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How Knowledge Sharing Affects Business Model Innovation: An Empirical Study from the Perspective of Ambidextrous Organizational Learning

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Abstract: In the era of knowledge economy and open innovation, it is especially important for organizations to learn how to store and utilize internal and external knowledge for the sustainability of business models. The ability to innovate is a necessity for sustainable development, thus this paper starting from the internal factors driving enterprises to realize business model innovation, from perspective of ambidextrous organizational learning, takes 257 managers in enterprises as samples to empirically study the mechanism of knowledge sharing on business model innovation. The results of regression analysis and structural equation model (SEM) path analysis show that knowledge sharing affects novel and efficient business model innovation through ambidextrous organizational learning, and ambidextrous organizational learning plays a complete mediating role. Both explorative and exploitative learning have a significant positive impact on the novel and efficient business model innovation, and explorative learning has a stronger promoting effect. Therefore, in the practice of enterprise business model innovation, leaders need to establish a system that can promote the willingness of employees to share knowledge. Organizations need to pay attention to the effectiveness of explorative learning, consider the actual demand of employees as much as possible, and mobilize the initiative of employees in the learning process. Organizations also are required to pay attention to the balance between explorative learning and exploitative learning.

Keywords: knowledge sharing; ambidextrous organizational learning; novel business model innovation; efficient business model innovation

1. Introduction

Environmental pressures and regulations make corporate leaders expect to achieve sustainable development of enterprises through business model innovation [1,2]. Business models of sustainability (BMfS) are defined as business model innovation (BMI) incorporating concepts, principles, or goals that aim at sustainability, or integrating sustainability into their value proposition, value creation and delivery activities, and value capture mechanisms [3]. Under the concept of sustainable competition, business model innovation provides impetus for the sustainable development of enterprises [4]. Hence, it is especially crucial to explore how enterprises can improve their business model innovation capabilities before achieving sustainability. In addition, the current global pandemic of COVID-19 has brought many threats to the sustainable development of enterprises in many countries. Such an unexpected pandemic reality in the external environment has prompted enterprises to innovate their business models. More and more research has proved that business model innovation is conducive to enterprises to obtain and sustain competitiveness [2–8]. Novel business model innovation (Closed-loop business models, Product Service Systems, etc.)

and efficient business model innovation (Lean manufacturing, Energy Saving Companies, etc.) [2] are two important directions of business model innovation [9], and how to use internal and external resources and capabilities of an organization to promote novel business model innovation (NBMI) or efficient business model innovation (EBMI) is critical to enterprises. In the era of knowledge economy, organizations are regarded as a collection of diverse knowledge [10]. Knowledge integration and utilization are the basis of business model innovation [11,12]. How to effectively manage knowledge resources and conduct organizational learning (OL) activities is related to the successful implementation of business model innovation [13–15]. Knowledge sharing (KS) is the key to organizational management of knowledge resources, and this fact has been recognized by many researchers [16–19]. The purpose of knowledge sharing is to expand the utilization scope of knowledge and improve the utilization value of knowledge, to provide sufficient knowledge capital for organizations to realize business model innovation [20]. In the context of open innovation, knowledge becomes an important strategic resource for enterprises to realize business model innovation, and knowledge sharing becomes more initiative-taking and open [21]. Organizations should not only acquire more external knowledge, but also make full use of internal knowledge. Organizational learning is characterized by ambidexterity [22]. Therefore, it is of great theoretical and practical significance to focus on the question: From the perspective of ambidextrous organizational learning process, what is the mechanism by which knowledge sharing affects novel and efficient business model innovation?

Business model is the core logic for an organization to create and obtain the value [23]. It describes the position of an enterprise in the whole value chain and explains how the enterprise obtains profits through business operation [24]. The application of big data, cloud computing, block chain and other advanced information technologies urges enterprises to combine market demand with internal resources and capabilities to form new transaction methods, and to capture value in new ways, as well as business model innovation [25]. From a value perspective, business model innovation consists of value proposition (customer segments /relationships, customer value, etc.), value creation (innovative business activities, design cost structure, etc.), value delivery (distribution channel innovation, etc.), and value network (stakeholder management, network capability, etc.) [26,27]. After understanding the building blocks of business model innovation, leaders can assemble a BMI by adjusting the innovation variables. But it is important to note that BMI does not always have a positive impact. Especially for small and medium-sized enterprises (SMEs), its business model innovation is top-down. BMI adopted by business owners or top management that, in the implementation process, may disrupt the work patterns that employees have long been accustomed to or reshape the pattern of benefit distribution among departments, resulting in negative response of employees, and finally ended in failure. And BMI can bring performance improvement to the enterprise only when it is successfully implemented. Therefore, it is necessary to study human behavior in the process of BMI. Novelty-based model innovation and efficiency-based model innovation both belong to business model innovation, but there are differences between them. The former refers to the continuous introduction of new ideas into the business model, the combination of products, information and services in a new way, and the adoption of new ways to realize the transaction; The latter aims to reduce transaction costs, reduce information asymmetry, and improve enterprise operation efficiency by adjusting business model [9]. The current research mainly focuses on the internal factors and mechanisms driving business model innovation [28]. This is because the external factors involved such as technological progress and environmental dynamics are often difficult for enterprises to control. In the existing studies, the internal factors driving business model innovation include resources and capabilities, organizational activities, and leaders' characteristics. In the era of knowledge economy, how an organization stores and utilizes the knowledge is related to the survival and development of the organization [29]. Therefore, we focus on the internal factors of

organizational resources and capabilities, and then we study the relationship between knowledge sharing, organizational learning, and business model innovation.

The fact that organizational learning promotes business model innovation has been confirmed by many researchers [30–32], the effect of organizational learning depends on the knowledge sharing among organizational members [33]. The difference between knowledge and natural resources is that knowledge is renewable, reusable, and lossless. With the expansion of knowledge sharing within the organization, knowledge presents the characteristics of increasing marginal benefits. Based on the characteristics of knowledge, the purpose of knowledge sharing is to improve the value of knowledge utilization [34]. The theory of organizational learning shows that when an organization is dealing with unclear external stimuli, organizational learning is stimulated by the demand of the organization's managers for organizational adjustment. Organizational learning is divided into explorative learning and exploitative learning [35]. Explorative learning and exploitative learning conform to the characteristics of ambidexterity. The former is to learn novel knowledge that different from the existing knowledge base of the enterprise; The latter is to learn and use the existing knowledge, ability, and channel of the enterprise. Ambidextrous organizational learning has a relationship of balance and cooperation in the positive influence on BMI [36]. Thus, will knowledge sharing have a positive impact on BMI through ambidextrous organizational learning? This problem needs further empirical test.

In summary, firstly, when discussing the relationship between knowledge sharing, organizational learning and business model innovation, the existing researches mostly discuss the direct relationship between knowledge sharing and business model innovation [37–39] or between organizational learning and business model innovation [40,41], and lack the research on the relationship between knowledge sharing and business model innovation from the perspective of organizational learning. Secondly, when discussing the relationship between organizational learning and business model innovation, most researchers do not consider the ambidexterity of organizational learning and the division of novelty-based and efficiency-based business model innovation [42,43]. Due to the differences between enterprises, different enterprises will choose to conduct explorative learning or exploitative learning activities according to their own strategies, resources, and capabilities in the process of promoting business model innovation. At the same time, enterprises will also choose to enhance their competitive advantage by means of novel business model innovation or efficient business model innovation according to their different environments and markets. Based on the above two facts, a more detailed discussion of the impact of ambidextrous organizational learning on novel and efficient business model innovation can more effectively serve the management practices of enterprises. Unfortunately, few research have considered both the ambidextrous nature of organizational learning and the distinct types of business model innovation.

Therefore, to make up these gaps, firstly, we focus on the factors driving BMI, based on the theory of knowledge innovation and organizational learning, in the form of regression analysis to explore the relationship between knowledge sharing, ambidextrous organizational learning, novelty-based and efficiency-based business model innovation. And then we construct the theoretical model. Secondly, we use SEM path analysis to reveal the impact of ambidextrous organizational learning on novelty-based and efficiency-based business model innovation. We aim to answer the following questions: (1) Can knowledge sharing directly promote the ambidextrous organizational learning or NBMI and EBMI? (2) Whether knowledge sharing has a positive impact on NBMI and EBMI through ambidextrous organizational learning? (3) What is the relationship between explorative learning and exploitative learning in the process of influencing NBMI and EBMI, and is there any difference in the degree of explorative learning and exploitative learning effect on the NBMI and EBMI?

2. Literature Review and Research Hypothesis

2.1. Knowledge Sharing Effect on Business Model Innovation

The organizational knowledge innovation comes from the sharing and integration of knowledge among individuals, and knowledge innovation can enhance the innovation sustainability of enterprises [44]. Knowledge innovation theory emphasizes the significant role of individual knowledge sharing in organizational knowledge innovation and believes that knowledge sharing among organizational members makes tacit knowledge and explicit knowledge transform each other, thereby promoting organizational knowledge innovation.

Nonaka expressed the dynamic process of organizational knowledge creation of "tacit knowledge-explicit knowledge-tacit knowledge" with the framework of SECI theory. The process of socialization and externalization promotes the sharing of tacit knowledge that is rooted in employees and difficult to observe into explicit knowledge that can be transmitted and learned among organizational members. The process of combination and internalization urges explicit knowledge to complete the reprocessing and sorting of knowledge through learning or experiment, and then internalize the new tacit knowledge, which is the basis for participating in the next knowledge spiral [45]. The key to knowledge innovation lies in the externalization of tacit knowledge, which means that individuals make other members of organizations know and learn tacit knowledge (experience, skills, perception) [46]. Knowledge innovation is the foundation of all innovation activities, including business model innovation [47]. The effect of knowledge innovation within an organization depends on the degree of knowledge sharing among members of the organization.

The results of Lin [38] also show that knowledge sharing within an organization is beneficial to BMI. Bashir and Farooq explored the effect of knowledge management (acquisition, conversion, dissemination, application, and reuse) on business model innovation. They found knowledge dissemination and sharing have a positive impact on BMI [39]. Thence, we propose the following hypotheses:

Hypothesis 1a (H1a): *Knowledge sharing has a positive impact on novel business model innovation.*

Hypothesis 1b (H1b): *Knowledge sharing has a positive impact on efficient business model innovation.*

2.2. Knowledge Sharing Effect on Ambidextrous Organizational Learning

Effective organizational learning processes are related to exploration, exploitation, and knowledge sharing [48]. Knowledge sharing enables organizational members to learn and possess the experience and knowledge of others. As knowledge is constantly circulated among members, the organization can finally realize the common ownership of individual knowledge. Knowledge sharing is not just about disseminating knowledge to colleagues, but also means helping another colleague understand and learn from the disseminated knowledge [49]. Disseminators make colleagues "know" knowledge through sharing, and with the extension of time and scope of sharing, eventually the entire organization "knows" this knowledge [50].

Organizational learning theory divides the main body of organizational learning into three dimensions: individual, group and organization. Individual learning is the basis of organizational learning, and the quality of individual learning is related to the effect of organizational learning. As a member of an organization, the individual's learning is also the most basic element of organizational learning, and the knowledge learned by the individual is retained in the organization through knowledge sharing [51]. Individual learning knowledge is transferred into organizational learning knowledge through employee sharing behavior and becomes the knowledge base for future learning activities of the organization. In the practice of business management, knowledge sharing among the members of an organization can reduce the possibility of misunderstanding, which provides conditions for the enterprise to realize organizational learning.

Among the existing-related studies, the research results of Li show that knowledge sharing has a significant positive impact on organizational learning, and tacit knowledge sharing has a stronger impact on organizational learning, which indicates that individual tacit knowledge sharing has a greater effect on improving organizational learning ability [52]. Kim and Park empirically studied the relationships between transformational leadership, knowledge sharing, organizational climate and learning. The results show that knowledge sharing has a significant positive impact on organizational learning and plays a mediating role in the impact of transformational leadership on organizational learning [33]. From this, we propose the following hypotheses:

Hypothesis 2a (H2a): *Knowledge sharing has a positive impact on explorative learning.*

Hypothesis 2b (H2b): *Knowledge sharing has a positive impact on exploitative learning.*

2.3. Ambidextrous Organizational Learning Effect on Business Model Innovation

The process of business model innovation is also the process of organizational open learning [53]. Organizational learning cannot only be regarded as an environmental adaptation behavior, but also can be regarded as an innovative behavior. What is particularly important for organizational innovation is the acquisition of new knowledge and the utilization of existing knowledge. Only through continuous learning can an organization maintain creativity and maintain sustainable competitiveness [46].

Explorative learning focuses on new knowledge, and corresponds to the spirit of experimentation and risk-taking, which provides necessary knowledge assets and spiritual conditions for enterprises to get rid of "path dependence" and then realize organizational innovation. New knowledge and new discoveries are the basis for organization to overcome the shortcomings of existing capabilities and improve the innovation sustainability of enterprises [54]. In the process of promoting explorative learning, the innovation awareness and risk-taking spirit required by enterprises are the preconditions for enterprises to realize business model innovation.

Exploitative learning emphasizes the optimization and utilization of existing knowledge, which is conducive to improving enterprises' ability of knowledge identification, transformation, and application [55]. The extraction and utilization of existing knowledge cannot only identify the knowledge that is beneficial to the enterprise, but also help the enterprise's existing knowledge to be effectively applied to various production practices to achieve the purpose of innovation. Compared with explorative learning, exploitative learning has fewer risks and costs, but it also affects business model innovation. From the perspective of element innovation, business model innovation is achieved by adjusting customer interfaces, core capabilities, strategic resources, network value and other elements [56]. Each of these elements contains corresponding management knowledge or technical methods, and the effective adjustments of various elements depend on the understanding of these knowledge and technologies. Exactly, the exploitative learning is to promote the enterprise's understanding of these knowledge and technologies.

In the existing research, the research results of Tian and Zhang show that both explorative learning and exploitative learning have a significant positive impact on BMI [43]. Yuan explored the relationship between ambidextrous learning balancing strategies, dynamic capabilities, and business model innovation. The results show that ambidextrous learning balancing strategies have a positive impact on NBMI and EBMI [36]. From this, we propose the following hypotheses:

Hypothesis 3a (H3a): *Explorative learning has a positive impact on novel business model innovation.*

Hypothesis 3b (H3b): *Explorative learning has a positive impact on efficient business model innovation.*

Hypothesis 4a (H4a): *Exploitative learning has a positive impact on novel business model innovation.*

Hypothesis 4b (H4b): *Exploitative learning has a positive impact on efficient business model innovation.*

Based on the above theoretical basis and analysis, we preset the following model (see Figure 1):
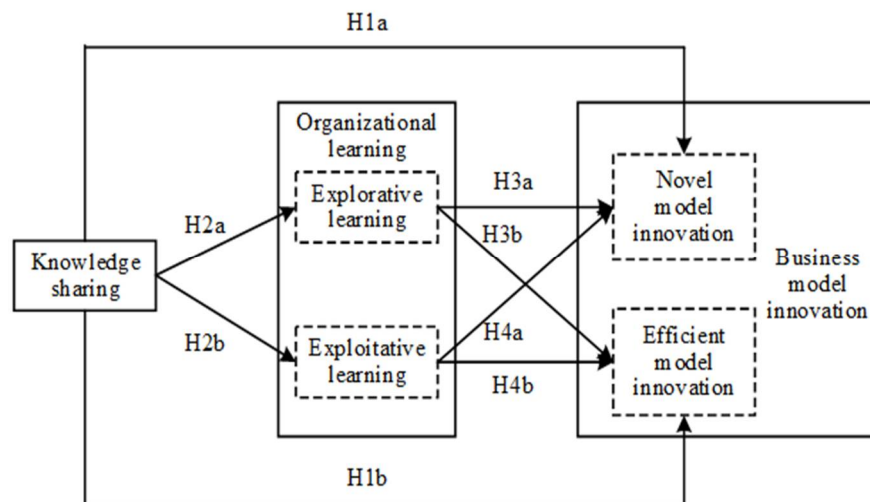

Figure 1. Preset research structure model.

3. Research Methodology

3.1. Sampling and Data Collection

This study focused on the mechanisms of knowledge sharing on business model innovation. Considering the impact of employee positions on the perception of the company's business model, we regard middle and senior managers in the enterprise as a "representative sample", because they have a clearer understanding of the company's management practices and business model operations than ordinary employees. In order to ensure the authenticity of the identity of middle and senior managers, we used the method of judgement sampling. Thus, we chose middle and senior managers who have studied MBA and EMBA classes in Anhui University of Technology and acquaintances of middle and senior managers of enterprises as the respondents. From December 2019 to February 2020, we conducted a formal questionnaire survey through Wenjuanxing, which is a Chinese online questionnaire service provider, and each respondent can only fill in once. Our questionnaire has a total of 20 items, and each item has 5 options (completely disagree, disagree, uncertain, agree, fully agree), all of which are closed-ended questions. The first 5 items are the basic information of the respondents, including gender, education level, position, company size and industry. The last 15 items are variable measurement items, all of which are derived from mature scales of existing research. Simultaneously, our questionnaires are filled in anonymously, which can eliminate the guards of employees in an anonymous state, and they will provide real views and opinions without fear of being punished. At the same time, we excluded managers who work in schools, hospitals, and other public institutions from this survey, because business model innovation is typically the innovative behavior of enterprises in markets. Ultimately, we collected a total of 301 questionnaires, and 257 valid questionnaires were obtained after excluding those whose answer time was less than 60 s, those with regular choices and those with chaotic logic.

The sample (see Table 1) was comprised of 257 middle and senior managers from various industries (manufacturing, logistics and warehousing, wholesale and retail, accommodation and meals, finance and real estate, education and medical, internet, etc.) in China, all of which aimed to represent middle and senior managers from the Chinese labor market. Of the respondents, 127 were males and 130 were females, accounting for 49.4% and 50.6%, respectively. Secondly, about 78.2% of the survey participants had a bachelor's degree or above, and the survey participants with a good educational background had a clearer

understanding of the questionnaire items. Finally, about 77.4% of the survey participants came from administration, R&D, and marketing positions. Employees in core positions had a better understanding of the company's business model operation. As for organization size, organizations of less than 100 employees accounted for 29.6%, 100–499 employees accounted for 32.3%, 500–999 employees accounted for 16.7%, and more than 1000 employees accounted for 21.4%.

Table 1. Statistical characteristics of sample data.

	Feature	Number	Percentage
Gender	Male	127	49.4%
	Female	130	50.6%
Education	Below college degree	21	8.2%
	College degree	35	13.6%
	Bachelor's degree	159	61.9%
	Master's degree and above	42	16.3%
Post	Production	28	10.9%
	Research and Development	48	18.7%
	Administration	92	35.8%
	Marketing	59	22.9%
	Technology	30	11.7%
Enterprise size	<100 employees	76	29.6%
	100–499 employees	83	32.3%
	500–999 employees	43	16.7%
	>1000 employees	55	21.4%
Industry	Manufacturing	54	21%
	Logistics and Warehousing	46	17.9%
	Wholesale and Retail	39	15.2%
	Accommodation and Meals	28	10.9%
	Finance and Real Estate	21	8.2%
	Education and Medical	33	12.8%
	Internet	13	5.1%
	Culture, Sports	6	2.3%
	Other industry	17	6.6%

3.2. Variable Measurement

The variables in this research were measured with the well-established scales in domestic and foreign journals. We adopt the form of Likert 5-point scale to design a questionnaire (1 = strongly disagree, 3 = uncertainty, 5 = strongly agree).

Dependent variable: business model innovation. The measurement of novel business model innovation and efficient business model innovation follows the scale of Zott and Amit [57]. The scale used in their research is a classic scale for business model innovation, and the scales used in later research are mostly modifications or deletions based on their scales.

Independent variable: knowledge sharing. The measure of knowledge sharing includes two dimensions of knowledge sharing willingness and behavior [58]. We draw on the scales used in the research of Tian et al. [59]. Their scale is designed according to the local situation in China and has been widely used in knowledge sharing related papers.

Mediating variable: organizational learning. We draw on the scales used in the research of Feng et al. [60] to measure explorative learning and draw on the scales used in the research of Li et al. [61] to measure exploitative learning.

3.3. Data Analysis Method

We conduct data analysis according to the following steps: The first step is to test the reliability and validity of the data obtained from the questionnaire to ensure the availability of the data. The second step is to judge whether H1a and H1b are supported by testing

the mediation effect. The third step is to test the main effects to determine whether the remaining hypotheses (H2a, H2b, H3a, H3b, H4a, H4b) are supported [62].

　　We used SPSS 19.0 software and MPLUS 7.0 software to analyze the data. SPSS software has the characteristics of convenient programming and comprehensive data analysis functions. More importantly, the data collected through Wenjuanxing can be directly imported into SPSS software, which can reduce the possibility of data entry errors. We used SPSS 19.0 software for reliability and validity tests and regression analysis (mediation effect test) [62]. MPLUS is a powerful latent variable modeling software that combines its multiple latent variable models into a unified analytical framework. We used MPLUS 7.0 software for main effect test and structural equation modeling (SEM) [63].

　　Reliability refers to the consistency, stability, and reliability of the test results. It is generally measured by Cronbach's alpha coefficient. When the Cronbach's α of the total scale is greater than 0.8 and the Cronbach's α of the subscale is greater than 0.7, the questionnaire is reliable [64]. Construct validity requires that a valid test should not only be related to other tests that measure the same latent variable, but also must be unrelated to tests that measure different latent variables. The former is convergent validity (CV), and the latter is discriminant validity (DV). Convergent Validity (CV) reflects whether each item reflects the same latent variable. It is generally measured by Construct reliability (CR) and Average Variance Extracted (AVE) [65]. Construct reliability (CR) reflects whether all items in each latent variable consistently explain the latent variable. The latent variables have good convergent validity (CV) when the CR value is greater than 0.70 and the AVE value is greater than 0.5. The discriminant validity (DV) test is measured by the Pearson correlation coefficient and the square root of the AVE value. When the square root of the AVE value of each variable is greater than the absolute value of the correlation coefficient between the variable and other variables, the discriminant validity is good [65].

　　Before the main effect test, the mediating effect of ambidextrous learning needs to be examined, to ensure that the structural equation model has a good fit and an optimal path relationship. This paper examines the mediating effect in the form of stepwise regression [66]. The first step is to regress EL1, EL2 and KS respectively. If the coefficient of KS is significant, it means that there is a causal relationship between KS and EL1 and EL2. In the second step, NBMI and EBMI are regressed with KS respectively. If the coefficient of KS is significant, it means that there is a causal relationship between KS and NBMI and EBMI. The third step is to combine the NBMI or EBMI with KS, EL1, and EL2 for regression respectively. If the KS coefficient is still significant currently, it means that EL1 and EL2 plays a partial mediating effect. On the contrary, if the KS coefficient is not significant, it means that EL1 and EL2 plays a complete mediating effect.

　　Because the latent variables in the article are measured according to well-established scales, we choose a covariance-based structural equation model (CBSEM) to test the main effect. CBSEM estimates the corresponding parameters based on the principle of matching the theory with the data. By looking at the fitting index of the model, we can know whether the theory we set is consistent with the collected data, to judge whether the theory is consistent with reality. This is a kind of typical confirmatory thinking [67]. The model consists of two parts: one part, called the measurement model, describes the relationship between the observed variable and the latent variable. The other part, called structural model, is used to describe the relationship between latent variables. Moreover, the path coefficient of the structural model reflects the degree of influence of one variable on another variable. We judge whether the main effect exists by observing the significance of the path coefficient of the structural model. In addition, β represents the value of the path coefficient, and the *p* value represents significance ($p < 0.05$ can be regarded as significant, and the smaller the *p* value, the stronger the significance) [63].

4. Results

4.1. Reliability and Validity

The data shows (see Table 2) that the Cronbach's alpha coefficient of the full scale is 0.940. Among them, the Cronbach's alpha coefficients of all variables are between 0.883 and 0.937. It shows that the sample data is stable and reliable.

In this study, SPSS 19.0 software was used to carry out the analyses of CR and AVE. The data shows (Table 2) that the item factor loadings of each variable belonged to between 0.672 and 0.898, indicating that the items under each variable were representative. It was found that the Average Variance Extracted (AVE) of all variables was between 0.555 and 0.728, and the construct reliability (CR) value was between 0.788 and 0.889, indicating that the convergent validity is good.

The data shows (see Table 3) that the correlation coefficient between any variables is not higher than 0.8, and the square root of the AVE value of the variable is greater than the absolute value of its corresponding row and column correlation coefficient, which indicates discriminant validity is good.

Table 2. Reliability and validity analysis of variables.

Variable	Measurement Item	Factor Loading	Cronbach's α	AVE	CR
Knowledge Sharing (KS)	KS 01. Knowledge sharing contributes to the improvement of knowledge level.	0.843	0.911	0.669	0.859
	KS 02. Sharing knowledge with colleagues is faster than doing work on your own.	0.829			
	KS 03. I am willing to share my knowledge.	0.781			
Explorative learning (EL1)	EL1 01. My company can effectively create or externally search for innovative technologies and new knowledge.	0.672	0.937	0.555	0.788
	EL1 02. My company can effectively disseminate and share innovative technologies and knowledge.	0.785			
	EL1 03. My company can effectively integrate and apply innovative technologies and new knowledge created or acquired.	0.773			
Exploitative learning (EL2)	EL2 01. My company focuses on leveraging existing technology, knowledge, and capabilities.	0.845	0.883	0.728	0.889
	EL2 02. My company focuses on collecting market information and business opportunities related existing products.	0.898			
	EL2 03. My company focuses on learning how to fully utilize and integrate the technical knowledge and information of the existing resources of the organization.	0.815			
Novelty business model innovation (NBMI)	NBMI 01. The business model of my company can enable new ways to transact on both sides.	0.724	0.924	0.676	0.861
	NBMI 02. The business model of my company can combine products, information, and services in new ways.	0.874			
	NBMI 03. My company continues to introduce innovative ideas or behaviors into its existing business model.	0.860			
Efficient business model innovation (EBMI)	EBMI 01. The business model of my company can reduce the cost of partners.	0.813	0.922	0.699	0.874
	EBMI 02. The business model of my company can ensure that partners have sufficient information to make decisions.	0.876			
	EBMI 03. The business model of my company can make transactions faster and more efficient.	0.818			

Table 3. Correlation coefficient and discriminant validity between variables.

Variable	Mean	SD	1	2	3	4	5
knowledge sharing	3.812	0.969	0.836				
Explorative learning	3.755	1.072	0.666 **	0.745			
Exploitative learning	3.291	0.839	0.451 **	0.326 **	0.853		
Novel business model innovation	3.621	1.099	0.560 **	0.710 **	0.478 **	0.822	
Efficient business model innovation	3.471	0.979	0.567 **	0.666 **	0.458 **	0.483 **	0.836

Notes: The diagonal line is the square root of the variable AVE value; ** means $p < 0.01$.

4.2. Mediation Effect

In the first step, the results show (see Table 4) that the regression coefficients of KS are significant ($\beta = 0.666$, $p < 0.01$ and $\beta = 0.451$, $p < 0.01$). In the second step, the regression coefficients of KS are also significant ($\beta = 0.560$, $p < 0.01$ and $\beta = 0.567$, $p < 0.01$). In the third step, the results show that the regression coefficients of EL1 and EL2 are significant ($\beta = 0.593$,

$p < 0.01$ and $\beta = 0.265$, $p < 0.01$), but the regression coefficient of KS is not significant ($\beta = 0.045$, $p > 0.05$). Moreover, in the third step, the results also show that the regression coefficients of EL1 and EL2 are significant ($\beta = 0.507$, $p < 0.01$ and $\beta = 0.237$, $p < 0.01$), while the regression coefficient of KS is not significant ($\beta = 0.122$, $p > 0.05$). According to the inference of the experimental results, we concluded that EL1 and EL2 play a complete mediating role in the impact mechanism of KS on NBMI and EBMI (see Table 4). So, reject the H1a and H1b.

Through the mediation effect analysis, the results showed that knowledge sharing has no significant direct impact on NBMI and EBMI. However, knowledge sharing can have a positive impact on NBMI and EBMI through ambidextrous organizational learning.

Table 4. Mediating effect test.

First Step		Second Step		Third Step						Results
				Regression of NBMI, EL1, EL2, and KS						
Regression of EL1 and KS		Regression of NBMI and KS		EL1		EL2		KS		EL1 plays a complete mediating role
β	t	β	t	β	t	β	t	β	t	
0.666 **	14.27	0.560 **	10.79	0.593 **	10.76	0.265 **	5.74	0.045	0.77	
				Regression of EBMI, EL1, EL2, and KS						
Regression of EL2 and KS		Regression of EBMI and KS		EL1		EL2		KS		EL2 plays a complete mediating role
β	t	β	t	β	t	β	t	β	t	
0.451 **	8.06	0.567 **	10.99	0.507 **	8.64	0.237 **	4.84	0.122	1.96	

Notes: β is the standardization coefficient; ** means $p < 0.01$. KS stands for knowledge sharing; EL1 stands for explorative learning; EL2 stands for exploitative learning; NBMI stands for novel business model innovation; EBMI stands for efficient business model innovation.

4.3. Main Effect

According to the above theoretical assumptions of this paper and the results of the mediation effect test of ambidextrous learning, MPLUS 7.0 software was used to test main effect and build a structural equation model, and the hypotheses were tested through path analysis [63]. The results show that (see Table 5), each index of the model is higher than the standard index, indicating that the model fits well.

Table 5. Model fitting index.

Index	χ^2	df	χ^2/df	CFI	TLI	RMSEA	SRMR
Standard value	/	/	1~2	>0.9	>0.9	<0.05	<0.05
Output value	132.354	83	1.595	0.986	0.982	0.048	0.038

Notes: KS stands for knowledge sharing; EL1 stands for explorative learning; EL2 stands for exploitative learning; NBMI stands for novel business model innovation; EBMI stands for efficient business model innovation.

The path analysis of the structural equation model output by MPLUS 7.0 software (see Figure 2) shows that KS has a significant positive impact on both EL1 and EL2 ($\beta = 0.708$, $p < 0.01$ and $\beta = 0.478$, $p < 0.01$), thus accepting the H2a and H2b. Secondly, EL1 has a significant positive impact on both NBMI and EBMI ($\beta = 0.639$, $p < 0.01$ and $\beta = 0.601$, $p < 0.01$), thus accepting the H3a and H3b. Thirdly, EL2 also has a significant positive impact on both NBMI and EBMI ($\beta = 0.261$, $p < 0.01$ and $\beta = 0.277$, $p < 0.01$), thus accepting the H4a and H4b. However, compared with EL1, the path coefficient of EL2 on NBMI and EBMI is lower.
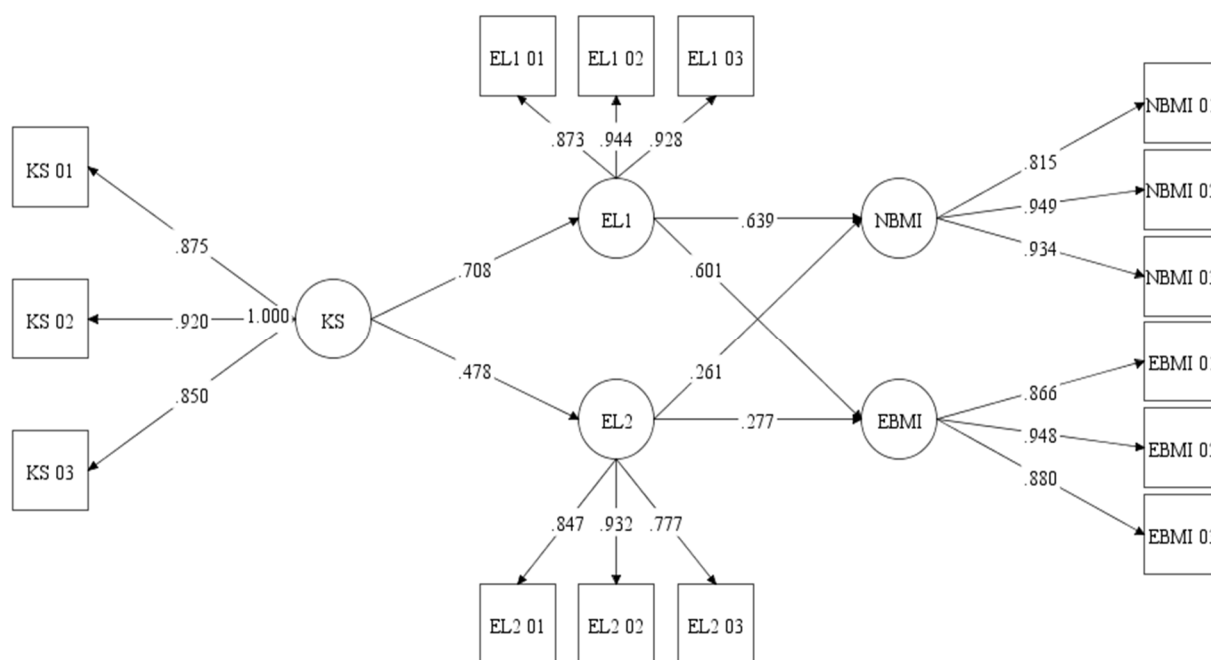
Figure 2. Structural equation model.

Through the main effects analysis, the results firstly showed that knowledge sharing has a significant positive impact on both explorative and exploitative learning. Secondly, explorative learning has a significant positive impact on NBMI and EBMI. However, compared with exploitative learning, explorative learning has a stronger impact on NBMI and EBMI. Thirdly, exploitative learning also has a significant positive impact on NBMI and EBMI.

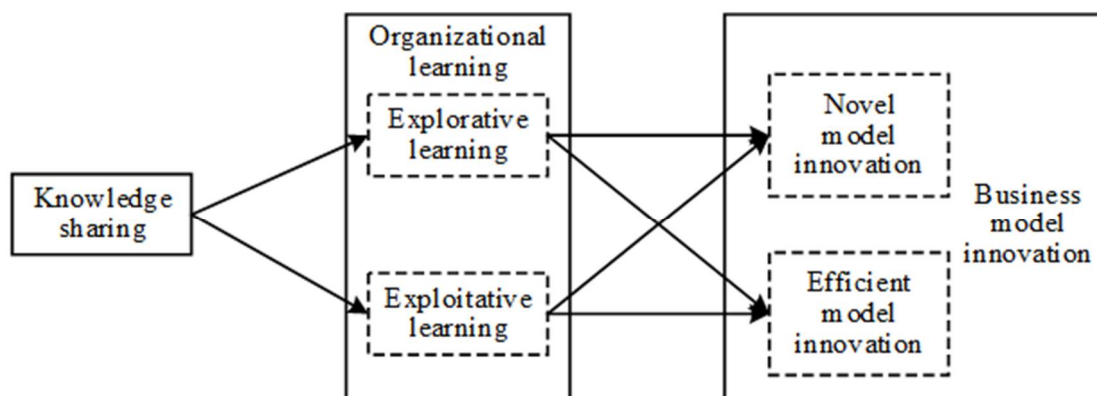According to the hypothesis test results, the revised theoretical model is shown in Figure 3:

Figure 3. Revised research structure model.

5. Discussion

5.1. Interpretation of Results

After regression analysis, we found that the H1a and H1b were not supported. In other words, knowledge sharing has no significant direct impact on NBMI and EBMI. Although many previous literatures have shown that knowledge sharing affects employee innovation behavior [68], organizational innovation behavior [69], technological innovation [70], product innovation [71] . . . but it is different from business model innovation. BMI involves the coordination of business management activities, the description of relationships with other companies, the improvement of market and customer needs, resource allocation and

other innovations [72]. Secondly, BMI requires not only the willingness of employees to share knowledge, but also the role of leaders. Leaders' insight into BMI, encouragement of employees' knowledge-sharing behavior, and ability to carry out organizational learning activities also affect the successful implementation of BMI [73]. These two points may be the reasons why the direct impact of knowledge sharing on NBMI and EBMI is not significant.

After testing the main effects through structural equation modeling (SEM), we found that the other hypotheses (H2a, H2b, H3a, H3b, H4a, H4b) were supported. Both explorative learning and exploitative learning have a significant positive impact on NBMI and EBMI, but explorative learning has a stronger promoting effect on NBMI and EBMI. Because explorative learning provides the knowledge base and spiritual foundation for BMI [74]. Since exploitative learning has a less positive impact on the NBMI and EBMI, some researchers have pointed out that exploitative learning is more conducive to the improvement of imitation ability rather than innovation ability [75]. Exploitative learning has a lower impact on business model innovation, but it may have a higher impact on business model imitation.

5.2. Theoretical Contribution

Firstly, Existing research have focused on the direct impact of knowledge sharing on business model innovation or organizational learning on business model innovation [37–41]. However, we study the impact of knowledge sharing on business model innovation from the perspective of ambidextrous organizational learning and reveal that ambidextrous organizational learning plays a complete mediating role in the impact of knowledge sharing on business model innovation. The mechanism of knowledge sharing on business model innovation enriches the existing research on the antecedent variables of business model innovation.

In addition, Existing research have shown that organizational learning has a positive impact on business model innovation, but few research have considered both the ambidextrous nature of organizational learning and the distinct types of business model innovation [40,41]. However, we explore the effect of ambidextrous organizational learning on novel and efficient business model innovation, which further deepens the existing research on the impact of organizational learning on business model innovation. we used structural equation model (SEM) to analyze the influence of ambidextrous organizational learning on novel and efficient business model innovation, and we found that both explorative and exploitative learning have a significant positive impact on novel and efficient business model innovation.

Finally, this research reveals that explorative learning and exploitative learning have different degrees of influence on business model innovation. Among them, explorative learning has a stronger role in promoting novel and efficient business model innovation. Although some scholars have previously pointed out that organizational exploitative learning is more conducive to the improvement of organizational imitation ability rather than innovation ability [75], we have shown in a more intuitive form that organizational explorative learning and exploitative learning have a positive impact on the novel and efficient business models with different degrees of influence, which also extends the ambidextrous organizational learning theory to the field of business model innovation.

5.3. Practical Implication

The research results provide a reference for the business management practice of enterprises. From the perspective of leadership, in the process of promoting business model innovation, leaders need to pay attention to establishing a system that can promote the willingness of employees to share knowledge. Therefore, establishing an organizational culture of trust and improving the organizational information flow mechanism are important for promoting knowledge sharing among employees within the organization [76,77].

From the perspective of organizations, in the process of promoting business model innovation, organizations need to attach importance to explorative learning activities. To

improve the effect of explorative learning, firstly, organizations need to avoid mechanization and formalization. In practice, organizations tend to use internal and external experts to conduct knowledge or skill training for specific members of the organization in the form of teaching, but such teaching methods often place the trainer in a position where information is passively received, and do not really stimulate the learning initiative of employees. Therefore, organizations need to innovate organizational learning methods and focus on mobilizing the enthusiasm of participants in the learning process. Secondly, the content of explorative learning needs to match the quality of employees. At present, many domestic organizations still adopt centralized management, and rarely consider the ideas or opinions of employees. Once the content of the organization's explorative learning is beyond the understanding of employees or does not match their actual needs, organizational learning will become a burden for employees. Therefore, organizations need to pay attention to the effectiveness of learning, consider the actual situation of employees as much as possible.

From the perspective of organizations, organizations also are required to pay attention to the balance between explorative learning and exploitative learning. Excessive levels of explorative learning or exploitative learning can harm a firm's innovation performance [78]. Organizations cannot only focus on explorative learning because explorative learning often has high-risk characteristics. When the organization lacks sufficient experience, explorative learning often ends in failure. Especially for enterprises with excess explorative learning ability, explorative learning often makes enterprises face excessive costs and high risks. At this time, enterprises should strengthen the utilization of new knowledge brought by explorative learning in the past, which is more conducive to the business model innovation of enterprises. Organizations also cannot only focus on explorative learning because long-term reliance on existing knowledge will lead to a passive organization, which will affect the organizational change in the later period. Therefore, to achieve the purpose of business model innovation, organizations need to focus more on learning new knowledge, while also strengthening their ability to learn and apply existing knowledge.

6. Conclusions

Considering the current state of art regarding knowledge sharing, organizational learning, and business model innovation, we firstly studied the mechanism of knowledge sharing on NBMI and EBMI from the perspective of ambidextrous organizational learning. The results of regression analysis indicate that knowledge sharing affects the NBMI and EBMI through ambidextrous organizational learning, and ambidextrous organizational learning plays a complete mediating role. Secondly, we distinguished the different degrees of influence of explorative learning and exploitative learning on NBMI and EBMI. The results of structural equation model (SEM) path analysis reveal that both explorative learning and exploitative learning have a significant positive impact on NBMI and EBMI, and explorative learning has a stronger promoting effect on NBMI and EBMI.

The research results provide a reference for the business model innovation practice of enterprises. As we explained in the Section 5, based on the research results that employees' knowledge sharing behavior does not directly affect NBMI and EBMI, leaders and organizations need to take responsibility for their BMI practices. Leaders need to establish a system that can promote the willingness of employees to share knowledge. Organizations need to pay attention to the effectiveness of explorative learning, consider the actual demand of employees as much as possible, and mobilize the initiative of employees in the learning process. Organizations also are required to pay attention to the balance between explorative learning and exploitative learning.

There are still limitations in the research of this paper, and some problems need to be further deepened in the follow-up research. Firstly, this study did not subdivide the content and form of knowledge sharing by dimensions, such as explicit knowledge and tacit knowledge, formal sharing behavior and informal sharing behavior. Secondly, this study assumes knowledge sharing within employee organizations and does not further extend

to knowledge sharing between employee organizations, that is, employees' knowledge sharing behavior across organizations, which can be further explored in the future. Thirdly, we also realize that we have not divided the dependent variables (novel and efficient business model innovation) into different stages. In the future, we will continue to study the different effects of employee knowledge sharing behavior and organizational learning activities on different stages of business model innovation. Finally, the sampling method used in this study has limitations. Limited by human and material resources, we use a non-probabilistic sampling method, which ensures the authenticity of the manager's identity but also affects the generalizability of the research results. In the future, we will use the probability sampling method in the follow-up research and continue to improve sampling techniques. And subsequent research still needs to continue to expand the sample size and combine case studies on specific industries or enterprises, to enhance the scientific nature of the research conclusions.

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References

1. Molina-Castillo, F.J.; Sinkovics, N.; Sinkovics, R.R. Sustainable Business Model Innovation: Review, Analysis and Impact on Society. *Sustainability* **2021**, *13*, 8906. [CrossRef]
2. Bocken, N.M.; Short, S.W.; Rana, P. A literature and practice review to develop sustainable business model archetypes. *J. Clean. Prod.* **2014**, *65*, 42–56. [CrossRef]
3. Lüdeke-Freund, F.; Dembek, K. Sustainable Business Model Research and Practice: Emerging Field or Passing Fancy? *J. Clean. Prod.* **2017**, *168*, 1668–1678. [CrossRef]
4. Schaltegger, S.; Lüdeke-Freund, F.; Hansen, E.G. Business cases for sustainability: The role of business model innovation for corporate sustainability. *Int. J. Innov. Sustain.* **2012**, *6*, 95–119. [CrossRef]
5. Lumpkin, G.T.; Dess, G.G. E-Business Strategies and Internet Business Models. *Organ. Dyn.* **2004**, *33*, 161–173. [CrossRef]
6. Chesbrough, H. Business Model Innovation: Opportunities and Barriers. *Long Range Plann.* **2010**, *43*, 354–363. [CrossRef]
7. Czachorowski, K.V. Cleaning Up Our Act: Systems Engineering to Promote Business Model Innovation for the Offshore Exploration and Production Supply Chain Operations. *Sustainability* **2021**, *13*, 2113. [CrossRef]
8. Åström, J.; Reim, W.; Parida, V. Value creation and value capture for AI business model innovation: A three-phase process framework. *Rev. Manag. Sci.* **2022**, *6*, 1–23. [CrossRef]
9. Amit, Z.R. Business Model Design and the Performance of Entrepreneurial Firms. *Organ. Sci.* **2007**, *18*, 165–335.
10. Nonaka, I.; Takeuchi, H. The Knowledge Creating Company. *Harvard Bus. Rev.* **1998**, *12*, 175–187.
11. Pagano, R. Knowledge Management and Business Model Innovation. *Eur. J. Inform. Syst.* **2002**, *11*, 296–297. [CrossRef]
12. Yao, C. Knowledge Interaction, Adaptive Learning, Value Co-Creation and Business Model Innovation. In Proceedings of the PICMET '11: Technology Management in the Energy Smart World (PICMET), Portland, OR, USA, 31 July–4 August 2011; pp. 1–8.
13. Scaringella, L. Initial and further business development: Highlights from business model, open innovation, and knowledge management perspectives. *Int. Entrep. Manag. J.* **2018**, *22*, 103–125.
14. Hock, M.; Clau, T.; Kraus, S.; Cheng, C.F. Knowledge management capabilities and organizational risk-taking for business model innovation in SMEs. *J. Bus. Res.* **2021**, *130*, 683–697. [CrossRef]
15. Vihari, N.S. Effects of business model innovation on corporate sustainability: Intervening role of organizational learning and strategic flexibility. *Int. J. Innov. Learn.* **2019**, *26*, 131–154. [CrossRef]

16. Tsai, Y.H.; Joe, S.W.; Lin, C.P. Modeling knowledge sharing among high-tech professionals in culturally diverse firms: Mediating mechanisms of social capital. *Knowl. Manag. Res. Pract.* **2017**, *15*, 225–237. [CrossRef]

17. Rudawska, A. Knowledge Sharing and Creativity: Individual and Organizational Perspective. In *Contemporary Challenges in Cooperation and Coopetition in the Age of Industry 4.0*; Springer: Cham, Germany, 2020; Volume 14, pp. 107–121.

18. Sumiati, S.; Nikmah, K. *The Role of Organizational Communication and Organizational Learning to Human Resources Performance through Knowledge Sharing*; Springer: Cham, Germany, 2020; pp. 398–407.

19. Zulfiqar, S.; Khan, M.S. Organizational identification and knowledge sharing behavior: Mediating role of organizational citizenship behavior and moderating role of collectivism and leader–member exchange. *Knowl. Man Res. Pract.* **2021**, *28*, 388–398. [CrossRef]

20. Lindgren, P. Continuous Knowledge Sharing in the Third Phase of a Critical and Risky Network-Based Business Model Innovation Project. In Proceedings of the 2017 Global Wireless Summit (GWS), Cape Town, South Africa, 15–18 October 2017; pp. 1–5.

21. Mika, L.A.; Jukkapekka, B.A.; Ari, J.B. Knowledge Sharing in the Open Innovation Process—Case: Grid Computing. In Proceedings of the 6th European Conference on Organizational Knowledge, Learning and Capabilities, Boston, MA, USA, 17–19 March 2005.

22. Hafkesbrink, J.; Schroll, M. Ambidextrous Organizational and Individual Competencies in Open Innovation: The Dawn of a new Research Agenda. *Parkinsonism Relat. D* **2014**, *19*, 81–85. [CrossRef]

23. Amit, R.; Zott, C. Value Creation in E-Business. *Strategic Manag. J.* **2001**, *22*, 493–520. [CrossRef]

24. Rappa, M.A. The utility business model and the future of computing services. *IBM Syst. J.* **2004**, *43*, 34–42. [CrossRef]

25. Casadesus-Masanell, R.; Zhu, F. Business model innovation and competitive imitation: The case of sponsor-based business models. *Strategic Manag. J.* **2013**, *34*, 464–482. [CrossRef]

26. Osterwalder, A.; Pigneur, Y. Clarifying Business Models: Origins, Present, and Future of the Concept. *Commun. Assoc. Inf. Syst.* **2005**, *16*, 1. [CrossRef]

27. Richardson, J. The business model: An integrative framework for strategy execution. *Strateg. Chang.* **2008**, *17*, 133–144. [CrossRef]

28. Osterwalder, A. *The Business Model Ontology—A Proposition in a Design Science Approach*; Université de Lausanne, Faculté des Hautes Études Commerciales: Lausanne, Switzerland, 2004.

29. Kogut, B.; Zander, U. Knowledge of the Firm, Combinative Capabilities, and the Replication of Technology. *Organ. Sci.* **1992**, *3*, 383–397. [CrossRef]

30. Delft, S.V.; Leker, J. The Role of Organizational Learning and Strategic Flexibility in Business Model Innovation: A Capability-Perspective. In Proceedings of the 33rd Annual International Conference of the Strategic Management Society: Strategy and Sustainability, Atlanta, GA, USA, 28 September–1 October 2013.

31. Zhao, J.; Wang, M.; Zhu, L.; Ding, J. Corporate Social Capital and Business Model Innovation: The Mediating Role of Organizational Learning. *Front. Bus. Res. China* **2014**, *4*, 500–528.

32. Ricciardi, F.; Zardini, A.; Rossignoli, C. Organizational dynamism and adaptive business model innovation: The triple paradox configuration. *J. Bus. Res.* **2016**, *69*, 5487–5493. [CrossRef]

33. Kim, E.J.; Park, S. Transformational leadership, knowledge sharing, organizational climate and learning: An empirical study. *Leadersh. Org. Dev. J.* **2020**, *41*, 761–775. [CrossRef]

34. Balle, A.R.; Oliveira, M.; Curado, C. Knowledge sharing and absorptive capacity: Interdependency and complementarity. *J. Knowl. Manag.* **2020**, *24*, 51–59. [CrossRef]

35. March, J.G. Exploration and Exploitation in Organizational Learning. *Organ. Sci.* **1991**, *2*, 71–87. [CrossRef]

36. Yuan, C.; Xue, D.; He, X. A balancing strategy for ambidextrous learning, dynamic capabilities, and business model design, the opposite moderating effects of environmental dynamism. *Technovation* **2021**, *103*, 102225. [CrossRef]

37. Woodfield, P.J.; Husted, K. How does knowledge share across generations impact innovation? *Int. J. Innov. Manag.* **2019**, *23*, 1940004. [CrossRef]

38. Lin, Z.F.; Lu, X. Research on the Influence of Knowledge Sharing on Business Model Innovation. *Market Wkly* **2013**, *7*, 3.

39. Bashir, M.; Farooq, R. The synergetic effect of knowledge management and business model innovation on firm competence A systematic review. *Int. J. Innov. Sci.* **2019**, *11*, 362–387. [CrossRef]

40. Yy, A.; Yu, C.A.; Dan, L.B. Stakeholder ties, organizational learning, and business model innovation: A business ecosystem perspective. *Technovation* **2022**, *114*, 102445.

41. Khan, S.H.; Majid, A.; Yasir, M. Social capital and business model innovation in SMEs: Do organizational learning capabilities and entrepreneurial orientation really matter? *Eur. J. Innov. Manag.* **2020**, *24*, 191–212. [CrossRef]

42. Xie, D.M. An Empirical Study on Influencing Factors of Business Model Innovation of High-tech Enterprises—Based on Knowledge Perspective. *Res. Manag.* **2015**, *36*, 10–21.

43. Tian, Q.F.; Zhang, Y.Y.; Ma, P. Research on the Influence of Enterprise Strategic Orientation and Organizational Learning on Business Model Innovation. *Tech. Manag. Res.* **2018**, *38*, 15–23.

44. Mouritsen, J.; Larsen, H.T. The 2nd wave of knowledge management: The management control of knowledge resources through intellectual capital information. *Manag. Account. Res.* **2005**, *16*, 371–394. [CrossRef]

45. Nonaka, I. A Dynamic Theory of Organizational Knowledge Creation. *Organ. Sci.* **1994**, *5*, 14–37. [CrossRef]

46. Nonaka, I.; Toyama, R.; Konno, N. SECI, Ba and Leadership: A Unified Model of Dynamic Knowledge Creation. *Long Range Plann.* **2001**, *33*, 5–34. [CrossRef]

47. Wu, Z.Y.; Yi, R.H. How Can Entrepreneurial Firms Motivate Business Model Innovation? Perspective of External and Internal Knowledge. *China Soft Sci.* **2018**, *3*, 133–140.

48. Bevan, D.; Kowta, S.; Chitale, C.M. Collaborative knowledge sharing strategy to enhance organizational learning. *J. Knowl. Dev.* **2012**, *31*, 308–322. [CrossRef]

49. Gruber, T.R. Toward principles for the design of ontologies used for knowledge sharing? *Int. J. Hum.-Comput. St.* **1995**, *43*, 907–928. [CrossRef]

50. Dixon, N.M. Common knowledge: How companies thrive by sharing what they know. *Train. Dev.* **2000**, *54*, 63–64.

51. Huber, G.P.; Cohen, M.D.; Sproull, L.S. Organizational learning: The contributing processes and literatures. *Organ. Sci.* **1996**, *2*, 88–115. [CrossRef]

52. Zhan, L.L.; Huo, F.F.; Huo, C.G. The Differences of Business Model Innovation between Gender—From the Perspective of Knowledge Management. *East China Econ. Manag.* **2017**, *31*, 128–135.

53. Chesbrough, H.; Rosenbloom, R.S. The role of the business model in capturing value from innovation: Evidence from Xerox Corporation's technology spin-off companies. *Soc. Sci. Elec. Pub.* **2002**, *11*, 529–555. [CrossRef]

54. Raymond, L.; Bergeron, F.; Croteau, A.M. Information technology-enabled explorative learning and competitive performance in industrial service SMEs: A configurational analysis. *J. Knowl. Manag.* **2020**, *24*, 1625–1651. [CrossRef]

55. Tho, N.D.; Duc, L.A. Team psychological capital and innovation: The mediating of team exploratory and exploitative learning. *J. Knowl. Manag.* **2020**, *25*, 1745–1759. [CrossRef]

56. Hamel, G. Leading the revolution. *Strateg. Lead* **2001**, *29*, 4–10. [CrossRef]

57. Zott, C.; Amit, R. The fit between product market strategy and business model: Implications for firm performance. *Strateg. Manag. J.* **2008**, *29*, 1–26. [CrossRef]

58. Collins, C.J.; Smith, K.G. Knowledge Exchange and Combination: The Role of Human Resource Practices in the Performance of High-Technology Firms. *Acad. Manag. J.* **2006**, *49*, 544–560. [CrossRef]

59. Tian, L.F. High-commitment work system drives knowledge sharing: The mediating role of trust relationship and the moderating role of gender. *Manag. Rev.* **2015**, *6*, 12.

60. Feng, X.B. Research on the Relationship between Quality Management Practice, Organizational Learning and Enterprise Performance: An Empirical Analysis Based on Zhejiang Manufacturing Enterprises. *Manag. Rev.* **2015**, *28*, 11.

61. Li, Z.D.; Jin, H. Enterprise Product Innovation and Network Embedding: The Mediating Role of Organizational Learning. *Manag. Rev.* **2016**, *28*, 11.

62. Liu, Z. Stimulating and Educating Engineers to Innovate through Individual Continuous Learning. *Sustainability* **2020**, *12*, 843. [CrossRef]

63. Vehkalahti, K. Structural Equation Modeling with Mplus: Basic Concepts, Applications, and Programming by Barbara M. Byrne. *Int. Stat. Rev.* **2014**, *82*, 141–159. [CrossRef]

64. Golafshani, N. Understanding Reliability and Validity in Qualitative Research. *Qual. Rep.* **2003**, *8*, 597–607. [CrossRef]

65. Fitzner, K. Reliability and validity: A quick review. *Diabetes Educ.* **2007**, *33*, 775–780. [CrossRef]

66. Baron, R.M.; Kenny, D.A. The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *J. Pers. Soc. Psychol.* **1986**, *51*, 1173–1182. [CrossRef]

67. Svensson, G. Contemporary process to test the theory of a research model through covariance-based structural equation modeling in business research. *Eur. Bus. Rev.* **2015**, *27*, 447–458. [CrossRef]

68. Tran, K.T.; Nguyen, P.V.; Pham, N.H. The roles of transformational leadership, innovation climate, creative self-efficacy, and knowledge sharing in fostering employee creativity in the public sector in Vietnam. *Int. J. Bus. Continu. R. Manag.* **2021**, *11*, 95–113. [CrossRef]

69. Soares, M.E.; Mosquera, P.; Cid, M. Antecedents of innovative behavior: Knowledge sharing, open innovation climate and internal communication. *Int. J. Inov. Learn.* **2021**, *30*, 241–257. [CrossRef]

70. Scuotto, V.; Beatrice, O.; Valentina, C. Uncovering the micro-foundations of knowledge sharing in open innovation partnerships: An intention-based perspective of technology transfer. *Technol. Forecast. Soc.* **2020**, *152*, 119906. [CrossRef]

71. Molodchik, M.; Jardon, C.; Yachmeneva, E. Multilevel analysis of knowledge sources for product innovation in Russian SMEs. *Eurasian. Econ. Rev.* **2021**, *11*, 247–266. [CrossRef]

72. Papakiriakopoulos, D.A.; Poylumenakou, A.K.; Doukidis, G.J. Building e-Business Models: An Analytical Framework and Development Guidelines. In Proceedings of the 14th Bled Electronic Commerce Conference, Bled, Slovenia, 25–26 June 2001; pp. 446–464.

73. Smuttrasen, K.; Heo, D. The impact of leader roles on cross-border knowledge management and the development of boundaryless business models: A case study of Thai construction companies. *Knowl. Process Manag.* **2020**, *27*, 53–62. [CrossRef]

74. Mezger, F. Toward a capability-based conceptualization of business model innovation: Insights from an explorative study. *R&D Manag.* **2014**, *44*, 429–449. [CrossRef]

75. Ali, M. Imitation or innovation: To what extent do exploitative learning and exploratory learning foster imitation strategy and innovation strategy for sustained competitive advantage? *Technol. Forecast. Soc.* **2020**, *165*, 120527. [CrossRef]

76. Koh, J.; Kim, Y.G. Knowledge sharing in virtual communities: An e-business perspective. *Expert. Syst. Appl.* **2004**, *26*, 155–166. [CrossRef]

77. Kazemi, A.; Ghasvari, M.; Eshlaghi, L.E. A Model for Measuring the Impact of Organizational Factors on the Effectiveness of the Knowledge Sharing System. *J. Inf. Knowl. Manag.* **2020**, *19*, 2050037. [CrossRef]

78. Li, C.R.; Yeh, C.H. Leveraging the benefits of exploratory learning and exploitative learning in NPD: The role of innovation field orientation. *R&D Manag.* **2017**, *47*, 484–497. [CrossRef]