

# **An Exploration of Employee Behavioural Impact towards Organisational Resilience: A Study among Malaysian MSC Status Companies**

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## **Abstract**

### **Purpose**

Globalisation and a significant reliance on technology for business management are on the rise in the twenty-first century. Organisations are growing increasingly exposed to both external and internal issues, making business more difficult. Drawing upon the system theory and self determination theory, this study examines the underlying theoretical mechanism between complex behaviour that emerges as a result of interactions among employees and the organisations.

### **Design/methodology/approach**

Employees of the Malaysian Digital Economic Corporation Sdn. Bhd (MDEC) registered .s organisations were chosen as samples for this study .A total of 171 employees from these companies completed a survey. The data were analysed using PLS-SEM to discover employees collective behaviour capacities positively influenced the organisational capacity of MSC status companies.

### **Findings**

The findings of the present study have validated the empirical model, showing a significant relationship in between the proposed constructs. Employees are an important commodity for a company, not only in leadership but also in survival. There is a positive set of behavioural capitals which allow the company to develop as a key agent of national economic advancement. The internal social structure influences resilience as a capacity. Thus the theoretical insight explain how organisations develop their internal capabilities as a capacity for resilience in the emerging market context of Malaysian MSCs

### **Originality/value**

The study is first of its kind which has tried to investigate an exhaustive direct relationship model in the MSC sector. The study has postulated that it is not just the organizational resilience content but the perceptions of employees toward enhancing organizational resilience. The solution is based on an organisation's collective behavioral capabilities and internal organisational processes that connects the employees towards enhancing organizational resilience .

**Keywords:** collective behaviours; resilience; organisation; Malaysia; social; MSC Status Companies; coordination

## **1. Introduction**

Organizations encounter hurdles both inside and outside in today's business context, making smooth advancement a difficult endeavour. Organizational survival becomes a basis of organisational theory as well as practice when the level of external unpredictability

increases. The ability of an organisation to withstand adversity is crucial to its survival. Resilience enables an organisation to withstand tough times and periods of instability and hardship by allowing it to evolve and progress through time. The capacity of an organization's staff to pass through difficult times and establish a

competitive advantage based on its people is known as organisational resilience.

Organizational resilience is the most crucial attribute of organisations with increasing global competitiveness. Organizations with the least resilient abilities, according to Crane 2021, may not live to see the following decade. As a consequence, organisational resilience offers the necessary discussion to establish and sustain resilience at the operational level, and policymakers can have the necessary support to construct a strong organisation at the nationwide level. A component of this research integrates several reshaping of information system concepts to investigate organisational efficiency about an inner management and network system among employees that compose the structure to be forceful. This study provides empirical evidence for a better context of corporate resilience as a capability that can be assessed and enhanced in the future.

Organizational resilience is a new thought for MSC Status Companies. However, because the MSC business employs a large population, MSC Status Companies need to be robust. MDEC claimed that they are making progress in terms of technology adoption, but that resilience remains their primary focus. Malaysian MDEC (Malaysian Digital Economic Corporation Sdn. Bhd.) is a platform that supports domestic and international investment (DDIs and FDIs) from global firms. By 2023, the business is expected to grow from 0.6 million square feet to 7 million square feet (Economic Transformation Programme Business Service, 2020). This company's governance networks take the shape of organizational communication procedures by trying to integrate deductive and inductive approaches, applying multiple methods to support employees, to address the company's organisational perseverance (McIver et al., 2018). As a result, it's critical to figure out what role internal factors play in a company's capacity to withstand adversity in Malaysia.

The large workforce of an organization in the MSC Status Companies remains a major factor that drives organizational resilience hence, the importance of sustaining employees quality of life at the workplace is a necessity that is likely to improve their work as a whole system. This current study, therefore, did not view organizational resilience only as one of the most important variables in IT, digital & innovative corporations under MDEC but as well considers resilience as a factor that is significantly affiliated to employees behavioural aspects.

## 2. Literature Review

Individual perseverance is defined as an individual's power to deal with stress to perform well in their organization (Horne III & Orr, 1998; Mafabi et al., 2015). Employees have an inherent tendency to face and overcome difficult life challenges. Florek-Paszowska, Anna et al. (2021) posited the function of threat circumstances in motivating people, groups, and organisations to avoid risks, based on the evolutionary theory of organisations. It's normal to stay away from threats, as well as return to a regular stance after confronting a difficult scenario. The organization's reaction to threat events is part of its plan, which seem to be on the organization's philosophy (Annarelli & Nonino, 2016). The ability to deal with internal and external difficulties are referred to as organisational resilience (Mallak, 1998). According to some academics, organisational resilience is characterised as the ability to overcome obstacles (Annarelli et al., 2020). These concepts of organisational resilience, have connections in that they both prioritise organisational survival and deal with difficult situations.

The circumstances, such as work, personal, or crisis circumstances, have an impact on one's presentation of resilience (Chen et al., 2021). Individual resilience is based on one's particular life experiences dealing with adversity and the risk factors that accompany it (Horne III & Orr, 1998). The circumstances, such as employment, personal, , have an impact on one's expression of perseverance (Mafabi et al., 2015). Resilience has commonly related to the formation

for defenselessness and is regarded to be the basis for activating important predictors or risk factors, where the sense of danger creates the idea of vulnerability, which triggers long-term actions (Bhaskara & Filimonau, 2021). Individuals' risk perception is strongly linked to their personality dynamics (Connor & Davidson, 2003). Every incident governs the stimulation of resistance activities, relying on individuals' behaviours to address risk factors that must be handled before engaging in protective factors.

Individuals frequently exhibit fix or neutral reactions to risk factors because they perceive the situation to be regular and do not require remarkable action. As a result, there are several resilience models which use susceptibility as the trouble spot for resilient action (Annarelli et al., 2020). Thus the fundamental principle of enhancing resilience travels beyond resilience practices in organizations, hence the hypothesis for this study was built on conceptual model that proposes employee collective behavioural streams as a conduit that likely to enhance organizational resilience. This causal relationship between employee behaviour and organization resilience can be explained are mostly conceptual and focus on developing static knowledge only (Hormann, 2018; Riolli & Savicki, 2010). Therefore empirical studies on the effects of the relationship between employee behaviors and organization resilience are lacking (Velu et al., 2019).

### ***2.1. Resilience in Organizations***

For corporate sustainability, there are three major concept sources to consider. First, resilience is an intrinsic property of the organisation; second, it is the result of the organization's activities; and third, it is the quantity of interruption that the organisation can endure (Annarelli et al., 2020). These three conceptualizations are similar attempts to comprehend the concept of organisational resilience in a different way. The capacity or outcome of the organization's efforts to face and overcome adversity is referred to as resilience. The most difficult organisational capability that organisations face is resilience in dealing with known or

unanticipated chaotic situations (Annarelli et al., 2020) (Annarelli & Nonino, 2016). Organizational resilience must be distinguished from organisational survival, and few studies are conducted on the measures used to determine organisational perseverance (Rahi, 2019).

Luthans describes resilience in this sense as "the developable capacity to rebound or bounce back from adversity, conflict, and failure, as well as positive occurrences, progress, and more responsibility" (2002, p. 702). As a result, organisational resistance is generally described as a company's capacity to cope with shifting conditions and threats. Few researchers characterise organisational resilience as the organization's ability to learn from external conditions to acquire the materials needed to recover as well as return to its original status (Horne III & Orr, 1998; Mallak, 1998). Kuntz et al. (2017) presented a set of perseverance-building measures as a behavioural competence, signalled by adaptive, learning, and network-leveraging behaviour. Organizational learning can be a feasible tool for investigating organisational resilience (Rodriguez-Sanchez et al., 2021). Academicians referred to it as the company's capacity to interact well with unexpected (Horne III & Orr, 1998; Mallak, 1998).

According to Fox (2018), organisational resilience is inherent in an organisation (Fox, 2018). Organizational resilience is the organization's dormant capacity (H. Powley & S. Cameron, 2020); however, Hussain & Papastathopoulos, 2022 describes organizational robustness as the organization's total reactive capacity (Hussain & Papastathopoulos, 2022). Institutional robustness, on the other hand, is considered both gradual and changeable (Ruiz-Martin, Lopez & Wainer, 2018). Endurance is an organization's capacity to cope with the issues of innovation. A shift might occur as a result of an outside stimulation or shift at the upper executives. According to Philips and Kay (2019), organizational resilience is a mix of adaptive capacity, connectivity, and threat detection (Kay et al., 2019; Phillips, 2019). A program's adaptability is its ability to change in response to changing external conditions. Both internal

and external variables impact organizations (Ruiz-Martin et al. 2018). A company must be in the know of the fundamental elements and their variations in the environment which may have an impact on the organisation, in the ability to adjust well and remain resilient. Organizations must also have the internal capacity to handle and respond to crises. At the enterprise level, the traits required for enterprise resilience are flexibility, adaptability, agility, and efficiency (Taran, 2019) Thus, strengthening people's flexibility, adaptability, agility, efficiency, and resilience enables social transformation by creating communities that do more than just survive but adapt positively and find opportunities to benefit the organisation during difficult times.

Lengnick-Hall et al. (2011) hypothesised three components for organisational resilience: cognitive, behavioural, and contextual. The cognitive component fosters an ideological identity among the personnel of the firm. Having a value-based ideological identity is also connected strongly with the organisational community's that improves individual emotional well-being but also enables employees to increase their work commitments and achieve higher performance (P. L. Chen et al., 2021). The behavioural aspect is critical since the organization's operations are dependent on the concept of activity. The development of behavioural resilience is complex, but it is founded on cognitive abilities (Selamat, 2021). In a nutshell, performance management systems and conventions enable the mechanisms that enable a business to be resilient (W. Britt & Sawhney, 2020) The environmental component enables the incorporation of cognitive-behavioural barriers. Contextual resilience operates at the organisational level, such as human support or a resource sharing network (Castro et al., 2020).

Herbane (2019), on the other hand, proposed a double organisational endurance model based on operational and strategic approaches. The capacity of an organisation to tolerate disruptions and revert to normal operations is referred to as operational resilience

(Burnard & Bhamra, 2019). Nonetheless, the plan is built on the idea that the company would not only deal with shocks but will thrive in them. Also, converts risks into opportunities through lengthy focus and a major resource-based (Annarelli & Nonino, 2016).

It is obvious that the notion of institutional strength is complicated and is dependent on a variety of diverse elements that influence the organization's strength capabilities. Organizational resilience is more than just a reaction to external and internal difficulties. It is a response from within the organization's strategic mindset to provide via organisational operational habits as the collection of resources that make an organisation enduring.

## ***2.2. Assessments of the Organisational Resilience***

Business sustainability evaluation is challenging. Somers (2009) stated assessing organizational capacity based on seven types d on Mallak's (1998) guidelines on overall organisational resilience conception. They are, interpreting situations constructively, engaging in adaptable attitude, the sufficiency of outside materials, increasing decision-making limits, practising combination, the potential for error, and constructing simulated position structures. Hamel and Valikangas (2003) advocated estimating organisational resilience based on the organization's ability to adapt, monitor, anticipate, and learn. Four parameters were used to evaluate the internal resilience: situation awareness, cornerstones security practices, integrity, and adapting ability (W. Britt & Sawhney, 2020). Furthermore, understanding the prospects and difficult times in the organisation is critical to transforming into a sustainable company. Lee, Vargo, and Seville (2013) propose using four criteria and 73 items to assess organisational resilience. Meanwhile, Whitman et al. (2013) offered four components tested with fifty-two questions as the shortest version of Lee et al. (2013). The scale is predicated on presumptions: that the low response level can be addressed, and that their scales have a greater association. When compared to the McManus et al. scale and Lee et al. (2013) scales, they included features such as invention and creativity, teamwork, and reporting (2008).

Scholars also worked on determining how to measure organisational resilience in various industries (Danes, Lee, Amaranpurkar, Stafford, Haynes, and Breton (2009)). They looked at assessment that focuses on resistance in large corporations. Wicker, Filo, and Cuskelly (2013) developed a dimension to assess organisational resistance in sports teams. They applied Buckle's (2006) model to measure employee engagement based on resilience, diversity, resource, and speed. Researchers also proposed using Fuzzy Cognitive Maps (FCMs) to estimate organisational resilience (Asgary, Kong & Levy, 2009; Gilly et al., 2014).

A system scheme is presented in several types of research to measure the impact of interruption on an organization's resilience (Hamel & Valikangas, 2003). The goal was to look at the impact of both the organization's operational and material diversity on resiliency. The resilience management CERT model, developed by Caralli, Curtis, Allen, White, and Young (2010), is based on 26 organisational processes. Some of them are asset management, resilience development, risk management and people management were used to estimate operational resilience.

In this research an alternative strategy was to build on organisational resilience based on system theory, which assumes that humans in an organisation are both actual resources and the potential of the company to attain resistance (Rioli & Savicki, 2003). The concept is that for an organisation to be resilient, resilient employees were required. Employees are an organization's most valuable asset, and the organization's ability to respond to shocks and hazards are dependent on the workers' capacity to respond to and deal with obstacles and threats. Only the collective efforts of the organization's members can result in a mobilised and robust reaction. A socioeconomic system is critical to whether the organization's risks and stressful circumstances are mitigated. (Burnard & Bhamra, 2011). As a result, the behavioural capacities of the organization can catalyze institutional tenacity (Annarelli & Nonino, 2016; Horne III

& Orr, 1998). Furthermore, the organization's resistance is based on participation and joint efforts of its partners, which include workers, suppliers, other investment firms, and legislators. (Linnenluecke, 2017). Scholars should focus on this topic to determine organisational resilience based on internal organisational processes to improve organizational stability.

### *2.3 Generating Hypotheses*

Organizational strength is described as a company's ability to achieve robustness through a mix of intellectual, behavioural, and environmental factors. Linnenluecke, 2017 Lengnick-Hall et al. (2011) states, organisational capacities are, manageable and dependent on employees' efforts. Human management literature supports these principles. . This research adds to the communal behavioural of organizational endurance. Vision, values, flexibility, empowerment, coping, and connections were six parts of organizational endurance. (Mallak, 1998). Somers' (2009) study on common organisations questioned Mallak's concept that it was difficult to tolerate personal and organisational goals.

According to the Self-Determination Theory (SDT), individuals are naturally proactive in their eagerness towards personal growth and improvements hence exhibit psychological needs that are innate, universal, and significant for a better work place environment (Dunn & Zimmer, 2020; Sheldon, 2011). People's actions are determined by the interest they derive from it hence, identifying the collective behaviours toward a work system intend to improve the quality of their task at the same time will create a barrier to human error (Ryan et al., 2019; Van den Broeck et al., 2016). Hence the job responsibility and their collective capacity in terms of intellectual and behavioural aspects intend to improve the resilience in any organizations.

This can be as well-argued in line with the resilience conceptual model, from Horne and Orr's study (1998) have been used extensively and tested in the context of an information system. Rioli

and Savicki (2003) reported that the incorporation of resilient factors that cause job related stress, burnout and psychological which will remain an impediment to organization resilience. This model states that OR is built on the foundation of resilient members in an organisation and necessitates employees' ability to react swiftly and effectively. Nevertheless, this model is accepted theoretically, albeit, lacking individual attention with scarcely implemented systematic empirical work.

This was because businesses are societal structures focused on the constant and systemic interaction between employees and organisational design. An organisation's endurance is defined as the ability to respond and return to a normal situation after a difficult situation (Caralli et al., 2010). This ability to recover is not linked to difficulties faced but with the company being prepared with the correct knowledge to reduce the weakness effectively (Annarelli & Nonino, 2016). However literature stated that resilience in organizations are challenged by lack of commitment, lack of knowledge and lack of resources. Therefore the decline of employees behaviour towards a task has led to high human errors in organizations. This capability is developed inside the cooperative organisation by experience (Wing & Wai, 2009). It strengthens organisation's resilience, creates a compelling situation and works towards shared objectives to achieve the organizational company's goals.

### 2.3.1. Collective Commitment

Workers in an organisation are the agents (Allen & Meyer, 1990). The activities are representative of organisational actions. It is now widely acknowledged that committed employees are the organization's most valuable resource and capital. Commitment as a behaviour identifies those who labour for the welfare of the company and assume full responsibility for its improvement (Allen & Meyer, 1990). The personnel are happy to be affiliated with the company and they want to improve it in any way they can (Wangnild, 2009). When this feeling originates at the operational level, it becomes the

collective viewpoint of the organisation and strengthens it to create persistence. (Lengnick-Hall et al, 2011). The study's hypotheses:

Hypothesis 1 (H1): *The collective sense of commitment has a positive effect on organisational resilience.*

### 2.3.2. An Internal Organization Communication

An organisation must successfully exchange ideas and information through communication. Employees had the required knowledge to execute their work as they had access to correct and authentic information (McManus et al., 2008). Furthermore, communication builds the necessary trust for the environment among workers to motivate and promote one another. As a result, open communication promotes trust and prepares workers to interact with a problem by developing a feeling of community (Connor & Davidson, 2003). The tools and system of communication used by an organisation help to describe its culture (Annarelli & Nonino, 2016). This is because good communication is dependent on the organization's effectiveness, it is necessary to go through hardship and be cooperative during challenging conditions (Wangnild, 2009). An organisation with a robust communication system improves workers' comprehension on crises, making it more persistent.

Hypothesis 2 (H2): *The collective perceived communication has a positive effect on organisational resilience.*

### 2.3.3. Collective Community

Workers form an organisation (Lee et al. 2013). It operates successfully if the organization's members have a positive opinion of the community. McManus et al. (2008) emphasised the significance of organisational adaptation as a reaction to both internal and external stressors. Employees of organisations who have a sense of community with one another are more likely to exchange knowledge and help one another by exchanging information (Annarelli & Nonino, 2016). The information reduces ambiguity among employees of the organisation, allowing them to complete duties more

efficiently. People who have a stronger sense of community work harder to overcome organisational difficulties (Lee et al., 2013). Furthermore, workers collaborate to deal with organisational disruptions and effectively exit the crisis scenario. Hypothesis 3:

Hypothesis 3 (H3): *The collective sense of community has a positive effect on organisational resilience.*

#### **2.3.4. Collective Competency**

Capable workers contribute their capabilities and perform when directed to use them. An organisation is considered a bundle of knowledge workers (Lengnick-Hall et al., 2011). The capability of workers to anticipate challenges from numerous perspectives allows them to be clear of the issue and fix it instantly (Connor & Davidson, 2003). Additionally, a business teaches its employees how to deal with a crisis. The organization's community participates in enhancing job performance by bringing their skills to the table. Furthermore, individuals inside organisations make every effort to resolve challenges utilising their combined abilities (Hamel & Valikangas, 2003). When this communal perception of capability was triggered, it made an organisation more robust.

Hypothesis 4 (H4): *The collective sense of competence has a positive effect on organisational resilience.*

#### **2.3.5. Collective Connectedness**

Companies are indeed a net of interconnections. Powerful organisations have strong interrelationships at all levels of their structure, whereas weak organisations have poor interrelationships among their personnel. This sense of belonging heightens organisational resilience (Connor & Davidson, 2003; Wangnild, 2009). Although connectivity inside the organisation is significant, connectedness with industry stakeholders outside the company is also crucial (McManus et al., 2008) because crises can occur both internally and externally. This link boosts employee involvement, and having an outside link with the industry aware the organisation

of industry's circumstances that may have a favourable or negative impact on the organisation (Hamel & Valikangas, 2003). This connection comes with a collective conscience for all industry workers to handle the problem that may affect everyone. The information shared allows for the discussion of plans among industry workers to deal with the situation (Annarelli & Nonino, 2016). As a result, this interconnectedness allows the organisation to be more flexible. The hypothesis of the study is:

Hypothesis 5 (H5): *The collective sense of connectedness has a positive effect on organisational resilience.*

#### **2.3.6. Collective Coordination**

Companies are mechanisms that need cooperation among those who operate inside them. This synchronization is the framework that allows the company to function well as a cooperatively regulated organism. (McManus et al., 2008, Wangnild, 2009). To have the feel of the organisation, the actions within it must be coordinated; else it just becomes a bunch of individuals with competing interests. (Connor & Davidson, 2003). Collaboration in the organisation helps the organisation to operate collectively to efficiently complete the assigned duties as well as assess the vulnerabilities that are currently affecting the organisation and may impact in the future (McManus et al., 2008). Individual efforts enable coordination, which is necessary to correctly divide work among employees. (Vargo & Seville, 2011). Furthermore, coordination allows for the prescription of new ways to do organisational activities, as well as foreseeing and preparing for upcoming issues that may have an impact on the business (Metcalf, 1994). When a company improves its communication with its workers, it will be less vulnerable and persistent.

Hypothesis 6 (H6): *The collective sense of coordination has a positive effect on organisational resilience.*

## 2.4 Contribution to Knowledge

There is extensive amount of research in the field of employee behaviour and organizational resilience around the globe. The Government of Malaysia awards the MSC status to eligible foreign and local businesses related to ICT. The status enables these businesses to access attractive privileges, incentives, and rights, which are introduced to promote sustainable growth for the companies, the industry, and the Malaysian economy as a whole. Approximately 3,241 companies with active MSC Malaysia status generated total revenue of RM47.1 billion and created about 167,044 jobs. This demonstrates that MSC Malaysia is poised to be the leader in the development of digital economy. Limited information is currently available in the empirical research and literature with respect to what encourages employees to exert their resilience behaviors (Horne III & Orr, 1998; Riolli & Savicki, 2003; Therese Sonnet, 2016)

This study intends to bridge the knowledge gap existing in research related to behavioural streams playing a role towards achieving organisational resilience in the Malaysian MSC status organisational context. Employee behavioural capacity is displayed through an self determination and self motivation-based principle in organisations. Through this transformation of information, employees' work stress is lowered as their cognitive and decision-making capabilities are strengthened and hence, resilience is fostered. Addressing disaster resilience as a system theory would place emphasis on understanding individual capacities and how they interact to generate resilience (Hartvigsen, Kinzig, & Peterson, 1998). This interaction could provide insights into those capacities that would contribute most likely to positive emergent behaviour and improve disaster resilience within a specific context (Zhou, Wang, Wan, & Jia, 2010). Systems theory is characterised by individuals' ability to learn from their

environment. This learning aims to bring about adaptation or change to the work system to help it survive or absorb shocks in the organisations. Thus, the objective is to investigate the role of behavioural streams among employees in attaining organisational resilience.

Given that a clear knowledge gap exists, this present study aims to demonstrate the effectiveness of the relationship between the **six** behavioural streams contributing directly towards improving OR. To this end, theoretical perspectives from Horne and Orr (1998) and self determination theory are utilised.

## 3. Methods

This research looks into the link between the companies' capability and organizational endurance. using a quantitative cross-sectional design. The sample for this research came from companies recognized with Malaysia's MDEC. Employees of MDEC-registered organisations served as subjects for this study. Employees of MDEC-registered organisations have prior entrepreneurial experience and are accustomed to working under pressure and in stressful situations.

### 3.1. Sample Selection

The sample size for this investigation was determined using GPower version 3.1. Based on a power of 0.95 and a sample size of 0.15, with six predictor the number of participants comprised 153. However, in the structural and measurement model, the total sample size should be 10 times the size of the channel (Chin, 2010). As a result, the sample size has to be greater than 150. To avoid problems, 300 questionnaires were distributed to 10 MDEC-registered organisations. A total number of 205 questionnaires were received and only 171 were usable. Table 3.1 below shows the research design elements applied in this research.



**Table Error! No text of specified style in document..1:Research design elements**

Research Design	Element	Explanation
Nature of study	Exploratory	Literature on this area of research was insufficient. Specifically, limited empirical research was available on the link between behavioural factors and its effect towards organisational resilience from the information system viewpoint.
Role of theory	Theory testing	The deductive model tested between the role of employee behaviours and organisational resilience.
Sampling process	Purposive sampling	Purposive sampling to select respondents' companies was subjected to companies registered under MDEC.
Data collection technique	Survey	Phase 1: The aptness of the questionnaire and appropriateness of the scale used were validated through a pre-test survey on four experts. The pre-test was conducted using the Delphi technique, which strengthened the questionnaire validation process before the actual survey was conducted. Phase 2: Based on the G-power table, a sample size of 153 was needed. Nevertheless, questionnaires were distributed to 300 employees working in companies registered under MDEC.
Researcher interference	Minimal	During the data collection process, the researcher did not inhibit the natural course of activities or work processes of the respondents.

### 3.2. Research Instrument

Reasonable questions were designed, so that responders could readily comprehend and answer with their ideas. Prior studies were used to develop the research questions. Five elements were used to assess organisational members' community behaviour. An example of a question was 'As a team, we feel accountable to handle the disturbances of the organization's efficiency (Lee et al. 2013). The work of Connor and Davidson (2003) shows substantiation that collaborative expertise can be used as an aid to help an organisation

to stand strong. Additionally, five statements were used to measure the employees' collective competency, with a typical statement being 'I address crises efficiently at work.' An issue to consider is the viewpoint of connectedness in the organization's environment. Connor and Davidson's (2003) study provides plausible alternatives. An example of a statement used to examine the connection among organisational personnel is, 'I can share my problem-solving skills with colleagues and partners.' Work Allen and Meyer (1990) and McManus et al. (2008) present deep knowledge of

the current obligation and contribute to the organization's achievement. This commitment of organisational personnel was measured using five statements, one of which was 'I discuss my job and duties with other individuals to think out of the box.'

Besides the essential element of the structure is communication. McManus et al. (2008) and Connor and Davidson (2003) both emphasise the significance of communication in a workplace. Five variables have been used to evaluate the employee's communication, one of which was 'I am informed and updated of the embedded knowledge on teamwork.' McManus et al. (2008) and Connor and Davidson (2003) examined the state of cooperation in organisations. Five statements were used to estimate coordination, with one such statement being "I can analyse and negotiate with staffs to manage circumstances efficiently. Wing and Wai's definition of organisational resilience was used to conceptualise it (2009). Six statements were used to assess organisational resilience, with one example being 'My company provides chances to benefit from adverse situations'.

### 3.3 Data Analysis: Pre-test

Data analysis was performed using Quantitative Approach for Delphi (Rounds 1, 2, and 3). The Delphi technique is a communication structure utilised to critically discuss and evaluate issues pertaining to a questionnaire (Mullen, 2003). Even though this technique is widely used for the qualitative survey method, it also has application in the quantitative research area (Turoff, 1975; Turoff & Linstone, 2002). In this study, which employed a quantitative research approach, the Delphi technique aided in reaching a consensus on the configuration of the survey and research agendas. Expert consensus could help validate the subjective judgment of a quantitative researcher. It could be applied to determine proper labels to infer from loadings in factor analysis, principal components analysis, structural equation modeling, partial least squares modeling, and other statistical procedures concerning latent variables inferred from measured indicator variables. In general, extensive

questionnaires are passed to the panel of experts and their responses are synthesised and then utilised as feedback to the panel in the following round of questionnaires, for a series of rounds. These experts usually do not interact directly with each other but instead only provide responses to the researcher.

The questionnaire used in this research comprised the following sections:

- I. Employee Demographic Information – Encompassed general aspects of employees such as age, marital status, qualification, and work experience.
- II. Indicators – Illustrated the desired behaviour of employees in handling ambiguities and difficulties in the workplace, and spread information, and how employees respond to uncertainties in various ways.
- III. Item – Utilised as the assessment criteria to gain proof of applying behavioural and resilience knowledge in real practice.

Since expert opinion was sought, purposive sampling was needed in which participants were chosen based on their expertise to answer the research questions and not to represent the general population. Hence, the experts were chosen based on their: (i) knowledge and familiarity with the subject examined; (ii) capacity and readiness to participate; and (iii) availability to take part in the Delphi process (Marchau & van de Linde, 2016). This study's experts comprised two Shell Refinery Team Leads in the Disaster and Recovery Department, one from the IT and Development Unit of GE Power, one professor (expert in Partial Squared-PLS and methodology), and one consultant from an IT outsource company in Cyberjaya. The data were analysed using Central Tendency Measurement: Mean and Interquartile Range (IQR).

### 3.3.1 Analysis of Delphi Round 1

The Delphi method involves a series of rounds to achieve consensus in which different activities will occur at each round. Care and attention are crucial to develop the initial broad question that is the Delphi's focus since if respondents fail to comprehend the question, there is a possibility for them to give unsuitable answers and/or become irritated (Hsu & Sandford, 2007). Therefore, in this research, Delphi Round 1 was conducted to brainstorm. The experts were asked to suggest rephrasing and provide any rationale for their choices. The questionnaires, which were distributed to them, were completed and given back to the researcher. Then, the findings of Round 1 were examined based on the research paradigm, i.e. summary statistics (medians plus upper and lower quartiles).

### 3.3.2 Analysis of Delphi Round 2

The responses from Round 1 were aggregated and analysed. All the experts were requested to answer the questionnaire, which was arranged in a 7-point Likert scale. This scale was used in this research for several reasons. Firstly, reliability is optimised with seven response categories (Colman et al., 2011). Next, Miller (1956) contended that the human mind has a span of total judgement capable of distinguishing around seven different categories. Other studies have stated that a 7-point scale resulted in a stronger correlation with t-test outcomes (Lewis, 1993). In this research, the questionnaire was distributed via email and whatsapp; therefore, a 7-point Likert scale also appeared to be suitable for electronic distribution (Finstad, 2010). In Delphi Round 2, data were analysed using Central Tendency Measurement: Median and Interquartile Range (IQR), whereby the latter was utilised by every item to determine the level of consensus amongst the panel of experts. Finally, items with a lack of consensus were identified.

### 3.3.3 Analysis of Delphi Round 3

The questionnaire of Delphi Round 3 was similar to Round 2. Consensus was reached in Round 2 and there was no need to do Round 3. Thus, the outcome of Round 2 was taken as the outcome of Round 3.

### 3.4 *Delphi Data Analysis*

Once the Delphi panel was formed, each panel member was contacted via email, telephone or face-to-face. All the panel members were briefed on the research objectives and what was expected from their participation. This group of experts had the choice of providing their responses via email or writing directly on the questionnaire (hardcopy or softcopy). For Round 1, panel members were given seven days to complete the questionnaire. A reminder email was sent two days before Round 1 submission due date to panel members to complete their task. In addition, the due date was extended for three days for members who could not submit the questionnaire within the time limit. The data collected from all three Delphi rounds were then analysed using MS Excel.

After each Delphi round, the degree of importance and consensus were vindicated prior to making any interpretation. In various past studies (Balasubramanian & Agarwal, 2012; Vernon & Vernon, 2009), as references for the degree of importance and consensus, group response median value and interquartile range distribution were commonly used. In this study, median, interquartile range, and quartile deviation of data from Rounds 1, 2, and 3 were used in the analysis of consensus data. After identifying the median value, interquartile range, and quartile deviation, items were classified based on the consensus and importance levels. In the present research, consensus level was divided into three while importance level had two. The consensus level was recorded as: (i) high, if the quartile deviation was lower or equal to 1; (ii) medium, if the quartile deviation is between 1 and 2; and (iii) no consensus, if the quartile deviation is above 2. On the other hand, importance level was considered very high when the median value is above 5 and low

when the median value is 5 or below. In this research, items with very high importance level and high consensus level were utilised to develop the organisational resilience assessment criteria.

### 3.5. Multivariate Normality

As a result, the partial least squares approach did not need multivariate normality of the data. However, following Peng and Lai (2012)'s recommendation, the multifactorial normality of data was tested rather than making broad prior assumptions. The Web power online application was used to evaluate the multivariate normality of the research data. The multivariate skewness and kurtosis coefficients, as well as p-values, of the Mardia, were computed. The results demonstrate that the multivariate normality assumption for the data was rejected with a p-value less than 0.05, suggesting that the data is abnormal. (Cain, Zhang & Yuan, 2017).

### 3.6. Data Analysis Method

The PLS-SEM was used because of the non-normality data. The finding of the study was presented following Hair, Ringle, and Sarstedt (2014) guidelines for the PLS-SEM. The indicator dependability on an attribute stage is recommended to have a standardised indicator loading of 0.70, whereas the item loading for exploratory investigations is 0.40. Internal consistency was evaluated using Cronbach's alpha and composite reliability. Both values are advised to be 0.70 or above. The median retrieved deviation value for each construct must be 0.50 or higher. The coefficient represents

the amount of input of the variable's effect on the output relationship. The  $r^2$  is a measure of how well the input factors explain the output variables. The impact size ( $f^2$ ) and  $Q^2$  is the model's measure. The model effect size ( $f^2$ ) quantifies how much each input variable influences the outcome of the variable. Cohen's (1988) research makes recommendations for reading the ( $f^2$ ). The big, medium and tiny effects represent the effect sizes of 0.32, 0.15, and 0.02 correspondingly. The  $Q^2$  variable shows the model's predictive relevance, or how accurate the input variables are in predicting the output variables.  $Q^2$  values of 0.02, 0.15, and 0.35 show that the model has moderate, medium, and significant predictive relevance, respectively (Haier et al., 2014).

## 4. Results

### 4.1. Descriptive Statistics

A total of 171 samples were obtained from Malaysian companies, were certified with the MDEC. The majority of responses were men (63.2 %). The respondents aged 30 and up made about 80 % of the sample. The samples were married made up to (48.6 %). The percentage of the respondents had a college education (84.2 percent). Work experience ranging from 6 to 10 years (39.1 percent) and 1-5 years of experience (20.5%) were the two largest categories of responders. The rest have more than ten years of job experience. Malaysians made up the majority of those who responded (76.1 %).

**Table 2.** Respondents' Profile

	n	%		n	%
<i>Gender</i>			<i>Age</i>		
Male	108	63.2	Less than 30 years of age	32	18.7
Female	63	36.8	30-39 years of age	80	46.8
Total	171		40-49 years of age	38	22.2
			50-59 years of age	21	12.3

<i>Education</i>			60 years of age or above	0	
SPM	0	0	Total	17	
				1	
Diploma	35	20.5	<i>Marital Status</i>		
Degree	90	52.6	Single	57	33.3
Master	19	11.1	Married	83	48.6
Others	27	15.8	Divorced	18	10.5
Total	17		Separated	0	0
	1		Widowed	13	7.60
<i>Working Experience</i>			Total	17	
1-5 years ago	35	20.5		1	
6-10 years ago	67	39.1	<i>Nationality</i>		
11-15 years ago	28	16.4	Malaysian	13	76.1
16-20 years ago	18	10.5		0	
21-25 years ago	16	9.4	Non-Malaysian	41	23.9
Over 25 years ago	07	4.1	Total	17	
Total	17			1	
	1				

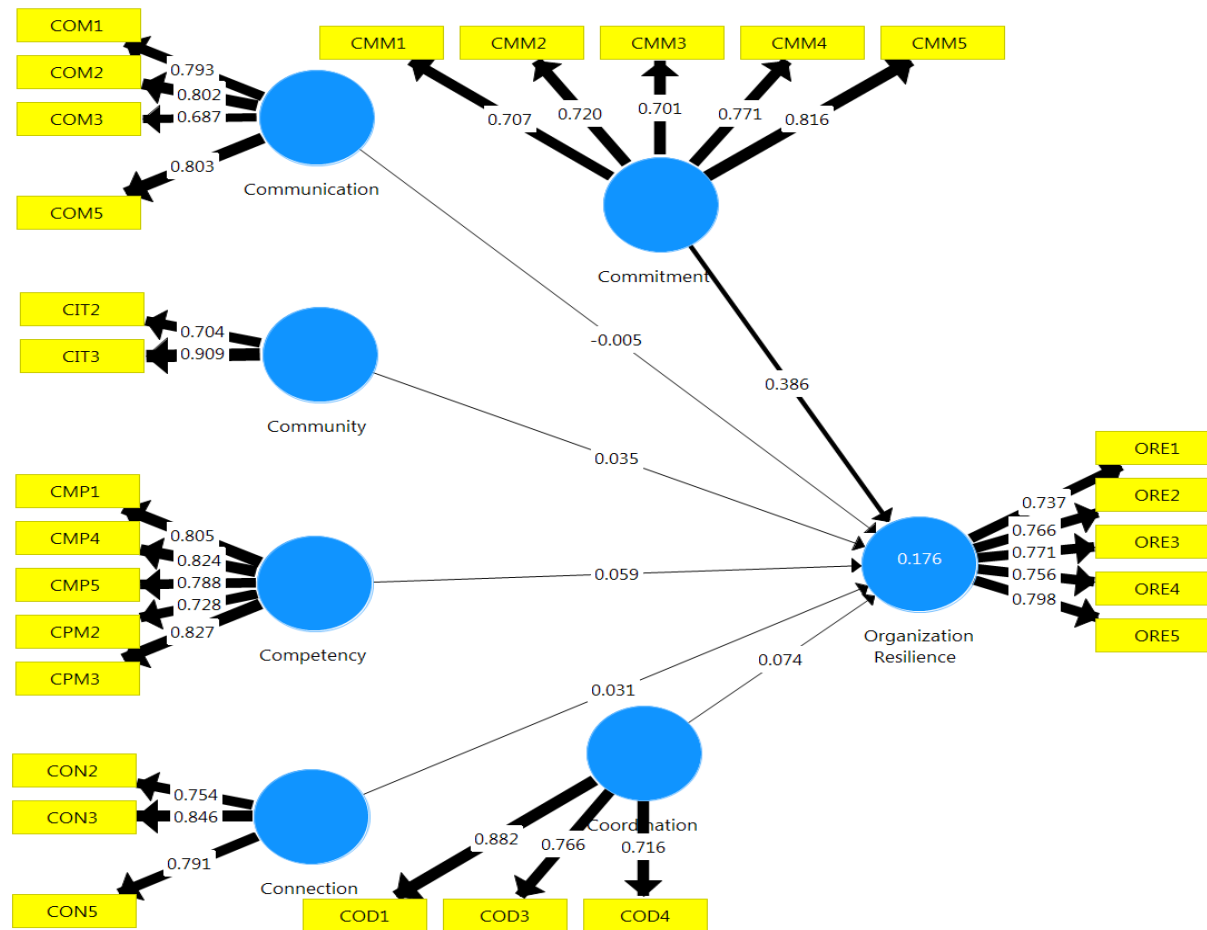
#### 4.2. Validity and Reliability

Hair et al. (2014) propose composite reliability of 0.6 or higher for each construct. According to Table 3, the composite dependability for each construct was 0.65 or higher. The composite reliability represents the cross-functional and cross-evaluation of each construct's question items and the result shows the minimum value is 0.7. As a consequence, the Cronbach's CR values show that the constructions are reliable. To establish convergent validity and demonstrate a unidimensionality, the average value extracted (AVE)

for all items in each construct must be greater than 0.50. It demonstrated that items had adequate convergent validity. To test the discriminant validity, the loading and cross-loading for each item must be examined. The data revealed that the item loads on their respective variables matched the reliability and validity assumption. The findings are shown in the Table 3. The verification for the Fornell-Larcker criterion is another test for discriminant validity. The HTMT ratio is suggested test for discriminant validity. For the study to be valid, the HTMT values must be 0.90 or less. The

results displayed in Table 4 ; the annexure demonstrated that there was no indication of discriminant validity in this study. This is the absolute contribution method (Hair et al., 2017), which researchers must know since dropping formative indicators according to bootstrap outer loading assessment can cause poor content validity.

Nevertheless, in this research, all the indicators were reflective; therefore, dropping reflective indicators may not affect content validity. Figure 1 illustrates the final measurement model after deletion of the items.



**Figure 1 :Final Measurement Model**  
**Table 3. Analysis of Reliability**

Variables	Number of Items	Composite reliability	AVE	VIF
Commitment	5	0.861	0.555	2.012
Communication	5	0.876	0.702	0.866
Community	5	0.853	0.745	1.095
Competency	5	0.904	0.653	1.325
Connection	5	0.683	0.612	1.213
Coordination	5	0.877	0.705	1.051
Org Resilience	5	0.881	0.597	-

**Note:** Org Resilience : Organisational Resilience; AVE: Average Variance extracted

**Table4.** Discriminat Validity

<i>Fronell-Larcker Criterion</i>							
	Commitment	Communication	Community	Competency	Connection	Coordination	Org Resilience
Commitment	0.745						
Communication	0.648	0.838					
Community	0.153	0.055	0.863				
Competency	0.467	0.408	0.074	0.808			
Connection	0.278	0.343	-0.188	0.104	0.782		
Coordination	0.188	0.1	0.11	0.022	0.02	0.839	
Org Resilience	0.419	0.262	0.03	0.154	0.082	-0.105	0.773

<i>Heterotrait-Monotrait Ratios</i>							
	Commitment	Communication	Community	Competency	Connection	Coordination	Org Resilience
Commitment	0.555						
Communication	0.797	0.838					
Community	0.215	0.089	0.863				
Competency	0.54	0.486	0.144	0.808			
Connection	0.372	0.471	0.241	0.143	0.782		
Coordination	0.227	0.108	0.147	0.101	0.083	0.839	
Org Resilience	0.488	0.297	0.064	0.164	0.132	0.133	0.773

## 4.

3. *Path Analysis*

$R^2$  calculation for dependent latent variables, also known as coefficient of determination, is utilised to measure the structural model (Urbach & Ahlemann, 2010; Ghozali, 2008; Moran 2006; Ringle et al., 2005). The  $R^2$  value signifies that the model fitness with the hypothesised relationship is in line with the fact that PLS is fundamentally a regression analysis (Hulland, 2002; Schwager & Etkorn, 2017). According to Cohen (1989),  $R^2$  values that are higher than 0.26, 0.13, and 0.02 are considered substantial, average, and weak, respectively (Cohen, 1998; Parker & Hagan-Burke, 2007). This study's tested model attained an  $R^2_{(adj)}$  of 0.189, as shown in Table 4. This finding implied that the model indicates that the role of employee behavioural streams of ICT employees has average explained in variance towards enhancing organisational resilience.

Stone and Geisser's  $Q^2$  (Geisser, 1975; Stone, 1974) is frequently employed to evaluate

predictive relevance and it can be calculated via the blindfolding technique (Geisser, 1975; Stone, 1974). Blindfolding is a resampling technique which methodically eliminates and estimates each data point of indicators in the reflective measurement model of endogenous constructs. Blindfolding deletes data from the data set according to a predetermined distance value (any number from 5 to 12) termed D (Chin, 2010). If the resulting  $Q^2$  value is larger than 0, this implies that exogenous constructs possess predictive relevance for the examined endogenous constructs (Fornell & Larcker, 2006). The model has high prediction accuracy if the prediction is close to the original values. Findings in Table 5 shows that the predictive relevance of  $Q^2$  of organisation resilience is 0.113, respectively. Hence, the model had sufficient predictive relevance based on the endogenous constructs (organisational resilience) because the  $Q^2$  values were considerably above zero.

**Table 5:**  $R^2$  and Blindfolding Analysis

	<b>R Square</b>	<b>R Square Adjusted</b>	
<b>Organization Resilience</b>	0.217	0.189	

	<b>SSO</b>	<b>SSE</b>	<b><math>Q^2 (=1-SSE/SSO)</math></b>
<b>Commitment</b>	855	855	
<b>Communication</b>	513	513	
<b>Community</b>	342	342	
<b>Competency</b>	855	855	
<b>Connection</b>	684	684	
<b>Coordination</b>	513	513	
<b>Organization Resilience</b>	855	758.003	0.113



**Table 6.** Hypothesis testing

HYPOTHESIS	Relationship	Standard Beta	Sample Mean (M)	Standard Error	t-value	p-value	LL	UL	f <sup>2</sup>	Level of Acceptance	Decision
H1	Commitment → OR	0.508	0.485	0.092	5.509	0*	0.381	0.679	0.16	MEDIUM EFFECT	Supported
H2	Communication → OR	0.002	0.013	0.095	0.021	0.492	-0.175	0.143	0.00	NO EFFECT	Not Supported
H3	Community → OR	-0.031	-0.018	0.089	0.348	0.364	-0.196	0.092	0.00	NO EFFECT	Not Supported
H4	Competency → OR	-0.072	-0.048	0.07	1.039	0.149	-0.251	0.008	0.00	NO EFFECT	Not Supported
H5	Connection → OR	-0.054	0.034	0.109	0.497	0.309	-0.289	0.074	0.00	NO EFFECT	Not Supported
H6	Coordination → OR	0.295	0.299	0.081	2.408	0.008*	0.283	0.355	0.04	SMALL EFFECT	Supported

**Note:** OR: Organisational Resilience

$p < 0.05$ ;  $f^2$ : 0.02 – small effect size, 0.15 – medium effect size, 0.35 – substantial effect size (Cohen, 1988); LL < Beta Value < UL means good confidence interval (CI)

Table 6 above, shows the standardised path coefficients, t-values, and significance level. The path coefficient for the organisational commitment based on the organisational resilience was ( $t = 5.509$ ,  $p = 0$ ), indicating that the H1 is supported. According to the findings, organisational commitment has a positive impact on organisational resilience. The path coefficient for organisational communication on organisational resilience was ( $t = 0.021$ ,  $p = 0.492$ ), indicating that organisational communication has a negative and negligible impact on organisational resilience. The outcomes demonstrated that the H2 was not justified. The path coefficient for organisational community was ( $t = 0.348$ ,  $p = 0.364$ ) indicating that organisational community has a negative and negligible impact on organisational resilience. The or the influence of organisational community perception on organisational resilience. Therefore the outcomes demonstrated that the H3 was not supported. The path coefficient for the organisational competency and connection on organisational resilience was ( $t = 1.039$ ,  $p = 0.149$ ) and ( $t = 0.497$ ,  $p = 0.309$ ), indicating that competency and connection has a negative influence on organisational resilience hence rejecting H4 and H5. The path coefficient for coordination to organisational resilience was ( $t = 2.408$ ,  $p = 0.008$ ), showing that organisational coordination had a positive and significant impact on organisational resilience; it provided evidence for H6 support.

## 5. Discussion

All MSC-certified firms generate goods and services to drive the economy, but they differ in their resilience. The current study attributes resilience to the collective internal resources available to the organisation in the form of its employees and the relationships they make while working at the firm. Six hypotheses were created to investigate the influence of business sustainability among Malaysian MSC status enterprises registered with the MDEC: collective dedication, communications, society, competence, linkage, and organized cooperation. The first hypothesis attempted to analyse the effects of the organization's notion of collective commitment on enterprise resilience.

The result was positive and significant, indicating that enterprise-level commitment is contributing to enterprise resilience. The second hypothesis was to look at the effect of information on organization communication capability towards enhancing resilience. Communication was shown to have no major effect on organization durability, producing a negatively significant outcome. As a result, we believe that communication has little influence on enterprise resilience.

Set of hypotheses examines the impact of collective community perception on enterprise resilience. The study lends credence to the argument that broader community opinion has a unfavourable impact on company sustainability. The findings support prior studies on the influence of collective community perception on company endurance that the resilience in the organizations will be enhanced with an introduction of moderation such as simplified tools and IS Artefacts (Velu et al., 2019). The fourth set of hypotheses investigates the impact of collective competency perception on enterprise resilience. The findings provide evidence to the argument that collective competency has an unfavourable and insignificant impact on enterprise resilience. This indicate that future research need to look into an efficiency methods and tools to upgrade the employees competency in improving enterprise resilience. The fifth set of hypotheses investigates the impact of collective link or connection on enterprise resilience. The research provides weight to the idea that broader employee connection opinion image has a insignificant effect on company endurance. The findings are consistent because of the technology and digital transformation era whereby the connection among employees are not visible and employees are more focus and connected through the internet and technology media to improve the resilience. Therefore future studies should focus on moderation effect on improving organizational resilience. The sixth hypothesis analyses the effect of perceived group coordination on organization endurance. This study adds thought to the notion that collective community perception has a direct influence on company stability. The outcome is consistent

with previous studies on the role of collective coordinating perspective in the context of risk.

## 6. Conclusion

This research is an intentional endeavour to improve understanding of organisational resilience by developing and testing novel models (Annarlli & Nonino, 2020). We associate the organisational collective view of the people to organisational resilience by shaping organizational resilience to be the ability attitude of the corporation (Abubakar et al., 2021). The study's findings show that organisational employees' collective attitudes regarding the organisational society, expertise, linkage, and synchronization have a significant impact on their view of organisational resilience. According to this study, people's beliefs of being a resource boost organizational efficiency. (Burnard & Bhamra, 2019) and contributes to the concept by offering a coherent viewpoint basis as well as varied understandings of organisational resilience to arrive at conclusions of how the communal contribute to corporate sustainability when aggregated. This research adds to past studies to study and deepen understanding of organizational resistance as a mechanism that can be evaluated and improved throughout the period. The study's findings imply to managers and policymakers that people are an organization's most valuable resource. The favourable synergy among personnel allows the organisation to become more robust. As a result, management must undertake ways to create a more resilient organisation (Florek-Paszowska et al., 2021). In addition, authorities must develop a benchmarking system in which organisational resistance is recognised as a useful resource to achieve a successful business, nationwide. A resistant enterprise in the country benefits the society's well-being, and companies functioning under regular situations may be guaranteed profitability as well.

The study's limitation is that it sought to assess companies endurance strength based on the collective perspective of the individuals in the company and the perception of an internal social structure. Other features of resilient origination were unable to be accommodated,

such as role clarity, response mechanism, or other structural factors. Future research can increase the model's contribution to a better analysis of organizational durability by integrating these properties. The influence of collaboration and motivation on organizational support, on the other hand, was shown to be unfavourable in this study. Future studies should focus on the intricacies of how communication and devotion might increase strategic flexibility. Future research should look at how time affects perseverance as capacity fluctuates with the organisation across duration. It helps managers to see persistence as a capacity that must be improved significantly.

## References

1. Abubakar, M., Zailani, B. M., Abdullahi, M., & Auwal, A. M. (2021). Potential of adopting a resilient safety culture toward improving the safety performance of construction organizations in Nigeria. *Journal of Engineering, Design and Technology*. <https://doi.org/10.1108/JEDT-09-2020-0354>
2. Annarelli, A. and Nonino, F. (2016). Strategic and operational management of organisational resilience: Current state of research and future directions, *Omega*, 62: 1-18
3. Annarelli, A., Battistella, C., & Nonino, F. (2020). A framework to evaluate the effects of organizational resilience on service quality. *Sustainability (Switzerland)*. <https://doi.org/10.3390/su12030958>
4. Akgun A.E. and Keskin H. (2014). Organisational resilience capacity and firm product innovativeness and performance. *International Journal of Production Research*. 52(23): 6918-6937.
5. Allen, N. J. and Meyer, J. P. (1990). The measurement and antecedents of affective, continuance and normative commitment to the organisation. *Journal of Occupational and Organisational Psychology*, 63:1-18
6. Asgary, A., Kong, A. and Levy, J. (2009). Fuzzy-Jess expert system for indexing business resiliency. In *TIC-STH'09: 2009 IEEE Toronto International Conference - Science and Technology for Humanity*, 26<sup>th</sup>

- and 27<sup>th</sup> September 2009, Toronto, Ontario, Canada.
7. Balasubramanian, R., & Agarwal, D. (2012). Delphi Technique- A Review. *International Journal of Public Health Dentistry*.
  8. Bhaskara, G. I., & Filimonau, V. (2021). The COVID-19 pandemic and organisational learning for disaster planning and management: A perspective of tourism businesses from a destination prone to consecutive disasters. *Journal of Hospitality and Tourism Management*, 46. <https://doi.org/10.1016/j.jhtm.2021.01.011>
  9. Buckle, P. (2006). "Assessing social resilience" Disaster resilience: An integrated approach, D. Paton and D. Johnston, eds., Charles C. Thomas, Springfield, IL.
  10. Burnard, K. J., & Bhamra, R. (2019). Challenges for organisational resilience. *Continuity & Resilience Review*, 1(1). <https://doi.org/10.1108/crr-01-2019-0008>
  11. Cain, M. K., Zhang, Z., and Yuan, K.-H. (2017). Univariate and multivariate skewness and kurtosis for measuring nonnormality: Prevalence, influence and estimation. *Behavior Research Methods*, 49(5): 1716-1735.
  12. Caralli, R. A., Curtis, P. D., Allen, J. H., White, D. W., and Young, L. R. (2010). Improving operational resilience processes: The CERT® resilience management model. In: *2010 IEEE Second International Conference on Social Computing*, 22<sup>nd</sup> to 24<sup>th</sup> August, Minneapolis, Minnesota, USA.
  13. Castro, M. V. de M., de Araújo, M. L., Ribeiro, A. M., Demo, G., & Meneses, P. P. M. (2020). Implementation of strategic human resource management practices: a review of the national scientific production and new research paths. In *Revista de Gestao* (Vol. 27, Issue 3). <https://doi.org/10.1108/REG-10-2018-0102>
  14. Chen, R., Liu, Y., & Zhou, F. (2021). Turning danger into safety: The origin, research context and theoretical framework of organizational resilience. *IEEE Access*, 9. <https://doi.org/10.1109/ACCESS.2021.3069301>
  15. Chen, P. L., Shen, M. S., & Hsu, Y. H. (2021). Psychological capital as a mediator: Effect of the teaching beliefs of classical reading program teachers on classroom management effectiveness. *Journal of Research in Education Sciences*, 66(2). [https://doi.org/10.6209/JORIES.202106\\_66\(2\).0007](https://doi.org/10.6209/JORIES.202106_66(2).0007)
  16. Chin, W.W. (2010), "How to write up and report PLS analyses", in Vinzi, V.E., Chin, W.W., Henseler, J. and Wang, H. (Eds), *Handbook of Partial Least Squares*, Springer, Berlin.
  17. Cohen, J. (1988), *Statistical Power Analysis for the Behavioral Sciences*, 2nd ed., Lawrence Earlbaum Associates, Hillsdale, NJ.
  18. Colman, A. M., Norris, C. E., & Preston, C. C. (2011). Comparing Rating Scales of Different Lengths: Equivalence of Scores from 5-Point and 7-Point Scales. *Psychological Reports*. <https://doi.org/10.2466/pr0.1997.80.2.355>
  19. Connor and Davidson (2003). Development of a new resilience scale: The Connor-Davidson resilience scale (CR-RISC). *Depression and Anxiety*. 18: 76–82.
  20. Crane, M. F., Falon, S. L., Kho, M., Moss, A., & Adler, A. B. (2021). Developing resilience in first responders: Strategies for enhancing psychoeducational service delivery. *Psychological Services*. <https://doi.org/10.1037/ser0000439>
  21. Danes, S. M., Lee, J., Amarapurkar, S., Stafford, K., Haynes, G., Brewton, K. E. (2009). Determinants of family business resilience after a natural disaster by gender of business owner. *Journal of Developmental Entrepreneurship*. 14(4): 333-354.
  22. Dunn, J. C., & Zimmer, C. (2020). Self-determination theory. In *Routledge Handbook of Adapted Physical Education*. <https://doi.org/10.4324/9780429052675-23>
  23. Florek-Paszowska, A., Ujwary-Gil, A., & Godlewska-Dzioboń, B. (2021). Business innovation and critical success factors in the era of digital transformation and turbulent times. *Journal of*

- Entrepreneurship, Management and Innovation*, 17(4).  
<https://doi.org/10.7341/20211741>
24. Fornell, C., & Larcker, D. F. (2006). Structural Equation Models with Unobservable Variables and Measurement Error: Algebra and Statistics. *Journal of Marketing Research*.  
<https://doi.org/10.2307/3150980>
  25. Fox, R. (2018). Creating a flow organization to lead into the future. In *Handbook of Personal and Organizational Transformation*.  
[https://doi.org/10.1007/978-3-319-66893-2\\_24](https://doi.org/10.1007/978-3-319-66893-2_24)
  26. Geisser, S. (1975). Predictive inference: An introduction. In *Predictive Inference: An Introduction*.  
<https://doi.org/10.1201/9780203742310>
  27. Hair, J.F., Ringle, C.M. and Sarstedt, M. (2014), "Editorial-partial least squares structural equation modeling: rigorous applications, better results and higher acceptance", *Long Range Planning*. 46(1/2): 1-12.
  28. Hair, J. F., Babin, B. J., & Krey, N. (2017). Covariance-Based Structural Equation Modeling in the Journal of Advertising: Review and Recommendations. *Journal of Advertising*.  
<https://doi.org/10.1080/00913367.2017.1281777>
  29. Hamel., G. and Valikangas L. (2003). The quest for resilience. *Harvard Business Review*. 81(9): 52-63.
  30. Hartvigsen, G., Kinzig, A., & Peterson, G. (1998). Use and analysis of complex adaptive systems in ecosystem science: Overview of special section. In *Ecosystems* (pp. 427–430).  
<https://doi.org/10.1007/s100219900036>
  31. Herbane, B. (2019). Rethinking organizational resilience and strategic renewal in SMEs. *Entrepreneurship and Regional Development*.
  32. Hussain, M., & Papastathopoulos, A. (2022). Organizational readiness for digital financial innovation and financial resilience. *International Journal of Production Economics*, 243.  
<https://doi.org/10.1016/j.ijpe.2021.108326>
  33. Hormann, S. (2018). Exploring Resilience: in the Face of Trauma. *Humanistic Management Journal*.  
<https://doi.org/10.1007/s41463-018-0035-0>
  34. Horne III, J. F., & Orr, J. E. (1998). Assessing behaviors that create resilient organisations. *Employment Relations Today*, 24(4): 29-39.
  35. Hsu, C., & Sandford, B. (2007). The delphi technique: making sense of consensus. *Practical Assessment, Research & Evaluation(a Peer-Reviewed Electronic Journal)*. <https://doi.org/10.1021/bk-2008-1001.ch002>
  36. Hulland, J. (2002). Use of partial least squares (PLS) in strategic management research: a review of four recent studies. *Strategic Management Journal*.  
[https://doi.org/10.1002/\(sici\)1097-0266\(199902\)20:2<195::aid-smj13>3.3.co;2-z](https://doi.org/10.1002/(sici)1097-0266(199902)20:2<195::aid-smj13>3.3.co;2-z)
  37. Hulland, J., Baumgartner, H., & Smith, K. M. (2017). Marketing survey research best practices: evidence and recommendations from a review of JAMS articles. *Journal of the Academy of Marketing Science*, 1–17.  
<https://doi.org/10.1007/s11747-017-0532-y>
  38. Kay, E., Brown, C., Hatton, T., Stevenson, J. R., Seville, E., & Vargo, J. (2019). Business recovery from disaster: A research update for practitioners. *Australasian Journal of Disaster and Trauma Studies*, 23(2).
  39. Kuntz, J. R. C., Malinen, S., & Näswall, K. (2017). Employee resilience: Directions for resilience development. *Consulting Psychology Journal*.  
<https://doi.org/10.1037/cpb0000097>
  40. Lee AV, Vargo J, and Seville E.(2013) Developing a tool to measure and compare organisations' resilience. *Natural Hazards Review* 14(1): 29-41.
  41. Linnenluecke, M., K. (2017). Resilience in Business and Management Research: A Review of Influential Publications and a Research Agenda. *International Journal of Management Reviews*, 19(1): 4-30.
  42. Luthans, F. (2002). The need for and meaning of positive organisational behavior. *Journal of Organisational Behavior*: 23: 695-706.

43. Mallak, L., A. (1998). "Measuring resilience in health care provider organisations." *Health Manpower Management*, 24(4): 148-152.
44. Mafabi, S., Munene, J. C., & Ahiauzu, A. (2015). Creative climate and organisational resilience: the mediating role of innovation. *International Journal of Organizational Analysis*, 23(4). <https://doi.org/10.1108/IJOA-07-2012-0596>
45. Marchau, V., & van de Linde, E. (2016). The Delphi method. In *Foresight in Organizations: Methods and Tools*. <https://doi.org/10.4324/9781315728513>
46. McManus, S., Seville, E., Vargo, J., and Brunson, D. (2008). "A facilitated process for improving organisational resilience." *Natural Hazard Review*. 9(2): 81-90.
47. MetaCalfe, J., S. (1994). Competition, Evolution and the capital. *Metroeconomica*. 45(2): 127-154.
48. Mullen, P. M. (2003). Delphi: Myths and reality. *Journal of Health Organization and Management*. <https://doi.org/10.1108/14777260310469319>
49. Peng, D.X. and Lai, F. (2012), "Using partial least squares in operations management research: a practical guideline and summary of past research", *Journal of Operations Management*. 30(6): 467480.
50. Parker, R. I., & Hagan-Burke, S. (2007). Useful Effect Size Interpretations for Single Case Research. *Behavior Therapy*. <https://doi.org/10.1016/j.beth.2006.05.002>
51. Phillips, J. (2019). Building Resilience in Virtual Online Networks: A Case Study on Developing Resilience in Digital Response Networks (DRNS) through Networked Operational Resilience (NOR). In *ProQuest Dissertations and Theses*.
52. Podsakoff, P.M., MacKenzie, S.B., Lee, J.-Y. and Podsakoff, N.P. (2003), "Common method biases in behavioral research: a critical review of the literature and recommended remedies", *Journal of Applied Psychology*. 88(5): 879-903.
53. Powley, E. H. (2009). Reclaiming resilience and safety: Resilience activation in the critical period of crisis. *Human Relations*, 62(9): 1289-1326.
54. Rahi, K. (2019). Indicators to assess organizational resilience – a review of empirical literature. In *International Journal of Disaster Resilience in the Built Environment*. <https://doi.org/10.1108/IJDRBE-11-2018-0046>
55. Riolli, L., and Savicki, V. (2003). Information system organisational resilience. *Omega*. 31(1): 227-233.
56. Rodriguez-Sanchez, A., Guinot, J., Chiva, R., & Lopez-Cabrales, A. (2021). How to emerge stronger: Antecedents and consequences of organizational resilience. In *Journal of Management and Organization* (Vol. 27, Issue 3). <https://doi.org/10.1017/jmo.2019.5>
57. Ruiz-Martin, C., López-Paredes, A., and Wainer, G. (2018). What we know and do not know about organisational resilience. *International Journal of Production Management and Engineering*. 6(1): 11-28.
58. Ryan, R. M., Soenens, B., & Vansteenkiste, M. (2019). Reflections on self-determination theory as an organizing framework for personality psychology: Interfaces, integrations, issues, and unfinished business. *Journal of Personality*, 87(1), 115–145. <https://doi.org/10.1111/jopy.12440>
59. Schwager, J. D., & Etkorn, M. (2017). Introduction to Regression Analysis. In *A Complete Guide to the Futures Market*. [https://doi.org/10.1002/9781119209713.app\\_1](https://doi.org/10.1002/9781119209713.app_1)
60. Selamat, M. H. (2021). Developing civil servants' engagement and participation in cost reduction policy through meta-abilities: A case of Malaysia. *International Journal of Management Practice*, 14(1). <https://doi.org/10.1504/IJMP.2021.111776>
61. Sheffi, Y. (2007). Building a Resilient Organisation. *The Bridge - National Academy of Engineering*. 37(1): 30-36.
62. Somers, S. (2009). "Measuring resilience potential: An adaptive strategy for organisational crisis planning." *Journal of Contingencies Crisis Management*. 17(1):

- 12-23.
63. Sheldon, K. M. (2011). Integrating Behavioral-Motive and Experiential-Requirement Perspectives on Psychological Needs: A Two Process Model. *Psychological Review*. <https://doi.org/10.1037/a0024758>
64. Stone, M. (1974). Cross-Validatory Choice and Assessment of Statistical Predictions (With Discussion). *Journal of the Royal Statistical Society: Series B (Methodological)*, 37. <https://doi.org/10.1111/j.2517-6161.1976.tb01573.x>
65. Turoff, M. (1975). The Policy Delphi. In *The Delphi Method: Techniques and Applications*. <https://doi.org/10.2307/1268751>
66. Turoff, M., & Linstone, H. A. (2002). The Policy Delphi. *The Delphi Method: Techniques and Applications*. <https://doi.org/10.2307/1268751>
67. Van den Broeck, A., Ferris, D. L., Chang, C. H., & Rosen, C. C. (2016). A Review of Self-Determination Theory's Basic Psychological Needs at Work. *Journal of Management*, 42(5), 1195–1229. <https://doi.org/10.1177/0149206316632058>
68. Velu, S. R., Al Mamun, A., Kanesan, T., Hayat, N., & Gopinathan, S. (2019). Effect of information system artifacts on organizational resilience: A study among Malaysian SMEs. *Sustainability (Switzerland)*, 11(11), 1–24. <https://doi.org/10.3390/su11113177>
69. W. Britt, T., & Sawhney, G. (2020). Resilience capacity, processes and demonstration at the employee, team and organizational levels: a multilevel perspective. In *Research Handbook on Organizational Resilience*. <https://doi.org/10.4337/9781788112215.00008>
70. Wangnild (2009). A review of the Resilience Scale. *Journal of Nursing Measurement*. 17(2): 105-113.
71. Wicker, P., Filo, K., and Cuskelly, G. (2013). Organisational resilience of community sport clubs impacted by natural disasters. *Journal of Sport Management*, 27(6):510-525.
72. Wing S., C. and Wai O. H., (2009). "Determinants of the critical success factor of disaster recovery planning for information systems", *Information Management & Computer Security*. 17(3): 248-275.
73. Whitman, Z. R., Kachali, H., Roger, D., Vargo, J., Seville, E. (2013). Short-form version of the Benchmark Resilience Tool (BRT-53). *Measuring Business Excellence*. 17(3):3-14.
72. Zhou, H., Wang, J., Wan, J., & Jia, H. (2010). Resilience to natural hazards: A geographic perspective. *Natural Hazards*, Vol. 53(1), 21–41. <https://doi.org/10.1007/s11069-009-9407-y>