Using firm-level intellectual capital to achieve strategic sustainability: examination of phenomenon of business failure in terms of the critical events

Article

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MANUSCRIPT DETAILS

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:purpose of this study is two folded. Firstly, authors have conducted a systematic investigation considering the historical pandemic periods (1991-2021) over 30 years to identify critical factors and business failure phenomenon during pandemics to explore â€œwhatâ€, â€œwhyâ€ and â€œhowâ€ factors contributing to business failure during the COVID-19 pandemic and secondly identified interlinks of these factors to explain the phenomenon of business failure strategically through various quantitative models, the critical factors were identified through previous literature and systematically reported in accordance with the Prisma statement. To remove any bias in critical factor selection, Delphi method was employed. In the second phase, m-TISM approach was adopted to understand the interrelationships of the factors to develop the hierarchy levels. Lastly, MICMAC analysis was also done to evaluate the driving and dependence powers of the critical factors. For implementation of the stated methodology, expert opinion was collected to assess the critical factors based on their knowledge and experience. A total of seven experts were involved in this study.major takeaways from the results of phase one were that External Environmental Changes was at the highest level and had the highest driving power as well as the lowest dependence power, while Inappropriate marketing techniques was at the lowest level and had the highest dependence and lowest driving powers_RESEARCH_LIMITATIONS/IMPLICATIONS__(LIMIT_100_WORDS) :No data available.ever-developing digital technologies act as a synonym to innovation and are shaping up to be the key to futureproofing any industry. However, before one can move towards developing effective strategies to mitigate any business disruptions, there is a need to assess the causes of business failures in the first place which is a major managerial implication identified through this studypaper can be considered as the first few studies to conduct a systematic investigation considering the historical pandemic periods (1991-2021) over 30 years to identify critical factors and business failure phenomenon during pandemics to explore â€œwhatâ€, â€œwhyâ€ and â€œhowâ€ factors contributing to business failure during the COVID-19 pandemic and secondly identified interlinks of these factors to explain the phenomenon of business failure strategically through various quantitative models

Table 1: Critical Factors of Business Failure

Sr. No.	Critical Factors	Explanation	References
CF1	Strategic misalignment	When a company cannot change and improve its resources to adapt quickly to external environmental conditions, it is said to be strategically misaligned. Misaligned processes stray from the demands of the current corporate environment. Failure is caused by top management's strategic activities, which result in a mismatch with environmental needs, such as diversifying, explorer, defender, analyzer, and reactor strategies.	Amankwah-Amoah et al., 2020; Heracleous & Werres, 2016; Thornhill and Amit, 2003; Mitchell & Shaver, 2002; Almeida et al., 2020; Piccarozzi et al., 2021; Crick & Crick, 2020; Dubey et al., 2021; Elsahn & Siedlok, 2021; Boehme et al., 2021; Amankwah-Amoah, 2024; Morris et al., 2024
CF2	Lack of financial management	Poor cash flow performance can result in a company's downfall. Even a successful business might experience a serious working capital issue as a result of ineffective debtor management, high inventory levels, and loans. Insufficient funds or selecting the wrong type of business loans may also lead to failure. Without sufficient expansion capital, whether from savings, equities, or bank debt, the company may not be able to expand.	Karadag, 2015; Abanis et al., 2013; Chimucheka & Rungani, 2011; Feuillet et al., 2024; Vittori et al., 2024; Wang et al., 2024
CF3	Resource misfit	The mismatch between present resources and the abilities required to neutralise or cope with the external environment is referred to as resource misfit. Failure is caused by a lack of innovation, implementation, and usage of a firm's resources and skills, such as poor production management, human resources, and a lack of links to other businesses.	Lejano & Shankar, 2013; Abanis et al., 2013; Barney, 1991; Thornhill, & Amit, 2003; Ayamga et al., 2024; Pathania & Tanwar, 2024
CF4	Organizational structure misalignment	Organizational alignment brings the company's ultimate goal of success and how executives and individual contributors generate business results closer together. This company strategy emphasises the importance of teamwork and open communication. It ensures that everyone in the company is on the same page when it comes to long and the short business objectives, procedures, and commitments. Aligning organizational structure with a strategy might help focus attention on key objectives. As a result, organizational structure mismatch is a significant cause of corporate failure.	Verner and Sarwar; 2021; Gupta et al., 2019; Ma & Wang, 2024; Koporcic et al., 2024

CF5	Institutional misfit	This misalignment can be caused by incompatibilities between business procedures, decisions, and routines and external requirements such as government rules, regulations, and guidelines. The COVID-19 outbreak has led in government moves to close borders as well as stricter standards for the hotels, airlines, and other industries. Failure occurs when established authoritative criteria for social conduct, such as rules, standards, and practices, are broken and lost legitimacy.	Amankwah-Amoah et al., 2020; Lejano & Shankar, 2013; Gammeltoft et al., 2012; Suchman, 1995; Elsbach and Sutton, 1992; Gupta et al., 2024
CF6	Lack in R&D and adoption of cutting-edge technology	Improvements to the supporting ecosystem are typically regarded as beneficial to businesses that may not have gained from or been constrained by stakeholders in the earlier environment. In combination with the resource-based viewpoint, which emphasizes the significance of resources and competencies, it is beneficial for small businesses, whose lesser negotiating power than large businesses prevent them from fully utilizing cutting-edge technologies and capabilities.	Akpan et al., 2021; Heider et al. 2020; Campbell and Park 2017; Azzone and Noci,1998
CF7	External environmental changes	Industry structural pressures and restraints such as changes in the economy, technology advancements, regulatory reforms, e.g., new market participants, increased competitor pressures, and radical innovation are known as external environment changes. These external shocks can cause businesses to collapse.	Agarwal et al., 2002; Wang & Wang, 2021; Sharma et al., 2020; Syaifullah et al., 2021; Crick & Crick, 2021; Dahlke et al., 2021; Crick, 2020; Islam et al., 2021
CF8	Inappropriate marketing techniques	Even a small company needs a consistent flow of revenue and customers and a marketing strategy for continuous profit. An innovative marketing plan will strike the correct balance between recruiting new consumers (acquisition) and establishing a foundation of a loyal customer base, depending on the nature of the business and target demographic (retention). Nevertheless, a lack of adequate marketing might lead to the business's downfall.	Ramezani & Papzan, 2021; Notash, 2014; Ritter & Pedersen, 2024; Ryoo et al., 2024
CF9	Inefficiency in mobilizing funds for the business	Many micro-business entrepreneurs fall into the trap of running out of funds or not comprehending the costs of starting and sustaining a firm. Furthermore, not every small businessperson has the cash to meet the expenditures connected with launching a new venture. As	Dvorsky et al., 2021; Okpara & Wynn, 2007; Pissarides, 1999; Adžić & Al-Mansour, 2021; Sheresheva et al., 2021; Barykin et al., 2021; Hsieh et al., 2020;

		a result, inefficiencies in raising cash for the firm are a crucial problem.	Dankiewicz et al., 2020; Chatterjee et al., 2021; Fuciu, 2020; Zhao et al., 2024; Gali et al., 2024

Table 2: Experts details

Experts	Area of Industry	Academic Background	Work Experience in years	Areas of Expertise
E1	Automation	B-Tech	12	Production
E2	Third Party Services	MS; BBA	8	Customer Service Role
E3	Hospitality	MBA	17	Customer Service Role
E4	IT Services	B-Tech; BBA	11	Software Development
E5	Manufacturing	BSc; MSc	15	Engineer
E6	Automation	B-Tech	6	Design
E7	Hospitality	BBA	20	Chef

Table 3: Structural Self Interaction Matrix (SSIM)

Critical Factors	CF1	CF2	CF3	CF4	CF5	CF6	CF7	CF8	CF9
CF1	-	Y	Y	N	N	N	N	N	N
CF2	Y	-	N	N	N	N	N	Y	N
CF3	N	Y	-	N	N	N	N	Y	N
CF4	N	Y	N	-	N	N	N	N	N
CF5	Y	Y	N	N	-	N	N	N	Y
CF6	N	N	N	N	N	-	N	N	N
CF7	Y	Y	N	Y	Y	Y	-	N	Y
CF8	N	N	N	N	N	N	N	-	N
CF9	N	Y	Y	Y	N	Y	N	N	-

Table 4: Initial Reachability Matrix

Critical Factors	CF1	CF2	CF3	CF4	CF5	CF6	CF7	CF8	CF9
CF1	-	1	1	0	0	0	0	0	0
CF2	1	-	0	0	0	0	0	1	0
CF3	0	1	-	0	0	0	0	1	0
CF4	0	1	0	-	0	0	0	0	0
CF5	1	1	0	0	-	0	0	0	1
CF6	0	0	0	0	0	-	0	0	0
CF7	1	1	0	1	1	1	-	0	1
CF8	0	0	0	0	0	0	0	-	0
CF9	0	1	1	1	0	1	0	0	-

Table 5: Final Reachability Matrix

Critical Factors	CF1	CF2	CF3	CF4	CF5	CF6	CF7	CF8	CF9
CF1	-	1	1	0	0	0	0	*1**	0
CF2	1	-	*1**	0	0	0	0	1	0
CF3	*1**	1	-	0	0	0	0	1	0
CF4	*1**	1	0	-	0	0	0	*1**	0
CF5	1	1	*1**	*1**	-	*1**	0	*1**	1
CF6	0	0	0	0	0	-	0	0	0
CF7	1	1	*1**	1	1	1	-	*1**	1
CF8	0	0	0	0	0	0	0	-	0
CF9	*1**	1	1	1	0	1	0	*1**	-

Table 6: Level partitioning of the critical factors

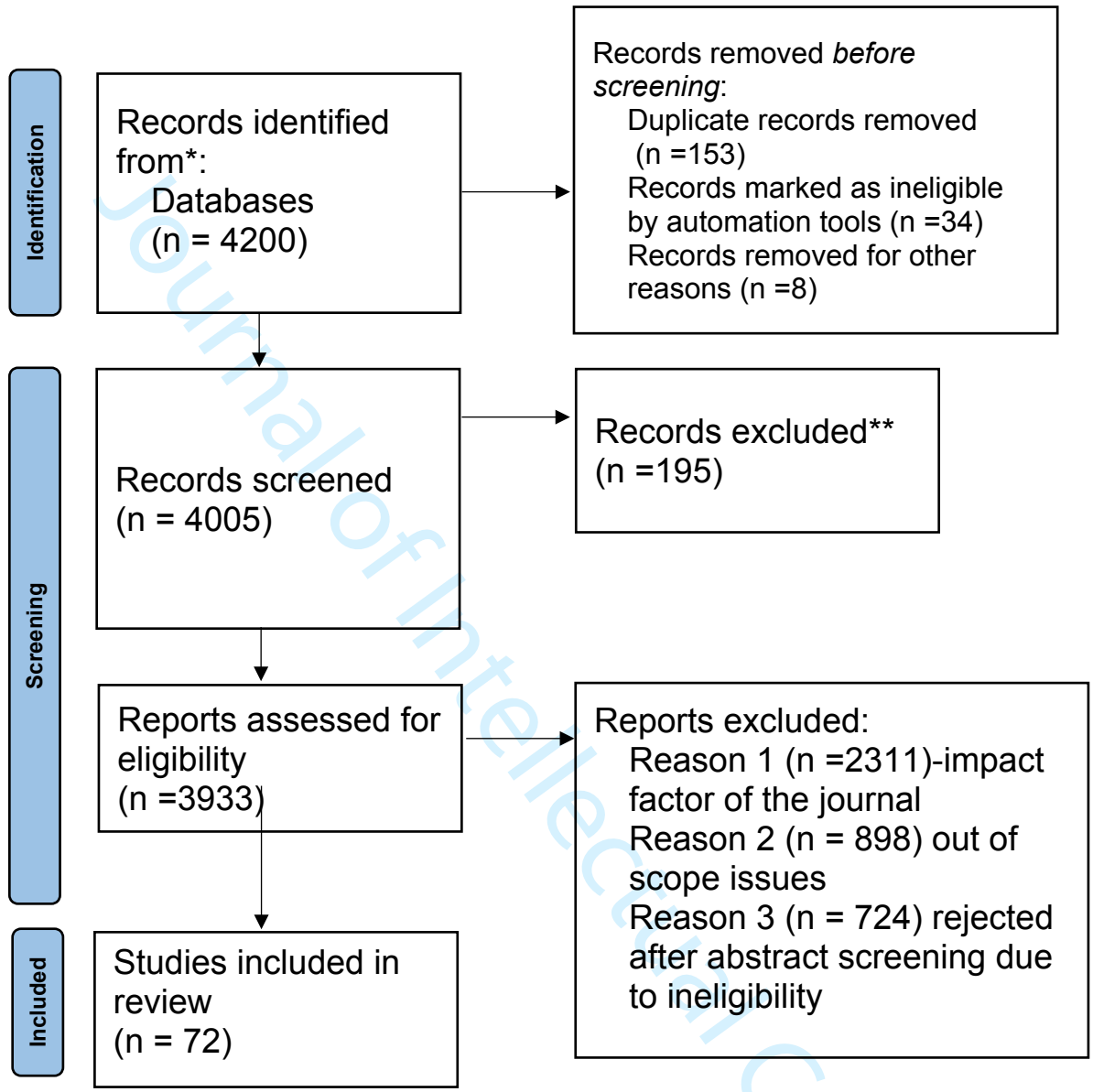
Critical Factors	Reachability Set	Antecedent Set	Intersection Set	Level
CF1	1, 2, 3	1,2,3,4,5,7,9	1,2,3	II
CF2	1, 2, 3	1,2,3,4,5,7,9	1,2,3	II

CF3	1, 2, 3	1,2,3,4,5,7,9	1,2,3	II
CF4	4	4,5,7,9	4	III
CF5	5	5,7	5	V
CF6	6	5,6,7,9	6	I
CF7	7	7	7	VI
CF8	8	1,2,3,4,5,7,8,9	8	I
CF9	9	5,7,9	9	IV

Table 7: Binary Interaction Matrix

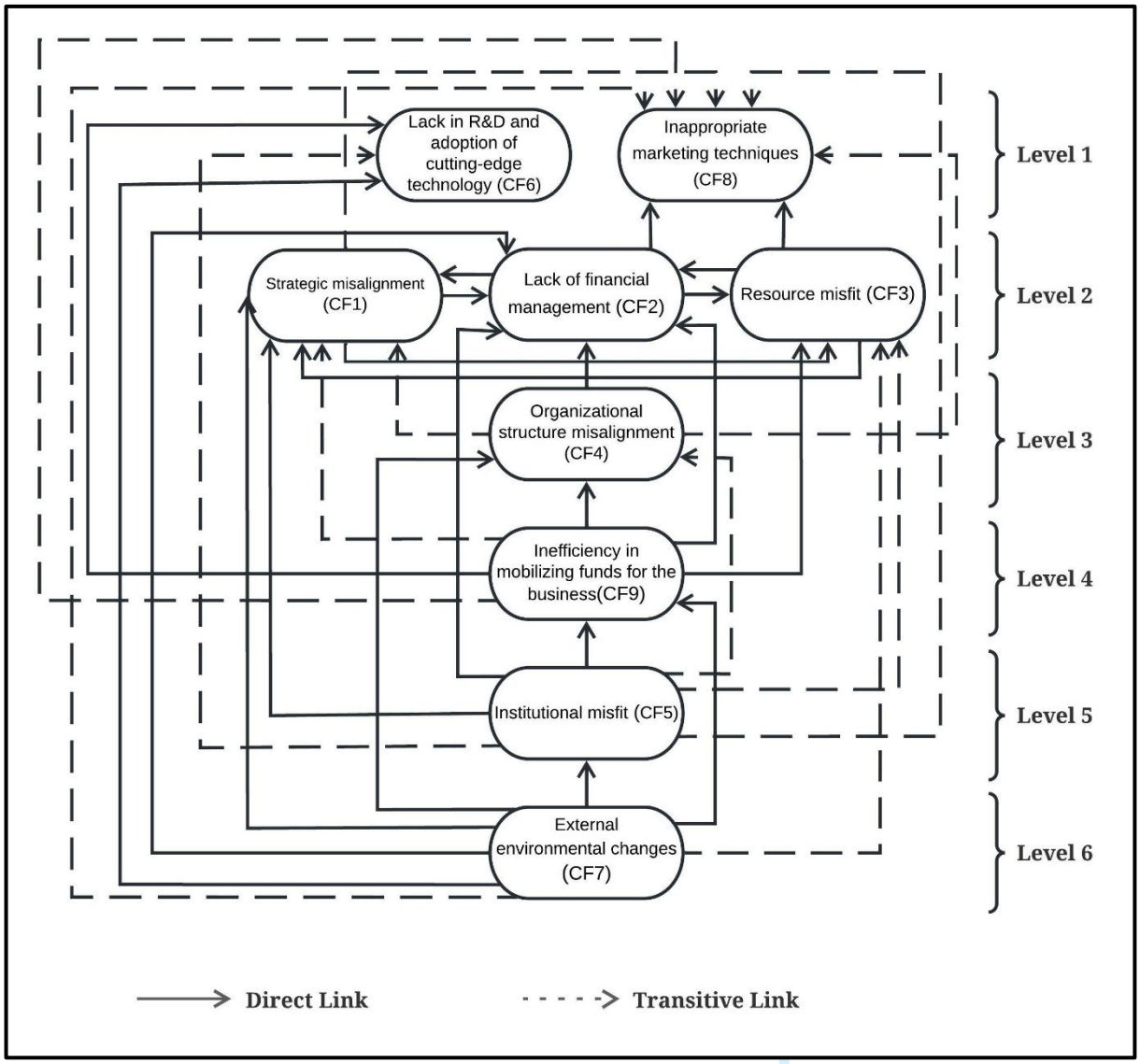
Critical Factors	**CF1**	**CF2**	**CF3**	**CF4**	**CF5**	**CF6**	**CF7**	**CF8**	**CF9**	**Driving Power**
CF1	-	1	1	0	0	0	0	*1*	0	4
CF2	1	-	*1*	0	0	0	0	1	0	4
CF3	*1*	1	-	0	0	0	0	1	0	4
CF4	*1*	1	0	-	0	0	0	*1*	0	4
CF5	1	1	*1*	*1*	-	*1*	0	*1*	1	8
CF6	0	0	0	0	0	-	0	0	0	1
CF7	1	1	*1*	1	1	1	-	*1*	1	9
CF8	0	0	0	0	0	0	0	-	0	1
CF9	*1*	1	1	1	0	1	0	*1*	-	7
Dependence	7	7	6	4	2	4	1	8	3	42/42

Figure 1: Article Selection Process by PRISMA approach



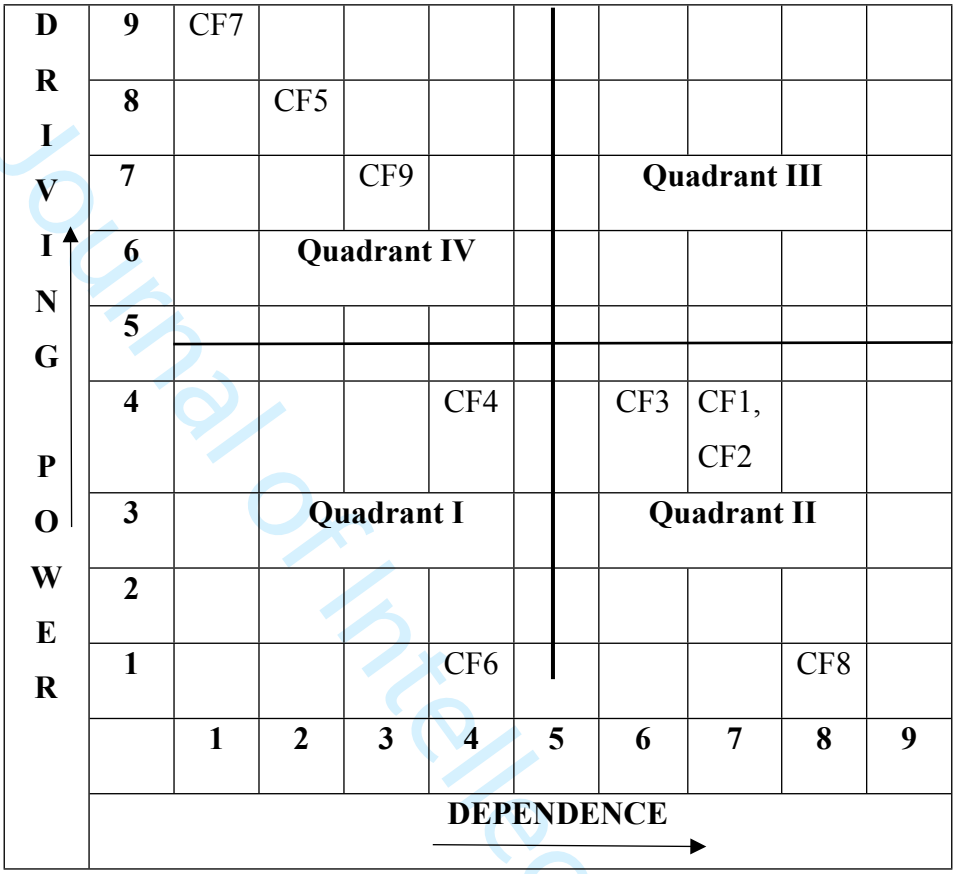
Source: Developed by authors

Figure 2: Digraph and m-TISM model



Source: Developed by authors

Figure 3: MICMAC Analysis



Source: Developed by authors

Using firm-level intellectual capital to achieve strategic sustainability: Examination of phenomenon of business failure in terms of the critical events

Abstract

Purpose- The purpose of this study is two folded. Firstly, authors have conducted a systematic investigation considering the historical pandemic periods (1991-2021) over 30 years to identify critical factors and business failure phenomenon during pandemics to explore "what", "why" and "how" factors contributing to business failure during the COVID-19 pandemic and secondly identified interlinks of these factors to explain the phenomenon of business failure strategically through various quantitative models

Design/methodology/approach: Firstly, the critical factors were identified through previous literature and systematically reported in accordance with the PRISMA guidelines. To remove any bias in critical factor selection, Delphi method was employed. In the second phase, m-TISM approach was adopted to understand the interrelationships of the factors to develop the hierarchy levels. Lastly, MICMAC analysis was also done to evaluate the driving and dependence powers of the critical factors. For implementation of the stated methodology, expert opinion was collected to assess the critical factors based on their knowledge and experience. A total of seven experts were involved in this study.

Findings: Two major takeaways from the results of phase one were that External Environmental Changes was at the highest level and had the highest driving power as well as the lowest dependence power, while Inappropriate marketing techniques was at the lowest level and had the highest dependence and lowest driving powers

Practical implications: The ever-developing digital technologies act as a synonym to innovation and are shaping up to be the key to futureproofing any industry. However, before one can move towards developing effective strategies to mitigate any business disruptions, there is a need to assess the causes of business failures in the first place which is a major managerial implication identified through this study.

Originality: This paper can be considered as the first few studies to conduct a systematic investigation considering the historical pandemic periods (1991-2021) over 30 years to identify critical factors and business failure phenomenon during pandemics to explore "what", "why" and "how" factors contributing to business failure during the COVID-19 pandemic and secondly identified interlinks of these factors to explain the phenomenon of business failure strategically through various quantitative models

Keywords: Business Failure; COVID 19; Factors; Systematic Investigation; Qualitative model

1. Introduction

When considering the firm level intellectual capital, it is necessary to understand that it plays a vital role in business failure and business growth (Mellahi and Wilkinson, 2004). For example, it is instructive to consider two competing perspectives when researching the reasons why businesses fail: deterministic views and voluntaristic views (Mellahi and Wilkinson, 2004). Several factors contribute to the failure of a business, including intellectual capital, and these factors are complex and multifaceted. In order to determine whether a business will succeed or fail, intellectual capital, which includes human capital (skills, knowledge, and experience of employees), structural capital (processes, patents, databases, and corporate culture), as well as relational capital (customer relationships and networks), plays a crucial role. It has been shown that a lack of skilled and knowledgeable employees can result in poor decision-making and a stagnation of innovation. If businesses fail to invest in their workforce, they may be unable to adapt to market changes that may lead to failure in the long run. In order for a business to grow, it is essential to have efficient and scalable processes. It is common for companies lacking strong structural capital to face operational inefficiencies and are unable to compete effectively on the market.

The main motivation of this study is that this study is presenting some of the first systematic studies that have conducted a systematic analysis of the historical pandemic periods (1991-2021) over the past 30 years to identify critical factors as well as business failure phenomena during pandemics. Our goal is to explore "what", "why" and "how" factors contributing to business failure during the COVID-19 pandemic, and secondly to identify the interconnectedness among these factors to explain the phenomenon of business failure strategically using a variety of quantitative models.

The COVID-19 pandemic has profoundly impacted intellectual capital across multiple dimensions, including human, structural, and relational capital (Amankwah-Amoah *et al.,* 2021; Gourinchas *et al.*, 2020; Razumovskaia *et al.,* 2020; Taqi *et al.,* 2020). The COVID-19, however, continues to be a testament to the failure of business models that were rigid in nature as well as exhibited a lack of innovative thinking that contributed to the failure. Hence, arises the need to asses the causes and factors that have led to mass business failures worldwide during the COVID-19 pandemic. More recently we see research on the COVID-19 pandemic and further worldwide crises, which might generate corporate failures (Amankwah-Amoah *et al.,* 2021; Razumovskaia, *et al.,* 2020). This study attempts to address two critical questions as first one is about "what", "why" and "how" factors contributing to business failure during the COVID-19 pandemic and second one being factors contributing to business failure during the COVID-19 pandemic. This study becomes unique by being because apart from applying the "what", "why" and "how" principles, this study also applies MICMAS analysis and TISM to identify the factors contributing to business failure during the COVID-19 pandemic. Hence this leads to the formation of the main research question of; ***RQ 1: "what", "why" and "how" factors contributing to business failure during the COVID-19 pandemic?***

We address the main research question through two sub-research questions with sub-sections. Firstly, we conduct a systematic investigation considering the historical pandemic periods (1991-2021) over 30 years to identify critical factors and business failure phenomenon during pandemics to explore "what", "why" and "how" factors contributing to business failure during the COVID-19 pandemic. This section addresses the sub-research question of; ***RQ1(1): "what are the factors contributing to business failure during the COVID-19 pandemic"*** Secondly, we identify interlinks of these factors to explain the phenomenon of business failure strategically through various quantitative models. To resolve the first question, we performed a systematic review of literature of relevant studies that have explored factors associated to business failure during pandemics and test them using Delphi method. Further this, interlinks will be investigated through Interpretive Structural Modelling (ISM) followed by modified total interpretive structural modelling (m- TISM) to understand the phenomenon of business failure in depth (Manjunatheshwara and Vinodh, 2018; Issac and Baral, 2020). The rationale for using m-TISM framework is that it will help in answering "why" and "how" aspects of business failure and MICMAC analysis will assist in bifurcating the critical factors into dependent, independent, autonomous and control variables (Manjunatheshwara and Vinodh,

2018; Issac and Baral, 2020). This section addresses the sub-research question of; ***RQ2: "How" and "Why" these factors contributing to business failure during the COVID-19 pandemic"***

The next section discusses the systematic investigation considering the historical pandemic periods (1991-2021) to identify critical factors and business failure phenomenon during pandemics. Consequently, the second section is devoted to systematic investigation to identify the critical factors and business failure phenomenon. The third section presents the method and summary findings of the literature review. The third section shows the TISM and MICMAC analysis respectively. The fourth section and fifth section underline the implications, future research perspectives, limitations, and conclusion.

2. Methodology

This section showcases the methodology adopted for selection of the critical factors and their subsequent interrelationship evaluation. Firstly, the critical factors were identified through previous literature and systematically reported in accordance with the PRISMA statement. To remove any bias in critical factor selection, Delphi method was employed. In the second phase, m-TISM approach was adopted to understand the interrelationships of the factors to develop the hierarchy levels. Lastly, MICMAC analysis was also done to evaluate the driving and dependence powers of the critical factors. For implementation of the stated methodology, expert opinion was collected to assess the critical factors based on their knowledge and experience. A total of seven experts were involved in this study. The details of the experts are provided in Table 2.

The authors systematically reviewed the current literature through a web of science database using the 'Publish or Perish' by covering journal articles from 1991 to December 2021. Several precedent reviews can be used to further justify the chosen timeline of 30 years (Gilal *et al.,* 2019; Pomirleanu *et al.,* 2013; Willis *et al.,* 2017). We used the following keywords/topics: "Business Failure" OR "Firm Failure" OR "intellectual capital" AND COVID-19 or "Failure Factors" OR "entrepreneurship failure" AND business organisations/ companies/firms/organisations (Topic) on critical events / crisis, covid, pandemic/ historical pandemics/disaster/natural disasters (Topic) OR "Critical Factors" OR "Intellectual capital loss" AND Business Failure during COVID-19 (Topic) or "Barriers" AND towards business success (Topic) or "Hurdles" AND towards business success (Topic) or "Pandemic" AND

impact on business success/ failure during historical pandemics/disaster/ natural disasters (Topic) or COVID-19 impact on business/companies/firms/ organisations (Topic).

We have included all relevant articles in the business or management categories databases. The following categories were used to refine our search process among the Web of Science database: (business or management) with the following indexes included: Sci-expanded version, SSCI, A&HCI, CPCI-S, CPCI-SSH, and BKCI-S with document type including Interdisciplinary or Business management and marketing (Web of Science Categories). Based on our searching process, we realized that very few studies have focused on identifying the business failure factors during pandemics. The results were all based on peer-reviewed studies published in English only.

Based on the initial findings a total of 4200 articles have been identified. Due to out-of-scope issues, several publications were excluded from consideration for the evaluation. Afterwards, authors selected a timeframe for the screening process to perform this study from 1991 to 2024. The other inclusion criteria for screening included for this study are "category for the study is a business management, and accounting," "document type as an article," "source type as a journal," and "language considered as English." The third step includes in this study is eligibility, i.e., to review the title and abstract with full-text review to assess the eligibility. In this step, all the articles have been excluded which are not related to the context of the study after a discussion round with all the other authors. Finally, after reading the identified articles, the authors selected the publications with focus on intellectual capital-based business failures. The appropriate article selection process from identification to inclusion is represented in Figure 1 as follows.

Insert < Figure 1> here

Hence, the qualified 72 studies include journal papers. These were summarised under four sections as the source, focus, identified variable, and tested components using Table 1 (Appendix). From the finalized paper on the inclusion process, the authors were able to identify the nine critical factors considering business failure for further analysis.

Tables 1 represents the description of identified business failure critical factors with their supporting literature.

Insert < Table 1> here

Insert <Table 2> here

The next section demonstrates the m-TISM analysis as follows.

2.1. m-TISM approach

The m-TISM approach is an upgrade from the ISM and TISM methods (Sushil, 2017). The ISM model helps in creating an interpretive hierarchical model to provide answers for the "what" questions regarding the elements and their relationships (Sushil, 2017). However, the ISM model did not explain the “how” and “why” elements' interrelationships exist (Sindhwani and Malhotra, 2017). To solve this issue, TISM was introduced as a modified approach to ISM (Behl *et al.,* 2019), helping us to understand the "why" and “how” question. In TISM, the relationship between every element is identified (Sindhwani and Malhotra, 2017) and transitive relations are also retained. The m-TISM further builds on the TISM model and helps in answering the 3W-H questions, that is, "what", "why", "when" and "how" (Sindhwani and Malhotra, 2017). The steps involved in m-TISM approach are discussed below:

Step 1 – Identification of critical factors

The critical factors have already been identified from a scoping review of the previous literature and systematically reported using PRISMA statement. The 9 identified critical factors are listed in Table 3.

Step 2 – Inter-relationship among the critical factors

Expert opinion is recorded by circulating a questionnaire survey among them to get answer to questions regarding the interrelationships of the critical factors. This is a very important step as any mistake here can disrupt the entire outcome.

Step 3 – Relationship interpretation

While recording the interrelationship of the critical factors, it is also necessary to know "why" the expert thinks that the relationship exists. This step helps differentiate the m-TISM and TISM from ISM method.

Step 4 – Construction of pair-wise comparison matrix

The experts' input is used to make a structural self-interaction matrix (SSIM) in the form of Yes-No (Y/N) table. If six out of seven experts agree to the existence of the relation, only then it is accepted. Table 3 shows the SSIM for the current study.

Insert < Table 3> here

Step 5 – Initial reachability matrix

The inputs from SSIM shown in the previous step are used to make an initial reachability matrix by replacing the alphabets' Y' and 'N' with numerical values' 1' and '0' respectively. The initial reachability matrix is presented in Table 4.

Insert < Table 4> here

Step 6 – Final reachability matrix with transitivity check

Transitivity rule is applied on the initial reachability matrix from the previous step. The transitivity rule states that if there exists any relation between 'i' and 'j' and there also exists a relation between 'j' and 'k' then, there must exist a relation between 'i' and 'k' as well. In the present study, if any transitive relation is found, the '0' is replaced with '1*' and represented in the form of final reachability matrix with transitivity check in Table 5. The integrated pair comparison and transitivity check are represented graphically in Figure 2.

Insert < Figure 2> here

Insert < Table 5> here

Step 7 – Level partitioning of the critical factors

The level partitioning step reveals the impact level of the critical factors. It is done by identifying the reachability and antecedent sets from the final reachability matrix. The reachability sets are identified from the rows and antecedent sets are taken from the columns. Thereafter, the intersection sets are found. The critical factors having the same reachability and intersection sets are assigned level 1 and the activity is repeated by removing the critical factors already assigned a level during further iterations. The critical factors assigned level 1 have a very low impact level and it increases as we move to higher levels. All the critical factors with their assigned levels are shown in Table 6.

Insert < Table 6> here

Step 8 – Digraph construction

The digraph is constructed with the help of levels assigned during level partitioning of critical factors (Table 6) and final reachability matrix after transitivity check (Table 5). The direct links are shown with continuous lines while the transitive links are drawn with dotted lines. Also, if any critical factors on the same level are having transitive relationship, it is represented as a direct relation with continuous lines. The digraph has been represented with m-TISM model in Figure 3. The m-TISM model is formed after validation and acceptance of the transitive links as shown in Figure 3. The dark line represents the direct link between the factors, while the dotted line represents the transitive link between the factors.

Step 9 – Binary interaction matrix

Before moving to the m-TISM model, it is necessary to validate the transitive relations. This is done by again taking inputs from the experts and if consensus is reached regarding the transitive relations, then they are accepted and the '1*' get replaced by '*1*' in italics to from the binary interaction matrix as shown in table 7. In this case, all the transitive links were accepted.

Insert <Table 7> here

Step 10 – m-TISM model

The m-TISM model is formed after validation and acceptance of the transitive links as shown in Figure 3.

Insert < Figure 3> here

The next section demonstrates the detailed MICMAC analysis of the study as follows.

2.2. MICMAC analysis

MICMAC analysis builds on the results of m-TISM model by categorizing the critical factors into four quadrants by finding out their dependence and driving powers. The driving and

dependence powers are found by taking the sum of all the links found during step 9. Table 7 showcases the driving and dependence powers of the critical factors.

The MICMAC analysis graph is showcased in Figure 3 along with all the four quadrants. The driving power is represented on the y-axis while the dependence on the x-axis.

Insert < Figure 3> here

Quadrant I – Autonomous critical factors

The critical factors in this quadrant have low driving power and dependence and thus are not usually linked to other factors and are dealt separately. In this study, CF4 (Organizational structure misalignment) and CF6 (Lack in R&D and adoption of cutting-edge technology) come under this quadrant.

Quadrant II – Dependent critical factors

The critical factors in this quadrant have very high dependence but low driving powers, making them less impactful and more demanding. In this study, CF1 (Strategic misalignment), CF2 (Lack of financial management), CF3 (Resource misfit) and CF8 (Inappropriate marketing techniques) were identified as dependent critical factors.

Quadrant III – Linkage critical factors

The critical factors that have high driving power and high dependence are called linkage factors. The factors under this quadrant will not only have a high level of impact on other factors but also get affected by them.

Quadrant IV – Driving critical factors

The critical factors that have high driving powers and low dependence are called driving factors and are the most crucial factors as working on them will affect other factors drastically. In this study, CF5 (Institutional misfit), CF7 (External environmental changes) and CF9 (Inefficiency in mobilizing funds for the business) have been identified as driving critical factors. From the MICMAC analysis, we get to know that CF8 (Inappropriate marketing techniques) has very low driving power and high dependence, making it less impactful.

3. Thematic analysis

A business failure occurs when a company is incapable of existing as a viable entity and is obliged to halt business and fire its employees (Amankwah-Amoah *et al.,* 2021). The literature described that there are two sorts of business failures: firstly, which are abrupt, unanticipated, and difficult to mitigate, and secondly, which are prolonged and spaced by various events, ideas, and actions that eventually cause failure (D'Aveni, 1989; Fleisher and Wright, 2010). Also, the literature shows that the main perspectives behind the business failures are deterministic and voluntaristic. The deterministic perspective links business closure to reasons beyond the firm's control. Changes in rules, technological change, political manipulation, competitiveness, and financial disaster are examples of environmental issues over which management has limited influence (Amankwah-Amoah *et al.,* 2021). This section demonstrated nine major themes as strategic misalignment; lack of financial management; resource misfit; organizational structure misalignment; institutional misfit; lack in R&D and adoption of cutting-edge technology; inefficiency in mobilizing funds for the business inappropriate marketing techniques and external environmental changes.

3.1 Theme 1: Structural capital representing the strategic misalignment

There is a term used in the business world to describe companies that are unable to adapt fast enough to their external environment, a situation known as strategic misalignment (Amankwah-Amoah, 2024; Morris *et al*., 2024). A company's structural capital can be defined as its processes, systems, intellectual property, databases, and organizational culture. Structured capital is misaligned when it is not aligned with a company's overall strategy, goals, and market environment when there is a strategic misalignment (Amankwah-Amoah, 2024; Morris *et al.,* 2024). In addition to diversifying, explorer, defender, analyser, and reactor strategies, top management's strategic activities result in a mismatch with environmental needs (Elsahn and Siedlok, 2021). The literature analyses strategic misalignment in terms of mergers and acquisitions (Mitchell and Shaver, 2002; Almeida *et al.,* 2020; Piccarozzi *et al*., 2021); co-optation activities (Crick and Crick, 2020); alliance management capabilities and artificial intelligence-based supply chain analytics.

The COVID-19 is discussed within the scope of management literature in order to examine perspectives and gaps and to identify future research areas (Amankwah-Amoah, 2024; Morris *et al*., 2024; Piccarozzi *et al.,* 2021). Almeida *et al.,* (2020) studied the impact of digital transformation processes in three business areas: marketing and sales, and technology. Crick

and Crick (2020) looked at how organizations have used coopetition in response to COVID-19 using resource-based theory and the relational approach. The study showed that practitioners must balance risks and rewards in coopetition activities. For example, firms should decide whether to continue collaborating with their competitors, or whether to return to operating under individualistic business models after the pandemic has ended (Crick and Crick, 2020). In addition, the regulatory framework can be adjusted to increase fuzziness in the product design (Elsahn and Siedlok, 2021) and cluster alignment (Abanis *et al*., 2013) in order to address the longer-term survival patterns for existing products or sales in the future.

3.2 Theme 2: Individual capital representing the lack of financial management

Accordingly, the primary objective of financial managers is to maximize the long-term wealth of shareholders (Feuillet *et al*., 2024; Vittori *et al*., 2024; Wang *et al*., 2024). The complexity of this objective dictates the conflict between the financial manager and all other functional centres within the company, even the owner (Karadag, 2015; Chimucheka and Rungani, 2011). Karadag (2015), from the standpoint of strategic management, examined the involvement of financial management and identified specific barriers and occurrences that shape the capabilities of Turkish SMEs (Feuillet *et al*., 2024; Vittori *et al*., 2024; Wang *et al*., 2024). Abanis *et al.,* (2013) have studied the practices of financial management among Small and Medium Enterprises (SMEs) in certain regions of Western Uganda, revealing that the SMEs need access to financing that will enable them to run their businesses at a reasonable cost of borrowing (Vittori *et al*., 2024; Wang *et al*., 2024). Similarly, SMEs face greater challenges to survival and success due to the lack of access to bank financing and due to lack of financial management knowledge among managers (Chimucheka and Rungani, 2011**)**.

3.3 Theme 3: Structural capital representing the resource misfit

Processes that are outdated, overly complex, or not well suited to current business needs. Reduces productivity, increases operational costs, and causes bottlenecks. Dissatisfied customers can also result from inefficient processes. The mismatch between present resources and the abilities required to neutralise or cope with the external environment is referred to as resource misfit (Ayamga *et al*., 2024; Pathania and Tanwar, 2024). Failure is caused by a lack of innovation, implementation, and usage of a firm's resources and skills, such as poor production management, human resources, and a lack of links to other businesses (Ayamga *et al*., 2024; Pathania and Tanwar, 2024).

Numerous researchers have examined empirical indicators that can be used to assess the potential for firm resources to generate sustained competitive advantage-value, rareness, imitability, and substitutability (Lejano and Shankar, 2013; Abanis *et al.,* 2013; Barney, 1991). Strategic resource distribution among firms is heterogeneous, and understanding these differences will help firms survive pandemics (Lejano and Shankar, 2013)

3.4 Theme 4: Individual capital representing the organizational structure misalignment

In order to achieve business results, an organization must align its goal of success with how executives and individual contributors achieve it (Ma and Wang, 2024; Koporcic *et al*., 2024). An important element of the company's strategy is open communication and teamwork (Verner and Sarwar, 2021; Gupta *et al*., 2019). Therefore, organizational structure mismatches are a major cause of corporate failure (Suchman, 1995; Elsbach and Sutton, 1992; Gupta *et al*., 2024). For example, Gupta *et al*., (2019) conducted the first comprehensive and systematic literature review on failed business projects. In the past, there has been little effort to examine the similarities and differences between project monitoring and performance assessment approaches across different scenarios (e.g., process improvement, research and development, etc). It has been argued by some researchers that a clear strategy is only a necessary condition to compete successfully and is not a sufficient condition. In order to gain a sustainable competitive advantage and a superior performance, a company's strategy needs to be aligned with its contextual variables (Suchman, 1995; Elsbach and Sutton, 1992; Gupta *et al*., 2024)

3.5 Theme 5: Structural capital representing the institutional misfit

There may be institutional misalignment when business procedures, opinions, and practices are incompatible with government rules and guidelines (Lejano and Shankar, 2013; Gammeltoft *et al*., 2012). As a result of the COVID-19 outbreak, the government closed borders and introduced stricter standards for hotels, airlines, and other industries (Lejano and Shankar, 2013; Gammelt *et al*., 2012). In social systems, failure occurs when established authoritative criteria for social conduct, such as rules, standards, and practices, are violated and no longer valid (Gammeltoft *et al*., 2012; Suchman, 1995; Elsbach and Sutton, 1992). According to Lejano and Shankar (2013), an institutional contextualism theory explains how actors adapt policy designs in response to particular circumstances. A broader institutional framework may provide a better understanding of outward FDI from emerging economies, according to Gambeltoft *et al*., (2012).

Researchers have identified three primary sources of legitimacy: pragmatic, based on audience self-interest; moral, based on normative approval; and cognitive, based on comprehensibility and assumed validity (Suchman, 1995). For example, by decoupling illegitimate activities from regulatory structures, as well as institutional conformity, spokespersons were able to use impression management strategies that shifted attention away from controversial activities and toward broader goals endorsed by the broader constituency (Suchman, 1995; Elsbach and Sutton, 1992; Gupta *et al*., 2024) with SMEs and new firms are particularly vulnerable to resource constraints and vulnerability during early stages of development (Gupta *et al*., 2024).

3.6 Theme 6: Individual capital representing the lack in R&D and adoption of cutting-edge technology

As part of their efforts to be the lowest cost producers, cost leadership companies use standardized tasks and production processes, emphasize tight cost control, produce standardized products, and benefit from economies of scale to ensure their competitiveness (Akpan *et al*., 2021; Heider *et al*. 2020). By contrast, product differentiation companies aim to produce innovative products by heavily investing in research and development activities and also offer superior customer service to their customers in order to be able to charge higher prices to them (Gupta *et al*., 2024). According to Suchman (1995), although a company is pursuing a strategy of product differentiation, it cannot ignore the efficiency and cost factors associated with such a strategy. In order to reduce costs, a business must use technologies such as social business creation for remote operations, and the Internet of Things (IoT) (Akpan *et al.,* 2021). Among the characteristics of German Mittelstand firms, Heidi *et al.,* (2021) examined whether they moderate the relationship between dynamic capabilities and business model innovation.

Investments in R&D and the adoption of cutting-edge technology are crucial to ensuring a company's competitiveness, driving innovation, and ensuring its long-term success in the future. There is a risk that companies that fail to pay attention to these areas will fall behind their competitors, lose market relevance, and ultimately face business failure as a result. Diverse aspects of business model innovation require specific capabilities (Heider *et al.,* 2021). Campbell and Park (2017) identified several factors such as self-interest, corporate social responsibility, and resource-based strategies that could be used to predict small business performance across a wide variety of industries, including retailing and service-based industries. Several factors contribute to small business success, including social capital, entrepreneurial orientation, and intellectual

capital, as well as the strategic management of the community as a stakeholder (Campbell, and Park, 2017). In order to enhance their operational efficiency, meet the evolving needs of their customers, and establish a sustainable competitive advantage, businesses should prioritize innovation and technology adoption. Analysing current patterns of environmental behaviour adopted by businesses, Dahlke *et al.,* (2021) ; Syaifullah *et al.,* (2021) and examine whether the ecological challenge should be viewed as a significant source of change, meaning identifying specific implications for the corporate system of environmental entrepreneurship, and the basic conditions for the implementation of innovative environmental technologies.

3.7 Theme 7: Structural capital representing the external environmental changes

In order for businesses to be able to respond quickly to these changes, they need agile processes and structures. It is possible for businesses that are not able to adjust their product offerings, pricing strategies, or marketing approaches to lose market share. The rise of e-commerce has forced traditional retailers, for instance, to overhaul their distribution and sales channels as a result of the rise of e-commerce (Crick, 2020; Islam *et al*., 2021). The external environment changes (Agarwal *et al*., 2002; Wang and Wang, 2021) are structural pressures and restraints on an industry, such as changes in the economy, technological advancements, regulatory reforms, e.g., the introduction of new market participants, increased competitive pressure, and radical innovation (Sharma *et al*., 2020). It has been shown that external shocks can lead to the collapse of a business (Wang and Wang, 2021); Sharma *et al*., 2020). A structured literature review has been conducted by Wang and Wang (2021) with an emphasis on robotics during the time of the pandemic. According to their findings, artificial intelligence, 5G, big data, wireless sensor networks, and human-robot collaboration are among the most important technologies for the future. As a result of the analysis, it was able to demonstrate how the pandemic encourages companies to innovate and overcome the resistance to digitalization that companies have in the past (Wang and Wang, 2021)

The authors of Sharma *et al*., (2020) identified the types of uncertainty, their antecedents, and their consequences in business firms during crisis periods (Syaifullah *et al.,* 2021; Crick and Crick, 2021; Dahlke *et al.,* 2021; Crick, 2020 ; Islam *et al.,* 2021). The current crisis has brought into sharp focus the importance of informational uncertainty, as well as the growing influence of direct communication and social media, with inconsistent news and information from different sources causing confusion and panic (Crick and Crick, 2021; Dahlke *et al.,* 2021; Islam *et al.,* 2021). Similarly, Syaifullah *et al.,* (2021) examined the effects of social media marketing on the performance of micro-, small- and medium-sized enterprises during the COVID-19 pandemic. The use of social media for marketing has a positive effect on the

performance of MSMEs, particularly with respect to increasing sales, customer relationships, productivity, and creativity (Syaifullah *et al.,* 2021). Crick and Crick (2021) examined whether the level of competitive intensity and the level of competitive aggression negatively influence the relationship between competition and financial performance. While aggressive competition has a negative moderation effect, intense competition has a positive moderation effect (Crick and Crick, 2021). Dahlke *et al.,* (2021) examined the role of innovations as social mechanisms to reconcile conflicting issues in business enterprises.

In this article, a novel approach is presented to characterize large-scale innovative activities through text mining, which uses a theoretical framework to identify pressing societal needs during a crisis. Using the moderating roles of industry experience and internationalization, Crick (2020) examined the relationship between coopetition-oriented mindsets and coopetition-oriented behaviours. Cooperation-oriented attitudes and behaviours had a positive and significant relationship (Crick, 2020). In the current economic climate, the proposed conceptual model of Islam *et al.,* (2021) can serve as an important tool for policymakers and owners of SMEs to understand how adjustments to identified initiatives may be essential to a company's survival. Small and medium-sized enterprises (SMEs) can survive this crisis through a coordinated and flexible integration of many different initiatives, such as access to and management of financial resources, exploration and exploitation of opportunities, effective negotiations, digital adoptions, and leadership commitments (Islam *et al.,* 2021).

3.8 Theme 8: Individual capital representing the inappropriate marketing techniques

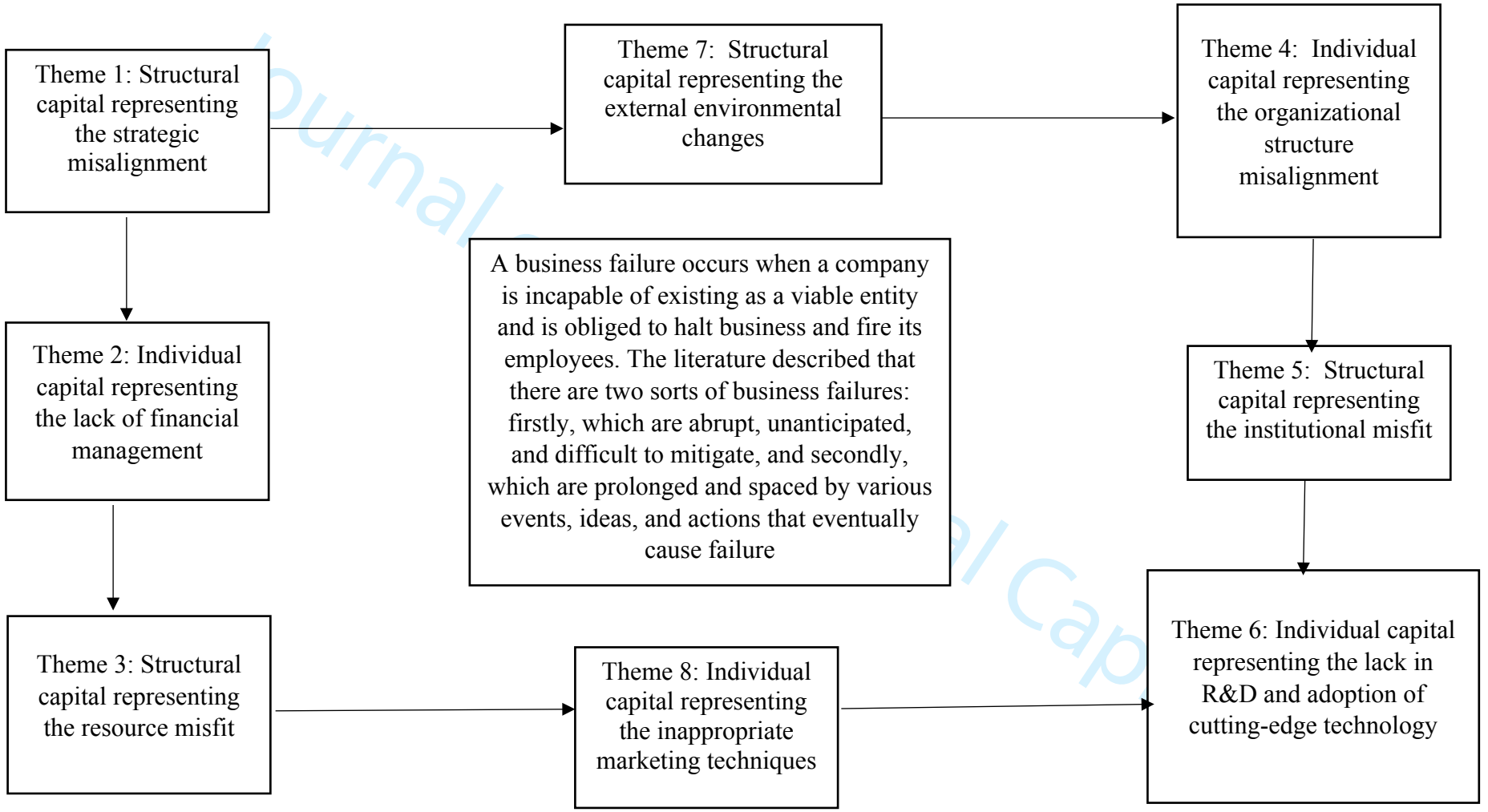
It is not uncommon for marketing as a whole to conduct research with and for practitioners, and Industrial Marketing Management as an example has a long-standing tradition of doing so. Considering the uniqueness of the academic marketing community to address business-to-business issues and concerns, we believe that it can use theory-based reasoning to provide executives with the support they need to navigate their firms through the COVID-19 crisis as well as beyond (Ritter and Pedersen, 2024). For a company to remain profitable, it is important to have a steady flow of revenue and customers (Ritter and Pedersen, 2024; Ryoo *et al*., 2024**).** It is important to develop a marketing strategy that strikes the correct balance between acquiring new customers (acquisition) and building a loyal customer base (retention), depending upon the nature of the business and the target audience. Nevertheless, poor marketing may result in the failure of the business (Ramezani and Papzan, 2021; Notash, 2014**).** In their study for Ramezani and Papzan (2021), Ramezani and Papzan investigated the reasons for the failure of greenhouse businesses started

by licensed entrepreneurs in the province of Isfahan, which is located in the center of Iran. In the study it was discovered that inadequate infrastructure facilities, weak support systems, economic barriers, and human resource barriers were strong deterrents, causing license holders to give up starting greenhouse businesses.

3.9 Theme 9: Structural capital representing the inefficiency in mobilizing funds for the business

This definition of structural capital refers to the non-human storehouses of knowledge within an organization, such as databases, organizational charts, processes, policies, and systems that serve as the building blocks of the organization's infrastructure (Zhao *et al*., 2024; Gali *et al*., 2024). Inefficiency in mobilizing funds for a business can be one of the most critical issues for a company and can have a negative impact on its structural capital as a whole. The root causes of this inefficiency can be attributed to a variety of factors, such as outdated financial systems, inadequate financial management processes, poor investor relations, as well as the inability to effectively leverage financial resources (Zhao *et al*., 2024; Gali *et al*., 2024). In the literature survey above, several factors were identified that make it inefficient for mobilizing funds (Fuciu, 2020). Chatterjee *et al*., (2020) explored the potential of the sharing economy and digital logistics during COVID-19. Chatterjee *et al.,* (2020) evaluated the influential factors of success through the implementation of effective knowledge management and predict the likelihood of success in a post-pandemic era. They found that there was polarization among the market participants. As various people may have different viewpoints, selecting critical factors might be subjective, resulting in contradicting evaluations. The authors used the Delphi technique to finalize the critical factors to maintain the judgment neutral and reduce the abstruse nature of the research. The steps followed for the identification of the interrelationship (with m-TISM) and for the evaluation of the dependence and driving power of the critical factors (using MICMAC analysis) are explained in section 2. Following the thematic findings, an integrative framework has been developed as follows.

Figure 4: Integrative framework



4. Discussion of the findings

This section provides a detailed discussion of the above mentioned nine major themes of strategic misalignment; lack of financial management; resource misfit; organizational structure misalignment; institutional misfit; lack in R&D and adoption of cutting-edge technology; inefficiency in mobilizing funds for the business inappropriate marketing techniques and external environmental changes. The research helped us to create propositions based on practical implications that will help the businesses to reduce the effect of the failure and theoretical implications that can be used to improve the effectiveness of the result (Lejano and Shankar, 2013; Gammeltoft *et al.,* 2012).

4.1 Importance of strategically aligning vision and mission of business firms

The critical factors were first identified and systematically reported using the PRISMA method (Crick and Crick, 2021; Dahlke *et al.,* 2021; Islam *et al*., 2021). Then, m-TISM method was applied on the 9 identified factors to understand their interlinkages and interrelationships (Crick and Crick, 2021; Islam *et al.,* 2021). Effective strategies from the top management to reorganize the workplace by properly aligning and integrating their resources to sit well with the organization's core business plans will help businesses to reduce unnecessary expenses (Hou *et al.,* 2021) and generate profits albeit on a smaller scale than usual. Businesses need to be agile when facing threats that can halt their operations. The COVID-19 pandemic oversaw the failure of many businesses. Many studies have tried suggesting several theoretical arguments as to the reasons for these failures, however, these findings cannot be generalized (Crick and Crick, 2021; Dahlke *et al.,* 2021; Islam *et al.,* 2021). This study has successfully showcased the critical factors affecting the ability of businesses to stay afloat during periods of turmoil, such as the COVID-19 pandemic (Crick and Crick, 2021; Dahlke *et al.,* 2021).

It is necessary to note that the financially strong organizations reacted by persevering as they wanted to maintain their brand image and keep their operations running (Linan and Jaen, 2020; Hou *et al.,* 2021). However, the key takeaway was the third strategy of innovating. The firms adopting innovative ways for responding to the crisis strategically aligned their current resources to meet their immediate needs (Linan and Jaen, 2020; Hou *et al.,* 2021). A common example of this was when airlines converted their passenger planes into cargo airplanes to benefit from stable cargo demand such as delivery of medical gear (Linan and Jaen, 2020). Industries should be able to react actively and make changes to their current organizational

structure. In this regard, Albers and Rundshagen, (2020) analyzed the various reactions of the airline industry during the COVID-19 pandemic and reported the different response strategies adopted by them. The most obvious answer was retrenchment strategy where firms did immediate cost cutting to minimize their expenditure (Linan and Jaen, 2020; Hou *et al.,* 2021). This leads to the formation of the research preposition of.

Research Proposition 1: Businesses need to strategically align their vision and mission to curtail failure inducing challenges

4.2 The role of proper financial administration to ensure that businesses do not face any difficulty in mobilizing funds

When going to the past period on COVID-19 pandemic, it was evident that the most governments have stepped up to help keep business firm from failing by providing and approving loans as well as starting various schemes related to retainment of employees (Hou *et al.,* 2021). This also shows that the strength and the kind of support provided by the Governments and helped pubic to get a fair idea and know how to assess the situations base on their experience of the past global financial crisis and taken preventive measures to prevent liquidity of the economy (Linan and Jaen, 2020). Most of the times, a financial administrator can help keep up with these policies that can allow businesses to generate a cash influx giving them the needed boost to overcome any operational issues (Hou *et al.,* 2021). Giunipero *et al.,* 2021 conducted a case study where they studied the effects of COVID-19 on two small businesses in the trucking industry (Heracleous and Werres, 2016). This applies to both the businesses acted positively and proactively to ensure their survival (Heracleous and Werres, 2016). They took advantage of the "Care's Act" and even took a "paycheck protection loan" that would be forgiven provided they met the employee retention criteria.

Thereafter, MICMAC analysis allowed for their categorization into four quadrants according to their dependence and driving powers. Based on results of m-TISM and MICMAC analysis, the cause of any business failure was highlighted as CF7-CF5-CF9-CF4-CF1-CF2-CF3-CF6, with external environmental changes being recognized as the main driving critical factor at the highest level with the maximum driving power (Ramezani and Papzan, 2021; Notash, 2014**)**. Furthermore, CF8 was identified as the least important critical factor due to its high dependence power and low driving power, categorizing it in the dependent factor's quadrant. From m-TISM and MICMAC analysis we are able to understand the linkages of the critical factors,

hierarchy levels and their driving/dependence powers (Ramezani and Papzan, 2021; Notash, 2014**)**.

External environmental changes received the highest level and can be regarded as the major cause of any business failure as it heavily influences the other critical factors. As seen from the literature, the majority of business failures occurred due to their inability to deal with trade deregulations and because of the prolonged period of shock state from which they were not able to recover (Cowling *et al.,* 2020; Lejano and Shankar, 2013; Gammeltoft *et al*., 2012; Suchman, 1995). Being more innovative and technological advanced allowed their competitors to gain an advantage over them which also damaged their already dwindling business (Cowling *et al.,* 2020). Businesses need to take corrective measures and improve their ability to deal with external environmental factors if they want to survive (Lejano and Shankar, 2013; Gammeltoft *et al.,* 2012; Suchman, 1995).

Institutional misfit received the second highest priority at level 5. With the COVID-19 pandemic came deterministic situations which saw a clash in the ideologies of the businesses and government bodies. Unlike the usual cases, this time the clash was with regards to not only the safety of a selected group of people but rather the whole world. The lockdowns and restrictions, as much as they were important, disrupted the movement of man and materials, thereby interrupting the business processes and directly affecting its ability to survive in the long run. The lack of preparedness from the side of the businesses also acted as a major factor which further escalated the already severe situation. Businesses need to make sure that they are better equipped for such events in the future as it can be the key to ensuring that the organization does not reach the point of failure.

Coming in at the fourth level, the inefficiency in mobilizing funds for the business is another major cause of business failure (Cowling *et al.,* 2020). There are several costs associated with running a business. As a matter of fact, most businesses do not even turn profit until a few good years of business (Cowling *et al.,* 2020). Terms like break-even analysis most definitely help in determining the amount of time businesses need to become profitable, but they are not airtight or fail-proof and should not be trusted blindly as they are incapable of accounting for external changes or other factors like inflation (Suchman, 1995; Elsbach and Sutton, 1992). Most businesses rely on their ability to meet financial goals and sustain themselves instead of needing external funds input (Cowling *et al.,* 2020). The sudden impact of external

environmental changes is hard hitting to such businesses, and it creates scenarios where business owners are not able to understand the sudden demand for cash influx leading to business failures (Cowling *et al.,* 2020; Lejano and Shankar, 2013; Gammeltoft *et al.,* 2012).

Research Proposition 2: Proper financial administration can ensure that businesses do not face any difficulty in mobilizing funds

4.3 Importance of becoming resilient to effectively mitigate effects of external environmental changes

Most businesses nowadays do have a practice in resilience but resiliency in business can be described as the ability of a firm to bounce back from any disruptions affecting their business (Marusak *et al.,* 2021). For example, major cause of business failure was determined as external environmental changes. Situations like COVID-19 pandemic are not something that can be predicted in advance (Marusak *et al.,* 2021). To overcome such scenarios, it is essential that businesses develop certain alternatives that will keep their essential operations running, providing them with more time to come up with long-term innovative solutions to sustain and persevere through it all.

In a study conducted by Marusak *et al.,* (2021), they have presented seven case studies of regional food supply chains that were able to sustain the pandemic affects by adapting on the go and proving themselves to be more resilient than the conventional food supply chains which were easily disrupted and brought to a standing halt. The weaknesses of the prevailing food supply chains were exposed as they quickly succumbed to the increased demand of grocery retail and dine at home food products (Linan and Jaen, 2020; Hou *et al.,* 2021; Marusak *et al.,* 2021). On the other hand, the regional food supply chains were able to rapidly respond to the consumer demands by changing their logistics practices, turning to online mode of order placements, and making use of their social relations to the benefit of their businesses (Linan and Jaen, 2020; Hou *et al.,* 2021; Marusak *et al.,* 2021).

Research Proposition 3: Businesses need to become resilient to effectively mitigate effects of external environmental changes

5. Practical Implications

When considering the practical implications of this study it is necessary to note that many micro-business entrepreneurs fall into the trap of running out of funds or not comprehending the costs of starting and sustaining a firm. Furthermore, not every small businessperson has the cash to meet the expenditures connected with launching a new venture (Chatterjee *et al.,* 2021; Fuciu, 2020). As a result, inefficiencies in raising cash for the firm are a crucial problem (Chatterjee *et al.,* 2021; Fuciu, 2020). Sheresheva *et al.,* (2021) examined the impact of the COVID-19 pandemic on the Russian tourism market. Tourism enterprises that depend on themselves and innovate in order to meet new customer needs and preferences will have a greater probability of survival (Sheresheva *et al.,* 2021). An analysis by Dvorsky *et al.,* (2021) analyzed the impact of entrepreneurs' attitudes toward defined business risks on the perception of the future of small and medium-sized firms. In order to measure operational risk, a company must reduce customer complaints about the quality of its products and maintain its independence from a limited number of suppliers (Dvorsky *et al.,* 2021).

Similarly, Nigerian SMEs face several obstacles to success, including poor management, a lack of capital, corruption, weak infrastructure, and poor recordkeeping (Okpara and Wynn, 2007) described how a good project design can contribute to reducing the perception of risk associated with indigenous SMEs and overcoming difficult environments. Further findings indicated that inefficiency in mobilizing funds for the business occurs due to above main factors. Therefore, it is suggested for business firms to enhance the intellectual capital through using effective strategies from the top management to reorganize the workplace by properly aligning and integrating their resources to sit well with the organization's core business plans, that will help businesses to reduce unnecessary expenses (Hou *et al.,* 2021) and generate profits notwithstanding on a smaller scale than usual.

6. Conclusion, Limitations and Future scope

The COVID-19 pandemic has halted day to day activities across the globe. It has negatively impacted every sector, be it education, manufacturing, hospitality, or tourism (Nel *et al.,* 2018; Sheresheva *et al.,* 2021). COVID-19 has single handedly shut down many profitable businesses and shown the door to new and upcoming organizations (Sheresheva *et al.,* 2021). However, it has also brought about a wave of survivability, where every sector has come up with innovative ways to resist its effects and develop countermeasures against the periodic COVID waves

(Linan and Jaen, 2020; Hou *et al.,* 2021; Marusak *et al.,* 2021). It has widely been accepted that the need of the hour is to shift from sustainability to a resilience induced sustainable future (Nel *et al.,* 2018; Sheresheva *et al.,* 2021; Heracleous and Werres, 2016).

The first step to develop resilience against global catastrophes is to develop an understanding of the factors that contribute to it. This study looked to explore the causes of business failures during COVID-19 by understanding the 'what', 'why' and 'how' factors that contributed to it and analyze the relationships between them. For this, the authors employed a novel framework which also included a systematic investigation to find the critical factors of business failure during COVID-19 pandemic which were reported using the PRISMA statement and later on validated using the Delphi method.

The m-TISM approach along with MICMAC analysis was employed, the results of which provided us with the hierarchy levels of the identified critical factors and the other factors that they affect. From the MICMAC analysis, we were able to divide the critical factors into four groups namely, autonomous, dependent, linkage and driving factors. Two major takeaways from the results of phase one were that CF7 (External Environmental Changes) was at the highest level and had the highest driving power as well as the lowest dependence power, while CF8 (Inappropriate marketing techniques) was at the lowest level and had the highest dependence and lowest driving powers. Thus, CF8 was regarded as the least important critical factor and hence should not be the point of concern for the businesses.

Every research has certain limitations to it and ours can be regarded from the quantitative point of view. Only 7 experts were a part of this study and even though their background and experience added to the quality of this research, quantitatively, it is still lacking. However, the research has still successfully provided businesses with a pathway to build resilience against pandemic level threats and provided research scholars all over the globe with a base of critical factors, the likes of which can be further studied individually and expanded to cover a wider set of definitions.

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Detailed Responses to Reviewers' Comments

Title of the manuscript: Using firm-level intellectual capital to achieve strategic sustainability: Examination of phenomenon of business failure in terms of the critical events

Comments

The article is well structured. Although I'd suggest including a new theoretical framework to support the results in order to offer a new model for further research.

Response

Following the thematic findings, an integrative framework has been developed as follows;

Figure 4: Integrative framework