Impact Dynamic Capabilities on Organizational Resilience of SMEs in Egypt

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Abstract:

The study examined the relationship between dynamic capabilities and organizational resilience of SMEs in Egyptian market. The dynamic capability was classified to sensing, seizing and reconfiguration, while organizational resilience was classified to readiness, response and recovery. Cross-sectional survey research was designed to collect data for analysis. Using online questionnaires data was collected from SMEs working in different industries, with a sample of 100 responder. The data was analyzed using Structure Equation Modeling in AMOS 26 for statistical analysis. The results of the analysis confirmed that dynamic capabilities are positively correlated with the measures of organizational resilience. This study proved that dynamic capabilities in terms of sensing, seizing and reconfiguration, positively impact organizational resilience in terms of readiness, response and recovery. SMEs have to develop their seizing and

reconfiguration capabilities, if they are seeking to improve their resource allocation and strategic planning. It was recommended to perform similar studies but on specific industrial area. Also, a similar study can be executed for certain market turbulence period pre-disruption, during and post.

Keywords: Dynamic Capabilities, Organizational Resilience, Sensing, Seizing, Reconfiguration, Readiness, Response, Recovery

1. Introduction:

Small and Medium Enterprises (SME's) play an important role in economic development and employment, at the national and global economies. They play a major role in creating new job opportunities, improving employees productivity, developing and increasing the volume of exports, provide support services to large industries, developing economies and in accelerating business growth (Al Dhaheri, Ahmad, & Papastathopoulos, 2024) (Mansour, Eleshmawiy, Abdelazez, & Abd El-Ghani, 2018).

The World Bank (WB) stated that SMEs have a positive impact on the growth of global economy in terms of GDP and employment (Abdel Bary , 2019). Globally, the World Economic forum estimated that the SMEs contribution to global economy reached 70% (World Economic Forum, 2021). (Mansour, Eleshmawiy, Abdelazez, & Abd El-Ghani, 2018) mentioned in their research that took place in 2018 that SMEs contribute 33% of GDP in emerging economies. Job creation was another contribution noticed for

SMEs; World Economic Forum, stated in their report that SMEs account for 70% of employment worldwide (World Economic Forum, 2021), while (Mansour, Eleshmawiy, Abdelazez, & Abd El-Ghani, 2018) stated SMEs contribute up to 45% of total employment in emerging economies.

Egypt has 2.5 million SMEs, accounting for more than 90% of the country's enterprises and 75% of the workforce; many of them are in manufacturing (Marzouk & Jin, 2022). According to CAPMAS data from 2017, Egypt has 3,771,240 private sector enterprises, of which 3,769,544 are micro, small, and medium enterprises, which represent 99.1% of private sector enterprises (BARAKAT, 2021). OECD in their annual report for Egypt stated that SMEs represent 98% of businesses in Egypt (OECD, 2024). According to GEM in 2021, 44.6% of the Total early-stage Entrepreneurial Activity was made up of consumer sector services, including retailing, restaurants, and personal services, 39.2% is made of transformative services including manufacturing and logistics, 6.7% business-oriented services and 9.5% extractives services which includes mining and agriculture (ISMAIL, et al., 2021/2022). These services have helped in improving the GDP, increasing national exports and investments (Abdel Bary , 2019). Also, these services have helped SMEs to function as supportive function to larger entities, by providing them with financial or technological services (Abdel Bary , 2019).

Complexity of the global systems; economic, social and environmental, lead to uncertainty and risk that threaten the survival of companies of different sizes and ages in different economic sectors (Florez-Jimenez, Lleo, Danvila-del-Valle, & Saanchez-Marın, 2024). These complexities are the result of crisis and continuous changes, that arise from high competition in business environment, continuous advances in technology, natural disasters, terrorist attacks or pandemics. For example, the COVID-19 crisis, triggered global crisis impacted the global supply chain, supply side was blocked due to factory closures, and job losses, while the demand side was marked by a sharp decline in business investments demand, leading to financial loses (Marzouk & Jin, 2022) (Miceli, Hagen, Riccardi, Sotti , & Settembre-Blundo, 2021). All these challenges place any enterprise, especially the SMEs, in a difficult position where they need to adapt in order to survive.

There are two points of views discussing how SME's can respond to turbulences. The first point of view suggests that due to the small size of SME's and their limited access to resources such as financial resources, inflexible supply chains and operations, and limited experience in strategic planning for any possible disruptive event, they will face more difficulties and challenges that may affect their survival and growth (Ozanne , Chowdhury, Prayag, & Mollenkopf, 2022), (Kurtz & Varvakis, 2016) (Jiang, Ritchie, & Verreynne) (Al Dhaheri, Ahmad, &

Papastathopoulos, 2024). On the other hand, some researchers consider the small size, gives SMEs a niche, in other words it makes them more agile and responsive to changes than larger organizations during turbulent time. This gives SMEs the advantage to reconfigure their structure and existing resources, to face the upcoming challenges and adapt to them (Ozanne , Chowdhury, Prayag, & Mollenkopf, 2022) (Putritamara, et al., 2023). In either scenario, for SMEs to survive, they must make use of any opportunity that arise during periods of turbulence and focus on investing in their human resources, dynamic resources and innovative solutions, in order by provide high quality services that ensures customer satisfaction, brand loyalty, profitability and growth (Al Dhaheri, Ahmad, & Papastathopoulos, 2024). It is worth knowing that failure of SMEs makes a national and global risk on the economies (Al Dhaheri, Ahmad, & Papastathopoulos, 2024).

As global challenges keep evolving locally and globally, organizations of different sizes keep facing opportunities and threats internally and externally (Permatasari, Dhewanto, & Dellyana, 2023). Dynamic capabilities (DC) are one of the tools that allow organizations to use its capabilities to face environmental turbulences, otherwise the organization will face the risk of failure (Kaur & Mehta, 2017). DC works on renewing and making better use of available resources and capabilities, to make use of available threats and opportunities. DC was first

defined by Teece, Pisano and Shuen, which was formally published in 1994 as "the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments" (TEECE, PISANO, & SHUEN, 1997) (Wided, 2022) (Kaur & Mehta, 2017).

Businesses race to increase their resilience to withstand changes that vary in complexity, degree and intensity (Miceli, Hagen, Riccardi, Sotti , & Settembre-Blundo, 2021). An organization must have organizational resilience, which helps it predict probable environmental fluctuations, prepare the suitable procedures to absorb and adapt to the environmental dynamism, and finally recover. COVID-19 pandemic revealed that organizations were not ready to meet such global crisis, and therefore its necessary for organizations to be ready for similar events with effective responses for to meet possible challenges that might impact its operations, supply chains, and the overall economy, as well as the well-being of their staff (Miceli, Hagen, Riccardi, Sotti , & Settembre-Blundo, 2021).

Organizations always look for attempted risks, and based on their analysis they decide whether there is an opportunity in the anticipated risk, that may realize profit or it is something that must be avoided (Putritamara, et al., 2023). During turbulent time, DC must be coupled with organizational resilience, as these capabilities provide approaches to learn more about their daily operational

routines and organizational resources, which improve their organizational resilience by innovating their routines to protect their key resources, adapt to the environmental turbulences, identify new opportunities which may lead to improving current products, services and processes or introducing new ones (Jiang, Ritchie, & Verreynne) (Barinua & Nwimua , 2022).

The study aims to determine performance of Egyptian SMEs during disruptions, by analyzing the role of DC and organizational resilience. The paper starts by with an introduction to the research paper, followed by the literature review on DC and organizational resilience, which includes definitions of the variables and their dimensions. After that the researcher presents the conceptual framework and the hypothesis that will be tested in this study. This is followed by data analysis and explanation of the findings. Finally, we conclude and provide recommendation for future research.

2. Literature Review
2.1. Dynamic Capabilities
2.1.1. Definition

Dynamic capability was first introduced in 1994 by Teece as "the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments" (TEECE, PISANO, & SHUEN, 1997) (Wided, 2022). Organizations have two types of capabilities which are, operational capabilities and DC (Wilden, Gudergan, Nielsen, & Lings, 2013).

Operational capabilities enable the organization to perform "an activity on an on-going basis using more or less the same techniques on the same scale to support existing products and services for the same customer population" (Wilden, Gudergan, Nielsen, & Lings, 2013). They are considered as inputs to DC (Salwan, Patankar, Shandilya, Iyengar, & Thakur, 2023). On the other hand, DC deal with deal with strategic decisions, and how to reconfigure the organization to meet the environmental changes (Wilden, Gudergan, Nielsen, & Lings, 2013).

DC is considered as an extension to Resource Based View (RBV) (Karman & Savaneviciene, 2021) (Al Dhaheri, Ahmad, & Papastathopoulos, 2024). While RBV focuses on how to make the efficient and effective use of valuable, rare and non-substitutable resources and capabilities, to reach sustained competitive advantage, DC extend this theory to the ability to adapt and innovate in order to respond to environmental turbulences (Wided, 2022) (Al Dhaheri, Ahmad, & Papastathopoulos, 2024).

(Akpan, Johnny, & Sylva, 2022) defined DC manufacturing firms as "the dexterity of organizations to identify areas that need a change (sensing capability), need to develop an appropriate line of actions and need to implement a course of action (reconfiguration capability)". Also, (Jiang, Ritchie, & Verreynne) defined DC as "the mechanisms that enable organizational resilience to environmental

turbulence (such as crises and disasters) through a process of routine transformation, resource allocation, and utilization". (Kurtz & Varvakis, 2016) argue that DC is "the ability to adapt to rapid changes and unpredictable environments, being proposed as instruments for the reconstruction of existing capacities, classified as sensing/detection, learning, integration and coordination capacity. (Wu, He, & Duan, 2013) defined the DC for corporate sustainability as "firms' abilities to address the rapidly evolving sustainability expectations of stakeholders by purposefully modifying functional capabilities for the simultaneous pursuit of economic, environmental and social competence". Furthermore, (Ralf Wilden & Siegfried P. Gudergan, 2015) stated that DC as "the firm's ability to engage in market-based learning and use the resulting insight to reconfigure the firm's resources and enhance its capabilities in ways that reflect the firm's dynamic market environment." Finally, (Ozanne , Chowdhury, Prayag, & Mollenkopf, 2022), defined DC as "the organization's ability to integrate, build and reconfigure internal and external resources, and competencies in real time, in order respond rapidly to changing business environment".

DC are essential for SMEs, in order to respond to environmental turbulences taking place, they help SMEs identify growth opportunities, effectively use their resources; by reallocating the resources, to the right places and at the right time, make use of the emerging technologies such as such as Artificial Intelligence and implement sustainable practices (Al

Dhaheri, Ahmad, & Papastathopoulos, 2024). (Taghizadeh, Rahman, Nikbin, Radomska, & Far, 2023) added that managers can use DC and their measures to make decisions and develop new products even in turbulent environment.

2.1.2. Dimensions of Dynamic Capabilities:

Different authors have placed different dimensions to DC. DC has been conceptualized through the three components sensing, seizing and reconfiguring/transforming (Ozanne , Chowdhury, Prayag, & Mollenkopf, 2022) (Putritamara, et al., 2023) (Kangala, 2023) (Karman & Savaneviciene, 2021). **Sensing** refers to the organizations ability to identify changes in the environment. This includes identifying the new market trends and analyzing them, to decide whether they are a threat or they might be an opportunity that may be used. New market trends are analyzed to decide whether to work on them or neglect them, or working on innovating the existing ideas. **Seizing** refers to utilization of necessary resources to make use of the identified market opportunities in sensing phase, in order to create value but also to minimize disruptions. This involves finding solutions for customers and adopting best industry practices to deliver value. **Reconfiguring** it is all about being up-to-date, in other words always be aware of the continues innovations in market to meet the customer expectations in the rapid changing market (Ozanne , Chowdhury, Prayag, & Mollenkopf, 2022).

Other researchers like (Ralf Wilden & Siegfried P. Gudergan, 2015) (Akpan, Johnny, & Sylva, 2022) , considered that DC are encapsulated in **sensing** and **reconfiguration. Sensing** involves identifying and understanding new technologies, market trends which impact customer preferences, this includes learning about customers, competitors, and the broader environment through various methods such as building relationships with stakeholders and staying updated on industry practices (Ralf Wilden & Siegfried P. Gudergan, 2015). Based on sensing a firm start to reconfigure its capabilities to better match the evolving market and technological landscape, by adapting and enhancing existing capabilities to align with these changes, ensuring the firm remains competitive and responsive to external shifts (Ralf Wilden & Siegfried P. Gudergan, 2015).

(Al Dhaheri, Ahmad, & Papastathopoulos, 2024), (Kurtz & Varvakis, 2016) and (Wided, 2022) classify DC to sensing/detection, learning, integration and coordination capacity. (Taghizadeh, Rahman, Nikbin, Radomska, & Far, 2023) supported the same classification and defined them as follows, (1) **sensing** capabilities to spot, interpret and pursue opportunities that it perceives from internal and external stimuli; (2) **learning** capabilities to determine what organizational capabilities must be revamped, rebuilt or reconfigured into new knowledge; (3) **integrating** capabilities to integrate assets and resource for new

resource configuration; and (4) **coordinating** capabilities to implement and use the reconfigured capabilities.

(Barinua & Nwimua , 2022) classify DC components to **sensing**: refers to the organizations ability to scan, understand and explore opportunities and threats in the market, **learning**: is an important to develop and build new capabilities, and **integration**: it is built on combining whether they are tangible or intangible.

Finally, (Wu, He, & Duan, 2013) classified DC as **monitoring capability**: "it refers to a company's ability to systematically observe, analyze, interpret environmental changes and stakeholders emerging sustainable requirements", **seizing capability**: "involves the function to sense new business opportunities, it can be applied to secure sustainable development opportunities i.e. generating economic, social and environmental values, from the rapidly changing stakeholders' expectations. and **reconfiguration capability:** "represents how organizations change their existing resources and capabilities"

The researcher in this paper supports that DC dimensions are sensing, seizing and reconfiguration, especially that they were supported by more than one researcher. Also, (Ozanne , Chowdhury, Prayag, & Mollenkopf, 2022) suggest that readiness, response and recovery elements of organizational resilience (which will be discussed in the next section) are enhanced by sensing, seizing and reconfiguring capabilities during unexpected events.

From the previous, the two most agreed on variables are at least sensing and reconfiguration as dimensions for DC. These two dimensions play an important role in improvement of DC by time due to continuous engagement in the market to learn and gather information about changes in the market, customer preferences, current market segment and other unserved market segments, and gain knowledge about emerging technologies sooner and how to make use of them. During turbulent times sensing process has a strong positive direct impact on capabilities as firms are always in need and depend on updated external knowledge, the opposite is true during stable environment. This ongoing learning process leads to ongoing reconfiguration to capabilities, enhancing the firm's operational capabilities and reducing variability in outcome, in order to adapt as a response to the continuously changing environment. Firms that lack these capabilities will suffer from the gap between the existing market and what they have, which may lead to their soon failure (Ralf Wilden & Siegfried P. Gudergan, 2015).

2.2. Organizational Resilience
2.2.1. Definition

The first formal use for the term resilience was by Holling in 1973 in the field of ecology, where it was defined as the ability of a system to return to equilibrium after a disturbance (Martinelli, Tagliazucchi, & Marchi, 2018). Since then, it was widely used in different fields as socio-ecological systems, individual and

organizational psychology, crisis and disaster management, high-reliability organizations, supply chain management and strategic management (Martinelli, Tagliazucchi, & Marchi, 2018). Organizational resiliencies nowadays is a must have capability for managers who are seeking to build an organizations capable to identify risks in a turbulent environment and survive them (Marzouk & Jin, 2022). Resilience deals with the complications arising from the interdependence of socio-economic, financial and technological systems, and works on finding resolutions for the rising unexpected changes (Miceli, Hagen, Riccardi, Sotti , & Settembre-Blundo, 2021).

Organizational resilience is a complex term, that encompasses an organization to return to the state before an environmental turbulence. (Ozanne , Chowdhury, Prayag, & Mollenkopf, 2022) defined the organizational resilience as an "organization's ability not only to develop preventive capacity to face any unexpected disruptions but also to take the necessary and quick actions to respond and recover from that disruption to ensure business continuity".

(Akpan, Johnny, & Sylva, 2022) defined organizational resilience as "the capacity of the firm to foresee possible unfavorable occurrences and resist through the adaptation of possible measures to contain with the threats and to recover by restoring the organization or state to a stable and acceptable state as much as possible".

Furthermore, (Jiang, Ritchie, & Verreynne) defined organizational resilience as "an organization's ability to persist and withstand external environmental changes (preparation), mitigate and cope with negative effects caused by the changes (response), and bounce forward to a new state for better future performance (recovery)".

(Kurtz & Varvakis, 2016) defined organizational resilience as "ability to maintain the functionality of a system when it is perturbed or the ability to maintain the elements required to renew or reorganize if a disturbance alters the structure of function of a system". (Martinelli, Tagliazucchi, & Marchi, 2018) define organization resilience as "firm's ability to effectively absorb, develop situation-specific responses to, and ultimately engage in transformative activities to capitalize on disruptive surprises that potentially threaten organization survival".

(Lin, Fan, & , 2024) defines organizational resilience as "a firm's ability to proactively anticipate and adapt to changing disruptions, as well as to seize opportunities in a challenging business environment".

(Martinelli, Tagliazucchi, & Marchi, 2018) organization resilience, is considered as a dynamic state, that doesn't stop at learning and improving to recover from disasters, but it extends to organizational renewal which may include innovation in its process and renewal in its relationship with its internal and external stakeholders.

(Hajishirzi, Costa, & Aparicio, 2022) defined organizational resilience as a company's response to being destroyed, emphasizes the ability to recover and flourish in the face of adversity, crisis, or disaster and emphasizes a company's capability to adapt, expand, and survive in a changing environment.

(Florez-Jimenez, Lleo, Danvila-del-Valle, & Saanchez-Marın, 2024) regards organizational resilience as planning (before), responding (throughout) and recovering (after) from unexpected events by maintaining continuity of operations where being prepared can be related to a proactive or planning capacity, and responding and recovering can be associated with a reactive or adaptative capacity through overcoming challenges.

(Wided, 2022) defined organizational resilience as "a dynamic, continuous, and processual capability that must coexist with and co-evolve within the organization and respond to different forms of external pressure, through ongoing processes of learning, knowledge acquisition, and information management to effectively navigate and withstand different forms of challenges."

4.1.1. Dimensions of Organizations Resilience:

Dimensions of organizational resilience have been classified in different ways, by different authors. (Ozanne , Chowdhury, Prayag, & Mollenkopf, 2022) classified the dimensions of organizational resilience to readiness, response and recovery, where each dimension takes place at one phase of a disaster.

Readiness takes place before the occurrence of a disaster, by scanning the external environment, identifying any possible threats and considering the possible negative effects that may take place, which is translated to a contingency plan (Ozanne , Chowdhury, Prayag, & Mollenkopf, 2022). The other two dimensions appear in post disaster phase, where **response** appears in the organizations ability to gather information in timely manner and ability to gather a response team to deal with the disaster (Ozanne , Chowdhury, Prayag, & Mollenkopf, 2022). Finally, the **recovery** dimension takes place when the disaster ends and the organization tries to get back to its original state.

Furthermore, (Miceli, Hagen, Riccardi, Sotti , & Settembre-Blundo, 2021), classified organizational resilience to two dimensions, **absorption**: represents the organizations ability to bounce back, which returns the organizations system to its initial state before the turbulent event, **adaptation**: the organization learns and changes gradually in the face of change.

(Akpan, Johnny, & Sylva, 2022) use adaptability and agility as the measures for organizational resilience. **Adaptability** is described as "the ability of an enterprise to alter its "strategy, operations, management systems, governance structure and decision-support capabilities to withstand perturbations and disruptions" (Akpan, Johnny, & Sylva, 2022), while agility was described as:

(Barinua & Nwimua , 2022) used **agility** as the sole measure for organizational resilience, which they defined as "an effective integration of response capabilities and knowledge management so that the unforeseen (or unpredictable) changes in both proactive and responsive business and customer needs and opportunities can be adapted quickly, efficiently, and accurately without compromising on the cost or quality of the product and process." Furthermore, (Putritamara, et al., 2023) considered organizational robustness, readiness, response and recovery as components of organizational resilience.

(Florez-Jimenez, Lleo, Danvila-del-Valle, & Saanchez-Marın, 2024) considered that organizational resilience is classified to two dimensions: (1) **Planning**: allows organizations to prepare for turbulences, which gives them the chance to turn risks to opportunities and involves this involves risk management, (2) **Adaptability**: which involves response to certain stimuli and recovery from crisis to normal conditions, this involves crisis management.

Last but not least, (Lin, Fan, & , 2024), considered that the measures of organizational resilience are: (1) **Proactive Organizational Resilience**: refers to the behavior of actively setting expectations and readiness in order to build the organization's readiness to cope with, change and (2) **Reactive Organizational Resilience**: The ability of an organization to

quickly collect and interpret the extent to which past information can be applied to current emergencies.

Finally, (Wided, 2022) adopted four main dimensions for organizational resilience, (1) Individual Factors: organizational factors, environmental factors and learning factors.

When facing disasters, it is important to understand the organizations internal and external social capabilities, to figure out how they can support the organizational resilience process (Ozanne , Chowdhury, Prayag, & Mollenkopf, 2022). Internal capabilities refer to the organizations employee's relationship that is based on trust, collaboration and teamwork. This kind of relation is important to strengthen the organizational resilience, as it facilitates the exchange of information, generates commitment among the team and sharing a common belief. External capabilities refer to the relationship with external collaborators such as suppliers, customers and stakeholders (Ozanne , Chowdhury, Prayag, & Mollenkopf, 2022).

Organizational resilience was studied in relation with other organizational learning and environmental scanning by (Marzouk & Jin, 2022) on 384 SMEs at two industrial zones in New Damietta. The researchers found that organizational resilience is affected by organizational learning, as organizational resilience relies ''on the routines, values and capabilities that organizational members acquire through organizational learning to act wisely

and quickly against uncertain events" (Marzouk & Jin, 2022). While there was no relation between organizational resilience and environmental scanning, which keeps the organization management level updated with the latest governmental regulations, technological breakthroughs, customer requirements and supplier requirements (Marzouk & Jin, 2022).

5. The Link between Dynamic Capabilities and Organizational Resilience:

Dynamic capabilities are important to ensure the continuity of the organization during turbulent times and to maintain the competitive advantage. But it doesn't cover other managerial responses and capabilities that help the organizations to survive and face the unexpected. Organizations need to sense new opportunities or threats, seize, reconfigure the available resources and adapt capabilities to respond rapidly to the changing surrounding, in order to move on, all the previous are capabilities available in organizational resilience (Martinelli, Tagliazucchi, & Marchi, 2018).

Previous studies prove that dynamic capabilities support organizational resilience. (Ozanne , Chowdhury, Prayag, & Mollenkopf, 2022), studied 419 SME in Australia and New Zealand, after COVID-19 pandemic. The aim of the study was to understand how they were able to survive with all the uncertainty challenges caused by the pandemic, as well as the strict lock down and social distancing policies placed by their governments. (Ozanne ,

Chowdhury, Prayag, & Mollenkopf, 2022) study showed that DC mediating role in SMEs impact the relationship between social capital and organizational resilience during pandemics. Internal relation between employees is crucial; feelings of trust, effective conflict handling and feeling obligations among employees, but they also need DC to effectively utilize internal resources. During the pre-disruption phase, SMEs carry out market sensing activities, once a disruption is noticed employees share knowledge and best practices to motivate employees to act, update contingency plan and disruption-prevention capabilities. At the same time, gather feedback from SMEs external customers, to place it into consideration. SMEs gather the new knowledge (from internal and external clients), and work on seizing opportunities that meet customer needs as they reconfigure the new solutions to meet customer needs and improving organizational process, in order to respond and recover from the disruption. In other words, SMEs social capital, internal (employees) resources and external (customers, suppliers and stakeholders) resources, are important but can't work alone in order to achieve organizational resilience, they must be coupled with dynamic capabilities. The DC in this paper consisted of (1) Sensing (2) Seizing and (3) Reconfiguring, while OR consisted of (1)Readiness (2) Recovery and (3) Response.

In manufacturing field, (Akpan, Johnny, & Sylva, 2022) studied the relation between dynamic capabilities (sensing capability and reconfiguration capabilities) and organizational

resilience (adaptability and agility). The study took place in 11 manufacturing firm in Nigeria, where questionnaires were handed to 109 employees at different managerial levels. The researchers concluded that dynamic capabilities (sensing capability and reconfiguration capabilities) significantly and positively influence the measures of organizational resilience (adaptability and agility) of manufacturing firms in Nigeria.

(Wided, 2022) carried out quantitative research in the field of tourism during COVID-19, where he studied 50 hotels at KSA with 200 respondents. The study proved that DC moderates the effect of organizational resilience on sustainable tourism, which means that DC with its dimensions increase tourism sustainability at KSA through resilience. The DC in this paper consisted of (1) Sensing (2) Learning (3) Integrating and (4) Coordinating.

(Kurtz & Varvakis, 2016) theoretic work mentioned that for an organization to survive and grow during turbulent times, there must be an alignment between dynamic capabilities and organizational resilience. The alignment between them takes place through the dynamic capability's activities: sensing, learning, integrating and coordinating. Sensing is an SME radar system which identify customer needs, make sense of events and developments, and exploring new opportunities. As a response, SMEs can pursue certain market segments with plans to seize new market opportunities. Sensing can foster Organization

resilience through recognizing triggers of crisis and monitoring markets and competitors, therefore assist organizations to adapt their resources and identify possible opportunities. Once market opportunity is identified, this must be faced with decisions to remodel existing operational model through learning, and new knowledge and skills. Resilient organization must make use of these learning and knowledge results, to decrease the impact of external turbulences. Integrating is the ability to integrate individual knowledge to new operational capabilities. For correct knowledge integration, its important to identify roles and responsibilities, recognize leadership and establish clear objective. Finally, coordinating allows the reconfiguration of operational capabilities, through deploying tasks, resources and activities in the new operational capabilities. A monitoring system must be applied to track the reconfiguration results using clear metrics. The result of this stage is maintenance of competitiveness and protection of tangible (physical structure, finance and human resources) and intangible assets (relations, intellectual capital and knowledge).

(Putritamara, et al., 2023) examined the beekeeping industry in Indonesia, using a quantitative approach, and showed that dynamic capabilities (sensing, seizing and reconfiguration) had a positive impact on resilience, through the moderator digital transformation. The study took place on 388 micro, small and medium enterprises.

(Martinelli, Tagliazucchi, & Marchi, 2018) applied a qualitative study on 8 small retail firms in Italy after the Emelie earthquake which hit Italy in 2012. The study used focus groups and interviews, where interviews took place in 2014 and 2017. The study argued that although dynamic capabilities are crucial for organizations survival during environmental turbulences, but they are not the sole determinant of the organizational survival, therefore they can merge with other capabilities such as organizational resilience to help organizations sense and seize opportunities, and reconfigure their resources as well. It is worth knowing, dimensions of dynamic capabilities don't work at the same time, each dimension triggers at different timing during the event, whether before, during or after according to their importance at that time of the event (Martinelli, Tagliazucchi, & Marchi, 2018).

6. Research Conceptual Model:

Based on empirical literature, the model describes the relationship between dynamic capabilities and organizational resilience as follows.
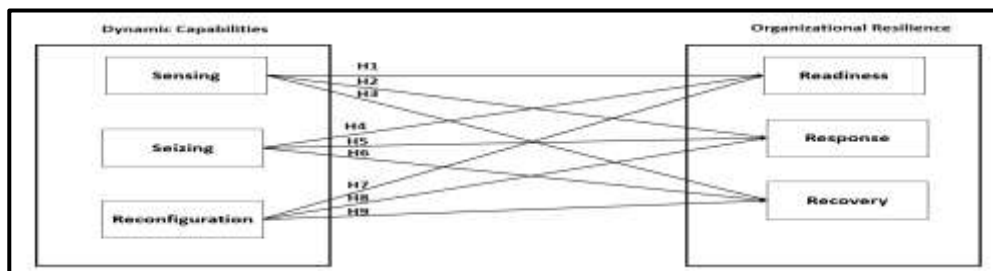

Figure 1: Proposed Research Conceptual Model

6.1. Research Hypothesis:

- H1: Sensing has a positive impact on Readiness
- H2: Sensing has a positive impact on Response
- H3: Sensing has a positive impact on Recovery
- H4: Seizing has a positive impact on Readiness
- H5: Seizing has a positive impact on Response
- H6: Seizing has a positive impact on Recovery
- H7: Reconfiguring has a positive impact on Readiness
- H8: Reconfiguring has a positive impact on Response
- H9: Reconfiguring has a positive impact on Recovery

7. Research Methodology:

7.1. Population:

The target population is mainly members from Egyptian SMEs, as the aim of the study is to study the impact of Dynamic capabilities and organizational resilience on Egyptian SMEs. The research, focused on gathering information from SMEs in different sectors. The study collected primary data through closes-ended structured online questionnaire. The questionnaire was designed using Google forms, and distributed to professionals working in SMEs through different platforms like Linkedin and Facebook, and the link to the survey was sent to many people using WhatsApp and Emails. The questionnaire was open for 4 months, but the total valid replies were 100 respondents.

7.2. Survey Procedures:

Dynamic capabilities were decomposed to sensing, seizing and reconfiguration capability. These variables were adopted from (Ozanne , Chowdhury, Prayag, & Mollenkopf, 2022) and were measured using 14 statements. The sensing capability was measured using five statements, the seizing capability was measured using 4 statements, while reconfiguration was measured using 5 statements.

Organizational resilience was measured using readiness, response and recovery. These variables were adopted from (Ozanne , Chowdhury, Prayag, & Mollenkopf, 2022) and were measured using 11 statements. The readiness was measured using 4 statements, response was measured using 4 statements and recovery was measured using 3 statements.

The items were measured using a 5- point Likert scale, with weights assigned as follows: 5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree and 1 = strongly disagree.

8. Statistical Analysis and Findings

To test the reliability of used scales, Cronbach's Alpha was used and all scales and subscales maintained a value above 0.700 which indicate good reliability of scales. The resulted Cronbach's Alpha is presented in table (1).

Table (1) Reliability of Scales

	Sensing	Seizing	Reconfiguration	Total Dynamic Capabilities
No of Items	6	4	5	15
Cronbach's Alpha	.743	.742	.768	.869
	Readiness	Response	Recovery	Total Organizational Resilience
No of Items	4	4	4	12
Cronbach's Alpha	.803	.872	.836	.925

8.1.Sample Characteristics

The survey was sent to employees working in SMEs through emails, WhatsApp and LinkedIn. 61% of respondents were males and 39% were females. 30% were top management, 53% medal management and 17% lower management. The survey included a section that asks about the company's size, age and industry. These data were needed to understand the nature of the company the respondents are working in. The below table shows summary of the results of this section.

Table (2) Companies characteristics

Company age			Company Size			Industry		
	Frequency	Percent	Number of Employees	Frequency	Percent		Frequency	Percent
Less than 2 years	27	7.7	Less than 50	142	40.5	Financial services	86	24.5
2 - 5 years	130	37.0	51 - 100	92	26.2	Information Technology	158	45
6 - 10 years	99	28.2	101 - 150	44	12.5	Manufacturing	107	30.5
11 - 20 years	59	16.8	151 - 200	71	20.2	Total	351	100.0
more than 20	36	10.3	More than 200	2	.6			
Total	351	100.0	Total	351	100.0			

8.2. Descriptive Statistics for Variables

According to the descriptive statistics for the variables all variables have relatively small standard deviation which reflects high homogeneity between responses.

The correlation analysis indicates that there are significant positive correlations among the variables, particularly between Dynamic Capabilities and Organizational Resilience (r= 0.702) as well as among the various dimensions of capabilities (Sensing, Seizing, Reconfiguration) and the dimensions of resilience. All correlations were significant at P value 0.01.   These findings suggest that enhancing one aspect of organizational capability is likely to positively influence others, ultimately leading to greater organizational resilience.

Table (3) Descriptive Statistics and correlations between Variables

	Mean	Std. Deviation	1	2	3	4	5	6	7	8
1-Sensing	23.82	3.138	1							
2-Seizing	15.62	2.316	.593**	1						
3-Reconfiguration	19.50	2.753	.514**	.588**	1					
4- Dynamic Capabilities	58.93	6.911	.857**	.838**	.828**	1				
5- Readiness	14.66	2.765	.528**	.583**	.505**	.636**	1			
6- Response	14.15	3.051	.513**	.617**	.591**	.675**	.732**	1		
7- Recovery	14.20	2.995	.406**	.589**	.525**	.591**	.655**	.779**	1	
8- Organizational Resilience	43.01	7.958	.533**	.661**	.600**	.702**	.874**	.931**	.902**	1
	**. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed).									

8.3. Testing the proposed model

To test the proposed model, Structure Equation Modeling in AMOS 26 was used and the results are illustrated in the below table.

Table (5) Estimates Regression Weights

			Estimate	S.E.	C.R.	P	Label
Readiness	<---	Sensing	.205	.036	5.695	***	
Response	<---	Sensing	.144	.038	3.807	***	
Recovery	<---	Sensing	.018	.040	.463	.643	
Readiness	<---	Seizing	.398	.049	8.148	***	
Response	<---	Seizing	.455	.051	8.909	***	
Recovery	<---	Seizing	.543	.054	10.109	***	
Readiness	<---	Reconfiguration	.190	.041	4.627	***	
Response	<---	Reconfiguration	.346	.043	8.040	***	
Recovery	<---	Reconfiguration	.292	.045	6.474	***	

As seen in the above table, the structural equation modeling (SEM) results, shows the relationships between "Sensing," "Seizing," and "Reconfiguration" as the dimensions of Organizational capabilities and their impact on the dimensions of Organizational resilience "Readiness," "Response," and "Recovery." Here are some comments:

- For most of the relationships All impacts were statistically significant paths (p < 0.001). This suggests that Organizational capabilities are crucial factors influencing Organizational resilience.

- The coefficients for Seizing show the strongest effects on all three outcomes were Readiness (0.398), Response (0.455), Recovery (0.543) This implies that Seizing is a key driver for enhancing these capabilities.
- Sensing has a positive but comparatively lower effect on Readiness (0.205) and Response (0.144). The path to Recovery (0.018) is not significant, indicating that while Sensing contributes to initial readiness and response, its impact on recovery is negligible.
- Reconfiguration has notable positive effects on all three outcomes, with Response (0.346) being particularly strong. This suggests that effective reconfiguration can significantly enhance organizational capabilities.
- The standard errors (S.E.) and critical ratios (C.R.) reinforce the reliability of these estimates. Higher C.R. values (especially above 2.0) indicate stronger significance.
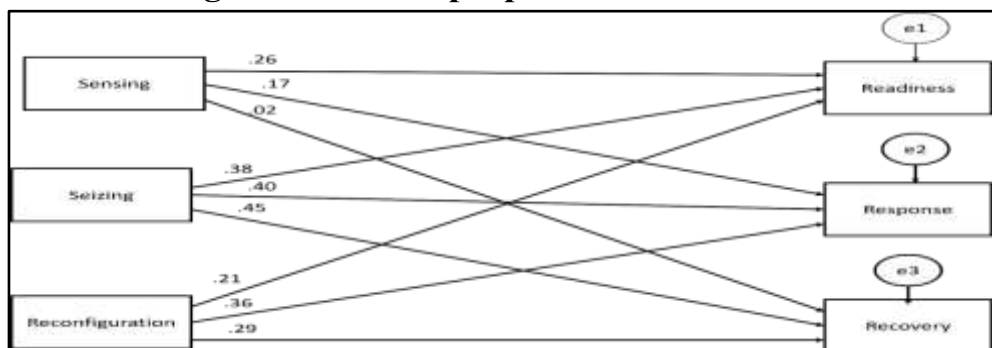
The below figure shows the proposed model

Figure (2) Structure Equation Model with estimates

Table (6) Model Fit Summary

AGFI	GFI	CFI	IFI	SRMR	RMSEA
.910	.922	.985	0.989	.073	.070

The above table presents fit indices for the structural equation model. As seen in the table the both adjusted goodness fit index (AGFI) and goodness of fit index (GFI) show a good fit (above .90) which means that the model explains the variance in data considering the number of parameters indicating a close fit between the model and the observed data. Also both **Comparative Fit Index (CIF) and Incremental Fit Index (IFI) have value above .90 which reflects** that the model explains a significant amount of variance relative to a baseline model. Finaly both **Standardized Root Mean Square Residual (SRMR) and Root Mean Square Error of Approximation (RMSEA) have value below .08 which reflects acceptable fit were the residuals between the observed and predicted values are small. Accordingly, it can be concluded that the proposed model between organizational capabilities and organizations resilience have a good fit.**

8.4.Discussion:

Based on the findings, the result supports that dynamic capability positively impacts organizational resilience. These results are compliant with the results previous studies carried out by (Ozanne , Chowdhury, Prayag, & Mollenkopf, 2022), where

they proved in their study on 419 SME in America and New Zealand post COVID-19 pandemic, that DC mediating role in SMEs impact the relationship between social capital and organizational resilience during pandemics. Another study by (Akpan, Johnny, & Sylva, 2022) on manufacturing firms in Nigeria, concluded that dynamic capabilities (sensing capability and reconfiguration capabilities) significantly and positively influence the measures of organizational resilience (adaptability and agility. (Wided, 2022) in his study on 50 hotels in KSA, proved that DC moderates the effect of organizational resilience on sustainable tourism, which means that DC with its dimensions increase tourism sustainability at KSA through resilience.

The analysis results revealed that seizing is important for fostering organizational resilience, as it was the most influential factor from DC affecting the OR dimensions, where seizing coefficient appears as follows Readiness (0.398), Response (0.455), Recovery (0.543). This is an important indicator that organizations that work on making use of the knowledge they receive during pre-disruption using sensing capabilities, will be well prepared to face any changes in markets or crisis, and will be able to recover. The organizations will need to integrate their old knowledge with the new one resulted from sensing, to work on improving their business model, reconfigure their resources and refining current products, to respond to market dynamics.

9. Conclusion

This study examines the relationship between dimensions of dynamic capabilities and dimensions of organizational resilience among Egyptian SMEs. The dynamic capabilities dimensions included sensing, seizing and reconfiguration. On the other hand, organizational resilience was classified to readiness, response and recovery.

This study proved that dynamic capabilities in terms of sensing, seizing and reconfiguration, positively impact organizational resilience in terms of readiness, response and recovery. SMEs have to develop their seizing and reconfiguration capabilities, if they are seeking to improve their resource allocation and strategic planning.

10. Limitations and Recommendation for Future Work

The first limitation for this study, that it didn't focus on one SME industry, therefore it is recommended to do study similar relationships while focusing on certain industrial sector. The second limitation was to study this relationship during a specific crisis or turbulence, as in pre-disruption, during and post, therefore it is recommended to make a study during a certain turbulence, to study the impact during varying levels of market turbulence.

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