

Designing an Investment Portfolio for Innovative Solutions to Control the Crisis Market during the Covid-19 Pandemic

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Abstract: The study aimed to identify the designing an investment portfolio for innovative solutions to control the crisis market during the covid-19 pandemic. The sample of the study consisted of a random sample from (350) medium and upper management in the hospital sector. The results revealed that there is an impact in innovation solutions and their variables (HR strategy, Modern Marketing Strategy, Research and development strategy, IT strategy) on the crisis market and its variables (Unstable cash flow, Customer dissatisfaction, Unemployment).

Keywords: Investment Portfolio, Innovative Solutions, Crisis Market, Covid-19 Pandemic.

1. Introduction

In the current era, the world is witnessing the worst health and economic crisis since the Spanish flu pandemic that appeared in 1918 and due to the spread of the Covid-19 virus, which first appeared in China and then spread very quickly to Spain, the United States of America and most countries of the world. Because of this rapid spread, the World Health Organization declared a state of emergency to preserve the safety of humanity (Moreno, Fuentes Lara & Navarro, 2020). As the Covid-19 pandemic caused tremendous social, health and economic disturbances due to the rapid spread of the covid-19 virus, the decline in global stock exchanges, the suspension of education in schools and universities, the cancellation of sporting and artistic events, which caused a state of tension and instability in all countries in the world. (Spinelli & Pellino, 2020).

The negative economic and health effects produced by Corona virus are very many, as it is expected that global economic growth rates will decline, due to the disruption of production, and the decline in global

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demand rates in the major industrial countries (Grima, Dalli Gonzi & Thalassinos, 2020). Global economies will also be negatively affected by the disruption of the tourism sector, the decline in oil export revenues, and heavy losses suffered by transport companies and airlines (Capelle- Blancard & Desroziers, 2020).

Corona virus has caused the collapse of a large number of health systems in the world as the quality of health service provided by hospitals is no longer the decisive indicator on improving health care (McKee & Stuckler, 2020). As all countries in the world, found themselves facing a new kind of danger threatening humanity. The current health system's major role was limited to reduce the risks caused by the virus by providing all patients health care that alleviates the symptoms of the virus, such as fever reducers, ventilators and immunomodulatory (Atalan, 2020).

The infection that doctors and nurses are exposed to in hospitals is one of the most prominent crises caused by the Corona virus (Pandey, Corbett, Mohan, Reagu, Kumar, Farrell & Lindow, 2020). As doctors deal directly with patients, which exposes them to great danger, which makes it necessary to protect doctors and nurses from Infection, is necessary) Chatterjee, Bhattacharyya, Bhattacharyya, Gupta, Das & Banerjee, 2020(.

Because of the spread of Coronavirus, hospitals in most countries of the world have suffered from a number of crises such as insufficient investment, lack of funding, poor infrastructure, limited qualified personnel, shortages of equipment, medicines and insufficient supplies. As all the aforementioned crises weakened the health system's ability to respond to the increasing demands resulting from infection and to deal with other emergencies at the same time (Friedman, Calderón-Villarreal, Bojorquez, Hernández, Schriger & Hirashima, 2020).

The research hypothesis is based on the assumption that private hospitals operating in Jordan Amman, which are characterized by severe disruption during market crises such as Covid-19, must implement innovative solutions in order to improve their services and overcome the difficulties they face during crises. The next section of this article focuses on a comprehensive review of the innovative solutions to control the crisis market during the Covid-19 pandemic. Then the paper discusses the research methodology used in data collection and analysis, and presents and discusses the research results. The last sections discuss the implications of our findings, looking at study practical implications and areas for future research.

Literature review

Innovative solutions during the Covid-19 pandemic

The crisis of the spread of the new Corona virus has paralyzed the global economy, and it has become in a devastating recession, the fears are increasing that this contraction will continue for a long time even after overcoming the Corona pandemic. The Corona crisis is likely to continue for several years, the governments tighten the restrictions on business, as covid-19 is a global health emergency, and as long as it poses a threat to people's lives, businesses cannot return to normal before this crisis ends) James, 2020) . The sudden halt of commercial activity threatens to impose a deep economic downturn in most countries of the world, from which recovery will take years, and the losses suffered by companies and factories may

lead to a financial crisis of catastrophic proportions) Gill, van Hellemond, Kampevd Larsen, Keravel, Leger-Smith, Notteboom & Rinaldi, 2020) .

The world may witness the worst economic crisis, and this crisis will depend on the extent of the virus outbreak in terms of time and place, and the depth of the crisis that it will cause. However, the longer the conflict against the Coronavirus continues, the lower the value of the financial assets of investments made (Montemurro, 2020). With the increasing debt crisis and lack of production, which will inevitably lead to the emergence of economic bankruptcies and a sudden collapse of the values and assets of many global stock exchanges due to the difficulty of predicting market changes (Tam, Cheung, Lam, Wong, Yung, Sze & Siu, 2020).

To face the dangers of COVID-19, a number of economic, political and health plans and strategies had to be developed to overcome the disastrous effects caused by this pandemic. Where a number of creative strategic solutions have been devised that help overcome the obstacles imposed by the pandemic including:

- **Modern Marketing Strategies:** In light of the tremendous technological development that the world is witnessing in the current era, it is possible for companies, organizations, and institutions to market the services or products that they provide via e-mail and social media. Where modern marketing strategies help to reach the largest number of customers at the lowest possible financial cost. In light of the spread of the Corona pandemic, modern marketing methods have contributed to maintaining customers and informing them about new services and products provided by institutions (Budovich, 2021).
- **Human resource strategy:** The human resources' strategy revolves around developing plans and strategies related to how to manage the utilization of the skill and experience of all employees in order to achieve the goals of the organization. Where the use of this strategy helps in making appropriate decisions and overcoming problems and urgent changes in the labor market. As the human resources' management strategy helps in overcoming a number of crises caused by Corona pandemic (Abbasi, Mosleh Shiraz & Hosseini, 2017).
- **IT strategy:** The IT strategy revolves around the use of modern technological means in marketing services and increasing employee productivity in light of the health and economic crisis in the current era (Varadarajan, 2020). The IT strategy also includes the use of artificial intelligence to maintain the continuity of the organization and the quality of the services it provides (Seifzadeh & Rowe, 2019).

The Market crises

health and financial crises resulted from the spread of Corona pandemic have led to the emergence of a number of global problems such as damage to the global economy, great damage to global markets, disruption of production chains, and disruption of currency and energy markets) Al-Dabbagh, 2020). Whereas most countries in the world have taken urgent measures to stop the pandemic and try to control the health situation,) Schwarzer & Vallée, 2020) .

The effects of the Corona pandemic will be continuous and evident in many of the threats to which the world is exposed, such as unemployment, economic recession and the collapse of health systems in a large number of countries of the world) Al-Obidi, 2021) . The coronavirus pandemic, which has claimed more

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than 2 million lives worldwide, has pushed the global economy into its worst recession since the Second World War leaving millions of people without jobs) Moorkamp, Torenvlied & Kramer, 2020).

The Corona crisis exacerbated unemployment rates in the countries of the Middle East and North Africa, which doubled the number of unemployed during the last six months of the current year (Bernard & Lieber, 2020). As the slowdown in the rotation of the economic wheel led to the damage or declaration of bankruptcy of a number of small and medium enterprises, causing a significant increase in the unemployment rate (Lea, 2020).

The exacerbation of unemployment and the Coronavirus pandemic, at the same time, directs attention to what can and must be done at the current stage to mitigate the effects of this crisis on the unemployed themselves, on their families, and even on society (Tetlow, Pope & Dalton, 2020). As the increase in unemployment rate constitutes a fertile ground for negative practices and behaviors and increases, despair and frustration in societies in general (Restrepo, Rabbitt & Gregory, 2021).

The outbreak of the (Covid-19) the virus has hit the markets and public sectors, hard, and therefore its potential effects on the economies of countries will be dire and its repercussions are significant on unemployment and poverty rates in the Arab region, especially on the most affected groups of women, the elderly, and workers in the public and private sectors) Petrosky-Nadeau & Valletta, 2020). Therefore, it was imperative for governments to set priorities, develop appropriate programs and plans to deal with the outbreak of Corona virus crisis and address it) Restrepo, Rabbitt & Gregory, 2021).

Customer satisfaction the most important criteria that expresses the state that customers feel when they purchase a product or obtain a service or goods provided by any company or any organization. Where all institutions seek to gain customer satisfaction with a specific service or commodity (Al-Mhasnah, Salleh, Afthanorhan & Ghazali, 2018). Customer satisfaction help a particular company or institution to succeed and increase its competitiveness in the labor market both locally and globally (Lim, Lim, Heinrichs, Al-Aali, Aamir & Qureshi, 2018).

Customer satisfaction with the products or services provided to them is measured by evaluating the product or service by answering a set of questions that reflect the entire purchasing experience. Each evaluation question contains several options that measure the level of customer satisfaction. Effective communication, which consists in introducing the customer to the benefits of services, is one of the most important factors that contribute to customer satisfaction, as it helps to enhance the customer's confidence in the product or service provided (Rukuni & Maziriri, 2020). Due to the exceptional circumstances resulting from the outbreak of the Corona pandemic and the increase in the percentage of employees' infections, the process of communication with customers has become ineffective as required, which directly affects the level of customer satisfaction (Monmousseau, Marzuoli, Feron & Delahaye, 2020).

2. Method

Research model

Choosing the appropriate study model ensures that innovations are invested in every area of the hospital and turned into profit during a period of market crises experienced by departments. Portfolio design topics (as enacted in this paper) refer to a set of innovative strategies, namely, modern marketing strategy, and research and development strategy. From there, we expanded the thinking to design an innovative solutions' model that explains how to create a high value for the services provided and how to obtain the best results during market crises. We argue that innovative solutions significantly contribute to overcoming market crises, especially during the Covid-19 pandemic.

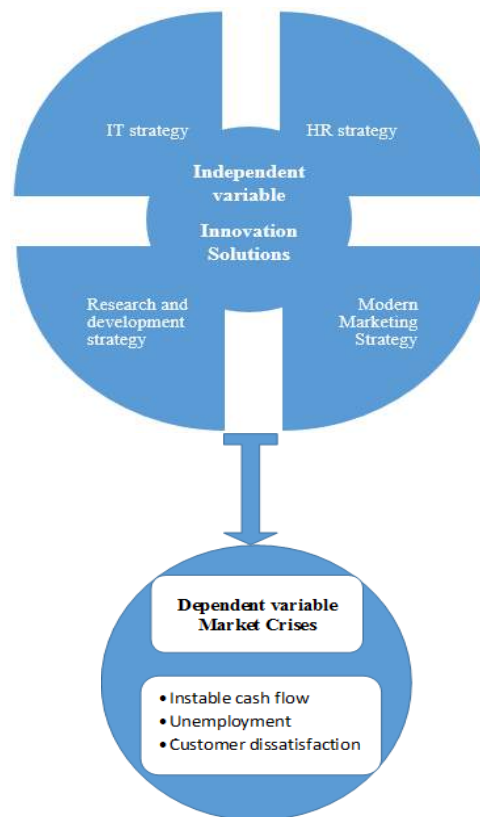


Figure (1): Research model

Hypothesis of the Study

The hypotheses can be presented as follows:

Main Hypothesis (H01). There is no impact of innovation solutions and its variables (HR strategy, Modern Marketing Strategy, Research and development strategy, IT strategy) on the crisis market and its variables (Crises market, Customer dissatisfaction, Unemployment) at ($\alpha \leq 0.05$).

This hypothesis is divided into three sub-hypotheses:

- **H_{1.1}.** There is no impact of innovation solutions and its variables (HR strategy, Modern Marketing Strategy, Research and development strategy, IT strategy) on the unstable cash flow at ($\alpha \leq 0.05$).
- **H_{1.2}.** There is no impact of innovation solutions and its variables (HR strategy, Modern Marketing Strategy, Research and development strategy, IT strategy) on the Customer dissatisfaction at ($\alpha \leq 0.05$).
- **H_{1.3}.** There is no impact of innovation solutions and its variables (HR strategy, Modern Marketing Strategy, Research and development strategy, IT strategy) on the Unemployment at ($\alpha \leq 0.05$).

The Research Instrument

The instrument contains (32) items measuring design an investment portfolio for innovation solutions to control the market crises during the pandemic. The questionnaire was distributed by hand (Hospitals Websites In coordination with HR departments).

3.4 Data Analysis and Interpretation

To examine the hypotheses design an investment portfolio for innovation solutions to control the market crises during the COVID-19 pandemic. Statistical Package to Social Sciences (SPSS) and AMOS 22 will be used in processing the following statistical techniques and tests in data analysis:

1. **Reliability Test**
2. **Frequencies and percentages**
3. **Linear Regression**
4. **Structural Equation Modeling (SEM):** to check model-fitting parameters.

Study Sample:

The population of the study consisted of target sample from (350) divided into upper management (70) and (380) medium of Jordanian hospitals in Amman.

Validity of the instruments

The test gave to experts to judge the extent to which the test is valid and reliable. For this reason, the test would be designed to meet such requirements of the validity of the test. The experts will be choosing according to their broad experiences in the field of teaching translation

Reliability:

The researcher used test and retest to a different group of students. The test and retest had the same characteristics, in order to compare if the students achieve stability.

Table (1): Cronbach's alpha for the study fields

Field number	Field	Value of (α)
Independent Variable(Innovation Solution)		
1	IT strategy	0.873
	HR strategy	0.878
	Modern Marketing Strategy	0.857
	Research and development strategy	0.860
Dependent Variable(Market Crises)		
2	Unstable cash flow	0.836
	Unemployment	0.831
	Customer dissatisfaction	0.834

the table above shows that the total Cronbach's alpha for the study fields was above than (0.60), which will leads to the stability of the results for this study.

3. Findings and Discussions

To analyze the data and examining Hypotheses, to design an investment portfolio for innovation solutions to control the market crises during the COVID-19 pandemic, Simple Regression, and Structural Equational Model (SEM) as well used as it shown as follow:

Research Hypotheses

Main Hypothesis (H01). There is no impact of innovation solutions and its variables (HR strategy, Modern Marketing Strategy, Research and development strategy, IT strategy) on the crisis market and its variables (the Crises market, Customer dissatisfaction, Unemployment) at ($\alpha \leq 0.05$).

We used Simple Regression test to check the direct effect of innovation solutions and its variables (HR strategy, Modern Marketing Strategy, Research and development strategy, IT strategy) on the Crises' market at ($\alpha \leq 0.05$) shown in the tables below:

Table (2): Simple Regression test to check the direct effect of innovation solutions and its variables (HR strategy, Modern Marketing Strategy, Research and development strategy, IT strategy) on the Crises' market at ($\alpha \leq 0.05$)

Dependent Variable	R	R ²	F	DF	Coefficients			
					Predictor	B	T	Sig
Crises market	.557	.310	169.857	1	Innovation Solutions	0.477	13.033	0.000
				348				
				349				

The table (2) shows the impact of Innovation Solutions on the Crises market. The result shows that there is a significant effect for Innovation Solutions on the Crises market, because the significant value was (0.000) less than (0.05), the value of R is the square root of R-Squared and is the correlation between the observed and predicted values of dependent variable was (0.557) and The coefficient of determination R² (0.310). Therefore, about 38.6% of the variation in the Crises market explained by Innovation Solutions. Restriction Parameter (F) was (169.857) of the Crises market will be caused from Innovation Solutions. Thus, we will reject the hypotheses “There is no impact of innovation solutions and its variables (HR strategy, Modern Marketing Strategy, Research and development strategy, IT strategy) on the Crises market at ($\alpha \leq 0.05$)”.

H_{1.1}. There is no impact of innovation solutions and its variables (HR strategy, Modern Marketing Strategy, Research and development strategy, IT strategy) on the unstable cash flow at ($\alpha \leq 0.05$).

To test this hypothesis, the researcher uses the multiple regression analysis. As shown in Table (3).

Table (3): Multiple Regression test to check the direct effect of innovation solutions and its variables (HR strategy, Modern Marketing Strategy, Research and development strategy, IT strategy) on the unstable cash flow

Dependent Variable	(R)	(R ²)	F Calculate	DF	Sig*	B		T Calculate	Sig*
Unstable cash flow	0.334	0.111	10.801	4	0.000	HR strategy	.854	6.384	.000
						Modern Marketing Strategy	.821	5.832	.000
						Research and development strategy	.909	6.196	.000
				345		IT strategy	.020	.404	.687

* the impact is significant at level ($\alpha \leq 0.05$)

Table (3) shows that correlation coefficient (R) between innovation solutions and its variables (HR strategy, Modern Marketing Strategy, Research and development strategy, IT strategy) equals 0.334 and (R²) =(0.111) this indicates that 11.1% of changes in **Unstable cash flow** can be explained by innovation solutions and its variables (HR strategy, Modern Marketing Strategy, Research and development strategy, IT strategy) F-test value indicate that the regression model is significant since calculated F value is (10.801) with a significant level ($\alpha = 0.000$) which is less than 0.05.

With respect to detailed to detailed relations between innovation solutions dimensions and Unstable cash flow, results in table () indicate variance in relative importance in terms of three dimensions impact on Unstable cash flow, the impact is different from one dimension to the other one since the HR strategy dimension ranked the first , Research and development strategy ranked second and Modern Marketing Strategy ranked third, while IT strategy dimension has no impact.

With respect to the HR strategy dimension relation with Unstable cash flow, results in table (3) indicates that there is a positive significant impact on customer loyalty since (Beta) value was (0.854) and calculated (t) value was (6.384) with a significant level is less than (0.05) the level used in this research.

Regarding Modern Marketing Strategy dimension, results in table (3) indicates that there is a positive significant impact on customer loyalty since (Beta) value was (.821) and calculated (t) value was (5.832) with a significant level ($p < 0.000$) which is less than (0.05) the level used in this research.

Also, Research and development strategy dimension, results in table (3) indicates that there is a positive significant impact on customer loyalty since (Beta) value was (.909) and calculated (t) value was (6.196) with a significant level ($p < 0.000$) which is less than (0.05) the level used in this research.

Therefore, innovation solutions and its variables (HR strategy, Modern Marketing Strategy, Research and development strategy) has a significant impact on unstable cash flow. So null hypothesis is rejected and the alternative one is accepted. This means that there is a significant statistical impact of the impact of innovation solutions and its variables (HR strategy, Modern Marketing Strategy, Research and development strategy) on the unstable cash flow at level ($\alpha \leq 0.05$).

H_{1,2}. There is no impact of innovation solutions and its variables (HR strategy, Modern Marketing Strategy, Research and development strategy, IT strategy) on the Customer dissatisfaction at ($\alpha \leq 0.05$).

To test this hypothesis, the researcher uses the multiple regression analysis. As shown in Table (4).

Table (4): Multiple Regression test to check the direct effect of innovation solutions and its variables (HR strategy, Modern Marketing Strategy, Research and development strategy, IT strategy) on the Customer dissatisfaction

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Dependent Variable	(R)	(R ²)	F Calculate	DF	Sig*	B		T Calculate	Sig*
Customer dissatisfaction	0.445	0.198	21.317	4	0.000	HR strategy	0.962	8.865	.000
						Modern Marketing Strategy	.952	8.591	.000
				345		Research and development strategy	.859	8.822	.000
				349		IT strategy	-.007	-.148	.882

* the impact is significant at level ($\alpha \leq 0.05$)

The Table above shows that correlation coefficient (R) between innovation solutions and its variables (HR strategy, Modern Marketing Strategy, Research and development strategy, IT strategy) equals 0.445 and (R²) = (0.198) this indicates that 19.8% of changes in **Customer dissatisfaction** can be explained by innovation solutions and its variables (HR strategy, Modern Marketing Strategy, Research and development strategy, IT strategy) F-test the value indicates that the regression model is significant since calculated F value is (21.317) with a significant level ($\alpha = 0.000$) which is less than 0.05.

With respect to detailed to detailed relations between innovation solutions dimensions, and Customer dissatisfaction, results in table (4) indicate variance in relative importance in terms of three dimensions impact on Customer dissatisfaction, the impact is different from one dimension to the other one since the HR strategy dimension ranked the first, Research and development strategy ranked second and Modern Marketing Strategy ranked third, while IT strategy dimension has no impact.

With respect to the HR strategy dimension relation with Customer dissatisfaction, results in table (4) indicates that there is a positive significant impact on customer loyalty since (Beta) value was (0.962) and calculated (t) value was (8.865) with a significant level is less than (0.05) the level used in this research.

Regarding Modern Marketing Strategy dimension, results in table (4) indicates that there is a positive significant impact on customer loyalty since (Beta) value was (.952) and calculated (t) value was (8.591) with a significant level ($p < 0.000$) which is less than (0.05) the level used in this research.

Also, Research and development strategy dimension, results in table (4) indicates that there is a positive significant impact on customer loyalty since (Beta) value was (.859) and calculated (t) value was (8.822) with a significant level ($p < 0.000$) which is less than (0.05) the level used in this research.

Therefore, innovation solutions and its variables (HR strategy, Modern Marketing Strategy, Research and development strategy) has a significant impact on Customer dissatisfaction. So null hypothesis is rejected and the alternative one is accepted. This means that there is a significant statistical impact of the impact of

innovation solutions and its variables (HR strategy, Modern Marketing Strategy, Research and development strategy) on the Customer dissatisfaction at level ($\alpha \leq 0.05$).

H_{1.3}. There is no impact of innovation solutions and its variables (HR strategy, Modern Marketing Strategy, Research and development strategy, IT strategy) on the Unemployment at ($\alpha \leq 0.05$).

To test this hypothesis, the researcher uses the multiple regression analysis. As shown in Table (5).

Table (5): Multiple Regression test to check the direct effect of innovation solutions and its variables (HR strategy, Modern Marketing Strategy, Research and development strategy, IT strategy) on the Unemployment

Dependent Variable	(R)	(R ²)	F Calculate	DF	Sig*	B		T Calculate	Sig*
Unemployment	0.197	0.039	3.491	4	0.008	HR strategy	.382	3.468	.001
				345		Modern Marketing Strategy	.364	3.146	.002
						Research and development strategy	.293	2.431	.016
				349		IT strategy	.028	-.684	.495

* the impact is significant at level ($\alpha \leq 0.05$)

Table (5) shows that correlation coefficient (R) between innovation solutions and its variables (HR strategy, Modern Marketing Strategy, Research and development strategy, IT strategy) equals 0.197 and (R²) =(0.039) this indicates that 3.9% of changes in **Unemployment** can be explained by innovation solutions and its variables (HR strategy, Modern Marketing Strategy, Research and development strategy, IT strategy) F-test the value indicates that the regression model is significant since calculated F value is (3.491) with a significant level ($\alpha = 0.008$) which is less than 0.05.

With respect to detailed to detailed relations between innovation solutions dimensions and Unemployment, results in table (5) indicate variance in relative importance in terms of three dimensions impact on Unemployment, the impact is different from one dimension to the other one since the HR strategy dimension ranked the first, Research and development strategy ranked second and Modern Marketing Strategy ranked third, while IT strategy dimension has no impact.

With respect to the HR strategy dimension relation with Unemployment, results in table (5) indicates that there is a positive significant impact on customer loyalty since (Beta) value was (0.382) and calculated (t) value was (3.468) with a significant level is less than (0.05) the level used in this research.

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Regarding Modern Marketing Strategy dimension, results in table (5) indicates that there is a positive significant impact on customer loyalty since (Beta) value was (.364) and calculated (t) value was (3.146) with a significant level ($p < 0.000$) which is less than (0.05) the level used in this research.

Also, Research and development strategy dimension, results in table (5) indicates that there is a positive significant impact on customer loyalty since (Beta) value was (.293) and calculated (t) value was (2.431) with a significant level ($p < 0.000$) which is less than (0.05) the level used in this research.

Therefore, innovation solutions and its variables (HR strategy, Modern Marketing Strategy, Research and development strategy) has a significant impact on Unemployment. So null hypothesis is rejected and the alternative one is accepted. This means that there is a significant statistical impact of the impact of innovation solutions and its variables (HR strategy, Modern Marketing Strategy, Research and development strategy) on the Unemployment at level ($\alpha \leq 0.05$).

Discussion

This paper addresses a design an investment portfolio for innovation solutions to control the market crises during the COVID-19 pandemic; its goal is twofold. First, proposing and designing an investment portfolio that includes innovative solutions, with which conceptual and practical problems related to this type of innovation can be analyzed and evaluated. Second, discussing how this investment portfolio can contribute to solving the crises that hospitals are exposed to, especially during pandemics such as the COVID-19 pandemic, in innovative and sustainable ways over time.

The results showed that the significant value was (0.000) less than (0.05), the value of R is the square root of R-Squared and is the correlation between the observed and predicted values of dependent variable was (0.621) and The coefficient of determination R^2 (0.386). Therefore, there is an impact on innovation solutions and their variables (HR strategy, Modern Marketing Strategy, Research and development strategy, IT strategy) on the Unstable cash flow. This indicates that private hospitals have applied innovative solutions to solve cash flow problems during tense economic times, by employing the emerging technology in their operations, and by training staff on the best equipment and new skills. Although Jordan is a small country with few resources, it invests in raw materials and human resources to improve its services and overcome crises with the least losses, but also to increase profits.

This finding demonstrates the vital role innovation plays in healthcare development. When viewed by opportunity producers, innovative solutions are seen as facilitating work-related productivity and increasing numbers of patients attended by caregivers, thus creating space for increased financial benefits for health service providers (He & Ma, 2020). Innovative solutions enhance capabilities and make it easier for medical personnel to make timely referrals to advanced and better equipped health facilities (Chang & Chen, 2020).

Numerous studies have indicated the importance of innovation in improving financial resources in business. For example, the results of the study (Khan, Zulfiquar & Hussain, 2020) concluded that innovation contributed to improving the company's ability to provide better services and attract the largest number of customers, which led to a significant increase in the company's profits.

The results also showed an impact on innovation solutions and their variables (human resources strategy, modern marketing strategy, and research and development strategy, information technology strategy) on customer dissatisfaction. The significant value was (0.000) less than (0.05), the R value was the square root of R-Squared and the correlation between the observed and expected values of the dependent variable was (0.676) and the determination coefficient R² (0.457). This indicates that private hospitals in Jordan have developed their own practice mechanisms and improved research and development strategies in order to achieve client satisfaction. The use of innovative solutions in hospitals contributes to improving the quality of services provided so that they meet the needs and desires of patients more, which contributes to improving their reputation and achieving a high competitive advantage.

These results align with the majority of previous studies and together provide strong support for the view that innovative strategies and tools contribute to improving customer satisfaction and meet their needs. For example, Daragahi (2017) concluded that employing innovative strategies is positively and statistically closely related to improving long-term customer satisfaction.

Our findings indicate that there is an impact of innovation solutions and their variables (human resource strategy, modern marketing strategy, and research and development strategy, information technology strategy) on unemployment. This may indicate that innovation solutions, including multiple strategies, contribute to improve the skills of employees and attracting them to work in private hospitals, so that they have experiences that qualify them to overcome the crises that the hospital is going through and improve its reputation. This finding is in line with and goes beyond studies by (Wang, Hong, Li & Gao, 2020), which have found that innovation solutions generally provide opportunities for firms to enter the market during crises. Stiglitz (2014) highlight the role of innovation in reducing unemployment during crises. Moving beyond these findings and adding to the literature on marketing theories in the field of entrepreneurship, the current analysis indicates that the crisis provides opportunities for innovative hospitals and that these hospitals respond faster than the hospitals that adopt traditional methods.

Conclusion

Innovation literature appears to occupy a large space with entrepreneurs and management. Several studies have indicated that market economic crises may play two different roles, whether economic crises force companies to limit their innovation activities or whether crises provide opportunities for innovation (Chang & Chen, 2020). The state of the COVID-19 crisis appears very clear in this regard (Wang, Hong, Li & Gao, 2020) the pandemic is making innovation, especially in the health sector, essential. Our model shows that hospitals can implement these plans and weather market crises.

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The proposed investment portfolio is particularly important for hospitals to overcome responsibilities of modernity by implementing innovation in all areas that improve technology portfolio management and service delivery procedures and achieve an unprecedented marketing strategy. At the same time, these hospitals have the potential to maintain modern assets such as organizational resilience and stay on the cutting edge of pressures from technological shifts by implementing innovative solutions. Therefore, private hospitals need to understand the value of human resources strategy, information technology strategy, modern marketing strategy, and research and development strategy to overcome obstacles and achieve high profitability for the company, especially during crises such as the Corona pandemic. Our study provides new theoretical and experimental evidence for the principles of innovative solutions, with the aim of applying them in hospitals in general, to reduce the crises in the market, and to overcome them easily.

Practical Implications

Practitioners will also benefit from this research. This research confirmed that the investment portfolio is a promising model for supporting hospitals and overcoming problems during crises. Describing our research and proposed innovative solutions can help decision-makers and private hospital owners in Jordan and abroad work on the front lines of combating COVID-19 to design solutions tailored to clients' needs. With around 50,000 people in Jordan requiring regular treatment, this could be a promising opportunity to weather crises and provide them with the best healthcare.

Moreover, demographic change and increase in life expectancy in our society are likely to lead to an increase in demand for healthcare services in the future. Therefore, it is likely that more jobs will be created in the healthcare sector. Patient care is an integral part of healthcare systems. However, many private hospital facilities are already understaffed and physicians. One of the ways to improve profits, increase customer satisfaction, and reduce unemployment levels in hospitals can be more attractive when transforming existing service systems into smart and innovative service systems. Finally, positive cases of innovation can motivate healthcare providers to invest more in new innovative approaches in order to catch up with levels of digitization in other service areas.

Limitations and future research

Our study has several limitations. First, we focused on the perceptions of the upper and middle administrations in the field of health care in private hospitals about innovative solutions and their role in overcoming crises, leaving the viewpoint of hospital workers and patients. In addition, the hospital environment is an intimate environment and is therefore linked to the trust and privacy of patients. Therefore, the impact of innovative solutions on patients has not been carefully studied. Privacy concerns can significantly reduce an employee's desire to adopt new technologies (Yassae and Mettler 2019). Future research involving innovative tools and plans and their impact on the quality of services in hospitals could yield interesting insights into patient impact, privacy concerns, and trust factors.

REFERENCES

- Abbasi, A., Mosleh Shirazi, A. N., & Hosseini, F. (2017): Developing Human Resource Strategy Coherent with Business Strategies, Culture and Organizational Structure. *Journal of Research in Human Resources Management*, vol9(2), pp 21-46.

- Al-Dabbagh, Z. S. (2020). Sustainable development and its role in containing crises: Corona virus pandemic crisis (COVID-19) in China as a model. *Journal of Public Affairs*, 20(4), e2339.
- Al-Mhasnah, A., Salleh, F., Afthanorhan, A., & Ghazali, P. J. M. S. L. (2018): The relationship between services quality and customer satisfaction among Jordanian healthcare sector. *Management Science Letters*, vol8(12), pp 1413-1420.
- Al-Obidi, A. F. A. R. (2021). The importance of digital education in the shadow of the international policies for managing crises resulting from the Corona Covid-19 pandemic. *Kut University College Journal for Humanitarian Science*, 29(Special issue).
- Atalan, A. (2020): Is the lockdown important to prevent the COVID-19 pandemic? Effects on psychology, environment and economy-perspective. *Annals of medicine and surgery*, vol56, pp 38-42.
- Bernard, T. S., & Lieber, R. (2020): FAQ on Stimulus Checks, Unemployment and the Coronavirus Plan. *NY TIMES* (Jun. 2, 2020), <https://www.nytimes.com/article/coronavirus-stimulus-package-questions-answers.html>.
- Budovich, L. S. (2021): Features of Modern Marketing in Innovation for Socio-Economic Development. *International Journal of Criminology and Sociology*, 10, 1-6.
- Capelle-Blancard, G., & Desroziers, A. (2020): The stock market is not the economy? Insights from the COVID-19 crisis. *Insights from the COVID-19 Crisis* (June 16, 2020). CEPR Covid Economics.
- Chang, S. E., & Chen, Y. (2020):Blockchain in Health Care Innovation: Literature Review and Case Study From a Business Ecosystem Perspective. *Journal of Medical Internet Research*, vol22(8), e19480.
- Chatterjee, S. S., Bhattacharyya, R., Bhattacharyya, S., Gupta, S., Das, S., & Banerjee, B. B. (2020): Attitude, practice, behavior, and mental health impact of COVID-19 on doctors. *Indian Journal of Psychiatry*, vol62(3), pp 257.
- Daragahi, G. A. (2017): The impact of innovation on customer satisfaction: A study of the cosmetics producer in Tehran. *International Review*, vol(1-2), pp 121-132.
- Diaw, B., & Asare, G. (2018): Effect of innovation on customer satisfaction and customer retention in the telecommunication industry in Ghana: Customers' Perspectives. *European Journal of Research and Reflection in Management Sciences Vol*, 6(4), pp 15-26.
- Friedman, J., Calderón-Villarreal, A., Bojorquez, I., Hernández, C. V., Schriger, D. L., & Hirashima, E. T. (2020): Excess Out-of-Hospital Mortality and Declining Oxygen Saturation: The Sentinel Role of Emergency Medical Services Data in the COVID-19 Crisis in Tijuana, Mexico. *Annals of emergency medicine*, vol76(4), pp 413-426.
- Gill, K., van Hellemond, I., Kampevold Larsen, J., Keravel, S., Leger-Smith, A., Notteboom, B., & Rinaldi, B. M. (2020): Corona, the Compact City and Crises. *Journal of Landscape Architecture*, (1), pp 4-5.

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- Grima, S., Dalli Gonzi, R., & Thalassinou, E. I. (2020). The impact of COVID-19 on Malta and its Economy and Sustainable Strategies. Available at SSRN 3644833.
- He, A. J., & Ma, L. (2020): Corporate policy entrepreneurship and cross-boundary strategies: How a private corporation champions mobile healthcare payment innovation in China?. *Public Administration and Development*, vol40(1), pp 76-86.
- James, H. (2020). Seven transformative crises from European revolution to corona: globalization and state capacity. *Financial History Review*, 27(2), 139-159.
- Khan, M. K., Zulfiqar, S., & Hussain, A. (2020): INNOVATION AND INVESTMENT IN HIGH-TECH FIRMS IN FINANCIALLY CONSTRAINED ENVIRONMENT. *AJSS*, vol4(2), pp 187-207.
- Lea, R. (2020): The coronavirus crisis: first steps to lockdown relaxation and the Bank warns of major GDP fall in 2020. *Arbuthnot Banking Group*, vol11.
- Lim, J., Lim, K., Heinrichs, J., Al-Aali, K., Aamir, A., & Qureshi, M. (2018): The role of hospital service quality in developing the satisfaction of the patients and hospital performance. *Management Science Letters*, vol8(12), pp 1353-1362.
- McKee, M., & Stuckler, D. (2020): If the world fails to protect the economy, COVID-19 will damage health not just now but also in the future. *Nature Medicine*, vol26(5), pp 640-642.
- Monmousseau, P., Marzuoli, A., Feron, E., & Delahaye, D. (2020): Impact of Covid-19 on passengers and airlines from passenger measurements: Managing customer satisfaction while putting the US Air Transportation System to sleep. *Transportation Research Interdisciplinary Perspectives*, vol7, 100179.
- Montemurro, N. (2020): The emotional impact of COVID-19: From medical staff to common people. *Brain, behavior, and immunity*.
- Moorkamp, M., Torenvlied, R., & Kramer, E. H. (2020): Organizational synthesis in transboundary crises: Three principles for managing centralization and coordination in the corona virus crisis response. *Journal of Contingencies and Crisis Management*, vol28(2), pp 169-172.
- Moreno, Á., Fuentes Lara, C. M., & Navarro, C. (2020): Covid-19 communication management in Spain: Exploring the effect of information-seeking behavior and message reception in public's evaluation.
- Pandey, U., Corbett, G., Mohan, S., Reagu, S., Kumar, S., Farrell, T., & Lindow, S. (2020): Anxiety, Depression and Behavioural Changes in Junior Doctors and Medical Students Associated with the Coronavirus Pandemic: A Cross-Sectional Survey. *The Journal of Obstetrics and Gynecology of India*, 1-5.
- Petrosky-Nadeau, N., & Valletta, R. G. (2020): An Unemployment Crisis after the Onset of COVID-19. *FRBSF Economic Letter*, 2020(12), pp 1-5.

- Restrepo, B. J., Rabbitt, M. P., & Gregory, C. A. (2021). The Effect of Unemployment on Food Spending and Adequacy: Evidence from Coronavirus-Induced Firm Closures. *Applied Economic Perspectives and Policy*.
- Rukuni, T. F., & Maziriri, E. T. (2020): Data on corona-virus readiness strategies influencing customer satisfaction and customer behavioural intentions in South African retail stores. *Data in brief*, 31, 105818.
- Schwarzer, D., & Vallée, S. (2020): How Leaders Can Stop Corona from Undermining the EU: The Health and Economic Crises Require Coordinated Handling.
- Seifzadeh, P., & Rowe, W. G. (2019): The role of corporate controls and business-level strategy in business unit performance. *Journal of Strategy and Management*.
- Spinelli, A., & Pellino, G. (2020): COVID-19 pandemic: perspectives on an unfolding crisis. *The British journal of surgery*.
- Stiglitz, J. E. (2014): *Unemployment and innovation* (No. w20670). National Bureau of Economic Research.
- Tam, C. C. F., Cheung, K. S., Lam, S., Wong, A., Yung, A., Sze, M., ... & Siu, C. W. (2020): Impact of coronavirus disease 2019 (COVID-19) outbreak on ST-segment-elevation myocardial infarction care in Hong Kong, China. *Circulation: Cardiovascular Quality and Outcomes*, vol13(4), e006631.
- Tetlow, G., Pope, T., & Dalton, G. (2020): Coronavirus and unemployment: the importance of government policy: a five nation comparison.
- Varadarajan, R. (2020). Customer information resources advantage, marketing strategy and business performance: A market resources based view. *Industrial Marketing Management*.
- Wang, Y., Hong, A., Li, X., & Gao, J. (2020): Marketing innovations during a global crisis: A study of China firms' response to COVID-19. *Journal of Business Research*, vol116, pp 214-220.