, as opposed to the former practise of only considering the revenue generated within a certain cost threshold, the TPH management expected that, within the resources expended, the quantity of successful surgeries conducted, the quantity of diagnosis-related groups treated, and the amount of care provided would have to be assessed to determine the operational efficiency of medical departments. In addition to the monthly evaluation of operational efficiency, the annual KPI is designed to assess service quality, patient satisfaction, and professional development through a more comprehensive and non-financial performance index.

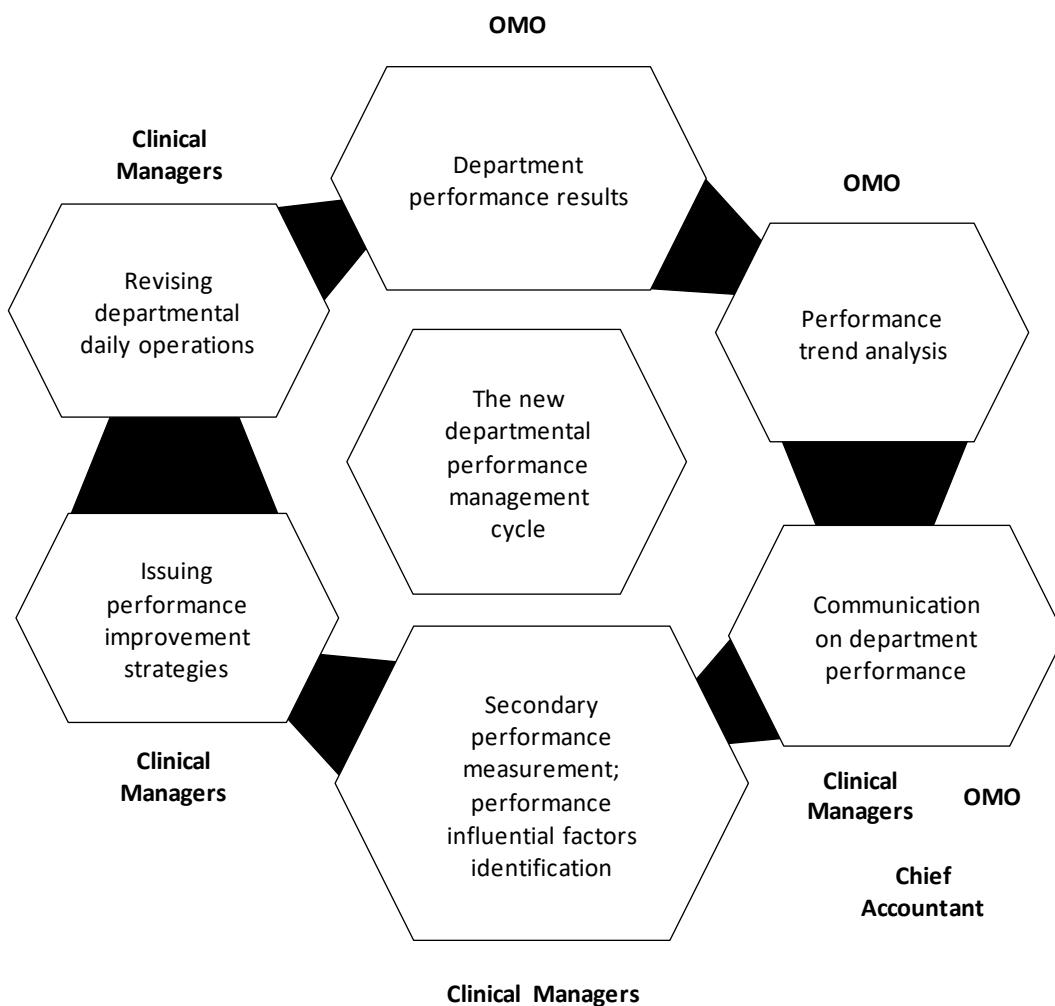
Consequently, the performance measurement systems that have been designed consider a variety of concerns: the complexities of different skill sets, the inherent risks associated with providing services, the balance between the costs of inputs and the value of service outputs, and feedback from patients, among others. These varied yet co-working viewpoints highlight the ongoing influence of state logic, professional logic, and managerial logic. These logics collectively ensure that the new PMSs retain its multi-dimensional nature and kept consistent with the field-level lean PMM reform during the design phase at TPH.

7.4.3 A clinical manager-centric performance management procedure

The OMO formulated the primary performance data production procedure, which was based on the new performance measurement framework, to generate initial department-level performance data for clinical managers to utilise in their intra-departmental performance measurement and management. The Finance Department provides fundamental accounting data, encompassing periodic costs, departmental budgets, and accrued revenues. Concurrently, the Human Resources Department contributes human resource information, including employee counts, personnel

transfers, and granular staffing levels for medical departments. Then OMO assumes responsibility for generating the operational data requisite for the new PMS, such as the quantity of surgeries and outpatients, and computes the departmental performance based on this information. The comprehensive remuneration for the medical department is ascertained by integrating the department's performance metrics with the human resource data. Subsequently, department directors and head nurses assess individual performance and allocate compensation accordingly. Throughout the entire performance measurement process, the Information Technology Center (ITC) assumes a pivotal role in facilitating the connection between the new PMS software and the existing TPH Operational Management databases. They also assist clinical managers with online performance management activities and ensure that all TPH medical personnel have access to their daily performance data.

Figure 7.6. The new departmental performance management cycle



A new performance management cycle based on the new PMS was then developed (see Figure 7.6). This cycle is observed and concluded by the researcher based on the observations of the OMO daily operation, OMO meeting, department monthly operational meeting.

For this performance management cycle, the TPH management anticipated that the clinical managers would assume their performance management obligations in accordance with the new system and adjust their internal performance measurements to be consistent with it. As the chief accountant said:

This circumstance necessitates reserving a key role in the new system for the department director and head nurses. They will be in charge of evaluating their subordinates' performance and deciding how to use performance data in their management.

By analysing the monthly performance results of each medical department, the OMO will detect any significant increases or decreases in performance, as well as any lagging performance of departments or nurse groups. Following the operational management meeting, the clinical managers are responsible for conducting intra-department performance measurements for internal individuals within the departments under their purview and identifying any factors (or personnel) that may have caused the performance issues. Subsequently, they should implement operational strategies to improve performance. The OMO and the chief accountant will jointly hold an operational management meeting with departments and nurse groups that are either of great importance or underperforming in order to inform them of the performance results. For other departments and nurse groups, their operational assistants should facilitate the operational management meeting and communicate the monthly performance results. It is expected that the revised operational management based on the performance management process will yield improved performance results in the following cycle.

Consequently, clinical managers have been designated as the pivotal figures in assessing and overseeing intra-departmental performance. This encompasses the communication of performance data with the OMO, internal individual performance measurement and management, identification of elements contributing to performance discrepancies, development of performance enhancement strategies, and daily supervision of operational performance. TPH management anticipates that clinical managers will need to embrace an amalgamation of managerial and professional leadership roles. To facilitate this, comprehensive training will be made available, ensuring their effective integration within the novel performance management framework. As the chief accountant asserted,

it will be vital to ensure that the new system is effectively implemented at the frontline through training and raising awareness on department directors and head nurses regarding managerial duties.

Overall, in response to the isomorphism pressures and changes in the institutional arrangement, the top management of TPH made the decision to implement a popular lean PMM reform

model in conjunction with the incorporation of national BSC indicators into the annual KPI system. The TPH top management had to initiate the integration of the lean reform model within the established organisational frameworks. This was done with the wish to accommodate the antiquated and defective former human resource system while insisting on a commitment to lean performance measurement and management through the clinical managers' management practices.

This integration reflects the impact of management logic on top management, namely, that management remained sincerely hopeful and leaves room for the implementation of a lean-based individual performance management system. On the other hand, it finally shows how the existing organisational support systems would impede the new-topic reforms, and the top managers had to revise the design to compromise them. The result was the development of a performance measurement and management system centred around clinical managers, with the implicit assumption that they would undertake the main responsibility of individual performance management.

7.5 Summary

To sum up, Chapter 7 addresses the research question about how TPH responded to changes in the organisational institutional arrangement resulting from shifts in external institutional complexity through PMM reform. The field-level institutional complexity changes brought about more comprehensive and targeted PMM reform policies and regulations for TPH. Meanwhile, the rising managerial logic in Chinese public healthcare triggered a wave of lean reform in the local public hospital system, and TPH was inevitably swept into it. The top management of TPH has been exposed to and gradually accepted the permeation of managerial logic. Amidst the field-level institutional complexity dynamics, the organisational-level institutional arrangements of TPH have undergone a shift in their orientation, transitioning from a prior emphasis on profit-oriented marketization to a contemporary emphasis on multifaceted and efficient measurement and management of performance.

The top management of TPH made the decision to implement a popular lean PMM reform model in conjunction with the incorporation of national BSC indicators into the annual KPI system. On the one hand, through the PMM reform, the management of TPH aimed to demonstrate their ability to positively respond the isomorphism pressures generated by current institutional dynamics. Additionally, it reflects a shift in the cognitive approach of TPH management from a profit-oriented mindset to one focused on enhancing operational efficiency, in line with the gradually internalised managerial logic in the TPH top management team.

However, the management team at TPH confronted a challenge with their inflexible and outmoded human resource system, which was governed by a government-issued personnel quota-based approach for public hospitals. As a result, the system was incapable of providing the necessary dynamic tracking and job-based human resource data needed to facilitate individual-level performance measurement. This presented a significant obstacle to the hospital's reform design, as it aimed to attain effective individual-level performance measurement and management.

To integrate the new PMM system into the current human resource system, the management team had to compromise and alter the reform design adopted by early reformers from individual-level performance measurement to department-level performance measurement. Drawing from this premise, driven by managerial logic, the managerial team further developed a procedure for performance management that pivoted on the clinical manager for intra-department performance management.

Chapter 8 The Intra-organisational Institutionalisation of the PMM System

This chapter examines the intra-organisational institutionalisation trajectories of the PMM reform in ten medical departments. Following the structure of medical departments as explained in Figure 7.1, this study examines a range of medical departments across two internal medicine disciplines: the Neurology Department and the Department of Respiratory Medicine, as well as six surgical departments. The latter includes the Department of Obstetrics, Hepatobiliary, and Pancreatic Surgery, the Urology Department, the Cardiothoracic Surgery Department, the Neurosurgery Department, and the Ophthalmology Department. In addition, the Intensive Psychiatry Department, one of the Psychiatry Departments, and the Emergency Department in the Outpatient Department are also analysed in this study.

During the practical implementation, tensions concerning the assignment of the value point and the roles of clinical managers intensified. Ultimately, three intra-organisational institutionalisation pathways were observed via the diverse institutionalisation of the new PMM system by medical departments and nursing units (see Table 8.1). First, seven out of the ten medical departments and their respective nurse units had decoupled the new PMM system from their daily operations (Neurology, Obstetrics, Hepatobiliary and Pancreatic Surgery, Urology, Cardiothoracic Surgery, Neurosurgery, Ophthalmology). Second, the Psychiatric and Emergency departments displayed limited adoption of the new PMM reform in improving their daily operations, while their clinical managers employed a hierarchical strategy to balance their economic interests, professional needs, and management responsibilities. Finally, the Respiratory Medicine Department responded to the new PMM reform as expected and even exceeded management's expectations.

Table 8.1. The ten medical departments' responses in PMM reforms

Interviewed/observed medical departments	Departmental PMM practices	Numbers of staff
Neurology	Decoupling	73
Obstetrics	Decoupling	32
Hepatobiliary and Pancreatic Surgery	Decoupling	24
Urology	Decoupling	21
Cardiothoracic Surgery	Decoupling	23
Neurosurgery	Decoupling	48
Ophthalmology	Decoupling	28
Intensive Psychiatry	Selective Adoption	42
Emergency Department	Selective Adoption	38
Department of Respiratory	<u>Hybridisation</u>	<u>40</u>
Medicine		

8.1 The decoupling of daily practices in the seven medical departments

This study discovered that seven medical departments (refer to Table 8.2) disengaged the new PMM system from their daily operations. Clinical managers overlooked their responsibilities in overseeing department performance management, and frontline professionals developed a hostile attitude towards the reform.

Table 8.2. An examination of the clinical managers' behaviours for decoupling

	Name of medical department	The attitudes and reactions of clinical managers toward reform	References	What is PMM – professional-focused - only for accurately performance measurement and useful motivation.
1	Department of Obstetrics	Ignored and decoupled.	<p>"Apart from our performance results, the reform makes no difference to me or my department." The department director</p> <p>"Before the reform, the OMO provided me with training on the new PMM system, but it didn't help me with my management work in my group...Nothing changes apart from our performance results from it, and we continue to do our work in our own way." The head nurse</p>	<p>"The performance management is predominantly used for assessing our performance, as far as I can tell. What I am able to do with our performance management is to apportion our departmental performance to my staff correctly. " The department director</p> <p>"I concur. "The head nurse</p>
2	Department of Hepatobiliary and Pancreatic Surgery	Distrust and decoupled.	<p>"The whole new system is problematic, and we still do not know how it works. They also did not provide me with any useful information. All I can do is try to keep my second performance measurement constant and comfort my subordinates." – The department director</p> <p>"I'm not sure what the new system is, but I know our performance figures are off... Many nurses are unhappy with it, as am I. I hope they listen to us and take action." The head nurse</p>	<p>"Performance management should be a motivator for us. We should be recompensed more if we perform better. This is also my department's performance management concept; I reward those who put in more effort. Performance management is futile if it does not motivate us." The department director</p> <p>"What I did for our group in terms of performance was endeavour to make our secondary measurement more balanced and to make them less disgruntled." -The head nurse</p>
3	Neurology Department	Disappointed and decoupled.	<p>"The new reform was naught else but "old wine in a new bottle". The truth is that under this new system, we still cannot earn a reliable performance pay. I must accept it, but I am disenchanted with it." – The clinical manager</p> <p>"I agree with our department director." The head nurse.</p>	<p>"It is important for me to get the secondary performance measurement correct. Nothing more should be taken into consideration. Under this new system, I do not feel I have any room to manoeuvre." – The department director</p> <p>"We cannot even guarantee our employees' appropriate performance pay; what else can we do?" The head nurse</p>
4	Department of Neurosurgery	Ignored and decoupled.	"I attempted, but the new system is too complicated to manage. They didn't train me sufficiently and didn't assist me sufficiently. I am so occupied and must focus on my professional work." The department director (in focus group meeting)	"What I can do for performance management is conduct our internal performance measurement and inform management of what our professionals truly believe. I understand that performance management is not limited to these goals, but it is

			<p>"I believe the new system is not right, really. I always advocated to my staff to disregard it and do our own work." The head nurse (in focus group meeting)</p>	<p>not within my jurisdiction..." -The department director (in focus group meeting)</p> <p>"I think my most important role in performance management is to let our management know that the new system is not right. They have already lost the "hearts and minds" of our department." The head nurse (in focus group meeting)</p>
5	Department of Cardiothoracic Surgery	Distrust and decoupled.	<p>"I have no faith in the new system. It is also inconceivable for me to consider it in my work." The department director (in focus group meeting)</p> <p>"I believe our nurse group's performance indicators must be inaccurate in some areas as we achieved less performance for more work completed with fewer staff last month. It is unreasonable, and I cannot utilise the data in my management work." The head nurse (in focus group meeting).</p>	<p>"I couldn't care less what management think performance management is; it has nothing to do with our work. All I'm asking for is a fair performance-based salary." The department director (in focus group meeting).</p> <p>"With the new system, I'm having difficulty managing my nurses' performance. It's like saying, "You can't make bricks without straws." It's making it incredibly tricky for me to allocate their performance." The head nurse (in focus group meeting).</p>
6	Department of Urology	Distrust and decoupled.	<p>"In the new system, I believe management has set a performance cap for us, and no matter how well we perform, we will not exceed the cap. I will not use it in my management work as I believe it has made employees more negative on their work." The department director (in focus group meeting).</p> <p>"I am completely unfamiliar with the system. However, as evidenced by the performance figures, it is not convincing. My nurses have already voiced their complaints about it. The only thing I can do is minimise the new system's influence in my management." The head nurse (in focus group meeting).</p>	<p>"The management is in charge of performance management for us. And I'm more concerned with how much money our department can finally get for me to distribute to my employees." The department director (in focus group meeting).</p> <p>"I do our group's performance measurement. So, this is the performance management that you want to talk about, is it?" The head nurse (in focus group meeting)..</p>
7	Department of Ophthalmology	Ignored and decoupled.	<p>"Erm...I have to arrange several operations each day, and the new system isn't something we need to consider. I know a lot of my colleagues have moaned about it though." The clinical manager</p> <p>"Our department director is very busy, and most of the performance measurement-related tasks have been delegated to me. To be frank, I don't think our current system is particularly good. But I'm too preoccupied to contemplate it." The head nurse</p>	<p>"I'm not sure I'm clear what you mean by 'the roles of PMM.' In my daily work, the only thing that comes to mind when I think of performance management is our internal performance measurement." The department director</p> <p>"The new system is for measuring our performance. I don't think it has other roles. They might have, but I don't know." The head nurse</p>

8.1.1 The absence of clinical managers in department performance management

Figure 7.6 in Chapter 7 elaborates that secondary performance measurement and department performance management are primarily the responsibility of clinical managers (medical department directors and head nurses), as per the established reform protocol. The OMO leader said:

The clinical manager should act as the main connection between us and the professionals.

We think that they should help us in putting together the performance management system in their respective departments.

Consequently, the top management of TPH assumed that clinical managers should take on their duties in departmental performance management and further operational management based on the related performance data. Specifically, with the assistance of the OMO, the clinical managers must pinpoint the operational deficiencies of the department. Subsequently, they should devise plans to instruct personnel on rectifying this operational inadequacy within the department. The impacts of their departmental plans and operational improvements will be mirrored in the subsequent performance evaluation results, which will constitute the fresh foundation for the subsequent performance measurement and management cycle. As the chief accountant also emphasised,

Clinical managers are essential to the successful implementation of our performance management procedure. To ensure their departments are able to keep up with the changes, it is necessary for them to embrace a managerial approach and work together with us. It is necessary to provide them with training to help them understand their role. This is the agreed-upon strategy outlined by our top management team.

Thus, OMO delivered an extensive training project that was designed to enable clinical managers to gain an understanding of the goals, content, and procedures of the PMM reform. The OMO members and OAs were in place to provide support to the PMM clinical managers. They were tasked with providing performance data analysis. Furthermore, the respective OA was responsible for any communication or discussion related to the PMM. As the leader of OMO explained:

We instructed them on how to use the online performance measurement system and interpret the constructed performance index. We expect that these lessons will enable them to positively influence our performance measurement and management, as well as apply performance data to their own management.

However, the clinical managers hailing from seven distinct medical departments evinced a

negative attitude towards the reform in question (refer to Table 8.2). The reasons behind the negative attitude are identified as follows.

Initially, these department directors and head nurses acquired a rudimentary understanding of the novel PMM system via the training provided. However, this did not sufficiently inspire them to pursue a more profound understanding of their managerial responsibilities in employing the system. These clinical managers viewed themselves as mere recipients of the PMM reform—"porters" for their performance data and "abacuses" for secondary performance allocation. As the director of the Department of Neurosurgery said:

The training imparts knowledge of the new PMM's operations to me, and I am obliged to compute individual performance compensation for our professionals based on our primary performance allocation results. But that is the extent of my capacity, and it is already intricate. At present, I am uncertain as to how I can employ these performance data for managerial purposes.

They posited that the responsibility for performance management should be on managers and not themselves. As the clinical manager of the Department of Neurosurgery said,

Although I am a medical professional, I cannot be expected to act as a professional manager and evaluate ways to improve our operation. This is a challenge for me due to the professional barrier I face. I specialise in medicine, not management, and it is the responsibility of managers to handle management tasks.

Their internal professional logic impeded them from attaining a more profound comprehension of management to enhance performance management. They elected to reject their PMM management roles and used the excuse of "professional barriers." The chief accountant attempted to persuade them to undergo further training and permit the OA to carry on providing them assistance on performance analysis. As they were entirely devoted to their professional duties and confused by the performance data, the majority of them remained negative. As the clinical manager of the Department of Neurosurgery said,

I do not wish to attend trainings that are not relevant to my professional field. It will diminish my time for professional work.

Meanwhile, this study observed that the resistance among clinical managers towards their managerial roles in the new PMM design was exacerbated by the influence of market logic. Perceiving themselves as underpaid, these managers were unmotivated to undertake any additional responsibilities suggested by their position (see Table 8.2). According to Table 8.2, in comparison to the directors of the seven medical departments, the head nurses responsible for managing the performance of the unit nurses in these departments exhibit a tendency to adopt

Chapter 8

the directors' attitudes towards the new system, as their power position is relatively weak. Simultaneously, they display less resistance from their professional logic and, instead, prioritise their economic interests driven by market logic. The fundamental reason for their reluctance to assume their managerial roles in performance management is the lack of foreseeable economic benefits.

The complexity of the medical departments' core business also has important effects on clinical managers' grasp of the reform and their reactions to the training. For instance, the complexity of the treatments provided in the Neurosurgery Department, coupled with the large number of core business operations, impeded the ability of clinical managers to interpret performance data and identify problems. Moreover, there was no specialised training given to the clinical managers of the neurosurgery department to empower them to comprehend the intricate performance information. As the director of the Department of Neurosurgery further complained:

As the largest surgery department in our hospital, the daily operations of our department are highly intricate. How can I successfully supervise such an abundance of performance data? I am often bewildered, and no one can provide me with further help. The training we received offered us only limited guidance. I have to resign myself to the situation and focus more on my professional responsibilities.

Considering the significant negative emotion from these clinical managers, the chief accountant further invited clinical managers to her office for individualised negotiations to facilitate more direct communication, enabling them to be more candid in discussing their responsibilities in the new system. During the majority of the negotiations, she had difficulty responding to clinical managers "exaggerated" proposals while attempting to avoid confrontations. As she said,

I was finding it difficult to answer some of their queries. A few of them enquired, "Can you send someone to our department to take the responsible of putting the new performance management into practice, as one OA is not enough?" while others suggested reverting back to the initial performance measurement system.

The chief accountant was unable to reach a consensus with the clinical managers regarding their positions in the PMM, so she had to shelve the matter for the time being. As she said,

I know that there are still problems with them. Nevertheless, the new system must go ahead as decided by our hospital director. As employees, they must adhere to this. Of course, I will keep thinking of ways to convince them.

As a result, the negotiations highlighted the disparity between professional and managerial logics that led to a stalemate. Management endeavoured to encourage clinical managers to

embrace PMM by proposing supplementary managerial education. Nevertheless, these clinical managers opted to concentrate solely on their professional responsibilities, adhering to their prevailing professional logic.

Thus, with the implementation of the new system, these clinical managers finally became absent from the roles designed for them in department performance management. Guided by a professional logic and a market logic, the clinical managers perceived the roles of PMM as primarily related to the distribution of performance and further motivation and regarded the new system as meaningless to them. During the reform, as demonstrated in Table 8.2, most of the clinical managers viewed their PMM work as limited to departmental performance allocation and were unaware of the roles of PMM in operational management. The performance analysis data generated by the OMO did not provide them with any assistance in managing their departments. As one OA put it,

My role is almost non-existent. On a monthly basis, I send the department director and head nurse their group performance and analysis results. To be honest, I don't think they noticed our analysis, and I don't think they are making any changes in management. They simply complained about the results.

This section has highlighted the tension arising from the clash between the two internal logics of clinical managers (professional logic and market logic) and the managerial logic underlying the roles of clinical managers in the PMM reform. Although these clinical managers engaged in further negotiations with management, they remained steadfast in their professional roles and resisted adapting to their new managerial responsibilities within the new system. The intricacy of their core business and their disadvantaged performance measurement results from the new model significantly influenced their responses.

8.1.2 Negative attitudes from interest conflicts based on the 'value point'

The new PMM system uses value points to determine the performance of different departments. This research reveals that these seven medical departments evinced a robust mistrust and dissatisfaction about the allocation of value points.

The new performance evaluation system utilised value points to assess departmental performance, which was determined based on relevant coefficients designed in three monthly performance management systems (PMSs). Specifically, for the surgery departments, the Resource-Based Relative Value Scale (RBRVS) was employed to assign relative value units (RVUs), indicating the amount of work devoted to each core item. Furthermore, core conversion factors were devised to estimate the work cost associated with each unit. As a result, the value

points assigned to each job were calculated by multiplying the RVUs (representing work quantity) by the core conversion factors (representing work cost). Similarly, care grades for nurse groups in the workload coefficient system should be stratified as value points used to calculate each caring item's performance contribution. In the DRG-based performance system, the relative weight of medical treatments should be standardised in accordance with the national Case Mix Index (CMI).

The initiation of the value points' allocation began with a data collection process from the ground up, for which the OMO requested medical professionals from various medical departments and nursing units to evaluate the work complexity and costs of their medical services together with the OA. The medical department and nursing unit, which oversaw all physicians and nurses, respectively, compiled the evaluation results to compile comprehensive value lists for medical services.

The complete value lists were then relayed back to the medical professionals for their input regarding potential future modifications. It was anticipated by management that the involvement of medical professionals and changes in the allocation of PMS value points would be mutually beneficial due to taking into account both strategic priorities and the intricacies of the various professional roles. As the leader of OMO said,

I believe that we gave medical professionals the best opportunity to express their expectations for their performance measurement. We also amended the final value allocation in line with our operational strategies. Consequently, the final value point for medical treatments truly reflected both our professionals' and our management's focus.

Concerning the value point allocation, both medical practitioners and management from the seven investigated medical departments have expressed dissatisfaction. Figure 8.1 demonstrates that, excluding the neurology and neurosurgery departments, the other five departments exhibited lower value point scores for both clinicians and nurses compared to the Intensive Psychiatry, Emergency, and Respiratory departments. Nevertheless, the elevated value point ratings of the Neurology and Neurosurgery departments are counterbalanced by the substantial number of staff members participating in daily operations (refer to Figure 8.2 and Figure 8.3). As depicted in Figure 8.2, the Neurology and Neurosurgery departments have the highest staff numbers, resulting in lower monthly per capita earnings, as illustrated in Figure 8.3. Consequently, it becomes apparent that none of the seven medical departments have experienced direct advantages from the distribution of the value point.

Figure 8.1. Analysis of value index for medical items (data based on 07/2022)

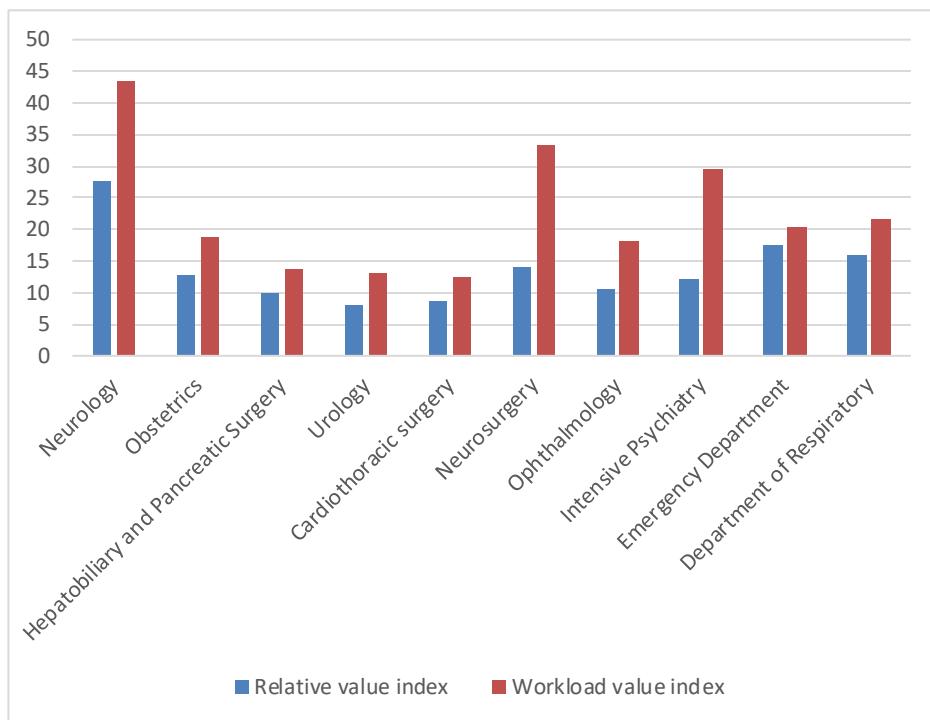


Figure 8.2. The staff number of medical department (data based on 07/2022)

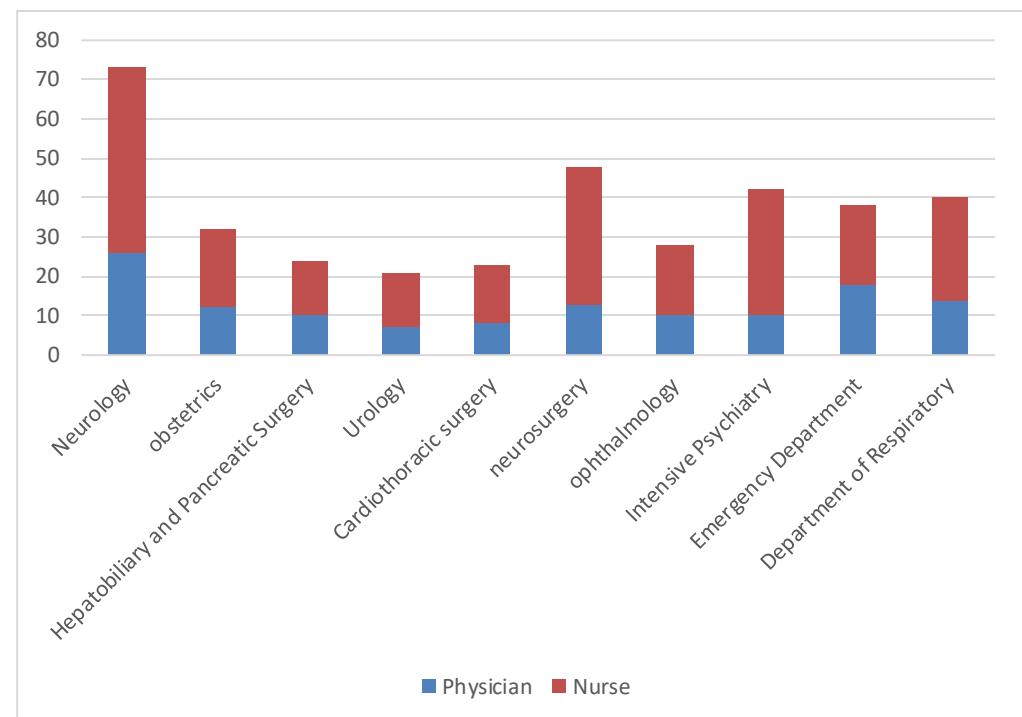


Figure 8.3. The operational status and monthly per capital of medical departments (physicians)
(data based on 07/2022)

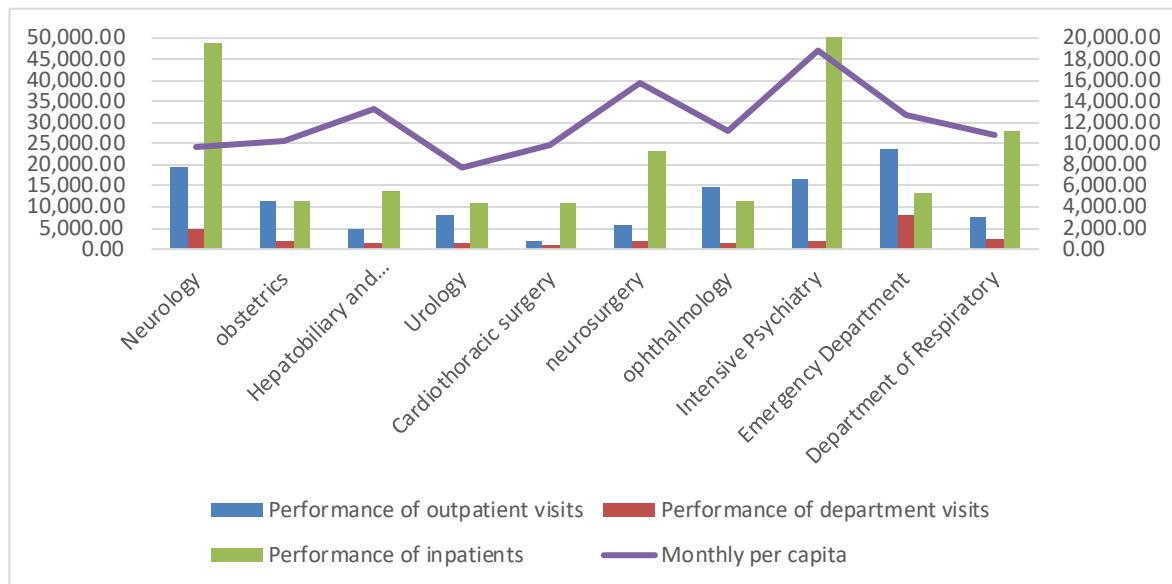


Figure 8.3 provides additional support that the monthly operational outcomes across the seven medical departments did not show as being worse than the other three departments. In fact, the departments of Neurosurgery, Neurology, and Ophthalmology demonstrated a strong operational status, as evidenced by the metrics of outpatient consultations, inpatient admissions, and departmental visitations. This evidence allowed medical professionals to argue that their performance within the new system was undervalued. Hence, medical professionals expressed dissatisfaction with the value point allocated to them in performance measurement, citing that the focus chosen by management was not in line with their economic interests. Some professionals contended that prior revenue-based approach should be continued for protecting their performance-based remuneration. In the focus group meeting of the Department of Neurosurgery, one clinician said,

Our department copes with huge numbers of patients every week and we generate significant revenues. I am unsure as to why some medical departments receive more value points than we do. We worked harder and yet receive less in return. Why is it that our work value cannot be determined simply by the revenues we have contributed?

In the nursing teams of these departments, there was also notable dissatisfaction regarding the allocation of value points. A nurse in neurosurgery questioned the strategic priorities set by management in assigning value points and inquired why some of the more complex tasks within their nursing team were not assigned higher value points. She emphasised that risk and difficulty should be the primary determinants of their performance assessment:

It is perplexing how certain smaller nursing teams receive such high value points simply due to their novelty and the need for encouragement. Our tasks are inherently more challenging and carry greater risks.

Conversely, a nurse in the Obstetrics Department advocated for a more favourable value point allocation, asserting that the time and effort invested in patient care should be the primary criterion in evaluating their performance. She elaborated:

Our department necessitates the involvement of more than two nurses for childbirth assistance and round-the-clock maternity monitoring. We dedicate substantial effort and hard work to a vast amount of unseen and unappreciated labour. Consequently, our labour costs should compensate us accordingly. However, this has not been the case.

In response to the criticisms levied by frontline professionals concerning the value point, management put forth a defence of their design, contending that they had fundamentally taken the opinions of the professionals. Management further maintained that their interventions in the value-point allocation were minor in nature. Although the professionals played a crucial role in the value point allocation procedure, there were strong disagreements between them and the management concerning the outcomes, particularly when they compared their value points with those of other departments. As the chief accountant explained:

There are strategic priorities for adjusting the value points for different departments. For the sake of our long-term expansion, we intend to back up new departments and promote the growth of advanced medical departments. Nevertheless, the estimated values they provided basically determined the initial value point we should allocate. Yet they blindly compare themselves to other departments; in this way, they will never be satisfied.

To mitigate the scepticism of clinical managers concerning the value point allocation, the chief accountant and the OMO tried to mediate it with these clinical managers and all subordinate medical professionals for each department. Then the chief accountant promised a slight increase in the value-point allocation to these departments as a significant concession. As she said,

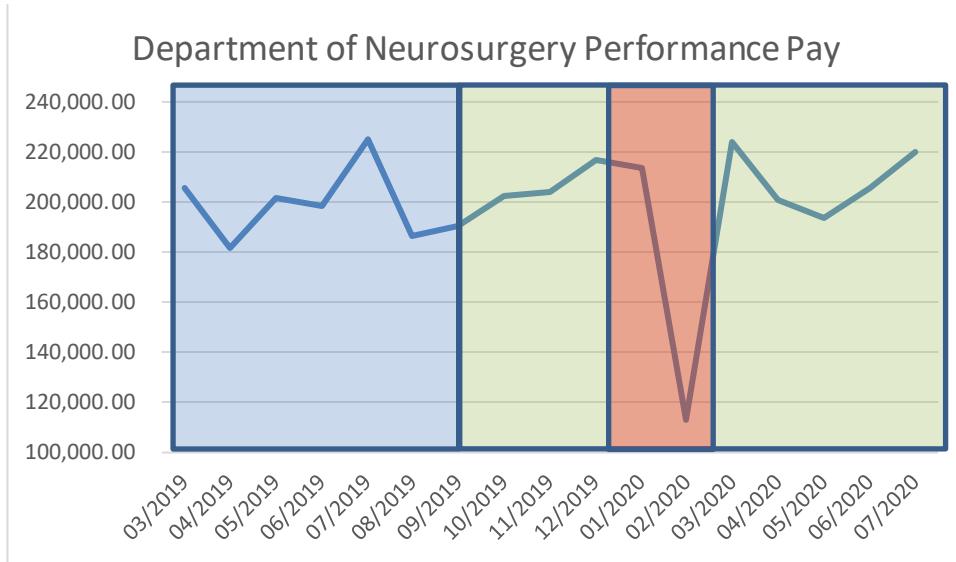
It is extremely difficult for us to make promises about significantly increasing their value. The whole of the reward for performance is fixed. If you raise theirs, you must lower others. How can I persuade others?

Despite management perceiving their alterations as a considerable compromise, they had very little effect on settling the conflicts and did not result in the professionals being content with them. The performance-based compensation of the Department of Neurosurgery for the period spanning from March 2019 to July 2020, which encompasses both the previous and current payment systems,

is visually presented in Figure 8.4. The figure demonstrates almost no change (excluding the extreme impact of the pandemic) in the performance-based compensation provided to this department compared with using the old system. As the head nurse of the Department of Neurosurgery said,

At the departmental meeting, we did share our opinions on the design with them, but the results we saw were only minor, and thus, insignificant.

Figure 8.4. Department of Neurosurgery Performance-based Compensation



Note: The **blue marker** represents performance under the old PMM system. The **green marker** represents performance under the new PMM system. The **red marker** represents performance during the COVID-19 period.

It was discovered that the performance outcomes of the new PMM system had led to an exacerbation of negative emotions experienced by frontline professionals. This was mainly due to their dissatisfaction with the obtained performance results, as evidenced by Figure 8.5 and Figure 8.4. These figures illustrate that the new PMM system failed to augment the performance-based compensation of physicians and nurses in medical departments and instead resulted in a decline in some departments (excluding the impacts of COVID-19).

In these seven medical departments, professionals had a great deal of mistrust towards the new performance measurement systems, believing that these systems were designed to pay out lower rewards for their performance than before. In their view, management justified these allegedly "biased" arrangements with their strategic priorities for hospital development. As one clinician in the Department of Cardiothoracic Surgery said,

I am confident that the management have used the new performance measurement system to subsidise some lower-performing departments, such as the Paediatrics and Obstetrics

departments, leading to a decrease in our own performance. What other explanation could there be for our decline?

However, according to the OMO, the shift in their performance was due to the new PMS's transition from the former "revenue minus expenses" model to a more comprehensive assessment. As the leader of OMO explained,

We are more hopeful that these differences will remind them of our operational and strategic shifts. We hope they can realise that our focus is no longer on current revenue; we are more concerned about their department's operational efficiency and its long-term development capability.

Figure 8.5. The tendency of the department performance-based compensation (physicians) between 2019 and 2020

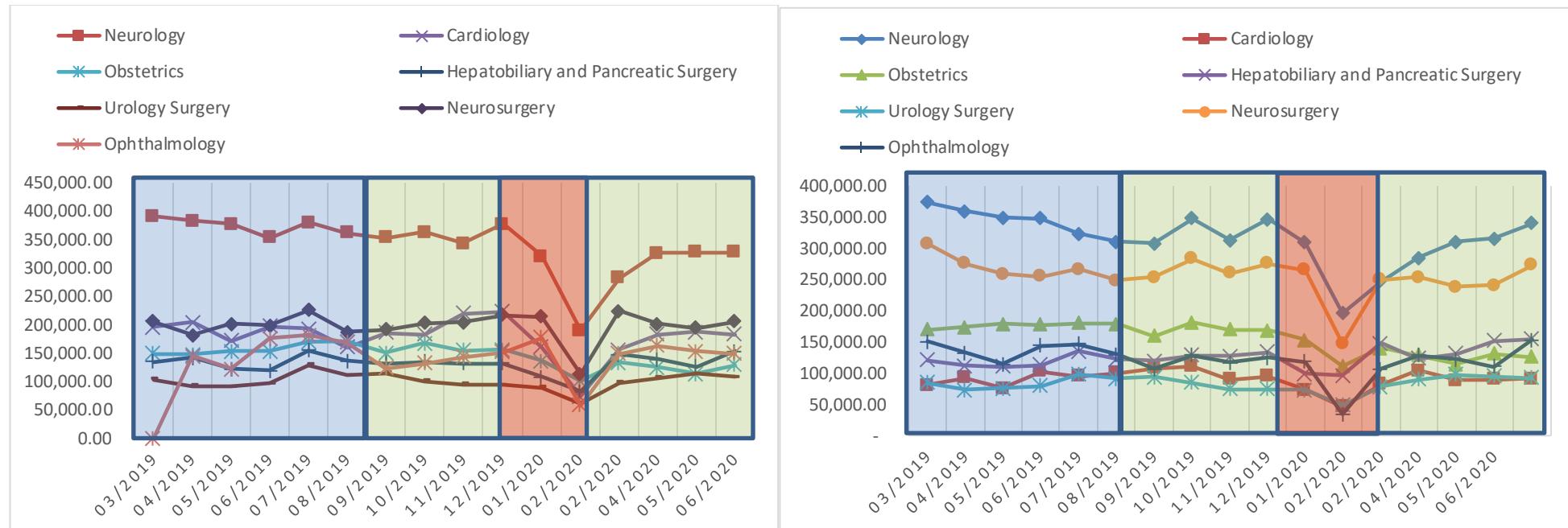


Figure 8.6. The tendency of the department performance-based compensation (nurses) between 2019 and 2020

Note: The blue marker represents performance under the old PMM system. The green marker represents performance under the new PMM system. The red marker represents performance during the COVID-19 period.

8.1.3 Daily practices decoupling under an ineffective feedback loop

Monthly operational meetings for medical departments were arranged under the new system. The Chief Accountant and the OMO chaired the monthly operational meeting for the medical professionals in each department. The objective was to secure their understanding of their performance outcomes, enhance their comprehension of the new PMM system, and get further feedback from them on the new system. With this chance, the TPH management hoped to reduce the mistrust of the new PMM system among the frontline professionals while simultaneously maintaining the formal feedback between management and professionals by engaging in communications about the performance information.

At a meeting of the Department of Hepatobiliary and Pancreatic Surgery, the researcher noted that many of them expressed their doubts regarding their performance results and questioned the OMO members about the reliability of the new PMS in an aggressive tone. As one young clinician asked,

Have you miscalculated our performance? We do not think this should be our performance. Will you reconsider the new system? I think it has a serious issue.

In response to their questions, the OMO leader said that the only thing they could do was explain the new PMS calculation method again and recalculate some data during the meeting. As the leader of OMO said,

We repeated our explanation of the new system with the hope that they would eventually grasp it. I am confident that we provided them with a clear illustration of their performance results. The only challenge is that they are unable to convince themselves.

In fact, their clarifications and explanations at the meeting clarified the entire performance evaluation process. However, these were not the responses that medical professionals desired to meet their financial requirements. One clinician complained after the meeting,

Do not try to explain things that are beyond our understanding. Naturally, we are not financial experts, so we can be easily taken in by them. What they said was incomprehensible, and I still do not comprehend why my performance results have not been as anticipated.

Clinical managers remained particularly reticent during these meetings due to their perception that they were in an awkward situation and did not want to displease either higher-ups or those under their direction. As one clinical manager explained,

I don't want to say too much. If I say something on behalf of my staff, I might antagonise

the management. I'm also unable to stop my staff because I don't want to upset them.

The silence of clinical managers exacerbated the tensions in the monthly operational management meeting. As the chief accountant said,

These clinical managers are "wise old foxes". They don't want to give their opinions, but they let their employees have their say. We have no idea what they're thinking. This really leaves me at a loss.

In their communication, considering the subpar performance results yielded by the new performance measurement system, management and professionals had differing perspectives concerning the causes of these results. Management and professionals emphasised the long-term operations of the department and the short-term economic interests in connection with the performance results, respectively. Both sides contended that the unsatisfactory performance outcomes should catalyse self-reflection from the other faction. The essential reasons behind the negative attitudes of professionals toward feedback and communication were that their economic needs were not being met, and clinical managers stuck to their professional roles while staying out of management matters. This made communication less effective. This indicates the influence of managerial logic, professional logic, and market logic in forming the two groups' divergent views on the performance results. In turn, the ineffective feedback loop finally intensified the unacceptance and mistrust of performance information in professional groups. The focus group meetings for the departments of hepatobiliary and pancreatic surgery, cardiothoracic surgery, and urology revealed that clinicians and nurses expressed strong emotions concerning their communication with management about the new system. One clinician said,

I'm not sure how the new system will benefit us other than diminishing our enthusiasm.

They (management) also said what they wanted to say and didn't take our interests into consideration. I'm disheartened.

Hence, the new PMM system suffers from an inadequate feedback loop, resulting in suboptimal communication between management and professionals pertaining to departmental and individual internal performance. This shortcoming has prevented management from effectively mastering and controlling the measurement and management of departmental performance.

Further, this study observed the decoupling practises in these medical departments from the new PMM system. These clinical managers regarded PMM as being solely for performance assessment and believed that they did not need to do anything additional beyond completing the performance

distribution for their employees within their department. As the OA of the Department of Hepatobiliary and Pancreatic Surgery said,

They don't even know how the PMM's contents differ from before. When I asked about their thoughts on the new system, they responded that they were too busy to consider it. My work is without value.

In detail, as Figure 8.2 illustrates, some clinical managers either disregarded the new PMM system in their daily management (e.g., the Department of Obstetrics and the Department of Ophthalmology) or reduced the effects of the new system in their departments due to distrust and complaints (e.g., the Department of Neurosurgery and the Department of Urology). Consequently, the secondary performance measurement was still based on the prior average division method for each professional level, combined with their work hours. As the member of OMO said,

We did not observe any shift in the secondary performance distribution, as reported by the observers. This was not in line with our expectations. However, it is unrealistic to expect them to alter their opinions within a limited timeframe.

Ultimately, these seven medical departments were observed to have decoupled their daily operations from the new PMM systems, and their attention was predominantly focused on their professional domains. Ideally, their department's performance management should have entailed the identification of operational weaknesses, the identification of relevant operational strategies, and their implementation to enhance performance, as per the specifications of the new performance management system. Nevertheless, as evidenced in Figure 8.2, clinical managers primarily emphasised their current performance condition and professional awareness during their interviews, with the exception of intra-departmental performance measurement. All other tasks related to performance management were perceived as being more appropriate for managerial roles or excessively challenging to manage. Clinical managers in these medical departments united with their medical professionals and held firm to their professional values in terms of their duties in the new system. Communication with management during the implementation offered little help in reducing their resistance.

The clinical managers in these medical departments and nurse units kept to their previous secondary performance measurement standards, such as position level and number of working days, to evaluate professional performance. Therefore, the multidimensional PMM had no influence on the intra-department performance measurement and management of clinical managers. Similarly, employees did not detect any changes in their daily operations. The operational management of the entire department remained unaltered and did not improve,

and these departments showed worse performance according to their performance-based compensation (see Figure 8.5 and Figure 8.6, excluding the extreme impact of the pandemic). This resulted in a decoupling of intra-departmental performance measurement and management from the new system, with top management also losing control over it due to a poor feedback loop. From their decoupling behaviours, the limited permeation of managerial logic among clinical managers has been attributed to the formidable force of their professional identity and the lack of satisfactory economic incentives.

To summarise, this study focuses on seven medical departments and examines how internal actors responded to the PMM reform and how their actions shaped departmental performance measurement and management practises under the new system.

As depicted in Figure 8.7, clinical managers were motivated by both their professional and market logics, leading them to resist the PMM reform. They sought to protect their professional identity and were demotivated in their managerial role due to their underpaid situation. Moreover, the complexity of the departments' core business exacerbated clinical managers' resistance. Among these clinical managers, department directors were influenced primarily by professional logic and insisted on their professional role, while head nurses blamed the new system mainly due to their underpaid situation. In addition, head nurses were susceptible to following the directors' discourse and criticising the new system because of their weak power position. Despite negotiations between the chief accountant and clinical managers, the obvious logic conflicts between them made it difficult to address the resistant attitudes of clinical managers, and the information about reform contents could not be transmitted successfully. Moreover, management had limited access to the detailed departmental activities related to the new reform.

The frontline professionals in these seven medical departments demonstrated a pronounced sense of mistrust towards the new system, influenced by covert market logic. Their dissatisfaction with the low value assigned to their core business, coupled with the inferior performance outcomes generated by the new system, were the key factors contributing to this sentiment. Despite mediation by management regarding their value point, the impact on the attitudes of front-line professionals was limited and did not yield a positive effect.

Consequently, the feedback loop under the new PMM system was ineffective in these seven medical departments. The new PMM system did not penetrate departmental performance measurement and management activities and only operated at the hospital level. The new PMM system failed to have any impact on the frontline professionals, who continued to work as they had before.

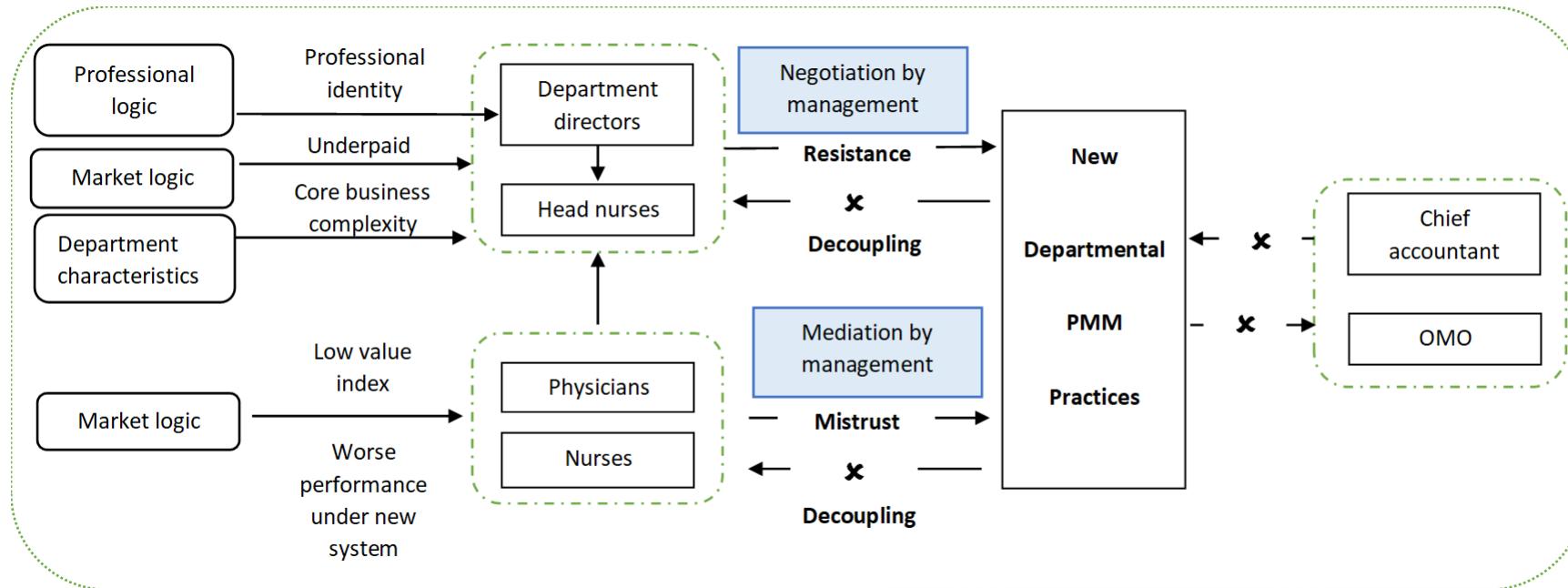


Figure 8.7. The interactions among different groups at the intra-organisational PMM institutionalisation – decoupling in these seven medical departments

8.2 Selective adoption of PMM system under logic hierarchisation

In this study, two medical departments (Intensive Psychiatric and Emergency) exhibited partial adoption of the new PMM reform, whereas their clinical managers utilised a hierarchy strategy in PMM to balance their economic interests, professional needs, and management responsibilities.

8.2.1 Internal reactions: hierarchising and neutrality

For these two medical departments, training was found to enable the clinical managers to acquire a comprehensive understanding of the performance measurement rules and the new performance management patterns. For short-term economic benefit, these clinical managers made use of managerial awareness to participate in the new PMM process, interpreted PMM results from a managerial perspective, and offered operational improvement strategies relevant to those results. As the head nurse of the Intensive Psychiatry Department said,

I re-evaluated our daily activities based on our performance data. For example, I would motivate our nurses to develop top-notch care services to increase their work quality.

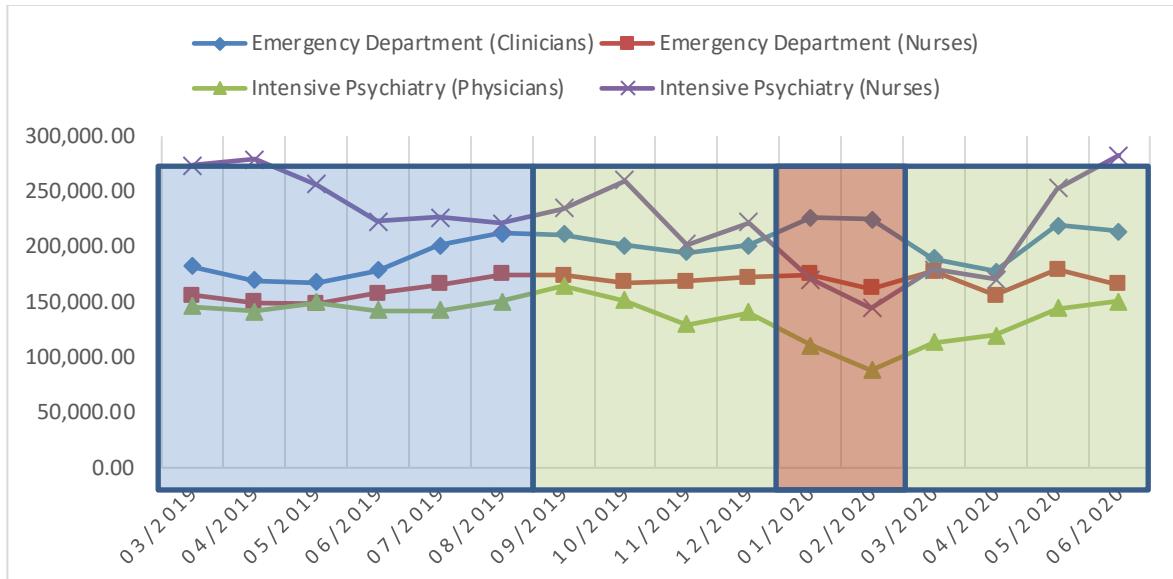
In these two departments, the significant effects of performance conditions on clinical managers' responses were identified. In comparison to other medical departments, the Intensive Psychiatry Department at TPH is renowned for its psychiatric therapy services in the local province. It has been able to sustain a steady output on account of the high number of patients it has seen (see Figure 8.3). It has retained its confidence in TPH's performance appraisal and administration processes and has been content to comply with the reforms. As the director of the psychiatry department said:

I am fully cognisant of our hospital's desire to reform the PMM system. Our management always takes strategic considerations into account when making decisions, and we should have faith in and support them.

In contrast to the previous seven medical departments, the new performance measurement method significantly boosted the economic interests of two medical departments. Figure 8.8 demonstrates that both the Intensive Psychiatric Department and Emergency Department experienced a marked increase in their performance-related compensation following the implementation of the new PMM system. Consequently, the economic interest problem that afflicted the other seven medical departments was not found in these two. As the Intensive Psychiatric Department's physician stated:

I reckon that we now get better performance-related pay. The new PMM system works a treat.

Figure 8.8. The total performance-based compensation for the three medical departments



Note: The blue marker represents performance under the old PMM system. The green marker represents performance under the new PMM system. The red marker represents performance during the COVID-19 period.

Having secured their compensation and attained an advantageous position, the clinical managers of the two medical departments expressed further support for the implementation of the new PMM system. Additionally, the emergency department displayed a notable increase during the COVID-19 lockdown period in China, in contrast to the recession observed in other medical departments. This undoubtedly adds another brick to the positive attitude of this department.

Furthermore, the emergency department's singular focus on providing urgent medical care offers a more straightforward core business that enables clinical managers to better comprehend and evaluate performance data as well as exercise operational oversight. The deputy director expounded on this point by stating that

Our Emergency Department is primarily concerned with providing emergency medical care and transferring patients to the appropriate medical departments for further care. Our core activity is, therefore, straightforward to measure and analyse.

They began to understand and interpret their monthly performance outcomes, as well as transform this information into managerial solutions. Consequently, they developed a managerial logic in their departmental management.

Even though they adopted managerial awareness in performance management, they were reluctant to do so when it was in opposition to their professional identity and economic interests. During the interviews, they expressed their dissatisfaction with patient and professional satisfaction questionnaires, as well as the large amount of time spent in management meetings rather than on their professional responsibilities. As the emergency department's director stated it:

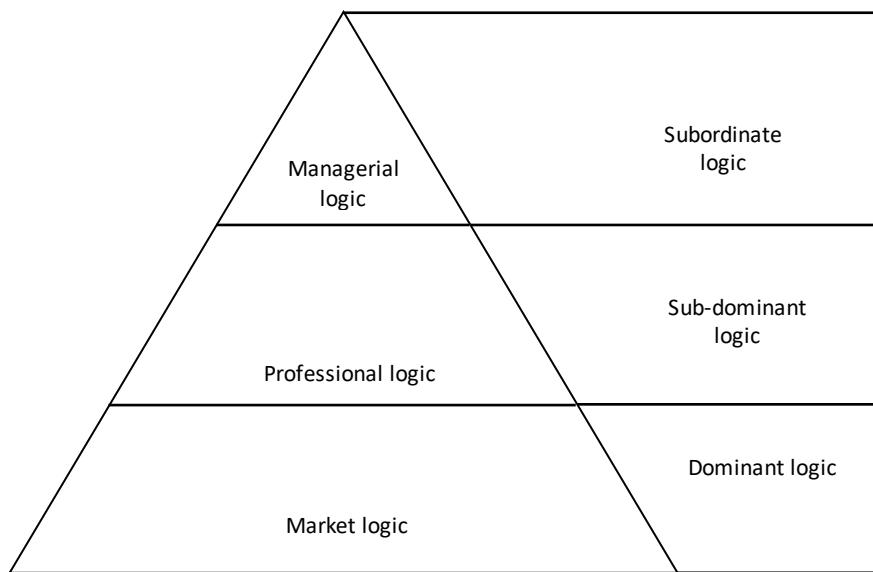
I'm particularly perturbed by how many meetings we have and how much time we spend on our satisfaction surveys. We should be able to devote more time to our own professional endeavours. So, I skipped certain meetings as I thought they were pointless, and I also didn't have time to ponder the satisfaction survey.

Regarding the subordinate position of managerial logic in affecting their daily management, the OMO leader further found:

We are heartened to observe multiple clinical managers endeavouring to take up the novel PMS system and enhance their managerial expertise. Nonetheless, they are still in the short-termism stage. We hope that they will further instil managerial awareness and launch competent performance management practices in their department.

Accordingly, the clinical managers hierarchized the multiple logics in their performance management practises (see Figure 8.9). Their professional logic and economic interests both contributed to the formation of their fundamental understanding of PMM work, with managerial logic as their subordinate logic. It was observed that they were willing to partake in PMM work when it did not conflict with their professional awareness and was also financially beneficial. Otherwise, they disregarded this PMM work to stay in line with their professional and financial interests. To put it another way, if they could not gain an advantage in either their professional or economic aspects, their PMM-related managerial work was not of any relevance to them.

Figure 8.9. Hierarchising multiple logics in departmental performance management



Therefore, clinical managers' economic interests played a significant role in shaping their response to the reform, alongside the perspectives held by frontline professionals. In these two medical departments, frontline professionals, deriving greater benefits from the implementation of the new system, adopted a position of neutrality towards the reform. As the clinician in the emergency department said:

I am appreciative that our department, which is underdeveloped, is being encouraged to develop in the design. We do not have any advantages over other large medical departments. The reform is not bad.

Generally, this study finds that clinical managers in two medical departments engage in selective adoption of the PMM reform based on their favourable performance status and hierarchical strategy, with the aim of achieving mutually beneficial outcomes that include short-term economic benefits and expected improvements in operational management. However, their limited adoption of the new system indicates a commitment to their professional autonomy and economic interests. They may reject the reform if it conflicts with their professional identity or anticipated economic benefits. In the interim, healthcare professionals on the frontlines within these departments have adopted a cautious position, refraining from both opposing and welcoming the reform.

8.2.2 The selective PMM practices

In contrast to the seven departments that decoupled their daily management from the new PMM system, these two departments turned their attention to the new system. The clinical managers also regarded the reform as a chance to achieve win-win outcomes for both them and the management in terms of performance improvement and strategic development. As the department director of the emergency department said,

This reform appears to be transparent and justifiable to me. Our recommendations were considered in the reform, and I now have a clearer idea of our strategic management ambition as a consequence of this reform. It can be a mutually beneficial outcome.

They recognised that the new PMM's focus on operational efficiency and strategic development was something that the management wanted them to comprehend and act upon. Subsequently, they adopted management behaviours to improve the department's operational efficiency. For example, when the directors of the emergency department realised, they had exceeded their labour costs, they became cost-conscious in their decisions. They started carefully controlling their labour expenditures by effectively rearranging personnel in their daily duties to lessen labour waste and alter their employment criteria. As the Emergency Department's director explained,

When I perused our monthly results, I realised that labour expenditure was a major factor preventing us from efficiency improving. To enhance our operations, I rearranged the work schedules of our professionals. We also decided to recruit new staff based on their operational skills rather than their educational qualifications. Hiring personnel who are able to work more productively would be advantageous to our department.

However, they still did not build up a positive feedback loop with management about their intra-department performance information and performance management. Management possessed scant knowledge of their departmental performance management practices, and they also performed limited departmental performance management without conducting effective communication with OMO. As their OA said:

The clinical managers occasionally engaged in discussions with me pertaining to their performance, while my knowledge of their performance management behaviors remains few. Regrettably, our conversations on the topic were also limited in number.

The internal professionals in the two medical departments, however, just disconnected their professional practises from the new PMM system. For frontline professionals, performance

management was viewed by them as primarily focused on providing accurate performance indicators and remuneration. Even when their financial interests were secured, performance management should not have had an influence on their professional activities. They emphasised their autonomy in their daily lives. As a clinician put it:

In actual fact, we pay little heed to the performance results. We were given a reasonable wage under the new system, enabling us to carry on with our professional duties. We carry on with our work as normal.

As a result, selective adoption of the new PMM system was observed in these two departments, with clinical managers displaying a hierarchization of market logic, professional logic, and managerial logic in guiding their performance management behaviours. In accordance with their hierarchical strategy, these two departments displayed confidence in the new PMM system, and their clinical managers utilised performance data to seek further performance enhancement, resulting in a positive short-term performance result (see Figure 8.8, excluding the extreme impact of the pandemic).

Figure 8.10 provides insights into the interaction between the internal actors of two medical departments and the PMM reform. In comparison to the previous decoupling departments, these two medical departments were awarded advantageous compensation in the new performance measurement system based on their high value points, particularly the Intensive Psychiatry Department, which maintained a longstanding reputation for superior performance and compensation in the hospital. Consequently, they expressed trust in the new system. Motivated by both professional and market logic, the clinical managers of these two departments regarded managerial logic as subordinate logic in guiding their daily performance management. Furthermore, unlike the complex core business structure of the decoupling departments, these two medical departments, particularly the emergency department, possess a simpler core business structure, making it easier for clinical managers to manage performance. This departmental characteristic also facilitated their adoption of the PMM reform in their performance management. Notably, the head nurses' attitudes were partly influenced by the department directors' reactions, and they learned the hierarchization strategies for the PMM reform from the directors.

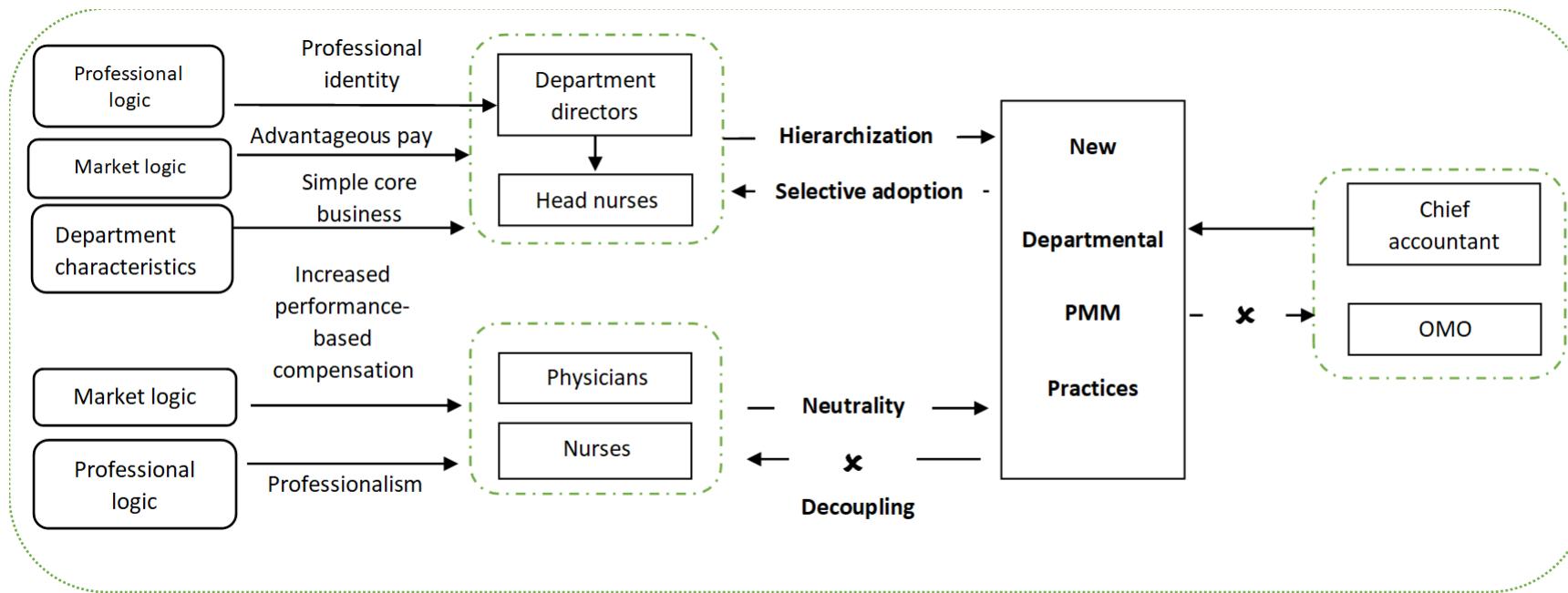


Figure 8.10. The interactions among different groups at the intra-organisational PMM institutionalisation – selective adoption in these two medical departments.

Similarly, the advantageous performance-based compensation of these two departments satisfied the frontline professionals, who maintained a neutral attitude towards the new system to protect their professional identity. The new system did not affect their daily operations except for the operational and strategic changes brought about by the clinical managers. Based on the responses of the clinical managers and frontline professionals, this study highlights the transmission and influence of reform knowledge from management to the medical departments. However, the management still struggled to receive feedback on departmental reform activities, indicating a passive and selective absorption of the PMM reforms in these two medical departments with an ineffective feedback loop.

8.3 Deep integration of the PMM system into departmental operational management

8.3.1 The hybridised clinical manager

This study observed one clinical manager (the clinical manager of the Department of Respiratory) who viewed the PMM as a crucial factor in the management of his department and performed his PMM-related managerial roles to an extraordinary degree. As he said,

I hold the view that the new system is appropriate for the performance management of my department. What I must do is comprehend it and guarantee that it is employed in my department. I also experienced no difficulty in taking it on board in my department's performance measurement and management. I had already used a similar measuring criterion in my secondary performance appraisal before this reform.

The clinical manager had already assumed a managerial role prior to the reform and developed into a hybrid manager. This is a special case, and it is difficult to replicate with other managers, as the chief accountant said:

He is an excellent manager, and we all feel that way. He accepted the new PMM system well. Of course, we hope all clinical managers can act like him. But we all know it is impossible.

The head nurse of this department also exhibited a successful amalgamation of professional and managerial acumen in her nursing management practises under the director's guidance. She suggested some high-value care services and encouraged nurses to undertake further education to enhance their professional competency. Simultaneously, she persisted in examining the nurses' work procedures to identify caring items whose productivity or values could be improved. In the interview, she stated:

I have taken some management lessons from our department director. If we simply think of ourselves as professional leaders, we will have a difficult time managing our teams. I'm in charge of motivating my subordinate nurses to carry out their duties more effectively ... We must keep up with the new management approach, or our department will lag behind other departments.

The clinical managers within this department demonstrated a commendable acquisition of managerial awareness, guiding their department's performance management in a manner not driven by short-term economic incentives. Rather, they espoused sound managerial logic in their performance management approach.

8.3.2 Positive frontline professionals under a well-constructed feedback loop

The clinical manager's encouragement facilitated positive engagement of professionals in the monthly operational meeting, which enabled the frontline professionals to articulate any confusion and gain an understanding of their performance and how they can improve it in line with TPH's strategic priorities. Surprisingly, the clinical manager's strong management skills prevented the frontline professionals from exhibiting a negative attitude in the meeting, despite the lack of economic benefit from the new system. As the clinical manager said,

Our public physicians are paid at a very low level, which we have resigned ourselves to in order to provide social welfare to the public at our current economic development status. However, I am doing my utmost to subsidise my staff in other ways. I am willing to teach them everything I know, and I am scheduling more outpatient opportunities for our young doctors.

The outcome was that the frontline personnel were receptively involved in the feedback and also sought to collaborate to contemplate modifications to their daily work practices. As one clinician in this department said,

He taught us many academic skills and inspired us to not restrict ourselves in our professional roles. We know some departments are reluctant to the new system, but we are not. We discover a behavioural pattern behind the new system that can assist us in enhancing our performance. For instance, we created "after-sale" services to monitor our patients' convalescence status and our long-term patients' health condition. It helps us preserve our patient resource, devise more services, and achieve a high satisfaction and reputation.

Led by the head nurse, the nurses in this department expressed enthusiasm for the new PMs system. They were influenced by the hybridised knowledge of their two director leaders, similarly to the clinicians in this department. According to one nurse,

I'm not sure why some clinicians and nurses in some departments are so resistant to the new system. I think it is beneficial to encourage us to be more inventive in our role.

Henceforth, by establishing an efficacious feedback mechanism with the management, the frontline professionals in this department evinced no resistance towards the novel system. Rather, they actively engaged in operational enhancements while ensuring their basic comprehension of their performance data.

8.3.3 Deep integrated PMM practices

In practice, the Respiratory Medicine Department has achieved a comprehensive integration of the new system into their departmental operational management. Upon the implementation of the new PMM system, the clinical manager engaged in extensive communication with the OMO to gain an in-depth comprehension of the new system. He then adjusted the internal individual performance measurement index to be in accordance with the new department performance measurement index. As he explained:

I know the new performance measurement system emphasising the outputs of our high-value services. Therefore, I quantified the outputs of the high-value services for each staff member to differentiate their contribution to the performance of our department.

He maintained frequent communication with his subordinates concerning their views on the new system, striving to convince them to accept the alteration to the system. For instance, he encouraged them to prioritise high-value services while improving efficiency in providing low-value services. As he said:

I suggested to them to sustain and even raise our patient resources and consider providing higher value services while developing their professional background. In the long term, I hope we can be the leader in our region in this medical area.

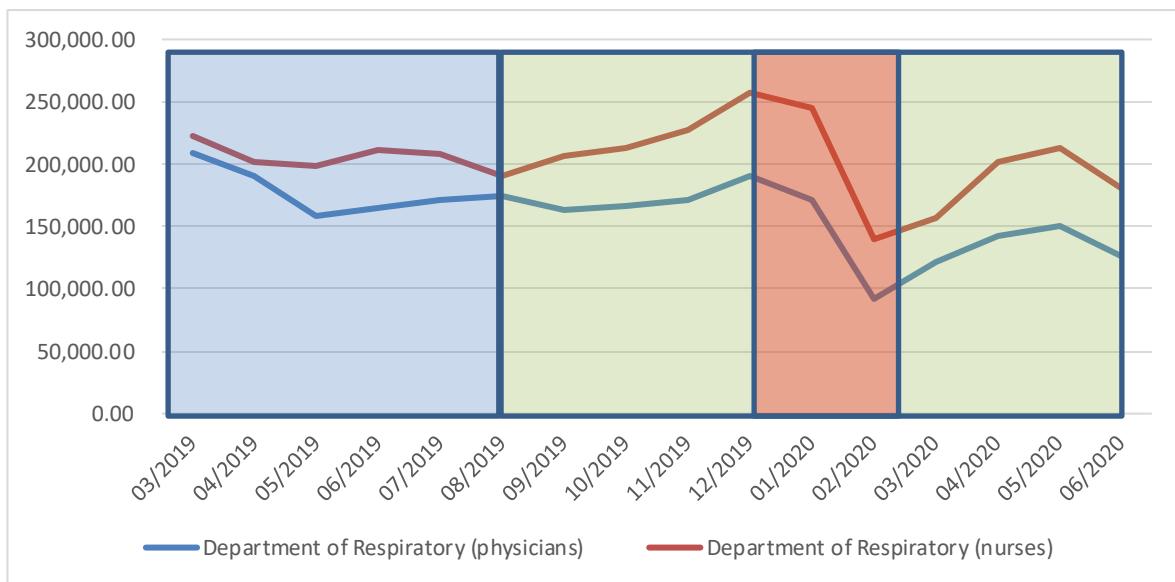
Based on the positive collaboration of the clinical managers and frontline professionals, this department facilitated a positive feedback loop with management concerning the handling of performance data in their daily operational management. Initially, the clinical managers, including head nurses, closely examined their monthly performance data while engaging with OMO regarding

their performance problems. This created a platform for the departmental OA and OMO to offer managerial support to the clinical managers in terms of utilising their performance data in their operational management decision-making. As the OA said:

I'm pleased to work with this department. They are open to our suggestions. They understand we are not adversaries and that we merely provide services for them.

This study investigated the effect of the new Performance Measurement and Management (PMM) system on the day-to-day activities and awareness of both the clinical managers and frontline staff in this department. The clinical manager in this department created a well-managed culture with a managerial logic that permeated the entire department and acted as a hybrid manager who combined his professional logic with management understanding in department performance management. His excellent personal aptitude and management proficiency helped him deeply comprehend the new reform based on a long-term development outlook. He revised the secondary performance measurement for subordinates based on the new system. To help frontline professionals understand and accept the new system, he created numerous communication channels with them to explain the performance information provided by the new system and how it would affect them. Consequently, effective feedback loops between management and the department actors were established. As Figure 8.12 presents, the entire department truly accepted the new PMM cycle in department management, and a managerial logic started to pervade their individual-level activities.

Figure 8.11. The tendency of the department performance-based compensation between 2019 and 2020



Note: The blue marker represents performance under the old PMM system. The green marker represents

performance under the new PMM system. The **red marker** represents performance during the COVID-19 period.

In summary, as Figure 8.12 explains, although the value point of the Department of Respiratory Medicine is high compared to the other eight departments. This department, like other medical departments, experiences low monthly per capita performance-related compensation. Figure 8.11 indicates that this department did not display a significant increase in performance during the first two months of the new Performance Management and Measurement (PMM) system implementation. It was only after the clinical managers seamlessly incorporated the new PMM system into the department's operational efficiency that a considerable improvement in performance was observed. This improvement continued until the COVID-19 lockdown period. Therefore, in contrast to the selectively adopting medical departments which were affected by advantageous performance-based compensation, the director's personal traits in promoting PMM reform at this department became the key factor.

Figure 8.12 highlights that the department director of respiratory medicine was guided by both professional and managerial logics, which is unique to this hospital case. His outstanding personal traits in grasping managerial knowledge and shaping department culture laid the foundation for him to successfully integrate the new PMM reform into his department's operational management. Furthermore, he vigorously promoted the learning of the new system by the head nurse and facilitated the positive integration of the new system into their management of nurses.

Through the influence of a strong departmental culture and the director's outstanding leadership, frontline professionals established trust in the new system and established a good feedback mechanism with management to improve their performance. As a result, an efficiency-conscious mindset was fostered in their daily activities. This effective integration of the new Performance Management and Measurement (PMM) system with the department's core operations was ultimately achieved.

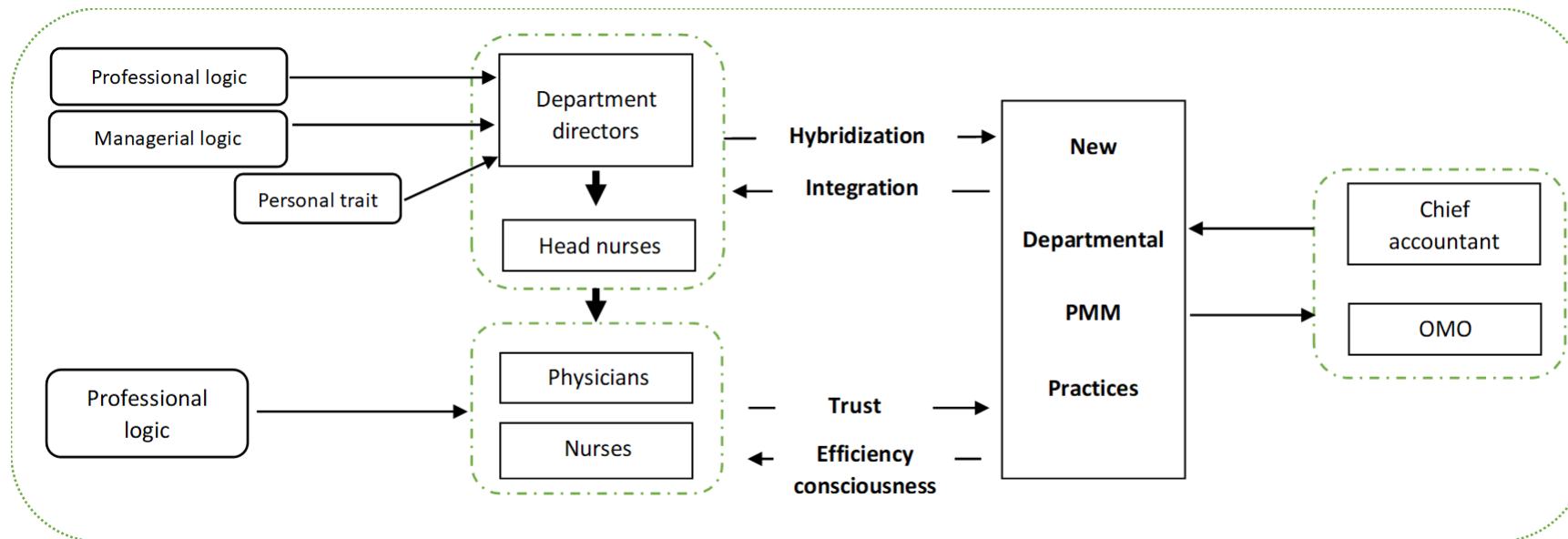


Figure 8.12. The integration of the new PMM system in department management

8.4 Summary

This chapter explores the intra-institutionalisation of the new Performance Measurement and Management (PMM) system following its implementation. The clinical managers who led the department's performance measurement and management initially exhibited varying attitudes and reactions towards their roles in the new PMM system, such as resistance, hierarchization, and hybridization. Meanwhile, the frontline professionals also responded differently to the new PMM reform, including with mistrust, neutrality, and trust. These diverse reactions resulted in different outcomes in the institutionalisation of the PMM reform in their respective departments, such as decoupling, selective adoption, and deep integration.

This study identifies the various logic relationships within the situated contexts between managerial logic and market logic and between professional logic and managerial logic as the underlying reasons for the diverse intra-institutionalisation of the PMM reform. The different logic relationships existing in the various medical departments, including conflictual and compatible ones, contributed to the different responses of the intra-departmental actors. The significant role of market logic in shaping clinical managers' and frontline professionals' behaviours during the reform is emphasised.

Furthermore, this study observes how situated factors shape actors' choices on the managerial logic behind the PMM reform, such as the complexity of the core business, the department's long-term performance status, and the personal traits of clinical managers.

Last, this study notes the top-down diffusion effects of intra-departmental actors' attitudes in influencing other intra-departmental actors' positive or negative responses toward the PMM reform.

Chapter 9 Discussion and Conclusion

Aiming to address the question of how the institutionalisation of organisational PMM reform is influenced by the dynamic complexities of multi-level institutional logics in a situated context, this thesis provides a four-year case study that examines the institutionalisation of performance measurement and management reform in Chinese public hospitals.

Following Chapters 6, 7, and 8, which present the findings addressing the research questions, this chapter discusses these findings in relation to previous studies. The implications of the findings are also discussed, and suggestions for future research are presented.

9.1 Multidimensional PMM transformations under non-Western healthcare institutional complexity

This study illuminates the intricate institutional landscape within the Chinese public healthcare sector, highlighting the prevailing state logic in PMM transformations. Our findings emphasise the tensions and interplay between state, market, and managerial logics in this realm, as well as the powerful impact of political authority on institutional dynamics. Moreover, we examine the effects of Chinese Confucian values on medical professionalism and the potential permeation of market logic among healthcare professionals. This study also contends that the PMM reform can actively contribute to the integration of emerging field-level logics into organisational and intra-organisational institutional heterogeneity.

9.1.1 Institutional complexity in the Chinese public healthcare sector

In the context of Chinese public healthcare reform, Chapter 6 identified the coexistence of diverse logics and their dynamic relationships with the dominant state logic. Consistent with previous studies, this research observed that market-oriented economic reforms in China led to the commercialization of public hospitals, introducing a profit-driven market logic into the country's public healthcare system while at the same time resulting in significant social issues (Blumenthal & Hsiao, 2015; Cui et al., 2019; Yip et al., 2012, 2019; Yip & Hsiao, 2009, 2017). More importantly, my findings show how professionalism declined in hospitals and how state logic confers legitimacy to market and managerial logics in public healthcare when they are considered beneficial but constrains their existence through regulations when they conflict with state logic. This highlights the strong influence of political power on the institutional complexity of Chinese public healthcare. The empirical analysis shows that state logic, which fundamentally shapes the actions of political authorities, is the dominant force in China's highly centralised public healthcare system, supporting

Chapter 9

the findings of prior ILP studies in the Chinese context (S. Wang & Jones, 2021; Yee, 2020; Zheng et al., 2018). In the case of China's public healthcare sector, the government is the predominant actor that enforces top-down reforms to resolve institutional contradictions and maintain control over significant decision-making power. Specifically, the enforcement of state logic at the organisational level for public welfare provision is achieved through lean operational management reforms in public hospitals.

Recent studies from the institutional logic perspective (ILP) tend to focus on long-term mechanisms that allow for the coexistence of diverse institutional logics at the field level but often overlook power dynamics among these logics. Previous research has suggested various approaches to understanding the constellation of logics within an organisational field (Goodrick & Reay, 2011) and the hybridization of diverse logics (Smets et al., 2015). However, this research highlights the predominance of state logic in Chinese public healthcare decision-making, leading to significant transformations. Therefore, it is important to note that, in studies of the public healthcare sector, while Western literature has emphasised the interplay between professional logic and managerial logic under the influence of New Public Management (Andersson & Liff, 2018; McGivern et al., 2018, pp. 82–106; Olsen & Solstad, 2020; Pettersen & Solstad, 2014), the political power behind state logic has consistently exerted significant influence on management accounting changes in this field due to the "public" nature of the sector (Chang, 2015). It is crucial to carefully analyse its role in shaping management accounting practises in this field.

At the organisational field level, this study shows that the Chinese public healthcare system primarily grapples with conflicts between state logic and market logic, in contrast to the competition between managerial logic and professional logic emphasised in the Western healthcare field (Martin et al., 2015). This study identified the detrimental impact of market logic on the interests of professional logic and state logic within Chinese public healthcare. It corroborates the empirical findings of Rice et al. (2014) and Krachler et al. (2022) regarding the effects of marketization on public healthcare.

Despite the expulsion of market logic at the field level, our intra-organisational observations indicate that many medical professionals have internalised market logic, driving their response to the PMM reform in the hospital based on economic interests. This finding highlights the importance of providing dynamic tracking of field-level institutional complexity dynamics rather than a static snapshot (Sun et al., 2021). The microlevel is highly likely to reflect both the current and historical institutional logic status exerted by the higher-level institutional complexity in a process where institutional dynamics infiltrate layer by layer alongside constant change. This finding reveals the strong penetration of market logic into the perspectives of medical professionals during prior

market-oriented health reforms in Chinese public healthcare, which did not disappear during the comprehensive health reform. It offers a fresh insight into analysing the logics embedded in medical professionals, demonstrating that their professional identity is not indestructible in guiding their behavioural paradigm. Previous studies on management accounting in public healthcare tended to directly label professional groups as having sole professional logic dominance when discussing their resistance (Conrad & Guven Uslu, 2011; Nyland, 2004). Emerging economies often face the challenge of late-developing medical professionalism (Hafferty, 2018), resulting in vulnerable professional logic. For instance, Hafferty (2018) revealed how Indian physicians experience tensions between market logic and professional values. Therefore, it is crucial to recognise the potential effects of market logic penetrating medical professionals in the context of emerging economies, where the medical profession may not have a well-established professional identity. This finding highlights an essential point that needs to be noted in ILP studies in the public healthcare sector of emerging economies.

Our study also observes the strong influence of Chinese Confucian values in shaping medical professionalism, particularly before the introduction of Western professionalism in 2002. Consistent with Zheng and Shen's (2018) research, our study reveals the impact of Chinese culture on professional logic, which introduced fundamental ethical principles for medical professionals based on Confucian culture, known as "Yi Zhě Rén Xin." Chinese physicians place great importance on their reputation, which is determined by their level of expertise and the development of professional traits under Confucian values. They also prioritise personal satisfaction and social standing within the context of Confucian society (Guo, 1995; Yasin et al., 2019). This finding echoes the definition of institutional logic as socially constructed given by Thornton et al. (2012). The behaviour patterns of institutional logic must be socially constructed, meaning that they are inevitably shaped by social cultures. Therefore, it is essential to consider the cultural values and beliefs that shape the different logics when analysing them in different contexts. In the case of China, Confucian values have played a significant role in shaping medical professionalism, and these values continue to influence medical practises and behaviours.

This study illuminates the institutional complexity of the Chinese public healthcare sector and the predominance of state logic in PMM transformations. It highlights the interplay between state, market, professional, and managerial logics in this field. In addition, it recognises the impact of Chinese Confucian values on medical professionalism and the likelihood of market logic's profound effects among medical professionals. These insights offer novel perspectives for future research on institutional logics in the public healthcare sector of developing economies. To better comprehend the institutional dynamics in this field, it is essential to recognise the cultural values and beliefs that

shape different logics and provide dynamic tracking of the process of institutional complexity dynamics.

9.1.2 The strategic role of multidimensional PMM within the dynamic institutional complexity

At the field level, from an institutional logic perspective, our research lends credence to the notion that PMM transformations serve to represent coexisting logics within the field through their design (Miller & Power, 2013). Instead of prescribing a specific logic, both the National BSC PMS in China and the streamlined PMM reform model strive to incorporate and engage with multiple logics in the PMM transformation. This is in line with Dai et al.'s (2017) findings regarding the role of management controls in addressing the coexistence of various logics. Within the broader context of China's healthcare reform, the multidimensional hospital PMM system has emerged as a vital "habitat" (Carlsson-Wall et al., 2016) for reflecting the new institutional complexity dynamics that influence hospital management.

At the same time, while previous studies have suggested the proactive role of management accounting in promoting the persistent coexistence of diverse logics (Busco et al., 2017; Chenhall et al., 2013; Dai et al., 2017; Rautiainen & Järvenpää, 2012; Lepori & Montauti, 2020), this research investigates how the PMM reform was utilised as a strategic tool for disseminating the managerial logic within WCH and then to TPH. The top management of WCH voluntarily introduced a lean PMM reform to imbue professional individuals with managerial logic through job-based lean PMM practices. The PMM reform in WCH also prompted TPH management to externally adopt an isomorphic PMM reform, which was significantly influenced by its interactions with WCH. Ultimately, this department-level PMM reform in TPH also facilitated the infiltration of managerial logic into its intra-departmental context. Specifically, the performance indicators of operational efficiency, as well as other non-financial indicators related to medical quality and satisfaction, provide room for expressing the interests of managerial logic and state logic in TPH's performance management and draw internal attention to them. As Leotta and Ruggeri (2022) propose, a PMS can enable the simultaneous comprehension of both societal- and field-level logics.

In this research, we delve deeper into the transformative role of PMM reform within the context of TPH, illustrating its capacity for promoting the infusion of state and emerging managerial logics, thereby transcending its conventional perception as merely a passive platform for the interplay of existing logics. This study highlights the PMM reform's strategic importance in the active assimilation of emerging field-level logics, intricately weaving them into the fabric of both organizational and intra-organizational level. By facilitating a symbiotic alignment between external

pressures and internal dynamics, the PMM reform emerges not just as an operational tool but as an institutional mediator, capable of bridging between the higher-level institutional dynamics and micro-level organizational complexity.

9.2 Organisational response to dynamic institutional complexity – pre-active strategy

For the internal forces of reform, this study highlights that the reflexivity of top management becomes crucial in reflecting on existing system flaws and fostering PMM reform consciousness. Meanwhile, our study presents a dynamic and holistic perspective on the integration of emerging managerial logic promoted by lean management into TPH's existing organisational system across different levels. Despite top management designing and adjusting a lean PMM reform to balance powerful state logic, emerging managerial logic, and essential professional logic while adapting the existing human resource system, intra-departmental actors received the PMM reform differently within their situated factors. Thus, this study uncovers an inconsistency between top-level integration attempts and intra-departmental-level responses, which include decoupling, selective adoption, and integration. This discrepancy underscores the need for a comprehensive understanding of organisational responses to institutional complexity, taking into account the dynamics of intra-organisational reactions.

9.2.1 The reflexivity of top management team

Prior research has demonstrated the impact of field-level institutional logics on organisational behaviour, such as mission orientation, stakeholder engagement, resource mobilisation, and performance measurement (Durand and Thornton, 2018; Reay & Hinings, 2015; Busco et al., 2017). These studies emphasise the significance of understanding the interplay between distinct logics and the opportunities and challenges they present to organisations. Similarly, this study investigates the isomorphic forces that compelled TPH's multidimensional PMM reform. These pressures were the result of regulatory mandates issued by local government authorities and external pressures from the PMM reform initiatives of other local public hospitals. These exogenous institutional changes forced TPH's executive leadership to react.

Simultaneously, this study identifies the internal sources of the institutional changes proposed by Seo and Creed (2002). As presented in Chapter 7, the study explores the internal institutional mismatch due to the reflexivity of the top management team to positively adopt managerial logic. The TPH's lean managerial consciousness regarding hospital performance measurement and management was stimulated by managerial logic's infiltration into the top management team. The previous PMM system was criticised for its lack of functional efficiency and misalignment of

interests. Agreeing with Acemoglu et al. (2021), our study recognised the internal demand for reform, which was triggered by the adoption of a lean management methodology by the top management team of TPH.

Thus, although the primary drivers of the PMM reform are the dynamic forces of external institutional complexity, the internal sources of organisational institutional contradictions may be stimulated by these forces. The reflexivity of top management became important to reflect on the existing system's flaws and generate a PMM reform consciousness. In this hospital, the penetration of managerial logic was bolstered by TPH management's interactions with other early reformers. The TPH administration actively assimilated managerial logic through their interactions with other hospital administrators. They were not significantly constrained by their initial roles, nor did they accept changes passively (Cooper et al., 2008). Instead, they actively participated in the process of embedding the managerial logic within their own organisation, which is in opposition to Cui et al.'s (2019) observation of Chinese public hospitals' passive response to reforms. As underscored by Lawrence et al. (2011) regarding the importance of "institutional work," acknowledging this aspect is crucial for understanding the impact of external institutional complexity dynamics on organisations and the initiation of institutional changes.

9.2.2 TPH's response to institutional complexity dynamic: integration

As discussed in the last section, the top management team of TPH, being the most powerful group under the centralised governance structure, directly faced and responded to external institutional pressures. The emergence of internal reform consciousness in the TPH top management team was initiated by external isomorphic pressures. The top management team worked as pioneers in importing the lean PMM reform and persuading other actors to accept it as a "solution" to the current institutional environment as well as internal inefficiency, as previously found by Alcouffe et al. (2008).

However, the approach adopted by the top management team deviated from the original isomorphic pattern. Rather than fully building a job-based lean performance measurement and management (PMM) model that is commonly implemented by other hospitals, they chose to integrate it with their current organisational system. Due to limitations in the organisational context, they flexibly enacted managerial logic by empowering clinical managers to promote the department-based reform design. This strategy aimed to ensure that the new model continued to maintain its efficacy in lean management.

According to Pache and Santos (2013), integration is the process of creating a common framework or identity that incorporates elements from different logics. Bertels and Lawrence (2016) further

describe integration as the process of incorporating elements of a new logic into existing practices. Based on our findings, this study aligns with both definitions and further characterises integration as the process of creating a common framework, the new multidimensional PMM paradigm, that incorporates elements from different logics, such as state logic, professional logic, and emerging managerial logic. This framework was subsequently integrated into the organisation's existing system.

Our study, in response to Modell's (2022) appeal, provides a dynamic and holistic view of whether and how the emerging managerial logic emphasising lean management was integrated into TPH's existing organisational system, from the top management level to the intra-departmental level, over a period of four years. As our findings elaborate, the top management team eventually designed and adjusted a lean PMM reform to compromise the powerful state logic, emerging managerial logic, and essential professional logic while adapting the existing human resource system. We further explored how the PMM reform was received by intra-departmental actors within their situated factors. Only one medical department, as found in this study, fully integrated the new PMM system into their daily operational activities, while other departments showed varying degrees of deviation and distortion. Thus, the organisational response to integration could be inconsistent at the intra-departmental level. The interactions between the intra-departmental actors and the reform within their situated factors became the critical factors that caused this inconsistency. This is discussed further in the next section.

Previous research has contributed to the ongoing discussion on how organisations and individuals can integrate emerging logic with their own logics or incorporate it into their existing practises (Pache & Santos, 2013; McGivern et al., 2015). Our study, however, reveals the differences between the management expectations, which aimed for integration, and the intra-departmental-level responses, which included decoupling, selective adoption, and integration. It indicates the inconsistency between the management expectations for the reform and the final ends of the intra-institutionalisation. This inconsistency highlights the need for a comprehensive understanding of organisational responses to institutional complexity, which must consider the dynamics of intra-organisational reactions (Modell, 2022).

9.3 Insights on inconsistent intra-organisational institutionalisation

9.3.1 The means-end decoupling under partial autonomy

Our analysis uncovers disparate results across various medical departments in response to the PMM reform, alongside a spectrum of strategic approaches adopted by clinical managers. These outcomes influence not just the practical domain within each subunit but also permeate the realm

of its intrinsic values. This case study enriches existing narratives by offering a profound exploration of the 'partial autonomy of embedded agency' as the fundamental reason for the divergence in subunit responses, ultimately leading to a phenomenon known as 'means-end decoupling.' Furthermore, this research highlights the complications engendered by this decoupling within the reform, manifesting in a tumult of sub-institutionalization. It contributes to recent discussion on addressing the means-end decoupling (Wijen, 2014; Bromley & Meyer, 2015; Kok et al., 2019).

In this case hospital, seven of ten medical departments chose to decouple the reform contents with their daily operation and frontline professionals' daily activities, with only following the rules designed to measure their department performance. Our observations also revealed a selective implementation of the reform in two medical departments (the Intensive Psychiatric Department and the Emergency Department), wherein clinical managers employed a hierarchical strategy to traverse the diverse logics they encountered while frontline professionals exhibited a neutral disposition towards its execution. Anderssen and Liff (2018) highlighted the selective adoption of components from an alternative logic with the aim of attaining legitimacy and influence while preserving the dominance of one's primary logic. In our research, we observed a comparable scenario; however, it was not motivated by the quest for legitimacy but rather by the pursuit of a mutually advantageous relationship between the two logics, as perceived by the internal actors within their contextual factors. As Arman et al. (2014) posited that the hierarchization approach serves as a mechanism for managing institutional complexity by prioritising a specific logic over others in different situations, our study revealed that clinical managers in these two departments employed a hierarchy involving market logic, professional logic, and managerial logic when addressing performance measurement and management matters in the new system. Despite embracing certain elements of the managerial logic, the clinical managers in our study maintained their allegiance to the market logic and professional logic while simultaneously retaining a degree of flexibility and autonomy. This approach allowed them to adeptly navigate the managerial logic and attain mutually beneficial outcomes that corresponded with their dominant logic interests while eschewing conflicting activities to safeguard their economic interests and professional integrity. This observation is consistent with the selective involvement approach posited by Kirkpatrick et al. (2009). The authors contend that, when confronted with role ambiguity, conflict, and overload stemming from augmented managerial responsibilities and accountability pressures, clinical managers may choose to selectively engage in their managerial roles as a coping mechanism. While this research sees the strategy employed by clinical managers to selectively engage in management through a hierarchization approach. Finally, the hierarchical approach adopted by clinical administrators serves to exacerbate the estrangement of frontline practitioners from the reform process. This, in turn, establishes a buffer for their pre-existing behaviours and cognitive

patterns. Ultimately, this dynamic hinders the integration of reform initiatives within the frontline practice.

This thesis still found that the director and head nurse of one medical department (the Department of Respiratory Medicine) struck an excellent balance between their managerial roles and medical responsibilities. Then this study highlights the exceptional capacity of a hybrid leader to acquire knowledge and adapt to diverse situations, in line with prior research in the healthcare sector (e.g., Cascón-Pereira et al., 2016; Currie et al., 2008; Llewellyn, 2001; McGiven et al., 2015; Kurunmaki, 2004). Following what McGiven et al. (2015) suggested, this thesis found that the hybrid department leaders utilised various knowledge mobilisation techniques to promote hybrid practises among related nurse managers and frontline professionals, including translating and communicating knowledge between professionals and management. The hybridization of the nurse manager was then significantly influenced by their department's hybridised director's promotion. Under the powerful leadership of the two hybrid clinical managers in this department, frontline professionals have willingly adjusted their practises based on the performance information, recognising it as an essential element in enhancing their performance. Consequently, a deep integration of the new PMM system has been achieved in this medical department, aligning with the integration design established by the top management.

These different reactions of medical departments implies how intra-organisational units may respond differently to external institutional logics within their limited autonomy (Ocasio et al., 2017) and lead to the internal complexities for management as Greenwood et al. (2011) proposed. Meanwhile, the case hospital's subunits' inconsistent strategies after the TMT implemented the PMM reform highlight the difficulties presented by all performance standards. Although these regulations seek strict adherence from internal actors, they unintentionally limit the flexibility of some units and made these subunits finally refused the adoption of a managerial logic in their daily activities, reflecting the conflict between substantive compliance and objective attainment (Wijen, 2014). Wijen (2014) defined this situation that an organization employs to cope with environmental complexities turn out to be ineffective, insufficient, or unsuitable as 'means-end decoupling' which are high likely happen in opaque field. Followingly, this study see the internal complexity arises because the different responses of the subunits to the PMM reform entails that one internalizes the complexities and inconsistencies of these pressures (Greenwood et al., 2011). These units are internally aligned with the established performance rules while inconsistency between them on their performance management and operational management behaviors giving rise to the different daily performance measurement and management cycles performed and the chaos of intra-institutionalization, echoing the 'subcultures' supposed by Kok et al. (2019). Furtherly, it brought the challenging situation for management to manage (Bromley & Meyer, 2015).

9.3.2 Subunit characteristics attributing to means-end decoupling

This research highlights the subunit characteristics that shape the choices of internal actors from the different subunits to exercise their partial autonomy in responding to the reform differently. This research argues that variations in departmental professional reputation, the intricacy of core business operations, and the leadership styles of medical departments (subunits) complicate the formulation of uniform performance rules, thereby amplifying the risk of internal chaos of subunit institutionalization. Thus, an exclusive emphasis on addressing the multifaceted external institutional pressures with uniform accounting rules without considering subunit diversity may lead to a 'means-end decoupling' during the reform of public organizations.

Based on the study's findings, medical departments that have a strong local professional reputation are more likely to provide strategic support and adopt PMM reform initiatives more readily. For example, the Intensive Psychiatry Department possessed a high local reputation, which also ensured them stable and substantial incomes. As a result, the department fostered a positive relationship with the TPH management, with a high degree of trust and minimal concerns about performance measurement and management. Thus, this department demonstrated a greater willingness to support the reform in comparison to the seven departments. Conversely, medical departments with a diminished local professional standing exhibit greater hesitancy towards the PMM reform. This reluctance can be attributed to their prolonged period of suboptimal performance outcomes and tenuous local reputation. Consequently, they also have a weak trust to hospital management. Prior studies easily linked the professional reputation of medical professionals with their professional logic to explain their resistance (Wright et al., 2021). This study links the department's reputation to their internal position compared with other departments to see how a strong reputation brings the department a high level of trust in management due to the resulting build-up of benign interactions with management and finally promotes a positive attitude towards them.

Moreover, this study highlights that the complex nature of core business in medical departments can impede clinical managers' willingness to adopt new PMM reforms. In a medical department characterized by intricate core operations, there exists an abundance of performance data to oversee and analysis. However, an excessive influx of performance information can lead to resistance among managers and professionals due to information overload. For example, the Emergency Department, which has a relatively simple core business structure, found it easier to manage performance and adopted the PMM reform in their performance management. In contrast,

the seven medical departments in the first group, particularly the surgery departments, had more complex core business structures. Thus, the higher level of complexity led to greater amounts of performance information, making it more challenging for clinical managers to embrace the PMM reform and, therefore, increasing their resistance to it.

In this research, empirical data underscores the pivotal role that clinical managers' leadership styles have in determining their responses and in influencing the perspectives of frontline professionals. Martin et al. (2016) posited that leadership approaches act as mediators in the limited autonomy of individuals concerning institutional logics. Notably, this study identifies a clinical manager in the "hybridizing" department as a positive leader, exemplifying traits such as resilience, promoting teamwork and changes. Such a leadership approach empowered him to proactively embrace the PMM reform and expedite its integration into frontline procedures. Thus, this finding also corresponds with Kraatz's (2009) assertion that the exhibition of exceptional leadership is crucial for successfully navigating diverse institutional pressures. In contrast, the clinical managers from the "decoupling" departments, as observed in this study, displayed a passive management approach when dealing with new logics and internal conflicts. They tended to obscure their critical roles in departmental reforms, delegating responsibility to senior executives while attempting to remain inconspicuous regarding conflicts between professionals and managers to avoid inciting dissatisfaction from either party.

To sum up, this study delineates three unique approaches the subunits applied to respond the reform: decoupling, hierarchization, and hybridization. Each of these approaches corresponds to distinct reform trajectories: decoupling, selective adoption, and deep integration. The execution of these strategies and their respective trajectories leads to diverse outcomes within the PMM system, such outcomes include the manifestation of negative emotions, tendencies to overlook certain aspects, and enhancements in efficiency. Finally, most of these outcomes deviate considerably from the goals initially established by the management for the reform.

Hence, the study emphasises that intra-organisational units should not be regarded as passive bearers of institutions but as active participants in the internal institutionalisation process (Cooper et al., 2008). Organisations and intra-organisational units may respond differently to external institutional logics within their partial autonomy, leading to internal complexity among subunits and the different reform outcomes. This study highlights the concept of 'means-end decoupling' as introduced by Wijen (2014). Despite the new PMM system being operational, the primary institutional objectives set by TPH managers were not met. Furthermore, the standardized performance rules implemented during the reform failed to account for the unique characteristics

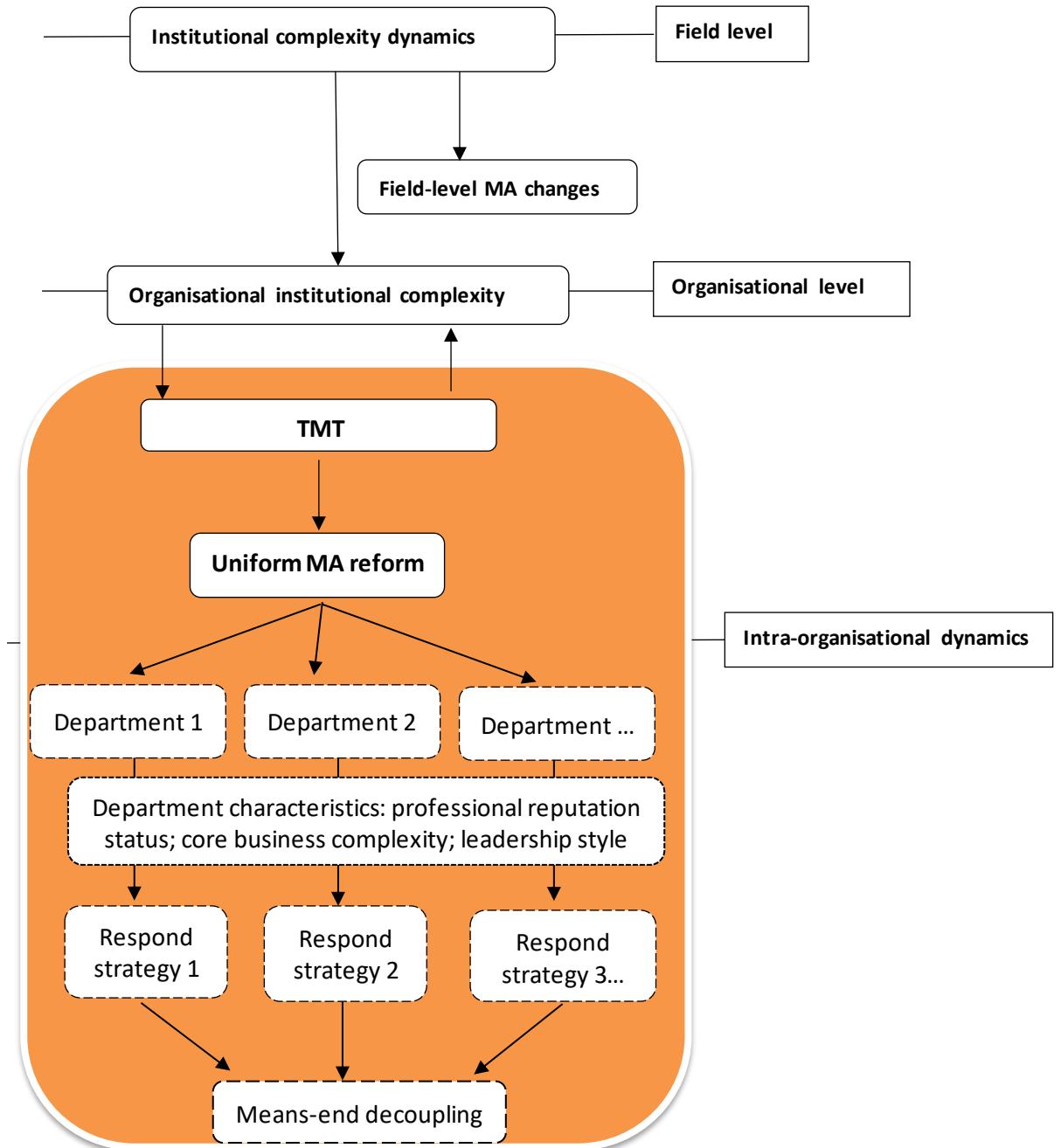
of individual departments, exacerbating the discord between reform initiatives and original objectives.

9.4 A revised multi-level contextualised theoretical framework for investigating management accounting reforms in public organisations

Drawing on prior theoretical literature and considering the contextualised institutional background, an integrated theoretical framework, was proposed to guide this study on the PMM reform in the Chinese public hospital—TPH. Informed by our research findings, a revised multi-level contextualised theoretical framework was further developed aimed at exploring the intra-institutionalisation of management accounting reform within public organisations (Figure 9.1).

This revised framework integrates the theoretical framework developed by Dillard et al. (2004) and the institutional complexity framework proposed by Greenwood et al. (2011) but expands to include the intra-institutionalisation process of management accounting reforms in public organisations.

Figure 9.1. A revised multi-level contextualised theoretical framework for management accounting reform intra-institutionalisation in public organisations



As illustrated by Figure 9.1, macro-level changes within societal, economic, and political contexts can initiate dynamics in field-level institutional complexity. Our study demonstrates that the interplay among market-oriented health reform, social problems, economic growth, and political

shifts has led to the decline of market logic, the emergence of managerial logic, and the resurgence of state logic within the Chinese public healthcare sector during the comprehensive health reform in 2009–2020.

The dynamics of field-level institutional complexity bring about new foci in public organisations' management accounting practises at the field level. For instance, the resurgence of state logic in the Chinese public healthcare sector has led to the abandonment of financial-focused performance concerns in public hospitals and a shift towards a comprehensive performance measurement system that encompasses medical quality, patient satisfaction, operational efficiency, and sustainable development. In this study, it can be observed how the public healthcare sector first adopted the National BSC PMM and later reformed by adopting a homogenised lean PMM model to reflect a multidimensional performance perspective.

While management accounting changes have been implemented in the public sector to address the complexities arising from the institutional environment, these changes may be government-led or industry-driven in response to the field-level institutional dynamics within the public sector. It results in isomorphism pressures on organisations, which filter institutional dynamics into public organisations and drive the adoption of homogeneous management accounting changes. As explored in this study, the lean PMM reform in the Chinese public healthcare sector promotes the penetration of managerial logic into TPH top management via top management's frequent communication with early reformers, creating internal institutional forces that, together with field-level isomorphism pressures, triggered the PMM reform in TPH.

This revised theoretical framework expands on the intra-organisational level to theoretically deconstruct the intra-institutionalisation process in public organisations. It begins by examining the management accounting reform design within the organisational supporting system via the top management team to integrate the field-level management accounting changes into their design.

Following it, the adoption of PMM reforms elicits varied responses from distinct medical departments. These variations arise due to the inherent logics of clinical managers and frontline professionals, coupled with unique departmental characteristics that influence their partial autonomy. Such characteristics encompass departmental professional reputation, complexity of core business, and leadership styles. As discussed, medical departments with a robust local professional standing are predisposed to offer trust on management reforms and are more amenable to PMM reform initiatives. Departments with complicated core business generate voluminous performance data, complicating the task for clinical managers and front-line professionals to understand the PMM reform, thereby amplifying their opposition. Also, a

department helmed by a more positive leader in management will facilitate conflict resolution between management and frontline professionals and diminishes professional resistance.

Thus, the heterogeneity in departmental professional reputation, operational intricacy, and leadership paradigms potentially steers these departments towards diverse reform response strategies, such as decoupling, hierarchization, and hybridization. These strategic responses culminate in varied actual departmental PMM practices, ranging from complete decoupling to selective adoption and profound integration with the reform directives. A palpable misalignment between the managerial objectives and the actual departmental practices concerning the reforms might result in a means-end decoupling of this PMM reform. In this instance, while the PMM reforms implemented within the hospital successfully facilitated the creation of novel performance metrics, the operational practices of various departments significantly diverged from the strategic objectives outlined by the management to advance this reform - enhance efficiency. Instead, most departments have headed to a more passive operational approach.

Overall, this study provides insights into the dynamics of institutionalisation processes in public organisations and highlights the importance of considering the intra-organisational institutionalisation process in the design and implementation of management accounting reforms. The revised theoretical framework contributes to the management accounting literature by providing a contextualised and dynamic understanding of the institutionalisation process of management accounting changes or reforms in public organisations.

9.5 Contributions

This study has contributed to both management accounting literature and institutional logic perspective literature through a case study on the institutionalisation of management accounting reforms in public healthcare organisations, with a particular focus on the diversity of intra-organisational institutionalisation processes within multi-level contexts.

9.5.1 Multilevel contextualized PMM reform

Drawing from a case study centred on the development and implementation of a PMM system in a Chinese public hospital, this research presents a refined, multi-level, contextualised theoretical framework that encapsulates the intra-organisational institutionalisation process in public organisations. This revised framework builds upon the initial theoretical model by incorporating a multi-level perspective, which accounts for the dynamics of field-level institutional complexity (Dillard et al., 2004; Greenwood et al., 2011), while accentuating the significance of intra-organisational forces in propelling the institutionalisation of management accounting reforms.

As illustrated in Figure 9.1, macro-level shifts within societal, economic, and political contexts can instigate alterations in field-level institutional complexity (Dillard et al., 2004). These changes, in turn, bring renewed attention to the management accounting practises of public organisations. In the context of the Chinese public healthcare sector, the re-emergence of state logic has resulted in the abandonment of financially centred performance concerns in favour of adopting a multidimensional performance measurement and management system.

Moreover, this study underscores the impact of external isomorphic pressures and internal institutional forces in both steering public organisations towards adopting homogenous management accounting changes. The widespread lean PMM reform within Chinese public healthcare, as exemplified by its adoption in TPH, demonstrates how the internal institutional forces of clinical managers and frontline professionals interact with external isomorphic pressures to initiate the PMM reform. At the intra-organisational level, the implementation of management accounting changes or reforms aims to integrate managerial logic into medical department management, ultimately striving for internal improvements. However, the inherent logics of clinical managers and frontline professionals, along with their situated factors, mediate their partial autonomy, thereby leading to disparate institutionalising outcomes across departments.

9.5.2 Enriching existing institutional concepts: institutional complexity in non-Western healthcare settings

The present study contributes to the theoretical understanding of institutional complexity (Greenwood et al., 2011; Thornton et al., 2012) in the Chinese public healthcare sector by examining the coexistence of diverse logics and their dynamic interplay with the dominant state logic within the context of public health reforms. The research findings demonstrate that the market-oriented economic reforms introduced in China led to the commercialization of public hospitals, infusing a profit-driven market logic into the nation's public healthcare system. Nevertheless, this approach resulted in significant social issues, prompting the central government to refocus its efforts on rebuilding social welfare and ensuring production efficiency in public hospitals by altering political priorities and introducing managerial logic to guide modernization efforts.

This study's findings contribute to the institutional logic perspective (ILP) literature by highlighting the strong influence of political power on the institutional complexity of Chinese public healthcare. The findings demonstrate that state logic, which fundamentally shapes the actions of political authorities, is the dominant force in China's highly centralised public healthcare system. In addition, this study underscores the significance of recognising the potential effects of market logic

penetration among medical professionals in the context of emerging economies, where the medical profession may lack a well-established professional identity that was early rooted in Confucian values. By doing so, our research offers fresh insights into the analysis of logics embedded in healthcare and highlights the importance of considering cultural values and beliefs in shaping institutional logics, as Thornton et al. (2012) appeal.

Following the discussions on the interplays between the multiple logics in healthcare (Arman et al., 2014; Reay et al., 2017; Reay & Hinings, 2009), this research further extends the dynamic understanding of the interrelations among state, market, and managerial logics in the public healthcare sector. It reveals the detrimental impact of market logic on the interests of professional and state logics within the Chinese public healthcare system, corroborating previous empirical findings on the effects of marketization on public healthcare. Subsequently, the abandonment of market logic occurred after its failure to compete with state logic, leading to the promotion of managerial logic that is compatible with state logic. Despite being abandoned, it is apparent that many medical professionals—in this case, hospital staff—still have an internalised market logic, which influences their response to PMM reforms. It highlights the importance of providing dynamic tracking of field-level institutional complexity dynamics in comprehensively analysing existing institutional complexity within organizations.

In summary, this study sheds light on acknowledging the institutional complexity of the Chinese public healthcare sector and the predominance of state logic in its PMM transformations. It provides novel angles for future research on institutional logics in the public healthcare sector of emerging economies, emphasising the need to consider the cultural values and beliefs that shape different logics and providing dynamic tracking of field-level institutional complexity dynamics.

9.5.3 Tackling the paradox of embedded agency – partial autonomy under situated contexts

The current study offers multiple theoretical contributions by investigating the considerable impact of specific contextual factors at multiple levels on the constrained autonomy of embedded agencies when addressing institutional complexity. These factors include the roles of centralization, institutional position, and internal elements in shaping organisational responses to Performance Measurement and Management (PMM) reforms.

Second, this research extends the literature on institutional position (Greenwood et al., 2011; Moser et al., 2020) by demonstrating that a dynamic view of institutional position is essential to understanding organisations' strategic responses to emerging institutional logics. In our study, a

high institutional position drives public hospitals to react more quickly and positively to external institutional complexity dynamics, which challenges the assumptions made in previous literature.

Third, the study highlights the significant influence of pre-existing organisational systems in shaping organisational responses to isomorphic PMM reform (Alsharari, 2019; Multiganda, 2013). This recognition calls for a more nuanced understanding of the role of existing organisational mechanisms in the institutionalisation of management accounting reforms.

Fourth, the study demonstrates that internal factors, such as departmental reputation and core business complexity, significantly influence the adoption of PMM reforms in medical departments. This insight has practical implications for policymakers and healthcare organisations by emphasising the importance of tailoring PMM reform strategies to the unique characteristics of each department.

Fifth, the research contributes to the ongoing debate regarding the partial autonomy of situated individual agents when confronted with multiple institutional logics (Creed et al., 2019; Martin et al., 2016; Thornton et al., 2012). We provide empirical evidence that the personality traits of clinical managers and their leadership styles play a crucial role in shaping responses to new PMM systems.

In summary, this study offers a comprehensive analysis of the ways in which situational factors influence agents' responses, given their partial autonomy. This research advances the notion of embedded agency's partial autonomy by providing empirical evidence that supports the field-level and organizational-level attributes proposed by Greenwood et al. (2011), which shape institutional complexity and organisational responses. Additionally, this investigation challenges some of the assumptions regarding the impacts of situational factors on agency autonomy made in previous literature. Furthermore, this study extends the analysis to the intra-organizational level, examining the influence of situational factors on subunits' responses. Simultaneously, this research bears significant implications for policymakers and healthcare organisations seeking to implement PMM reforms. By acknowledging the challenges posed by the complex nature of core business in medical departments and the different internal positions, a tailored approach may prove more effective in overcoming resistance to change and ensuring the successful adoption of new performance management practices. Moreover, cultivating strong and proactive leadership can be instrumental in guiding medical departments through the complexities of institutional change and fostering a more receptive environment for PMM reform initiatives.

9.5.4 Expanding insights into organisational approaches to institutional complexity

The present study makes several important theoretical contributions to the understanding of institutional complexity and organisational behaviour.

First, it extends the existing literature on the influence of field-level institutional logics on organisational behaviour, such as mission orientation, stakeholder engagement, resource mobilisation, and performance measurement (Busco et al., 2021; Reay & Hinings, 2019; Thornton et al., 2018). Through an examination of the isomorphic institutional forces that initiated the multidimensional PMM reform at TPH, this research offers new perspectives on how organisations utilise PMM reform to serve as a strategic tool in incorporating emerging field-level logics into organisational and intra-organisational institutional diversity. This study supports the idea that multidimensional PMM transformations exemplify the coexistence of multiple logics within a field by way of their design (Miller & Power, 2013). Within the broader scope of China's healthcare reform, the multidimensional hospital PMM system has materialised as a crucial "habitat" (Carlsson-Wall et al., 2016) for reflecting the evolving institutional complexity dynamics that impact hospital management. Our investigation further evidences the utilisation of the PMM reform as an instrument for disseminating managerial logic within TPH. In this study's analysis, we observe how the PMM reform assisted in transmitting both state and emerging managerial logics to TPH. While prior research has proposed the proactive role of management accounting in fostering the enduring coexistence of multiple logics (Busco et al., 2017; Chenhall et al., 2013; Dai et al., 2017; Lepori & Montauti, 2020; Rautiainen & Järvenpää, 2012),

Second, this study contributes to the understanding of internal sources of institutional change as proposed by Seo and Creed (2002). The investigation of TPH's internal institutional mismatch, driven by the reflexivity of the top management team in adopting managerial logic, uncovers the critical role of internal dynamics in shaping organisational responses to external pressures. This finding complements the existing literature on the interplay between distinct logics and the challenges they present to organisations (Daron et al., 2021). This finding supports the argument made by Lawrence et al. (2011) regarding the importance of "institutional work" in understanding the impact of external institutional complexity dynamics on organisations and the initiation of institutional changes.

This study further contributes to the understanding of integration as a process of creating a common framework or identity, as defined by Pache and Santos (2013), and the incorporation of elements of a new logic into existing practices, as described by Bertels and Lawrence (2016). The research presented here characterises integration as the development of a multidimensional PMM paradigm, combining state logic, professional logic, and emerging managerial logic, and

demonstrates how this framework was integrated into TPH's existing organisational system. Hence, by addressing Modell's (2022) call for a dynamic and holistic view of the integration process, this study provides valuable insights into the incorporation of emerging managerial logic through a four-year longitudinal analysis. The research unveils how top management designed and adjusted lean PMM reform to accommodate state logic, managerial logic, and professional logic while adapting the existing human resource system. Furthermore, the study examines the reception of PMM reform by intra-departmental actors within their situated factors, revealing inconsistencies in organisational responses to integration at the intra-departmental level.

9.5.5 The intra-organisational level of institutional analysis

In this study, the observed inconsistency between top-level and intra-departmental responses, which encompass decoupling, selective adoption, and integration, underscores the importance of a comprehensive understanding of organisational reactions to institutional complexity.

First, the study uncovers the complexity and diversity of responses from medical departments to external institutional logics, identifying three institutionalisation pathways in the hospital. It emphasises that organisations and intra-organisational units may respond differently to external institutional logics within their partial autonomy, resulting in diverse institutionalisation outcomes. This recognition challenges the notion that intra-organisational units are merely passive bearers of institutions, positioning them as active participants in the internal institutionalisation process (Cooper et al., 2008).

Second, the study highlights the role of clinical managers in navigating institutional complexity and presents different strategies employed by them, including decoupling, selective implementation, and hierarchical approaches. The findings illustrate the critical importance of hybrid clinical managers in promoting the integration of reform initiatives within frontline practise and institutionalisation (Nyland and Pettersen, 2004). This insight extends the understanding of the strategies used by clinical managers in coping with role ambiguity, conflict, and overload stemming from increased managerial responsibilities and accountability pressures.

Overall, this study contributes to the ongoing discussion on how subunits and individuals can react to emerging logic differently with their practises (McGivern et al., 2015; Pache & Santos, 2013) and lead to different outcomes of the PMM reform. It emphasises the need to consider the diversity and dynamics of intra-organisational responses within the integration process (Modell, 2022). This study highlights the importance of recognising the agency autonomy of intra-organisational units and the role of hybrid clinical managers in navigating institutional complexity and promoting the integration of reform initiatives.

9.5.6 Implications for organisations (hospitals) implementing management accounting changes

This study demonstrates that leadership styles and personal aesthetics significantly influence clinical managers' partial autonomy when faced with institutional pressures. Additionally, failure to align reform with the organisational system can result in potential risks, such as future decoupling. Public hospital senior management seeking to undertake management accounting reform might need to consider the following:

- 1) Carefully assess the compatibility of the proposed reform with the existing internal support system of the organisation. It is crucial to recognise that management accounting reform cannot be implemented in isolation and must be integrated into the existing organisational structure. Failure to align the reform with the internal support system may lead to potential risks, such as decoupling, in the future. Thus, comprehensive planning and evaluation should be conducted before initiating a reform to ensure effective coordination with the existing organisational system. In cases where the existing organisational system cannot support the anticipated contributions to the reform, changes in the internal support system should be considered.
- 2) Evaluate the potential benefits and drawbacks of holding clinical managers accountable for reform implementation before designing the reform. The study found that clinical managers' personality traits and departmental characteristics can mediate their partial autonomy in responding to new managerial logic. Consequently, organisations should carefully assess clinical managers' willingness and ability to implement reforms before holding them accountable. Leadership styles and personal aesthetics significantly affect clinical managers' partial autonomy when confronted with institutional pressures. Senior managers should prioritise leadership development programmes that foster supportive and collaborative work abilities.
- 3) Consider the unique characteristics of each department. Medical departments provide different types of medical services based on their specific medical areas, resulting in varying management accounting practises. Additionally, the complexity of core business functions differs across departments. Therefore, a differentiated analysis and implementation approach to management accounting reform for each medical department is necessary.

9.5.7 Implications for healthcare policymakers

First, this study suggests incorporating management knowledge into the education of medical professionals as part of their degree curriculum. This entails instructing medical students on the

principles of medical management, including organisational behaviour, quality control, leadership, and decision-making. By doing so, medical professionals will be equipped with the necessary skills and knowledge to enhance healthcare facility management, optimise patient care, and make strategic decisions that can improve hospital operations.

Second, management reforms must extend beyond superficial measures; they should be comprehensive and far-reaching. This entails designing reform initiatives that foster substantive and sustainable changes in hospital management. By closely monitoring the role of PMM reform in hospital operational management, healthcare administrators can ensure that such reforms are effectively implemented and not merely planned.

9.6 Limitations of the study

This study investigated how the complex and dynamic interplay between multilevel institutions and the constrained autonomy of agents shapes the multidimensional PMM reforms in public hospitals. It conducted a longitudinal case study utilising a Chinese public hospital setting and collected valuable research data for both the Chinese public healthcare sector and the case hospital through interviews, observations, documentation, and focus group meetings. Tracking the entire design and implementation process, this study identified the various subunits' adoption of the PMM reform and the resulting impacts of the reforms on the subunits' operations after the case hospital initiated the integration of the field-level popular multidimensional PMM model with its existing organisational system.

The research findings contribute to the development of a dynamic, multilevel, and contextualised theoretical framework for understanding the interactions between the partial autonomy of embedded agency and their surrounding institutional dynamics through the design and implementation of PMM (applicable to other MA reforms as well) at both the organisational and intraorganizational levels. It also reminds hospital managers of the need for coherence between the goals of the current organisational system and the reform, as well as individualised training and assistance for subunit managers and frontline professionals. This research concludes with suggestions for policymakers to consider incorporating management knowledge education into the degree curriculum of medical professionals in order to cultivate hybrid talents for hospitals, and to design PMM reform as comprehensive and far-reaching, with the need for long-term observation and monitoring.

However, this research acknowledges a number of limitations. As the findings are derived from a single case, their applicability to other cases may be limited. In light of the fact that the study focuses on a single case that may not adequately represent the larger population, it is difficult to

generalise the findings. Additionally, the researcher's biases or preconceptions may influence the findings, leading to subjective interpretation and conclusions.

Second, not taking the effects of the COVID-19 pandemic into account may pose a significant limitation to the research. As the ongoing pandemic has affected numerous facets of life, such as business operations, social interactions, and healthcare services, ignoring these effects could render the findings insufficient.

The final limitation of this study is the lack of in-depth insights and observations regarding the experiences of frontline professionals. Although the research collected data through surveys and interviews, direct observation or participation in the participants' daily work activities may have provided a more comprehensive understanding of their experiences. This limitation may impact the accuracy and validity of the findings, as it allows for the possibility of misinterpretation or insufficient data.

9.7 Suggestions for Future Research

Based on the findings of this thesis, several promising avenues for future research can build upon the study's insights.

Long-term effects of managerial logic: Future research could explore the long-term consequences of introducing managerial logic to guide modernization in the Chinese public healthcare sector, particularly examining the impacts of this logic on the institutionalisation of management accounting reforms over time.

Confucian culture and institutional dynamics: Further investigation could assess how Confucian culture influences institutional dynamics within the Chinese public healthcare sector, examining how Confucian values impact the institutionalisation of management accounting reforms and healthcare practices and the navigation of tension between Confucian values and other institutional logics.

PMM transformations in non-Western contexts: Future research could examine how PMM transformations incorporate diverse institutional logics in non-Western contexts, the challenges and opportunities involved in this process, and the outcomes of these transformations.

Impact of PMM transformations on institutional complexity: Additional studies could explore the impact of PMM transformations on institutional complexity and the role of logic conflicts in driving these transformations.

Chapter 9

Role of clinical managers' personality traits: Further research could examine the role of clinical managers' personality traits in mediating the partial autonomy of actors towards institutional logics, identifying which traits effectively promote new institutional logic adoption and manage potential conflicts.

Organizational characteristics in different contexts: Future research could explore the role of organisational characteristics in mediating the partial autonomy of actors towards institutional logics in contexts beyond healthcare, identifying commonalities and differences in how institutional logics are internalised in various organisational settings.

Overall, these future research directions could contribute to a more nuanced understanding of how professionals navigate institutional logics and help organisations successfully implement management accounting reforms.

Appendix. A. The 2019 National BSC PMS

The national performance measurement index for the tertiary hospitals				
Goals	First Level Index			
Medical Quality	Operational Efficiency	Sustainable Development	Satisfaction	
Second Level Index (B)				
Functional Position	1. Number of the special needs' medical services/number of the medical services at the same period			

**Medical
Quality**

Reasonable
Prescription

2. Number of the fourth-level surgeries/numbers of the surgeries for discharged patients at the same period
3. The number of surgery/the number of discharged patients at the same period
4. day surgery/selective operation
5. The outpatient numbers/The number of discharged patients
6. The number of downward transferring patients
7. Number of minimally invasive surgery for discharged patients/ number of surgeries for discharged patients at the same period

1. Number of prescriptions commented/number of prescriptions
2. The intensity of antibacterial drug use (annually antibacterial drug consumed for inpatients/days of inpatients)
3. Number of outpatients prescribed basic medicines/number of outpatients at the same period
4. The percentages of the kinds of basic medicines purchased=the types of basic medicines hospital purchased/types of medicines purchased for the same period

5. The ratio of bided drugs (the state organized centralized purchase) used= number of bided drugs consumed/the same type of drug used

6. The basic medicine using rate of inpatients=number of discharged patients using basic medicines/number of discharged patients for the same period

Quality and Safe

1. Number of surgery complications/number of discharged surgical patients at the same period
2. Number of the infection of type 1 incision surgeries/number of the type 1 incision surgeries at the same period
3. The single-diagnosis quality control
4. Number of positive results of large medical equipment tests/Number of visits to the large medical equipment tests
5. The fix and maintenance of large medical equipment and quality control management
6. Number of Clinical test items that have passed the national inter-office quality evaluation
7. Number of the low-risk cases death rate/number of the low-risk cases
8. Number of wards undertaking quality nursing services/number of wards

	The Service Process	<ol style="list-style-type: none"> 1. The ratio of average clinic appointments of outpatients=number of clinical appointments/total amount of diagnosis and treatment 2. The average waiting time of outpatients for appointments 3. The application level of electrical medical record
Operati onal Efficien cy	The Structure of Revenue and Expense	<ol style="list-style-type: none"> 1. Proportion of outpatient income to medical income 2. Proportion of outpatient income from medical insurance fund 3. Percentage of hospitalization income to medical income 4. Proportion of hospitalization income from medical insurance fund 5. The proportion of the medical service income (excluding drugs, medical supplies, inspection, and examination incomes) to the medical income 6. Proportion of adjuvant drug revenue 7. Personnel expenditure as a percentage of operating expenditure 8. Energy consumption expenditure per 10,000 yuan of income

		9. Revenue and expenditure structure
		10. Assets and liabilities
The Resource		1. Each clinician's work burden of inpatient per day
Efficiency		2. Number of pharmacists for per hundred beds
Expenditure		1. The increase ratio of the medical incomes
Controlling		2. The increase ratio of the average costs of outpatient visits
		3. The increase ratio of the average costs of inpatient visits
		4. The increase ratio of the average drug costs of inpatient visits
Economic		1. Comprehensive budget management
Management		2. Standardize the establishment of chief accountant
Sustainable	The talent development	1. The numbers of independent staff from other hospitals accepted by the hospital for further training and returns to the original hospital
		2. The passing rate of hospital residents taking the medical qualification examination for the first time

Developm**ent**

The Structure
of Employees

3. Effectiveness of hospitals undertaking the work of cultivating medical talents

1. The professional level structure of the healthcare professionals

2. Percentages of anaesthesia, paediatrics, critical illness, pathology, TCM physicians

3. Clinicians-to-nurse ratio

The
Construction of
Credit

Comprehensive evaluation grade of public credit

The Building of
Medical
Disciplines

1. Funds for scientific research projects / per 100 health technicians

2. The money transformed from the scientific research results / per 100 health technicians

Satisfactio**n
Evaluation**

The Satisfaction
of Patients

1. The outpatient satisfaction

2. The inpatient satisfaction

The Satisfaction
of Medical
Professionals

The medical professional satisfaction

Annually Tertiary Hospitals' National & Provincial Comprehensive Performance Ranking			
The Assessment Procedure	1. Tertiary Hospitals' Self-Evaluation (before the end of each September since 2019)	2. Annually Provincial & City-Level Assessment (before the end of each January since 2020)	3. National Supervisor and Analyzing (before the end of each March since 2020)
The Feedback Loop at the Local Context			
1. The Municipal Health and Family Planning Commission scores the tertiary hospitals' comprehensive performance 2. Adjusting the annually total remuneration of hospitals authorized by the local government based on the scores (+2,+1.5,+1,+0.5;-0.5,-1,-1.5,-2,-3).	2.1 Assessing the performance of the directors of tertiary hospitals + Adjusting the appointment of tertiary hospitals' top management team based on the results of their comprehensive performance - the remunerations of the top management team in tertiary hospitals must be controlled within 2-5 times of the average internal medical professional remuneration. 2.2 The primary distribution in tertiary hospitals & the second-level distribution in medical departments for individual medical professionals		

Appendix. B. Topic guidance of interview

Topic guide -Interview type: semi-structured interview

Interview questions (two parts): part 1 – personal background information; part 2 – topic-driven questions

Part 1: Personal background questions

Position; education level; the length of employment in the case hospital.

Part 2: Topic-driven questions

1. Why undertake these PMM changes? (to identify the institutional logics in place to initiate these changes)

1.1 The reasons for undertaking these changes.

1.1.1 Internal reasons (top-down; bottom-up)

1.1.2 External forces (the government; the public; the industry...)

1.2 What's your expectation on pushing these changes in TPH?

1.2.1 From the view of the public & government

1.2.2 From the view of internal management

1.2.3 From the view of health professionals

2. Who are involved in promoting the PMM changes and their responsibility? (the involved groups)

2.1 The leader of these changes

2.2 The responsibility centre

2.3 Other participant groups, The target groups for these PMM changes

2.4 Who supervise over these changes (if have)?

Abbreviations

3. What are these changes? (to explore how the different logics in place exert the various effects on the design of PMM changes, the interactions of different groups in the design period)

3.1 The criteria of the design.

3.1.1 who decide? Any conflict? How to handle it?

3.1.2 why?

3.2 The contents of these changes.

4. How is the process unfold? (Interaction)

4.1 Mobilization (the role of emotion)

4.1.1 The methods used for mobilizing participants, who is the organizer, and why?

4.1.2 Participants, participants' attitudes, and responses toward mobilization.

4.2 Implementation

4.2.1 Briefly introduce the implementation process.

4.2.2 Who are involved in the implementation process and their role?

4.2.3 How clinician groups and nurses groups respond to these changes and make effects on them?

4.2.4 Any conflict? Problem? Difficulties? How to handle it?

4.3 Patching (repeating question 1-4)

4.3.1 Why?

4.3.2 Who?

4.3.3 What?

4.3.4 How it works?

5. What are the current effects of these changes on health professional groups and on the whole hospital? (the effects of the PMM changes; the roles of PMM in managing the multiple logics)

5.1 The effects the changes bringing to you.

5.2 How do you feel about these changes?

5.3 How do you think the effects of these changes to other groups?

5.4 How do you feel the influences of the PMM changes bringing to the whole hospital?

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