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EFFECTIVELY DESIGNING COSTING SYSTEMS FOR HOSPITALS IN THE UNITED STATES

Abstract

This generic qualitative inquiry research study addressed the U.S. healthcare industry's need for a costing system. Costs fluctuate based on patient needs and physician choices, hindering competitive pricing strategies and revenue management. The perspectives of accounting, finance, IT, and operations hospital leaders (N = 9) with at least 1 year of experience were explored regarding effective strategic management accounting techniques to enhance and improve financial and operational performance in U.S. healthcare. The study found that competitive pricing, patient convenience, hospital complexity, technological investment for patient retention, cost analysis, cost optimization, revenue optimization, and negotiation power were general costing system foci. The study's findings included recognizing the business challenge many hospitals face in accurately determining the costs associated with delivering a specific healthcare service and effectively allocating those costs. Costs vary depending on the patient's needs and the decisions made by the attending physician. Developing a competitive pricing plan holds promise in reducing hospital costs and effectively addressing revenue needs. The data showed that hospital complexity, lack of automation, negotiation power, competitive pricing strategies, and changes in regulatory status play a role in managing direct and indirect hospital costs. Artificial intelligence (MAXQDA and ChatGPT) played a role in the data analysis in this study.

Keywords: activity-based cost accounting, strategic management accounting, healthcare costs, healthcare management, pricing strategies, cost negotiations, artificial intelligence.

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Introduction to the Study

In 2023, the U.S. national healthcare spending was $4.9 trillion ($14,570/person), with hospital spending showing a 10.4% increase over 2022, accounting for 17.5% of the nation's GDP (Martin et al., 2024). Chernew and Mintz (2021) noted that administrative expenses accounted for nearly 25% of healthcare costs. The U.S. healthcare leaders need help calculating and allocating their organizations' service costs, as explained by Sunder and Thirumalai (2023). This issue impacts competitive pricing strategies and revenue management in hospitals. Patient needs, medical professionals' choices, and other operational complexities complicate financial decisions and operations (Carroll & Lord, 2016). Limitations of funds, resource allocation and constraints, and high demand for emergency services make cost allocations complex, complicated, and expensive (Humphreys et al., 2022). Cost accounting

systems, such as activity-based costing (ABC), provide the potential for systematically assigning direct and indirect costs to enable more accurate financial planning and precision-based strategic decisions (Cugini & Caprioglio, 2024). In other countries, case studies (Arts et al., 2023; Cugini & Caprioglio, 2024) and quantitative analyses (Naji, 2023) have shown that the ABC approaches made sense. However, the U. S. hospitals have not systemically embraced ABC. Thus, the ability to reduce costs and maintain sustainable revenue streams has been limited.

This generic qualitative inquiry study explored the perspectives of hospital managers and directors in accounting, finance, IT, and operations departments regarding the implementation of strategic cost accounting techniques. Effective cost allocation systems improve profitability by ensuring costs remain below payment levels and foster competitive pricing strategies essential for organizational success (Hilsenrath et al., 2015). This study explored the perspectives of U.S. hospital departmental leaders' perspectives about using advanced cost accounting methods to improve their hospitals' cost allocations, finances, and operations.

Background

U.S. hospitals struggle to identify patient care costs, making financial planning difficult (Krupienski, 2022). As healthcare costs skyrocket and insurance carriers charge more due to the changes to the insurance systems in the United States, the healthcare industry must develop more efficient and effective costing systems. Jiles et al. (2023) noted that public healthcare providers have been integrating quality and patient satisfaction into their Medicare programs, and private healthcare facilities may follow suit.

Health Catalyst, a data and decision-support company for healthcare organizations, conducted a case study on an ABC system called PowerCosting™ at a 30-hospital healthcare organization in 2018 (DeMichiei, 2018). They called out these issues as contributing to the unsustainability of the U.S. healthcare system: "reliance on revenue/commercial payers, overcapacity, incomplete integration, supply chain inefficiency, physician practice variation, service duplication" (p. 3). Along with other efficiencies, implementing the ABC system saved $3M in the first 2 years. Since COVID-19, Alexander et al. (2021) described a similar implementation of ABC (CORUS Suite) that provided better access to data, trends, and business results.

Despite success stories, ABC cost allocation methods are difficult to implement due to their complexities, resource intensity, and data collection challenges. Often, cultural challenges in hospitals where traditional costing systems have been used create barriers when a lack of expertise in the ABC methods causes massive resistance to changing systems (Hilsenrath et al., 2015). Hospital leaders focus on patient outcomes versus costs, which can disincentivize them to reduce costs. Further, insurance, Medicare, and Medicaid reimbursements do not reward detailed cost-tracking in that overhead costs are not measured in reimbursement systems, although they are in ABC systems.

Problem and Gap in Practice

Many hospital leaders fail to efficiently, effectively, or accurately calculate or allocate the provider costs of their healthcare services (Bravo et al., 2021). Thus, they fail to establish a competitive pricing strategy, impacting their revenue stream and profitability (Carroll & Lord, 2016). Price sensitivity is a metric that gauges how the price of products and services impacts consumers' purchasing decisions (Jiles et al., 2023). With the staggering increases in cost-of-living rates between 2022 and 2024 (Todoroff, 2024), increased medical costs between 2021-2022, a projected significant increase between 2023 and 2032 (Fiore et al., 2024), and new medical treatments becoming more in demand, price sensitivity to healthcare costs has reached a historical high (Giese et al., 2024). Traditionally, hospitals allocated their time to delivering superior medical treatment to patients. Conversely, hospitals must possess a proficient approach that integrates exceptional clinical results with effective cost control in contemporary society due to the financial significance of managing costs. The hospitals could enhance their cost management by implementing new systemic approaches (Jiles et al., 2023).

The specific business problem this study addressed was that costing methods, such as ABC, are poorly received or understood in the U.S. healthcare industry. Williams (2020) noted that over 80% of U.S. hospitals and 50% of U.S. medical centers cannot measure cost per client. The specific gap in practice, then, is the successful strategies and costing requirements for setting up an efficient and effective ABC costing approach in hospitals. Thus, this study undertook a methodical and scientific process to ascertain the perspectives of those hospital department leaders who have implemented successful ABC costing systems to learn more about their strategies.

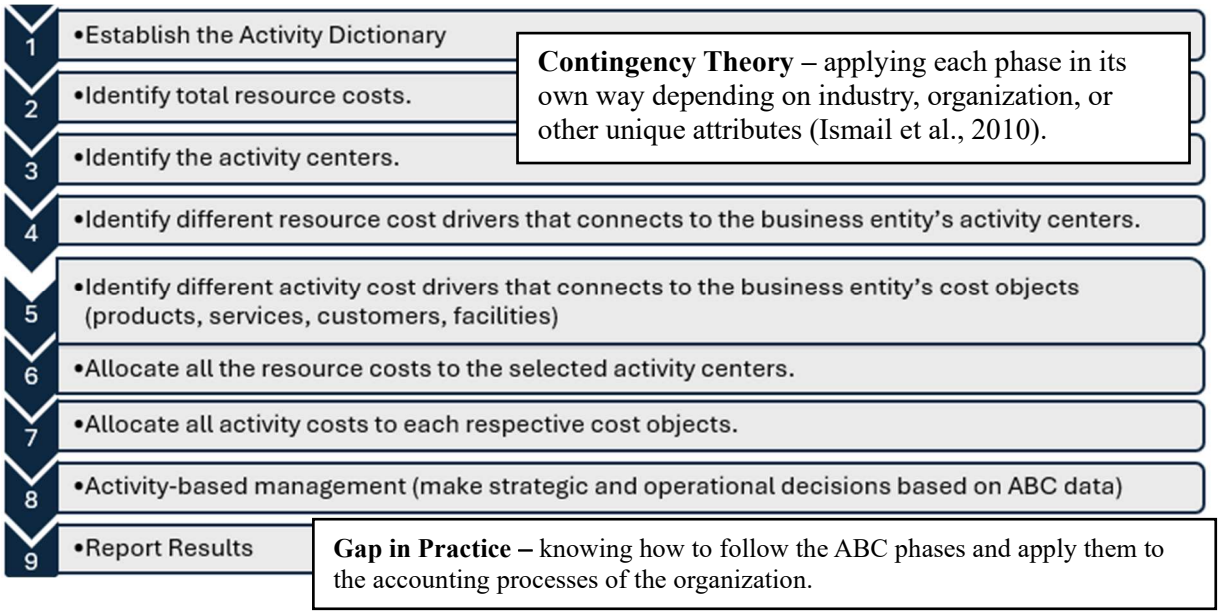
Applied Framework and Literature Review

Kaplan and Cooper (1991, 1998) described ABC as an exceptional instrument that can improve revenues, showcasing the profitability of brands, customers, distribution channels, or facilities and highlighting the extent of resources they utilize. The authors emphasized that ABC dictated costs by identifying the factors driving the costs. This method establishes avenues for ensuring product profitability. One pricing method involves raising prices for products that require significant support resources and lowering costs for high-volume products to a more competitive level. This approach can result in either a decrease in the number of resources used or an increase in the income earned from the same level of resource utilization in various activities. Managers should actively seek methods to minimize resource use (Kaplan & Cooper, 1991). According to Ashworth (2022a), for managers to be able to make strategic management decisions regarding budgetary control, resource management, pricing policy and pricing, process improvements, product and services profitability, and other cost-related management decisions, they need to understand the cost drivers that affect their organization. An idea supported by the contingency theory is that the costing accounting techniques or systems implemented can differ from one organization to another (Ashworth (2022a, 2022b).

The theory that guided this study was contingency theory, commonly used in accounting due to its flexibility to morph depending on a particular organization's unique needs or processes (Ismail et al., 2010). ABC, reviewed through the contingency theory lens, was the overarching applied framework for this study. Barth et al. (2008), Kostakis et al. (2008), and Javid et al. (2015) each contributed ideas and concepts to the final framework of the study. Figure 1 provides an overview of the framework, its phases, and parts and includes the gap in practice, whereas Figure 2 provides a conceptual model for how costing systems work within healthcare.

Figure 1

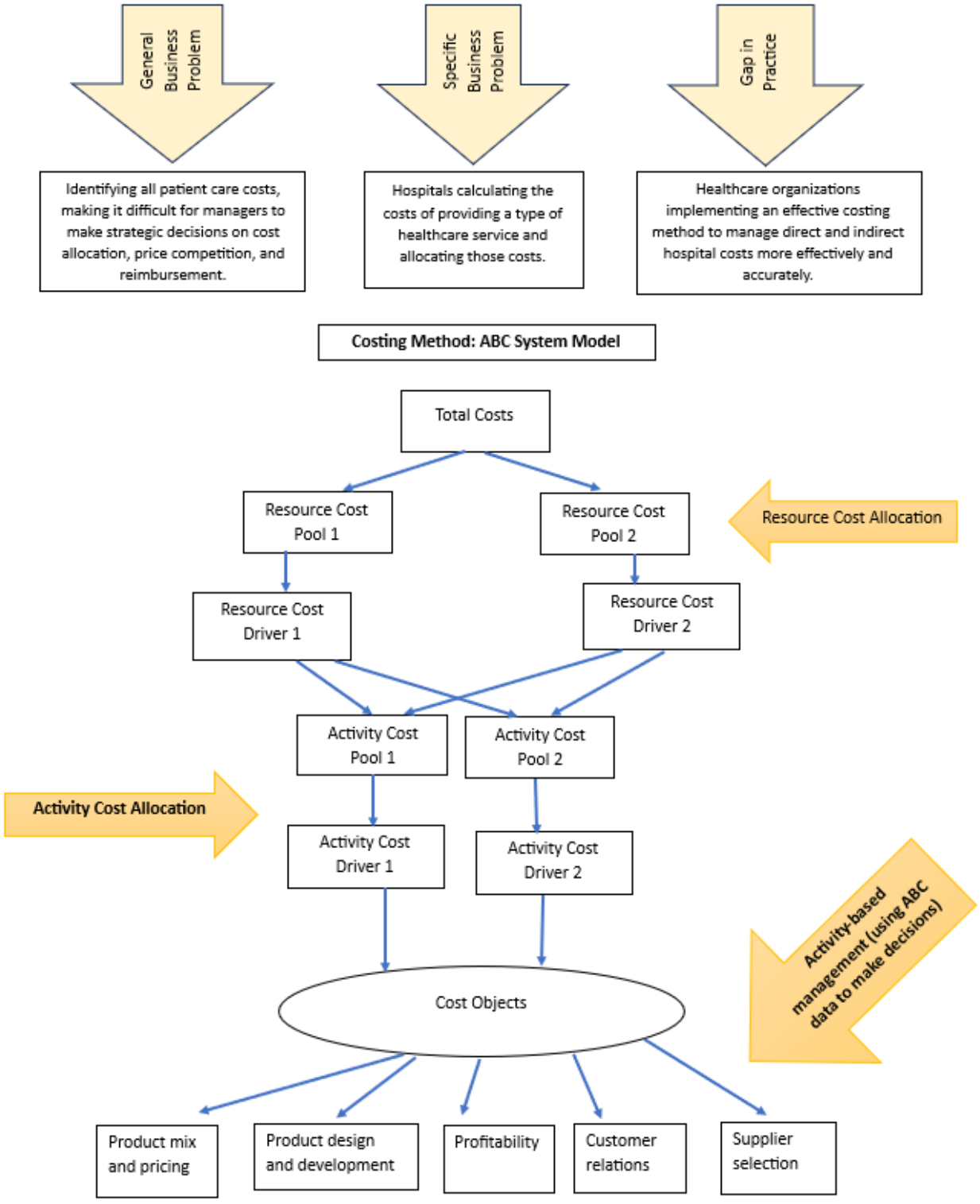
Applied Framework for the Study



Note. The numbers on the left represent the phases of ABC.

Figure 2

Conceptual Model for the Study



Literature on Pricing and Costs in Healthcare

Hospital assessment typically occurs using ratios of costs to charges (RCCs). While RCCs can help hospital analysts predict expenses (Shwartz et al., 1995) and modify charges, departmental variables, and data flaws make RCCs only as valid as the data used. Regardless, Medicare cost reports use RCCs, making them common among hospitals excluded from the diagnostic-related group payment mechanism. Traditional volume-based costing systems misrepresent unit costs and resource allocation, limiting managerial insights (Javid et al., 2015). Carroll and Lord (2016) warned that averaging costs across time or departments makes these methods unstable. More modern accounting methods can factor in behavioral variables (i.e., physician choice and patient needs) and align with performance and budgeting measurement systems. Yonce and Barnes (2022) provided data showing that patient satisfaction can be tied to cost allocations and accuracy improvements.

Influences on System Choices

Hospitals face mounting financial pressures from rising costs, limited resources, and the need for professional administration tied to return targets. Accounting experts recommend ABC, direct costing, portfolio analysis, or balanced scorecards to improve predictable results (Yaman, 2014). However, these systems carry expensive training and system acquisition costs, and implementation errors can increase those costs even more. Kaplan and Anderson (2003) devised an ABC 7-step approach for U.S. hospitals called time-driven ABC. Cao et al. (2006) simplified ABC, calling it S-ABC, thereby reducing errors and costs.

Research Technique Overview

The design and study plans are provided, followed by analysis. The study's principal investigator is a New York City associate retirement benefits quality assurance examiner with government and private sector accounting experience. Therefore, bracketing and bias control were included in the overall research plan and implementation.

Design

This qualitative, generic inquiry study used interviews as the data collection method (see Kahlke, 2014). Yonce and Barnes (2022) noted that a study of this type (qualitative) would be a novel approach to healthcare accounting research. The generic qualitative inquiry study involves using nonnumerical and typically interview data to explore a phenomenon of interest through the lens of a conceptual framework (Butler et al., 2021) or when creating a model (Neem et al., 2023). In this case, Figure 1 provided the conceptual framework for the study plan, and Figure 2 showed the conceptual model with which the interviews were aligned to learn more about the systemic processes used by the participants. This model also clarifies how costing systems work within the healthcare environment.

***Research Question (RQ)*:** What are the perspectives of managers or directors in the accounting, finance, IT, or operations departments in hospitals in the U.S. healthcare industry regarding using specific, effective strategic management accounting techniques to enhance and improve financial and operational performance?

Study Sample

The study participants were recruited from a target sample population of managers or directors in the U.S. healthcare industry's accounting, finance, IT, or operations departments, specifically from the hospital sector. Through social media and network-based snowball sampling, nine participants were purposively recruited for the study. While a preliminary sample size of between 7 and 30 participants was considered based on multiple scholarly qualitative inquiry project exemplars (Bautista et al., 2022; King & Clarkson, 2019; Kokko & Laihonen, 2022), after nine participants were interviewed, it was determined that data saturation, described by Braun and Clarke (2022) as "information power" (p. 28) had been met.

Recruitment

This study occurred as part of an unpublished capstone project for Capella University's Doctor of Business Administration program and was overseen by its Institutional Review Board (IRB). Their IRB approved the use of multiple methods to find participants, including (a) hiring User Interviews (a panel participant locator), (b) creating a Google website (*pinksapphirestone.com*) with a link to the participation information, (c) posting a recruiting flyer

on LinkedIn.com, (d) sending targeted LinkedIn messages to people who met the recruitment target population, and (e) allowing my network to share my flyer as needed.

To be included, participants were required to have been employed as a manager or director in accounting, finance, IT, or operations department in a private hospital in the U.S. healthcare industry for at least 1 year. However, participants were omitted if they met the inclusion criteria but met at least one exclusion criterion, which was that participants could not:

- have an ownership stake in the hospital where they were employed, or
- have a family member in a position of authority in the hospital where they were employed, or
- work in a government-owned hospital.

As potential participants applied to participate, a due diligence process (using LinkedIn and follow-up screening questions via email) ensured that they met the criteria. Participants who met the criteria received an informed consent form via email, reviewed, signed, and returned it, and then we scheduled their interview.

Participants were treated ethically and confidentially. All participant data were kept secure, and every participant's identity was anonymized using DTA1 to DTA9 as identifiers. Table 1 provides the demographic information of the sample participants. Participants who completed an interview received a $25 Amazon eGift Card as a token of gratitude and recognition for their time involved.

Table 1

Participant Demographics

Participant Number	Occupation	Interview Date
DTA1	Manager/Program Manager	May 03, 2024
DTA2	Manager/Program Manager	May 04, 2024
DTA3	Accounting/Finance Manager	May 05, 2024
DTA4	Director of Software Engineering	May 06, 2024
DTA5	Operations Manager	May 07, 2024
DTA6	Billing and Collections Manager	May 07, 2024
DTA7	IT Director	May 09, 2024
DTA8	Hospital Manager	May 10, 2024
DTA9	Program Director	May 14, 2024

Note. All participants worked in private, U.S.-based hospitals. Userinterviews.com recruited all participants.

Data Collection

The setting for all data collection occurred in MS Office Teams' virtual meetings. The interview questions were semistructured, conversational, and open-ended, as Merriam and Tisdell (2016) and Renjith et al. (2021) recommended. An interview protocol (see Appendix) was created, reviewed by experts, and field-tested as required by the Capella IRB. Each interview lasted about an hour.

Data Analysis

The data were analyzed using Braun and Clarke's (2022) thematic analysis 6-step process, using MAXQDA, a data analysis software program to assist with coding, storing, and organizing the data. After each interview, MS Teams transcribed the recording. This transcription was placed into MAXQDA, and its AI Assist (artificial intelligence research assistant) helped create codes. Once this was completed for each transcript, the codes were exported into Google Drive for manual analysis. Braun and Clarke's (2006) initial 6-step process has been used by many qualitative researchers and was updated by the research team in their 2022 book and accompanying website. Their recommended steps include (a) becoming familiar with the data, (b) creating initial codes, (c) reviewing and

organizing the codes into categories and themes, (d) reviewing the themes reflexively, (e) defining and naming the themes, and (f) writing up a report providing data support for the themes.

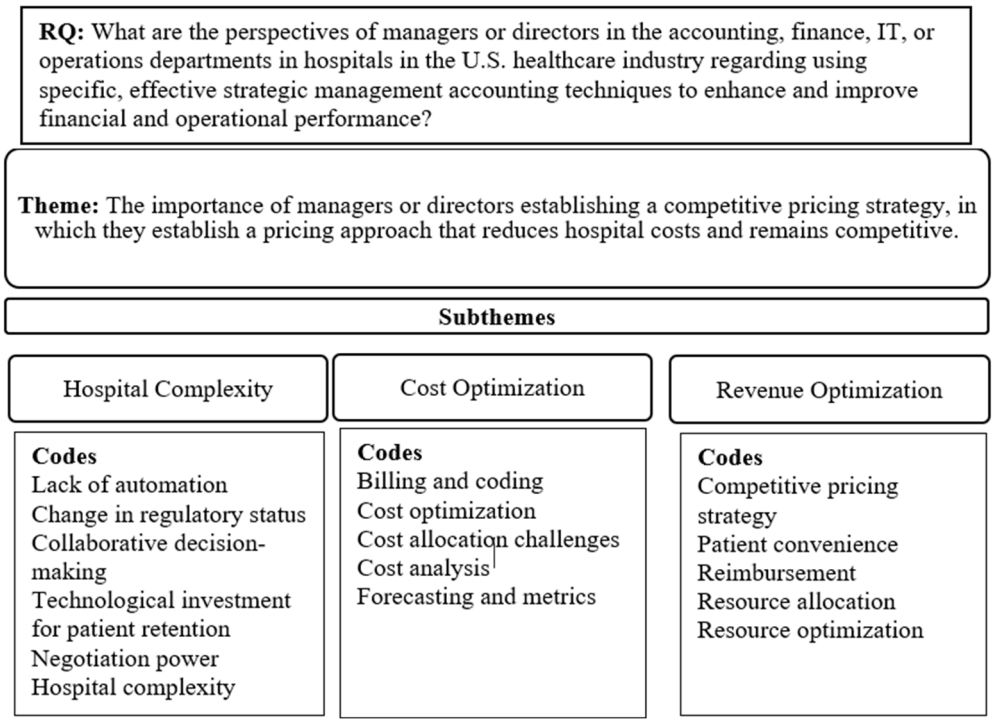
As a postdoctoral capstone experimental triangulation process, ChatGPT 4.0 (free) was also used as a coding and theme analysis tool. ChatGPT received instructions to use the Braun and Clarke process, and the transcripts, research question, and conceptual framework were uploaded. Its results were manually compared to the MAXQDA results. ChatGPT did not have access to the results from the MAXQDA analysis to ensure that the analysis was not biased.

Results

MAXQDA identified 30 codes from the transcript data, with the most relevant and frequent codes including *competitive pricing strategy, patient convenience, hospital complexity, technological investment for patient retention, cost analysis, cost optimization, revenue optimization*, and *negotiation power*. Despite having multiple types of stakeholders as participants, it became clear that they each provided similar content and ideas regarding their thoughts on creating effective strategic management accounting processes. Figure 3 provides the finalized codes, subthemes, and themes from the study to answer the research question.

Figure 3

Findings: Codes, Subthemes, and Themes From MAXQDA



ChatGPT

ChatGPT 4.0 was provided with the research question, the framework of ABC, and the interview transcripts, and was asked to provide codes, categories, and themes. The resulting analysis was an interesting way to triangulate the MAXQDA process. The themes provided included *resource utilization and minimization, strategic management accounting (SMA) for profitability and patient demands, negotiations and cost management,* and *IT integration and decision-making.* Table 2 provides the ChatGPT categories and codes.

Table 2

ChatGPT Categories and Codes

Categories	Code	Code	Code
Resource strategies	in-house vs. outsourcing	reducing redundancy	standardization
Profitability tools	metric tracking	batch processing	automation benefits
Negotiation practices	vendor contracts	cost benchmarking	–
Patient-centric design	regional demand	demographics-driven services	–
IT role in SMA	integration challenges	data centralization	–

Note. IT = information technology; SMA = strategic management accounting

ChatGPT provided an answer to the research question as follows:

> Managers and directors in the healthcare industry view SMA techniques, including cost allocation, resource optimization, and IT integration, as critical to balancing financial performance with patient needs. Activity-based costing principles align with efforts to streamline operations and reduce redundancies, although practical application varies significantly by department and role.

This experiment shows some nuances between the AI assist from MAXQDA and ChatGPT. The concepts of *negotiation power* and *patient demands/convenience/retention* were strikingly similar. Some of the more integral differences included an addition by ChatGPT of SMA versus ABC. It is possible that having multiple types of participants led to this determination; had only accountants been participants, the ABC method may have overshadowed SMA. The analysis by ChatGPT seemed more surface-level and less in-depth than the MAXQDA analysis but did provide nuance to the overall discussion of the findings.

Discussion

Data from each participant's interview supported the overarching theme, subthemes, and codes. This discussion reviews the data aligned with theory, practice, and policy.

Contingency Theory

In hospitals, top management oversees pricing methods that use higher prices for services or products that require significant support resources and lower prices for high-volume services or products. These pricing methods help create a more competitive pricing model. However, in some hospitals, middle managers know about the implemented pricing strategies, while managers in other hospitals are not exposed to that information. For instance, on an operational level, in the pharmaceutical area, hospitals receive an order and make sure that it is documented and submitted into their electronic medical records so that it can go to the billing team or revenue team to submit to the patient's insurance for reimbursement. Participant DTA5 said

> so I would think they do work closely as well just because the finance team will need to understand how much, what is the operating expenses and the projected revenue based on our patients coming to... our medical centers and the outpatient clinics and so forth, right, cause I was wondering like how they like, how do they calculate the cost of executing organization activities like yeah..., I know they work.

The billing team submits the charge to the patient's insurance company, but the revenue team is on the other side, overseeing the reimbursements, write-offs, and collections. Reimbursement is the payment received by the hospital or health care organization for providing medical services, and the reimbursement process varies based on which department and manager's level. These findings of complexity and variance among different hospitals support the application of the contingency theory. According to the contingency theory, systems or procedures can perform effectively in one organization but not work well in others because each organization has unique circumstances and conditions (Ismail et al., 2010).

Strategically, being part of an extensive health system was seen as beneficial. For instance, a hospital within a large organization may have access to better pricing from suppliers due to the organization's buying power. Additionally, the organization may have a centralized billing system, reducing administrative costs for individual hospitals. Being

part of a large organization can also help hospitals maintain employees who can perform negotiations and who understand the bidding process for hospitals' products and services.

Putting it in Practice

Determining healthcare costs is challenging because treatments follow multiple segments. For example, some hospitals organize all cancer treatments into one "cancer" category, while other hospitals segregate them into different types of cancers. The differences in how hospitals and healthcare systems are organized create challenges for a one-method costing system. Medical case costing is complex, complicated, and expensive.

For example, a healthcare organization involved in testing, trialing, or developing new medications helps underscore how the contingency theory, as a practical matter, creates costing methodology complexity. Participant DTA2 was part of such a healthcare scenario. While pharmaceuticals are expensive to develop and market, they generate significant profits. The complexity of the testing process creates enormous risks and costs. Early and expensive testing may reduce return visits and severity of cases, ultimately saving costs and lives. Despite high upfront expenses, performing the often-costly analysis of patient data sets can lead to early detection and prevention of many illnesses and diseases. DTA2 explained that "it's really at a cost analysis for every part of the operation, so from consumables, from time, from equipment to patient access to the number of tests."

While saving money in the long run is possible through preventative tests, the preventative tests themselves are expensive. Treating a problem upfront may be more expensive, but using standardized testing may result in ineffective treatment. According to multiple participants, the negotiation power and competitive pricing strategy are linked and influence the cost and price of products and services. The revenue cycle administrators focus on medical coding, while the finance team deals with general finance and works with leadership to create budgets for future fiscal years.

Insurance Particulars

The insurance types throw another wrinkle in the complexity of costs. Hospitals accept many different forms of insurance, and deal with varied insurance providers, including Medicaid, Medicare, and private insurance entities. Participant DTA5 described a scenario with one of their medical professionals, stating that

> he generated $500,000, but out of that, what's the payment mean... after negotiating with the insurance like Medicare or Medicaid or private insurance and so forth? How much did you really generate, overall, after deducting those costs on negotiating with the insurance?

Admittedly, the more insurance options hospitals provide their patients, the fewer outstanding accounts payable from patients. Nevertheless, nearly all insurance requires an out-of-pocket cost for patients. Some study participants stated that their hospitals work with insurance companies to lower the price and their premiums, so patients may pay less out of pocket, helping to retain patients as returning customers. To reduce patient insurance costs, hospitals look at the different demographics and develop metrics for analyzing costs against many factors. These reports include patient demographics, disease prevalence, and health care utilization patterns – with cost information where available. DTA9 commented, "To increase prices for services or products, they require significant support resources and lowering costs for high volume services products to be more competitive."

For instance, if a hospital is focusing on an area with high breast cancer rates, the hospital may offer lower out-of-pocket costs because the patient needs care instead of having someone go into the city to a different hospital with a lower health care cost. However, the patient must still pay to travel to and from either hospital. Therefore, the hospital examines total costs by running multiple reports, researching, and working with insurance companies to help reduce costs to offset patient expenses. According to participant DTA2, "we do forecast and do metrics based on kind of trends that we see to understand where our labs are run."

Resource Optimization

One interesting finding was that hospitals could improve resource optimization by limiting how many departments each employee reports to and works for. For a cost purpose, understanding how much work was produced and for what cost was more manageable when a more traditional (and less matrixed) management system was employed. DTA4 stated "I think since a lot of our overall revenue, our, our cost payment structures just getting by the government, what we really focus on is reducing cost per patient care hour."

The Role of Technology

Similarly, participant DTA1 explained that "the organization was losing profit, but we're also losing patients because we didn't have the latest technology, and sometimes these younger generation patients feel like we couldn't compete with other hospitals." Automated or business intelligence systems are needed to improve process accuracy and improve the ability to analyze the collected data more effectively.

When Policies Play a Role

Changes in regulatory status drive up healthcare costs for drugs and other pharmaceuticals due to increased testing and validation that raise expenses for drug companies. Government regulation changes increase testing requirements, which add to costs for everyone. Participant DTA2 asserted, "One thing I'll say just to know with that, with the changes, what drives the cost of health care to somewhat go up in terms of drugs or pharma are changes in regulatory status that have to be met, which costs biotech and pharma a lot more money to do testing validation." New drugs prevail more in non-U.S. countries due to fewer regulations. In the U.S., the lack of information on how drugs and therapies interact due to their increasing availability and complexity leads to stricter restrictions.

Application to the Body of Knowledge

The findings from this study underscore the urgency and significance of identifying and adopting more effective costing methods in health care. The results build upon existing knowledge, contingency theory, and practices. The literature showed several studies about the potential benefits of utilizing accounting information to make strategic decisions. Mihaylova and Papazov (2018) argued that while making corporate strategy decisions, allocating costs and structuring them at the operational segment level is essential because this can help managers leverage their capabilities effectively. Since strategic decisions are based on accounting data, Mihaylova and Papazov (2018) emphasized the connection between accurate and complete accounting reporting and effective strategic decision-making. The study's findings from ChatGPT's analysis found that SMA was a preference of the participants' responses. This finding aligns with the literature and shows that SMA could be an end product of ABC.

Chapman et al. (2022) named three factors that impact healthcare costing quality: accuracy, managerial relevance, and standardization. To make effective strategic decisions, excellent healthcare cost driver comprehension is needed. Javid et al. (2015) found that the ABC method for hospital unit cost calculation helped managers better understand the hospital's operations system and disposable resources.

Implications and Modified Framework

This study aimed to fill a gap in practice that many healthcare organizations need to implement an effective costing method to manage direct and indirect hospital costs more effectively and accurately (Jiles et al., 2023). However, the data showed that hospital complexity, lack of automation, negotiation power differences, varied competitive pricing strategies, and changes in regulatory status all play a role in managing direct and indirect hospital costs. Costs can fluctuate depending on the patient, the patient's needs, and the physician's choices, resulting in professionals being unable to establish a competitive pricing strategy that decreases hospital costs and helps manage expectations for revenue needs.

For instance, according to DTA5, "I work for a one health system and then within that one system, we have two medical centers in Southern California, and then we have, I believe, 31 outpatients clinical…." DTA1 explained, "Once you are able to target an area that, let's say, has a higher cancer rate, you can work with the insurance companies to charge less of a premium in that area." And, then DTA9 added that "to increase prices for services or products, they require significant support resources and lowering costs for high volume services products to be more competitive."

While the initial conceptual framework, based on Kaplan and Cooper (1998), guided the initial aspects of the study, the findings allowed for reconsidering the steps, process, and method for recommendations of creating an ABC process. Figure 4 provides this updated model.

Figure 4

Pierre Framework for ABC Implementation

Conclusion and Ideas for Future Research

Further exploration of ABC and SMA in healthcare in the United States and explicitly in costing systems is needed. SMA through ABC allows entities to innovate, produce, self-discipline, and strategize in a world of competition (Alawattage & Wickramasinghe, 2022). This study used multiple department heads to explore the concepts of finding costing methods, processes, and alternatives to the current methodology. In future studies, quasi-experimental designs could be used to apply the framework proposed in this study in a real-life application methodology, with targeted timelines where results, discussions, and reported results can lead to new ideas and more improvements to the process. As hospitals and healthcare systems continue to become more complex and as the competitive advantages are impacted by governmental and health insurance regulations and policies, hospital accountants and administrators must provide increased transparency surrounding costs.

Saghafian and Hopp (2019) encouraged hospitals to publicly disclose their outcome data and costs aligned with healthcare services. The Centers for Medicare and Medicaid have further mandated transparency through machine-readable data by submitting a Medicare Cost Report (Carroll & Lord, 2016). Kahn et al. (2023) stressed that as healthcare comes under more scrutiny and increased reporting regulations, "value-based programs" must use "valid, feasible, and accurate (in that they accurately assess hospital performance)" measurements that "incentivize better health outcomes." (p. 934). My study findings confirmed the truth of their findings. This study ends with a reasoned and evidence-based conclusion that ABC methods lead to better SMA and could potentially improve healthcare accountability, which the future of healthcare badly needs.

References

Alawattage, C., & Wickramasinghe, D. (2022). Strategising management accounting: Liberal origins and neoliberal trends. *Accounting, Auditing & Accountability Journal, 35*(2), 518–546. https://doi.org/10.1108/AAAJ-01-2021-5124

Alexander, B., Andrews, M., & DeMichiei, R. (2021). The 100-percent solution to improving healthcare's operating margins. *HealthCatalyst.* https://hcatwebsite.blob.core.windows.net/insights/Improving-HC-Operating-Margins_white-paper.pdf

Arts, T., Ginting, C. N., & Ginting, R. (2023). Activity based costing method as the basis for determining service rates in the radiology unit at Royal Prima Hospital Medan. *International Journal of Health and Pharmaceutical, 3*(4), 662–667. https://doi.org/10.51601/ijhp.v3i4.218

Ashworth, P. (2022a, October 19). Understanding costs: Part 1 — costing concepts. *Financial Management.* https://www.fm-magazine.com/news/2022/mar/understanding-costs-part-1-costing-concepts.html

Ashworth, P. (2022b, October 20). Understanding costs: Part 2 — resource-based costing. *Financial Management*. https://www.fm-magazine.com/news/2022/apr/understanding-costs-part-2-resource-based-costing.html

Barth, M., Livet, A., & De Guio, R. (2008). Effective activity-based costing for manufacturing enterprises using a shop floor reference model. *International Journal of Production Research, 46*(3), 621–646. https://doi.org/10.1080/00207540600845750

Bautista, J. R., Zhang, Y., & Gwizdka, J. (2022). Predicting health care professionals' intention to correct health misinformation on social media. *Telematics and Informatics, 73,* Article 101864. https://doi.org/10.1016/j.tele.2022.101864

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. https://doi.org/10.1191/1478088706qp063oa

Braun, V., & Clarke, V. (2022). *Thematic analysis: A practical guide*. Sage

Bravo, F., Braun, M., Farias, V., Levi, R., Lynch, C., Tumolo, J., & Whyte, R. (2021). Optimization-driven framework to understand health care network costs and resource allocation. *Health Care Management Science, 24*(3), 640–660. https://doi.org/10.1007/s10729-021-09565-1

Butler, C. R., O'Hare, A. M., Kestenbaum, B. R., Sayre, G. G., & Wong, S. P. Y. (2021). An introduction to qualitative inquiry. *Journal of the American Society of Nephrology: JASN, 32*(6), 1275–1278. https://doi.org/10.1681/ASN.2021040473

Cao, P., Toyabe, S., & Akazawa, K. (2006). Development of a practical costing method for hospitals. *The Tohoku Journal of Experimental Medicine, 208*(3), 213–224. https://doi.org/10.1620/tjem.208.213

Carroll, N., & Lord, J. C. (2016). The growing importance of cost accounting for hospitals. *Journal of Health Care Finance, 43*(2), 172–185. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6910125/

Chapman, C. S., Kern, A., Laguecir, A., Doyle, G., Angelé-Halgand, N., Hansen, A., Hartmann, F. G. H., Mateus, C., Perego, P., Winter, V., & Quentin, W. (2022). Managing quality of cost information in clinical costing: evidence across seven countries. *Journal of Public Budgeting, Accounting & Financial Management, 34*(2), 310–329. https://doi.org/10.1108/JPBAFM-09-2020-0155

Chernew, M., & Mintz, H. (2021). Administrative expenses in the US health care system: Why so high? *JAMA Viewpoint, 326*(17), 1679–1680. https://doi.org/10.1001/jama.2021.17318

Cugini, A., & Caprioglio, V. (2024). The true cost-to-serve in nursing homes: A methodological issue in applying activity-based costing. Journal of Accounting & Finance (2158–3625), 24(3), https://doi.org/10.33423/jaf.v24i3.7142

DeMichiei, R. (2018). Activity-based costing and clinical service lines team up to improve financial and clinical outcomes. *HealthCatalyst.* https://www.healthcatalyst.com/learn/success-stories/activity-based-costing-in-healthcare-service-lines-upmc

Fiore, J. A., Madison, A. J., Poisal, J. A., Cuckler, G. A., Smith, S. D., Sisko, A. M., Keehan, S. P., Rennie, K. E., & Gross, A. C. (2024). National health expenditure projections, 2023–2032: Payer trends diverge as pendemic-related policies fade. *Health Affairs, 43*(7), 909–1053. https://www.healthaffairs.org/doi/epdf/10.1377/hlthaff.2024.00469

Giese, C., Kopaskie, K., & Richie, T. (2024). 2024 Impact of change® forecast highlights. *Sg2 Health Care Intelligence.* https://vizientinc-delivery.sitecorecontenthub.cloud/api/public/content/47212a11b76244d2b3bc7f0e0db086e5

Hilsenrath, P., Eakin, C., & Fischer, K. (2015). Price-transparency and cost accounting: Challenges for health care organizations in the consumer-driven era. *Inquiry: A Journal of Medical Care Organization, Provision and Financing, 52*. https://doi.org/10.1177/0046958015574981

Humphreys, P., Spratt, B., Tariverdi, M., Burdett, R. L., Cook, D., Yarlagadda, P. K. D. V., & Corry, P. (2022). An overview of hospital capacity planning and optimisation. *Healthcare, 10*(5), 826. https://doi.org/10.3390/healthcare10050826

Ismail, K., Zainuddin, S., & Sapiei, N. S. (2010). The use of contingency theory in management and accounting research. *Asian Journal of Accounting Perspectives, 3*(1). https://ajap.um.edu.my/article/view/3652

Javid, M., Hadian, M., Ghaderi, H., Ghaffari, S., & Salehi, M. (2015). Application of the activity-based costing method for unit-cost calculation in a hospital. *Global Journal of Health Science, 8*(1), 165–172. https://doi.org/10.5539/gjhs.v8n1DTA165

Jiles, L., Duong, Q. S., & Gundling, R. (2023). Cost management in health care: Status quo and opportunities. *Institute of Management Accountants*. https://www.imanet.org/research-publications/ima-reports/cost-management-in-healthcare-status-quo-and-opportunities

Kahlke, R. M. (2014). Generic qualitative approaches: Pitfalls and benefits of methodological mixology. *International Journal of Qualitative Methods, 13*(1), 37–52. https://doi.org/10.1177/160940691401300119

Kahn, C. N. III, Rhodes, K., Pal, S., McBride, T. J., May, D., DaVanzo, J. E., & Dobson, A. (2023). CMS hospital value-based programs: Refinements are needed to reduce health disparities and improve outcomes. *Health Affairs, 42*(7), 928–936. https://doi.org/10.1377/hlthaff.2022.00844

Kaplan, R. S., & Anderson, S. (2003). *Time-driven activity based costing.* [Working paper]. https://www.salescloudi.com/docs/TimeDriven%20Activity%20Based%20Costing%20.pdf

Kaplan, R. S., & Cooper, R. (1991). Profit priorities from activity-based costing. *Harvard Business Review, 69*(3). https://hbr.org/1991/05/profit-priorities-from-activity-based-costing

Kaplan, R. S., & Cooper, R. (1998). *Cost & effect: Using integrated cost systems to drive profitability and performance.* Harvard Business School Press.

King, R., & Clarkson, P. (2019). An investigation of the relation between ownership structure and management control in professional service organizations. *Journal of Accounting & Organizational Change, 15*(1),147–168. https://doi.org/10.1108/JAOC-03-2018-0033

Kokko, P., & Laihonen, H. (2022). Performance management and hybridization of health care – case of the accountable care organization. *Journal of Public Budgeting, Accounting & Financial Management, 34*(3), 411–429. https://doi.org/10.1108/JPBAFM-04-2021-0066

Kostakis, H., Sarigiannidis, C., Boutsinas, B., Varvakis, K., & Tampakas, V. (2008). Integrating activity-based costing with simulation and data mining. *International Journal of Accounting & Information Management, 16*(1), 25–35. https://doi.org/10.1108/18347640810887744

Krupienski, J. T. (2022). Modern cost accounting. *Health care News.* https://healthcarenews.com/modern-cost-accounting/

Martin, A. B., Hartman, M., Washington, B., & Catlin, A. (2024). National health expenditures in 2023: Faster growth as insurance coverage and utilization increased. *Health Affairs, ahead of print.* https://doi.org/10.1377/hlthaff.2024.01375

Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (4th ed.). Jossey-Bass.

Mihaylova, L., & Papazov, E. (2018). Using accounting information for strategic decision-making in a multi-segmented company. *Copernican Journal of Finance and Accounting, 7*(1), 21–33. https://doi.org/10.12775/CJFA.2018.002

Naji, H. S. H. (2023). The possibility and requirements to move from traditional costing system (TCS) to activity-based costing system (ABC) in Palestinian private hospitals. [Master's thesis]. *Arab American University*. https://repository.aaup.edu/bitstream/123456789/1940/1/%D8%AD%D8%B3%D9%86%20%D9%86%D8%A7%D8%AC%D9%8A.pdf

Neem, M., Ozuem, W., Howell, K., & Ranfagni, S. (2023). A step-by-step process of thematic analysis to develop a conceptual model in qualitative research. *International Journal of Qualitative Methods, 22*, 1–18. https://doi.org/10.1177/16094069231205789

Renjith, V., Yesodharan, R., Noronha, J. A., Ladd, E., & George, A. (2021). Qualitative methods in health care research. *International Journal of Preventive Medicine, 12*, 20. https://journals.lww.com/ijom/toc/2021/12000

Saghafian, S., & Hopp, W. J. (2019). The role of quality transparency in health care: Challenges and potential solutions. *NAM Perspectives,* 1–3. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8406510/

Shwartz, M., Young, D. W., & Siegrist, R. (1995). The ratio of costs to charges: how good a basis for estimating costs? *Inquiry, 32*(4), 476–481. https://pubmed.ncbi.nlm.nih.gov/8567084/

Sunder, S., & Thirumalai, S. (2023). Hospital portfolio strategy and patient choice. *Journal of Marketing, 88*(1), 53–76. https://doi.org/10.1177/00222429231204247

Todoroff, N. (2024). Cost of living facts and statistics 2024). *Bankrate.* https://www.bankrate.com/insurance/homeowners-insurance/cost-of-living-statistics/

User Interviews Inc. (2024). https://www.userinterviews.com

Williams, J. (2020). Why a more modern cost accounting approach in health care is needed post-COVID-19. *HFMA.* https://www.hfma.org/accounting-and-financial-reporting/costing-and-managerial-accounting/why-a-more-modern-cost-accounting-approach-in-health care -is-nee/

Yaman, K. (2014). Application of controlling tools in German hospitals. *Muhasebe Ve Finansman Dergisi.* 187–206. https://dergipark.org.tr/tr/download/article-file/427560

Yonce, S. K., & Barnes, B. G. (2022). Health care accounting research: An analysis, review, and suggestions for future work. *Journal of Governmental & Nonprofit Accounting, 11*(1). 163–192. https://doi.org/10.2308/JOGNA-2021-012

Appendix: Interview Protocol

- Introduce the interviewer, the study's purpose and background, and discuss informed consent.
- Begin recording. Ensure the participant is aware of the ability to terminate the interview and has consented to the participant. Discuss member checking briefly (transcript review).
- Begin interview.
- Tell me about your pricing method to increase prices for services or products requiring significant support resources and lower costs for high-volume services or products to a more competitive level.
- Tell me how your organization actively seeks methods to minimize resource use.
- Are there better ways you are aware of to minimize resource use?
- How does your organization utilize strategic management accounting to develop profitable products and services that simultaneously meet the demands of patients?
- How do you develop profitable products and services that simultaneously meet the demands of patients?
- When negotiating with patients, suppliers, and other parties, how does your organization use strategic management accounting to ensure fair pricing, high-quality products, timely delivery, and other terms?
- Why are these techniques essential to ensure fair pricing, high-quality products, timely delivery, and other terms?
- Tell me about the strategic management your organization employs to optimize the distribution and service operations for specific target markets and customer segments.
- Why is it important to use these techniques to optimize distribution and service operations for specific target markets and customer segments?
- How does your organization utilize strategic management accounting when making decisions regarding product mix?
- Why is it important to use these techniques when making decisions regarding product mix?
- How does your organization allocate costs for financial reporting
- Tell me what you think is the best method to allocate costs for financial reporting.
- How are the resources of the organization being used?
- Which departments are associated with these resources?
- Tell me about your organization's strategic management accounting methodologies to calculate the cost of executing organizational activities.
- What else can you tell me about your company's strategy management accounting techniques to improve financial and operational performance?
- Thank you for your time and participation. Do you have any additional information to share, questions and comments about the interview?
- I will send you a copy of our interview transcripts to allow you to review them for accuracy. Again, thank you for your efforts and contributions to this interview.

