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Impact of Strategic Outsourcing on Operational Performance: A Moderating Role of Information Sharing in the Healthcare Industry of UAE, Under the Influence of Predominantly Oil Economy

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Abstract

Introduction: *The purpose of this study is to examine the impact of strategic outsourcing on the operational performance of the healthcare industry in the UAE. The study also investigates the moderating role of information sharing in the relationship between outsourcing factors and operational performance.* **Methods:** *Data was collected using a questionnaire approach, with key respondents being the top management team of both public and private hospitals. A total of 349 valid responses were received and analyzed using both the measurement model and structural model for data analysis.* **Results:** *The findings from the measurement model confirm the reliability, convergent validity, and discriminant validity of the model, based on the selected items of operational performance and key exogenous constructs. The structural model results indicate a significant and positive impact of cost-driven outsourcing, focus-driven outsourcing, innovation-driven outsourcing, and human resource outsourcing on the operational performance of the healthcare industry. Additionally, information sharing was found to significantly and positively moderate the relationship between cost-driven outsourcing and operational performance, as well as between innovation-driven outsourcing and operational performance.* **Conclusion:** *The study's findings highlight the significant role of strategic outsourcing and the moderating influence of information sharing in improving operational performance in the healthcare industry in the UAE. Based on these findings, several policy implications are provided for enhancing outsourcing practices and improving operational efficiency in healthcare organizations.*

Major Findings: *The study finds that cost-driven, focus-driven, innovation-driven, and human resource outsourcing significantly enhance operational performance in the UAE healthcare sector. Information sharing positively moderates the impact of cost-driven and innovation-driven outsourcing, highlighting its role in maximizing outsourcing effectiveness.*

Keywords: *Health Care Industry, Measurement Model and Structural Model, Operational Performance, Strategic Outsourcing, UAE*

1.0 Introduction

The measurement of operational performance reflects the focus on different organizational areas based on general principles and practices. Various quality variables can be used to assess operational performance. For instance, Figure 1 illustrates the sequence for measuring operational performance. In the 1st step, the organization identifies its process customers based on market segments, categorizing customers according to their product or

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service requirements. The 2nd step involves identifying key deliverables based on customer needs. The 3rd step emphasizes different quality factors, followed by the identification of various processes. The second-to-last step measures business variables affecting quality, while the final step determines appropriate control measures to manage subprocesses and identify root causes affecting quality

Considering healthcare facilities in terms of the number of hospitals (both public and private) in the UAE, Figure 2 provides a clearer understanding. It highlights that Abu Dhabi has the highest number of government hospitals, totaling 24, along with 40 private hospitals. Dubai follows with 6 government hospitals and 39 private hospitals. Other emirates, including Sharjah, Ajman, Umm Al Quwain (UAQ), Ras Al Khaimah (RAK), and Fujairah, have a total of 8, 2, 9, and 5 hospitals, respectively. Figure 3 further outlines the distribution of medical doctors in the UAE by job title in 2020, according to the latest available data.

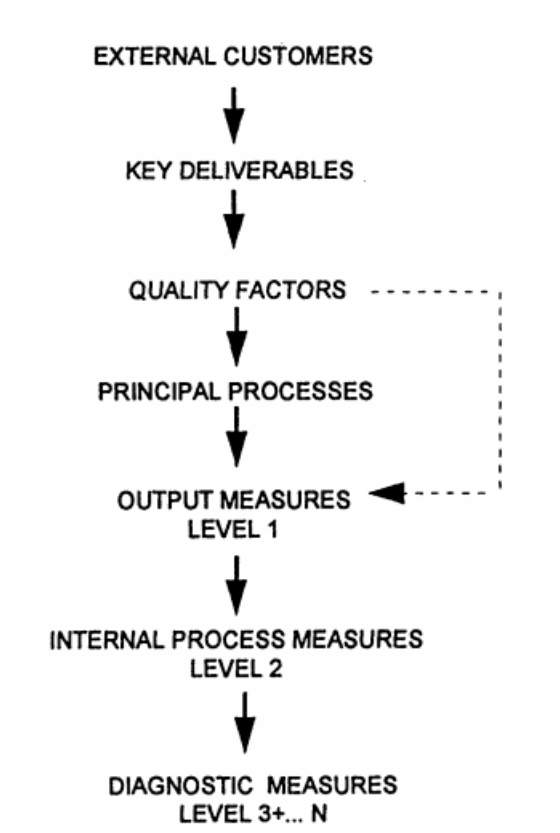


Figure 1. GCC construction and transportation contract awards 2015-2020 ($bn)[1].

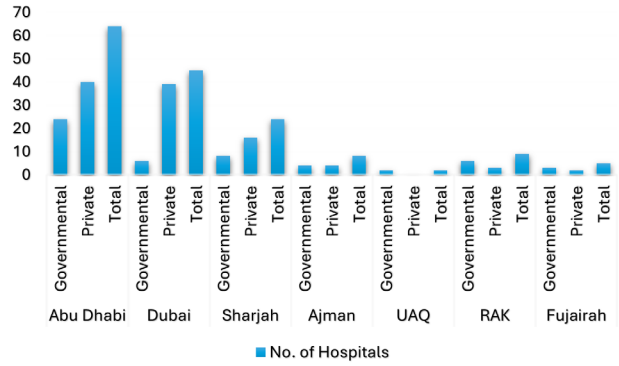


Figure 2. Number of hospitals in UAE states[2].

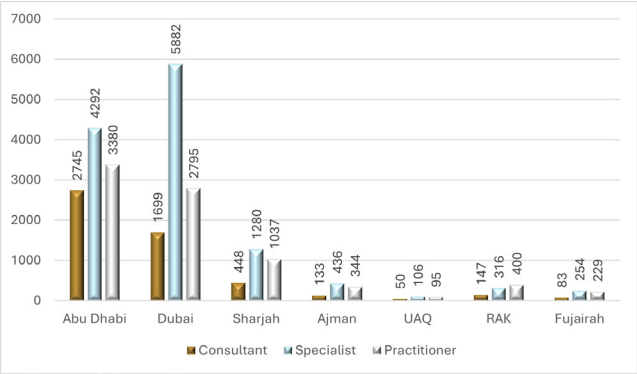


Figure 3. Medical doctors in UAE by job title and Emirate (2020).

The Department of Health (DoH) is the federal authority responsible for unifying healthcare policies, overseeing national health services, and ensuring accessible healthcare across the country. It establishes health-related strategies and performance management frameworks, enforcing high standards and promoting world-class healthcare practices in the UAE. Additionally, the DoH drives awareness programs to educate the community about the healthcare system and available services. According to HE Abdullah bin Mohammed Al Hamed, DoH's initiatives and ongoing efforts are designed to transform and further empower the Emirate's healthcare sector, while also promoting a "Healthier Abu Dhabi"[3]. The department's core mission is to ensure a healthy life by providing preventive and curative services of global standards. Since 2016, healthcare infrastructure has seen a 50% increase in hospital beds, the establishment of 700 clinics, 60 hospitals, 944 medical centers, and 802 pharmacies in Abu Dhabi, along with a 27% decline in road fatalities.

Additionally, medical tourism is an emerging trend in the UAE's healthcare sector, making the country one of the top 10 global destinations for medical tourism. In 2018, Abu Dhabi signed a memorandum of understanding with the Medical Tourism Association, leading to the hosting of an annual event in 2019. In the same year, NYU Abu Dhabi signed a MoU with the DoH to collaborate on health strategies targeting common chronic diseases among Emiratis, such as obesity, diabetes, and heart disease[4].

One of the most significant challenges facing the healthcare industry has been managing the COVID-19 pandemic in both developed and developing economies[5,6]. Governments and semi-government organizations have played a crucial role in enhancing the operational efficiency of healthcare systems. However, this crisis has introduced complexities in maintaining operational performance, as increasing demand exerts significant pressure on the healthcare sector. The global healthcare industry was projected to grow at an average annual rate of 5.4% until 2022, with various factors influencing performance, including personalized medicine, the adoption of exponential technologies, new market entrants, increased demand for medical centers due to the pandemic, and regulatory changes[7]. Like other sectors, operational performance in healthcare has been widely analyzed in research[8]. Healthcare organizations must optimize performance across the entire value chain, including patient care, human resource management, facility operations, material handling, external and internal relationships, and environmental sustainability[9]. A well-designed operational performance framework is essential for efficiency and customer satisfaction. Furthermore, higher operational performance contributes to a competitive advantage, aligning healthcare with other industries[10,11].

2.0 Problem Statement

In the UAE, operational performance in healthcare can be measured through various indicators. The latest data shows that the number of medical doctors per 1,000 people is 2.82, while the number of nurse practitioners per 1,000 people is 6.05[12]. Comparatively, Switzerland has 4.45 doctors and 18.37 nurses per 1,000 people, while Norway had 17.88 nurses per 1,000 people in 2020. Additionally, the healthcare quality index for the UAE was 69.6% in 2023, ranking the country 31st globally, trailing behind Malaysia, Turkey, Norway, Switzerland, and other nations[13,14]. This ranking highlights the need for substantial improvements in operational healthcare facilities. Furthermore, per capita healthcare expenditure in the UAE is $2,191, significantly lower than New Zealand ($4,201.63), the Netherlands ($6,531.01), and Germany ($6,503)[15]. Another key performance indicator, the Global Health Security (GHS) index, assigns the UAE a score of 39.6, ranking it 80th out of 195 countries[16]. These findings underscore the need for enhanced operational capabilities in UAE healthcare to remain competitive in the global market.

Outsourcing plays a critical role in determining operational performance across both manufacturing and service industries[17]. Outsourcing categories include cost-driven, focus-driven, innovation-driven, and human resource outsourcing, with cost savings being one of the most cited rationales for outsourcing while maintaining operational efficiency. In Abu Dhabi, the Department of Health (DoH) has implemented various initiatives to improve healthcare services. Notably, DoH has adopted outsourcing models for hospital management, engaging institutions from Asia, North America, and Europe. Research suggests that management styles and strategies significantly influence hospital efficiency and effectiveness[18]. Thus, outsourcing remains a key focus for DoH in achieving strategic healthcare improvements.

Information sharing is another powerful tool in strengthening long-term relationships between healthcare organizations and outsourcing partners. Studies have examined the link between information sharing and logistics outsourcing in China and the role of information technology in outsourcing chains using theoretical frameworks such as resource-based view, agency cost, transactional cost, and activity-based theory[19,20]. However, a notable research gap exists regarding the moderating role of information sharing in the relationship between strategic outsourcing components and operational performance in healthcare. This gap further justifies the need for DoH and other healthcare institutions to consider information sharing as a crucial factor in enhancing cost-driven, focus-driven, innovation-driven, and human resource outsourcing strategies to improve the UAE's healthcare sector. Considering the significance of outsourcing towards

operational performance, and the moderating role of information sharing, following research objectives have been developed:

1. To examine the impact of cost-driven strategic outsourcing on operational performance of the health care industry in Abu Dhabi, UAE.
2. To examine the impact of focus-driven strategic outsourcing on operational performance of health care industry in Abu Dhabi, UAE.
3. To examine the impact of innovation-driven strategic outsourcing on operational performance of the health care industry in Abu Dhabi, UAE.
4. To examine the impact of human resource outsourcing on the operational performance of the health care industry in Abu Dhabi, UAE.
5. To examine the moderating role of information sharing between outsourcing factors and operational performance of the health care industry in Abu Dhabi, UAE.

3.0 Literature Review

3.1 Human Resource Outsourcing (HRO)

Outsourcing refers to engaging third-party services to execute business functions[21]. Organizations often hire employees on a contractual or temporary basis to support business growth. Over the past few years, firms have increasingly outsourced various activities to enhance product or service quality, reduce costs, emphasize core competencies, and improve organizational competitiveness[22]. Human Resource Outsourcing (HRO) has become a widely used strategy to lower service costs and achieve long-term competitiveness[23].

As a subset of outsourcing, HRO enables firms to save costs, deliver efficient services, and enhance flexibility[24]. Strategic HR outsourcing involves a contractual agreement where a company transfers specific HR functions to an external provider[25]. Theoretical perspectives, such as transaction cost economics, capital market theory, and resource-based theory, support the relationship between HR outsourcing and firm performance[26]. However, existing research has not extensively explored this linkage[24]. Given that HR functions are often complex and time-intensive, both manufacturing and service firms continue to rely on outsourcing to improve performance outcomes.

3.2 Cost-Driven Outsourcing (CDO)

Strategic Outsourcing (SO) has long been a recognized practice, particularly in developed economies[27]. Emerging in the 1960s and 1970s, it gained momentum as businesses sought expansion and efficiency[28]. Organizations review their core competencies and focus on functions they can perform most effectively[29]. Outsourcing is frequently used for international sourcing of components, subsystems, and finished products[28]. It involves contracting third-party providers to execute value-adding activities, enabling firms to achieve their strategic goals[30].

Cost-saving is one of the primary motivations for outsourcing[31]. Firms aim to optimize operational expenses while maintaining or enhancing service quality. Cost-driven Outsourcing (CDO) involves reducing expenditures on labor, transportation, and infrastructure[32]. Transaction cost economics underpins the rationale for CDO, as businesses seek to minimize costs while sustaining performance[33]. Furthermore, outsourcing can alleviate management burdens related to staffing, which further supports operational efficiency[34].

3.3 Focus-Driven Outsourcing (FDO)

Outsourcing strategies have played a central role in organizational transformation and structural changes[35]. Many firms rely on outsourcing to adapt to evolving global supply chains and mitigate associated risks[36]. Focus-driven Outsourcing (FDO) emphasizes concentrating on core competencies while delegating non-core functions to external specialists[37].

Core competencies refer to unique organizational capabilities that provide a competitive edge[38]. Firms typically retain these competencies while outsourcing less critical functions[39]. Companies like Suzuki, for example, protect their expertise in engine manufacturing while outsourcing other operations[39]. While core activities remain internal, firms can benefit from outsourcing areas where they lack expertise[34].

3.4 Innovation-Driven Outsourcing (IDO)

Innovation-driven Outsourcing (IDO), often synonymous with R and D outsourcing, is becoming increasingly prevalent[31]. Many firms now seek external partners for innovation to stay competitive. A survey in the UK found that 85% of companies utilize outsourcing, with IDO playing a significant role in driving innovation-led activities[33].

IDO occurs when firms collaborate with external technology providers to develop new products and technologies[34]. Innovation, in this context, involves introducing novel products, services, or processes that create market differentiation[35]. By leveraging external expertise, organizations can enhance innovation beyond essential services and operations. Research suggests that leading R and D investors increasingly rely on outsourcing to access cutting-edge technology and expertise[37]. Between 1994 and 2004, the growth rate of R and D outsourcing was twice that of in-house innovation, a trend that continues today[38].

Firms adopting IDO must navigate two critical phases: vendor selection and vendor management[39]. Vendor selection involves identifying external technology providers, while vendor management focuses on ensuring successful cross-organizational knowledge transfer. The ability to manage these phases effectively is crucial for maximizing the benefits of innovation outsourcing.

3.5 Operational Performance (OP)

Profitability is a key measure of firm performance, driven by effective investment, financial management, and operational efficiency[28]. Operational Performance (OP) refers to an organization's ability to optimize processes, quality, and reliability[21]. Given its direct impact on overall performance, improving OP remains a priority for businesses.

However, maintaining OP presents several challenges, including technological complexities, competitive pressures, resource constraints, and regulatory uncertainties. Firms must continually reassess their business models and adopt strategic changes to maintain competitiveness[23]. Some researchers argue that focusing on core competencies while outsourcing non-core functions is one of the most effective strategies for enhancing OP[24]. This approach enables firms to attract customers and improve financial outcomes by leveraging specialized external expertise.

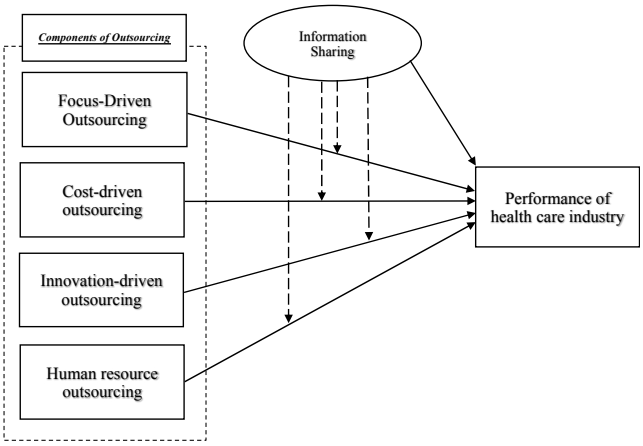


Figure 4. Research farmwork of the study.

3.6 Research Framework

The research framework based on the association between the variables of interest has been presented in Figure 4 below, covering the moderating role of information sharing.

3.7 Literature Summary

Table 1. Literature summary

Source	Main Variables	Industry and Regional Context	Research Mythology	Findings
Hooley *et al.*[21]	Market-based outsourcing, performance, competitive positioning.	General context	Theoretical model was presented	Resource based view is a major theoretical support to link the study variables.
Elmuti[14]	Outsourcing, organizational performance	General context	Empirical study	There is a significant and positive impact of outsourcing towards organizational performance.
Kotabe *et al.*[24]	Outsourcing, financial performance	Manufacturing industry	Empirical study	Both outsourcing and performance are linked with each other.
Weigelt[38]	Outsourcing, performance, integrative capabilities	General context	Empirical study	Outsourcing plays a major role towards performance outlook; however, it reduces the learning capability of the firm.

Table 1. Continued

Source	Main Variables	Industry and Regional Context	Research Mythology	Findings
Butler *et al.*[7]	Human resource outsourcing, market and operational performance.	General context.	Empirical study	Suboptimal outsourcing is negatively linked with the long-term performance
Gunasekaran[18] *et al.*	Performance measure metrics, outsourcing decisions	General context	Theoretical study	Outsourcing plays a significant in determining the competitive position.
Isaksson and Lantz[22]	Outsourcing, performance	General context	Empirical study	Both financial performance and outsourcing are interlinked with each other.
Butler *et al.*[7]	Human resource outsourcing, market and operational performance	Equity capital market	Empirical study	Outsourcing is negatively linked with the long-term operating performance indicators like return on assets, and operating return on assets.
Liu *et al.*[29]	Information sharing, logistic outsourcing	Different companies in China	Empirical study with SEM technique	Information sharing contributes towards customized and advanced outsourcing.

4.0 Research Methods

The study employs a quantitative research design, as it seeks to test a pre-existing theory. This approach is justified by its reliance on deductive reasoning and hypothesis testing. The study's objective aligns with the use of a structured instrument for data collection, with constructs derived from prior literature. A survey method was chosen to gather primary data, allowing the assessment of thoughts, feelings, and opinions in a given context[15]. This method facilitates the collection of quantitative data, which can be analyzed using descriptive and inferential statistics to explore relationships between variables and develop predictive models[16]. Survey research is widely recognized for its efficiency, cost-effectiveness, and accuracy in gathering information about a specific population[17]. Compared to interviews, observations, and secondary data, surveys using questionnaires minimize respondent bias and provide a standardized method for data collection[18]. Interviews may be influenced by the interviewer's characteristics, while observations may not capture authentic behavior if participants alter their responses due to awareness of being observed[19].

The study population consists of top management teams within the healthcare industry. According to the latest data from the Ministry of Health and Prevention, there are 157 hospitals operating across the UAE, including 53 public and 104 private facilities[20]. Since the questionnaire targets top-level management, the study focuses on individuals holding key leadership positions within hospitals. These include members of the Board of Directors, the CEO, General Manager, Executive Directors of Financial and Support Services, Information, Allied Health Services, and Medical Services[21]. Each hospital's top management team comprises approximately ten individuals, bringing the total study population to 1,570 (157 hospitals × 10 executives per hospital).

The sample size was determined using Krejcie and Morgan's sampling technique, which provides guidelines for selecting an appropriate sample size based on population size. For a population of approximately 1,600, the recommended sample size is 310[12]. To account for non-responses, the study inflated the sample size by 40%, distributing a total of 434 questionnaires. The response rate and further details on survey distribution are provided in Table 2.

For the purpose of data analysis, current study applies the two-step approach, covering the measurement model and structural model assessment through Smart PLS.

Table 2. Data filtration and response rate

Questionnaire	Frequency	Percentage
Returned	386	88.95
Unreturned	48	11.05
Total distributed	434	100
Missing cases	16	4.15
Outliers detected	12	3.11
Unusable cases	09	2.33
Usable for analysis	349	90.41

5.0 Results and Discussion

5.1 Assessment of the Measurement Model

In the first step of measurement assessment model, internal consistency, reliability and validity of constructs were assessed. Along with this, a common method biasness test was performed to ensure that there is a no issue of common method biasness exists in the data. Firstly, factor loadings of items of the entire construct were measured to ensure the internal consistency of the constructs. Liu C *et al.*[23], proposed that the factor loadings of all constructs should be greater than 0.7 to establish the internal consistency of the constructs. Tables 2-3 demonstrate that the factor loadings of all items are greater than 0.7 that shows that each items explained it latent variable more than 0.7 which depicts the high internal consistency. Convergent validity defined as a concept in which an indicator used to measure each latent variable should be related to each other based upon the theoretical support from the past research (Memon *et al.*). In this study we adopted two criteria to determine the convergent validity *i.e.* Composite Reliability (CR) and Average Variance Extracted (AVE). According to Liu C et al.[23], the CR and AVE of constructs should be equal or greater than 0.7 and 0.5. In this study, CR and AVE of all of higher order and lower order constructs are greater than 0.7 and 0.5 respectively. Hence, converge validity has been established. As per the findings under Tables 3-4, there is no problem for the convergent validity of the latent constructs.

Table 3. Constructs reliability and validity (first order)

	Items	FL	Alpha	rho_A	CR	AVE	VIF
Efficiency performance			0.814	0.823	0.889	0.728	
	EP1	0.833					1.708
	EP2	0.855					1.919
	EP3	0.871					1.793
Quality performance			0.892	0.893	0.925	0.755	
	QP1	0.888					2.131
	QP2	0.884					2.926
	QP3	0.889					2.699
	QP4	0.813					1.905
Accessibility performance			0.868	0.869	0.938	0.884	
	AP1	0.942					2.430
	AP2	0.938					2.430
Cost driven outsourcing			0.896	0.896	0.918	0.618	
	CDO1	0.815					2.817
	CDO2	0.841					3.167
	CDO3	0.792					2.466
	CDO4	0.813					2.326
	CDO5	0.814					2.273
	CDO6	0.784					1.967
	CDO7	0.624					1.311

Table 3. Continued

	Items	FL	Alpha	rho_A	CR	AVE	VIF
Focus driven outsourcing			0.840	0.851	0.879	0.512	
	FDO1	0.721					1.633
	FDO2	0.559					1.423
	FDO3	0.785					2.172
	FDO4	0.793					2.260
	FDO5	0.671					1.637
	FDO6	0.731					1.900
	FDO7	0.725					
Innovation-driven outsourcing			0.954	0.954	0.962	0.784	
	IDO1	0.915					2.650
	IDO2	0.903					2.300
	IDO3	0.865					2.181
	IDO4	0.874					3.436
	IDO5	0.885					3.705
	IDO6	0.883					3.707
	IDO7	0.872					2.150
Human resource outsourcing			0.928	0.931	0.946	0.778	
	HRO1	0.848					2.592
	HRO2	0.931					2.200
	HRO3	0.897					2.024
	HRO4	0.884					2.412
	HRO5	0.848					2.300
Information sharing			0.914	0.916	0.939	0.795	
	IS1	0.848					2.208
	IS2	0.880					2.761
	IS3	0.929					2.156
	IS4	0.907					2.366

Note: CR=Composite Reliability, AVE=Average Variance Extracted, EP=Efficiency Performance, QP=Quality Performance, AP= Accessibility Performance, FDO=Focus Driven Outsourcing, IDO=Innovative Driven Outsourcing, CDO=Cost Driven Outsourcing, HRO=Human Resource Outsourcing, IS=Information Sharing

Table 4. Measurement assessment of higher-order constructs

Constructs	Items	FL	Alpha	rho_A	CR	AVE
Operational performance			0.859	0.866	0.914	0.780
	AP	0.910				
	EP	0.862				
	QP	0.876				

Discriminant validity refers to each construct empirical distinct from other construct[23]. Discriminant validity discusses the differentiation of each latent variable from other variables. There are 3 methods to determine discriminant validity in smart PLS, which are Fornell and Lacker criteria, Cross loadings and Heterotrait-Monotrait ratio. Each method has its own rule of thumb or criteria to determine discriminant validity of constructs. Fornell Lacker Criterion is the first criterion used to assess the discriminant validity. Fornell Lacker criterion is established by Fornell and Larker. This criterion evaluates the discriminant validity in a complete detail. In this method, the square root of AVE of each variable in the research model must be higher than the correlation of same variable with others. The results of Fornell Lacker criterion are in matrix form. The values on the top of diagonals must higher than the values below. In the table below, the values on the top of diagonals are higher than the values below which means that discriminant validity has been established as shown in Table 5. Besides, the findings further reveal that for the second order constructs like OP, the value of Fornell Larcker criteria is 0.883. Figure 5 shows the measurement model output.

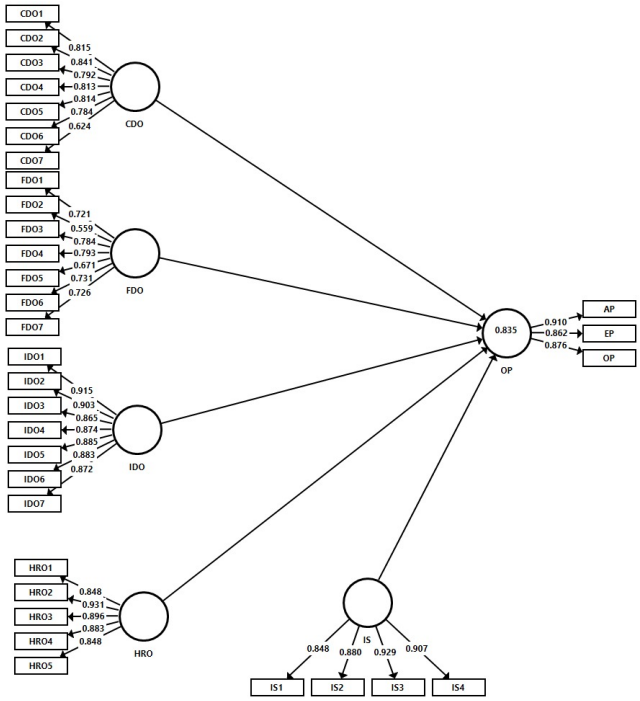


Figure 5. Measurement model output.

5.2 Assessing the Structural Model

5.2.1 Testing the Direct relationship

Table 6 presents the testing of direct relation hypotheses. The hypothesis 1 proposed that there is a significant impact of cost driven outsourcing on the performance. The finding reveals that there is a significant and positive impact of cost driven outsourcing on the performance (β = 0.086, T-value=2.921 p =0.004). H2 proposed that there is a significant impact of focus driven outsourcing on the organizational performance. Result of H2 reflects

Table 5. Fornell Lacker criterion

First Order Constructs								
	AP	**CDO**	**EP**	**FDO**	**HRO**	**IDO**	**IS**	**QP**
AP	**0.940**							
CDO	0.503	**0.786**						
EP	0.686	0.448	**0.853**					
FDO	0.710	0.560	0.728	**0.716**				
HRO	0.795	0.401	0.604	0.618	**0.882**			
IDO	0.794	0.405	0.702	0.689	0.712	**0.885**		
IS	0.662	0.353	0.504	0.494	0.704	0.621	**0.892**	
QP	0.705	0.409	0.625	0.592	0.710	0.717	0.673	**0.869**
Second Order Construct								
OP					0.883			

Note: EP=Efficiency Performance, QP=Quality Performance, AP= Accessibility Performance, FDO=Focus Driven Outsourcing, IDO=Innovative Driven Outsourcing, CDO=Cost Driven Outsourcing, HRO=Human Resource Outsourcing, IS=Information Sharing

that there is a significant and positive impact of focus driven outsourcing on the organizational performance (β = 0.236, T-value-6.881 p =0.000). Hence H2 accepted. H3 proposed that there is a significant impact of HR outsourcing on the organizational performance. Result of H4 reflects that there is a significant and positive impact of HR outsourcing on the organizational performance (β = 0.276, T-value-6.321 p =0.000). Hence H3 accepted. Finally, the H4 proposed that there is a significant impact of innovative driven outsourcing on the organizational performance. Result of H4 reflects that there is a significant and positive impact of innovative driven outsourcing on the organizational performance (β = 0.341, T-value=9.561, p =0.000). Hence H4 accepted. Moreover, the impact of information sharing on the operational performance of healthcare industry is also significantly positive.

5.3 Moderating Analysis

The testing of moderation hypotheses is presented in Table 6. To identify and assess the power of moderating effect of information sharing between the relationship cost driven organization, focus driven organization, innovation driven outsourcing and human resource outsourcing on organizational performance. The product indicator techniques PLS-SEM is used (Chin). In present study suggested moderating construct is continuous so we used a product indicator method. Furthermore, (J Cohen) rules were used for assessing the moderating effects.

H6 proposes that there is a moderating effect between the relationship of cost driven outsourcing and organization performance. Results indicates that the information sharing moderates the relationship between cost driven outsourcing and organization performance such that the relationship between CDO and OP is strengthened because of information sharing (β = 0.080, T-value=2.638 p =0.007). Hence H5 accepted. IS, when considered as a moderator, indeed strengthens the positive relationship between CDO and OP. When information sharing is introduced as a moderator, it acts as a facilitator in enhancing the benefits derived from CDO. By sharing relevant and timely information with external vendors, organizations can establish a collaborative and transparent relationship. Effective IS enables the vendor to gain a deeper understanding of the organization's goals, processes and requirements. This shared information helps the vendor align their activities more closely with the organization's objectives and enhances their ability to deliver value-added services (Yang and Maxwell). Consequently, the organization benefits from a higher level of coordination, increased efficiency and improved performance as a result of the CDO arrangement.

IS as a moderator, also fosters mutual trust and cooperation between the organization and the outsourcing vendor. When both parties engage in open communication and exchange information, it reduces uncertainties and misunderstandings. Shared information helps build a common understanding of expectations, priorities and challenges. This increased transparency and trust contribute to a more collaborative and effective partnership, enabling the outsourcing vendor to align their strategies and actions with the organization's objectives. Consequently, the organization experiences improved performance outcomes, such as cost savings, enhanced service quality and increased operational efficiency.

Moreover, IS as a moderator enhances the organization's ability to monitor and evaluate the performance of the outsourced activities. By sharing relevant performance-related information, organizations can establish clear metrics and key performance indicators that both parties can track and assess. This shared information enables regular monitoring of the vendor's performance against agreed-upon benchmarks and facilitates timely feedback and corrective actions. As a result, the organization can ensure that the CDO

Table 6. Results of structural equation model

Hypotheses	Relationship	Beta Coefficient	SD	T value	P value
H1	CDO -> OP	0.084	0.030	2.912	0.004
H2	FDO -> OP	0.236	0.034	6.881	0.000
H3	HRO -> OP	0.279	0.044	6.312	0.000
H4	IDO -> OP	0.343	0.036	9.561	0.000
--	IS -> OP	0.140	0.041	3.382	0.001

arrangement continues to contribute positively to OP and adjust strategies or activities as needed. Additionally, IS as a moderator supports organizational learning and knowledge transfer. By sharing information with the outsourcing vendor, organizations can exchange insights, best practices and lessons learned. This knowledge transfer enriches both parties understanding of the industry, processes and emerging trends. It also facilitates innovation and continuous improvement, as the organization can leverage the vendor's expertise and external perspectives (Yu). This knowledge sharing enhances the value derived from CDO, leading to improved OP through enhanced capabilities competitive advantage and adaptability.

However, it is crucial for organizations to establish effective mechanisms and processes for IS as a moderator. Clear communication channels, well-defined expectations and mutually agreed-upon IS protocols are essential to ensure the smooth flow of information between the organization and the outsourcing vendor. Regular feedback loops, performance evaluations and joint problem-solving initiatives further strengthen the benefits of IS as a moderator[29].

The H6 proposes that there is a moderating effect between the relationship of focus driven outsourcing and organization performance. The finding indicates that there is no significant moderating impact of information sharing between the relationship between focus driven outsourcing and operational performance as p-value is statistically insignificant (β = -0.014, T-value= -0.372 p = 0.710). Hence H0 is not rejected.

H7 proposes that there is a moderating effect between the relationship of innovative driven outsourcing and organization performance. Results indicates that the information sharing moderates the relationship between innovative driven outsourcing and operational performance such that the relationship between IDO and OP is strengthen because of information sharing (β = 0.108, T- value= 2.749 p = 0.006). Hence H7 accepted. IS, when employed as a moderator, plays a crucial role in strengthening the positive relationship between IDO and OP. By sharing relevant and timely information with external vendors, organizations foster a collaborative and knowledge-sharing relationship. IS facilitates the exchange of ideas, insights and best practices between the organization and the outsourcing vendor. This sharing of information creates a synergistic environment that allows for the cross-pollination of knowledge and expertise, leading to more innovative and effective solutions. The vendor, armed with the shared information, can better align their activities with the organization's innovation goals, resulting in improved performance outcomes.

IS as a moderator also promotes transparency and facilitates effective coordination between the organization and the outsourcing vendor. Open communication and the exchange of information reduce barriers and enhance mutual understanding. By sharing information about market trends, customer insights and technological advancements, the organization enables the vendor to stay updated and aligned with the organization's strategic direction. This shared information strengthens the partnership, fosters effective collaboration and enhances the vendor's ability to contribute to innovation-driven initiatives, ultimately leading to improved OP.

In a nutshell, IS as a moderator strengthens the positive relationship between IDO and OP by promoting collaboration, transparency, learning and effective monitoring. By sharing relevant information, organizations enhance the alignment of the outsourcing vendor with innovation goals, facilitate knowledge transfer and create a foundation for continuous improvement. Leveraging IS as a moderator empowers organizations to maximize the benefits of IDO, leading to improved OP through enhanced innovation capabilities, competitive advantage and value creation. Finally, the H8 proposes that there is a moderating effect of information sharing on the relationship between HR outsourcing and operational performance. This impact is regarded as insignificant due to insignificant p-values at 5% level of significance.

Table 7. Moderation hypotheses

Hypotheses	Relationship	Beta Coefficient	SD	T value	P value
H5	CDO*IS -> OP	0.080	0.030	2.638	0.007
H6	FDO*IS -> OP	-0.014	0.038	-0.372	0.710
H7	IDO*IS -> OP	0.108	0.039	2.749	0.006
H8	HRO*IS -> OP	0.061	0.039	1.571	0.117

6.0 Conclusion and Policy Implications

This research aims to examine the nexus between strategic outsourcing and operational performance in the health care industry of UAE. Moreover, it further explores the moderating role of information sharing on the relationships between strategic outsourcing and operational performance in similar industries. More specifically, the term strategic outsourcing has been measured through considering the variables like cost driven outsourcing, human resource outsourcing, focus driven outsourcing, and innovation driven outsourcing, respectively. The empirical findings show that all 4 factors of outsourcing have their significant and positive impact on the operational performance of the healthcare industry in UAE. However, the moderating effect of information sharing is significant on the relationship between CDO-OP, and between IDO-OP, respectively. Based upon the findings, few policy implications have been suggested. The empirical findings under the present study show that there is a significant and positive impact of cost driven outsourcing on the operational performance of the health care industry. For this reason, it is suggested that hospital management specifically and the health department generally consider the significance of such outsourcing factors in leading towards better operational performance. In terms of focus driven outsourcing, the relative decision makers in the hospital industry are suggested to firstly identify the core or functional areas which need major attention for the improved operational performance. For this purpose, it is suggested that hospitals need to outsource the areas having their secondary importance in the hospitals like maintenance, food services, and other minor day-to-day administrative tasks. However, one cannot neglect the role of communication between the hospital management and strategic partner of outsourcing. Regarding the innovation-driven outsourcing, it is highly recommended that hospital management needs to identify those areas, processes, or functions which could benefit from a similar outsourcing strategy. More specifically, the innovation-driven outsourcing might include the technological adoption with the help of modern service delivery models. Such efforts will help to align the strategic organizational objectives like value creation through higher operational performance. However, it is also important to note that management in the hospital industry needs to segregate proper funds along with the creation of innovation culture within the organization. Moreover, this researcher also suggests that working through strategic human resource outsourcing is also beneficial in achieving better operational performance in the hospital industry.

Finally, the results also confirm that information sharing is a significant moderator on the relationship between cost-driven outsourcing and operational performance, and between innovation-driven outsourcing and operational performance. For this purpose, it is highly recommended that health department and hospital key officials need to promote an environment of knowledge sharing within the health care centers. Several possible channels can be observed for the promotion of information like creating a culture of openness among the employees and between different functional areas, providing modern communication channels, using technology and collaboration tools, encourage cross-department integration, recognizing and rewarding the information sharing, providing all the possible resources, and through encouraging the suggestions and feedback. By applying these set of techniques and strategies, relevant administration at hospitals and the health care sector can increase the organizational performance.

7.0 References

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