



The Impact Of Risk, Crisis And Disaster Management Strategies On Organizational Effectiveness. A Pilot Study In The United Arab Emirates.

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ABSTRACT

The pragmatic study assessed the impact of risk, crisis and disaster management strategies on organizational effectiveness in the UAE. The investigation study utilized a survey research design with quantitative approach. A sample size of 100 participants was carefully chosen using a table developed by Morgan & Krejcie (1970). Information was gathered by means of structured questionnaires. Data was evaluated using descriptive statistics such as tables, frequencies, percentages and means. The researcher also used inferential statistics such as partial Least Squares, Structural equation modelling and multiple regression analysis to determine the relationship between the study variables. The researcher used stratified random sampling to garner data for the research study. The study findings indicated that disasters preparedness strategy has significant effect on the organisational effectiveness in UAE aviation industry. The project concluded that Disaster preparedness and prevention strategies for crises like the COVID-19 pandemic are important ingredients that any organisation should give priority in its development process. Organisations that have survived throughout the ages are those that respect the principle of rationalisation in its decision making. From the schoolwork findings, the academic recommended that the Aviation Industry in the UAE should prioritize the development and implementation of effective disaster preparedness policies, provide adequate support and resources to individual government organs in order to have sanity and normalcy in the development process of the nation.

Key words: Disaster Management, Preparedness Strategies, Effectiveness, UAE.

Introduction

Over the world's history, several crises, risk and disasters were witnessed with various degree of magnitude. At the wake of the 21st century for example, the September 11 attack on the world trade centre occurred resulting into the loss of thousands and injuring scores. The impact of the crisis was felt globally. Similarly, several other crises were witnessed since then (Stimac *et al.*, 2020; Amankwah-amoaah, 2021). For instance, the global economic crisis of 2007/2008 shattered the financial stability of the world. The world economy was in turmoil which affected the livelihood of people, ground businesses, and weakened governments' budgets. Several other disasters such as earth quakes, flooding, bush fire, plane crashes and a lot other crises occur in different countries of the world (Almarshoodi, Ghani and Siam, 2021). Recently, the world is grounded by another pandemic of catastrophic nature called COVID-19 (Alqutob *et al.*, 2020; Kaushal and Srivastava, 2021; Pounder, 2021).

In the last quarter of 2019, there was an outbreak of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) popularly called COVID-19 in Wuhan, China. The early cases were reported officially in December, 2019. The outbreak was official declared by the World Health Organisation (WHO) as a global pandemic on 11th March, 2020 (Saddik *et al.*, 2020; Arora *et al.*, 2021; Suk and Kim, 2021).

Governments world over struggled to eradicate the virus completely but to no avail. Like in the other countries, the UAE also struggle with the virus and implemented many measures to control the virus (Saddik *et al.*, 2020). So many short-term measures have been taken to minimise the spread of the virus with varying degree of success. These measures include amongst others the wearing of face mask in public places, social and physical distancing, banning of social gatherings, travel restrictions, quarantine and ultimately the lockdowns (Alqutob *et al.*, 2020; Saddik *et al.*, 2020). These measures were implemented in many sectors of life. However, the most adversely affected sector is the tourism and aviation sector (Štimac *et al.*, 2020; Kaushal and Srivastava, 2021; Pounder, 2021; Suk and Kim, 2021; Yu and Chen, 2021). The tourism and aviation industry thrives on the movement of people and therefore serves as the vector of the virus distribution (Buhusayen, Seet and Coetzer, 2020; Gossling, 2020; Kaushal and Srivastava, 2021; Yu and Chen, 2021). With about average of over 4.5 billion passenger journeys per annum before the pandemic, and over 750 billion in revenue, the civil aviation is very instrumental in the spread of the virus and also hardest hit by the effect of the pandemic occasioned by stringent measures to break the spread of the virus by various governments of the world (Arora *et al.*, 2021).

The aviation industry of the UAE is not spared by the impact of COVID-19. UAE as one of the most active tourist destination in the world is amongst the countries most vulnerable to COVID-19 (Shabib and Moonesar, 2020) and therefore has one of the most affected aviation sector. Several risk, crisis and disaster management strategies are implemented in the UAE aviation sector. However, the effectiveness of these strategies in the UAE aviation industry has not been empirically evaluated. The COVID-19 pandemic has exposed the hidden vulnerabilities to crisis, risk and disaster of the aviation industry (Arora *et al.*, 2021; Yu and Chen, 2021). Therefore, assessing the effectiveness of the adopted crisis, risk and disaster management strategies by the aviation industry stakeholders has shed more light on the preparedness of the industry against future unforeseen crisis situations.

Literature review

Like the other economic sectors of the world, the aviation industry is amongst the worst hit industries by the Covid-19 pandemic which originated firstly from Wuhan, China and thereafter spread all over the world (Arora *et al.*, 2021; Blištanova *et al.*, 2021; Saddik *et al.*, 2020; Suk & Kim, 2021). The sector is most hit because it remains a crucial part of the tourism economy providing rapid transportation of tourists, cargo such as medical supplies, food and other essential goods globally leading to the spread of the virus through the movement of people. Regardless of the sector's global critical role in facilitating human and goods movement (Fung, 2006; Tretheway & Markhvida, 2014), evidence shows that the sector is sensitive to stresses such as economic downturns, natural disasters, political instability and pandemics (Sadi & Henderson, 2000). Sadi and Henderson (2000) and also Chung (2015) reveal that several events in history had demonstrated the vulnerability of the global aviation sector to various catastrophes. This vulnerability is further exposed by the Covid-19 pandemic. As a result of the COVID-19 pandemic, in 2020, the global travel and tourism market is predicted to see a loss of 121 million jobs worldwide and USD 3,435 billion in global GDP (World Travel and Tourism Council, 2020). According to the data of the World Tourism Organization (2020a), the United Nations agency taking charge of the promotion of responsible, sustainable and universally accessible tourism, as of June 22, 2020, the global fall in international tourist arrivals comprised 44% compared to 2019.

These declines are precipitated by the travel ban imposed by different countries leading to the substantial grounding of the aviation sector. The reason accorded for the ban for effective health control of the pandemic (Peak *et al.*, 2020). Scholars have revealed that air transport facilitates the spread of pandemics throughout the world (Tatem, Rogers, & Hay, 2006 Wilder-Smith, Paton, & Goh, 2003). Moreover, some researchers have discovered that airline travel could influence the spread of viruses such as the following: influenza (Grais, Ellis, & Glass, 2003), Severe Acute Respiratory Syndrome (SARS) (McLean, May, Pattison, & Weiss, 2005), Ebola (Bogoch *et al.*, 2015), Zika (Bogoch *et al.*, 2016), and Dengue (Tian *et al.*, 2017). Air transport also increases person-to-person transmission risks of respiratory pathogens as a result of high crowd densities in enclosed spaces (Browne *et al.*, 2016), i.e. airports and aircraft act as incubators and nodes of disease distribution. This is of relevance because any spread of disease, particularly at global scales, is associated with a cost (Rosen 2004) that includes prevention, research, treatment, foregone business opportunities, and recession (Lee and McKibbin, 2004).

The Gulf countries were quick to place certain ban travel to certain destinations. For instance Saudi Arabia (SA) first issued a ban on traveling to China on citizens and residents (Saudi Press Agency, 2020) and later

extended the travel ban to all international flights (Peak *et al*, 2020). In Kuwait, all flights were suspended (Kuwait Times, 2020). Citizens were prohibited temporarily from traveling abroad in the UAE (National Emergency Crisis and Disaster Management Authority, 2020). In addition, the Civil Aviation Affairs in the Kingdom of Bahrain has announced that flights to and from Iraq and Lebanon are suspended until further notice (Gulf News, 2020).

Preparedness are measures taken to prevent the occurrence of event in the first instance. This is the preparation and prevention stage in risk, crisis and disaster management. It involves the “systematic planning to prepare the organization to manage a crisis event, explicating critical personnel, resources, and actions to be allocated during a crisis situation” (Bhaduri, 2019). The stage involves detecting risk, crisis and disaster signals. Risk, crisis and disaster normally give sign before they occur. This stage therefore involves risk identification to assess the magnitude so as to prepare for the eventualities.

At this stage, it involves all the institutions that provide support to the communities that have been hit by emergencies or disasters so that the affected people will be able to maximize their rate of survival and reduce different losses (World Health Organization, 2016). Since many stakeholders take part in this phase, there exist some fundamental elements that have been outlined to ensure this phase mainly focuses on outcomes (Lin *et al.*, 2016). Furthermore, this phase is paramount in helping the communities and the organizations that are involved in preparation in case of an emergency (Lin *et al.*, 2016). Moreover, it is used as a determinant of what occurs in the response phase. Therefore, an inadequate preparedness phase leads to an inadequate emergency response (Lundgren *et al.*, 2018).

Methods and Materials

Data Capturing

Proofs used for the research study were got by means of both primary and secondary essentials of data. Primary data was reached at by usage of questionnaires to vibrant personnel related to the study project. Secondary data was attained by the use of documented records. The study engaged a survey research design utilizing a quantitative method.

Saddik *et al* (2020) specified that survey examination design is generally used to garner data at once from participants. The intellectual picked a total of 100 members (sample size) by means of the table developed by Morgan & Krejcie (1970) to participate in the survey research study.

Sampling methods

The public expert engaged stratified random sampling in the study. The study general public used the target population including groups like Directors of Aviation industry, Technical staff, Front-runners, Passengers, Ministry of economy officials, and the UAE political leaders.

Questionnaires

The questionnaire is a research tool containing inter-related interrogations organized by the researcher about the research dilemma under study grounded on the targets of the survey study. Items were set and recorded for the contributors to answer with choices as reflected on the likert scale type investigations.

This technique was cherished because it covers a varied physical space in statistics congregation; it accumulates a lot of proof within a short period of time, and offers greater guarantee regarding confidentiality.

Nonetheless, the questionnaire involved some limitations of attrition. There were limited replicas that were not returned, although this was fixed by issuing a lot of copies than the compulsory number of the sample size for the research scheme.

Validity and reliability of research instruments

Validity of the well-organized survey was guaranteed by using content validity Index. Arising from the examination of the validity of the instruments, the scholar got content validity index (CVI) of 0.78 which was well openly beyond 0.75 suggesting that the tool was valid to bring together figures for the inquiry study (Siddik *et al* ,2020).

Reliability of the Organized Questionnaire was considered by means of Cronbach’s alpha coefficient formula though observing the variables that had an alpha coefficient of figure bigger than 0.70. Since the reliability design got by the researcher produced 0.78 alpha value, it determined that the research tool was reliable to yield data vital for the meticulous study.

Data analysis

Inquiry Numerical tools which were involved to scrutinize data for this investigation study included; descriptive dimensions such as tables, frequencies, percentages, and inferential statistics like partial Least Squares, Structural equation modelling and multiple regression analysis to determine the relationship between the study variables.

Results

Presentation of Demographic Findings

The demographic data was deemed necessary to show the adequacy of the sample representation for the study population. Personal information like gender, age distribution and educational qualification in the aviation industry were used to assess their background.

Table 1: Respondents' Information

	Options	Frequency	Percent %
Gender	Male	51	50.8
	Female	49	49.2
	Total	100	100.0
Age	Less than 18 years	8	7.2
	18 – 30 years	11	11.1
	31 to 40 years	40	40.2
	Above 41 years	41	41.4
	Total	100	100.0
Educational Qualification	Secondary certificate	21	20.4
	Diploma Degree	57	57.4
	Master degree	19	19.2
	PhD	3	3.0
	Total	100	100.0

Source: Field Work, 2023

Gender Distribution of Respondents

Table 1 shows that out of the 100 participants who took part in this study, 51(50.8%) of them were males and 49(49.2%) were females. This means that the study had almost equal gender representation; which is indicative of an inclusive work environment.

Age Distribution of Respondents

Information about the age distribution of respondents showed that (7.2%) were less than 18 years, (11.1%) were between 18 - 30 years, (40.2%) of them were between 31 to 40 years old (41.4%) were between 41 years old and above. An indication that the work force in this aviation industry constitutes more of the middle-aged population.

Education of Respondents

Regarding the educational level of the respondents, the study found that all of them were educated, hence had basic understanding of the study content (covid-19 risk, crisis and disaster management strategies on airports). Specifically, 21(20.4%) are holders of secondary certificate, 57(57.4%) are holders of Diploma Degree, 19(19.2%) are master's degree holders and 3(3.0%) are PhD holders. This implied that the contributors of data were highly knowledgeable to provide plausible information required for the study.

Descriptive Statistics

Contribution of covid-19 risk, crisis and disaster management strategies on organisational effectiveness in Aviation sector in UAE

Table 2: Respondents Views on Disaster Preparedness

Disaster Preparedness	Strongly Disagree	Disagree	Moderate	Agree	Strongly Agree
In your organisation, you have the requisite knowledge and skills to handle COVID-19 pandemic	8 (7.8%)	12 (10.5%)	29 (29.1%)	32 (33.9%)	19 (18.6%)
You are always fully prepared for any emergency that may occur related to COVID-19	7 (6.9%)	9 (9.0%)	27 (27.0%)	35 (35.4%)	22 (21.6%)
Your organisation regularly organises trainings, drills and exercise for effective disaster management	10 (10.2%)	17 (16.8%)	24 (23.7%)	28 (27.9%)	21 (21.3%)
You regularly update your emergency plans for predicted and unpredicted disasters in anticipation of their occurrences	5 (4.8%)	14 (14.4%)	24 (24.0%)	25 (24.6%)	32 (32.1%)
In case of disaster, you feel prepared to give the victims the needed psychological support	10 (10.2%)	10 (9.6%)	31 (30.6%)	35 (35.4%)	14 (14.1%)
You have crisis, risk and disaster management framework for COVID-19 in your organisation	18 (17.7%)	19 (18.6%)	31 (31.2%)	23 (23.7%)	9 (8.7%)

Source: Field Work, 2023

The table 2 above presents information relating COVID-19 risk, crisis and disaster management strategies in UAE Aviation Industry. The results therein indicate that 8(7.8%) participants did not affirm that in their

organisation, they have the requisite knowledge and skills to handle COVID-19 pandemic, followed by 12(10.5%) who supported these views, while 29(29.1%) were neutral and about half of them 51(52.5%) were in total agreement. In essence, a considerable proposition of the respondents could not boast of having essential knowledge and skills to handle COVID-19 pandemic.

As such, they are hardly prepared for any emergency that may occur related to COVID-19; as noted in the 27(27.0%) neutral stands, and 16(15.9%) views pointing to their unpreparedness to handle emergencies. Only 28(27.9%) of them agreed that they are always fully prepared for any emergency that may occur related to COVID-19.

Again, almost half (49.2%) of the participants were in support that their organisation regularly organises trainings, drills and exercise for effective disaster management, (23.7%) were undefined on this and (27.0%) strongly disagreed on this. Most (56.7%) of the participants approved that they regularly update their emergency plans for predicted and unpredicted disasters in anticipation of their occurrences. About 49.5% of the participants equally affirmed that they feel prepared to give the victims the needed psychological support, as opposed by (30.6%) who were neutral and (9.8%) totally disagreed.

Lastly, (32.4%) of the respondents strongly agreed that they have crisis, risk and disaster management framework for COVID-19 in the organisation, meanwhile (31.2%) were moderate on this and (36.3%) were in total disagreement. All the above meant that managers of Aviation industry had good planning in order to be able to mitigate any disasters in thier organisation.

Structural Model Assessment

To evaluate the structural model and test the hypothesis, the path coefficients between constructs were estimated and their statistical significance was assessed. The path coefficients represent the strength and direction of the relationships between constructs.

Table 3: The Structural Model

	B	TDEV	T statistics	P values
Disaster Preparedness -> Organisational _Effectiveness	0.016	0.045	0.347	0.729

H₀: Preparedness strategy has a significant effect on the organisational effectiveness in UAE aviation industry

The study hypothesised that disasters preparedness strategy has significant effect on the organisational effectiveness in UAE aviation industry. The results of the analysis showed that disaster preparedness strategy has a positive but non-significant effect on organizational effectiveness ($\beta = 0.016$, $t(330) = 0.347$, $p = 0.729$). This implied that the hypothesised idea was not supported.

Discussion

The findings of the study revealed that the effect of covid-19 risk, crisis, and disaster management strategies on organisational effectiveness in Aviation sector in UAE was insignificant. This finding is not in accordance to the findings of previous scholars such as Amankwah-amoaah (2021 & Stimac et al (2020) who conducted a study on Disaster management in Angola and found out that managers of organisations who plan in advance for mitigation measures of crises have always been successful in their companies. However, the finding was in agreement with the study conducted by Bhaduri (2019) on Crisis management who found out that the intellectual capacity of leaders of organisations can always determine to what extent different pandemics can be controlled and concluded successfully. This is because the training of some political leaders or managers of organisations sometimes has been meticulous, a scenario that can help them be rational and handle situations wisely for development.

Conclusion

Disaster preparedness and prevention strategies for crises like the COVID-19 pandemic are important ingredients that any organisation should give priority in its development process. Organisations that have survived throughout the ages are those that respect the principle of rationalisation in its decision making. The Aviation Industry in the UAE should prioritize the development and implementation of effective disaster preparedness policies, provide adequate support and resources to individual government organs in order to have sanity and normalcy in the development process of the nation.

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