Article

The Mediating and Moderating Effect of Organizational Resilience on Competitive Advantage: Evidence from Chinese Companies

Juan Wang 1,*, Ruijun Chen 2 and Shuang Zhang 2

Abstract: Enhancing organizational resilience is an important way for enterprises to achieve sustained competitive advantage. Based on dynamic capability theory, organizational learning theory, and resource-based theory, this study constructs a theoretical model of organizational resilience and sustained competitive advantage with organizational learning as the mediating variable and environmental dynamism as the moderating variable. This study is based on questionnaire research data from 462 Chinese companies in selected regions as the research sample for empirical testing, and the results show that organizational resilience helps Chinese companies to gain sustainable competitive advantage; organizational learning plays a mediating role between organizational resilience and sustainable competitive advantage; and environmental dynamics has a positive moderating role between organizational resilience and organizational learning, and can positively regulate the path of organizational resilience affecting sustainable competitive advantage through organizational learning. In view of this, we propose practical insights for Chinese companies on three levels: motivating mechanisms for organizational resilience, shaping a good learning environment, and paying attention to the dynamics of the environment.

Keywords: organizational resilience; organizational learning; sustained competitive advantage; environmental dynamics

1. Introduction

With the increasingly dynamic and complex market environment [1,2], the crises and competition faced by firms have become ubiquitous [3,4]. How to gain and sustain competitive advantage in a turbulent environment has been a strategic management concern [5] and also a very urgent task for firms today [6]. The academic inquiry on how firms can maintain competitive advantage in the evolving environment is never-ending [7]. The resource-based view states that the key to sustaining a company’s competitive advantage is the ability to access valuable, scarce, and inimitable resources [8]; while dynamic capability theory suggests that the integration, reconfiguration, and reallocation of internal and external organizational resources is key to an organization’s ability to sustain competitive advantage [9]. Organizational resilience is an important organizational capability in business, and such resilience is the result of the interaction between the organizational environment and resources [10]. Resilient organizations are able to anticipate potential threats, understand and effectively respond to crises, and adapt to change, thus being able to ensure the continuity, sustainability, and future success of their business [11,12]. Therefore, organizational resilience that integrates competency and resource-based perspectives is an important means for companies to gain sustainable competitive advantage. In China, research on organizational resilience is still in its infancy. There is still a theoretical gap regarding how organizational resilience affects sustained competitive advantage.

In addition, relevant studies show that organizational learning is an important way for companies to gain competitive advantage. Some scholars pointed out that organizational...
learning can improve the competitiveness and adaptability to the external environment, thus enhancing the competitive advantage of enterprises [13]. Organizational learning can also have an impact on competitive advantage through practice renewal, knowledge management, etc. [14,15]. For example, Li and Long (2005) [16] explained that the competitive advantage of a company in a dynamic competitive environment originates from the process of forming capabilities based on resources, knowledge, and information. Jia et al. (2013) [17] also proposed an improved organizational learning model that takes into account both process and physical aspects, and provided the S-PA framework for each stage of organizational learning, pointing out that organizational learning is an effective tool for fostering sustainable competitive advantage. However, scholars have disagreed somewhat on the relationship between organizational resilience and organizational learning, and have reached opposite results. Some scholars believe that organizational resilience has an influential role on organizational learning [18]. However, some scholars point out that organizational resilience is the result of organizational learning [19,20], and the differences in research results lead to the difficulty of reflecting the role of organizational learning in the acquisition of competitive advantage by firms.

Meanwhile, the impact of environmental dynamics, as an important contextual variable, on competitive advantage and firm performance has received extensive attention from scholars in recent years. Related studies have shown that firms in different contexts affect organizational learning behaviors and thus their competitive ability [21]. Therefore, to explore the mechanism of organizational resilience on sustained competitive advantage, contextual dynamics need to be included in the examination.

Based on dynamic capability theory, organizational learning theory, and resource-based theory, this study constructs a theoretical model of organizational resilience–organizational learning–sustainable competitive advantage, aiming to investigate the effective path of organizational resilience to build sustainable competitive advantage. This study is divided into five main parts. First, we introduce the literature, point to gaps in the literature, and present the contribution of this study. Second, we focus on theoretical analysis and develop research hypotheses. Third, we discuss the research methods before presenting our results. Finally, we present the conclusions of this study, draw management implications, and point to future research directions based on the findings.

2. Theoretical Analysis and Research Hypotheses

Resource-based theory (RBT), as a fundamental theory of management science, is widely used in human resource management, innovation management, and performance management [22]. Resource-based theory treats the firm’s resources as the unit of analysis and considers the firm as a collection of capabilities and resources it possesses, and the firm gains sustainable competitive advantage by analyzing and applying the scarce, valuable, irreplaceable, and difficult-to-imitate resources and capabilities it possesses [8,23]. Resource-based theory is based on two main assumptions: firstly, the firms in the industry may have differentiated resources. The second is that these differentiated resources are difficult to replicate from industry to industry. Therefore, differences in organizational resources help ensure that firms maintain a competitive position and sustained competitive advantage in a competitive environment [24]. With the development of resource-based theory, scholars have gradually combined it with other theories, not only showing the important role of resource management in enterprise development, but also providing methodological support for enterprises to conduct resource management and expanding the boundaries of resource-based theory.

Teece and Pisano (2003) [25] further proposed the dynamic capability theory based on the resource-based theory, which places the firm in a dynamic environment and emphasizes the firm’s ability to effectively deploy its resources in response to changes in the external environment in order to maintain competitive advantage. Then, Teece et al. (1997) [26] further enriched the meaning of dynamic capabilities by stating that a firm’s ability to respond to a dynamic external environment by constructing, resetting, and integrating
external resources is its dynamic capability. Organizational learning theory states that organizational learning is the process of effectively representing, interpreting, and processing multiple information within an organization to improve organizational behavior. Knowledge can reduce the uncertainties faced by organizations, so effective learning of knowledge becomes an important strategic resource in organizations, and this resource is especially critical for the realization of competitive advantage [27]. Therefore, this study uses resource-based theory, dynamic capability theory, and organizational learning theory as the theoretical foundation to help analyze the formation path of sustainable competitive advantage and lay the foundation for this study.

2.1. Organizational Resilience and Sustained Competitive Advantage

Organizational resilience, as an important organizational capability of firms [28], refers to the ability of organizations to anticipate unexpected events, proactively accept new threats and risks, and creatively develop responses to threats and risks to achieve growth against the odds [29]. Sustained competitive advantage is the market performance of a firm that consistently achieves higher than industry average profitability in a competitive market due to its unique resources and capabilities [30]. Organizational resilience not only helps organizations to adapt and survive in a competitive and dynamic environment [31], but is also a source of competitive advantage and an important guarantee for organizations [32,33]. First, according to the resource-based theory, the heterogeneous resources available in a firm are key to maintaining a competitive advantage [8]. Organizational resilience helps organizations to accept the problem, and construct and reconfigure internal and external resources of the firm in a planned and purposeful manner in business management [34], thus creating a resource advantage that helps organizations to generate new organizational capabilities to cope with the competitive environment [9,35]. In addition, organizational resilience helps firms construct adaptive feedback systems [36], which stimulates the organization’s integration and optimization capabilities and adaptive recovery, and can help organizations reinvent their core competencies to achieve sustained competitive advantage [37]. For example, Afraz et al. (2021) [38] explored the role of risk management capabilities in competitive advantage in the supply chain in the Pakistani construction industry based on resource-based theory, and the study showed that organizational resilience helps to enhance competitive advantage in the construction industry.

Secondly, organizational resilience has the ability to perceive the events occurring around it and understand the impact of these events on the organization [39]. The organization will adjust its resource allocation according to the changes in the external environment [40] and through resource allocation, thus improving the competitive landscape of the firm. This helps the firm to solve problems quickly and thus achieve sustained competitive advantage [41]. At the same time, companies with high organizational resilience have a keen awareness of crisis; reduce the crisis in the process of organizational operation; make good reserves of people, materials, and information; and actively improve the relevant capabilities of the organization, thus contributing to the organization’s sustainable competitive advantage [42].

Third, the foresight possessed by organizational resilience can not only predict changes in customer demand, but also continuously track changes in industry innovation [43], which helps companies to better grasp the direction of the market and better fit market demand with the company’s products, thus contributing to the company’s sustained competitive advantage. For example, Marcucci et al. (2021) [44] explored the impact of Industry 4.0 key technologies (IT-related and operations-related technologies) on the performance of Italian companies, and found that Industry 4.0 key technology pairs contribute to organizational resilience, thus helping firms to diversify their products and services. Furthermore, this differentiation strategy provides firms with a key competitive advantage. In addition, resilient firms can help organizations to effectively anticipate events before they occur or in the early stages of an event, and quickly develop actions to minimize disruptions. Moreover, resilient firms are able to quickly organize response teams to deal with emergencies [45,46].
and reduce the damage caused by crises, thus enhancing the firm’s competitive ability [47]. In view of this, this study proposes the following hypothesis:

**H1. Organizational resilience has a positive impact on sustained competitive advantage.**

### 2.2. The Mediating Role of Organizational Learning

Research related to organizational learning began with March and Simon (1993) [48]. Scholars have argued that organizational learning is an organizational behavior in which organizations actively acquire market information and knowledge, and store, transform, and share it within the organization to improve their actions [49,50]. It has been argued that organizations can learn to create knowledge and thus improve their capabilities [51,52], in turn increasing the ability of resilient organizations to grow against the odds, and therefore enhancing organizational learning [53].

Firstly, the adaptive capacity of organizational resilience helps organizations to improve their ability to access external resources. Firms establish effective information exchange with other firms through collaboration, where information is transformed into knowledge, thus responding quickly to market changes, identifying market opportunities, and improving the application of technology and knowledge [54]. For example, Kucharska (2021) [55] found through a study of 380 Polish employees that adaptive capacity is critical for organizational learning (the reconfiguration of organizational action). This is because a high level of organizational maturity and hierarchy may hinder the adaptability of change, while a lower adaptability is detrimental to organizational learning by learning from mistakes.

Secondly, the organization’s anticipatory capability helps it to anticipate unexpected events and motivates it to actively engage in the event of crisis response, form a common vision through communication and sharing with organizational members, and continuously learn through reflection and innovation, which in turn prepares the organization to respond to the crisis. Athey and Orth (1999) [56] pointed out that the ability to predict the future can help companies identify future market trends, and organizations learn in order to acquire emerging capabilities that can enhance their ability to cope with crises. For example, during the COVID-19 epidemic situation in 2019, the continuation of the epidemic enabled enterprises such as WeChat and Nail to find ways to work online in times of crisis, helping enterprises to achieve digital transformation ahead of time.

Thirdly, situational awareness helps companies to effectively monitor the external environment, potential events, and organizational performance, which helps them to better recognize the current scenario by paying attention to the environment and exchanging information among themselves, thus promoting active organizational learning and lessons learned. For example, Marquardt (2019a) [57] showed through a study of 108 manufacturing line employees that these errors can be reduced or even prevented by learning from them, and understanding the causes of errors and their consequences. Situational awareness, on the other hand, is a prerequisite for reducing errors in a complex socio-technical work environment and, therefore, situational awareness helps facilitate organizational learning. At the same time, he also points out that advanced organizational learning depends on the situational awareness of the organization’s employees, such as a questioning attitude toward their own self-inflicted errors. In view of this, this study proposes the following hypothesis:

**H2. Organizational resilience has a positive impact on organizational learning.**

Organizational learning theory suggests that organizational learning, as a driver for firms to acquire internal and external knowledge, can help organizations to cope with changes in the internal and external environment, thus enabling firms to gain sustainable competitive advantage [58]. Barney (1991) [8] states that valuable, rare, and inimitable resources in a firm contribute to sustainable competitive advantage [59]. Resources and capabilities are a function of the firm’s ability to gain and maintain sustainable competitive advantage and superior performance. These knowledge resources and capabilities
originate from the learning process, which means that the level of organizational learning capabilities affects the efficiency and effectiveness of organizational knowledge transfer [60]. Higher organizational learning capability can lead organizations to effectively internalize the acquired knowledge into the organization’s own knowledge resources, and the accumulation of abundant knowledge resources helps to enhance the organization’s learning performance and perceived market value; therefore, knowledge accumulation constitutes a driving force for the development and growth of the firm, thus enhancing the firm’s ability to maintain sustainable competitive advantage [61]. Liao et al. (2017) [62] noted that organizational learning helps organizations to absorb, transfer, and apply knowledge, thus enhancing organizational capabilities, while higher organizational capabilities help firms to build sustained competitive advantage. Moreover, Haseeb et al. (2019) [63] also pointed out that organizational learning is highly path-dependent, and tacit knowledge acquired through organizational learning is organizationally specific, difficult to acquire, and difficult to imitate, thus making it a source of sustained competitive advantage for firms [64]. In view of this, this study proposes the following hypotheses:

H3. Organizational learning has a positive impact on sustained competitive advantage.

H4. Organizational learning mediates the relationship between organizational resilience and sustained competitive advantage.

2.3. The Moderating Role of Environmental Dynamics

Environmental dynamism refers to the speed and extent of changes in the external environment, and suggests that such changes are unpredictable and uncertain [6,65]. Conditions of high external environmental dynamics reduce the ability of managers to predict future events and the degree of impact on the organization [66]. Therefore, in a dynamic environment, in order for organizations to better cope with crises and grow against the odds, resilient companies, on the one hand, increase their level of investment in learning and respond to environmental uncertainty by internalizing what they have learned into organizational capabilities. On the other hand, in a more dynamic environment, the only way to share knowledge and promote a common vision among organization members is through communication and sharing, thus facilitating the organization to better cope with the crisis. Further, the dynamics of the external environment drive organizations to constantly scan the environment, and resilient companies constantly think and innovate to respond to changes in the environment. Therefore, the relationship between organizational resilience and organizational learning is stronger. When the external environment is less dynamic, the steady-state environment does not stimulate the organization’s ability to bounce back, and the organization’s behavior of insisting on continued learning is difficult to enhance. Therefore, the relationship between organizational resilience and organizational learning is likely to be weaker. In view of this, this study proposes the following hypothesis:

H5. Environmental dynamics play a positive moderating role between organizational resilience and organizational learning.

The impact of organizational resilience on a firm’s sustained competitive advantage can be influenced by the external environment. According to dynamic capability theory, in a highly turbulent environment, in order to better adapt to the environment and outperform competitors, firms will invest more organizational resources to enhance their ability to cope with crises and solve problems, thus gaining sustained competitive advantage. At the same time, in highly dynamic environments, organizational resilience drives firms to continuously capture market opportunities, which is conducive to the timely development of resource capabilities and necessary skills to adapt to the environment. This not only broadens the boundaries of the firm’s knowledge acquisition, but also enriches the firm’s knowledge base, thus gaining sustained competitive advantage in dynamic environments [67]. Thus, environmental dynamism, as a regulating mechanism, helps to drive a
Organizational resilience drives the exchange of information with the firm and the external environment, leading to organizational learning, which in turn allows the firm to gain sustained competitive advantage. As mentioned earlier, the degree of influence of organizational resilience on organizational learning changes somewhat when the level of environmental dynamics varies, and thus the path by which organizational resilience influences sustained competitive advantage through organizational learning may be influenced by environmental dynamics. When firms are in a highly dynamic environment, the influence of organizational resilience on organizational learning is enhanced, and at the same time, high-intensity organizational learning facilitates firms to internalize knowledge into competencies, further contributing to sustained competitive advantage. In view of this, this study proposes the following hypothesis:

**H6. Environmental dynamics play a positive moderating role between organizational resilience and sustained competitive advantage.**

Based on resource-based theory, organizational learning theory, and dynamic capability theory, this study introduces organizational learning and environmental dynamism to construct a theoretical model of the impact mechanism of organizational resilience on sustained competitive advantage, in an attempt to explore the path of organizational resilience on sustained competitive advantage. The theoretical model is shown in Figure 1 below.

**Figure 1.** The hypothetical model of this study.

### 3. Research Design

#### 3.1. Sample Selection and Data Collection

In the sample selection, enterprises in five cities, namely Shanghai, Sichuan, Zhejiang, Guangdong, and Beijing, were chosen as the research subjects because these five regions contain a large number of enterprises, and can provide a rich research sample for the study. In terms of the selection of research subjects, this study, based on the view of Zhang et al. (2018) [68], selected CEOs, managers, supervisors, and other people affiliated with top management, middle management, and first-line management in the enterprises to fill out the questionnaire. One questionnaire was distributed to each enterprise. This is because these people are more familiar with the basic situation of the company; have a better understanding of the business, risk resistance, competitive advantage, and other knowledge; and are always concerned with the financial performance and the long-term development of the company; thus, they can obtain more credible sample data. In terms of
the types of companies researched, the five regions of this study include companies from as many industries as possible in order to make the findings generalizable and robust. In terms of questionnaire format, this study mainly used on-site paper questionnaires and postal questionnaires to collect data. The purpose of the study was introduced in detail to the subjects at the beginning of the questionnaire to ensure that the results were for academic research only and to eliminate the concerns of those who completed the questionnaire. In this study, 462 valid questionnaires were collected through research from 15 June 2021 to 30 September 2021. The sample characteristics are shown in Table 1.

Table 1. Basic information of the sample.

| Variables       | Items                | Frequency | Percentage |
|-----------------|----------------------|-----------|------------|
| Sex             | Male                 | 272       | 58.9%      |
|                 | Female               | 190       | 41.1%      |
| Age             | 25 years old and below| 135       | 29.2%      |
|                 | 26–35 years old      | 131       | 28.4%      |
|                 | 36–45 years old      | 102       | 22.1%      |
|                 | 46–55 years old      | 48        | 10.4%      |
|                 | 55 years old and above| 46       | 10.0%      |
|                 | 100 and below        | 34        | 7.4%       |
| Enterprise size | 101–500 people       | 103       | 22.3%      |
|                 | 501–1000 people      | 202       | 43.7%      |
|                 | 1001–2000 people     | 94        | 20.3%      |
|                 | More than 2000 people| 29        | 6.3%       |
| Company Age     | Less than 5 years    | 107       | 23.2%      |
|                 | 5–10 years           | 231       | 50.0%      |
|                 | 11–15 years          | 113       | 24.5%      |
|                 | More than 15 years   | 11        | 2.4%       |
| Enterprise position | Top Management  | 134       | 29.0%      |
|                  | Middle Management    | 142       | 30.7%      |
|                  | Basic management     | 186       | 40.3%      |
| Industry        | Industrial machinery and equipment | 25 | 5.4% |
|                 | Chemical Industry    | 37        | 8.0%       |
|                 | Electronic Components| 44       | 9.5%       |
|                 | Construction and transportation equipment | 75 | 16.2% |
|                 | Electrical machinery and instrumentation manufacturing | 21 | 4.5% |
|                 | Iron and metal products | 24      | 5.2%       |
|                 | Biomedical           | 30        | 6.5%       |
|                 | Computers and Software| 78       | 16.9%      |
|                 | Communication equipment and telecommunications networks | 22 | 4.8% |
|                 | Energy and Materials | 70        | 15.2%      |
|                 | Other Industries     | 36        | 7.8%       |
|                 | High School and below| 37        | 8.0%       |
|                 | College              | 45        | 9.7%       |
|                 | Undergraduate        | 222       | 48.1%      |
|                 | Master               | 139       | 30.1%      |
|                 | doctor               | 19        | 4.1%       |

3.2. Measurement of Variables

In order to ensure the validity of the survey, this study used established scales; however, to ensure the applicability of the scale to the study context, we made appropriate amendments to the scales. In this study, the Likert-5-point scale was used for scoring, where 1 means “totally disagree” and 5 means “totally agree”.

Independent variable.

We drew on items from Sawalha et al. (2015) [34], Duchek (2020) [1], Kendra and Wachtendorf (2003) [69], and Lee et al. (2013) [39] to measure organizational resilience. We measured three dimensions: adaptive capacity, anticipatory capacity, and situational awareness, and included a total of 15 question items. Among these, adaptive capacity
included six items ($\alpha = 0.911$), and a sample of the items was: “When a crisis occurs, our organization is able to adapt and creatively solve the problems encountered”. Anticipatory capacity included five items ($\alpha = 0.899$), and a sample of the items was: “Our organization not only identifies and observes changes in the external environment and impending crises, but also focuses on the future development of the organization”. Situational awareness included four items ($\alpha = 0.874$), and a sample of the items was: “Our organization is able to understand the minimum level of resources needed to maintain operations”.

Mediated variable.

We drew on Baker and Sinkula’s (1999) [70] items to measure organizational learning, where commitment to learning includes four items ($\alpha = 0.851$), and a sample of the items was: “Organizational learning is the key to gaining competitive advantage for companies”. The shared vision includes four items ($\alpha = 0.865$), and a sample of the items was: “Our organization has organizational goals that are shared by all employees”. Open mind included four items ($\alpha = 0.871$), and a sample of the items was: “We will always review our own shortcomings in business management, service or technology”.

Moderating variable.

We drew on Gaur et al.’s (2011) [71] items to measure environmental dynamics, which included a total of four items ($\alpha = 0.875$), and a sample of the items was: “The types of services and products in our industry are changing rapidly”.

Result Variable.

We draw on the Srivastava et al. (2013) [72] items to measure sustained competitive advantage. Among them, financial performance included five items ($\alpha = 0.884$), and a sample of the items was: “Our company’s return on assets has increased significantly over the past two years”. Strategic performance included five items ($\alpha = 0.891$), and a sample item was: “In the past two years, the quality of our products has been greatly improved”.

Control variables.

Firm size and firm age have been found to have an impact on firm competitive advantage [73,74]. Therefore, firm age and firm size were chosen as control variables in this study (Table 2).

| Table 2. Variables and measurement questions. |
|-----------------------------------------------|
| Variables                                | Dimensions | Items                                                                 | Factor Loadings | Combination Reliability | Cronbach’s α |
|-------------------------------------------|------------|-----------------------------------------------------------------------|-----------------|-------------------------|--------------|
| Organizational Resilience               | Adaptive Capacity | Our organization has shown acceptance of the crisis                   | 0.766           |                         |              |
|                                           |            | Our organization is able to learn from current or past projects and implement these lessons into future projects | 0.756           |                         |              |
|                                           |            | Our organization was able to quickly shift from its current organizational model to a crisis response model | 0.785           |                         |              |
|                                           |            | When a crisis occurs, our organization is able to quickly access relevant resources | 0.803           |                         |              |
|                                           |            | When a crisis occurs, our organization is able to establish collective coordination mechanisms to enter a systemic response | 0.773           |                         |              |
|                                           |            | When a crisis occurs, our organization is able to adapt and creatively solve the problems encountered | 0.787           |                         |              |
|                                           |            | Our organization is always ready for emergencies and able to take advantage of unforeseen opportunities | 0.753           |                         |              |
|                                           | Anticipatory capacity | Our organization is able to proactively observe changes in the industry so that we can be alerted to impending problems | 0.787           |                         |              |
|                                           |            | Our organization members are able to take time to rehearse how to handle crisis situations | 0.769           |                         | 0.899        |
|                                           |            | When a crisis occurs or is about to occur, our organization members are able to predict when the organization will be affected | 0.779           |                         | 0.899        |
|                                           |            | Our organization not only identifies and observes changes in the external environment and impending crises, but also focuses on the future development of the organization | 0.789           |                         |              |
| Variables                        | Dimensions | Items                                                                 | Factor Loadings | Combination Reliability | Cronbach’s α |
|----------------------------------|------------|----------------------------------------------------------------------|-----------------|-------------------------|--------------|
| Situational awareness           |            | When a crisis occurs, our organization members are able to communicate | 0.737           | 0.874                   | 0.874        |
|                                  |            | frequently to better understand the organization’s situation          |                 |                         |              |
|                                  |            | Our organization is able to readily deploy relevant personnel to fill  | 0.756           |                         |              |
|                                  |            | key positions                                                          |                 |                         |              |
|                                  |            | Our organization is able to realize that success or failure between   | 0.789           |                         |              |
|                                  |            | departments is closely related                                          |                 |                         |              |
|                                  |            | Our organization is able to understand the minimum level of resources | 0.774           |                         |              |
|                                  |            | needed to maintain operations                                          |                 |                         |              |
| Commitment to Learning          |            | Organizational learning is the key to gaining competitive advantage     | 0.730           | 0.852                   | 0.851        |
|                                  |            | for companies                                                           |                 |                         |              |
| Organizational Learning         | Shared Vision | Organizational learning is essential for business development         | 0.712           |                         |              |
|                                  |            | One of the profitable investments a company can make is in employee    | 0.781           |                         |              |
|                                  |            | training                                                               |                 |                         |              |
|                                  |            | Organizational learning is an important condition for business survival | 0.793           |                         |              |
|                                  |            | Our organization has organizational goals that are shared by all       | 0.709           |                         |              |
|                                  |            | employees                                                               |                 |                         |              |
|                                  |            | Our organizational goals and employee goals are aligned                 | 0.793           |                         |              |
|                                  |            | Our employees are willing to work hard for organizational goals         | 0.764           |                         |              |
|                                  |            | Our employees link their destiny to the development of the company     | 0.758           |                         |              |
| Open Mind                        |            | We will encourage employees to express their opinions or make their    | 0.709           |                         |              |
|                                  |            | own suggestions                                                         |                 |                         |              |
|                                  |            | We will always review our own shortcomings in business management,     | 0.732           |                         |              |
|                                  |            | service, or technology                                                  | 0.872           |                         | 0.871        |
|                                  |            | We will actively adopt the reasonable suggestions of our employees     | 0.786           |                         |              |
|                                  |            | Our employees seldom ask their own questions about the problems of the  | 0.781           |                         |              |
| Environment dynamics             |            | Consumer demand in our industry is changing rapidly                    | 0.838           |                         |              |
|                                  |            | The technology in our industry is changing very fast                    | 0.852           |                         | 0.876        |
|                                  |            | The types of services and products in our industry are changing rapidly | 0.851           |                         | 0.875        |
|                                  |            | Government policies in our industry are changing rapidly               | 0.866           |                         |              |
| Financial performance           |            | Our company’s return on assets has increased significantly over the    | 0.743           |                         |              |
|                                  |            | past two years                                                          |                 |                         |              |
|                                  |            | Our company’s market share has increased significantly in the last     | 0.709           |                         |              |
|                                  |            | two years                                                               |                 |                         |              |
|                                  |            | Our company’s net profit has improved significantly in the last two    | 0.762           |                         | 0.884        |
|                                  |            | years                                                                   |                 |                         |              |
|                                  |            | Our company’s return on sales has improved significantly in the last   | 0.772           |                         | 0.884        |
|                                  |            | two years                                                               |                 |                         |              |
|                                  |            | In the past two years, our company has seen a large increase in         | 0.745           |                         |              |
| Sustained Competitive Advantage  |            | consumer satisfaction                                                   |                 |                         |              |
|                                  |            | In the past two years, the quality of our products has been greatly    | 0.770           |                         |              |
| Strategic performance           |            | improved                                                                |                 |                         |              |
|                                  |            | The innovation of our products or services has improved greatly in the  | 0.760           |                         | 0.891        |
|                                  |            | last two years                                                          |                 |                         | 0.875        |
|                                  |            | The long-term competitiveness of our company has improved significantly | 0.793           |                         |              |
|                                  |            | in the last two years                                                   |                 |                         |              |
|                                  |            | Our overall corporate performance has improved significantly in the     | 0.761           |                         |              |
|                                  |            | last two years                                                          |                 |                         |              |
4. Empirical Analysis

4.1. Reliability Test

In this study, the reliability of the scale was analyzed using SPSS 25.0, and the Cronbach’s alpha coefficient was used as a criterion for the overall reliability and the reliability validity of each scale. As can be seen in Table 3 below, the reliability of each construct in the scale is above 0.8, the AVE is above 0.5, and the minimum factor loadings are above 0.7; therefore, this scale has high reliability, and in addition, the KMO values of each dimension of this scale are greater than 0.8, which also indicates that this questionnaire is suitable for factor analysis. Furthermore, the Bartlett’s sphericity test rejects the original hypothesis and the variables have strong correlation.

Table 3. Results of confidence analysis and factor analysis.

| Variable                      | Dimensionality | AVE   | KMO  | Sig. |
|-------------------------------|----------------|-------|------|------|
| Organizational resilience     |                |       |      |      |
| Adaptive capacity             | 0.630          | 0.921 | 0.000|      |
| Anticipatory capacity         | 0.640          | 0.894 | 0.000|      |
| Situational awareness        | 0.634          | 0.875 | 0.000|      |
| Organizational learning       |                |       |      |      |
| Commitment to Learning        | 0.589          | 0.821 | 0.000|      |
| Shared Vision                 | 0.620          | 0.828 | 0.000|      |
| Open Mind                     | 0.629          | 0.820 | 0.000|      |
| Sustained competitive advantage|               |       |      |      |
| Financial performance         | 0.605          | 0.870 | 0.000|      |
| Strategic performance         | 0.621          | 0.887 | 0.000|      |
| Environmental dynamics        | -              | 0.638 | 0.836| 0.000|

In the process of questionnaire development, the questions were discussed and repeated corrections made to ensure the rationality and accuracy of the questions; therefore, this scale has good content validity. Furthermore, this study used AMOS 26.0 to analyze the fit of the scale, and the results showed that the model of this study had good fit ($\chi^2/df = 1.193$, IFI = 0.987, TLI = 0.985, GFI = 0.917, RMSEA = 0.020). In terms of discriminant validity, the correlations among the latent variables are all less than their corresponding square root of AVE, which shows that the discriminant validity of each latent variable in this study is good (as shown in Table 4 below). In terms of convergent validity, the mean variance AVE of each latent variable in this study is greater than 0.5 and the combined reliability CR is greater than 0.7, indicating ideal convergent validity.

Table 4. Variable means, standard deviations, and correlation coefficients.

| Variable                      | Average Value | (Statistics) Standard Deviation | Business Size | Company Age | Organization | Organization Learning | Sustained Competitive Advantage | Environmental Dynamics |
|-------------------------------|---------------|---------------------------------|---------------|-------------|---------------|-----------------------|------------------------------|------------------------|
| Business Size                 | 2.959         | 0.986                           |               |             |               |                       |                             |                         |
| Age of business               | 2.061         | 0.754                           | 0.257 **      | 0.288 **    | 1             |                       |                             |                         |
| Organizational resilience     | 3.292         | 0.634                           | 0.277 **      | 0.288 **    | 1             |                       |                             |                         |
| Organizational learning       | 3.262         | 0.620                           | 0.373 **      | 0.328 **    | 0.546 **      | 1                     |                             |                         |
| Sustained competitive advantage| 3.292         | 0.648                           | 0.346 **      | 0.306 **    | 0.474 **      | 0.713 **              | 1                           |                         |
| Environmental dynamics        | 3.183         | 0.784                           | −0.006        | 0.040       | 0.003         | 0.016                 | 0.033                       | 1                      |

Note: ** indicates $p < 0.01$. 
4.2. Common Method Bias and Multicollinearity Analysis

To rule out the problem of common method bias and multicollinearity in the questionnaire, this study was validated using Harman’s single factor analysis [75]. It was found that all question items were aggregated into nine factors with eigenvalues greater than one. The cumulative variance contribution was 71.302% and the first factor explained 30.882% of the variance, which was less than half of the total variance, and both the independent and dependent variables were loaded on different factors, so the questionnaire did not have the problem of common method bias. Moreover, the VIF value is not higher than 10, indicating that the questionnaire does not have the problem of multicollinearity.

4.3. Hypothesis Testing

(1) Examination of the relationship between organizational resilience and sustained competitive advantage

This study used hierarchical regression analysis to test the hypotheses. First, sustained competitive advantage was included as the dependent variable; then, control variables were added; and finally, organizational resilience was added to the regression equation as the independent variable; the results are shown in Table 5 below. Model 1 tested the direct effect of organizational resilience on sustained competitive advantage and the results showed that organizational resilience has a significant positive effect on sustained competitive advantage ($\beta = 0.336, p < 0.001$), and hypothesis H1 holds. To verify the effect of organizational resilience on organizational learning, organizational learning was used as the dependent variable, and then control variables and organizational resilience were added in turn. From model 2, it is known that organizational resilience has a significant positive effect on organizational learning ($\beta = 0.444, p < 0.001$), and hypothesis H2 holds. Similarly, from model 3, organizational learning has a significant positive effect on sustained competitive advantage ($\beta = 0.733, p < 0.001$); therefore, hypothesis H3 holds.

Table 5. Test of the relationship between organizational resilience and sustained competitive advantage.

| Variable                | Sustained Competitive Advantage | Organizational Learning | Sustained Competitive Advantage |
|-------------------------|--------------------------------|-------------------------|---------------------------------|
|                         | Model1                        | Model2                  | Model3                         |
| Business Size           | 0.141 ***                     | 0.118 ***               | 0.057 *                        |
| Age of business         | 0.136 ***                     | 0.124 ***               | 0.047                          |
| Organizational resilience| 0.336 ***                     | 0.444 ***               |                                |
| Organizational learning |                                |                         | 0.733 ***                      |
| $R^2$                   | 0.277                         | 0.444                   | 0.508                          |
| $Adj-R^2$               | 0.272                         | 0.440                   | 0.505                          |
| $F$                     | 58.396 ***                    | 121.977 ***             | 157.505 ***                    |

Note: *** indicates $p < 0.001$, * indicates $p < 0.05$.

(2) Test for mediating effects of organizational learning

This study draws on Baron et al.’s (1986) [76] three-step approach to test the mediating role of organizational learning between organizational resilience and sustained competitive advantage, and the results are shown in Table 6 below. In model 4, organizational resilience and organizational learning were set as independent variables and sustained competitive advantage as the dependent variable. The results show that after the introduction of organizational learning, the effect of organizational resilience on sustained competitive advantage is diminished and not significant compared to model 1 ($\beta = 0.015, p > 0.05$). Thus, it is clear that organizational learning plays a fully mediating role between organizational resilience and sustained competitive advantage, and hypothesis H4 holds.
Table 6. Mediating effects of organizational learning (dependent variable: sustained competitive advantage).

| Variable                | Model 1   | Model 4 |
|-------------------------|-----------|---------|
| Business Size           | 0.141 *** | 0.056 * |
| Age of business         | 0.136 *** | 0.046   |
| Organizational resilience | 0.336 ***| 0.015   |
| Organizational learning |           | 0.723 ***|
| $R^2$                   | 0.277     | 0.508   |
| Adj-$R^2$               | 0.272     | 0.504   |
| F                       | 58.396 ***| 117.943 ***|

Note: *** indicates $p < 0.001$, * indicates $p < 0.05$.

(3) Test of the moderating effect of environmental dynamics

To verify the moderating effect of environmental dynamics, organizational learning was included as the dependent variable, with control variables and interaction terms for organizational resilience and organizational learning. To eliminate the problem of covariance, this study centralizes organizational resilience and environmental dynamics separately, and subsequently constructs the product term. As seen in Table 7, the interaction term has a significant positive effect on organizational learning ($\beta = 0.303$, $p < 0.001$), which implies that the stronger the environmental dynamics, the stronger the effect of organizational resilience on organizational learning, and, therefore, hypothesis H5 holds. Subsequently, this study included sustained competitive advantage as the dependent variable with the inclusion of control variables and the interaction term of organizational resilience and environmental dynamics. The results showed that the interaction term had a significant positive effect on sustained competitive advantage ($\beta = 0.099$, $p < 0.05$), which implies that the stronger the environmental dynamics, the stronger the positive effect of organizational resilience on sustained competitive advantage. Therefore, hypothesis H6 holds. Figures 2 and 3 plot the differential impact of organizational resilience on sustained competitive advantage and organizational resilience on organizational learning under different environmental dynamics.

Table 7. Results of the test for moderating effects of environmental dynamics.

| Variable                | Organizational Learning | Sustained Competitive Advantage |
|-------------------------|-------------------------|---------------------------------|
|                         | Model5                  | Model 6                         |
| Business Size           | 0.124 ***               | 0.051 *                         |
| Age of business         | 0.119 ***               | 0.051                           |
| Organizational resilience | 0.428 ***               | 0.118 **                        |
| Environmental dynamics  | 0.028                   | 0.025                           |
| Organizational learning |                         | 0.605 ***                       |
| Organizational resilience * | 0.303 ***               | 0.099 *                         |
| Environmental dynamics  |                         |                                 |
| $R^2$                   | 0.432                   | 0.533                           |
| Adj-$R^2$               | 0.426                   | 0.527                           |
| F                       | 69.424 ***              | 86.556 ***                      |

Note: *** indicates $p < 0.001$, ** indicates $p < 0.01$, * indicates $p < 0.05$.
Figure 2. Moderating effects of environmental dynamism between organizational resilience and organizational learning.

Figure 3. Moderating effect of environmental dynamism between organizational resilience and sustained competitive advantage.

(4) Moderated mediating effects test

To further test whether environmental dynamics can moderate the mediating role of organizational learning between organizational resilience and sustained competitive advantage, this study used the bootstrapping method and analyzed this using the Process plug-in in SPSS. As can be seen in Table 8, the 95% CI [0.142, 0.278], which does not contain 0, and an effect value of 0.208, are significant mediating effects under low environmental dynamism, while the 95% CI [0.329, 0.480], which does not contain 0, and an effect value of 0.401, are significant mediating effects under high environmental dynamism. The difference in indirect effects between high and low conditions does not contain 0, indicating significant mediating effects, indicating that there is an enhanced indirect effect of organizational resilience on sustained competitive advantage through environmental dynamism; furthermore, the higher the environmental dynamism, the stronger the mediating effect. This shows that environmental dynamism can positively moderate the mediating effect of organizational learning between organizational resilience and sustained competitive advantage, and hypothesis H7 holds.
Table 8. Tests for mediating effects with moderation.

|                          | Effect | Boot SE | BootLL CI | BootUL CI |
|--------------------------|--------|---------|-----------|-----------|
| Low environmental dynamics| 0.208  | 0.034   | 0.42      | 0.278     |
| High environmental dynamics| 0.401  | 0.039   | 0.329     | 0.480     |
| Discrepancy             | 0.193  | 0.036   | 0.127     | 0.270     |

5. Conclusions

5.1. Research Findings

Based on organizational learning theory, resource-based theory, and dynamic capability theory, this study constructed a theoretical model of the influence mechanism of organizational resilience on sustainable competitive advantage, and analyzed how organizational resilience can achieve sustainable competitive advantage through organizational learning under the role of environmental dynamics. The following conclusions are drawn.

Organizational resilience has a positive impact on sustained competitive advantage. Organizational resilience, as the ability of organizations to anticipate unexpected events, proactively respond to crises, and creatively develop measures to achieve growth against the odds, lays the foundation for subsequent organizations to gain sustained competitive advantage. Existing studies pointed out that organizational resilience has a positive impact on competitive advantage, such as those by Chen et al. (2021) [31] and Ingram and Bratnicka-Mysliwiec (2019) [77]. However, they only pointed out the direct effect of organizational resilience on competitive advantage. This study extends and enriches the studies of scholars such as Chen et al. (2021) [31], Linnenluecke (2017) [78], and Al-Abrrow et al. (2019) [79] on the relationship between organizational resilience and competitive advantage. In addition, this study expands the relationship between organizational resilience and sustained competitive advantage based on their studies, and finds that organizational resilience can not only act directly on sustained competitive advantage, but also through organizational learning, which in turn can affect the sustained competitive advantage of a firm. This study enriches the theory of competitive advantage and provides a new perspective for studying how firms gain sustained competitive advantage.

This study finds that organizational learning has an important mediating role between organizational resilience and sustained competitive advantage. On the one hand, this study addresses the divergence between dynamic capabilities and competitive advantage, where organizational resilience, as a dynamic capability [12], not only has a direct effect on a firm’s sustained competitive advantage (as studied by Peteraf et al., 2013) [80], but also can influence sustained competitive advantage through organizational learning (Benner and Tushman (2003) [81] argued that dynamic capabilities do not directly affect competitive advantage, but have an indirect effect on competitive advantage through strategic alignment capabilities, R&D capabilities, etc.). Moreover, this study highlights that dynamic capabilities also have a positive effect on competitive advantage in a dynamic environment (e.g., Benner and Tushman (2003) [81] argued that dynamic capabilities are not relevant for competitive advantage in a dynamic environment). The probable reason for this result is that scholars have failed to explore the relationship between organizational resilience and competitive advantage in the context of organizational resilience. More importantly, resilience, as a capacity to bounce back, can motivate organizations to take a series of actions to respond to the crisis faced by the firm and help them construct core competencies to emerge from the crisis [42].

On the other hand, this study found that organizational resilience has a positive effect on organizational learning. Previously, scholars have disagreed on the relationship between organizational resilience and organizational learning, and have even obtained opposite results. Some scholars believed that organizational resilience has an influential role on organizational learning [82], but others noted that organizational resilience is a result of organizational learning [83]. This study verifies the relationship between organizational resilience and organizational learning through empirical analysis, and the results show
that resilient organizations stimulate organizational learning behaviors in order to enhance their capabilities to cope with crises and thus achieve sustained competitive advantage. Resilience in the organization can lead the organization to stimulate the integration and optimization ability and the ability to adapt and recover, by integrating the internal and external resources of the enterprise, the continuous scanning of the external environment, and the ability to provide the information coming from the feedback in a timely manner. This stimulates organizational learning and gains sustainable competitive advantage. It is thus clear that organizational learning is an important process for companies to achieve sustainable competitive advantage. The conclusion makes up for the shortage of factors influencing sustainable competitive advantage from the perspective of organizational learning theory, and systematically reveals how organizational resilience is transformed into competitive advantage for enterprises, providing a new perspective for enterprises to achieve sustainable development.

In addition, this study also found a positive effect of organizational learning on sustained competitive advantage. Some scholars pointed out that organizational learning is a source of competitive advantage for firms [16], while others pointed out that organizational learning does not have a significant direct positive effect on sustained competitive advantage (Xu et al., 2008) [84]. A possible reason for this result is that scholars have failed to capture the ability of organizations to bounce back in the face of a crisis (resilience). In fact, organizations that are resilient in the face of a crisis learn in order to be able to emerge from the crisis. In turn, learning enables organizations to internalize knowledge into competencies to emerge from the crisis and build competitive advantage [85]. The present study validates the role of organizational learning on sustained competitive advantage and, on the other hand, finds that organizational learning can directly influence sustained competitive advantage, which is a great addition to the existing studies.

This study found that environmental dynamism has a moderating role between organizational resilience and organizational learning, while positively moderating the mediating effect between organizational resilience and sustained competitive advantage. Liu et al. (2020) [86], Peng and Zhang (2022) [87], Wang and Tang (2021) [88], and other scholars support the findings of this study, indicating the moderating role of environmental dynamism. When the external environment is more dynamic and the business environment is more variable and unpredictable, the resilience of the organization will prompt the organization to learn continuously so as to gain sustainable competitive advantage. Thus, the promotion of organizational learning and sustainable competitive advantage by organizational resilience will be enhanced, and the effect of organizational resilience to influence sustainable competitive advantage through organizational learning will also be enhanced. Conversely, when the external environment is less dynamic, the promoting effect of organizational learning will be weakened.

Theoretical contributions.

The main theoretical contributions of this study are: first, the academic inquiry about the outcome variables of organizational resilience was focused on organizational performance, organizational growth, and competitive advantage, and few studies have explored the questions of “what is the path of organizational resilience to sustained competitive advantage” and “how do firms obtain sustained competitive advantage?” This study is based on resource-based theory, organizational growth, and competitive advantage. Based on resource-based theory, organizational learning theory, and dynamic capability theory, this study explores the mechanism of organizational resilience and sustained competitive advantage, and verifies the mediating role of organizational learning. Second, there has been disagreement about the relationship between dynamic capabilities and competitive advantage [14,89]. This was addressed in this study, which found that organizational resilience can influence sustained competitive advantage through organizational learning. Third, scholars have disagreed on the relationship between organizational resilience and organizational learning, and have reached opposite results. This study clarified the relationship between organizational resilience and organizational learning by constructing
a theoretical framework of “organizational resilience-organizational learning-sustained competitive advantage”.

5.2. Insights from Practice

From the study, we find that organizational resilience plays an important role in the construction of a firm’s sustained competitive advantage. Resilience is a firm’s ability to survive, adapt, and grow in a turbulent business environment. Organizational resilience helps firms withstand the impact of uncertain events, absorb a certain amount of business disruption, and make strategic adjustments to adapt to the new environment in a crisis, thus achieving long-term survival and sustained competitive advantage. Therefore, it is important to recognize the importance of organizational resilience in the organization’s business management activities. First, enterprises should pay attention to developing the ability to adapt to the external environment. The dynamic environment will be the norm of the business survival environment now and in the future; therefore, enterprises should improve their adaptability so that they can actively integrate into the current market environment. At the same time, enterprises should follow the direction of the market development, which is the only way to better adapt to the external survival environment. Second, companies should have the ability to anticipate. The grasp of the future of the market helps to find the direction of market development, and advance the layout of the market to be able to seize the fleeting business opportunities, thereby improving the performance and competitive advantage of enterprises. In addition, anticipation ability helps enterprises to anticipate the future market risks. Actions can be taken in advance to help enterprises better cope with the arrival of crises, make timely strategic adjustment and transformation, improve their own risk-taking level, and enhance innovation capacity and efficiency, so as to achieve corporate sustainability and competitive advantage. Third, companies should establish a complete early warning management system to improve their own risk-taking level through the continuous scanning of the environment to identify the crisis faced by the organization and potential competitors, thus contributing to the improvement of organizational resilience.

Shaping a good organizational learning climate is the key. For learning within the organization, specifically, first, organizations need to recognize the important role of learning commitment in gaining sustainable competitive advantage and pay attention to creating a good learning climate. At the same time, the implementation of learning commitment should be put into practice, and managers need to provide an advanced organizational learning system, enrich the training content, and encourage employees to learn proactively. Through a combination of online and offline forms of organizational learning, the learning needs of enterprise employees can be met in a timely manner, thereby improving the overall learning capacity of the organization. Second, the organization needs to recognize the important role of a shared vision in gaining sustained competitive advantage. Having a common goal among the organization’s members helps the organization develop a unified strategic mindset that leads to competitive advantage. At the same time, to cultivate a sense of cooperation and trust between enterprises and employees, various forms can be used, such as in-depth reporting by employees and public voting to encourage employees to participate in company decisions and respect the results of their decisions. Thus the synergistic linkage of all employees in all departments of the enterprise can be realized, finally promoting enterprises to gain sustainable competitive advantages. Third, organizations should encourage employees to solve problems creatively and put forward more innovative ideas and suggestions. At the same time, organizations can develop a perfect reward system, implement and dedicate people to track the reward mechanism and knowledge innovation feedback, and properly guide employees to think from multiple perspectives and to maintain enthusiasm, so as to build the competitive advantage of enterprises.

The focus should be on the impact of environmental dynamics on sustained competitive advantage. When in a highly dynamic environment, firms should enhance organizational learning and continuously scan the environment by internalizing the learned
knowledge into organizational capabilities, thus obtaining the information needed by the firm and capturing market opportunities to gain sustainable competitive advantage in a dynamic environment [90]. When the environment in which an enterprise is located is relatively stable, the enterprise should maintain its original advantages through organizational learning, re integrate and redistribute the knowledge and resources internalized in the learning process, improve existing capabilities, and thus gain sustainable competitive advantage. Therefore, companies can build a diverse knowledge base based on the dynamic nature of the environment to help them better grasp the state of the market and thus outperform their competitors to achieve sustainable growth [86].

5.3. Research Limitations

This study also has certain limitations: firstly, the organizational learning process involves different learning styles. This paper analyzes the role of organizational resilience on organizational learning and explores the path to achieving a sustainable competitive advantage for companies, but does not consider the impact of different learning styles; thus, the impact of different learning styles on sustainable competitive advantage can be further explored in the future. Second, scholars have different ways of classifying organizational resilience, and the impact of different dimensions of organizational resilience on organizational learning and sustained competitive advantage can be further explored in the future. Finally, this study explored the mechanism of organizational resilience on sustained competitive advantage, but did not explore the driving mechanism of organizational resilience. In the future, the driving mechanism of organizational resilience can be analyzed to dissect the deep-seated factors of firms’ gains in sustained competitive advantage, and to further enrich the theoretical model of this study.

Author Contributions: Conceptualization, R.C.; methodology, J.W.; validation, J.W. and R.C.; formal analysis, S.Z.; data curation, S.Z.; writing—original draft preparation, R.C.; writing—review and editing, J.W. All authors have read and agreed to the published version of the manuscript.

Funding: This research was funded by 2019 Social Science Planning Youth Project of Fujian Province, Research on the growth mechanism of returnee entrepreneurial enterprises based on double network coupling, grant number FJ2019C031.

Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki, and approved by the Institutional Review Board (or Ethics Committee) of School of Business Administration, Fujian Business University (protocol code 350001 and date of approval is 30 September 2022).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: Not applicable.

Acknowledgments: The authors would like to thank the anonymous reviewers for their reviews and comments.

Conflicts of Interest: The authors declare no conflict of interest.

References
1. Duchek, S.; Raetze, S.; Scheuch, I. The role of diversity in organizational resilience: A theoretical framework. Bus. Res. 2020, 13, 387–423. [CrossRef]
2. Cao, Y.K.; Zhang, Q.; Zhu, Z.B.; Zhang, L. A study of team following based on rooting theory: Connotation, structure and formation mechanism. Manag. Rev. 2019, 31, 147–160.
3. Ouedraogo, A.; Boyer, M. Firm Governance and Organizational Resiliency in a Crisis Context: A Case Study of a Small Research-based Venture Enterprise. Int. Bus. Res. 2012, 5, 202–211. [CrossRef]
4. Grote, G. Management of Uncertainty: Theory and Application in the Design of Systems and Organizations; Springer Science & Business Media: Berlin/Heidelberg, Germany, 2009.
5. Mahdi, O.R.; Nassar, I.A.; Almsafir, M.K. Knowledge management processes and sustainable competitive advantage: An empirical examination in private universities. J. Bus. Res. 2019, 94, 320–334. [CrossRef]
6. Khong, K.W.; Avvari, M.; Muneeb, D.; Ennew, C. Building an integrated conceptual model of competitive learning capability: A strategic management perspective. Asia-Pac. J. Bus. Adm. 2019, 11, 267–287.

7. Nyuur, R.B.; Ofori, D.F.; Amponsah, M.M. Corporate social responsibility and competitive advantage: A developing country perspective. Thunderbird Int. Bus. Rev. 2019, 61, 551–564. [CrossRef]

8. Barney, J.B. Firm Resources and Sustained Competitive Advantage. J. Manag. 1991, 17, 99–120. [CrossRef]

9. Teece, D.J. Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. Strateg. Manag. J. 2007, 28, 1319–1350. [CrossRef]

10. Teixeira, L.; Callaia, M.; Hechanova, M.R.M.; Sabile, P.R.; Villasanta, A.P.V. Building organization and employee resilience in disaster contexts. Int. J. Work. Health Manag. 2020, 13, 393–411. [CrossRef]

11. Martinelli, E.; Tagliazucchi, G.; Marchi, G. The resilient retail entrepreneur: Dynamic capabilities for facing natural disasters. Int. J. Entrep. Behav. Res. 2018, 24, 1222–1243. [CrossRef]

12. Wu, S.H.; Gu, J.P. The impact of entrepreneurial spiritual capital on organizational resilience—Based on organizational learning perspective. Finance. Account. Mon. 2021, 21, 107–114.

13. Ma, Z.; Xiao, L.; Yin, J. Toward a dynamic model of organizational resilience. Nankai Bus. Rev. Int. 2018, 9, 246–263. [CrossRef]

14. Liu, Y.; Wang, T.; Gu, X. A study on the impact of relational learning on competitive advantage of start-ups—Mediating effect of organizational legitimacy and moderating effect of environmental dynamism. Soft Sci. 2002, 34, 90–94.

15. Hitt, M.A.; Carnes, C.; Xu, K. A current view of resource based theory in operations management: A response to Bromiley and Rau. J. Oper. Manag. 2016, 41, 107–109. [CrossRef]

16. Collis, D.J.; Montgomery, C.A.; Campbell, A.; Goold, M.; Prahalad, C.K.; Lieberthal, K. Harvard Business Review on Corporate Strategy; Harvard Business Press: Boston, MA, USA, 1999.

17. Zhao, Y.P. Research on Open Data of Government Departments Based on Resource-Based Theory; Shanghai Jiaotong University: Shanghai, China, 2019.

18. Chen, R.; Xie, Y.; Liu, Y. Defining, Conceptualizing, and Measuring Organizational Resilience: A Multiple Case Study. Sustainability 2021, 13, 2517. [CrossRef]

19. Lengnick-Hall, C.A.; Beck, T.E.; Lengnick-Hall, M.L. Developing a capacity for organizational resilience through strategic human resource management. Hum. Resour. Manag. Rev. 2011, 21, 243–255. [CrossRef]

20. Kim, H.; Wu, J.; Schuler, D.A.; Hoskisson, R.E. Chinese multinationals’ fast internationalization: Financial performance advantage in one region, disadvantage in another. J. Int. Bus. Stud. 2020, 51, 1076–1106. [CrossRef]

21. Sawalha, I.H.S.; Anchor, J.; Meaton, J. Continuity Culture: A Key Factor for Building Resilience and Sound Recovery Capabilities. Int. J. Disaster Risk Sci. 2015, 6, 428–437. [CrossRef]

22. Sijia, Z.; Lingfeng, Y.; Yanling, L. Entrepreneurial Leadership, Organizational Resilience and New Venture Performance. Foreign Econ. Manag. 2021, 43, 42–56.

23. Al-Ayed, S.I. The impact of strategic human resource management on organizational resilience: An empirical study on hospitals. Verslas Teor. Prakt. 2019, 20, 179–186. [CrossRef]
37. Shengsen, D.; Dongmei, C.; Yuming, Z. Power of Faith: The Influence of Craftsmen Spirit on Organizational Resilience. *Foreign Econ. Manag.* 2021, 43, 57–71.

38. Afraz, M.F.; Bhatti, S.H.; Ferraris, A.; Couturier, J. The impact of supply chain innovation on competitive advantage in the construction industry: Evidence from a moderated multi-mediation model. *Technol. Forecast. Soc. Chang.* 2021, 162, 120370. [CrossRef]

39. Lee, A.V.; Vargo, J.; Seville, E. Developing a tool to measure and compare organizations’ resilience. *Nat. Hazards Rev.* 2013, 14, 29–41. [CrossRef]

40. McCarthy, I.P.; Collard, M.; Johnson, M. Adaptive organizational resilience: An evolutionary perspective. *Curr. Opin. Environ. Sustain.* 2017, 28, 33–40. [CrossRef]

41. Amarakoon, J.; Weerawardena, J.; Verreyne, M.-L. Learning capabilities, human resource management innovation and competitive advantage. *Int. J. Hum. Resour. Manag.* 2018, 29, 1736–1766. [CrossRef]

42. Zhu, Y.; Wang, X.F.; Sun, N.; Li, Y.J. A study on organizational resilience based on strategic human resource management perspective. *Manag. Rev.* 2014, 26, 78–90.

43. de Oliveira Teixeira, E.; Werther Jr, W.B. Resilience: Continuous renewal of competitive advantages. *Bus. Horiz.* 2013, 56, 333–342. [CrossRef]

44. Marcucci, G.; Antomari, S.; Ciarpica, F.E.; Bevilacqua, M. The impact of Operations and IT-related Industry 4.0 key technologies on organizational resilience. *Prod. Plan. Control* 2022, 1417–1431. [CrossRef]

45. Jia, X.; Chowdhury, M.; Prayag, G.; Chowdhury, M.M.H. The role of social capital on proactive and reactive resilience of organizations post-disaster. *Int. J. Disaster Risk Reduct.* 2020, 48, 101614. [CrossRef]

46. Ozanne, L.K.; Chowdhury, M.; Prayag, G.; Mollenkopf, D.A. SMEs navigating COVID-19: The influence of social capital and dynamic capabilities on organizational resilience. *Ind. Mark. Manag.* 2022, 104, 116–135. [CrossRef]

47. Bhamra, R.; Dini, S.; Burnard, K. Resilience: The concept, a literature review and future directions. *Int. J. Prod. Res.* 2011, 49, 5375–5393. [CrossRef]

48. March, J.G.; Simon, H.A. Organizations: John Wiley & Sons: Hoboken, NJ, USA, 1993.

49. Jiménez-Jiménez, D.; Martínez-Costa, M.; Sanz-Valle, R. Innovation, organizational learning orientation and reverse knowledge transfer in multinationals companies. *Electron. J. Knowl. Manag.* 2014, 12, 47–55.

50. Fischer, S.; Keupp, L.; Paeth, H.; Göhlich, M.; Schmitt, J. Climate Adaptation as Organizational Learning: A Grounded Theory Study on Manufacturing Companies in a Bavarian Region. *Educ. Sci.* 2022, 12, 22. [CrossRef]

51. Mousa, M.; Abdelgaffar, H.A.; Chaouali, W.; Aboramadan, M. Organizational learning, organizational resilience and the mediating role of multi-stakeholder networks: A study of Egyptian academics. *J. Workplace Learn.* 2020, 32, 161–181. [CrossRef]

52. García-Morales, V.J.; Jiménez-Barrionuevo, M.M.; Gutiérrez-Montes, F.J.; Verdu-Jover, A.J. Influence of personal mastery on organizational performance through organizational learning and innovation in large firms and SMEs. *Technovation* 2007, 27, 547–568. [CrossRef]

53. Dewangan, V.; Godse, M. Towards a holistic enterprise innovation performance measurement system. *Technovation* 2014, 34, 536–545. [CrossRef]

54. Kimberlin, S.E.; Schwartz, S.L.; Austin, M.J. Growth and resilience of pioneering nonprofit human service organizations: A cross-case analysis of organizational histories. *J. Evid. Based Soc. Work.* 2011, 8, 4–28. [CrossRef]

55. Kucharska, W. Wisdom from Experience Paradox: Organizational Learning, Mistakes, Hierarchy and Maturity Issues. *Hum. Factors Ergon.* 2022, 66, 1040–1050. [CrossRef]

56. Athey, T.R.; Orth, M.S. Emerging competency methods for the future. *Human Resource Management: Published in Cooperation with the School of Business Administration, The University of Michigan and in alliance with the Society of Human. Resour. Manag.* 1999, 38, 215–225.

57. Marquardt, N. Situation awareness, human error, and organizational learning in sociotechnical systems. *Hum. Factors Ergon. Manuf. Serv. Ind.* 2019, 29, 327–339. [CrossRef]

58. Noruzi, A.; Dalfard, V.M.; Azhdari, B.; Nazari-Shirkouhi, S.; Rezaazadeh, A. Relations between transformational leadership, organizational learning, knowledge management, organizational innovation, and organizational performance: An empirical investigation of manufacturing firms. *Int. J. Adv. Manuf. Technol.* 2013, 64, 1073–1085. [CrossRef]

59. Njuguna, J. Strategic Positioning for Sustainable Competitive Advantage: An Organizational Learning Approach. *KCA J. Bus. Manag.* 2009, 2, 32–43. [CrossRef]

60. Anand, B.N.; Khanna, T. Do firms learn to create value? *Case Alliances. Strateg. Manag. J.* 2000, 21, 295–315. [CrossRef]

61. Tang, F. Knowledge transfer in intra-organization networks. *Syst. Res. Behav. Sci.* 2011, 28, 270–282. [CrossRef]

62. Liao, S.-H.; Chen, C.-C.; Hu, D.-C.; Chung, Y.-C.; Yang, M.-J. Developing a sustainable competitive advantage: Absorptive capacity, knowledge transfer and organizational learning. *J. Technol. Transf.* 2017, 42, 1431–1450. [CrossRef]

63. Haseeb, M.; Hussain, H.I.; Kot, S.; Androniceanu, A.; Jermsittiparsert, K. Role of Social and Technological Challenges in Achieving a Sustainable Competitive Advantage and Sustainable Business Performance. *Sustainability* 2019, 11, 3811. [CrossRef]

64. García-Morales, V.J.; Jiménez-Barrionuevo, M.M.; Gutiérrez-Gutiérrez, L. Transformational leadership influence on organizational performance through organizational learning and innovation. *J. Bus. Res.* 2012, 65, 1040–1050. [CrossRef]

65. Matasova, G.G.; Kazansky, A.Y.; Shchetnikov, A.A.; Filinov, L.A.; Berdnikova, N.E.; Berdnikov, I.M. Sedimentation and environmental dynamics of the Tunka rift valley (Baikal region) in the Late Pleistocene-Holocene based on the analysis of lithological and rock magnetic properties of the deposits from Upper Paleolithic sites. *Archaeol. Res. Asia* 2021, 26, 100266. [CrossRef]
66. Choi, S.; Lee, W.; Kang, S.-W. Entrepreneurial Orientation, Resource Orchestration Capability, Environmental Dynamics and Firm Performance: A Test of Three-Way Interaction. *Sustainability* **2020**, *12*, 5415. [CrossRef]

67. Vézina, M.; Ben Selma, M.; Malo, M.C. Exploring the social innovation process in a large market based social enterprise: A dynamic capabilities approach. *Manag. Decis.* **2019**, *57*, 1399–1414. [CrossRef]

68. Zhang, W.; Guo, L.H.; Zhang, W.K. Research on the relationship between business innovation, dynamic capability and competitive advantage of enterprises. *Sci. Technol. Prog. Countermeas.* **2018**, *35*, 91–99.

69. Kendra, J.M.; Wachtendorf, T. Elements of resilience after the world trade center disaster: Reconstituting New York City’s Emergency Operations Centre. *Disasters* **2003**, *27*, 37–53. [CrossRef]

70. Baker, W.E.; Sinkula, J.M. The Synergistic Effect of Market Orientation and Learning Orientation on Organizational Performance. *J. Acad. Mark. Sci.* **1999**, *27*, 411–427. [CrossRef]

71. Gaur, A.S.; Mukherjee, D.; Gaur, S.S.; Schmid, F. Environmental and Firm Level Influences on Inter-Organizational Trust and SME Performance. *J. Manag. Stud.* **2011**, *48*, 1752–1781. [CrossRef]

72. Srivastava, M.; Franklin, A.; Martinette, L. Building a sustainable competitive advantage. *J. Technol. Manag. Innov.* **2013**, *8*, 47–60. [CrossRef]

73. Zahra, S.A.; Ireland, R.D.; Hitt, M.A. International expansion by new venture firms: International diversity, mode of market entry, technological learning, and performance. *Acad. Manag. J.* **2000**, *43*, 925–950. [CrossRef]

74. Autio, E.; Sapienza, H.J.; Almeida, J.G. Effects of age at entry, knowledge intensity, and imitability on international growth. *Acad. Manag. J.* **2000**, *43*, 909–924. [CrossRef]

75. Podsakoff, P.M.; Organ, D.W. Self-Reports in Organizational Research: Problems and Prospects. *J. Manag.* **1986**, *12*, 531–544. [CrossRef]

76. Orth, D.; Schuldis, P.M. Organizational learning and unlearning capabilities for resilience during COVID-19. *Learn. Organ.* **2021**, *28*, 238–256. [CrossRef]

77. Ingram, T.; The University of Economics in Katowice; Bratnicka-Mysliwiec, K. Organizational Resilience of Family Businesses. *Probl. Zarz.* **2019**, *2019*, 186–204. [CrossRef]

78. Xie, C.; Wang, W.; Li, Y. The Mediation Effect of Organizational Legitimacy and the Adjustment Effect of Environmental Dynamics. *Sci. Technol. Prog. Countermeas.* **2018**, *35*, 91–99. [CrossRef]

79. Sivakumar, K.; Ben Selma, M.; Malo, M.C. Exploring the social innovation process in a large market based social enterprise: A dynamic capabilities approach. *Manag. Decis.* **2019**, *57*, 1399–1414. [CrossRef]

80. Peteraf, M.; Di Stefano, G.; Verona, G. The elephant in the room of dynamic capabilities: Bringing two diverging conversations together. *Strat. Manag. J.* **2013**, *34*, 1389–1410. [CrossRef]

81. Benner, M.J.; Tushman, M.L. Exploitation, exploration, and process management: The productivity dilemma revisited. *Acad. Manag. Rev.* **2003**, *28*, 238–256. [CrossRef]

82. Vosough, S.; Sutcliffe, K.M. Organizational resilience: Towards a theory and research agenda. In *Proceedings of the 2007 IEEE International Conference on Systems, Man and Cybernetics*, Montréal, QC, Canada, 7–10 October 2007; pp. 3418–3422.

83. Xie, C.; Jia, Z.; Wu, L. Research on the impact of organizational learning on organizational dynamic capabilities and sustainable competitive advantage. *Sci. Technol. Prog. Countermeas.* **2008**, *25*, 192–195.

84. Pemberton, J.D.; Stonehouse, G.H.; Yarrow, D.J. Benchmarking and the role of organizational learning in developing competitive advantage. *Knowl. Process Manag.* **2001**, *8*, 123–135. [CrossRef]

85. Liu, Y.; Wang, T.; Gu, X. A Study on the Influence of Relationship Learning on the Competitive Advantage of New Ventures: The Mediation Effect of Organizational Legitimacy and the Adjustment Effect of Environmental Dynamics. *Soft Sci.* **2020**, *11*, 90–94.

86. Peng, C.; Zhang, J. The impact of inward and outward oriented open innovation on enterprises’ long-term competitive advantage in a dynamic environment—The intermediary effect of short-term financial performance. *Henan Sci.* **2022**, *4*, 656–665.

87. Wang, K.; Tang, S. The influence of strategic learning ability on competitive advantage—The intermediary effect of dual innovation and the regulatory effect of environmental dynamics. *Sci. Technol. Prog. Countermeas.* **2021**, *19*, 83–90.

88. Eisenhardt, K.M.; Martin, J.A. Dynamic capabilities: What are they? *Strateg. Manag. J.* **2000**, *21*, 1105–1121. [CrossRef]

89. Chen, Z.H.; Xu, P.; Tang, G. Research on the formation mechanism and impact of enterprise dynamic capabilities—The regulatory role based on environmental dynamics. *Soft Sci.* **2015**, *29*, 59–62.