



UWTSD MBA

Dissertation

**A Study of The Impact of Macro-Economic Environment on
the Medical and Healthcare Industry in Hong Kong Since
the Beginning of the Covid Pandemic**

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Declaration and Statements

DECLARATION

This work has not previously been accepted in substance for any degree and is not being concurrently submitted in candidature for any degree.

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Abstract

The research aims to establish links between Hong Kong healthcare business performance metrics and the key macroeconomic elements GDP growth and inflation and unemployment rates. The research aims to understand external economic influences on healthcare organization operational fitness because these essential services play a vital role in society. Pearson correlation techniques were used to analyze the formulated hypotheses about this relationship. The research shows that GDP growth establishes virtually no significant link ($r = 0.033$, $p = 0.293$) to the performance of healthcare businesses. Healthcare operations in Hong Kong demonstrate economic independence since demand for health services remains constant despite market expansions or contractions because of their essential nature. The study found no significant link between healthcare business performance and employment trends since their relationship showed a negative yet statistically insignificant value ($r = -0.037$, $p = 0.248$). Specialized medical staff combined with constant service demand maintains stability within healthcare businesses regardless of difficult labour market situations. Healthcare business performance shows inflation as its sole macroeconomic influencing factor which generates statistically meaningful results. The statistical data ($p\text{-value} < 0.001$) shows that healthcare operation costs rise because of inflation ($r = 0.175$) despite the weak correlation. Business performance exhibits the significance of strategic resource management and cost-efficiency methods when managing inflationary periods. The Healthcare Business Performance Index (BPI) described in this study combines financial information together with client numbers and resource consumption and market positioning data to offer complete business performance assessment. A low internal consistency value (Cronbach's Alpha = 0.016) exists for the BPI yet the index helped researchers study the macroeconomic factors affecting healthcare performance. This study demonstrates that GDP and unemployment rates create negligible impacts but managers need to develop direct solutions to manage inflation risks that affect operational performance. The research findings present important applications for both medical facility administrators together with policy decision-makers. The study illustrates healthcare business economic resistance while demonstrating the essential value of resource planning which incorporates inflation management for lasting business success.

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Chapter 1

Introduction

1.1 Background and Context

Academic research conducts extensive evaluation of how macroeconomic factors influence industries particularly those dedicated to public welfare health services. The business sector together with industry longevity maintains its existence by relying on fundamental macroeconomic factors such as GDP expansion and inflation as well as employment statistics and financial interest rates (Mankiw, 2021). The healthcare industry shows extreme economic sensitivity due to changes that affect healthcare accessibility and affordability and system operational efficiency (Arrow, 1963).

Global economic changes combined with the Covid-19 pandemic have brought substantial operational shifts to the medical and healthcare industry of Hong Kong (Wang et al., 2022). hospital settings displayed major structural deficiencies during the pandemic by running out of medical resources and experiencing supply chain failures together with financing uncertainties. Healthcare resilience became entirely subject to macroeconomic stability during crisis times because this economic instability led to an economic system collapse. Medical institutions as well as healthcare providers and pharmaceutical companies experienced financial collapse because of Covid-19 so healthcare funding and economic strategies required extensive evaluation (Baker et al., 2020).

Digital healthcare reforms gained rapid momentum within healthcare organizations because of the pandemic. The pandemic necessitated telemedicine together with digital health services to become standard practice throughout healthcare facilities because it interrupted traditional medical care (Whitelaw et al., 2020). Healthcare organizations required the implementation of new efficient systems because labor shortages emerged together with rising costs because of macroeconomic problems. The application of artificial intelligence (AI) plus big data analytics to healthcare

decisions delivered better patient healthcare services and better resource management capabilities (Topol, 2019).

How people obtained pharmaceutical drugs depended on macroeconomic conditions as did the prices pharmaceutical drugs achieved in the market. The worldwide supply chain disruption led to higher costs for vital medications thus creating extra financial struggles between healthcare facilities and their patients (Shah et al., 2021). Hong Kong witnesses rising healthcare prices because volatile foreign exchange rates combine with higher transportation costs as the territory imports most of its pharmaceutical medicines (Tang et al., 2021). Economic crisis accessibility requirements together with medically affordable supply policies became vital measures based on present economic conditions.

An improved comprehension of macroeconomic trends affecting healthcare has become vital because of these modifications. To guarantee healthcare service sustainability in uncertain economic times policymakers and healthcare providers together with leaders in industry should utilize economic data for developing resilience strategies as the World Bank (2022) suggests. This study adds to healthcare knowledge through an analysis of recent economic trends and generates practical recommendations for current and future healthcare policies and business operations.

1.2 Rationale of the Study and Research Problem

Research investigates economic resilience within healthcare institutions after macroeconomic disruptions that started with the COVID-19 pandemic. This research has been established because healthcare systems must maintain their ability to endure financial disturbances without compromising their fundamental medical services. Global healthcare systems became exposed to their vulnerability both during public health emergencies as well as through economic operational challenges.

- The economy of Hong Kong recorded its largest annual decrease in 6.1% during 2020 since records started. Hong Kong's economy declined sharply because of pandemic conditions

together with social disruptions which cut both consumer spending and investment activity.

- The fourth quarter seasonally adjusted unemployment figures reached their highest point in 16 years at 6.6% during 2020. The sectors of retail together with accommodation and food services showed the highest unemployment rates which surpassed 10%.
- The fundamental price index measuring Hong Kong inflation showed a decrease from the 3.0% annual average of 2019 to reach 1.3% in 2020. Hong Kong has experienced a decrease in inflation mainly because domestic demand remains low and house prices continue softening throughout the market. The rental prices play a crucial role in shaping Hong Kong's inflation rates.

The COVID-19 pandemic brought numerous challenges to Hong Kong's healthcare institutions because of major changes in vital economic variables. The operational effects of these variable changes became highly severe for healthcare institutions.

1.2.1 GDP growth fluctuations and public healthcare funding

The economy of Hong Kong delivered its most substantial annual economic decline ever when it contracted by 6.1% during 2020. The economic downturn decreased government tax revenue thus resulted in lower available public healthcare funding. The budget cuts in public healthcare institutions created obstacles that prevented them from buying medical equipment while requiring maintenance of facilities and delivery of medical products.

1.2.2 Unemployment rates and access to private healthcare services

The adjusted job market unemployment percentage rose dramatically in 2020 to 6.6% during the fourth quarter which marked the strongest record in sixteen years. The dramatic rise of individuals without work affected their purchasing ability negatively until private healthcare costs soared beyond reach resulting in increased public healthcare demand.

1.2.3 Inflation and operational costs

Costs analyzed for consumer prices decreased substantially from an annual 3.0% in 2019 to an annual 1.3% in 2020. The healthcare operational budgets of providers were likely affected by price volatility which occurred in medical equipment and pharmaceutical components despite overall inflation remaining moderate.

The financial and operational stability of Hong Kong healthcare institutions suffered greatly from the COVID-19 pandemic's effects on GDP expansion and workforce and price levels. The current crises emphasize the necessity for healthcare systems which exhibit the ability to sustain macroeconomic shocks.

Public healthcare institutions heavily depend on GDP growth to obtain their funding. Better healthcare investments and improved medical infrastructure and workforce capacity with increased accessibility to services become possible during times of economic prosperity because revenues rise within the government. The reduction in economic activity triggers public budget cuts which disadvantage public hospitals by reducing their resources while undermining medical research and delaying infrastructure construction thus affecting healthcare service delivery (Newhouse 1992). People in different employment situations demonstrate varying capabilities to pay for healthcare through private medical institutions. The rise of unemployment leads to private healthcare insurance plan reductions which forces individuals to depend on government healthcare funding. Public healthcare institutions experience increased pressure from this shift alongside reduced profits for private healthcare providers which in turn results in healthcare facility reductions or heightened costs for patients who maintain coverage (Van Houtven et al., 2020).

- The operations of healthcare organizations experience inflationary impacts on multiple levels which include healthcare personnel salaries and healthcare equipment and drugs costs along with operational costs. Healthcare institutions experience financial stress due to increasing costs which impacts institutions with set budgets or institutions that receive government funding. Rising essential medical supply prices caused by inflation make healthcare less accessible to low-income patients while reducing their ability to afford medical treatments (Feldstein, 2011).

Limited research examines the post-pandemic healthcare industry in Hong Kong even though analysis of macroeconomic effects on manufacturing, finance and retail industries is extensive. Healthcare business models together with patient behaviors and financial stability experienced fundamental changes because of new economic pressure from the Covid-19 pandemic. The study addresses missing academic and practical understanding by exploring macroeconomic forces in their relationship with healthcare sector performance in Hong Kong. The findings generated in this analysis will provide basis for evidence-based healthcare policy suggestions that enhance industry adaptability and resilience in times of economic instability (World Health Organization, 2021).

The study's factors analysis helps both healthcare providers create better sustainability plans and allows policy decisions to strengthen healthcare economic performance. Studies addressing the Hong Kong post-pandemic healthcare industry are scarce even though numerous researchers have explored macroeconomic effects in other business sectors. This research project responds effectively to a knowledge gap within both practical application and academic scholarship.

1.3 Research Aim, Objectives, Questions, Hypotheses, and methods

1.3.1 Research aim and objectives

The research aim of this study is to add empirical knowledge to the Hong Kong healthcare industry through an analysis of recent economic trends and generates practical recommendations for current and future healthcare policies and business operations.

The objectives are:

1. To measure the business performance of the medical and healthcare industry in Hong Kong post-pandemic.
2. To measure the relationship between GDP growth and healthcare business performance.
3. To measure the relationship between consumer inflation and healthcare business performance.
4. To measure the relationship between unemployment and healthcare business performance.

1.3.2 Research Questions and Hypotheses

The in order to achieve the above-mentioned research objective, the author asks three research question

Q1:

What is the relationship between GDP growth and healthcare business performance?

Q2:

What is the relationship between consumer inflation and healthcare business performance?

Accordingly, three hypotheses have been formulated to facilitate an empirically study

H1:

There is a significant relationship between GDP growth and healthcare business performance.

H2:

There is a significant relationship between consumer inflation and healthcare business performance.

H3:

There is a significant relationship between unemployment and healthcare business performance.

1.3.3 Research method

In order to test the three hypotheses statistically, firstly, the author defined and measured the dependent variable (healthcare business performance index) based on four observed variables (Financial Performance, Change in Client Volume, Resource Utilization Efficiency, and Market Share Change), and then analyzed the relationship between this variable with the three major macroeconomic variables including GDP growth rate, consumer inflation rate, and unemployment rate. To do this, a quota convenience sampling survey has been conducted. Based the data collected, and used the Pearson correlation analysis to perform the hypotheses testing.

1.4 Research framework and research Significance

1.4.1 Research framework

In this section you need to briefly explain the method you choose to facilitate your analysis in order to achieve the research objectives. Use the final paragraph to outline the structure of the dissertation. This study will integrate quantitative approaches with qualitative methods as a mixed-methods design to fulfill its research targets. Hong Kong healthcare businesses adapt to economic changes through combining pandemic-related quantitative data from macroeconomic indicators and healthcare financial reports and relevant statistical datasets. Statistical analysis of regression modeling and correlation process establishes how macroeconomic trends affect healthcare sectors. This research collects qualitative information through stakeholder interviews and case studies for analyzing institutional decision making together with sectoral adaptive approaches and business resilience in organizations.

The research design structure measures economic transformations while revealing complete organizational adjustments happening in healthcare facilities. Statistical evidence together with user experiences allows the analytical investigation to show diverse viewpoints on analysis questions. The research design incorporates multiple methods to create triangulated processes that

strengthen both validity and yield useful results for academic scholars along with clinical practitioners.

The dissertation includes several chapters which describe the merged research methodology. The research document starts by introducing the topic and subsequent literature review before describing data acquisition methods and analytical methods in the methodology chapter. The research follows its outcomes with discussions about them before examining industry robustness and policy effects. The conclusion section summarizes vital findings while recognizing limitations and suggesting future research directions. The findings in this study generate useful results that benefit the healthcare industry and its stakeholders and academic researchers.

1.4.2 Research significance

The collected information delivers substantial worth to industrial resilience planning by helping healthcare businesses create strategies that anticipate macroeconomic trends. The analysis identifies modification approaches to financial strategy that strengthens organizations in developing contingency plans to minimize future operational interruptions. Advanced operational models help organizations maintain their service delivery capacity for unstable economic times ensuring greater stability within the healthcare industry.

The analysis supplies healthcare policymakers with specific solutions to improve their resource planning decisions and spending choices. Organizations serving the public sector gain better tactics for funding distribution by knowing how healthcare industries react during times of economic downturn. Through evidence-based distribution methods healthcare systems achieve balanced resource allocation that produces robust healthcare operations after and during future emergency situations.

The research broadens healthcare economic understanding by using thorough investigation to analyze how Hong Kong's healthcare system responds after its pandemic experience. The investigation examines economic management within healthcare through its research of healthcare businesses adapting to changes in macroeconomics. These academic contributions develop new

theoretical concepts for future researchers to apply their resilience-strategies research across different global healthcare fields.

Chapter 2

Literature Review

Literature review is literally the most fundamental worth of it establishing the research as comprehensive by way of going through the existing studies in the healthcare sector that have been done which covered the influence of macroeconomic factors. This part of the study allows for a thorough investigation of the current literature and a spotlight is clearly placed on the topics, theories, and deficits that my study aims to study. This problem is solved through the identification of the relationships between economic indicators and several economic sectors of the healthcare industry that are responsible for healthcare business performance in Hong Kong.

A vivid example of macroeconomic factors affecting healthcare is that of economic systems relationships such as food, clothes, and shelter differences, their cost, and their availability, the stability and attractiveness of industries, diseases prevention and curing remain a key topic of discussion in health procurement (Gola et al., 2017). Several types of research have been done and all of them have been concerned with the interaction between GDP growth, inflation, and unemployment on both sides, which are healthcare financing fully and healthcare service. Nevertheless, this body of research reveals that it is essential to have an economically resilient health care system to be sustainable in the face of economic fluctuations. Furthermore, empirical results indicate that different economies not only experience specific difficulties in confronting the challenges but, in fact, may have specific patterns of response to the universally applicable ones. Bringing into focus the simplicity of the framework, localized analyses, with the emphasis on economic structures and healthcare policies, can be identified as a remedy for the above-mentioned problem (Krugman & Wells, 2018).

In addition, this literature study involves the main theoretical framework which reveals the objective of the research, which is the integration of paradigms from health economics, macroeconomic theory, and public finance. The examination of the interconnectedness between these theoretical approaches provides a systematic way for understanding the ties between the

macroeconomic trends and health care decision-making, the channels in which funds arrive, and the policy adaptations. The interpretations made by this review will aid in the formulation of an established policy proposition to enhance Hong Kong's health care system by providing the capabilities to face global economic uncertainties.

Other studies in mainland China along with different countries serve to complement research in Hong Kong as comparative additions. As reported by Zhenglong and Tengku Wook (2024) COVID-19 created economic difficulties for China's healthcare system through financial hospital stress which increased costs and reduced patient intake similar to Hong Kong's situation. Myers and Jones (2024) analyzed worldwide healthcare systems to document pandemic economic impact through assessments of inflation and employment on delivery services and personnel strength and organizational sustainability. The research problem focuses on understanding how Hong Kong healthcare businesses performed under COVID-19 macroeconomic conditions using findings from these studies.

2.1 Macroeconomic Factors and Healthcare: An Overview

Furthermore, in this documentary, the theoretical example that the education of which this study conforms is health economics, macroeconomic policy, and public finance. Examine the linkages among these theoretical viewpoints, the study provides a rational way of understanding which macroeconomic tendencies affect health care policy-making, finance, and policy adjustments. The information collected from this review will provide the necessary input for the formation of informed policy recommendations that shall strengthen the resilience of the country's health care system from the constantly changing world's economy.

Many studies have been conducted to show the impact of macroeconomic variables, including Gross Domestic Product (GDP), inflation, unemployment, and government spending, on healthcare systems. Macroeconomic stability is the main driver of healthcare efficiency, cost, and viability (Newhouse, 1992). As per Blanchard (2017) the variations in economic growth affect the public and private sector funding allocation, thus affecting the supply of resources, management of health services, and workforce sustainability. Krugman, and Wells (2018) are of the view that

in times of economic downturn, healthcare budget is more often than not the first to get cuts done, therefore most of the projects connected to healthcare will be delayed, the research funding will be reduced and the existing facilities will face an overcrowding situation. A report by the World Bank (2022) brought out the fact that the global economic recession; the Covid-19 pandemic being a case in point, caused serious financial trouble to healthcare organizations, so that both public and private hospitals were forced to reallocate the budget and reorganize the workforce.

The study by Cutler and Meara (2001) shows that economic volatility in health planning leads to uncertainty and causes disruption in resource allocation and continuity in patient care. Furthermore, the interface between macroeconomic politics and the resilience of the health sector has led to a growing interest in public health research. Research shows that well-planned monetary policy can mitigate some of the disadvantageous effects of economic slump on the health sector (Wouters & McKee, 2016). However, the lack of strategic planning can increase negative outcomes, which can worsen public health outcomes, particularly for endangered population groups. Study by Baker et al. (2020) found that countries with more flexible and adaptable economic policies can better maintain healthcare stability during the Covid 19 pandemic. The results show that effective economic policies, combined with strong infrastructure for healthcare, can play a key role in minimizing obstacles during economic downturns.

Academic investigations show how macroeconomic shifts involving GDP reduction and job loss together with inflation have affected healthcare delivery throughout the COVID-19 outbreak in different parts of the world. Installed healthcare institutions within Hong Kong have benefited from several important research efforts that describe their response to these difficulties. The authors Leung et al (2022) analyzed the cost-effectiveness of vaccines in Hong Kong through their study. The authors demonstrated that proper vaccine strategies help healthcare institutions use their resources effectively during the pandemic-driven fiscal restrictions. Lai et al. (2022) performed a public survey with cross-sectional design to study health service usage patterns of the COVID-19 period. Public healthcare usage experienced a major decrease which experts attributed to economic instability alongside fear of contracting infection—this demonstrated how economic forces transformed population behaviors. The authors Chan and Cheang (2024) promoted that Hong

Kong needed new changes in public health policy planning which became apparent when economic pressures revealed systemic flaws during pandemic times. The International Monetary Fund (2008) provided earlier analysis about how alternative healthcare funding methods in Hong Kong affect the economy as a whole which proved valuable during the COVID-19 pandemic.

2.2 Gross Domestic Product (GDP) Growth and Healthcare Expenditure

GDP growth is a fundamental macroeconomic factor that affects health spending. A country's economy expands typically lead to increased investment in healthcare, leading to improved healthcare infrastructure, technological advances, and improved patient outcomes (Newhouse, 1992). Conversely, economic contractions lead to budgetary restrictions, reduced healthcare costs and limited services (Deaton, 2013).

A study conducted by Barro (2015) examined that the relationship between GDP growth and health spending in OECD countries correlates with an increase in GDP growth of 1% and an average increase in healthcare spending. This trend is consistent with Hong Kong's economic model in which GDP fluctuations historically determined health funding guidelines (Leung et al., 2020).

Reinhardt et al. (2004) argue that GDP growth is an important determinant of healthcare system costs, but political interventions also play an important role. Her research highlighted that despite the economic downturn, countries with well-structured health guidelines can maintain stable funding for their health systems. This is particularly relevant to Hong Kong, where state interventions reduced the financial impact of the Covid 19 crisis on public hospitals. A decrease in GDP growth could lead to a decrease in available revenue, which would reduce the ability of people to provide private health services and increase the demand for subsidized health programs. This displacement takes additional stress on public health facilities and further increases the importance of economic resilience in health planning.

Many studies suggest that GDP growth has a significant positive link to business performance. According to Fagerberg et al. (2010) Promote economic growth by increasing consumers, investment opportunities and corporate income. Companies are thriving in a growing economy due to increased revenues available and increased market activity.

A study by Levine and Renelt (1992) showed that higher GDP growth rates result in higher financial market development and increased corporate access to lending. This availability of financial resources allows businesses to expand their businesses, invest in new technologies, and increase productivity. With the rise in national production, businesses benefit from scaling effects, reduced transaction costs and increased consumer trust, leading to increased sales and profitability.

The impact of GDP growth varies across industries. For example, manufacturers and technology often have high growth rates during economic booms (Romer, 1990). Conversely, the service industry can benefit from stable, long-term economic growth rather than short-term fluctuations.

2.3 Inflation and Its Impact on Healthcare Costs

Inflation affects health costs, wages, medical device prices, drug costs, and insurance premiums. According to Feldstein (2011), inflation pressures in the health sector often exceed general inflation rates, leading to affordability for both health service providers and consumers.

Analysis by Cutler and Meara (2001) showed that it is a key factor for the increase in US medical stores making similar observations in Hong Kong. The city's trust in imported healthcare and medicines exacerbates the impact of global inflation and further increases the costs of healthcare services (Tang et al., 2021).

Also, Shah et al. (2021) examined how inflationary pressures during the Covid 19 pandemic have increased hospital operational costs and resulted in increased healthcare costs. This highlights the need for strategic financial planning and political intervention to manage costs resulting from inflation in health costs escalation. Increased healthcare costs can lead to delayed treatment, reduced use of preventive care, and lower health outcomes. Political decisions - Manufacturers are encouraged to adopt price management mechanisms and subsidies to counter differences in inflation orientation in access to healthcare.

Inflation is often seen as a volatile force for businesses. Research shows that high inflation undermines purchasing power, increases production costs, and creates uncertainty in financial planning (Fischer, 1993).

The pioneering work by Taylor (1999) shows that inflation makes it difficult to deny resource misconceptions, making it difficult for companies to plan long-term investments. Companies with high inflation face increased input costs that could be taken over by consumers, resulting in reduced product demand.

Bordo and Wheelock (1998) argue that inflation has a negative impact on business performance by pushing profit margins. If the costs of raw materials, workers and transport companies rise, the company must absorb or raise prices. A study by Barro (1995) showed that longer inflation could lead to reduced capital investments as firms are uncertain about future economic conditions. In many cases, high inflation leads to higher interest rates, making borrowing more expensive and limiting the likelihood of expanding your business (Bernanke, 2007).

2.4 Unemployment and Healthcare Accessibility

Unemployment is another macroeconomic factor that has a major impact on the accessibility and affordability of the healthcare system. Research by Van Houtven et al. (2020) show that rising unemployment rates lead to less health insurance protections for employers, leading to greater reliance on the public health system. This trend was shown in Hong Kong during the Covid 19 pandemic. There, job losses increased, but public hospitals are associated public hospitals staying, while private use of the health system has decreased.

Longitudinal study by Baker et al. (2020) found that economic recession generally leads to increased healthcare demand by low-income population groups, placing additional burdens on state-funded health facilities. Similarly, Cutler and Meara (2001) argue that unemployment rates lead to long-term health effects, including long-term delays in medical care and increased morbidity. The psychological effects of unemployment often lead to an increase in cases of depression and anxiety, further straining the already expanded health system.

Unemployment is an important macroeconomic factor that affects business performance. High unemployment rates reduce consumer costs and lower demand for products and services. A survey by Okun (1962) determined that unemployment rates were, in contrast to GDP, and as a result, related to business activities.

High unemployment rates lead to companies reducing sales and revenue, leading to potential layoffs and reductions. A study by Blanchard and Katz (1997) shows that businesses in the economy must fight low unemployment with low demand and overcapacity and hamper profitability.

Unemployment rates affect not only consumer demand but also labor productivity. High unemployment rates can lead to employee depreciation if a company revives, and may reduce the quality of the employed population (Pissarides, 2000). Conversely, lower unemployment rates indicate a more aggressive workforce that promotes innovation to improve business performance and productivity.

Some studies suggest that moderate unemployment rates benefit businesses by ensuring a range of workforce and preventing excessive wage inflation (Layard et al., 2005). However, long unemployment rates generally lead to a decline in economic activity. This has a negative impact on companies in the sector.

2.5 Theoretical Frameworks in Health Economics

The theoretical framework that leads this research integrates the concepts of health economics, macroeconomic theory, and finance. Understanding how economic power shapes accessibility, affordability and sustainability of healthcare requires a structured theoretical approach. Three major theories inform this study:

Grossman's Human Capital Model (1972): This model assumes that health is a form of human capital that affects productivity and economic performance. Economic fluctuations reduce the ability of individuals to invest in their health, leading to worsening public health outcomes (Grossman, 1972).

(1) Health Production Function (Fuchs, 2018): This theory suggests that health expenditures are influenced by economic growth, political interventions, and demographic factors. It highlights the need for stable macroeconomic conditions to maintain healthcare funding.

- (2) Public Choice Theory (Buchanan, 1986): This theory examines the role of government policy in funding healthcare and services. It highlights the challenge of reconciliation with financial constraints and public health needs, particularly during economic recession.

By integrating these theoretical perspectives, this study provides a comprehensive framework for analyzing how macroeconomic trends influence health care decisions. The results contribute to political recommendations to improve resilience in Hong Kong's health system.

2.5 Literature regarding Research methodology

We will now examine the research approach that incorporates quota sampling and convenience sampling together with the procedures for conducting hypothesis testing and significant correlation analysis applicable to Hong Kong healthcare business performance assessment during the COVID-19 pandemic.

2.5.1 Sampling design

Any research requires effective sampling design since it establishes how well the chosen sample represents one's study population. The research design combines quota sampling alongside convenience sampling as sampling methods. This paper evaluates both sampling procedures through existing scholarly documentation.

2.5.1.1 Quota Sampling

The researcher in quota sampling selects participants who match specific important criteria for the study using this non-probability sampling method. A main objective of quota sampling consists of generating a representative sampling population that matches key population features (such as gender or age or professional background). Researchers determine fixed participant numbers by subgroup in order to allocate them to the sample. The researcher should use quota sampling for studies requiring specific subgroups to have representative numbers of participants. Researchers conducting healthcare research should incorporate healthcare professionals representing various medical roles including doctors, nurses and administrators to fully assess macroeconomic impact on healthcare business performance. Literature about quota sampling highlights its random

sampling limitations because research participants get chosen based on researcher evaluation instead of random selection (Etikan et al., 2016). Quota sampling when properly combined with alternative sampling methods works to boost the representational quality of the research sample. Research in healthcare makes successful use of quota sampling to include representatives from multiple professional sectors (Burns & Grove, 2011).

2.5.1.2 Convenience Sampling

Convenience Sampling Research using convenience sampling employs a non-probability sampling method that chooses participants because they are easy to locate. Researchers normally choose this sample method for exploratory research which faces tight timeframes or budget restrictions. The convenience sampling approach produces biased results because researchers choose participants without using a random selection method but remains efficient in gathering initial information simultaneously with fast response requirements. For research on healthcare business performance the investigators may approach healthcare providers who are conveniently available for participating. The accessibility criteria for major hospitals and clinics in this type of sampling method excludes smaller less accessible healthcare providers from participation which might lower the study's result generalization potential. Researchers conduct healthcare research with convenience sampling because this technique delivers efficient analyses at low cost (Creswell, 2014) yet they must understand its boundaries in relation to external findings validity. Using convenience sampling requires combination with multiple research approaches to reduce biases and obtain an extensive sample population.

2.5.2 Significant Correlation and hypothesis testing

Statistical correlation analysis provides researchers with a method to observe the link between multiple variables at once. This method lets researchers establish how strong the connection is and which way it goes along with the extent to which it exists. The current research employs correlation analysis to analyze how macroeconomic indicators such as GDP growth and consumer inflation and unemployment rate impact healthcare business performance within Hong Kong.

The execution of correlation analysis happens through two widely accepted procedures (Cohen et al., 2003)

- Pearson correlation determines the existence of linear associations between two numerical variables.
- The Spearman rank correlation serves as an appropriate statistical tool for analyzing data points which follow an ordinal scale or non-normal distribution.

Since this study is using a large sample size, the author chose to use the Pearson correlation analysis,

The study would employ Pearson's correlation coefficient for determining the directional patterns along with relationship strength between GDP and unemployment levels together with inflation rates and healthcare business performance metrics. Studies using correlation analysis extensively explore external variables particularly economic indicators that affect healthcare service delivery quality (Ferrer et al., 2019). Healthcare officials depend on correlation coefficients to discover patterns in data relationships when designing healthcare policies.

2.6 Summary

A summary of the literature allowed a comprehensive assessment of healthcare macroeconomic factors, highlighting important topics and theoretical perspectives. By examining GDP growth, inflation, unemployment, and state spending, this study builds on existing research to gain new insights into post-pandemic healthcare resilience. A theoretical framework based on health theory of health economy.

The review of literature explains in detail how economic factors affect health systems by analyzing the relationship between growth in GDP and inflation together with unemployment rates and public expenditures. Several economic elements which research studies have proven impacting institutional health service performance serve as crucial shapers of operational effectiveness and healthcare system resilience. A number of studies confirm that GDP expansion directly influences public healthcare funding because economic downturns create government revenue shortfalls

(Marron, 2020). Healthcare costs increase due to inflation which affects salaries and medical supply prices and pharmaceutical expenditures thus causing difficulties for healthcare institutions to function as service providers (Sachs, 2021). The economic downturn creates barriers for people to obtain private healthcare solutions which intensifies health disparities because workers lose their employment-based insurance while lacking resources for necessary medical examinations (Jabbar & Amir, 2022).

Healthcare services demonstrate maximum sensitivity to economic downturns according to Marron (2020) because budget reductions in government funds place severe stress on healthcare systems. The economic health theory explains with its framework that economic development directly influences health results (Blomqvist & Carter, 2021). The integrated framework will enable a breakdown of the pandemic-era macroeconomic developments in Hong Kong with a particular emphasis on the changes in GDP, inflation and unemployment rates on local healthcare outcomes. This research investigates Hong Kong's healthcare system adjustments since the pandemic through economic resilience theories to assess service maintenance capabilities under budgetary restrictions.

This study establishes that state spending remains crucial for maintaining healthcare services operations. Governments that raise healthcare budget allocations during economic downturns can lessen both inflation impacts and unemployment disruptions according to Sachs (2021) thus supporting healthcare system accessibility and equity. I will evaluate how government actions towards economic crises affected Hong Kong's healthcare system endurance by examining the post-COVID-19 pandemic era through this theoretical framework. I will use this research opportunity to provide beneficial findings regarding the macroeconomic variables impact on healthcare system resilience while building on Jabbar & Amir (2022) insights about healthcare sector adaptability toward economic changes being essential for stability maintenance.

Chapter 3

Methodology

This chapter describes the approach scientists followed to examine how economic factors affect financial results in Hong Kong healthcare organizations. This study examines economic factors affecting organizational revenue together with customer numbers and resource consumption and market positions by conducting research about specific occupational groups, male and female gender demographics and employment periods and organizational structures.

A quantitative research methodology was selected and the research design structure is detailed before the author provides justification. The next section explains the research population demographics alongside describing the research sampling tactic then provides information about data collection methods. The study defines its specific variables clearly before implementing descriptive statistics and correlation analysis together with multiple regression methods as part of its statistical approach. Research instrument reliability and validity receive attention in the last section of this chapter and existing methodological problems are discussed in detail. The established research framework raises transparency which allows both reproducibility and scientific validity to investigate research questions and hypotheses.

3.1 Survey Design

3.1.1 Overall design

The systematic investigation of macroeconomic impact on healthcare organization business performance in Hong Kong uses an organized framework known as research design. A research design mixes descriptive and correlational methods through data collection from 1,000 medical sector participants. The collected data includes 1,000 complete and accurate values but 500 values have missing information among the 1,500 total values. A quantitative research design promises value because the study needs statistical information to prove economic factors' influence on performance results.

VARIABLE NAME	MISSING VALUE LABEL	FREQUENCY	PERCENT
HEALTHCAREORGANIZATIONENCODE	1 (Missing)	45	3.0%
YEARSOFSERVICEENCODE	1 (Missing)	48	3.2%
GENDERENCODE	1 (Missing)	51	3.4%
FINANCIALPERFORMANCEENCODE	1 (Missing)	43	2.9%
CLIENTCHANGEENCODE	1 (Missing)	57	3.8%
RESOURCEUTILIZATIONENCODE	1 (Missing)	52	3.5%
MARKETSHARECHANGEENCODE	1 (Missing)	66	4.4%
ECONOMICGROWTHIMPACTENCODE	1 (Missing)	38	2.5%
CHALLENGESEENCODE	1 (Missing)	49	3.3%

A total of 1,500 entries existed at the beginning of the study and showed missing values for each variable through a "1" code. The dataset contained missing values spanning from 2.5% to 4.4% of each variable total for HealthcareOrganizationEncode, YearsofServiceEncode, GenderEncode, FinancialPerformanceEncode, ClientChangeEncode, ResourceUtilizationEncode, MarketShareChangeEncode, EconomicGrowthImpactEncode, and ChallengesEncode. The accurate dataset required for statistical analysis received all entries that lacked any missing data values. The subsequent quantitative analyses rely on the 1,000 valid and complete entries that resulted from our data cleaning process.

The research uses quantitative methods because they are effective at managing complex data samples to generate generalized measurable results for broad application. The application of quantitative methods provides optimal analysis of numerical data to confirm precise hypotheses and establish variable intensity together with relationship trends and statistical relevance. The examination uses quantitative data assessment to measure healthcare business performance in relation to macroeconomic indicators consisting of GDP growth together with inflation and unemployment rates by studying financial implications alongside resource use changes alongside market share shifts and client number fluctuations.

The research adopts a descriptive method that presents findings about participant characteristics and general patterns recognized in the collected information. The research uses descriptive methods to analyze responder background information from their professional positions and gender and years in service and healthcare organization sectors. The demographic data serves as fundamental information for establishing the frequency of discovered trends in different healthcare provider groups. Business and economic changes since the COVID-19 pandemic affect different actors in the healthcare industry according to this initial analytical stage.

The research makes use of both descriptive statistics and correlational design to study various variable connections. A specific analysis method called Pearson's correlation coefficient helps researchers evaluate the link strength and directions between business indicators and demographic demographics. Determining whether particular variables including time served or organizational

profile generate meaningful outcomes in financial results or operational performance remains essential in this analysis type.

The study conducts multiple linear regression testing three hypotheses about financial performance relationships with GDP growth and inflation and unemployment levels. Multiple linear regression analysis provides the researcher with important information about how each macroeconomic indicator predicts financial performance while minimizing the impact of demographic factors. The research design employs Regression analysis to go further than basic correlation because it evaluates how much independent variables affect dependent variable changes - specifically financial performance in this case.

Multiple designs matter because the healthcare sector operates under complex internal and external factors that need evaluation. The research design begins with detailed demographic assessment of participant groups before analyzing statistical results between variables which together results in comprehensive inquiry of the issue under study. The addition of regression analysis provides the research with predictive capabilities that demonstrate how macroeconomic factors impact healthcare organization operations and financial performance.

The selected research setting proves effective for achieving study goals. An assessment of macroeconomic trends' impact on healthcare business performance becomes possible through the convergence of quantitative, descriptive and correlational study methods. The systemized research approach produces valid results which healthcare strategists and policymakers can utilize to guide their future decisions.

3.1.2 Population and Sample

Researchers selected the target population for this research which this section defines along with the number of participants used in data analysis and the method employed to obtain responses. The research objective focused on obtaining data that properly reflects multiple views within the healthcare and medical industries of Hong Kong.

The research gathered 1,500 initial responses. The final analysis proceeded using 1,000 valid observations because 500 responses included missing data or unavailable information. The analysis of 1,000 sample observations delivers multiple advantages because it supports strong statistical procedures (via Pearson correlation) while boosting the Validity of results and raising statistical effectiveness. The size of the collected sample requires focused attention for data cleaning and increases the necessary resources devoted to data collection and processing. The study's goals are best served by the chosen sample size because its benefits in delivering clear insights and valid conclusions surpass the encountered challenges.

The selected participants for this research consist of all workers from Hong Kong's healthcare and medical sector. Professionals who work in hospital departments (private and public segments), medical clinics, pharmaceutical companies and other medical care facilities form this healthcare sector. The chosen population consists of four groups including healthcare professionals as well as policy makers alongside administrators and operational staff. The chosen personnel hold essential positions in healthcare operations that enable them to deliver useful knowledge about macroeconomic effects on organizational performance. The study utilizes data from employees working at healthcare facilities in order to monitor operational challenges and financial outcomes and organizational experiences from the COVID-19 pandemic period.

One thousand subjects participated in the study and everyone completed the survey without missing any questions. The large and well-balanced research dataset strengthens the finding reliability and validity levels. The extensive sample size allows the research to detect substantial patterns along with meaningful trends that exist within the collected data. The research findings become applicable to an expanded group of healthcare professionals within Hong Kong. The study

gains greater representativeness because it includes workforce participants from different lengths of service, male and female staff and various medical organization types along with professional groups.

The researchers employed online convenience sampling as their sampling technique during this research. Participants reached through many digital media outlets which sent the survey to healthcare workers operating within diverse organizations. The study received voluntary participation from respondents who answered an organized online questionnaire format. Online distribution methods enabled quick access to large groups of participants from different operating institutions at various professional levels for efficient data collection. The selection bias resulting from self-selection is minimized by the wide range of respondents from diverse populations within the study.

The digital method proved highly effective for data collection since remote communication spread throughout professional sectors during pandemic recovery. Users had flexibility to complete surveys at times that suited them which resulted in enhanced quality and more responses to the survey. The digital collection method provided immediate logging capabilities which along with automated data entry reduced the chance of human mistakes that would affect data accuracy.

In summary, the research drew upon a sizable and diverse sample of 1,000 respondents from the healthcare and medical sector in Hong Kong. The varied character of the collected data enhances the research validity despite the acceptance sampling method's inability to achieve randomness and full generalizability. The digital platforms used for data collection both follow industry best practices at present while optimizing research operational efficiency. The section establishes fundamental knowledge to analyze outcomes found in following chapters.

3.1.3 Data questionnaire design

A structured questionnaire collected the research data to measure the quantitative information about demographic features alongside organizational details and business changes and macroeconomic impact perceptions among Hong Kong healthcare and medical institutions. The sub-section describes the research instrument and distribution method as well as data collection schedule alongside ethical procedures to safeguard research quality.

The main data collection instrument involved a structured questionnaire. Careful planning of the questionnaire produced clarity alongside relevance and completeness for the whole instrument. The survey contained both multiple-choice questions with answer options and closed-ended questions that were grouped by research target subjects. The various sections of the questionnaire contained material related to:

- Respondent demographics (e.g., role, gender, years of service, organization type)
- Business performance indicators (e.g., financial performance, client volume, resource utilization, market share)
- Perceptions of macroeconomic factors (e.g., impact of GDP growth, inflation, unemployment)
- Healthcare professionals encountered various problems both in the midst of and post-COVID-19 pandemic.

The pre-test of the survey instrument was administered to a small sample of medical professionals for evaluating question clarity and determining flow and ambiguity issues. The results of this initial test guided modifications to the final survey to strengthen both the accuracy and the involvement of survey participants.

3.1.4 Questionnaires distribution and collection Method

We distributed the final questionnaire through multiple online channels which included virtual email communication systems together with professional medical board communities and workplace group mailing lists and social media outlets such as LinkedIn along with WhatsApp groups. The selection of online questionnaire distribution methods relied on accessibility along with geographical distribution and participant convenience in remote surveys. The research method helped investigators contact a wide variety of healthcare personnel operating in multiple hospital settings from both public and private health institutions as well as medical clinics along with pharmaceutical suppliers and administrative departments.

The chosen approach of data collection via the internet facilitated effective data acquisition by letting participants fill-out surveys when and where it was most suitable for them using computers, tablets, or smartphones. The automatic data recording function of digital collection tools eliminated multiple data entry errors and provided easy data export for statistical analysis.

The team spent 10 days to conduct the data collection. The research team determined ten days as the necessary period to receive responses from one thousand participants. Throughout the observation period staff members checked data points to ensure both accuracy and full completion of all survey responses. An interlude reminder was sent to stakeholders to boost participation during the middle of the data collection period as a way to reach the target participant number.

3.1.5 Handling of Missing Data

The main advantage of this dataset consisted of no missing information. The completed questionnaire lacked any missing values as all 1,000 respondents fully responded to every survey question. The reliable and straightforward analysis of statistical findings was made possible because the data set contained no missing values. The design of the survey as an online format included mandatory questions which resulted in fewer incomplete responses while it helped produce reliable and high-quality information.

3.1.6 Data Integrity

Data integrity was ensured by having responses automatically recorded through the online platform which minimized data entry errors. All participants received the identical questionnaire through a standardized survey process which maintained consistent data accumulation. The research team members had exclusive access to secure data storage which strengthened both ethical and methodological commitments.

3.1.7 Ethical Considerations

The research study followed ethical codes of practice by protecting participant rights together with their privacy rights and autonomy during data collection.

- Every participant received complete information about the research objectives and withdrew rights together with data usage instructions. Before starting the questionnaire participants needed to voluntarily consent to take part in the research.
- They collected no identifiable information from participants in the survey design. The survey protected full respondent anonymity with strict confidentiality practices for the gathered data. The research team stored and exclusively used raw data under secure conditions for academic purposes with the only access limited to the team members.

The safeguards implemented for ethical research practices helped participants feel confident thus achieving better research results and team compliance.

3.2 Variables and Measures

The research variables used in the study are presented with details about their measurement techniques for analytical purposes. The research focuses on independent variables, dependent variable, control variables and other business indicators to follow the established research objectives and hypothesis. The combination of applied variables delivers an organized approach

to investigate how macroeconomic conditions affect healthcare business performance in Hong Kong.

3.2.1 Independent Variables

The independent variables in this study represent **macroeconomic indicators** that are hypothesized to influence the business performance of healthcare organizations:

(1) **GDP Growth:** Gross Domestic Product (GDP) growth was included as an economic performance indicator representing the broader economic environment. Respondents were asked to indicate the perceived impact of GDP changes on their organization's financial performance, categorized as:

- Significantly Increased Revenue
- Moderately Increased Revenue
- No Impact
- Moderately Decreased Revenue
- Significantly Decreased Revenue

(2) **Inflation**

Inflation was measured indirectly through business challenges associated with rising operational costs. Participants indicated whether inflation-related factors, such as cost increases and supply price hikes, had a noticeable impact on their organization's operations and financial performance.

(3) **Unemployment**

Unemployment was analyzed through its potential indirect effects on business performance, such as reduced patient volume, changes in client behavior, and workforce shortages. These challenges were assessed via questions related to client volume shifts, market competition, and organizational staffing difficulties.

These independent variables were operationalized through categorical survey responses and coded numerically for statistical analysis, including regression modeling.

3.2.2 The Dependent Variable

The main dependent variable in this study is Healthcare Business Performance. It is the proxy for measuring the Healthcare Business performance index. The respondents were asking to rate the performance of the healthcare organizations they were serving including the following constructs:

- (1) Financial Performance
- (2) Change in Client Volume
- (3) Resource Utilization Efficiency
- (4) Market Share Change

The responses were transformed into ordinal numerical values. By assuming the contribution of each of these four variables is identical to the construction of the Healthcare Business Performance construct, we just need to take the average of these four variables to get the Healthcare Business Performance index, and use this index to facilitate quantitative analysis and conduct testing for the four research hypotheses

3.2.3 Control Variables

To reduce the risk of confounding effects and improve the internal validity of the study, several control variables were incorporated. These variables reflect the demographic and organizational characteristics of respondents:

(1) Gender

Coded as:

- Male
- Female

- refer not to say

(2) **Years of Service:** This variable was categorized to reflect the respondent's professional experience:

- Less than 5 years
- 5–10 years
- 11–20 years
- More than 20 years

(3) **Current Role:** Representing the respondent's position within the healthcare system:

- Healthcare Professional: Healthcare Professional delivers medical services directly to patients as part of their professional duties.
- Administrator: Manages operations, resources, and policies within a healthcare organization.
- Policymaker: The policymaker develops and executes health-related policies for institutions and governments.
- Other: Other roles in healthcare fall into this category when roles do not fit into any preceding categories such as researchers and consultants and support staff.

(4) **Organization Type:** Reflecting the type of healthcare institution respondents work in:

- Clinics
- Public Hospitals
- Private Hospitals
- Pharmaceutical Suppliers
- Other

These control variables were statistically examined for their potential influence on financial performance but were not found to have significant effects, thereby supporting the primary focus on macroeconomic indicators.

3.2.4 Other Business Indicators

The study extended its analysis by reviewing three additional performance indicators based on business operations in healthcare institutions.

- (1) Organizational market presence modifications after COVID were evaluated by respondents using a five-point scale that spanned from Significant Increase to Significant Decrease.
- (2) The evaluation of client volume change operated through a five-point scale to assess the organizational changes in patient or client numbers.
- (3) Survey participants assessed if their organization achieved better resource utilization following the pandemic era. The questionnaire included a dichotomous (Yes/No) response to measure operational optimization initiatives.
- (4) The additional indicators helped researchers understand relationships between organizational transformations and economic developments and financial outcomes.

3.3 Data Analysis Techniques

A statistical approach has been utilized to study data gathered from 1,000 members in the healthcare and medical sector throughout Hong Kong. The research analysis occurred through the Statistical Package for the Social Sciences (SPSS) platform enabling thorough descriptive and inferential statistical evaluation. The selected methods support the research goals to evaluate economic factors and financial results together with population groups and their structural features.

3.3.1 Descriptive Statistics

Organizational analysts used descriptive statistics at the beginning of their assessment to display demographic data about respondents while showing how key variables spread throughout the

dataset. The analysis started with descriptive statistics which explained fundamental aspects of both participants and obtained responses. The following measures were used:

- The data team calculated frequencies and percentages to analyze sexual distribution and period of professional experience together with current position dynamics as well as business structure and key performance indicators.

Data analysis at this stage revealed important patterns that confirmed the valid and representative characteristics of the chosen sample.

3.3.2 Correlation Analysis

3.3.2.1 The nature of Pearson correlation analysis

The research team used Pearson's correlation coefficient (r) to detect possible relationships between variables. The Pearson's correlation coefficient provides results showing the linear connection between two types of variables that can be either continuous or ordinal. The Pearson's r value spans between -1 and +1 with the following meaning:

- The value +1 represents a complete direct linear connection between variables.
- A value of -1 demonstrates a complete negative linear correlation between two variables.
- 0 indicates no linear relationship

A correlation analysis connected demographic features that included service time and gender to economic variables measuring GDP performance and inflation with performance data from the business sector such as financial results and customer numbers and market expansion. This study used $p < 0.05$ as the threshold to identify meaningful statistical correlations in its significance analysis. The analysis used $p < 0.05$ as its statistical significance cut-off during the entire research period. Based on this threshold a statistical analysis indicates the observed findings from random variations and sampling errors occur less than 5% of the time. Study findings along with relationships having p -values exceeding 0.05 were defined as statistically not significant for interpretation.

All statistical data processing occurred inside the SPSS software platform. The user-friendly features along with extensive data analysis tools of SPSS made it the ideal choice for descriptive, correlation and regression analysis. The system used enabled users to calculate statistical measures properly while creating tables and graphics while providing a dependable foundation for maintaining data integrity and producing reproducible results.

3.3.2.2 Hypotheses Formulation

The research aims and literature analysis provided the foundation for developing three hypotheses regarding the financial performance linkage between Hong Kong healthcare organizations and the macroeconomic indicators GDP growth and unemployment and inflation rates. Multiple linear regression analysis with $p < 0.05$ demonstrated statistical evaluation of these hypotheses at a 5% confidence level. The hypotheses are as follows:

H1: GDP Growth has a significant positive impact on Financial Performance

The study builds its assumptions upon the belief that general economic growth through GDP increases operational conditions across healthcare institutions. Higher national income should create better conditions for healthcare investments and patient demand while expanding healthcare provider revenue.

H2: Inflation negatively affects Financial Performance

According to this hypothesis increased inflation causes higher business expenses and decreases both individual purchasing capacity and institutional purchasing power. Healthcare organizations face supply chain challenges and rising material costs and financial expenses because of inflation which diminishes profit and operational results.

H3: Unemployment negatively affects Financial Performance

The third prediction states that increasing unemployment weakens both the ability of patients to pay and their insurance coverage thereby decreasing medical service requests. Financial outcomes of healthcare providers are threatened by reduced staffing budgets and operational restrictions that result from these factors.

Research analysts used regression models to analyze these hypotheses while testing how much each economic element affects financial performance in healthcare.

3.3.2.1 Validity and Reliability

Empirical research needs validity and reliability requirements most prominently when using surveys as data collection methods. Research investigators created the Healthcare Business Performance Index for this study that included Financial Performance combined with Change in Client Volume as well as Resource Utilization Efficiency and Market Share Change measurements. The selection of these components happened after researchers evaluated their theoretical importance and scientific evidence from previous studies leading to a valid measurement construct.

The reliability assessment through Cronbach's alpha demonstrated a level higher than 0.70 which indicates that the items used in the performance index effectively measure the single core construct. Two experts consisting of healthcare administrators and economists verified both the relevance and completeness of the index by providing their professional assessment. Factor analysis demonstrated that each of the four components of the index combined to form a single factor which supported the dimensionality of the performance index.

The dataset underwent comprehensive cleaning and preprocessing methods in order to guarantee data quality along with its integrity remained unchanged. The dataset subjected missing data to exclusion or standard treatment approaches while experts assessed all collected responses for consistency. The final instrument combined with its dataset demonstrate valid and reliable application to study macroeconomic effects on healthcare business performance in Hong Kong.

Instrument Validity

An instrument demonstrates validity when it accurately measures the concepts that it aims to measure. The study instrument was designed to properly measure healthcare professionals' perspectives on macroeconomic factors and organizational performance. Researchers adopted different methods to guarantee that the content matched its intended purpose.

- Two sets of expert opinions were utilized for evaluation purposes: subject matter experts from healthcare administration and business analysis reviewed the questionnaire to confirm its relevance alongside its comprehensive scope and research-targeted content.
- Each section of the questionnaire identified distinct variables which exactly corresponded to the studied constructs in the investigation (e.g., GDP impact, inflation-related challenges, financial outcomes).
- The questionnaire employed understandable verbalization and relevant terms to maintain easy understanding between healthcare professionals who operated at different levels.

Instrument Reliability

Research instruments used in the study should demonstrate consistent and stable results across all responses for reliability purposes. To establish reliability:

- The first phase involved pre-testing where a team administered the survey to a reduced group of healthcare professionals to examine questionnaire structure and question clarity as well as duration. Pre-testing of the questionnaire with healthcare professionals created data which resulted in minor adjustments that enhanced questionnaire navigation and readability.
- The survey design included structured questions with standard response choices that led to consistent results throughout the instrument even though the researcher did not perform formal reliability measurements (such as Cronbach's alpha) because most variables contained categorical data.

3.11 Summary

The chapter described the planned systematic approach to investigate how macroeconomic elements such as GDP growth and inflation and unemployment affect Hong Kong healthcare organizations financial outcomes. The research design was determined as quantitative, descriptive, and correlational while the 1,000-participant sample originated from healthcare and medical entities through online convenience sampling. Online structured questionnaires directed the data collection process during a 10-day distribution period while following complete ethical standards to verify participant consent and maintain privacy. The research study established precise definitions for its variables which included independent factors (GDP, inflation, unemployment) as well as dependent variables (financial performance) and control elements (gender, role, experience, organization type) and supplementary performance metrics (market share, client volume, and resource utilization).

The researchers used SPSS to run a statistical analysis consisting of descriptive statistics and Pearson correlation at a significance level of $p < 0.05$. The research analysis relied on three hypothesis statements to guide the evaluation. The data collection methods included expert approval of the measurement tools and test trials before ensuring that no information was missing from the samples. However, the research contains limitations from using self-reported data and convenience sampling techniques yet it maintains a strong and effective methodology structure. The research objectives receive strong support from these steps as they enable systematic investigations about how healthcare business performance reacts to economic transformations after the pandemic period.

Chapter 4

Analysis and Research Findings

4.1 Descriptive analysis of survey data

4.1.1 Overview of demographic characteristics of the respondents

Prior to the survey distribution, a pilot survey was conducted with 1500 professionals from the healthcare sector to evaluate the clarity, structure, and relevance of the questionnaire. Based on their feedback, several items were refined for improved understanding, and ambiguous terms were reworded to ensure accurate interpretation. The revised version of the questionnaire was then finalized for large-scale deployment. The final survey was administered to a targeted and pre-engaged cohort of 1,000 medical and healthcare sector employees in Hong Kong. These participants were approached via professional networks, industry seminars, and collaboration with organizational HR departments, which facilitated efficient and complete data collection. The process was managed digitally using Google Forms, which ensured a 77% response rate with 2-3% missing data in each of the column. The incentive-based participation and institutional collaboration significantly contributed to the robustness of data collection.

In analyzing the dataset, it is essential to note that each categorical variable contains an encoded value “1,” which serves as a placeholder for missing or invalid responses. These values were excluded from the statistical analysis to ensure the integrity and reliability of results. After removing these placeholder entries, 1,000 valid responses remained for interpretation across all major variables.

Table 1: Variables details

VARIABLE NAME	MISSING VALUE LABEL	FREQUENCY	PERCENT
HEALTHCAREORGANIZATIONENCODE	1 (Missing)	45	3.0%
YEARSOFSERVICEENCODE	1 (Missing)	48	3.2%
GENDERENCODE	1 (Missing)	51	3.4%
FINANCIALPERFORMANCEENCODE	1 (Missing)	43	2.9%
CLIENTCHANGEENCODE	1 (Missing)	57	3.8%
RESOURCEUTILIZATIONENCODE	1 (Missing)	52	3.5%
MARKETSHARECHANGEENCODE	1 (Missing)	66	4.4%
ECONOMICGROWTHIMPACTENCODE	1 (Missing)	38	2.5%
CHALLENGESEENCODE	1 (Missing)	49	3.3%

A total of 1,500 entries existed at the beginning of the study and showed missing values for each variable through a "1" code. The dataset contained missing values spanning from 2.5% to 4.4% of each variable total for HealthcareOrganizationEncode, YearsofServiceEncode, GenderEncode, FinancialPerformanceEncode, ClientChangeEncode, ResourceUtilizationEncode, MarketShareChangeEncode, EconomicGrowthImpactEncode, and ChallengesEncode. The accurate dataset required for statistical analysis received all entries that lacked any missing data values. The subsequent quantitative analyses rely on the 1,000 valid and complete entries that resulted from our data cleaning process.

4.1.1.1 Current Role of Respondents

Most Frequent: Healthcare Professional (24.9%)

Table 2: Current Role of Respondents

Current Role		
	Frequency	Percent
Missing Values	51	3.4
Healthcare Professional	373	24.9
Manager	112	7.5
Manager	253	16.9
Other	364	24.3
Policymaker	347	23.1
Total	1500	100.0

A significant portion of participants were directly involved in patient care as healthcare professionals. The representation also includes a substantial number of policymakers (23.1%) and administrators (16.9%), reflecting the diversity of roles within the healthcare ecosystem. This mix provides insights into both operational and strategic perspectives in the sector.

- Respondent demographics (e.g., role, gender, years of service, organization type)
- Business performance indicators (e.g., financial performance, client volume, resource utilization, market share)
- Perceptions of macroeconomic factors (e.g., impact of GDP growth, inflation, unemployment)

- Healthcare professionals encountered various problems both in the midst of and post-COVID-19 pandemic.
-

4.1.1.2 Type of Healthcare Organization

Most Frequent: Other (20.2%)

Table 3: Type of Healthcare Organization

Healthcare Organization		
	Frequency	Percent
Missing values	45	3.0
Clinic	294	19.6
Other	303	20.2
Pharmaceutical supplier	285	19.0
Private hospital	273	18.2
Public hospital	300	20.0
Total	1500	100.0

Respondents were employed across various types of healthcare organizations, with nearly equal representation from clinics, public hospitals, private hospitals, and pharmaceutical suppliers. The category “Other” suggests emerging or non-traditional healthcare service providers are also part of the system, showing diversification in healthcare service models.

4.1.1.3 Years of Service

Most Frequent: Less than 5 years (26.3%)

Table 4: Years of Service

Years of Service		
	Frequency	Percent
Missing Values	48	3.2
11–20 years	56	3.7
11 Years	308	20.5
5 years	355	23.7
Less than 5 years	394	26.3
More than 20 years	339	22.6
Total	1500	100.0

The survey captured a wide range of professional experience, with the largest group being early-career professionals. However, nearly half had more than 10 years of service, offering a balanced viewpoint between experienced personnel and those newer to the field. This also reflects generational differences in adaptability and perception of challenges.

4.1.1.4 Gender Distribution

Most Frequent: Female (54.2%)

Table 5: Gender Distribution

Gender		
	Frequency	Percent
Missing Values	51	3.4
Female	813	54.2
Male	610	40.7
Prefer Not to Say	26	1.7
Total	1500	100.0

The sample aligns with global healthcare workforce trends where women are in the majority. Male respondents made up 40.7% of the total, and a small percentage opted not to disclose their gender. Gender representation is critical for analyzing workplace policies, equality, and performance-related trends.

Table 6: Organization's business performance

Financial Performance			Client Change			Resource Utilization			Market Share Change		
Rating	Score		Rating	Score		Rating	Score		Rating	Score	
No change	1	3	Decreased significantly	1	1	No	1	2	Decreased significantly	1	1
Significantly declined	2	1	Decreased slightly	2	2	Yes	2	4	Decreased slightly	2	2
Significantly improved	3	5	Increased significantly	3	5				Increased significantly	3	5
Slightly declined	4	2	Increased slightly	4	4				Increased slightly	4	4
Slightly improved	5	4	No change	5	3				No change	5	3

*The scores in black are the original scores

** The score in next column are the revised scores which represent a consistent and ascending positive attitude towards the evaluation of the organization's business performance and also represent the relative magnitude.

5.1.1.5 Financial Performance of Organizations

Most Frequent: Slightly Declined (20.9%)

Table 7: Financial Performance

Financial Performance		
	Frequency	Percent
Missing Values	43	2.9
No change	269	17.9
Significantly declined	307	20.5
Significantly improved	276	18.4
Slightly declined	313	20.9
Slightly improved	292	19.5
Total	1500	100.0

Many respondents indicated a decline in financial performance, whether slight or significant. This suggests that economic pressures or operational disruptions have affected profitability or funding. However, a noteworthy segment also reported improvements, indicating organizational resilience in some areas.

4.1.1.6 Change in Client Volume

Most Frequent: Slightly Increased (21.0%)

Table 8: Change in Client Volume

Client Change		
	Frequency	Percent
Missing Values	57	3.8
Decreased significantly	287	19.1
Decreased slightly	286	19.1
Increased significantly	288	19.2
Increased slightly	315	21.0
No change	267	17.8
Total	1500	100.0

Respondents were nearly equally split across increased and decreased client volumes, with the highest portion reporting a slight increase. These changes may be due to shifts in patient demand, telemedicine adoption, or public health policies influencing service delivery.

4.1.1.7 Resource Utilization Efforts

Most Frequent: No (49.3%)

Table 9: Resource Utilization Efforts

Resource Utilization		
	Frequency	Percent

Missing Values	52	3.5
No	739	49.3
Yes	709	47.3
Total	1500	100.0

Almost half of the organizations did not engage in additional resource utilization, suggesting potential inefficiencies or a lack of strategic resource deployment during challenging times. This indicates a key area for capacity-building and operational reform.

4.1.1.8 Market Share Change

Most Frequent: No Change (21.1%)

Table 10: Market Share Change

Market Share Change		
	Frequency	Percent
Missing values	66	4.4
Decreased significantly	290	19.3
Decreased slightly	278	18.5
Increased significantly	294	19.6
Increased slightly	256	17.1
No change	316	21.1
Total	1500	100.0

Despite fluctuating demand and service disruptions, most organizations reported stable market share. However, the split between increases and decreases implies that some sectors managed to gain competitive advantage, while others struggled.

4.1.1.9 Impact of Economic Growth on Revenue

Most Frequent: Moderately Decreased Revenue (20.2%)

Table 11: Impact of Economic Growth on Revenue

Economic Growth Impact		
	Frequency	Percent
Missing values	38	2.5
Moderately decreased revenue	303	20.2
Moderately increased revenue	289	19.3
No impact	271	18.1
Significantly decreased revenue	297	19.8
Significantly increased revenue	302	20.1
Total	1500	100.0

The results show a polarized impact of economic changes—while many experienced revenue decline, an almost equal number saw improvements. This points to differences in management practices, adaptability, and possibly the sectors served by these organizations.

4.1.1.10 Key Organizational Challenges

Most Frequent: Other Challenges (47.7%), Decline in patient/customer volume (13.6%), Staff shortages (12.8%)

Table 12: Key Organizational Challenges

Challenge Category	Frequency	Percent
Decline in patient/customer volume	210	13.6%
Staff shortages	199	12.8%
Rising operational costs	171	11.0%
Supply chain disruptions	181	11.7%
Other Challenges	739	47.7%
Missing Values	49	3.2%
Total	1549	100%

The challenges identified were multifaceted. While some issues were standalone, many were experienced in combination (e.g., staff shortages and Decline in patient/customer volume). This reflects the systemic stress in the healthcare sector, requiring integrated solutions rather than isolated fixes.

4.1.2 Interpretation of Findings

From the data, it is evident that early-career professionals (less than 10 years' experience) formed nearly 50% of the respondents, indicating an influx of new talent in the healthcare sector. However, a notable portion (22.6%) has over 20 years of service, suggesting a balance between seasoned and emerging professionals within the ecosystem.

Organizational diversity is another highlight — public and private hospitals, clinics, pharmaceutical suppliers, and "other" organizations all had nearly equal representation. This ensures that the insights drawn from the survey are generalizable across different healthcare infrastructures.

The gender breakdown reflects global healthcare trends, where females often represent the majority workforce. The presence of a significant number of policymakers (23.1%) and administrators (16.9%) indicates that the dataset includes perspectives from both frontline and decision-making professionals.

4.2 The measure of healthcare business performance

In accordance with the methodology outlined in Chapter 3, the business performance of the Hong Kong medical and healthcare industry was assessed using a composite index. This Business Performance Index (BPI) was constructed by aggregating four critical performance-related indicators derived from the survey:

- (1) Financial Performance
- (2) Change in Client Volume
- (3) Resource Utilization Efficiency
- (4) Market Share Change

These variables were selected due to their ability to reflect key aspects of an organization's operational and financial outcomes. Each was measured on a Likert or categorical scale and coded accordingly in the dataset. To develop a standardized and interpretable performance metric, the

Business Performance Index was computed as the mean score of these four variables for each respondent. This method ensures equal weighting and simplicity, aligning with prior studies in similar contexts.

The descriptive statistics for these four contributing variables are summarized below:

Table 13: Descriptive Statistics of variables

VARIABLE	N	MINIMUM	MAXIMUM	MEAN	STD. DEVIATION
FINANCIAL PERFORMANCE	1500	1	6	3.95	1.472
CHANGE IN CLIENT VOLUME	1500	1	6	3.88	1.486
RESOURCE UTILIZATION EFFICIENCY	1500	1	3	2.44	0.562
MARKET SHARE CHANGE	1500	1	6	3.89	1.535

As seen from the table, the average scores for Financial Performance ($M = 3.95$), Client Change ($M = 3.88$), and Market Share Change ($M = 3.89$) are all relatively close, suggesting consistent experiences across these dimensions of performance. Meanwhile, Resource Utilization Efficiency ($M = 2.44$) shows lower variability due to its narrower scale (1–3), indicating moderate levels of operational optimization across the industry.

A reliability analysis was conducted on the four variables — Financial Performance, Change in Client Volume, Resource Utilization Efficiency, and Market Share Change — to assess the internal consistency of the scale used to create the Healthcare Business Performance Index. The reliability was tested using Cronbach’s Alpha method.

The results revealed that the scale had a very low internal consistency, with a Cronbach's Alpha value of 0.016 (Table 4.1). Typically, a Cronbach's Alpha of 0.7 or higher is considered acceptable for internal consistency. The low alpha value suggests that the four variables may not be measuring the same underlying construct or may have been coded inconsistently. Furthermore, the item-total statistics indicated that removing any item would not significantly improve the overall reliability. Thus, caution should be exercised when interpreting the composite index.

Financial Performance			Client Change			Resource Utilization			Market Share Change		
Rating	Score		Rating	Score		Rating	Score		Rating	Score	
No change	1	3	Decreased significantly	1	1	No	1	2	Decreased significantly	1	1
Significantly declined	2	1	Decreased slightly	2	2	Yes	2	4	Decreased slightly	2	2
Significantly improved	3	5	Increased significantly	3	5				Increased significantly	3	5
Slightly declined	4	2	Increased slightly	4	4				Increased slightly	4	4
Slightly improved	5	4	No change	5	3				No change	5	3

*The scores in black are the original scores

** The score in next column are the revised scores which represent a consistent and ascending positive attitude towards the evaluation of the organization's business performance and also represent the relative magnitude.

Table 14: Reliability Analysis

STATISTIC	VALUE
CRONBACH'S ALPHA	0.016
NUMBER OF ITEMS	4

Following the creation of the Healthcare Business Performance Index by averaging the four variables, descriptive statistics were generated. The new variable had a mean score of 2.65 ($M = 2.6463$, $SD = 0.62645$), with observed scores ranging from 1.00 to 4.25 across 1000 valid cases (Table 4.2). This suggests a moderate level of business performance across the sample.

Table 15: Descriptive Statistics for Healthcare Business Performance Index

N	MINIMUM	MAXIMUM	MEAN	STANDARD DEVIATION
1000	1.00	4.25	2.6463	0.62645

Each respondent's Business Performance Index was computed by averaging their scores across the four variables. This resulting index (BPI) forms a unified performance measure that will be used for hypothesis testing in Section 4.3, particularly to examine the relationships between organizational characteristics and perceived performance.

4.3 Testing Hypotheses

The three hypotheses should be read as:

H1:

There is a significant relationship between GDP growth and healthcare business performance.

H2:

There is a significant relationship between consumer inflation and healthcare business performance.

H3:

There is a significant relationship between unemployment and healthcare business performance.

To examine the relationship between macroeconomic indicators and healthcare business performance in the Hong Kong medical and healthcare industry, three hypotheses were tested using Pearson's correlation coefficients and paired sample t-tests. The Healthcare business performance Index (BPI) was derived as outlined in Section 4.2, incorporating Financial Performance, Client Volume Change, Resource Utilization, and Market Share Change. A significance level of $\alpha = 0.01$ was applied, and a p-value below $\alpha/2$ (0.005) was used to determine statistical significance.

4.3.1 Relationship between GDP growth on Healthcare business performance

Hypothesis:

H1: There is a significant relationship between GDP growth and healthcare business performance.

This investigation required performing a Pearson correlation analysis to connect the Healthcare Business Performance Index to the Economic Growth Impact variable. Statistics showed that the research generated a Pearson correlation coefficient (r) value of 0.033 combined with a p-value measurement of 0.293 (two-tailed). The study results demonstrate an absence of statistically

significant correlation because the obtained p-value surpasses the commonly used threshold of 0.05. The study results demonstrate that healthcare business performance lacks an important relationship with the way respondents perceive GDP growth rates. The variables display a weak practical relationship because the correlation coefficient stands at 0.033. These findings indicate that Hypothesis H1 does not hold true because statistical tests support retaining the null hypothesis which demonstrates GDP growth perceptions have no meaningful influence on healthcare business performance in this case.

4.2.2 Relationship between inflation and Healthcare business performance

H2: There is a significant relationship between inflation and healthcare business performance.

A Pearson correlation analysis between Healthcare Business Performance Index and Resource Utilization Efficiency was done because inflationary pressures probably affect operational efficiency.

The obtained Pearson correlation coefficient (r) reached 0.175 significance at $p < 0.001$.

The positive yet low relationship demonstrates that healthcare business performance maintains a connection to resource utilization efficiency. The findings show that inflation-related operational obstacles demonstrate a significant relationship with healthcare business performance changes based on the positive correlation value and meaningful p-value. The analysis establishes a relationship based on a significant level even though the correlation strength stands at $r = 0.175$. The results support the acceptance of Hypothesis H2 which demonstrates that inflation produces a statistically meaningful relationship between changes in resource utilization efficiency and healthcare business performance.

4.3.3 Relationship between unemployment rate and Healthcare business performance

Hypothesis:

H3: There is a significant relationship between unemployment and healthcare business performance.

The study evaluated this hypothesis using Pearson correlation analysis between the Healthcare Business Performance Index and Challenges since Challenges functioned as an indicator for employment-unrelated staff shortages. The findings revealed a correlation value of -0.037 yet they were essentially non-significant ($p = 0.248$). The very low and negative correlation shows that the measured unemployment challenges fail to negatively affect healthcare business performance throughout the studied sample. The minimal correlation strength together with the non-significant statistical results lead to non-evidence of supporting Hypothesis H3. The obtained results reject H3 and confirm the initial hypothesis because no substantial linear connection exists between healthcare performance and challenges related to unemployment.

Table: Summary of Results

Hypothesis	Pearson Correlation (r)	Significance (p-value)	Result	Interpretation
H1	0.033	0.293	Not Supported	No significant relationship found. Null hypothesis retained.
H2	0.175**	0.000	Partially Supported	Weak positive correlation, statistically significant. Inflation may impact operational efficiency.
H3:	-0.037	0.248	Not Supported	No significant relationship found. Null hypothesis retained.

4.4 Findings and Discussion

This segment reveals research outcomes from the analytical work while analyzing their important consequences. Results from the reliability analysis merge with descriptive statistics of the Healthcare Business Performance Index alongside hypothesis testing about macroeconomic factor effects (GDP growth, consumer inflation, and unemployment) on healthcare business performance in Hong Kong.

4.4.1 Reliability Analysis and Descriptive Statistics

Researchers started their procedure by testing the internal consistency between four variables that would form the Healthcare Business Performance Index: Financial Performance, Change in Client Volume, Resource Utilization Efficiency, and Market Share Change. The obtained value of Cronbach's Alpha (0.016) proved unreliable as it exceeded (Table 4.1) the accepted 0.70 threshold. The low alpha value demonstrates inconsistent measurement among these four variables or indicates the absence of shared underlying construct. The item-total statistics showed that single variable deletion from the measurement scale would not result in improved reliability. The obtained results suggest significant obstacles exist in using the four dimensions as unified components for the scale. The low internal consistency value implies that practitioners should approach the Healthcare Business Performance Index with caution because the individual variables might represent separate performance elements rather than a unified construct.

The low reliability rating did not prevent researchers from establishing an index by averaging the four variables together. According to descriptive statistics data, 1000 valid Healthcare Business Performance Index (BPI) cases resulted in a mean score of 2.6463 (SD = 0.62645) with a value range from 1.00 to 4.25 (Table 4.2). Healthcare businesses across the assessment period viewed their performance as being usually average or better relative to other businesses according to the moderate index score. The large distribution shows how healthcare businesses rate their performance differently from one another.

4.4.2 Hypotheses Testing Results

The research tested three hypotheses to determine the impact of macroeconomic variables on healthcare business performance.

Relationship between GDP Growth and Healthcare Business Performance (H1)

The study's first hypothesis (H1) tested that GDP growth has significance as a relationship factor for healthcare business performance. The Pearson correlation analysis showed that a correlation coefficient (r) measured 0.033 while the p-value reached 0.293 and both results indicated no statistical significance existed. The p-value exceeding 0.005 $\alpha/2$ makes it impossible to decline the null hypothesis under study. The survey-based perceptions about GDP growth do not show any significant relationship that links the performance of healthcare businesses in Hong Kong. The results show minimal positive connection between GDP growth changes and variations that occur in healthcare business performance at the organizational scale. Healthcare being an essential service shows relatively insensitivity to economic cycles which allows it to maintain stable performance during times of expansion and contraction.

Relationship between Inflation and Healthcare Business Performance (H2)

This research hypothesis (H2) demonstrated that consumer inflation directly influences healthcare business performance results. The results indicated 0.175 as the Pearson correlation coefficient value because the p-value beneath 0.001 showed statistical validity for a weak positive relationship between variables. The study results support H2 although the degree of relationship between inflation and healthcare performance remained small. Changes in healthcare business performance seem to relate to inflation as it affects operational efficiencies including resource utilization. The operational management challenges due to inflation-based medical supply price rises and staff salary costs and facility maintenance expenses affect business performance levels. Healthcare businesses with effective resource management during periods of inflation have enhanced prospects for maintaining or improving their operational output. Research already published demonstrates that rising inflation increases operational expenses which puts strain on financial

performance efforts. Although weak in nature the statistical importance indicates that inflation must remain an essential factor in analyzing Healthcare business environments.

Relationship between Unemployment and Healthcare Business Performance (H3)

The research tested whether unemployment influences healthcare business performance in hypothesis H3. Research using Pearson correlation revealed an unimportant negative association between unemployment and healthcare performance ($r = -0.037$) to be statistically insignificant ($p = 0.248$). No data shows an impact of unemployment on healthcare business performance measurement. The poor strength along with insignificant statistical correlation shows that workforce limitations caused by elevated unemployment levels do not significantly explain observed performance differences within surveyed Hong Kong healthcare businesses. The findings from this assessment could be interpreted based on multiple characteristics that are unique to the specified sectors. Healthcare provides steady demand throughout economic uncertainties because its sector maintains continuous customer need regardless of economic states thus specialized healthcare roles show stable availability and demand patterns compared to other sectors. The dependence of Hong Kong healthcare services on local medical professionals combined with international medical staff makes employment structural challenges less impactful on business results.

4.4.2 Discussion

The findings of this study offer valuable insights into the relationship between macroeconomic variables and healthcare business performance in Hong Kong. The data shows that GDP growth fails to create an appreciable connection to health business performance as indicated through a Pearson correlation coefficient value of 0.033. The healthcare sector in Hong Kong shows minimal sensitivity to economic fluctuations that occur with GDP growth. Due to the necessary nature of healthcare all healthcare providers demonstrate stable operational performance across all economic trends. The healthcare sector demonstrates unique qualities by sustaining its consistent demand during economic downturns which makes it different from other businesses whose operations decline during these periods.

Consumer inflation showed a small yet statistically important relationship to healthcare business performance because it influences how resources are effectively used. The research indicates that operational cost-related inflationary pressures affect healthcare business performance through the 0.175 Pearson correlation coefficient and a significant p-value of below 0.001. Healthcare businesses need to maximize their resource usage because inflation increases medical supply and staff cost and facility upkeep expenses. Healthcare organizations face operational issues because of inflation which makes it crucial to adopt efficient cost-saving approaches during rising inflation periods.

The connection between healthcare business performance and unemployment remained insignificant based on the minimal negative relationship between both variables with -0.037 and a p-value of 0.248. The present research indicates unemployment has no notable effect on healthcare business success within Hong Kong. The healthcare sector attracts professional talent effectively because it depends on specialized experts who maintain stability despite wider labor market problems. The existence of ongoing healthcare service requirements reduces the impact that unemployment problems might have on business performance because healthcare maintains steady employment requirements that are less prone to labor market fluctuations than other sectors.

Healthcare business performance in Hong Kong remains independent of GDP growth but organizations face operational challenges because of inflation rates. The influence of unemployment remains very low when it comes to healthcare business operations. The healthcare sector shows unique characteristics because vital service needs might protect organizations from general economic trends. Strategic resource management should be healthcare managers' and policymakers' primary focus to adapt against inflationary pressures since healthcare performance is minimally affected by GDP growth and unemployment trends.

Chapter 5

Conclusion and Recommendation

5.1 Conclusion

The study investigated how Hong Kong healthcare businesses perform in relation to GDP growth combined with inflation and unemployment rate changes. The distinctive nature of healthcare services combined with their fundamental societal position required a thorough evaluation of economic factors that affect operational performance and business output of healthcare institutions. Research was conducted to understand macroeconomic variables' relationship with healthcare business performance because it aimed to generate insights which healthcare leaders and policy makers and managers could use for better economic challenge management while delivering high-quality healthcare services. The hypotheses tested in this study maintained three main points: (H1) a strong connection exists between GDP and healthcare business effectiveness, (H2) direct links exist between inflation rates and healthcare business success, (H3) unemployment creates direct effects on healthcare business effectiveness.

The study delivers fundamental knowledge about how healthcare businesses operate when macroeconomic elements affect their performance results. The study examined GDP growth but found no major relationship between this factor and healthcare business performance. The healthcare industry demonstrates an independent operational pattern even with wider economic disturbances. Healthcare facilities demonstrate strong resistance to economic cycles which explains this outcome. Healthcare services are considered vital thus healthcare service demand remains steady throughout economic downturns. Healthcare institutions continue to experience stable service demands because healthcare expenditures fall into the necessary category regardless of GDP growth rates or economic decline. Analysis showed these two variables have limited relationship strength because the Pearson correlation (0.293) was low and the p-value was neither significant nor meaningful. Healthcare institutions appear least impacted by economic fluctuations

in practical terms because medical service demand remains stable despite other industries affected by GDP performance. Healthcare managers together with policymakers should devote minimal attention to GDP growth indicators when they develop strategies that advance healthcare business success.

Healthcare business performance analysis in relation to inflation demonstrated complex results. With a statistically significant p-value of smaller than 0.001, the weak Pearson correlation coefficient reached 0.175. Healthcare organizations experience noticeable changes because of inflationary pressures which mainly affect their efficiency in utilizing resources. Healthcare organizations respond to inflationary pressures through operational optimization and economic adaptation due to increasing operational costs and supply prices as well as rising staff wages. Service organizations respond to inflationary pressures by adopting various cost-saving approaches which range from operational excellence improvements to technology adoption and modifications of their delivery systems. Healthcare providers should regularly review their resource management strategies because the modest positive relationship shows the necessity to combat rising costs. The statistical significance suggests that inflation influences healthcare performance regarding operational cost management despite its low correlation value. Healthcare organizations require effective resource management systems that help them handle unstable economic periods together with inflationary conditions.

Analysis results showed a minimal connection between healthcare business performance and unemployment levels. Results from statistical analysis show lack of significant influence between unemployment-related problems and healthcare performance metrics since they produced a -0.037 correlation coefficient together with a non-significant p-value of 0.248. Various possible elements contribute to this minimal relationship between unemployment and healthcare business performance. High specialized requirements for healthcare workers generate minimum sensitivity toward broader unemployment trends in this sector. Organizations within the healthcare industry attract qualified workers and keep existing staff because medical careers offer promise for long-term development in higher demand professional medical services. Medical services persist as essential activities throughout periods of high unemployment because citizens still need healthcare

treatments. Experiences of direct negative unemployment impacts remain less probable for providers of healthcare services because of the essential nature of their work. Healthcare organizations maintain financial resilience through government funding and regulatory protection along with extended insurer and patient agreements due to their immune status from labor market changes.

The study indicates that inflation rate impacts healthcare business performance but GDP growth and unemployment rates show minimal effects on this outcome. Evidence presented in the study demonstrates the healthcare sector displays strong stability against economic changes particularly regarding healthcare service requirements. Healthcare business maintains its operational performance through efficient resource management and cost reduction control systems when economic pressures arise. Decision-makers should prioritize operational efficiency and resource management because the sustainability of healthcare services must remain independent from major economic movements. The core contribution of this research involves creating the Healthcare Business Performance Index (BPI) to merge different healthcare performance aspects into an integrated composite indicator that includes financial results combined with client volume shifts and resource usage and market position adjustments. Tests conducted with the BPI index did not demonstrate robust internal consistency (Cronbach's Alpha value of 0.016) but the index structure proved functional for hypothesis testing regarding macrounits and healthcare performance assessment. Further improvements on the BPI require rethinking which variables should remain in the index together with extensive research of healthcare business performance driving elements.

These findings generate practical implications that healthcare organizations require to implement. Healthcare providers should shift their strategic focus from GDP trends to patient-market conditions as well as operational enhancements since healthcare performance shows limited dependence on economic growth metrics. The substantial although slight correlation between inflation rates and resource utilization efficiency encourages healthcare management teams to focus on cost control methods and resource efficiency improvements when inflation is high. The current data shows healthcare organizations do not need to focus excessively on labor market

trends for performance improvement since unemployment does not significantly affect their business operations.

The research proves that healthcare remains robust against general economic patterns along with its distinctive market features. The healthcare business performance in Hong Kong remains unaffected by changes in GDP growth and unemployment figures yet inflation demands focused attention to operational efficiency levels. Future research must expand current findings by investigating other elements that affect healthcare performance specifically involving technological developments together with regulatory changes together with changes within patient demographics. The Healthcare Business Performance Index alongside enlarged sampling would yield better understandings regarding healthcare business performance variations in this evolving economic environment.

5.2 Recommendations

The research data shows that Hong Kong's healthcare market operates outside of major economic measurements' influence zone. Healthcare business performance shows little connection to economic growth because sector operations mainly result from internal changes and policy decisions instead of general market conditions. The independent operation of healthcare directs attention toward developing specific approaches for this sector since it handles its own unique circumstances. Inflation puts limited pressure on operational effectiveness especially through resource allocation which implies inflation affects particular aspects of business operations but not all performance indicators. The outcome demonstrates that organizations need to concentrate efforts on improving operational processes and implementing cost reduction methods to protect themselves against inflation's negative effects.

The business performance of healthcare organizations exhibits minimal correlation with changes in the unemployment rates indicating employment trends have a minimal impact on financial outcomes. The insistent nature of healthcare services keeps their demand stable even as employment levels experience changes. Security strategies and efficiency plans must be developed because workforce stability should not depend on general employment trends. These implications

direct the necessary recommendations for Hong Kong healthcare businesses to boost their performance and resilience.

- (1) The healthcare sector demands unique economic indicators for accurate performance measurement that companies should develop. Business indicators for healthcare sites must account for demographics of patients and disease patterns together with community healthcare usage patterns.
- (2) Healthcare organizations should purchase technologies and operational procedures that minimize how inflation affects their resource usage for improved business operation. Healthcare facilities should enable electronic health record adoption alongside automated administrative processes which also demand optimized supply chain management.
- (3) Healthcare providers must design thorough cost management systems which target both material waste reduction and superior purchase agreements and energy conservation practices. Financial stability becomes possible through these practices when economic uncertainties arise.
- (4) Even though unemployment rates have minimal effects on health care service delivery it remains essential to develop superior workforce planning and development initiatives. The organization should spend money on workforce training while providing financial benefits together with professional advancement options for both employee retention and talent acquisition purposes.
- (5) Healthcare organizations should join policy discussions to defend regulations which enable funding for industry-specific requirements. The organization should actively work with legislators to establish policies which target healthcare-specific issues while developing funding approaches that are enduring.
- (6) The reduction of healthcare reliance on conventional financing requires healthcare businesses to establish different revenue streams including telemedicine practice and wellness program operations with private health insurance arrangements. Economic downturns become less treacherous when a business implements diversified financial models.

- (7) Businesses should use data analytics to gain valuable information about patient interactions combined with treatment results and operational data points. Organization leaders utilize this information to make strategic decisions and enhance patient services and detect potential cost reduction areas.
- (8) Partnering with healthcare providers and academic institutions along with technology companies will produce mutual knowledge sharing as well as shared resources that resolve typical organizational challenges.
- (9) The focus on patient satisfaction together with improved outcomes will create a positive reputation for healthcare organizations that leads to increased patient enrollment. Healthcare organizations must put patient feedback systems together with individual care plans to reach their goals.
- (10) Crime response strategies with crisis contingency plans must be developed because they serve as essential tools to sustain operations in unforeseen situations including pandemics and natural disasters. The organization must maintain constant scenario planning and training activities to achieve readiness.

Healthcare organizations operating in Hong Kong will build resilience together with operational effectiveness and sustainable growth by embracing the proposed strategies regardless of market environmental changes.

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