COVER PAGE AND DECLARATION

	Master of Business Administration (M.B.A.)
Specialisation:	MBA In Projects Mangement
Module Code & Module Title:	MGT590-Action Reserch-Final assignmnent
Students' Full Name:	Mohammed Mushtaq Hussain
Word Count:	
Date of Submission:	14/112024

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E-SIGNATURE: Mohammed Mushtaq Hussain

DATE: 14-11-2024

MGT590 Action Research

MGT590 – Final Assignment

Table contents:

1.Action Research Topic

2. Abstract

3. Introduction

3.1 Background

4. Research Aim and Objectives

4.1 Research Questions

5. Literature Review

5.1 Problem Statement and Research Significance

6. Methodology

6.1 Description of participants of the study

6.2 Data Collection Materials

6.2.1 Questionnaire-based Quantitative survey

6.2.2 Data variables

6.3 Data Collection Procedure

6.3.1 Survey conditions

6.3.2 Statistical Analysis

7. Results and analysis

7.1 Data Analysis and Findings

7.2 Temporary turbulence

7.3 Industry effects

8. Conclusion

8.1 Limitations

8.2 Future research directions

References

Appendix

1. Action Research Topic

"Effects of temporary turbulence on Operational changes in different firms during covid-19 pandemic"

2. Abstract

Both external and internal variables may cause turbulence. Motivation and inspiration are more critical in times of crisis than at any other moment. In the context of business strategy, structure, and performance, turbulence is a well-studied contingency. A state of uncertain duration, on the other hand, is always seen as a current reality. Indeed, certain industries don't care about the past, present or future since they're characterized as erratic by nature. Many businesses have been forced to shut because of the COVID-19 outbreak, resulting in an unprecedented halt in global economic activity. Small and medium-sized businesses have been particularly hard impacted by the restrictions taken to prevent the spread of the virus, although global supply chains have been hampered by the general shutdown. It is the goal of this research to understand how these businesses were able to continue their economic operations despite the disturbance produced by the shutdown. This research utilizes the data from US firms. The research is a quantitative analysis based on the questionnaire responses of participants. Firms' operational and strategic responses to what is viewed as transient volatility are examined in the COVID-19 setting. Turbulence levels and the company's previous experience with operational changes have been proven to be predictive factors of operational change. The results of the research show that there are two operational adjustments that are linked to performance improvement: raising output levels and reducing expenses. A strategic action associated to performance improvement is to target new customers or markets. Turbulence levels and duration have to be taken into account in future research

3. Introduction

3.1 Background

An increase in market aversion to risk due to the worldwide spread of COVID-19 has not been witnessed since the financial crisis. The economic and commercial circumstances in many nations have deteriorated, making many enterprises severely indebted (Alonso et al., 2020). Low borrowing costs have fueled an unprecedented amount of corporate debt issuance over a protracted era of monetary accommodating policies There has been an increase in leveraged loans in the US and Europe, which has countered a decline in bank lending to give debt-ridden corporations with liquidity. Organizational results are strongly linked with an organization's strategy, which is widely understood. Aims of early research by Kudale (Kudale, 2020). and others were to identify techniques for achieving supernormal performance by characterizing the environment. Traditionally, the first step in strategic management was to do an external examination of the market. To accomplish its objectives, the strategy must be tailored to the context in which it is implemented, whether that context is broadly political, economic, and sociocultural tendencies or industry-specific dynamics that are generated by customers, suppliers, and newcomers.

As the external environment continues to evolve and become more complicated, environmental turbulence plays an increasingly significant role in strategic decision-making. Turbulent settings drive the search for fresh information to discover new possibilities. Prospector strategies are advised for developing and testing new methods to adapt to environmental changes in turbulent environments, whereas the defender approach is recommended in stable ones (Trautrims et al., 2020). The pursuit of competitive advantage has led to the development of a variety of other typologies for the environment and strategy

Complexity, ambiguity, speed, visibility, unpredictability, dynamism and heterogeneity are some of the variables that may be used to measure the environment's turbulence. Environmental turbulence has been studied as a mediator between several organizational dimensions (e.g., strategy, structure and entrepreneurial orientation) and company performance once it was operationalized in the context of the literature.

Although the external environment is now turbulence, the turbulence may only last for a short time. This research adds to the literature by introducing the concept of short-term turbulence. "Temporary turbulence" is what we call it. A terrorist attack, an economic crisis, or a natural calamity might cause temporary turbulence. In the wake of the Great Recession of 2008 in the United Kingdom, (Amidei et al. 2021). researched environmental turbulence. As a result, they concentrated on the strategic changes they made after the recession. We're particularly interested in the shifts that occur during periods of seeming instability.

The COVID-19 epidemic has prompted a request for greater management research, and this study addresses that need. Studying transient turbulence was made possible by COVID-19. On January 20, 2020, the first verified case of the pandemic was recorded in the United States, and on February 29, 2020, the first confirmed fatality was announced. It was on March 11 that the WHO proclaimed COVID-19 to be a worldwide pandemic, with more than 1,000 confirmed cases and 31 fatalities reported in the United States. For 15 days beginning on March 16, 2020, President Trump will work with the Centers for Disease Control and Prevention (CDC) to slow the spread of the Ebola virus (Ashforth, 2020). Lockdown orders of 30 days or fewer were issued by several U.S. states and towns. However, on March 26, the CDC had extended the "Slow the Spread" programmed for another 30 days since the number of confirmed cases had surpassed 100,000 and 1,000 fatalities had occurred throughout the country. Lockdowns were also gradually expanded in local jurisdictions. By the end of June 2020, the second-quarter GDP of the United States had fallen by 31.4 per cent (Rapaccini et al., 2020). the nation may be back to normal by Easter or by summer's heat or by school resuming in the fall despite an increase in cases notwithstanding a government assessment that this epidemic was under control at the time. Over a year later, in June 2021, the epidemic had killed more than 600,000 Americans. Temporary steps and gradual declarations appeared to indicate that the pandemic would be short-lived from a 2020 viewpoint (Rapaccini et al., 2020).

4. Research Aim and Objectives

The COVID-19 epidemic has prompted a request for greater management research, and this study addresses that need. Studying transient turbulence was made possible by COVID-19. On January 20, 2020, the first verified case of the pandemic was recorded in the United States, and on February 29, 2020, the first confirmed fatality was announced. After more than 1,000 confirmed cases and 31 deaths in the United States, the WHO declared COVID-19 a global pandemic on March 11. When the "15 Days to Slow the Spread" campaign was started on March 16, 2020, it was aimed at halting the spread of Ebola in the US. Lockdowns of 30 days or less were ordered in a number of US states and municipalities (CDC, 2021).

However, on March 26, the CDC had extended the "Slow the Spread" programmed for another 30 days since the number of confirmed cases had surpassed 100,000 and 1,000 fatalities had occurred throughout the country. Lockdowns were also gradually expanded in local jurisdictions. A 31.4% drop in second-quarter GDP in the United States is forecast for the end of June 2020 (Kudale, 2020). According to government authorities, a restoration to normalcy may be achieved by Easter, the scorching summer months, or when schools resumed for the autumn term. The purpose of this study is to examine the operational changes made during the covid-19 epidemic in light of the evidence of transitory turbulence. This research address 3 basic research objectives:

 To evaluate the firm’s operational changes during covid-19.

 To address the temporary turbulence in an organization and the changes they maintain and adopt.

 To report the operational changes in firms due to temporary turbulence that occur during a covid-19 pandemic.

4.1 Research Questions

This research has addressed 3 research questions that are answered further, the research questions are:

1. What are operational changes a firm experience during covid-19?

2. What is the temporary turbulence in organizations and the change they adopt?

3. What are the operational changes in firms due to temporary turbulence that occur during the covid-19?

5. Literature Review

The length of environmental turbulence seems to be missing from previous investigations. (Sharma & Borah 2020). elaborated that the period dimension solely covers the period in which a person receives input. According to (Obrenovic et al. 2020). the frequency may be defined as the number of times an event occurs, but what if the frequency decreases? For companies dealing with environmental turbulence, the length of time the turbulence is predicted to last maybe a crucial concern. A new study on temporal strategies has shown that time orientation is a key feature.

Hurricane Michael, for example, made landfall on Florida's panhandle in October 2018 and wreaked havoc in Panama City, Mexico Beach, and as far north as Georgia. Supply chains were interrupted, transportation challenges arose, and prices soared for many businesses in the area (Rapaccini et al., 2020). Water, communications, and construction are just a few of the industries that have seen an uptick in demand. Despite this, the disturbance in the environment was predicted to be short-lived. Recovery efforts might be completed within a year with help from the federal government. Affected companies made internal adjustments to their operations throughout the recovery, such as changing production levels and staff regulations around safety and time off. As long as the turbulence is likely to lessen within a month, the company may choose to sit this one out for now. For three years, the company may not be able to exist without a change in strategy.

The phrase "temporary turbulence" is used to describe the short-term environmental turbulence that is predicted to occur in the future. Instead of focusing on how long the turbulence would last, this approach focuses on how long the turbulence would last until it dissipated (Tasnim, 2020). Despite its longevity, COVID-19 was meant to be a one-time event. Economic concepts such as current assets/liabilities and the fiscal year, which we regard to be short-term, guide our working definition of a year. Temporary instability includes changes in government regulation that the next administration is likely to erase, local real estate bubbles that are projected to bust, increasing interest rates that the Federal Reserve is expected to offset next quarter, and a grounded Boeing 737 aircraft fleet (Ilinova, Dmitrieva & Kraslawski, 2021). It's not uncommon for organisations to make operational modifications when things become a little tricky. These include the implementation of new rules and the payment of more expensive borrowing rates, among other things. It's more important to see whether or not strategic responses are made during turbulence

"Operations" refers to a company's internal processes and activities for creating goods and services. During turbulence, these activities need the establishment of a typology to identify the operational changes. It's here that the value chain comes to the fore (McMullin & Raggo, 2020). It is typical to practice in the transformation of input components into output products and services to use logistics, production, sales and marketing, and customer service as shared activities. Several backend functions support these major divisions, such as human resources,

finance, and procurement. As a result, the stages of Porter's value chain were created to be universally applicable. In the intervening years, however, value chain analysis has been widely employed to discover industry-specific stages and drivers of value development in various sectors. Recently, investigations of the value chain of cattle and seaweed in northern Kenya and the EU, offshore wind power in Ireland and Indonesia, silk and medications in the United States have been highlighted as examples of recent research (Giousmpasoglou, Marinakou & Zopiatis, 2021). At COVID-19, the value chain of medical commodities throughout the globe was reviewed for lessons learned.

Researchers have established new frameworks for understanding value chain governance, value chain length and "upstreams," degree of engagement in the value stream, and producer-driven vs buyer-driven value chains. It has also been used as a lens to evaluate other issues, including innovation, acquisitions and business strategies, via the perspective of the value chain. The immediacy of high turbulence necessitates an operational shift (Hwang et al., 2020). Businesses have little option but to comply with pandemic lockdown orders or storm power shortages, as has been stated in the preceding paragraphs. However, they have a great deal of control over the goods, resources, and market emphasis they choose to put out into the world. Even if a strategy shift is desirable, it may be more difficult to implement or costlier, making it less feasible. Temporary turbulence has a brief lifespan, which means that operational change is similarly likely to be short-lived. In the event of the turbulence for which they were created, certain operational adjustments with long-term value may be kept. There has been a lot of recent study on how important it is to maintain organizational aspects in tune with their surroundings.

Firms are not inherently inclined to change. With age, they become more rigid because of structural inertia and route dependency (Reed, 2021). For every change, there is an associated cost. Accordingly, it seems that organizations must be motivated enough to modify their operations or strategy. The perceived scale, financial effect, and projected length of environmental instability may all serve as sources of incentive for an organization when confronted with it. If the organization has already made operational and strategic changes, it may be more willing to respond in times of crisis. It is also necessary that operational or strategic adjustments result in an immediate increase in performance during times of stress (Rapaccini et al., 2020). Supply chain or distribution channel reconfiguration may take too long or cost too much. In the near term, changes to employee regulations (such as fewer working hours or travel limits) may harm the company's performance.

Furthermore, on the strategy side, it may be too costly and time-consuming to acquire additional resources and create new goods in the near term. Selling current items to new clients and altering the business model may be quite simple. Even yet, according to Ashforth (2020) nevertheless, innovation is often expensive and time-consuming since it involves a considerable upfront investment in everything from research and development to specialised staff, new factories, and equipment and even complete business units to be developed. Because of this, these investments' future returns cannot be predicted. Many firms are turning to business model innovation instead of or in addition to product or process development in order to avoid such significant risks.

5.1 Problem Statement and Research Significance

Organizations were already being forced to adapt and make choices faster than ever before the arrival of COVID-19. In the wake of the epidemic, such demands have risen significantly. There has never been more demand for businesses of all sizes to adapt their business models to meet shifting needs. Because digitalization, globalisation, automation, and analytics are only going to become faster and faster; the demand for speed is here to stay. According to a popular saying (Alonso et al., 2020), "The rate of change has never been this quick, but it will never again be this slow."

Turbulence at scale is helping top firms succeed in today's increasingly turbulent, unpredictable, complicated, and ambiguous environment. Rethinking an organisation as a collection of high-performing groups with defined objectives and the capabilities they need is the goal of enterprise agility. It was during these early days of turbulence that these teams, which were commonly referred to as a "squad," consisted of developers and testers, data analysts,

customer-journey experts, and user-interface designers. However, comparable concepts have been introduced across the board in both business and technology. When it comes to driving sales and profit, retailers deploy teams based on certain product categories (for example, fresh food). Teams are tasked by telecom companies with simplifying their offerings. By enabling teams across operations, maintenance, and engineering, mining firms can make their operations safer and more efficient. Just a few of the many instances. It is becoming more common for companies to shift their focus from optimising individual activities to extracting value between them.

The sustainability of an organization's operations and infrastructure may be threatened by pandemic illness, natural catastrophes, terrorist attacks, economic slump, equipment, and human mistake. Global destruction has been caused by a pandemic sickness caused by COVID-19. It began in China, Hubei Province, Wuhan, toward the close of the year before spreading to the rest of the globe. Through community transmissions and rare instances, this illness has expanded worldwide since early 2020. It has also emerged in clusters. More than 3.1 million instances have been registered by the World Health Organization, with around 225 thousand of their deaths. Over 1.4 million cases have been reported in Europe and the United States, respectively (over 1.2 million cases). As a result of this worldwide epidemic, the organization's existing global interconnection has been threatened. Since its arrival, it has impacted the global economy and drastically altered the structure of businesses. Organizations must be able to manage their capacities by perceiving, grabbing, and altering their resources and processes to deal with short-term turbulence. Managing turbulence in companies is easier since the company is better equipped to manage its resources. To manage any upcoming pandemic situation, this research would help the organisation build effective systems to cope with turbulence, as this research would identify the impact of turbulence and factors that cause it, it would be easier for the firms to identify the things that are necessary for any pandemic coming in the future.

6. Methodology

It was discovered that during the covid-19 outbreak, 10 substantial transitory turbulences emerged. As opposed to using pre-existing data, primary research involves collecting one's data rather than depending on it. Technically, the data belongs to them. An examination of a particular problem demands a thorough investigation. You may undertake your main research in-house or hire someone else to do it for you. As one of the most major benefits of primary research, the primary research focuses on a specific subject or issue and seeks to find solutions to that problem. More and more researchers are collecting data from their participants using online surveys. It's easy to send and complete online surveys, as well.

Once a survey is released, participants have a certain amount of time to answer questions and return them to the researcher. Open-ended and closed-ended questions should be included in surveys to get the maximum information from respondents. To keep respondents engaged, surveys should not be too lengthy. Because of their time and work, survey participants deserve compensation. Quantitative procedures are used to analyse data from polls, questionnaires, surveys, or data that has been modified using computer tools.

6.1 Description of participants of the study

COVID-19's turbulence from March 2020 to March 2021 was the focus of the investigation. The intended audience was made up of business leaders in the United States who were familiar with the inner workings of for-profit corporations (Bureau of Labor Statistics, 2021b). Data for the hypotheses was gathered through cross-sectional surveys, which tapped into a wide range of enterprises. Companies from 10 different industries participated in the testing of new survey questions and statistical methods. In the Appendix, we can find the final survey results. When COVID-19 vaccinations were widely accessible in the US in April 2021, both infection and fatality rates had dropped dramatically (Bureau of Labor Statistics, 2021a). In the fourth quarter of 2019, the GDP of the United States has

returned to its pre-COVID level within one per cent (Bureau of Economic Analysis, 2021). Participants were able to review the last year with a clear memory of of the effect, reactions, and success of their businesses.

6.2 Data Collection Materials

6.2.1 Questionnaire-based Quantitative survey

The dominating research framework in the social sciences is a quantitative technique. Analytical methods for studying psychological, socioeconomic, and monetary processes based on the study of numbers are referred to as "numerical pattern analysis." Numerical information is collected as part of quantitative research. Personal income, for example, has an inherent quantitative form, while in other instances, the numeric structure is imposed. Understanding the social world can only be achieved via quantitative study. Researchers in social sciences and communications employ quantitative methods to study phenomena or events that influence persons. People are the focus of social scientists' research.

The term "sample population" refers to a subset of the general population that may be studied via quantitative research. Data collected via observation or measurement is used in quantitative research to answer specific questions about a particular group. The term "quantitative" refers to inquiries that are designed to collect quantitative data from respondents. Using this quantitative data, a research report is generated from the responses to these survey questions (Reed, 2021). Questions like this form the basis of a survey, which collects data numerically and is utilised for statistical analysis. Before launching an online survey, it is critical to identify the survey's purpose. Survey takers prefer to answer quantitative questions because they are both easier to measure and simpler for survey respondents to answer.

Comparatively, qualitative issues are more difficult to quantify since they are inherently subjective. Respondents have a more difficult time answering these questions, and if there are too many, survey fatigue may set in. During the covid-19 epidemic, companies went through some transitory upheaval, as shown by this study's quantitative examination of 10 survey forms with 15 questions. Close-ended questionnaires have also been employed in the study. Survey answers can only be gathered by using closed-ended questions and question kinds (Chatterjee, 2021).

All statistical methods based on questionnaires and surveys use closed-ended questions as to their basis. When you need to gather data for statistical analysis, you'll want to employ closed-ended questions. Quantitative data is given in an easy-to-follow format. The conclusions drawn from the quantitative data are unmistakable and leave little room for interpretation (Hwang et al., 2020). Open-ended inquiries, on the other hand, elicit qualitative data on feelings and experiences that are inherently subjective. Quantitative data for the main analysis may be gathered via closed-ended questions. Open-ended inquiries may be used to delve further into the reasoning behind an answer. This study's closed-ended questions are as follows:

Q1. How much of a financial effect did COVID-19 have on your firm (good or negative)?

Q2. When COVID-19 first began, how long did your firm expect the effects to last?

Q3. During COVID-19, how quickly were there external issues that needed to be addressed?

Q4. Has COVID-19 had an impact on your company's internal operations? 'Operations,' in this context, refers to the company's internal procedures and activities.

Q5. As a result of this adjustment, how did your company's operations alter? You have the option of selecting several answers.

Q6. How much overall operational change was there?

Q7. During COVID-19, how big of an impact did the operational shift have on your company's performance?

Q8. When does COVID-19 come to an end, do you expect your firm to mostly return to normal operations?

Q9. Before COVID-19, how often did your organisation update its internal operations?

Q10: How big of an improvement in your company's COVID-19 results did the new approach make?

Q11. Do you expect your organisation to mostly revert to its pre-COVID-19 strategy? Before COVID-19, how frequently was your company's business plan a subject of change?

Q13. What kind of business is yours?

Q14. From how long has your business been around?

Q15. What is the total number of staff members in your company?

6.2.2 Data variables

Table 1 lays out the factors that will be utilised in the research. There was just one latent variable that could be operationalized using Ansoff's 5-item scale of complexity, speed, novelty, unpredictability and frequency of change: Temporary turbulence (TURB). Some of the survey questions were inverted so that they could be analysed with a range of values from low to high. 20 dummies were created from the category variable industry. There are several factors in the study:

Table 1: Variables included in the study **S. No**	**Variables**	**Responses or answering options**
1	Financial impact magnitude	0 or 1
2	Financial impact (negative)	0 or 1
3	Financial impact (positive)	0 or 1
4	Financial impact (zero)	0 or 1
5	The maximum duration of the financial impact	1(< 3 months) to 4 (> 12 months)
6	Operational change	0 or 1
7	Production change level	0 or 1
8	Employee procedures change	0 / or 1
9	Supply chain procurement change	0 or 1
10	Distribution /Marketing/Sales change	0 or 1
11	Budgets change	0 or 1
12	Operational change degree	1-5 (for very small to big)
13	Prior operations expected return	0 or 1

14	Operational change prior frequency	1 (never) to 4 (frequently)
15	Customer focus change	0 or 1
16	Products/services change	0 or 1
17	Key resources change	0 or 1
18	Cost structure change	0 or 1
19	Prior strategy expected return	0 or 1
20	Employees Number	1 (1–10 employees) to 6 (> 500 employees)

6.3 Data Collection Procedure

The procedure for data collection would involve survey that is questionnaire based and the statistical test that would be applied further over that data.

6.3.1 Survey conditions

Since the web platform already has a large panel of full-time US workers, the survey was conducted online. Participants were selected based on their business type for profit, their function (senior-level or manager employee), and their ability to see their company's operations, strategy, and performance (high). Responses were accepted until the participant's needed sample size was met. The demographics of participants and their companies were compared to the general population if there was any evidence of sampling bias. Because a survey is a closed-ended questionnaire, it is difficult for a responder to answer a question in a free-form manner.

6.3.2 Statistical Analysis

Analysing survey or experiment findings using an ANOVA test may help determine if they are significant. We may use them to determine whether or not we should accept that operational change is due to high temporary turbulence during Covid 19 or not. In other words: The early vs. late answer bias was also investigated due to the survey approach favouring swift respondents. Comparing the means of two measurements from the same person, item, or related units is easy using the Paired Samples T-Test. The dependent sample t-test may be used to determine whether the mean difference between two datasets is zero. Preferred Sample T-Test results in two observations for each person or item that is tested. ANOVA, paired-sample t-tests, and multiple regression were used to evaluate hypotheses concerning the relationships between variables in operational changes.

7. Results and analysis

7.1 Data Analysis and Findings

A total of 656 (49.5%) of the 1,324 randomly chosen participants provided full replies. The descriptive data are shown in Table 2. There was little skewness or kurtosis in the ordinal or continuous (non-Boolean) variables. Excess kurtosis was found in just the firm size (-1.346) but not enough to justify the change.

Table 2: Descriptive statistics

				Skewness		Kurtosis	
Variable	***N***	**Mean**	***SD***	**Statistic**	***SE***	**Statistic**	***SE***
Financial impact magnitude	656	1.6494	.93886	-.104	.095	-.898	.191
The maximum duration of the financial impact	656	2.2637	.94536	.431	.095	-.674	.191
Operational change	656	.8567	.35064	-2.041	.095	2.172	.191
Operational change prior frequency	656	2.7424	.81537	-.088	.095	-.607	.191
Operational change degree	562	3.7900	.90278	-.289	.103	-.390	.206
Prior operations expected return	562	.7527	.43185	-1.174	.103	-.623	.206
Production change level	562	.5125	.50029	-.050	.103	-2.005	.206
Employee procedures change	562	.6833	.46561	-.790	.103	-1.381	.206
Supply chain procurement change	562	.4128	.49278	.355	.103	-1.881	.206
Supply chain procurement change	562	.3577	.47974	.596	.103	-1.651	.206

				Skewness		Kurtosis	
Variable	*N*	Mean	*SD*	Statistic	*SE*	Statistic	*SE*
Budgets change	562	.4057	.49146	.385	.103	-1.858	.206
Customer focus change	470	.5809	.49395	-.329	.113	-1.900	.225
Products/services change	470	.5234	.49998	-.094	.113	-2.000	.225
Key resources change	470	.3979	.48998	.419	.113	-1.833	.225
Cost structure change	470	.2809	.44989	.978	.113	-1.047	.225
Employees Number	656	3.8216	1.82440	-.252	.095	-1.346	.191
Financial impact (negative)	656	.6524	.47656	-.642	.095	-1.593	.191
Financial impact (positive)	656	.2302	.42127	1.285	.095	-.350	.191
Financial impact (zero)	656	.1174	.32212	2.383	.095	3.690	.191

Participant demographics were compared to data from the U.S. Census Bureau and the Bureau of Labor Statistics to make sure that the sample wasn't skewed by demographic differences. Only 56.1 percent i.e., less than 100 employees, of the participants were employed by small businesses, compared to 53.7 percent of all American businesses in 2018. Most firms in the United States are less than 20 years old, according to the Census Bureau (Bureau of Labor Statistics, 2020). It was $75,000 for participants in Q1 of 2021, compared to $76,600 in management, business and financial operations roles across all sectors (Bureau of Economic Analysis, 2021). Managers in all fields were on average 46.9 years older than the general population, which ranged in age from 45 to 60. Participants in the research were drawn from all major US regions and genders about 50 on 50, making it a representative sample of the population (Bureau of Labor Statistics, 2021a). Bias was not a concern in this research since the sample and the U.S. population were both consistent. To test for differences in mean values, ANOVA was employed to split the sample into two reaction waves: early and late. Both nonresponse and early response bias were ruled out by the statistically insignificant differences seen in the two groups.

A statistical single factor test was employed to test for common method variance since all data items were sourced from the same person. An examination of the subjective dependent and independent variables using a principal component analysis was performed for each regression to see if one fundamental component (namely, a common rater) explained an important percentage of the variation. Only 24.8 per cent to 30.3 per cent of the variation was explained by the highest loading components, indicating that common method bias was not a problem.

7.2 Temporary turbulence

Ansoff's TURB scale suggests that COVID-19 was considered to have medium-to-high external turbulence. There is a modest financial effect on the enterprises based on the average financial impact magnitude of 1.65, Figure 1 depicts

the impact's size and trajectory. COVID-19 had a favourable financial effect on 23% of respondents. Increasing demand for healthcare, medical supplies, IT systems, home delivery, and other goods and services is expected to be a factor. Aside from Energy/Utilities, all industrial sectors indicated both positive and negative effects. Firms' reactions to COVID-19 may be influenced by the direction of the effect, hence it was utilized as a control variable in the following study.

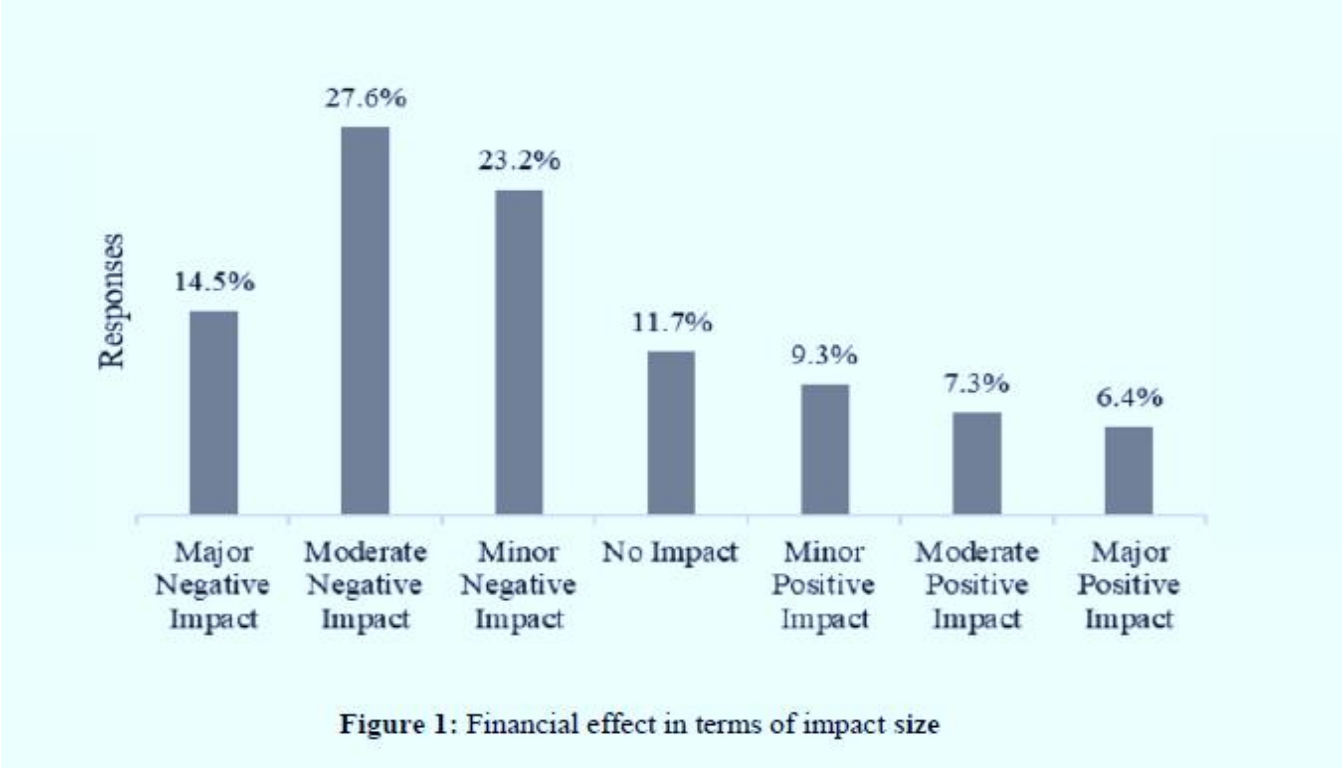


Figure 1: Financial effect in terms of impact size

Fig. 2 illustrates how long the financial effect of COVID-19 was expected to last by the companies at the start of the crisis. There were 66.2 per cent and 86.3 per cent of participants who predicted the turbulence to last six months or shorter, respectively, according to the survey results



Figure 2: Financial effects of Covid-19

7.3 Industry effects

As seen in Table 3, ANOVA findings comparing five variables across the 14 industrial sectors are shown in this table. Despite the large variations across groups, the strategic shifts were the most important. Turbulence and financial effect were greatest in the hospitality/food/beverage, arts/entertainment/recreation, and education industries. Only three industries have a higher rate of operational change: Education, Transportation and Manufacturing. Industry dummies were included as control variables, however, their inclusion in the regressions was not reported owing to space constraints (Bureau of Labor Statistics, 2021b). The study's major findings seem to be resistant to the influence of the business

Table 3: ANOVA results

Industry Sector	Count	Financial Impact Magnitude	Financial impact duration	Operational change
Arts, Entertainment, Recreation	31	2.2258	2.1935	.8710
Hotel, Food, Beverage	56	1.8214	2.3036	.8929
Retail, Wholesale Trade	71	1.6197	2.3239	.8873
Construction	41	1.7805	2.0976	.7317
Manufacturing	77	1.5584	2.2987	.9091
Technical, Professional Services	98	1.5102	2.2041	.8061
Finance or Insurance	58	1.6552	2.3103	.8793
Healthcare, Social Assistance	64	1.6563	2.3594	.9062
Education	34	1.8235	1.9412	.9706
Transportation	15	1.5333	1.8667	.9333
Real Estate	20	1.4000	2.4500	.7500

Industry Sector	Count	Financial Impact Magnitude	Financial impact duration	Operational change
Transportation	15	1.5333	1.8667	.9333
Real Estate	20	1.4000	2.4500	.7500
Energy, Utilities	7	1.2857	1.4286	.8571
Agriculture, Forestry, Mining	5	1.2000	2.4000	.6000
Government, Public Admin	10	1.2000	3.4000	.9000
Other	69	1.6377	2.3188	.7826
Total	656	1.6494	2.2637	.8567
F		1.789	2.255	1.722
Sig		.037	.005	.047
Eta		.194	.217	.190
Eta Squared		.038	.013	.036

It is described as short-term turbulence in the environment that is expected to occur shortly. Environmental turbulence has been studied in the past, but this new concept adds a time dimension. In the framework of the COVID-19 epidemic, ten hypotheses about how enterprises respond to momentary instability were tested. During times of significant temporary instability, it seems that operational change and strategic change have more in common than they do differences. The operational change was more prevalent than other sorts of changes. The degree of perceived environmental turbulence and experience with change were shown to be connected with both forms of transformation. When it came to operational and strategic transformation, however, they were driven by different factors. Firms' financial effect became a crucial consideration when looking at the degree of change they had produced. Both operational and strategic transformation will be significantly impacted by a financial effect.

However, all five operational change types were implemented, but only changes in output (or services) and budget or expenditure were linked to performance improvement. Reducing output would seem to need lower expenditures on production inputs like labour, materials, and so on. But the shift in expenditure was inversely proportional to a rise in performance. Cutbacks may be seen as a decrease in income or profit rather than a reduction in the amount of reduction (a relative improvement).

The shift in customer or market emphasis was the only sort of strategy change that was linked to an increase in productivity. It may be more cost-effective and time-efficient to sell current goods or services to new consumers during COVID-19 than it is to create new products or to change essential resources.

There were no regression models without controls, therefore they were very important. There was a correlation between firm age and performance improvement during moments of temporary turbulence, but company size had a positive influence. It's not the first time this has happened. The volatility, financial effect, estimated length of impact, and operational change in each of the ten industrial sectors were all different. According to official statistics, COVID-19 had a diverse influence on industries.

8. Conclusion

Managers should expect to see several practical applications of this research. Among the study participants, 23.0 per cent said COVID-19 had a favourable financial effect on their businesses. This serves as a reminder that even in times of high or short-lived environmental turmoil, opportunities may be found and grasped.

Only three of the nine areas of change investigated by the research were found to be connected with performance improvement during COVID-19. To meet the increased demand, companies must:

1) change the level of production or services (lower or greater),

2) adapt their financial resources (budgets or expenditures), and finally,

3) seek new consumers or markets. Managers may use these three adjustments as levers to help them survive or improve in times of crisis.

Third, the survey found that most companies planned to return to their pre-pandemic operations and strategy. There are two ways to look at this situation. Since only short-term turbulence is expected, these adjustments may have been intentionally engineered for this purpose. These modifications may not be sustainable in the long run. Six of the nine change categories were not linked to an increase in performance. Companies would have no incentive to keep making these counterproductive modifications. It is not clear whether these reversals occurred since the poll questioned the anticipation of reverting to previous operations and strategy.

8.1 Limitations

This research has two shortcomings that need to be addressed. The survey approach, on the other hand, solely collected subjective data. During COVID-19, participants were able to provide their thoughts on the financial effect, reactions, and performance of their companies. Even if the participants were managers or senior-level employees with knowledge of the company's operations and strategy, the reliability of the data may be strengthened if it is gathed rfrom or paired with archival or objective sources.

It was also overlooked that COVID-19 received government funding. $799.8 billion in the reduced interest rate and/or debt forgiveness was provided by the government's Paycheck Protection Program (PPP) between January 1, 2017, and May 31, 2019 (Bureau of Labor Statistics, 2021a). Since 87.1 per cent of the loans were less than $50,000, the responses to financial effect and other survey questions were likely influenced by the loans.

8.2 Future research directions

The theoretical consequences of transient turbulence are also recommended for further study. There should be further research into both methods of combining the length of turbulence with the intensity of turbulence. When it comes to testing and operationalizing the six-factor Ansoff model, it is also simple. Our knowledge of environmental turbulence will be improved as a result of these investigations.

Astonishingly, neither operational nor strategic change was predicted by the projected length of the financial effect in this research. This may be because the variable has a limited range. Perhaps the COVID-19 dataset was too short-lived for its intended purpose. As a result of trade wars, social upheavals, and short-term economic downturns (e.g., two to three years), the predicted longevity of partnerships may be more varied. Overall, this study's contribution is to argue that turbulence is not a time-invariant state of the environment, but rather a condition that has an impact on the operational and strategic decisions of businesses.

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Appendix

Q1. How much of a financial effect did COVID-19 have on your firm (good or negative)?

 Major negative impact

 Moderate negative impact

 Minor negative impact

 No impact.

 Minor positive impact

 Moderate positive impact

 Major positive impact.

MGT590 Action Research

MGT590 – Final Assignment

Q2. When COVID-19 first began, how long did your firm expect the effects to last?

 < 3 months

 3–6 months

 6–12 months

 > 1 year.

Q3. During COVID-19, how quickly were there external issues that needed to be addressed?

 Very frequently

 Frequently

 Moderately frequently

 Slightly frequently

 Not frequently.

Q4. Has COVID-19 had an impact on your company's internal operations? 'Operations,' in this context, refers to the company's internal procedures and activities.

 Yes

 No

Q5. As a result of this adjustment, how did your company's operations alter? You have the option of selecting several answers.

 Level of production or services

 Employee policies or procedures

 Supply chain, materials, or procurement.

 Sales, marketing, or distribution

 Budgets or spending.

Q6. How much overall operational change was there?

 Very large

 Large

 Moderate

 Small

 Very small.

Q7. During COVID-19, how big of an impact did the operational shift have on your company's performance?

 Very big

 big

 Moderate

 Small

 Very small.

Q8. When does COVID-19 come to an end, do you expect your firm to mostly return to normal operations?

 Yes

 No

Q9. Before COVID-19, how often did your organisation update its internal operations?

 Frequently

 Occasionally

 Rarely

 Never.

Q10: How big of an improvement in your company's COVID-19 results did the new approach make?

 Major improvement

 Moderate improvement

 Minor improvement

 No improvement.

 Frequently

 Occasionally

 Rarely

 Never.

Q11. Before COVID-19, how frequently was your company's business plan a subject of change?

 Frequently

 Occasionally

 Rarely

 Never.

Q13. What kind of business is yours?

 Arts, entertainment, or recreation

 Hotel, food, or beverage

 Retail or wholesale trade

 Construction.

 Manufacturing

 Technical or professional services

 Finance

 Healthcare

 Education

 Real estate.

 Government or public administration or Other.

Q14. From how long has your business been around?

 0–5 years

 6–10 years

 11–20 years

 21–50 years

 > 50 years.

Q15. What is the total number of staff members in your company?

 1–10 employees

 11–20 employees

 21–50 employees

 51–100 employees

 101–500 employees.

 > 500 employees.