

# Organizational Slack Research in China: An Overview and Outlook

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**Abstract.** Based on the resource-based theory, enterprises are paying more and more attention to the rational use of internal resources to enhance their competitiveness. China is in the stage of economic transformation, and many enterprises have a large amount of redundant resources. Organizational slack is regarded as resources that are kept inside the organisation in excess of actual needs and controlled by individuals or small groups, and this kind of resources is a "double-edged sword". Different scholars have carried out detailed studies on organizational slack and reached different conclusions. This paper analyses and summarizes the concept, classification, measurement, and current status of research on organizational slack. Specifically, the research on organizational slack includes the antecedents of organizational slack, and the consequences of organizational slack (performance, innovation, corporate social responsibility, mergers and acquisitions, and internationalisation, entrepreneurship and growth, and strategic change, etc.). Based on the summary of existing research, this study proposes future research directions, and these discussions will help enterprises to correctly understand as well as rationally use redundant resources, and improve enterprise performance and innovation.

**Keywords:** Organizational slack; Performance; Innovation; Corporate social responsibility; Mergers and acquisitions; Internationalisation.

## 1. Introduction

The concept of slack as an internal resource prevalent in firms was first introduced by March and Simon (1958). Research on slack has been growing and has been widely emphasized by scholars. Organizational slack was a central point in the study of resource-based theory and principal-agent theory. From the perspective of organizational theory, it could reduce strategic uncertainty and enable enterprises to cope with various potential crises and risks. Organizational slack was a real or potential resource buffer for firms, which enabled them to make strategic changes in order to adapt to the external environment (Bourgeois, 1981). On the other hand, from an agency theory perspective, there were still scholars and managers who questioned the rationality of slack, and that over-occupied slack resources were an indication of reduced operational efficiency. Cheng and Kesner (1997) suggested that slack resources were those that sat idle in a firm increasing costs and decreasing operational efficiency, and that there was a need for the organization to reduce or eliminate a certain amount of slack. The various arguments were slightly different, but their basic connotations were the same. Slack all referred to some excess of valuable resources that could be utilized directly or only after exploitation (Guo & Chen, 2010). Given the controversy inherent in slack itself, it was important that research on slack took into account specific situational conditions and examines its connection to specific topics such as performance, innovation, social responsibility, mergers and acquisitions, and internationalization, to name a few.

China is undergoing economic transformation, and many enterprises have a large number of slack resources, even slack employees, such as the rapid development of Internet enterprises in the past 5-10 years, which has brought a large amount of capital, talent and vitality to these enterprises. However, along with the gradual saturation of resources and competition in Internet enterprises, a large number of Internet enterprises have begun to lay off employees to reduce slack resources such as employees under the situation of the new crown epidemic and economic crisis. This paper summarized the current state of research on slack resources, including the antecedents of organizational slack, the impact of organizational slack on performance, innovation, corporate social responsibility, mergers

and acquisitions, and internationalization outcomes, and proposed future directions for organizational slack resources based on existing research. The summary of this paper would help to quickly understand and grasp the research related to organizational slack and recognize the relevant gaps and shortcomings in organizational slack research. In the implementation of supply-side structural deepening reform today, promoting technological innovation, accelerating economic transformation and upgrading, reintroducing corporate social responsibility, continuously deepening the important results of reform and opening-up, and continuing to promote corporate internationalization strategy has become a realistic requirement, and summarizing and outlining the research related to organizational slack is not only a theoretical contribution, but also of practical significance.

## 2. Definition of Organizational Slack

Organizational slack (Organizational Redundant Resources, Organizational Surplus, Resource slack, Redundant Resources, also known as Slack Resources) was first proposed by March and Simon in 1958. In their early studies of organizations, March and co-authors described organizations as a kind of coalition, in which different members formed different sub-consortia. In the case of business organizations, members of a coalition included managers, workers, shareholders, suppliers, customers, lawyers, tax collectors, and supervisory authorities. Due to inappropriate and limited information and slow adaptation to demand, there would be friction in the mutual adjustment of the various payments and consortium demands, which in turn would lead to a general inconsistency in the organization between the availability of resources and the payment requirements needed to sustain the consortium. This inconsistency, or difference between overall resources and overall payments required for consortium members, was often referred to as organizational slack.

Organizational slack resources were considered to be resources that were kept within the organization in excess of actual needs and controlled by individuals or small groups to cope with the shock of environmental change (Cyert & March, 1963). Leibenstein (1969) argued that slack could be a source of agency problems that incubated inefficiencies. Jensen and Meckling (1976), on the other hand, viewed slack as a resource that benefited only managers and was underutilized for the organization, a sign of inefficiency. Bourgeois (1981) defines organizational slack as: Organizational slack was a real or potential buffer of resources for a firm that enabled it to make successful adjustments to internal adjustments or external changes, as well as strategic changes in order to adapt to the external environment. Bromiley (1991) defined it as an organization's store of available excess resources within a given planning cycle. According to Nohria and Gulati (1996), Zona (2012), slack was the accumulation of resources, including excess resources, in excess of the minimum necessary inputs for an organization to produce a given level of output. The resulting stock of resources, including excess inputs such as slack personnel, unused capital and unnecessary capital costs, as well as unexploited opportunities to increase output. Cheng and Kesner (1997) suggested that slack resources were those that sat idle in a business increasing costs and decreasing operational efficiency, and that there was a need for the organization to reduce or eliminate a certain amount of slack. George (2005) argued that organizational slack was potentially available resources that could be shifted or redeployed to achieve organizational goals. Earlier studies have developed numerous concepts of slack.

Based on the above different definitions of organizational slack, it reflects two different perspectives held by people on it, the first from the Organization Theory, that organizational resource slack was a guarantee for strategy implementation; the second from the Agency Theory, that slack resources were the manifestation of the organization's inefficient operation, and need to be controlled to reduce unnecessary resource consumption (see Table 1). Conceptually, Agency Theory viewed the role of slack from the principal's perspective, whereas Organization Theory viewed the role of slack from the manager's perspective. Essentially, principals and agents had a conflict of interest relationship, and inevitably viewed slack differently (Jensen & Meckling, 1976).

**Table 1.** Definition of Organizational Slack.

Organization Theory (+)	Resources kept within the organization beyond actual needs and controlled by individuals or small groups to cope with the impact of environmental change	Cyert & March (1963)
	Organizational slack was a real or potential resource buffer for the enterprise, which enabled successful adjustment to internal adjustments or external changes, as well as strategic changes to the external environment	Bourgeois (1981)
	Excess resources available in the organization's stores during the established planning cycle	Bromiley (1991)
	Slack was the accumulation of resources in excess of the minimum necessary inputs for an organization to produce a given level of output, including excess inputs such as slack personnel, unused capital and unnecessary capital costs, as well as unexploited opportunities to increase outputs	Gulati (1996); Zona (2012)
	Organizational slack was potentially available resources that could be transferred or redeployed to achieve organizational goals.	George (2005)
Agency Theory (-)	Slack was a source of agent problems that incubate inefficiencies	Leibenstein (1969)
	An inefficiency that benefited only the manager and was an underutilized resource for the organization	Jensen and Meckling (1976)
	Idle resources in the business that increased costs and reduced operational efficiency, it was necessary for the organization to reduce or eliminate a certain amount of slack	Cheng and Kesner (1997)

### 3. Structural Classification and Measurement of Organizational Slack

#### 3.1. Structural Classification of Organizational Slack

Researchers have classified organizational slack from different perspectives (see Table 2). 1. Organizational slack was classified as available slack, recoverable slack, and potential slack according to the availability of slack (Bourgeois, 1983). 2. Organizational slack was classified as unabsorbed slack, absorbed slack, according to the state of slack's existence in the organization (Singh, 1986). 3. Sharfman (1988) classified slack resources into high mobility slack resources, low mobility slack resources, i.e., non-sedimentary slack, sedentary slack; also known as high free allocation slack, low free allocation slack. 4. Additionally slack classifications based on the specific form of resources in the enterprise, such as physical slack, human resources slack, financial slack, relationship resources slack (Zhong & Zhang, 2009), and technological slack (Gong & Li, 2012). 5. According to the specific resource form of slack (Zhang & Li, 2008), it could also be classified into information slack, role slack, personnel slack, and time slack. 6. As for the connotation of redundant resources, based on the characteristics of manufacturing resources, the resources in manufacturing enterprises with lower applicability, higher conversion cost and smaller scope of use were defined as specialized slack resources, such as management cost expenses, idle specialized equipment of enterprises, etc.; and the resources with higher applicability, lower conversion cost and wider scope of use were defined as general slack resources (Singh, 1986; Zhang & Wang, 2021).

#### 3.2. Measurement of Organizational Slack

1. Recoverable slack / available slack / potential slack. Based on previous studies, Jiang and Zhao (2004) used the current ratio (current assets / current liabilities), gearing ratio (owner's equity / total liabilities), and the ratio of sales administration and general expenses to sales revenue to represent the resource slack of a firm as a whole. The current ratio (current assets / current liabilities) was used to measure available slack, which indicated the ability of a firm's liquid resources to meet current obligations; the equity gearing ratio, which indicated a firm's idle borrowing capacity, was used to measure potential slack; and the ratio of overhead to sales was used to measure recoverable slack (Cheng & Kesner, 1997).

**Table 2. Structural Classification of Organizational Slack.**

	Available slack	Available excess resources not entering the organizational system processes	Current ratio (current assets / current liabilities)
Availability of slack (Bourgeois, 1983)	Recoverable slack	Resources that have entered the organizational system processes with excess costs, the costs of which could be brought back to normal through optimization of resource allocation	Administrative expenses as a percentage of sales
	Potential slack	Organizational capacity to obtain additional resources from the environment through raising additional debt or equity	Equity gearing
Slack's state of being in the organization (Singh, 1986)	Unabsorbed slack	Equivalent to excess free-flowing resources in an organization. Easily reconfigurable organizational resources that were not allocated to specific tasks	Ratio of cash and cash securities to current liabilities; 3 question items
	Absorbed slack	Equivalent to excess costs in an organization. Resources embedded in a firm's existing processes that were difficult to reconfigure	Cost-expense ratio and working capital to sales revenue; 2 question items
Mobility and flexibility of slack resources (Sharfman, 1988)	Non-sedimentary slack (high free configuration/high mobility)	Slack resources that were more mobile and flexible, more versatile and easily deployed across a range of business operations	Current ratio measurement, gearing
	Sedimentation slack (low free configuration/low mobility)	Less mobility and flexibility, highly dedicated and redundant resources for a few occasions	Administrative expenses, selling expenses, sales revenue measurement
	Material slack	Excess material resources over and above the potential value of the enterprise's existing business requirements	Idle plant and various equipment, discarded or obsolete equipment and materials, unnecessary inventory, etc.
Slack Specific Resource Forms (Zhong & Zhang, 2009; Gong & Li, 2012)	Human resources slack	Excess human resources over and above the human resources necessary for an enterprise's existing production and business operations	Difference in the number of employees per unit of sales of an enterprise compared to the industry average
	Financial slack	Excess liquidity and risk-free liabilities over and above those required for the production and operation of the enterprise	Annual current ratio measure: current assets divided by current liabilities
	Relational resource slack	Underutilized interrelationships between individuals and organizations inside and outside the enterprise	Underutilized personal relationships with relevant government departments and social intermediaries
	Technical slack	Underutilized surplus technological resources in excess of the production and operational needs of the enterprise	New technologies not effectively utilized, obsolete or outdated technologies
Slack specific resource forms (Zhang & Li, 2008)	Information slack	The enterprise load had more information than was necessary to accomplish the organization's mission	
	Role slack	There were overlapping responsibilities between roles	
	Employees slack	The number of employees actually assigned to a position was greater than the number of employees necessary to accomplish the organization's mission	
Scope of application of resources (Singh, 1986; Zhang & Wang, 2021)	Time slack	Refers to the phenomenon of employees being able to freely dispose of their own working time	
	Dedicated slack	Less applicable, more costly to convert, and less widely used resources in manufacturing organizations	
	General slack	Resources with high applicability, low conversion costs and wide range of uses	

2. Unabsorbed slack / absorbed slack. Singh (1986) directly used the ratio of cash and cash securities to current liabilities to indicate the firm's unabsorbed slack, and the cost-expense ratio and the ratio of working capital to sales revenue to indicate absorbed slack. Based on Tan and Peng (2003) research scale, Li and Gao (2014) measured the firm's unabsorbed slack with three question items (the firm had sufficient financial resources to cope with unexpected investment needs; the firm's retained surplus was sufficient to meet the firm's cost needs to develop the market; and the firm could

easily obtain a loan); and the firm's absorbed slack with two question items (the firm's production capacity had a lot of room to be utilized; the firm was not operating at full capacity). Based on Singh (1986), Sun and Song (2021) measure absorbed slack using (business entertainment expenses + advertising and promotion expenses + foreign donations) / operating revenues, and unabsorbed slack was measured by money funds / operating revenues.

3. Non-sinking slack / sinking slack. Non-sedimentary slack was measured using current ratio or gearing ratio (Cheng & Kesner, 1997; Wiseman & Bromiley, 1996; Jiang & Zhao, 2004; Li & Liu, 2013), and sedentary slack was measured using administrative expenses / sales revenue (Wiseman & Catanach 1997; Palmer & Wiseman, 1999).

4. Financial slack and human resource slack. Zhong et al. (2008) measured financial slack through a questionnaire, and the main questions were often feel that the supply of funds is sufficient when making business decisions; the enterprise has enough cash reserves; when encountering financial difficulties, it can always raise the necessary funds in time. Human resource slack could be measured by the difference in the number of employees per unit of sales of a firm compared to the industry average (Zhong et al., 2009).

5. Zhang and Li (2008) divided organizational slack into information slack, role slack, personnel slack, and time slack. But there is no empirical study, just a framework and reference.

6. Zhang and Wang (2021) referred to Tan and Peng (2003) for the measurement of slack slack, which consisted of eight questions, including three questions on specialized slack resources, such as the enterprise's current production and operation is below the design capacity or predetermined target; five questions on general slack resources, such as the enterprise's retained earnings and undistributed profits are sufficient to support market expansion.

## **4. Influences and Outcomes of Organizational Slack**

### **4.1. Factors Affecting Organizational Slack**

Most studies discussed the outcomes of organizational slack as an antecedent or moderating mechanism, considering its impact on outcome variables such as firm performance, firm innovation, and organizational mergers and acquisitions. However research on the factors influencing organizational slack is lacking.

In terms of factors external to the organization, Li and Liu (2013) investigated the role of organizational slack in difficult situations and found that financial crisis would negatively modulate the non-sedimentary slack and performance relationship and positively modulate the sedentary slack and performance relationship. Poor performance would positively moderate the non-sedimentary slack and performance relationship. Product market competition would have an impact on the organizational slack structure (the ratio of non-sedimentary slack resources to the number of sedentary slack resources), and the study by Chen et al. (2015) found that the more intense the competition in the product market was, the smaller the proportion of non-sedentary slack resources held by the enterprise, and the number of sedentary slack resources was basically unchanged. And the more serious financing constraints the enterprise faced, the negative product market competition on the slack structure influence was stronger. Wang and Zhang (2016) explored the impact mechanism of environmental uncertainty on the level of slack holding in business organizations from the dimensions of environmental inclusiveness and environmental dynamics. It was found that the higher the environmental inclusiveness, the less organizational slack held by the firm; the higher the environmental dynamics, the more organizational slack held by the firm, and executive characteristics positively moderated the relationship between environmental uncertainty and organizational slack. Liu and Dong (2017) argued that political affiliation of private enterprises could enhance the formation of organizational slack, and that organizational slack played a mediating role in political affiliation and political affiliation and technological innovation.

From the perspective of internal organizational factors, Li and Liu (2010) selected 500 listed manufacturing companies in China to test the hypotheses and confirmed that the higher the age of the

firms, the political behavior and the risk of the firms, the more the firms tend to maintain low liquidity slack resources; the higher the average age of the managers, the performance of the organization and the organizational turnover rate, the more the firms tend to maintain high liquidity slack resources. Li and Liu (2011) also found that slack resources of firms generally decrease gradually, while precipitated slack resources of distressed firms increase gradually, and that distressed firms had more precipitated slack resources and fewer non-precipitated slack resources. Among firms in poor operating conditions, non-sedimentary slack resources were significantly reduced and sedimentary slack resources were significantly increased; among firms in good operating conditions, non-sedimentary slack resources were significantly increased and sedimentary slack resources were significantly reduced. Li et al. (2018) explored the relationship between the effect of expected performance feedback and organizational slack structure in manufacturing firms, and found that, for manufacturing firms, expected performance feedback negatively affected the firm's slack structure (the ratio of the amount of non-sedimentary slack to the amount of sedentary slack). Product market competition strengthened the negative relationship, while the contextual effect was more pronounced in the financing constraint context. While academics had heavily explored the impact of organizational strengthened on innovative activities, they had neglected the fact that corporate innovation as an antecedent variable might also have an impact on organizational slack. Cao et al. (2018) explored the differential impact of corporate innovation on slack in different types of organizations, and the results showed that corporate innovation had a positive U-shaped nonlinear relationship with organizational non-sedimentary slack. Corporate innovation was positively correlated with organizational sedentary slack. And compared to non-state-owned enterprises, state-owned enterprise innovation had a stronger positive impact on sedentary slack. Chen et al. (2022) proposed and defined the concept of slack of innovation capacity and proved that technological foresight, technological orientation, long-term orientation, and knowledge transfer within enterprise positively affected slack of innovation capacity.

#### 4.2. Results of Organizational Slack

Since March and Simon proposed the concept of organizational slack in 1958, academics have conducted a large number of studies on the impact of organizational slack as a dependent variable on firm performance, firm innovation, firm knowledge management capabilities, knowledge transfer between firms, corporate social responsibility, corporate exploration, and corporate strategy.

Early on, much of the research on organizational slack focused on the relationship with performance. At first, most of the discourse on the relationship between slack and performance focused on the fact that the relationship between slack and performance was a linear positive or negative one, but subsequent studies have increasingly shown that the relationship between slack and performance was not a simple linear one. Some scholars have demonstrated an inverted U-shaped relationship between organizational slack and performance (Tan and Peng, 2003; George, 2005; Chen and Wang, 2012). Based on the study of GEM enterprises, Huang and Chen (2015) found that both sedentary and non-sedentary slack resources of GEM enterprises had a positive U-shape relationship with corporate performance. Jiang and Zhao (2004) demonstrated a transposed S-shaped relationship between organizational slack and performance. Zhong et al. (2008) proposed an N-shaped relationship model between financial slack and firm performance, which showed that financial slack was positively related to performance when the financial slack was too little, negatively related to performance when the financial slack was moderate, and positively related to performance when the financial slack was too much. Ye et al. (2020) took cost stickiness as an entry point, and the study proved that the cost stickiness of the enterprise would harm the performance of the enterprise, and at the same time, the low mobility organizational prove played a significant mediating role. Zhang and Wang (2021) found that there was a negative relationship between specialized slack resources and firm performance, and an inverted U-shaped relationship between general slack resources and firm performance in a study of 291 manufacturing firms.

Regarding the research on organizational slack and innovation, different scholars have carried out more detailed explorations from multiple perspectives, such as from the secondary classification of organizational slack, such as the relationship between unabsorbed slack, absorbed slack and innovation, as well as the different roles played by slack resources in innovation. Innovation input, innovation performance, technological innovation, innovation upgrading and so on related to slack resources. A part of scholars directly measured the impact of overall enterprise slack on innovation. Xie and Wei (2016) took China's non-financial A-share listed companies as the research sample from 2010 to 201 to test the impact of organizational slack on corporate R&D investment. It was found that organizational slack resources had a significant role in promoting corporate R&D investment. Zhao et al. (2017) conducted a questionnaire survey and structural equation modeling of the data on a total of 336 firms in Guangdong, Beijing, and Hubei during July-October 2015 and found that opportunity identification and resource patchwork played a fully mediating role in the positive relationship between organizational slack and firms' entrepreneurial performance. Zhang and Han (2020) found that organizational slack had a significant positive linear effect on firms' investment in innovation, and that organizational slack had a stronger effect on innovation in non-state-owned firms relative to state-owned firms. By conducting an empirical study on sample data of manufacturing enterprises listed in Shanghai and Shenzhen A-shares from 2010 to 2018, Bo and Yang(2020) found that organizational slack resources had a positive impact on corporate green innovation performance, i.e., the rational use of slack resources by organizations to carry out green innovation activities could enhance the green innovation performance of the enterprises, and that social responsibility had a partially mediating role between organizational slack and green innovation performance. Another part of scholars focus on a specific dimension of slack. The empirical results of panel data of Li and Li (2016) with listed companies in China's manufacturing industry from 2003-2014 showed that enterprises' investment in continuous innovation was vulnerable to external financing constraints. Organizational slack had a smoothing effect on enterprises' investment in continuous innovation under the constraints of external financing, but such a smoothing effect was only manifested in non-sedimentary organizational slack with high liquidity. The more intense the competition in the product market, the weaker the smoothing effect of non-sedimentary organizational slack. Based on the research data of 303 manufacturing enterprises in China, Li and GAO (2017) found that environmental scanning played a fully mediating role between unabsorbed slack and exploratory innovation. Individually, industrial competitive intensity negatively moderated the relationship between unabsorbed slack and environmental scanning, while entrepreneurial orientation did not have a significant positive moderating effect on the relationship. When considering both industrial competitive intensity and entrepreneurial orientation, the interaction term positively moderated the relationship between unabsorbed slack and environmental scanning. The empirical results of Sun et al. (2020) showed that disposable slack had a significant positive effect on innovation performance. Organizational learning mediated the relationship between disposable slack and innovation performance. At the same time, technological turbulence had a positive moderating effect on the relationship between disposable slack and innovation performance, and the moderating effect was also mediated by organizational learning. Jiang and Li (2021) showed that sedentary slack positively affected firms' innovation performance. Cross-cognitive technological knowledge search, cross-territorial technological knowledge search, and cross-territorial market knowledge search mediated the relationship between sedentary slack and innovation performance. Strategic flexibility played a moderating role in the effect of sedentary slack on firms' innovation performance.

Organizational slack would also be related to corporate social responsibility. Liu (2013) found that from the perspective of the institutional environment, when public opinion pressure increased, companies obviously increased the amount of donations and accelerated the response speed of donation behavior, but the strength of donations did not increase significantly. From the viewpoint of internal organizational slack, organizational slack also provided strong support for donation decisions. The empirical study by Xu and Yang (2013) found that organizational slack, which included both absorbed and unabsorbed slack, was positively correlated with corporate philanthropy. The

proportion of state-owned holdings weakened the positive correlation between unabsorbed slack and corporate philanthropy. And the prior year's performance strengthened the positive correlation between absorbed slack and corporate philanthropy. Sun and Song (2021) showed that financial performance and organizational slack had significant positive impact on CSR, organizational slack played a significant positive moderating role in the promotion of financial performance on CSR, and the impact of financial performance on CSR also presented a structural mutation threshold effect with the change of organizational slack, that was, interval financial performance could rapidly enhance CSR in the optimal level of organizational slack.

In addition to corporate performance, corporate innovation, and social responsibility, slack was related to M&A behavior and internationalization. Pan and Sun (2021) found that available slack and potential slack promoted M&A of cultural firms and were positively related to same-industry M&A, but significantly negatively affected the M&A performance of cultural firms, while recoverable slack inhibited M&A of cultural firms and was negatively related to same-industry M&A and cross-region M&A, and had only a non-significant enhancing effect on M&A performance. Wu and Chen (2020) identified two strategic responses to institutional complexity by MNEs during M&A integration, institutional adaptation and institutional co-creation. It was found that exploitative M&A firms tend to choose to implement institutional co-creation strategies and exploratory M&A firms tend to choose to implement institutional adaptation strategies, while M&A experience and organizational slack positively moderated the relationship between exploratory or exploitative M&A and the corresponding strategic response styles. Xu et al. (2019) found that high organizational slack firms highlighted the positive impact of social responsibility report disclosure on M&A performance more than low organizational slack firms. Shan et al. (2021) found that organizational slack had a significant U-shaped relationship with corporate mergers and acquisitions, which suggested that on the left side of the U-shape, a firm's organizational slack decreased mergers and acquisitions behavior, while on the right side of the U-shape, a firm's organizational slack increased mergers and acquisitions behavior. Li et al. (2021) found that there was a significant positive relationship between unabsorbed slack and the frequency of M&A by firms, and the effect of absorbed slack on the frequency of M&A was not significant. The degree of marketization of the location of M&A firms negatively moderated the positive correlation between unabsorbed slack and M&A frequency of firms, and at the same level of unabsorbed slack, state-owned firms had a higher frequency of M&A compared to private firms. Wu (2017) divided organizational slack into four types: financial slack, relationship slack, human resource slack and operational slack, and found that financial slack had a positive effect on exploratory internationalization and a negative effect on exploitative internationalization. Relationship slack, operational slack and human resource slack had a negative effect on exploratory internationalization and a positive effect on exploitative internationalization. Based on the resource base theory, Li and Gao (2018) found that the higher the absorbed slack and the available slack, the lower the balance of the enterprise's overseas concurrent strategy, and specifically, the promotion of utilizing strategy was higher than that of exploring strategy.

In addition to these aspects mentioned above, organizational slack also had an impact on entrepreneurship and growth (Dai, 2012; Zhao et al., 2017; Gong & Liu, 2022), organizational reconfiguration (Jiang et al., 2021), strategic change (Yun and Ning, 2022), strategic deviation (Lian et al., 2019), corporate exploration (Zhao et al., 2014) and so on.

## **5. Current State and Future Directions in Organizational Slack**

### **5.1. Five Research Areas of Organizational Slack**

#### **5.1.1. Antecedents of organizational slack**

Most studies have explored the outcomes of organizational slack, and fewer studies have systematically addressed the antecedents of organizational slack. Studies on the antecedents of organizational slack can be divided into two, one part of which investigates the effects of various

antecedents on the total amount of organizational slack (Wang & Zhang, 2016; Chen et al., 2022); and the other part of which investigates the effects of various antecedent variables on the structure of organizational slack, i.e., the differentiated effects on different types of slack (Chen et al., 2015; Li et al., 2018). The antecedent variables of organizational slack are specifically classified into two main categories, organizational internal factors and organizational external environmental factors. Internal organizational factors include firm age, political behaviour, firm risk, average age of managers, organizational performance and organizational turnover (Li & Liu, 2010); organizational financial distress (Li & Liu, 2011); organizational business condition (Li & Liu, 2011); expected performance feedback (Li et al., 2018); firm innovation (Cao et al., 2018); organizational technology foresight, technology orientation, long-term orientation, and intra-firm knowledge transfer also affect slack (Chen, 2022). Organizational external factors include financial crisis (Li & Liu, 2013), product market competition (Chen et al., 2015), environmental inclusiveness and environmental dynamics (Wang & Zhang, 2016), and the degree of political relevance (Liu & Dong, 2017).

### **5.1.2. Organizational slack and corporate performance**

Different scholars have demonstrated different correlations between organizational slack and performance. Firstly, there is a positive correlation between organizational slack and firm performance. Tan and Peng (2003) explored the relationship between unabsorbed redundant resources and firm performance as a positive correlation by using the relationship between depreciation fund, reserve fund, retained earnings of the firm and cost of goods sold and profitability. Secondly, there is a negative correlation between organizational slack and firm performance. Tan and Peng (2003) also empirically investigated the relationship between overhaul fund, inventory and accounts payable and profitability to conclude the following: absorbed slack resources are negatively correlated with firm performance. Zhang and Wang (2021) found that there is a negative correlation between dedicated redundant resources and firm performance through the findings of 291 manufacturing firms. Further, there is an inverted U-shaped relationship between organizational slack and firm performance (Jiang & Zhao, 2004; Chen & Wang, 2012). Finally, there may also be U-shaped and N-shaped relationships between organizational slack and firm performance (Huang & Chen, 2015; Zhong et al., 2008).

### **5.1.3. Organizational slack and innovation**

A part of scholars directly measure the impact of overall corporate slack on innovation (Xie & Wei, 2016; Zhao et al., 2017; Zhang & Han, 2020; Bo & Yang, 2020). Another part of scholars focus on a specific dimension of slack, such as non-sedimentary organizational slack (Li et al., 2016), unabsorbed slack (Li & GAO, 2017), disposable slack (Sun et al., 2020), and sedentary slack (Jiang & Li, 2021). Studies on organizational slack related to innovation have different specific dependent variables, including investment in R&D (Xie & Wei, 2016; Xu et al., 2020), innovation performance (Jiang & Li, 2021), technological innovation performance (Xing & Wang, 2015), innovation model (Zhu & Huang, 2020), original innovation (Li & GAO, 2014) and green innovation strategy (Wu & Hua, 2021; Bo & Yang, 2020).

### **5.1.4. Organizational slack and CSR**

Organizational slack positively affects corporate giving decisions (Liu, 2013; Sun & Song, 2021), absorbed slack and unabsorbed slack are positively correlated with corporate philanthropy (Xu et al., 2013), and heterogeneous effects of slack, for example, financial and innovation slack negatively affects CSR performance, and human resource slack positively affects CSR performance measurement (Shahzad, 2016).

### **5.1.5. Organizational slack, M&A and internationalisation**

Available slack and potential slack promote cultural firms' M&A, while recoverable slack inhibits cultural firms' M&A (Pan & Sun, 2021), organizational slack positively moderates the relationship between exploratory or exploitative M&A and the corresponding strategic response approach (Wu & Chen, 2020), low organizational slack firms accentuate the positive impact of social responsibility

report disclosure on M&A performance even more (Xu et al., 2019), a significant U-shaped relationship between organizational slack and corporate mergers and acquisitions (Shan et al., 2021), and a significant positive correlation between unabsorbed slack and the frequency of corporate mergers and acquisitions (Li et al., 2021); in the research between organizational slack and internationalisation, the main studies have investigated the relationship between organizational slack on different types of internationalisation (exploratory or exploitative), internationalisation strategies (Wu, 2017; Li et al., 2018).

In addition to these aspects mentioned above, organizational slack also impacts on entrepreneurship and growth (Dai, 2012; Zhao et al., 2017; Gong & Liu, 2022), organizational reconfiguration (Jiang et al., 2021), strategic change (Yun & Ning, 2022), strategic deviation (Lian et al., 2019), and corporate exploration (Zhao et al., 2014).

## **5.2. Future Direction of Organisational Slack**

### **5.2.1. Expanding research on the antecedents of organizational slack**

Most of the existing studies consider the outcomes of organizational slack, such as performance, innovation, mergers and acquisitions, and corporate social responsibility, etc. Future studies could systematically consider which factors affect the stock, increment, and structure of organizational slack, etc., and consider the influence of managerial traits in addition to organizational internal factors and factors in the external environment of the organisation. These studies will help scholars to understand the sources, changes and characteristics of organizational slack resources and so on.

### **5.2.2. Replicating and expanding studies on organizational slack and performance**

Different scholars have conducted detailed studies on the relationship between different redundancies and corporate performance, however, since the relationship between slack and performance is too complex, such as the existence of "+", "-", "inverted-U", "U-shaped" and "N-shaped" correlations, can these relationships be replicated in a broader context within the same cultural context? However, because the relationship between slack and performance is so complex, with correlations such as "+", "-", "inverted U", "U" and "N", can these relationships be replicated in the wider context of the same culture, or can the same conclusions be drawn in different contexts? The replicability of findings from previous studies could be further tested.

### **5.2.3. Research on the relationship between specific forms of slack and innovation**

The five years from 2016-2020 are the explosive growth phase of slack and innovation research, and domestic scholars have carried out research on the relationship between slack and innovation at different levels of granularity. Most of the existing studies classify the impact of different types of slack on innovation in terms of whether slack is absorbed by the organisation and the mobility of slack, but this is mostly based on foreign classification methods. In the future, attention should be paid to the impact of specific technological slack, knowledge slack and innovation capacity slack on firms, and the development of national slack classification methods.

### **5.2.4. Exploring the implications for organizational slack in the context of higher-order theory**

In recent years, research related to higher-order theory and corporate social responsibility (CSR) has received extensive attention from scholars. However, existing studies on the antecedents of organizational slack only consider them from the perspectives of the internal and external environments of organisations, and it will be interesting to see how to consider the impact on organizational slack resources and even CSR in terms of managers' risk attitudes, managerial characteristics, and heterogeneity of executive teams.

### **5.2.5. Combining the current context and hot topics**

Explore the impact on the stock and structure of organizational slack in different contexts, such as during the COVID-19 epidemic, and how to consider social phenomena such as slack of human resources and a wave of corporate layoffs in the economic crisis triggered by the New Crown

Epidemic, non-sinking slack brought about by a decrease in cash flow, and a decrease in redundant resources of high mobility, and the related consequences. In this difficult situation, how enterprises can adapt to the environmental changes by regulating organizational slack to choose different strategies, make strategic changes and strategic deviations, etc., the study of organizational slack considering the general environment of the current era will be of important reference and guidance for enterprises.

## 6. Summary

In conclusion, this paper analyses and summarises the current state of research on the concept, classification and measurement of organizational slack, as well as the related research on organizational slack. Specifically, the research on organizational slack includes aspects related to the antecedents of organizational slack, and the consequences of organizational slack (performance, innovation, CSR, mergers and acquisitions, and internationalisation, entrepreneurship and growth, and strategic change). This study proposes future research directions based on a summary of existing research.

On the one hand, the summary of this paper analyses for the first time multiple research areas of organizational slack and integrates the recent relevant research on organizational slack, which will help to understand the origins and developmental lineage of organizational slack research, and the integration of the research in multiple areas will also point out the focuses and gaps of the current research on organizational slack, which will help the researchers to actively explore new perspectives of research. On the other hand, from an enterprise perspective, most enterprises have more or less redundant resources, whether non-sinking slack, sinking slack, financial slack, human resource slack or innovation capacity slack. These studies provide a wide range of references for companies and offer some insights into how companies can make organizational slack work to its full potential. In the future, we encourage replication studies and quantitative integration of multiple areas of redundant resources.

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