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Dynamic Capabilities and Their Impact on Intellectual Capital and Innovation Performance

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Abstract: There is a high tendency for conversion from a statistical economy based on measuring tangible assets into investigating non-tangible capital drive in the present economic status worldwide. The implications of intellectual capital on innovation performance have widely attracted attention among researchers in the global arena. The present study investigated the impacts of intellectual capital on innovation performance in the banking sector as influencing non-tangible assets. Besides, the role of dynamic capabilities in moderating the relationship between intellectual capital and innovation performance was examined. A purposive sampling technique was applied to 364 participants from Iraqi commercial banks as the research context. Thereafter, structural equation modelling (SEM) was utilised to analyse the collected data from the survey questionnaire using SPSS.v^{25} and AMOS.v^{24}. The study found that the employees' levels of intellectual capital significantly increased toward innovativeness through the moderating role of dynamic capabilities between intellectual capital and innovation performance in the commercial banking sector for better competitive advantages. Consequently, the study provides valuable insights and guidance for academicians and practitioners on the impacts of developing intellectual capital on enhancing competitive performance, especially in the context of Iraqi commercial banks.

Keywords: human capital; structural capital; relational capital; social capital; innovation performance; sensing capability; seizing capability; reconfiguring capability

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1. Introduction

Business sustainability is a strategy that integrates social, economic, and environmental principles into the business model. Sustainable enterprises prioritise and apply environmental principles and socially responsible behaviour in all business decisions and incorporate them into their business strategy [1]. Intellectual capital is one of the most valuable resources of an enterprise, which enables its sustainable development. It is comprised of human capital, structural capital, relational capital, and social capital. In addition, several studies focus on the scope of identification, measurement, and intellectual capital management. In global literature, several publications are devoted to studying the impact of intellectual capital on firms' market value, performance, and competitive advantages. However, many publications still do not connect intellectual capital with business sustainability. While other studies confirmed that intellectual capital and sustainability affect each other [2]. Yet again, some literature focused on how firms mobilise their intellectual capital towards more sustainable practices [3]. Thereafter, previous studies indicated that intellectual capital has a significant positive impact on the competitiveness of an enterprise and business sustainability [4,5]. Moreover, human capital has a significantly positive impact on the sustainable development of enterprises [6]. Furthermore, structural capital has a significantly positive impact on the sustainable development of enterprises [7]. In the same

line, relational capital has a significantly positive impact on the sustainable development of enterprises [8].

In the present competitive world, the adage that "knowledge is power" has more importance than ever before [9]. The significant evolution of the current world economy has forced traditional managerial practices to become more strategised through cost-cutting, re-engineering, benchmarking, and so forth, wherein all these innovations turned out to be inefficient and deficient in acquiring practical market competitive advantages [10]. Such global economic reforms pose a critical question related to the master plans of enterprises for their future survival. Previous researchers focused on the basic economic constituents, thereby offering solutions to financial performance improvement [11]. However, all these solutions neglected the impact of developing human intellectual capital, which describes the entire items that are understandable by the people in an organisation, thus enabling an enterprise to attain data value [12]. In fact, it has been realised that the description of intellectual capital in a wider context becomes somewhat difficult due to its non-material resource nature.

Previous studies have reported intellectual capital as mental property based on facts, figures, and institutional experiences [13]. It was argued that in addition to the improvement in employees' knowledge, skill, and perception, like non-sensorial and intangible characteristics, intellectual capital could be exploited to acquire wealth via business asset expansion [14]. Fundamentally, the definitions of intellectual capital vary according to its scale. In this rationale, an organisation's intellectual capital can generate extra benefits or items that its employees may easily understand, thereby achieving data value. In this context, [15] described the probability of formalising, controlling, and enabling the intellectual contents for generating valuable assets wherein the intellectual capital acted as the gap between the ledger interest of an enterprise and the expected value to be paid for it.

Yet again, some studies recommended a significantly positive relationship between the components of intellectual capital and firm value, generating multiple implications for reporting entities, investors, regulators, and managers [16], whereas [17] exhibited a momentous role in supply-chain learning in reinforcing the impact of intellectual capital on supply-chain resilience. Cross-firm size comparison reveals that the supply-chain resilience of firms with a higher level of intellectual capital performed significantly better than those with lower levels of intellectual capital. In addition, Ref. [18] indicated that intellectual capital disclosure levels have a significantly negative association with the cost of equity capital. Moreover, Ref. [19] showed a mediating effect of green human resource management on the relationship between green human capital and organisational environmental performance. In addition, two dimensions of green intellectual capital (green human capital and green relational capital) were positively related to firms' environmental performance.

Over 50% of intellectual capital values comprise human capital, making it the foremost constituent of intellectual capital [20–22]. In terms of relational capital, reliance on diverse modes such as horizontal or vertical as well as downstream or upstream reflects different types of cooperation or collaboration mechanisms in a variety of settings. On the other hand, social capital refers to an embedded interactional knowledge of an organisation, signifying its members' nature and level of interaction. The main function of structural capital is to assemble and disseminate knowledge across the organisation, enabling interactions with other communities and institutions [23–25].

In the last two decades, the synergy of intellectual capital and success in innovation performance has emerged as a recurring theme concerning economic growth studies, especially in the banking sector [26,27]. Only a few investigations have been made to ascertain the role of intellectual capital in the correlation between financial innovation performance and the growth of the banking sector [28]. The retention of successful innovation performance is decided by efficient and reliable actions based on the capacity of a bank to learn and adjust dynamically [29]. Based on the aforementioned facts, the present study examined the effects of antecedent factors of culture and trust on the main components of intellectual capital. In addition, the relationship among human, structural, and relational

capital was investigated, indicating the higher impacts of intellectual capital on innovation performance. Finally, the moderating role of dynamic capabilities on the correlation between intellectual capital and innovation performance was examined and analysed.

Research Questions

The current research aimed to investigate the correlation between the present research variables toward competitive advantages in the commercial banking sector. Thus, the following research questions were addressed in this study.

1. What are the implications of intellectual capital on innovation performance?
2. To what extent does sensing capability moderate the relationship between intellectual capital and innovation performance?
3. To what extent does seizing capability moderate the relationship between intellectual capital and innovation performance?
4. To what extent does reconfiguring capability moderate the relationship between intellectual capital and innovation performance?

2. Theoretical Background and Hypothesis Development

2.1. Implications of Intellectual Capital on Innovation Performance

Intellectual capital is considered the non-tangible assets, which differ from tangible resources like raw materials, land, and financial capital that are easily obtainable [30]. Thus, it is regarded as the strategic resource and knowledge system that operates the processes of VRIN characteristics and helps firms to derive a sustainable advantage [31]. The resource-based approach views intellectual capital as the sum of knowledge used by a firm, whereas innovation refers to the process of implementing and using this knowledge to produce novel products and resolve various problems [32]. Ref. [33] stated that firms with high intellectual capital are more competent at innovating and enhancing their performance. Numerous researchers considered well the fact that new product expansion can be maintained via the development of intellectual capital in a firm [34–36]. Intellectual capital has been much discussed in developed countries for organisation value creation. In a competitive market, intellectual capital proved to be a source of competitive advantage for organisations [37]. The statistical investigations in the previous literature showed that commercial banks contributed to 43–47% of the total fund exchange inside and outside the country between 2015 and 2020. The previous investigation in the present research context showed instability in the required performance of commercial banks in the country. Thus, the continued decrease in intellectual capital in Iraqi commercial banks reflects the levels of innovation performance and competitive criteria of those banks. Therefore, Iraqi commercial banks need to adopt effective methods (strategies) to penetrate and gain high innovation performance and market advantages. This new knowledge is offered in the present study through understanding the potential target values of commercial banks by developing intellectual capital to acquire a high level of innovation performance, which is lacking in the previous literature [38–40].

The intimate relationship between innovation and intellectual capital has overshadowed their narrow boundaries over time in the developmental process of firm performance [41]. Due to this reason, innovation performance has generated immense research interest [42,43]. Proper management is considered an important prerequisite for managing intellectual capital. In past decades, several researchers highlighted the necessity to develop a modern perspective to achieve innovation performance in a firm [27,44–46]. Driven by this idea, many frameworks have been developed that depend on research backgrounds and subjects without using any consistent design strategy [47,48].

Human capital is a vital component of innovation performance, as employees' experience, knowledge, and skills are necessary for the existing fast-paced and changing business environment [49]. Ref. [50] mentioned that human capital is comprised of human skills, expertise, and motivation in the context of work. Ref. [51] stated that talented and educated employees with sophisticated skills tend to show better cognitive skills to im-

prove firms' productivity, efficiency, and innovative performance. In turn, these employees help firms to achieve better entrepreneurial judgment that runs all operations smoothly, improving innovation performance [52]. Meanwhile, some empirical studies showed that human capital improves firms' innovation performance in many emerging economies like China [53]. Furthermore, the intellectual capital impacts were focused on the context of human capital that facilitated the effects of other capital on innovation performance [21].

Structural capital refers to the information systems and infrastructures used in a firm to achieve targeted innovation performance [54]. The processes inside the firm thus allow it to coordinate all its structures, strategies, routines, and culture to improve operational efficiency [55]. However, advanced systems help collect a wealth of information that assists in the decision-making process, increasing the performance profitability and efficiency in the firm [56]. Previous works suggested that the development of a unique process or routine to perform the activities and tasks can considerably increase innovation performance [57–59]. Thus, firms without adequate systems or processes cannot reach their full potential. However, firms with sufficient and substantial structural capital can carry out many value-creation tasks [27]. From this standpoint, structural capital that contains the structural features of production can encompass its processes, systems, solutions, databases, patents, and innovation performance. These structure-driven innovations can contribute to building the required infrastructure for innovation and knowledge creation [21].

Relational capital presents interpersonal relationships based on the commitment, trust, and respect between the suppliers, government employees, customers, and stakeholders [60]. Thus, firms innovate or increase their performance after implementing the solutions used by other firms as a reference or after combining their existing knowledge with external and accessible resources [61]. Previous studies illustrated that inter-organisational relationships offer numerous opportunities for firms to seek external knowledge resources and combine them with existing knowledge resources [62]. Accordingly, after fulfilling their promises, firms create a network consisting of external relationships, indicating cooperative innovation-based behaviour. This network of relationships can assist the firm in acquiring valuable knowledge from external resources to improve its futuristic innovativeness [21].

Social capital is another component of intellectual assets that incorporates modernisation to determine various implications on innovation performance [63]. Ref. [64] found strong ties amongst a firm's employees to be more suitable for the generation of new information due to the employees' willingness to obtain useful knowledge. Meanwhile, [26,65] believed that weak ties might be sources of new knowledge because solid ties may be connected to others who possess the same knowledge. It was acknowledged that organisations that pay more attention to social capital often tend to achieve a higher level of innovation [62]. Accordingly, the resource-based view theory demonstrated that innovation performance comes through the extraction and sharing of embedded knowledge with customers. This performance, in sequence, allows operational excellence with suppliers to be achieved that ultimately determines better operational and economic performance [66–68]. Based on this argument, this research made the following hypotheses:

Hypothesis 1a (H1a). *The higher the level of human capital, the higher the level of innovation performance.*

Hypothesis 1b (H1b). *The higher the level of structural capital, the higher the level of innovation performance.*

Hypothesis 1c (H1c). *The higher the level of relational capital, the higher the level of innovation performance.*

Hypothesis 1d (H1d). *The higher the level of social capital, the higher the level of innovation performance.*

2.2. Correlation between Intellectual Capital and Innovation Performance Moderated by Dynamic Capabilities

Previous state-of-the-art literature reports highlighted the effect of intellectual capital on innovation performance wherein the moderating role played by a few variables that were shown to influence the mentioned relationship needs to be clarified [27,62,67]. Many researchers [59,69,70] used the competitive advantage of the mediating variable to strengthen the mentioned relationship. Ref. [27] Moreover, [69] indicated that these studies showed a significant correlation to achieve competitive advantages to enhance intellectual capital to innovate competitive performance at different levels better. Conversely, the present research analysed the role of varied dynamic capabilities highlighted in several empirical studies previously with different contributions to the status of intellectual capital [27,71].

Firms in a dynamic environment require competitive products to be developed to secure their status in achieving innovation performance. The exploitation of this opportunity requires strong and patient implementation of the appropriate dynamic capabilities and continuous innovation [72]. Therefore, when firms invest heavily in such implementation, it is expected that the results be reflected through improved performance in the long term [73]. It was demonstrated that firms constantly undergo dynamic environmental changes [30,74,75], and thus the correlation between intellectual capital and dynamic capabilities can be considered significant because it affects the innovative performance of the firm [51].

Some of the past studies correlated human capital, organisational declaratives, and procedural knowledge with dynamic capabilities [60,76]. Knowledge is embedded in the individual, network, organisational structure, and processes that constitute the unique configuration of a firm's resources. In addition, it possesses knowledge resources to construct different types of dynamic capabilities [59]. This behaviour guides the firm in a favourable direction and contributes to changing the markets' environment [68]. Nevertheless, again, this relationship helps to answer the present questions regarding why/how organisations can create and sustain competitive advantages more than others [77]. Therefore, by applying and developing resources with capabilities, it is possible to increase innovation performance [27,61,74].

2.2.1. Implication of Sensing Capability on the Relationship between Intellectual Capital and Innovation Performance

An earlier definition of sensing capability was presented by [78]. It was defined as the ability to create or paraphrase the opportunities in the market and estimate the needs. This ability can contribute to assessing, shaping, filtering, or calibrating all the available opportunities to enhance the innovation performance in a firm [79]. It can display the ability of a firm to determine the externally diversified set of innovative ideas for improving innovation performance [80]. Alternatively, sensing capability helps in searching for distant and local information, alleviating the search for established firms [81]. The previous literature indicated an indirect relation and impact of sensing capability on intellectual capital [59,82]. This relationship [83] allowed the question of why and how some firms sustain and create a competitive advantage more than others to be answered. Hence, organisations with a strong dynamic capability can improve their intellectual capital [84].

Some of the past studies examined the changes in specific capabilities in the indirect implementation of dynamic capabilities into intellectual capital [27,85]. Hence, future studies must implement a structured framework for assessing the performance of all the elements and results of the configuration. Accordingly, the resource-based view theory used in the previous works focused on the sensing capability of the firm to improve intellectual capital and its impacts on enhancing innovation performance. To explain and understand this aspect, hypotheses were made to investigate the moderating role of sensing capability on the relationship between intellectual capital and innovation performance. Based on this augment, the following hypotheses were made:

Hypothesis 2a (H2a). *Sensing capability positively moderates the relationship between human capital and innovation performance.*

Hypothesis 2b (H2b). *Sensing capability positively moderates the relationship between structural capital and innovation performance.*

Hypothesis 2c (H2c). *Sensing capability positively moderates the relationship between relational capital and innovation performance.*

Hypothesis 2d (H2d). *Sensing capability positively moderates the relationship between social capital and innovation performance.*

2.2.2. Implication of Seizing Capability on the Relationship between Intellectual Capital and Innovation Performance

The seizing capability of an organisation refers to the ability to integrate opportunities [86]. Previous studies agreed that seizing represents the capability to attract new individual knowledge of employees from external resources [82,87]. Thus, it can be considered an essential element to address new and radical opportunities [88]. It is thus necessary to manage the complementary factors of seizing to achieve evolutionary fitness by avoiding any value loss if the market leverage shifts to favour external complements. Managers have to implement competitive strategies that maximise performance and match external environmental conditions [89]. Hence, financial firms need some strategies to use all the resources for seizing the opportunities that occur in the markets [83,90]. According to the resource-based view, intellectual capital is a type of knowledge resource transformed to gain values and profits [91].

Seizing capability in stable performance can renew and integrate intangible resources of knowledge to sustain competitive advantages, thereby achieving high innovation performance [57]. Some studies posited that if a firm's capabilities can change the business environment according to its seizing, other competitive firms cannot strive with it because it would be too expensive for them [90]. Therefore, the performance of such a firm increases because of this competitive advantage, confirming the existence of an indirect relationship between seizing capability and intellectual capital [92]. Based on these facts, the current study claimed that such a relationship could be used as an advantageous theme to fortify the correlation with a firm's intellectual capital. Thus, the present work set up some hypotheses to determine the role played by seizing capability in this correlation as the moderator between intellectual capital and innovation performance.

Hypothesis 3a (H3a). *Seizing capability positively moderates the relationship between human capital and innovation performance.*

Hypothesis 3b (H3b). *Seizing capability positively moderates the relationship between structural capital and innovation performance.*

Hypothesis 3c (H3c). *Seizing capability positively moderates the relationship between relational capital and innovation performance.*

Hypothesis 3d (H3d). *Seizing capability positively moderates the relationship between social capital and innovation performance.*

2.2.3. Implication of Reconfiguring Capability on the Relationship between Intellectual Capital and Innovation Performance

Reconfiguring capability is defined as the means of re-structuring internal and external resources in response to recent changes in the business environment for creating competitive advantages [53,93]. It allows firms to preserve their evolutionary fitness [94]. Intellectual capital a vital knowledge-based asset that acts as the source of routines and

production processes in a firm and the capabilities and core competencies that can improve a firm's performance [95]. To sustain profitable growth, the firm requires all the assets to be reconfigured and recombined during the evolving technologies and market [46]. The knowledge and resources can depreciate over time, reducing the cumulative benefits [96]. Accordinglly, the combination of the existing knowledge assets and resources with novel operational capabilities induces fundamental dynamic capabilities [71,97].

The resource-based view indicates that the reconfiguring capability of a firm can align and realign particular tangible or intangible assets [53]. Reconfiguring capability may enable a firm to upgrade or reconstruct its core capabilities in response to the changing environment [93]. The purpose of reconfiguring capability attainment is to commercialise the new processes, ideas, products, and services that can be used in firms, further increasing their intellectual capital [89,91]. These findings strengthened the existence of the indirect implication of reconfiguring capability on intellectual capital. In addition, firms should rapidly respond to the market and competitors to deal with fast-changing industry environments [98]. In this outlook, the present research hypothesised on the moderating role played by reconfiguring capability to enhance the relationship between intellectual capital and innovation performance. Therefore, the following hypotheses were proposed:

Hypothesis 4a (H4a). *Reconfiguring capability positively moderates the relationship between human capital and innovation performance.*

Hypothesis 4b (H4b). *Reconfiguring capability positively moderates the relationship between structural capital and innovation performance.*

Hypothesis 4c (H4c). *Reconfiguring capability positively moderates the relationship between relational capital and innovation performance.*

Hypothesis 4d (H4d). *Reconfiguring capability positively moderates the relationship between social capital and innovation performance.*

In the conceptual framework of the current study, there is one independent variable, namely, intellectual capital; three moderating variables, namely, sensing, seizing, and reconfiguring; and one dependent variable, namely, innovation performance, as shown in Figure 1.

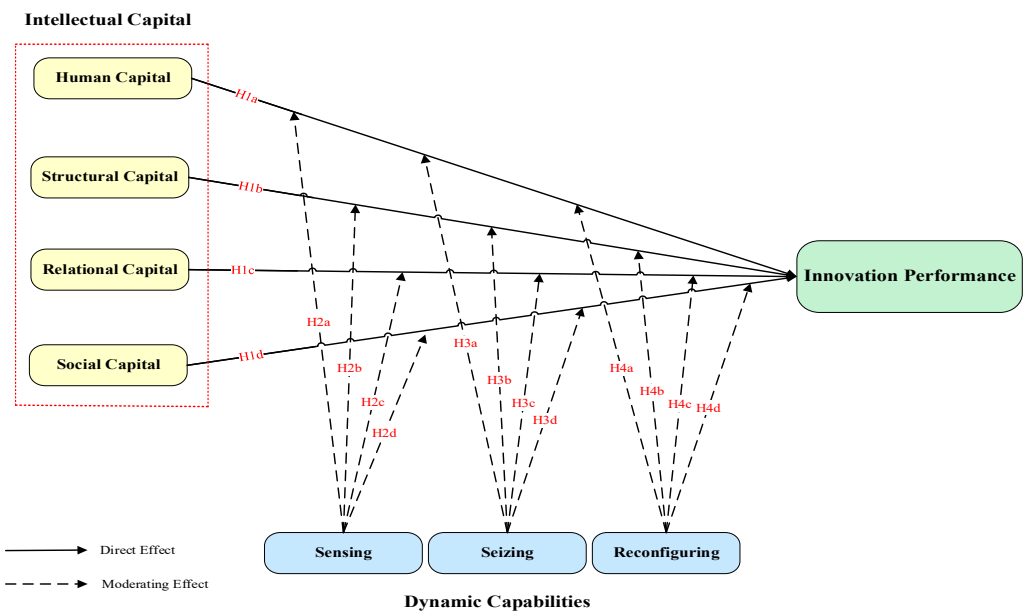

Figure 1. Conceptual framework of the present study.

3. Research Method

3.1. Measures

To quantify the independent variables, to select 12 items, the protocols were used from [99]. This helped to measure the independent variables and three primary components of intellectual capital (human, relational, and structural capital). Additionally, the fourth critical component of intellectual capital (social capital) was measured by adapting four items [71]. In this study, the dependent variables (six items) were used to measure the respondents' innovation performance following [33]. Following, eight items were utilised to quantify the moderating factors such as seizing and reconfiguring to represent the dynamic capabilities [100]. The third factor, so-called sensing, which determines the dynamic capabilities, was measured using four items [101]. In short, questionnaire items formed the basis of the present instrument structure to evaluate the primary variables used in the study (see Appendix A). Responses were made on a 5-point scale ranging from 1—strongly disagree to 5—strongly agree.

3.2. Study Population

In the present study, Iraqi banks were considered as the main context because they increasingly employ several techniques for innovation performance in developed and developing countries [102,103]. In addition, the commercial banks of Iraq were identified as the appropriate research context due to their fast growth in financial markets [27,104,105]. For numerous reasons, Iraqi commercial banks were selected as the context of the present study. First, Iraq has undergone significant financial reforms and deregulation over the past 20 years [106]. Second, very little discussions, exploration, or basic insights exist in the literature concerning the commercial banks of Iraq [107]. Third, the private banking sector seems vulnerable because of restricting bank credits with ongoing financial fluctuations in the region [108]. The present research population encompassed 24 Iraqi commercial banks in the year 2020, as display in Appendix B. The main reason for selecting these commercial banks out of the financial population was mainly due to their flexibility and accessibility for conducting research. These banks regard this flexibility as their visibility to external auditors. Additionally, the complex procedures for obtaining approval to access other types of Iraqi banks and collect data from them was one of the reasons that drove the researcher to focus on the commercial banks of Iraq as the dominant population for the study.

3.3. Sampling Size

The ever-growing demand for research has given rise to the necessity of an effective technique for defining the required sample size in a given population. Previous researchers declared that no additional calculations are required to identify the sample size in quantitative research [109]. He developed a standard table for calculating the sizes of samples required for studies. The current study aimed to investigate a population of 7000 employees from 24 commercial banks. Thus, a sample size of 364 participants was required to investigate the current phenomena. As such, a total of 470 questionnaires were distributed to employees in banks. The data collection process took into consideration that the larger the study sample, the more the results can be generalised to the target population. The selected sampling method enabled accurate information to be gathered from the population concerning intellectual capital and innovation performance.

3.4. Sampling Technique

In this work, purposive sampling of the estimated population was considered to be most suitable. Purposive sampling is the process of selecting the respondents who are best placed to deliver the required data for a study [110]. Bank accountants, being the most experienced and well-informed in preparing financial statements, were thus considered to possess and reflect the expert knowledge capable of delivering relevant data for the research inquiries. The present research context required participants in the banking field who met some specific criteria, such as being persons responsible for preparing financial

reports and managing the financial data in Iraqi commercial banks. This population of interest indeed comprised the category of the respondents, who possessed the required facts and could provide the desired information. Briefly, the respondents of this study were bank accountants involved in rigorous banking business regardless of their rank or position held.

3.5. Data Collection Procedures

In this work, the primary data were collected through quantitative questions to measure the respondents' opinions, perceptions, and attitudes toward the main construct in the present investigation [110]. Considering the recent turbulent situation in Iraq, most of the respondents in Iraqi commercial banks preferred to answer the questionnaire manually (hard copy). With this rationale, data cleaning was very important to filter the usable responses and avoid errors during the data analysis procedures. Before the researcher arrived, all the banks and their employees were informed that the questionnaires were to be distributed and to start data collection. After that, the researcher distributed 470 questionnaires in 24 Iraqi commercial banks and requested that the respondents answer all the questions. The main data collection process was conducted from 20 August to 20 November 2020 (roughly over three months). Upon completing the data collection, the data-cleaning process was started, ensuring the consistency of the responses for further data analysis with the required number of participants.

4. Analysis and Results

There were two main stages to the data analysis. The first stage was conducted using SPSS.v25 to provide information about the data distribution, response rate, multicollinearity, and coding. Data screening preceded the process of data analysis to ensure there were no missing data or outliers. The second stage of the data analysis in the current study was conducted in two phases using AMOS.v24. The first phase was a confirmatory factor analysis (CFA) to assess the overall measurement model, and the second phase involved structural equation modelling (SEM), which included testing the study's hypotheses.

4.1. Response Rate

In order to achieve an appropriate response rate, a total of 470 questionnaires were distributed to the employees in the selected commercial banks in Iraq. Out of the 420 questionnaires that were returned to the researcher by the respondents, a total of 384 questionnaires showed a response rate of 89.4%, from which 20 questionnaires were excluded due to the irrelevant age group of the respondents. Thus, 364 questionnaires were considered for the analysis, yielding a response rate of 77.4%. Table 1 shows the obtained distribution of the questionnaires and the response rate.

Table 1. Response rate obtained from the collected data through survey questionnaires.

Method	Description	Frequency	Percentage
Survey Questionnaire	Questionnaires distributed	470	100%
	Questionnaires received	420	89.4%
	Questionnaires answered	384	86.7%
	Questionnaires excluded	20	13.3%
	Usable questionnaires	364	77.4%

4.2. Normality

The normality of the dataset was assessed in terms of the skewness and kurtosis values. The skewness signifies the degree to which the distribution of a variable is symmetrical. Conversely, kurtosis measures the peakedness or peak intensity of the distribution [111]. According to the rule of thumb, if the skewness and kurtosis values lie within the range of

±2.58, the data distribution is considered normal [111]. The results show that the skewness values ranged from −0.553 to 0.037, and the kurtosis values ranged from −0.614 to −0.064. Thus, the data distribution in the present study can be considered normal. In contrast, the mean and standard deviation values were in the range of 3.356 to 3.771 and 0.640 to 0.919, respectively. Table 2 presents the computed skewness, kurtosis, mean, and standard deviation values of all the variables.

Table 2. Obtained values of the multivariate skewness and kurtosis.

Variables	N	Mean	Std. Deviation	Skewness	Kurtosis
HC	364	3.356	0.640	−0.553	−0.593
SC	364	3.539	0.793	−0.258	−0.064
RC	364	3.568	0.818	−0.072	−0.173
SOC	364	3.527	0.919	−0.153	−0.614
IP	364	3.692	0.915	−0.283	−0.513
SEN	364	3.771	0.665	−0.168	−0.163
SEI	364	3.648	0.727	0.014	−0.203
REC	364	3.548	0.724	0.037	−0.511
Valid N (listwise)	364				

4.3. Demographic Profile of Respondents

Table 3 outlines the demographic profiles of the respondents who participated in this study. The demographic profiles showed that 66.5% (N = 242) of the respondents (out of 364) were males and 33.5% (N = 122) were females. These percentages were considered to be logical in the Iraqi context. In terms of age, 14.8% (N = 54) of the respondents were in the age group of 16–25 years, 11.8% (N = 43) were in the range of 26–30 years, 37.4% (N = 136) were in the range of 31–35 years, 24.7% (N = 90) were in the age group of 36–40 years, and 11.3% (N = 41) were older than 40 years. In addition, concerning the working knowledge of the respondents in the banking sector, 12.1% (N = 44) had 0–5 years, 34.6% (N = 126) had 6–11 years, 34.9% (N = 127) had 11–15 years, 11.5% (N = 42) had 16–20 years, and 6.9% (N = 25) had above 20 years of experience. Regarding the educational qualifications of the respondents, 14.6% (N = 53) of them were diploma holders, 62.9% (N = 229) were bachelor's degree holders, 13.5% (N = 49) had master's degree, 5.8% (N = 21) had doctorate degree, and 3.3% (N = 12) had other qualifications.

Table 3. Demographic profiles of the respondents.

Profile	Category	Frequency	Percentage (%)	Cumulative (%)
Gender	Male	242	66.5	66.5
	Female	122	33.5	100.0
Age	18–25 years	54	14.8	14.8
	26–30 years	43	11.8	26.6
	31–35 years	136	37.4	64.0
	36–40 years	90	24.7	88.7
	Above 40 years	41	11.3	100.0

Table 3. *Cont.*

Profile	Category	Frequency	Percentage (%)	Cumulative (%)
Experience	0–5 years	44	12.1	12.1
	6–11 years	126	34.6	46.7
	11–15 years	127	34.9	81.6
	16–20 years	42	11.5	93.1
	More than 20	25	6.9	100.0
Education	Diploma	53	14.6	14.6
	Bachelor's	229	62.9	77.5
	Master's	49	13.5	90.9
	PhD	21	5.8	96.7
	Others	12	3.3	100.0

4.4. Assessment of Measurement Model

The proposed measurement model of this study was composed of seven latent variables with 34 observed variables. Once the model was successfully built using AMOS software, the assessment process started with the measurement of the model. The results revealed that the reliability of the external loadings was higher than 0.60, indicating an acceptable level of the items with good reliability. The factor loading estimates for all the items (in the range of 0.66 to 0.97) were above the minimum cutoff point. The results for the confirmatory factor analysis (see Figure 2) displayed a CMIN value of 1004.256 with 449 degrees of freedom, and the ratio of the CMIN value to the degrees of freedom was 2.013. The normed CMIN value was discerned to be less than 5, indicating an acceptable fit for the CFA model. The *p*-value was 0.000 and the root mean square error of approximation (RMSEA) value was 0.053, without exceeding 0.08. In addition, the value for the comparative fit index (CFI) was 0.967, suggesting acceptable model fit. The calculated value for the Tucker–Lewis index (TLI) was 0.962. Overall, the results showed satisfactory indicators of the final measurement model. Figure 2 displays the measurement model's structure.

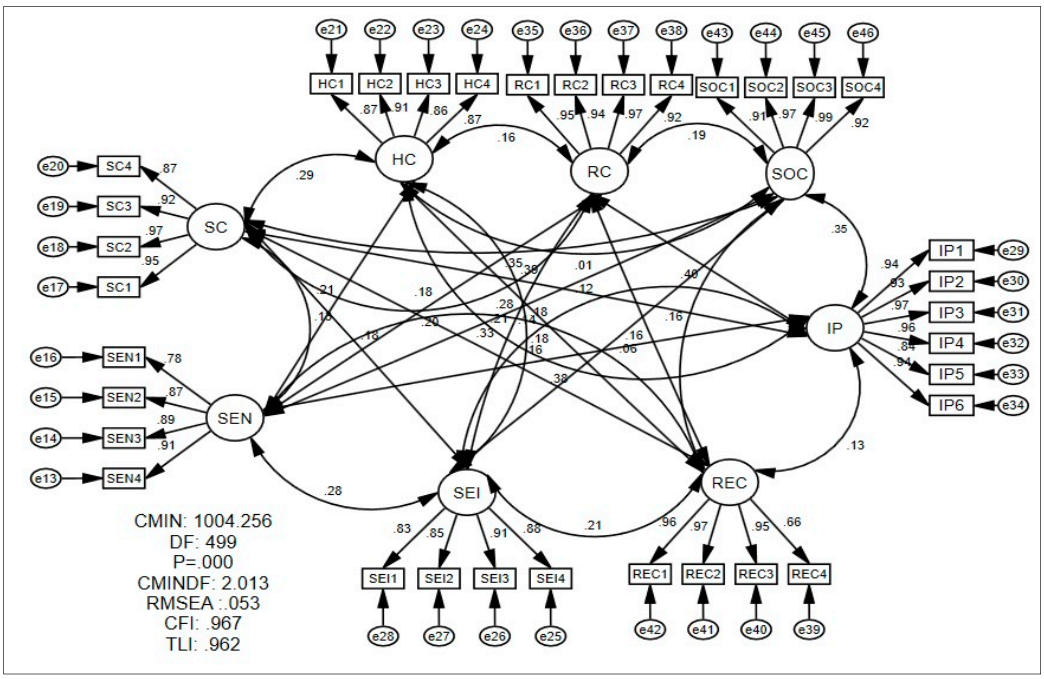

Figure 2. Structure of the measurement modelling.

Convergent validity is a type of variable validity. It is the extent to which scale items are presumed to represent a variable based on a range of facts on the same variables. Table 4 elucidates the results for the acceptable indicators of reliability and convergent validity. It is worth mentioning that the convergent validity calculation was adopted to measure the validity of the variables, and thereby the extent to which the scale items could present a variable based on a range of facts on the same variables. Conversely, Cronbach's alpha (α) for all the variables was above 0.70 and ranged from 0.92 to 0.97.

Furthermore, the composite reliability (CR) values of all the variables were greater than 0.70 and ranged from 0.93 to 0.98. The values of average variance extracted (AVE) for all the variables were greater than 0.50 and occurred between 0.75 and 0.90. Furthermore, the maximum shared variance (MSV) for all the variables was between 0.08 and 0.16. In contrast, these values were less than the value of AVE. In comparison, the value of maximal reliability (MaxR-H) for all the variables was between 0.92 and 0.98. In comparison, these values were greater than the value of 0.80. Based on these results, it can be asserted that the present research acquired the recommended levels of convergent validity.

Table 4. Overall convergent validity for the proposed measurement model.

Variables	α	CR	AVE	MSV	MaxR(H)
HC	0.933	0.933	0.778	0.144	0.936
SC	0.960	0.960	0.858	0.150	0.971
RC	0.970	0.970	0.891	0.163	0.973
SOC	0.971	0.973	0.900	0.124	0.987
IP	0.973	0.975	0.868	0.163	0.981
SEN	0.921	0.922	0.749	0.081	0.931
SEI	0.923	0.924	0.751	0.080	0.928
REC	0.933	0.939	0.798	0.109	0.973

Table 5 demonstrates the overall construct correlation of the measurement model, wherein the square root of the AVE exceeded the off-diagonal values in rows and columns, indicating fulfilment of the discriminant validity criterion. Alternatively, the discriminant validity determines the extent to which the scores on a measure are uncorrelated with the measures of the conceptually distinct variables. Overall, the reliability and validity criterion assessment showed that the measurement model was satisfactory and fulfilled the validity requirement to proceed with the estimation of the parameter that characterises the structural equation model.

Table 5. Overall discriminant validity of the measurement model.

Variables	SC	HC	RC	SOC	IP	SEN	SEI	REC
SC	**0.926**							
HC	0.295 ***	**0.882**						
RC	0.202 ***	0.163 **	**0.944**					
SOC	0.348 ***	0.014	0.189 ***	**0.949**				
IP	0.387 ***	0.380 ***	0.404 ***	0.346 ***	**0.932**			
SEN	0.129 *	0.206 **	0.182 **	0.139 *	0.165 **	**0.865**		
SEI	0.177 **	0.179 **	0.206 ***	0.057	0.123 *	0.283 ***	**0.867**	
REC	0.331 ***	0.183 **	0.160 **	0.189 ***	0.131 *	0.284 ***	0.206 ***	**0.893**

Note: * Correlation is significant at the 0.00 level (2-tailed). ** Correlation is significant at the 0.01 level (2-tailed). *** Correlation is significant at the 0.05 level (2-tailed).

4.5. Assessment of Structural Equation Modeling

Figure 3 shows the proposed structural equation modelling enclosing all the study variables. In this study, the structural model was generated and estimated using SPSS.v[25] and AMOS.v[24]. The previous literature considered structural equation modelling (SEM) a reliable method for examining the inter-dependent correlation among the research variables [112]. SEM was designed to assess a proposed conceptual model that could fit the data collected to ascertain the structural relationships amid these variables [113]. The table revealed that the relationship between the variables had antecedent factors directly related to the independent variables. In addition, another direct relationship was observed among the independent and dependent variables. The results for the structural equation modelling (see Figure 3) displayed a CMIN value of 454.560 with 198 degrees of freedom, and the ratio of the CMIN value to the degrees of freedom was 2.296. The normed CMIN value was discerned to be smaller than 5, indicating an acceptable fit for the SEM model. The *p*-value was 0.000 and the root mean square error of approximation (RMSEA) value was 0.060, without exceeding 0.08. In addition, the value for the comparative fit index (CFI) was 0.977, suggesting acceptable model fit. The calculated value for the Tucker–Lewis index (TLI) was 0.973. Overall, the results showed satisfactory indicators of final structural equation modelling.

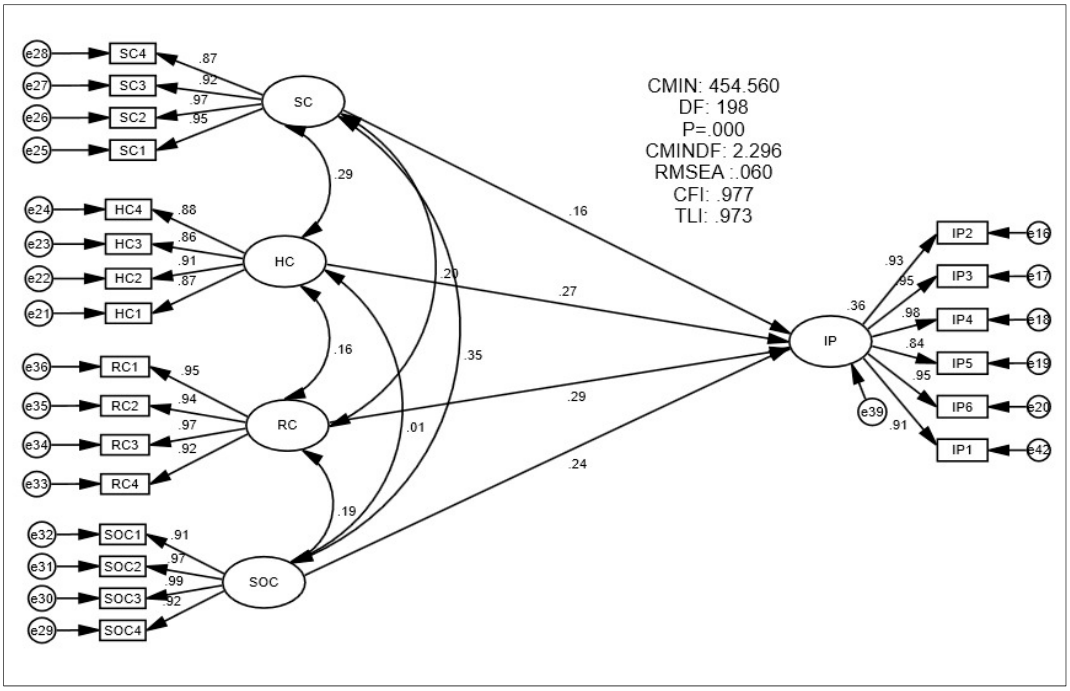

Figure 3. Detailed layout of the structural equation modelling.

The results for the analyses of the direct relationship between the component of intellectual capital and innovation performance indicated a positive and significant relationship between the components of intellectual capital and innovation performance. The results for each sub-hypothesis for every component are discussed below in the respective subsection. The results for hypothesis H1a divulged a positive and significant relationship between human capital and innovation performance ($\beta = 0.274$; $t = 5.678$; $p < 0.000$). Therefore, the relationship between human capital and innovation performance was supported. The results for hypothesis H1b showed a positive and significant relationship between structural capital and innovation performance ($\beta = 0.159$; $t = 3.494$; $p < 0.000$). Therefore, the relationship between structural capital and innovation performance was supported. The results for hypothesis H1c disclosed a positive and significant relationship between relational capital and innovation performance ($\beta = 0.286$; $t = 6.360$; $p < 0.000$). Therefore, the relationship

between relational capital and innovation performance was supported. The results for hypothesis H1d exhibited a positive and significant relationship between social capital and innovation performance (β = 0.238; t = 5.460; $p < 0.000$). Therefore, the relationship between social capital and innovation performance was supported. The relationship between intellectual capital and innovation performance is illustrated in Table 6.

Table 6. Relationship between intellectual capital and innovation performance.

No	Relationship	Beta	t-Value	*p*-Value	Decision
H1a	HC → IP	0.274	5.678	***	Supported
H1b	SC → IP	0.159	3.494	***	Supported
H1c	RC → IP	0.286	6.360	***	Supported
H1d	SOC → IP	0.238	5.460	***	Supported

Note: *** = $p < 0.000$.

4.6. Moderating Impacts of Dynamic Capabilities: Indirect Relationships

The present study hypothesised that the dynamic capability factors of sensing, seizing, and reconfiguring can moderate the relationship among various intellectual capital components (human, structural, relational, and social capital) and innovation performance. To achieve this goal, the measurement model properties were evaluated and checked before performing the moderation analysis. The measurement model showed that the construct measures were reliable and valid. All the indicators revealed a value of factor loadings above 0.70 and a convergent validity assessment of AVE above 0.50. In addition, Cronbach's alpha and the composite reliability were above 0.70, indicating internal consistency. The discriminant validity criteria were also satisfied as to the indicator of the model fit. The measurement model displayed satisfactory results; thus, the model was tested for moderation.

4.6.1. Moderating Effects of Sensing on the Intellectual Capital and Innovation Performance Relationship

The analyses of the moderating factor of sensing indicated that sensing had an indirect moderating effect on the relationship between intellectual capital components (human capital, relational capital, structural capital, and social capital) and innovation performance. The results derived from the structural equation model of moderating factor sensing (see Figure 4) revealed a CMIN value of 57.638 with 18 degrees of freedom. The CMIN value divided by the degrees of freedom was 3.202 (57.638/18). The normed CMIN value was smaller than 5, suggesting an acceptable fit for the SEM model. In addition, the *p*-value associated with this result was 0.000, and the value for the RMSEA was 0.078, which did not exceed 0.08. The achieved CFI of 0.931 indicated its acceptability for the model fit. The value of R-squared (R2) was 0.49. It is affirmed that all these obtained indices achieved an acceptable fit. Figure 4 shows the moderating effect of sensing capability, including all the variables that were moderated.

Table 7 displays the results (β = 0.220; t = 5.384; $p < 0.000$) for hypothesis H2a, which revealed a significant moderating effect of sensing on the correlation between human capital and innovation performance. This correlation indicated a positive relationship between the study variables. Thus, the moderating role of sensing on the correlation between human capital and innovation performance was supported. Therefore, the results for hypothesis H2b, revealed a significant moderating effect of sensing on the correlation with structural capital, which impacted the level of innovation performance (β = 0.215; t = 5.549; $p < 0.000$). Therefore, the moderating effect of sensing on the interaction between structural capital and innovation performance was supported. In addition, hypothesis H2c showed that the moderator of sensing had a positive effect on the correlation between relational capital and innovation performance. These effects reflected a significant correlation between the calculated variables (β = 0.227; t = 5.242; $p < 0.000$). Briefly, the moderating effect of sensing

on the relationship between relational capital and innovation performance was supported. Moreover, the results (β = 0.213; t = 5.036; $p < 0.000$) for hypothesis H2d indicated a substantial moderating impact of sensing on the correlation between social capital and innovation performance. Therefore, the moderating impact of sensing on the correlation between social capital and innovation performance was strongly and positively supported via hypothesis H2d.

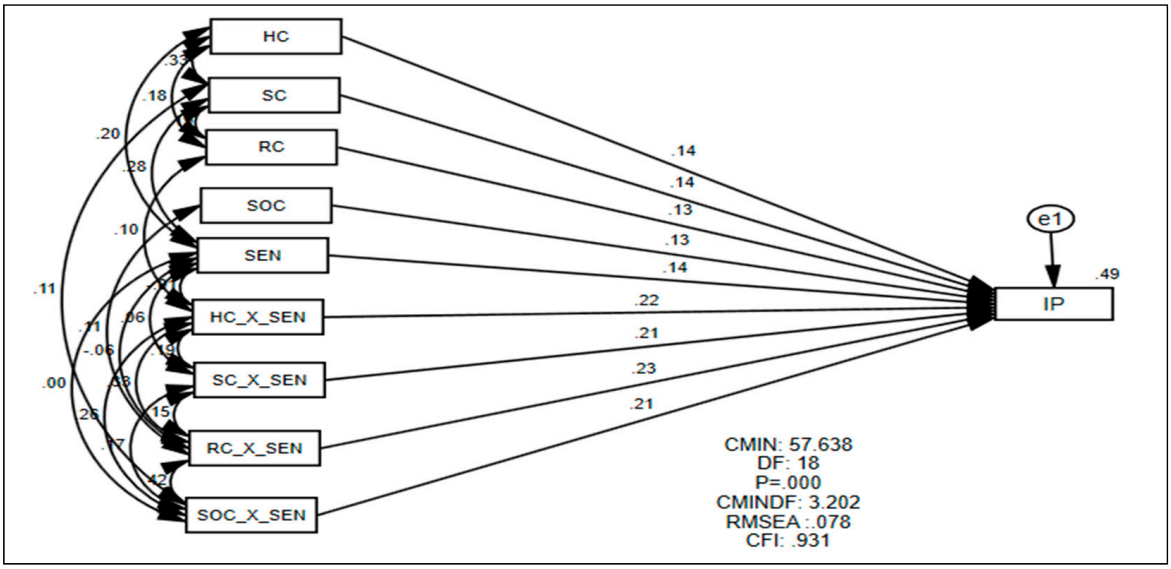

Figure 4. Statistical model of the moderating factor of sensing.

Table 7. Moderating effect of sensing on the relationship between intellectual capital and innovation performance.

No	Relationship	Beta	t-Value	*p*-Value	Decision	
H2a	HC → IP	0.139	3.437	***	Supported	Supported
	SEN → IP	0.136	3.443	***	Supported	
	SEN _X_ HC → IP	0.220	5.384	***	Supported	
H2b	SC → IP	0.138	3.316	***	Supported	Supported
	SEN → IP	0.136	3.443	***	Supported	
	SEN _X_ SC → IP	0.215	5.549	***	Supported	
H2c	RC → IP	0.128	3.302	***	Supported	Supported
	SEN → IP	0.136	4.003	***	Supported	
	SEN _X_ RC → IP	0.227	5.242	***	Supported	
H2d	SOC → IP	0.131	3.482	***	Supported	Supported
	SEN → IP	0.136	3.443	***	Supported	
	SEN _X_ SOC → IP	0.213	5.036	***	Supported	

Note: *** = $p < 0.000$.

The analysis of the moderating relationship proceeded with the two-way interaction to follow up on the significance. Figure 5a demonstrates that the sensing strengthened the positive relationship between human capital and innovation performance. In addition, the slope for high human capital was steeper compared to low human capital. This indication clearly showed a stronger and more positive relationship between human capital and innovation performance for high sensing than low sensing. Concisely, it supported study hypothesis H2a. The analysis of the moderating relationship proceeded with a two-way

interaction to follow up on the significant interaction. Figure 5b shows the results for the two-way interaction of sensing on the relationship between structural capital and innovation performance. The slope of high-sensing structural capital was steeper than that of low-sensing structural capital, indicating a stronger and more positive relationship between structural capital and innovation performance for high sensing than low sensing, thereby supporting study hypothesis H2b. The analysis of the moderating relationship continued with the two-way interaction to follow up on the significant interaction.

Figure 5c shows that sensing strengthened the positive connection between relational capital and innovation performance. The slope of relational capital was steeper compared to low relational capital. This relationship indicates a stronger and more positive relationship between relational capital and innovation performance for high sensing than low sensing. In short, hypothesis H2c in the present study was strongly supported. The analysis of the moderating relationship proceeded with the two-way interaction to follow up on its significance. Figure 5d presents the two-way interaction of sensing on the relationship between social capital and innovation performance. It was observed that sensing could strengthen the positive relationship between social capital and innovation performance. Additionally, the slope of high social capital was steeper than that of low social capital. It showed a positive relationship between social capital and innovation performance, which was stronger for high sensing than low sensing and thus supported hypothesis H2d, as shown in Figure 5.

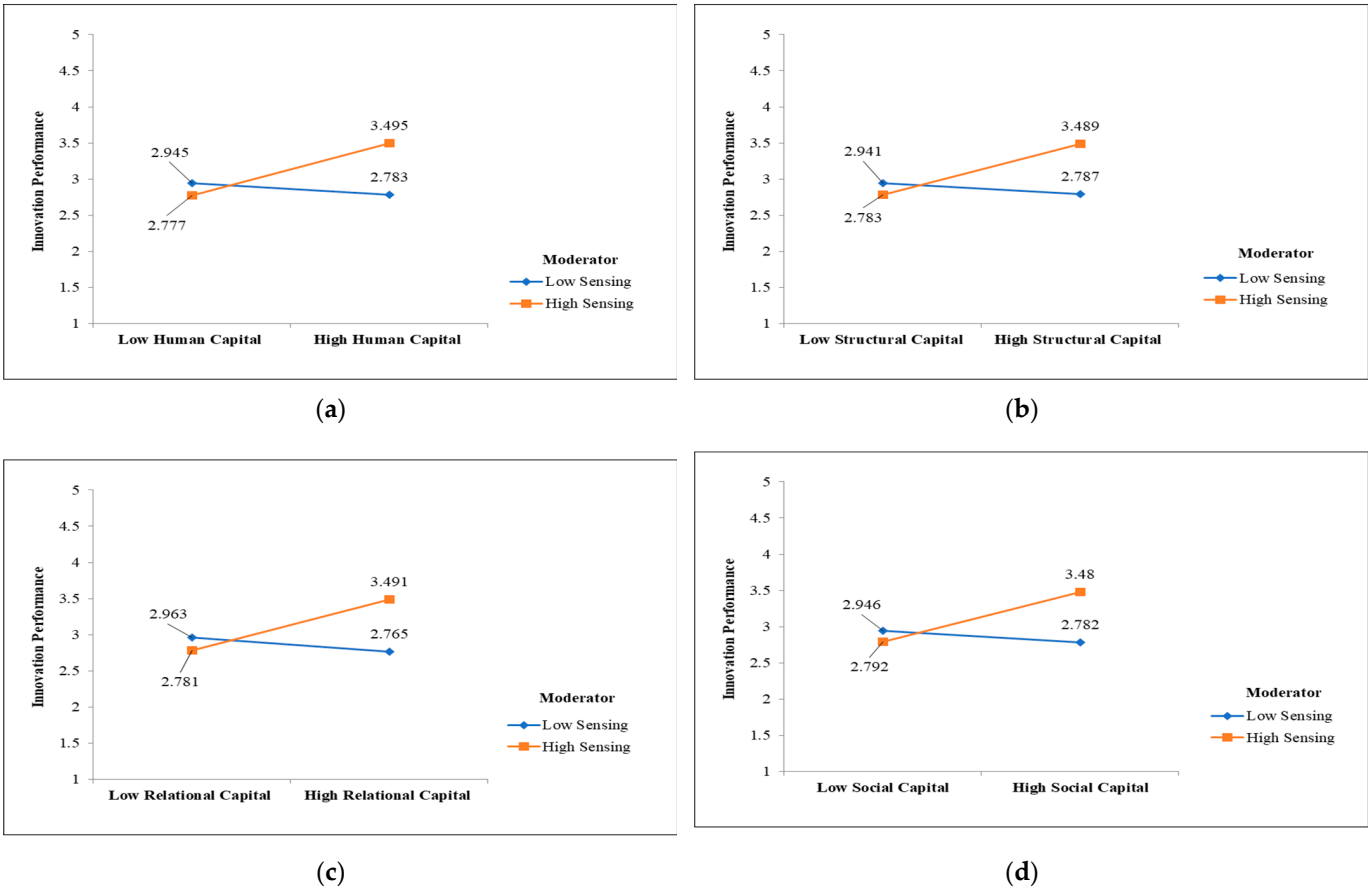

Figure 5. This figure contains four graphs, which are (**a**) a two-way interaction of SEN on HC and IP, (**b**) a two-way interaction of SEN on SC and IP, (**c**) a two-way interaction of SEN on RC and IP, and (**d**) a two-way interaction of SEN on SOC and IP.

4.6.2. Moderating Effect of Seizing on the Relationship between Intellectual Capital and Innovation Performance

Figure 6 shows the moderating effect of seizing in the presence of all variables that were moderated. The analyses of the moderating factor of seizing indicated that seizing had an indirect moderating effect on the relationship between intellectual capital components (structural capital, relational capital, human capital, and social capital) and innovation performance. The value of the CMIN derived from the structural equation model of the moderating factor seizing (see Figure 6) was 48.130 with 19 degrees of freedom, wherein the ratio was 2.428. The normed CMIN value was smaller than 5, suggesting an acceptable fit for the SEM model. In addition, the *p*-value associated with this result was 0.000 and the value of RMSEA was 0.063, which did not exceed 0.08. The achieved value of CFI was 0.913, indicating its acceptability to the model fit. The value of R2 was 0.37. The values of all these indices reveal the achievement of acceptable fit for the moderating effects of seizing.

Table 8 elucidates the results (β = 0.300; t = 6.992; $p < 0.000$) for hypothesis H3a, which exhibited a significant (positive) moderating impact on the correlation between human capital and innovation performance. Hence, the moderating effect of seizing on the relationship between human capital and innovation performance was supported. Therefore, the results (β = 0.272; t = 6.404; $p < 0.000$) for hypothesis H3b indicated that seizing played a significant moderating effect on the correlation between structural capital and innovation performance, which was positive. Therefore, the moderating impact of seizing on structural capital and innovation performance was supported through hypothesis H3b. In addition, the results (β = 0.049; t = 1.064; $p < 0.282$) for hypothesis H3c revealed that seizing had a negative and insignificant moderating effect on the relationship between relational capital and innovation performance. Therefore, the moderating effect of seizing on the relationship between relational capital and innovation performance was not supported. Moreover, the results (β = 0.076; t = 1.713; $p < 0.087$) for hypothesis H3d indicated that seizing had negative moderating impacts on the correlation between social capital and innovation performance. Briefly, the moderating effect of seizing on the correlation between social capital and innovation performance was not supported.

Table 8. Moderating effect of seizing on the relationship between intellectual capital and innovation performance.

No	Relationship	Beta	t-Value	*p*-Value	Decision	
H3a	HC → IP	0.140	3.318	0.001	Supported	Supported
	SEI → IP	0.169	3.934	***	Supported	
	SEI _X_ HC → IP	0.300	6.992	***	Supported	
H3b	SC → IP	0.176	4.024	***	Supported	Supported
	SEI → IP	0.169	3.934	***	Supported	
	SEI _X_ SC → IP	0.272	6.404	***	Supported	
H3c	RC → IP	0.153	3.634	***	Supported	Unsupported
	SEI → IP	0.169	3.934	***	Supported	
	SEI _X_ RC → IP	0.049	1.064	0.282	Unsupported	
H3d	SOC → IP	0.143	3.399	***	Supported	Unsupported
	SEI → IP	0.169	3.934	***	Supported	
	SEI _X_ SOC → IP	0.076	1.713	0.087	Unsupported	

Note: *** = $p < 0.000$.

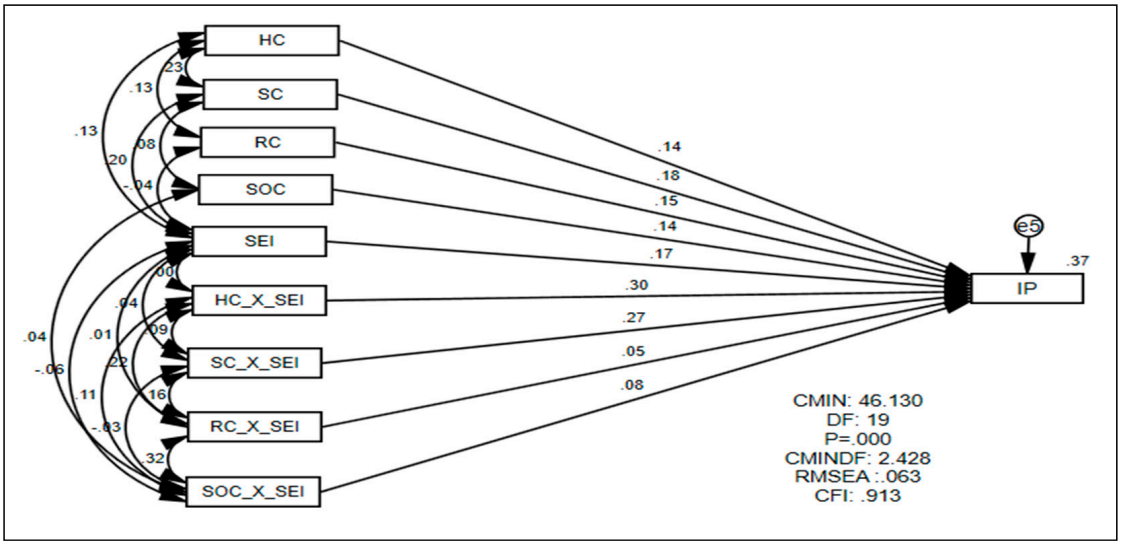

Figure 6. Statistical model of the moderating factor of seizing.

Figure 7a illustrates the two-way interaction of seizing on the relationship between human capital and innovation performance. The analysis of the moderating relationship was conducted with a two-way interaction to determine the significant interaction. The results revealed that seizing strengthened the positive relationship between human capital and innovation performance. Additionally, the slope of high human capital was steeper than that of low human capital. This relation implied a stronger and more positive relationship between human capital and innovation performance for high seizing than low seizing, supporting hypothesis H3a. Figure 7b displays the two-way interaction of seizing on the relationship between structural capital and innovation performance. The analysis of the moderating relationship was performed with two-way interaction to follow up its significance. The slope of high structural capital was steeper than low structural capital, indicating a stronger and more positive relationship between structural capital and innovation performance for high seizing than low seizing. Consequently, it supported study hypothesis H3b.

Figure 7c shows the two-way interaction of seizing on the relationship between relational capital and innovation performance. The analysis of the moderating relationship was carried out with two-way interaction to follow up on its insignificance. The results disclosed that seizing had negative and insignificant effects on the relationship between relational capital and innovation performance. In addition, the slope of high relational capital was steeper than that of low relational capital, confirming the relationship between relational capital and innovation performance being stronger for low seizing than high seizing, thereby supporting hypothesis H3c. Figure 7d shows the two-way interaction of seizing on the relationship between social capital and innovation performance. The analysis of the moderating relationship was conducted with two-way interaction to follow up on the insignificant interaction. Seizing had a negative and insignificant effect on the relationship between social capital and innovation performance. The slope of high social capital was found to be steeper than that of low social capital. It was shown that the relationship between social capital and innovation performance was stronger when seizing was low compared to high seizing, thus supporting hypothesis H3d. All the indications mentioned above are shown in Figure 7.

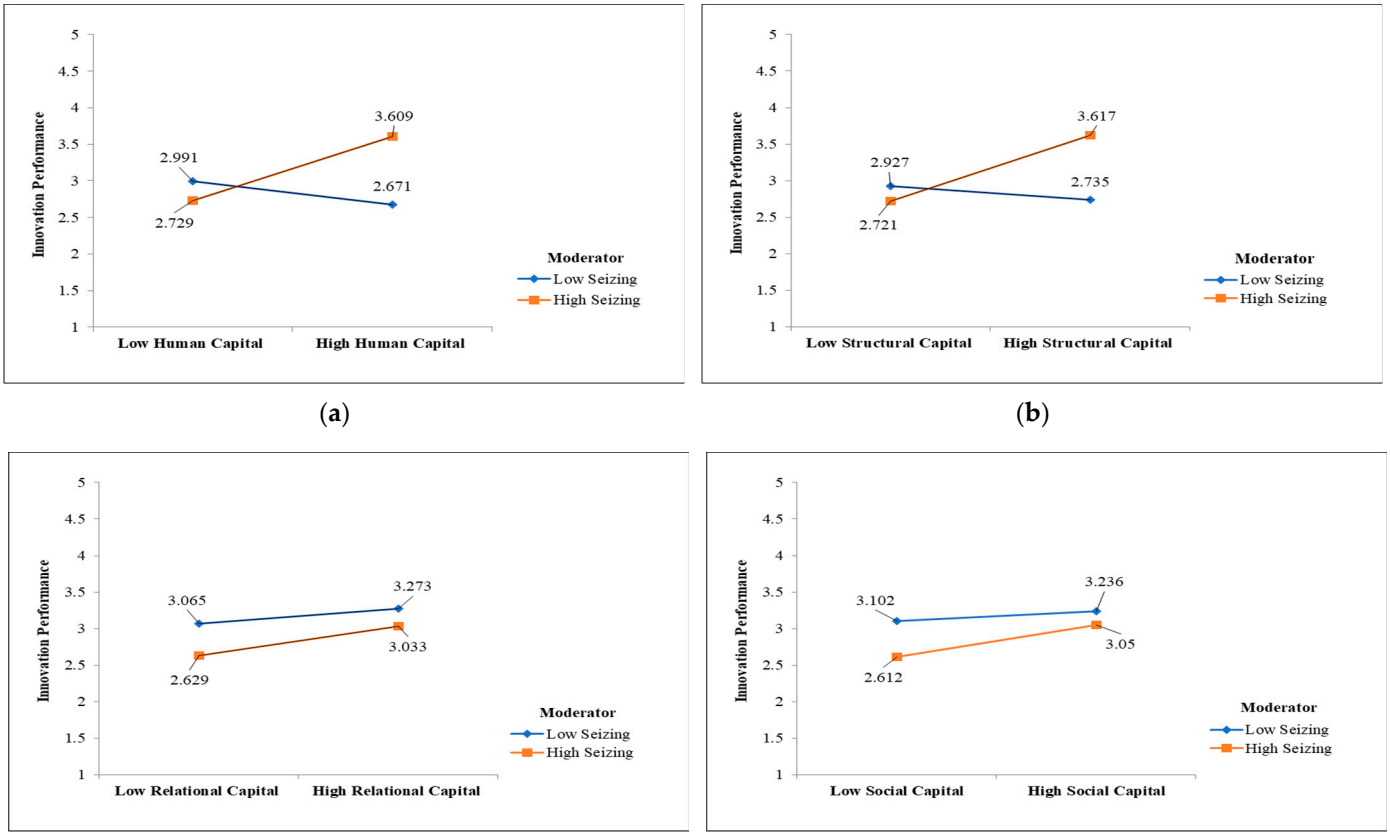

Figure 7. This figure contains four graphs, which are (**a**) a two-way interaction of SEI on HC and IP, (**b**) a two-way interaction of SEI on SC and IP, (**c**) a two-way interaction of SEI on RC and IP, and (**d**) a two-way interaction of SEI on SOC and IP.

4.6.3. Moderating Effect of Reconfiguring on the Relationship between Intellectual Capital and Innovation Performance

Figure 8 shows the moderating effect of reconfiguring, enclosing all the variables that were moderated. The analysis of moderating factors indicated that various reconfiguring factors had an indirect moderating effect on the relationship between the components of intellectual capital (human capital, relational capital, structural capital, and social capital) and innovation performance. In addition, the value of the CMIN was 49.517 with 18 DF, and the ratio of CMIN to DF yielded 2.751. The normed CMIN value was smaller than 5, suggesting an acceptable fit for the SEM model. The *p*-value was 0.000, and the RMSEA was 0.069, which did not exceed 0.08. In addition, the results for the CFI and R2 were 0.914 and 0.40, respectively, wherein all these indices achieved acceptable fit.

Table 9 shows the results ($\beta = 0.254$; $t = 6.199$; $p < 0.000$) for hypothesis H4a, which indicated that reconfiguring had a significant moderating role (positive impact) on the correlation between human capital and innovation performance. The disclosure confirmed that the moderating role of reconfiguring on the correlation between human capital and innovation performance was supported. In addition, the results ($\beta = 0.243$; $t = 5.900$; $p < 0.000$) for hypothesis H4b indicated that the reconfiguring factor played a significant moderating role in the correlation between structural capital and innovation performance. Therefore, the moderating effect of reconfiguring on the relationship between structural capital and innovation performance was supported. Moreover, the results ($\beta = 0.240$; $t = 5.671$; $p < 0.000$) for hypothesis H4c showed that the reconfiguring factor played a significant moderating role in the correlation between relational capital and innovation performance. Thus, it can be concluded that the moderating impact of reconfiguring on the correlation between relational capital and innovation performance was supported. Yet again, the results ($\beta = 0.062$; $t = 1.449$; $p < 0.147$) for hypothesis H4d demonstrated that

reconfiguring had a negative moderating impact on the correlation between social capital and innovation performance. It can be concluded that the moderating role of reconfiguring on the correlation between social capital and innovation performance was not supported.

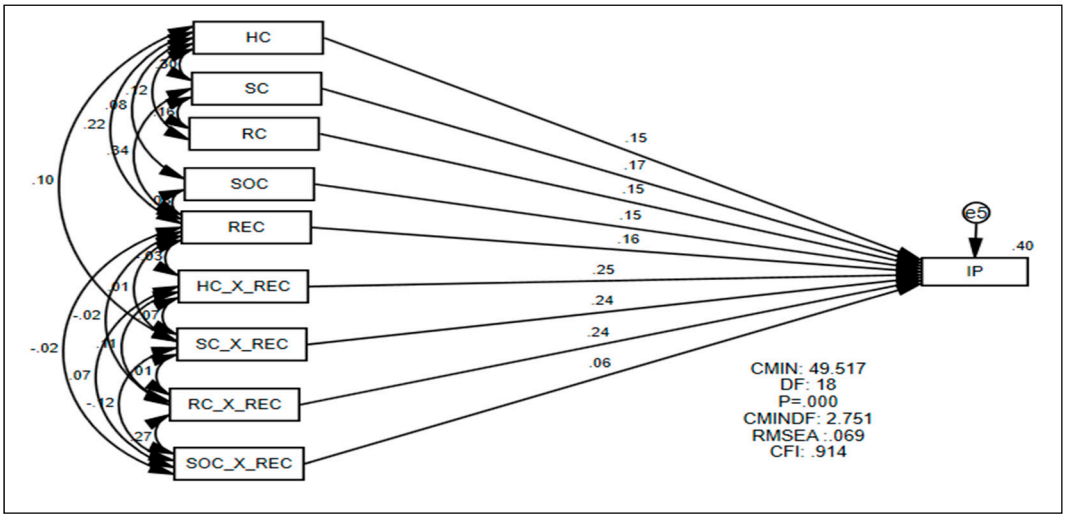

Figure 8. Statistical model of the moderating factor of reconfiguring.

Table 9. Moderating effect of reconfiguring on the relationship between intellectual capital and innovation performance.

No	Relationship	Beta	t-Value	*p*-Value	Decision	
H4a	HC → IP	0.155	3.578	***	Supported	Supported
	REC → IP	0.158	3.622	***	Supported	
	REC _X_ HC → IP	0.254	6.199	***	Supported	
H4b	SC → IP	0.147	3.886	***	Supported	Supported
	REC → IP	0.158	3.622	***	Supported	
	REC _X_ SC → IP	0.243	5.900	***	Supported	
H4c	RC → IP	0.147	3.561	***	Supported	Supported
	REC → IP	0.158	3.622	***	Supported	
	REC _X_ RC → IP	0.240	5.671	***	Supported	
H4d	SOC → IP	0.148	3.641	***	Supported	Unsupported
	REC → IP	0.158	3.622	***	Supported	
	REC _X_ SOC → IP	0.062	1.449	0.147	Unsupported	

Note: *** = $p < 0.000$.

Figure 9a depicts the two-way interaction of reconfiguring on the relationship between human capital and innovation performance. The analysis of the moderating relationship was carried out with two-way interaction to follow up on the significant relationships. The slope of high human capital was steeper than that of low human capital, suggesting a stronger and more positive relationship between human capital and innovation performance for high reconfiguring compared to low reconfiguring and thus supporting hypothesis H4a in the present study. Figure 9b displays the two-way interaction of reconfiguring on the correlation between structural capital and innovation performance. The analysis of the moderating relationship was performed with the two-way interaction to follow up on its significant influence. The plot revealed that the reconfiguring factor strengthened the positive relationship between structural capital and innovation performance. The slope of high structural capital was steeper than that of low structural capital,

which implied a stronger and more positive relationship between structural capital and innovation performance for high reconfiguring than low reconfiguring, thus supporting study hypothesis H4b.

Figure 9c shows the two-way interaction of reconfiguring on the relationship between relational capital and innovation performance. The analysis of the moderating relationship was conducted with two-way interaction to follow up on its significant relationships. The slope of high relational capital was steeper than that of low relational capital. A stronger and more positive relationship between relational capital and innovation performance for high reconfiguring compared to low reconfiguring was shown, thereby supporting hypothesis H4c of the present study. Figure 9d exemplifies the two-way interaction of reconfiguring the relationship between social capital and innovation performance. The analysis of the moderating relationship was conducted with two-way interaction to follow up on the insignificant relationships. The slope of high social capital was discerned to be steeper than that of low social capital, indicating a stronger relationship between social capital and innovation performance for low reconfiguring than high reconfiguring and thus supporting hypothesis H4d of this research. All indications mentioned above are shown in Figure 9.

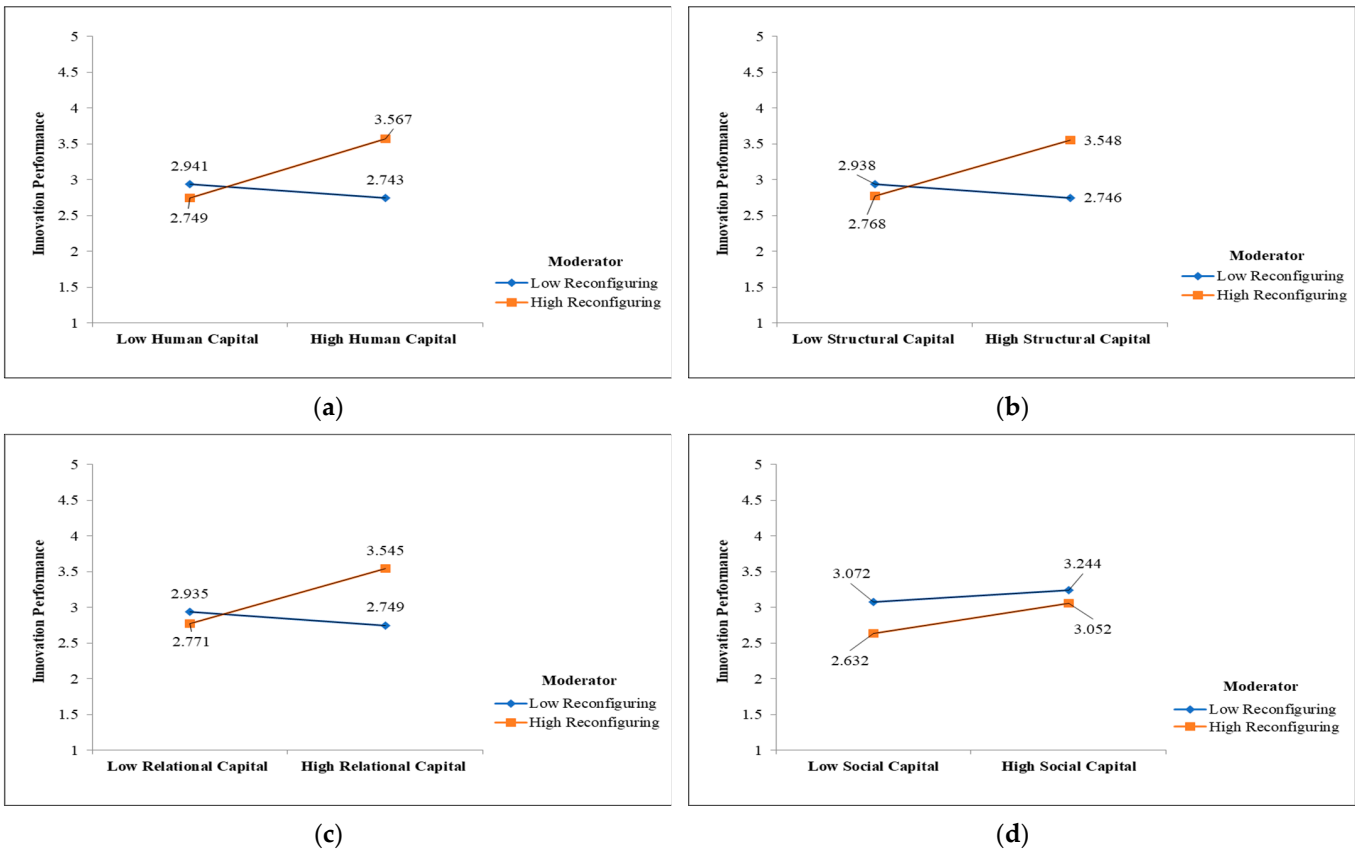

Figure 9. This figure contains four graphs, which are (**a**) a two-way interaction of REC on HC and IP, (**b**) a two-way interaction of REC on SC and IP, (**c**) a two-way interaction of REC on RC and IP, and (**d**) a two-way interaction of REC on SOC and IP.

5. Discussion

The first hypotheses were set up to examine whether the components of intellectual capital are positively correlated to banks' innovation performance. In this respect, the present outcomes supported the positive impact of intellectual capital components on Iraqi commercial banks' innovation performance, validating hypotheses H1a (t = 5.863), H1b (t = 3.671), H1c (t = 6.263), and H1d (t = 5.157). Furthermore, it was reaffirmed

that investing in human capital and structural capital could improve higher innovation performance in Iraqi commercial banks rather than other intellectual capital. These findings are consistent with the existing literature that demonstrated the positive role of human capital in enhancing commercial banks' performance compared with intellectual capital development [29,30]. The results are in good agreement with several reported works displaying the evidence of a noteworthy link between structural capital and innovation performance [47,71,114–117].

The second hypothesis showed a moderating effect of sensing capability on the relationship between intellectual capital and innovation performance, indicating a positive linkage in the correlation between intellectual capital and innovation performance that makes substantial competitive advantages. In this respect, the significance of sensing capability on commercial banks' innovation performance indeed supported the findings, thus validating hypotheses H2a (t = 5.384), H2b (t = 5.549), H2c (t = 5.242), and H2d (t = 5.036). Additionally, the current findings revealed that intellectual capital is not relevant to bank profitability but is important for bank performance through the moderation of sensing capability. Depending on the nature of intellectual capital and dynamic capabilities, indicated that dynamic capability could be considered a firm's stable behaviour, which can renew and integrate its intellectual capital, sustaining competitive advantage and achieving high performance [118]. The present research outcomes are in agreement with the report by [119], wherein it was demonstrated that sensing capability plays the most prominent role in sustainable innovation, especially for the banking sector.

The resource-based view theory proposed dynamic conditions to acquire higher levels of innovation performance. According to this theory, firm resource management must be synchronised with the dynamic environment [120]. As time progresses, it can lead the bank in the proper direction with an efficient response to the changing market conditions [121]. As illustrated before, the high intellectual capital of the commercial banks in Iraq has to adapt to the changing environment in the competitive markets. Planning and implementing sensing capability are important and necessary factors to contribute to in highly competitive markets. The present results indicate an enhanced performance of the Iraqi banking sector by renewing intellectual capital resources. It was concluded that the dynamic capability of sensing can strongly moderate the relationship between intellectual capital and innovation performance. This in turn can enhance the way the financial sector is seeking to develop its own core competencies for boosting its competitive advantage. The present findings support the previous observations made by various researchers [89,122–124].

Although the analysis of seizing capability revealed that intellectual capital does not value individually relevant to banks' profitability, it is relevant to value to their performance through the moderation of the dynamic capability of seizing. The findings of the seizing capability supported hypotheses H3a and H3b (t = 6.992 and 6.404). The finding of the study reflected that the banks flexibility-dominant seizing capability impacts intellectual capital. In contrast, the results did not support hypotheses H3c or H3d, since no statistical significance was found between seizing capability and relational or social capital components of intellectual capital (t = 1.064 and 1.713, respectively). Referring to the nature of intellectual capital and dynamic capabilities, indicated that dynamic capabilities are the firm's stable behaviours that can integrate and reconfigure its intellectual capital to sustain competitive advantages, thereby further developing innovation performance [125].

It is important to mention that the current findings demonstrated a significant role of seizing capability that focuses on dynamic strategic considerations. In addition, to provide further basic insight, it was shown that a micro foundation of seizing capability can collaborate with other banks to acquire highly valuable and successful knowledge capital [54]. Thus, it underscored the accumulation of capabilities embedded in banks posited to be directly related to innovation performance. There has to be a conscious strategy of seeking an advantageous position of intellectual capital. For example, human capital requires noting a bank's future efforts to adjust itself, like teamwork, employee creativity, employee loyalty, and job satisfaction, that enable it to create value. Being

innovative, seizing capability can help make good-decisions in the ever-changing business environment [89,122,123]. Thus, an appreciation of the impact of seizing capability on intellectual capital displays further enhancement of sustainable innovation performance.

The last hypothesis related to the dynamic capability of reconfiguring that showed that banks enhanced intellectual capital property could be considered a relevant value to acquire high innovation performance through the application of the dynamic capability of reconfiguring. The findings on reconfiguring capability indeed supported hypotheses H4a, H4b, and H4c (t = 6.199, 5.900, and 5.671, respectively). In addition, the comprehensive analyses illustrated that banks show dominant reconfiguring implications for human, structural, and relational capitals in Iraqi commercial banks. They also displayed some important relationships between intellectual capital and innovation performance moderated by reconfiguring capability. In contrast, the findings did not support hypothesis H4d, since no statistical significance was found between reconfiguring capability and social capital (t = 1.449) that could support the previous observations made by various researchers [92,100,120,121,126].

It is important to mention that the present findings displayed a considerable effect of reconfiguring capability that focused on dynamic strategic implementation between the concepts of this study. The present findings acknowledged reconfiguring as the capability that moderates higher intellectual capital impacts on banks' innovation performance. Thus, it highlighted that the accumulation of reconfiguring capability embedded in the bank directly relates to financial performance. Based on these revelations, it was concluded that conscious strategy must be taken to seek an advantageous position of intellectual capital. For example, the intellectual property of a bank requires noting the bank's future plans to adjust itself, including suppliers and customer relationships, knowledge property, market stability, and competitors that enable them to create value inside and outside the bank, in order to be innovative in the ever-changing business environment [39,127,128].

Based on the obtained results, the study indicated a method to enhance the intellectual property of Iraqi commercial banks, which seek to develop their own core competencies and boost their competitive advantage. The findings were supported by the literature reports mentioned in [59,75]. Thus, commercial banks are more likely to face various challenges wherever the control values totally dominate flexibility values that make dynamic capabilities credible mainly because of the characterisation of banks by the control value that engenders tight regulations of the operations, highly structured channels of communication, and limited ability to acquire innovation performance [92].

5.1. Research Contribution

The study made some valuable contributions to the current literature by identifying conclusive evidence to support the effect of intellectual capital on banking innovation performance in multiple dimensions. The contributions were attained by measuring the intellectual property of Iraqi commercial banks. Besides, the study detected high impacts of the antecedent factors of culture and trust on the level of intellectual property in the commercial banks of Iraq to attain the highest innovation performance. The study made some conclusive remarks in favour of the relationship between banks' intellectual capital and non-tangible assets. This in turn acted as a measure of the overall intellectual property of the bank and market valuation of these assets. The market valuation was found to highly rely on the traditional statistical measures for evaluating firms' performance, paying little attention to intellectual property's role. This disclosure is credited to the present research results in the context of Iraqi commercial banks.

Moreover, this study contributed to improving the present understanding of the dynamic capabilities in moderating the correlation between intellectual capital and innovation performance in the Iraqi commercial banks. This claim was theoretically supported through the implications of contingency- and resource-based view theories that open a new avenue of dynamic strategy for understanding the process of attaining innovation performance in the commercial banking sector at the multi-dimensional level. Specifically, this study

integrated the influential role of dynamic capability on banks' intellectual property into one model and reconciled what had previously been presumed to be stable. However, most of the previous studies are based on firms in developed nations, which may not be fully applicable to emerging economies [129]. However, this research focused on the common features of emerging economies such as underdevelopment, market-supporting institutions, weak laws, and rapid change in the context of developing countries in varied settings [2,130–132].

5.2. Research Implications

This work indicated an urgent need to focus on the value of intellectual capital in the financial sector, especially for the commercial banks of Iraq. The presence of intellectual capital can contribute to healthy innovation performance in the banking sector. In consequence, this study presented a useful strategy for practitioners, scholars, and policymakers to follow by examining the logical factors of intellectual property that can show reasons for the non-perfect relationship between intellectual capital and indications of innovation performance among banking institutions that highly impact national economic policy. In brief, the results and analyses exemplified some practical contributions to the main body of knowledge in the cited topic.

First, the study displayed that intellectual capital requires more focus on dynamic strategic planning in the commercial banking sector. It showed some important managerial implications on the integration between intellectual capital and dynamic capabilities, which indeed represented a causal connection between the two concepts. In addition, the research findings stressed that enhanced intellectual capital derived from dynamic capability accumulation could strongly contribute to innovation performance that has important practical contributions. Certainly, it is sensitive to minor external environment change, the ability to search for and interpret knowledge, the capacity to discover opportunities and threats, and decision-making based on demand and efficiency to reconfigure knowledge-based resources as necessary. The previous literature indicated that banks' performance is measured in terms of continuous innovation, and therefore retaining employees with high knowledge capital and skills rather than a large number of employees is more valuable for banks' sustenance.

Second, this study provided broad evidence from academics, local business leaders, and government officials to take a more active role in encouraging the development of intellectual properties or capital in their respective firms. It is asserted that the proposed conceptual framework would enable them to acquire valid and practical measurements to identify intellectual property in multi-dimensional relationships. This conceptualisation was incorporated with the findings, who stated that financial institutions could acquire specific standards for identifying and developing their strategic resources and capabilities [133].

Third, regarding dynamic contribution, sensing capability is usually disposed of with analytical tools to monitor and evaluate the research context and performance. Therefore, it is suggested that relevant cooperation, either on an academic or a business level, may be essential to sense the moment for possible success in commercial banking. Cooperation inside the bank, especially between the structural units, employees themselves, or among researchers and professional employees, can also contribute greatly to the pedagogies of this study. Seizing capability concentrating on strategic planning, detailed projection, and anticipation of the balance of a design infrastructure base, as well as inner processes towards innovation performance, can be very useful for improved innovation performance attainment. It can be concluded that banks' compatibility plays an immense role in maintaining seizing opportunity for higher innovation outcomes. Accordingly, such implications can strengthen the resolutions and decisions made for the subsequent changes in banks' intellectual property.

Finally, reconfiguring capability displays the core attention on intellectual knowledge management, wherein leadership skills and research context serve to equilibrate a

bank's strategy under highly changing circumstances. In this way, essential resources like knowledge production are assimilated or used differently in various stages and activities. Together, the present disclosure affirmed that intellectual capital-based success is the essential component and prerequisite in the annual reports of every firm. This may be one way of raising the profile of the intellectual capital usage in the banking sector as well as creating a uniform platform for investors to exploit the potential of intellectual capital property better. This claim can enable banks' management to devise successful and practical plans in the competitive markets, thus providing further elucidations to academicians about the dynamic correlation between intellectual capital property and innovation performance. For learners, it is necessary to analyse the integration between intellectual capital and dynamic capabilities to acquire a high level of innovation performance, especially in the banking sector.

5.3. Research Limitations and Recommendation for Future Studies

Despite several notable contributions made by this study, it has some limitations. These limitations are well thought out in this section, thereby acknowledging the trustworthiness of the present research findings. The first limitation is related to the conceptual design for maintaining a balance in diagnostic and interactive use in Iraqi commercial banks. Such design for different banking sectors concerning strategic and structural changes, overcoming the current environmental opportunities or threats that intensify the competition, and new regulation in the firm may not be completely applicable. Thus, an examination of these factors can offer a more comprehensive understanding of the mechanisms and conditions of the model fit in various banking sectors.

Besides, this study adopted a single research instrument represented by a survey questionnaire developed under controlled conditions that relied on the perception and opinions of the participants as the key informants. Though the research instrument was tested for reliability or validity, previous scholars indicated some bias when the participants assessed their own intellectual capital and innovation performance, consequently indicating the bank's performance. One can analyse the banks' annual reports to compare and verify the information provided by the respondents in the questionnaire for better legitimacy of the developed research framework.

In addition, the present conceptual model was examined in a cross-sectional rather than longitudinal technique, which may be unable to reflect the real causal relationship of the long-time effects for future direction. Thus, it may miss the value of time explaining, which is acknowledged under the limitations of the present study. Instead, the present conclusive evidence was in line with the theoretical arguments and various outcomes reported in the literature. Future research might embark on a longitudinal survey to determine the causality and interrelationships among the present research constructs that are pivotal to the financial sector's intellectual capital and innovation performance.

5.4. Conclusions

The present conceptualisation of innovation predicted some positive impacts on firms' productivity in competitive markets. In addition, it was shown that the improved innovation performance of banks could be maintained as empirical intellectual property. Two shortcomings of the previous studies were identified and a new framework was formulated to resolve these issues. This work evaluated the role of innovation performance on banks' growth through intellectual capital, which was seldom addressed by the previous researchers in transition economies. Following a resource-based view approach, the literature on identified firms' internal capacities for innovation in developing countries is limited. This limitation facilitated to make the introduction of innovation less likely, thus restricting them from attaining the required innovations. The previous literature did not fully explore the effects of dynamic capabilities on innovation, which is a more recent view. Based on these facts, it was argued that more specialised knowledge and resources might be found to suggest a shift towards an integrated innovation approach.

More importantly, the findings revealed that the emphasis lay upon the application of the dynamic capabilities, given the fact that it moderates the relationship between intellectual capital and innovation performance in the commercial banks of Iraq. Thus, it requires entrepreneurial management, which is related to the identification of new opportunities, as well as the recognition of problems and tendencies in commercial banks. This process enables management to modify and improve daily routines, mainly the strategic actions to transform the banks' ecosystem into a higher level of innovation [134]. This identification was shown in this study's findings, and supports the necessary reform through the dynamic practice of leadership skills in in the sensing, seizing, and reconfiguring stages [134]. Lastly, the results of this study showed harmony with the views demonstrated in most of the other reports in the literature on the complexity of measuring intellectual capital that influences innovation performance through the moderation of dynamic capabilities in the commercial banks of Iraq [71,72,135].

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Appendix A

Table A1. Measurement Items of Research Variables.

Variables	Code	Item Measurement
Human Capital	HC.1	Our bank employees have excellent intellectual skills.
	HC.2	The bank has a low employee turnover rate.
	HC.3	Our bank employees have excellent communication skills with their partners and leaders.
	HC.4	The employees in my bank can properly arrange their work and allocate resources.
Structural Capital	SC.1	Our bank has efficient and relevant information systems to support business operations.
	SC.2	Our bank has tools and facilities to support cooperation between employees.
	SC.3	Our bank has a great deal of useful knowledge in documents and databases.
	SC.4	Our bank invests a high proportion of its money in patent maintenance.
Relational Capital	SC.1	Our bank is interested in achieving the satisfaction and loyalty of customers and maintains good relationships with them.
	RC.2	Cooperation between our bank and its external stakeholders runs smoothly.
	RC.3	My enterprise maintains long-term relationships with its customers.
	RC.4	The enterprise effectively cooperates with experts and consultancies.
Social Capital	SOC.1	Our bank's employees have team skills in collaborating at work to identify and solve any problems.
	SOC.2	Our bank's employees show readiness to exchange ideas with people from different firms.
	SOC.3	Our bank's employees can use acquired experiences to solve current problems or raise new opportunities.
	SOC.4	Our employees are willing to share information and learn from others.

Table A1. *Cont.*

Variables	Code	Item Measurement
Innovation Performance	IP.1	Our bank has invested in creating more services in the last three years than other competitors.
	IP.2	Our bank is willing to develop new services for the local market.
	IP.3	Our bank constantly explores new distribution channels.
	IP.4	Our bank upgrades existing customers' services.
	IP.5	Our bank introduces improved products for local customers.
	IP.6	Our bank has improved the efficiency of the offered services in the last three years.
Sensing Capability	SEN.1	Our bank invests in looking for new business opportunities.
	SEN.2	Our bank periodically reviews the effect of changes in our business environment.
	SEN.3	There are periodic reviews of our services to ensure customers' satisfaction.
	SEN.4	Our bank invests in developing new services.
Seizing Capability	SEI.1	We are effective at transforming existing information into new knowledge.
	SEI.2	We are effective at utilising knowledge in new products.
	SEI.3	We carefully interrelate our actions to each other to meet changing conditions.
	SEI.4	We are effective at developing new knowledge that has the potential to influence product development.
Reconfiguring Capability	REC.1	Our bank employees have effective routines to identify, value, and import new information and knowledge.
	REC.2	We can successfully reconfigure our resources to come up with new productive assets.
	REC.3	Our bank effectively engages in resource recombination to better match our product/market areas and assets.
	REC.4	Our bank ensures that the output of our work is synchronised with the work of others.

Appendix B

Table A2. List of Commercial Banks in Iraq, Including the Number of Employees.

No	Bank Name	No. of Employees
1	Al-Huda Bank	274
2	Ashur International Bank for Investment	241
3	Babylon Bank Company	263
4	Bank of Baghdad	284
5	Basrah International Bank for Investment	265
6	Commercial Bank of Iraq	278
7	Credit Bank of Iraq	242
8	Dar Al- Salaam Investment Bank	265
9	Economy Bank for Investment and Finance	324
10	Erbil Bank for Investment and Finance	289
11	Gulf Commercial Bank	345
12	International Development Bank	293
13	Investment Bank	314
14	Iraqi Middle East Investment Bank	298

Table A2. *Cont.*

No	Bank Name	No. of Employees
15	Mansour Bank for Investment	274
16	Mosul Bank for Development and Investment	269
17	National Bank of Iraq	285
18	North Bank	302
19	Rt Bank	342
20	Sumer Commercial Bank	354
21	Trans Iraq Bank	346
22	Union Bank of Iraq	268
23	United Bank for Investment	298
24	Warka Bank for Investment and Finance	287
	TOTAL	7000

References

1. Popescu, C. Sustainability Assessment: Does the OECD/G20 Inclusive Framework for BEPS (Base Erosion and Profit Shifting Project) Put an End to Disputes Over The Recognition and Measurement of Intellectual Capital? *Sustainability* **2020**, *12*, 4. [CrossRef]
2. Xu, J.; Wang, B. Intellectual Capital, Financial Performance and Companies' Sustainable Growth: Evidence from the Korean Manufacturing Industry. *Sustainability* **2018**, *10*, 4651. [CrossRef]
3. Abdullah, D.F.; Sofian, S.; Bajuri, N.H. Intellectual capital as the essence of sustainable corporate performance. *Pertanika J. Soc. Sci. Humanit.* **2015**, *23*, 131–144.
4. Francioli, F.; Albanese, M. The evaluation of core competencies in networks: The network competence report. *J. Intellect. Cap.* **2017**, *18*, 189–216. [CrossRef]
5. Stacchezzini, R.; Florio, C.; Sproviero, A.F.; Corbella, S. An intellectual capital ontology in an integrated reporting context. *J. Intellect. Cap.* **2019**, *20*, 83–99. [CrossRef]
6. Yusoff, Y.M.; Omar, M.K.; Zaman, M.D.K.; Samad, S. Do all elements of green intellectual capital contribute toward business sustainability? Evidence from the Malaysian context using the Partial Least Squares method. *J. Clean. Prod.* **2019**, *234*, 626–637. [CrossRef]
7. Harlow, H.D. Developing a knowledge management strategy for data analytics and intellectual capital. *Meditari Account. Res.* **2018**, *26*, 400–419. [CrossRef]
8. Vătămănescu, E.-M.; Gorgos, E.-A.; Ghigiu, A.M.; Pătruț, M. Bridging Intellectual Capital and SMEs Internationalization through the Lens of Sustainable Competitive Advantage: A Systematic Literature Review. *Sustainability* **2019**, *11*, 2510. [CrossRef]
9. Siegel, L.R. Measuring and Managing Intellectual Capital in the US Aerospace Industry. Master's Thesis, Massachusetts Institute of Technology, Cambridge, MA, USA, February 2004.
10. Guo, M.; Herrmann-Pillath, C. Knowledge coordination, distributed cognition and transactional innovation in creating national competitive advantage: A theory-grounded case study of Chinese drone industry. *Distrib. Cogn. Trans. Innov. Creat. Natl. Compet. Advant.* **2017**. [CrossRef]
11. Abhayawansa, S.; Guthrie, J. Drivers and semantic properties of intellectual capital information in sell-side analysts' reports. *J. Account. Organ. Chang.* **2016**, *12*, 434–471. [CrossRef]
12. Opresnik, D.; Taisch, M. The value of Big Data in servitization. *Int. J. Prod. Econ.* **2015**, *165*, 174–184. [CrossRef]
13. Taştan, S.; Davoudi, S.M.M. A Research on the Relevance of Intellectual Capital and Employee Job Performance as Measured with Distinct Constructs of In-Role and Extra-Role Behaviors. *Indian J. Sci. Technol.* **2015**, *8*, 724. [CrossRef]
14. Rindermann, H.; Kodila-Tedika, O.; Christainsen, G. Cognitive capital, good governance, and the wealth of nations. *Intelligence* **2015**, *51*, 98–108. [CrossRef]
15. Deltorn, J.-M. Deep Creations: Intellectual Property and the Automata. *Front. Digit. Humanit.* **2017**, *4*, 3. [CrossRef]
16. Salvi, A.; Vitolla, F.; Giakoumelou, A.; Raimo, N.; Rubino, M. Intellectual capital disclosure in integrated reports: The effect on firm value. *Technol. Forecast. Soc. Chang.* **2020**, *160*, 120228. [CrossRef]
17. Mubarik, M.S.; Bontis, N.; Mubarik, M.; Mahmood, T. Intellectual capital and supply chain resilience. *J. Intellect. Cap.* **2021**. [CrossRef]
18. Salvi, A.; Vitolla, F.; Raimo, N.; Rubino, M.; Petruzzella, F. Does intellectual capital disclosure affect the cost of equity capital? An empirical analysis in the integrated reporting context. *J. Intellect. Cap.* **2020**, *21*, 985–1007. [CrossRef]

19. Mansoor, A.; Jahan, S.; Riaz, M. Does green intellectual capital spur corporate environmental performance through green workforce? *J. Intellect. Cap.* **2021**. [CrossRef]
20. Ali, M.A.; Hussin, N.; Abed, I.A.; Othman, R.; Mohammed, M.A. Analysis and Measurement of Human Capital Based on Multi-Criteria Decision—Making (MCDM) Technique. *Technol. Rep. Kansai Univ.* **2020**, *62*, 4799–4825.
21. Cabrilo, S.; Kianto, A.; Milic, B. The effect of IC components on innovation performance in Serbian companies. *VINE J. Inf. Knowl. Manag. Syst.* **2018**, *48*, 448–466. [CrossRef]
22. Bogers, M.; Chesbrough, H.; Heaton, S.; Teece, D.J. Strategic Management of Open Innovation: A Dynamic Capabilities Perspective. *Calif. Manag. Rev.* **2019**, *62*, 77–94. [CrossRef]
23. Asiaei, K.; Bontis, N.; Alizadeh, R.; Yaghoubi, M. Green intellectual capital and environmental management accounting: Natural resource orchestration in favor of environmental performance. *Bus. Strat. Environ.* **2021**, 1–18. [CrossRef]
24. Nevado, B.; Contreras-Ortiz, N.; Hughes, C.; Filatov, D. Pleistocene glacial cycles drive isolation, gene flow and speciation in the high-elevation Andes. *New Phytol.* **2018**, *219*, 779–793. [CrossRef]
25. Ali, M.A.; Hussin, N.; Abed, I.A. Dynamic Capabilities and Intellectual Capital: Developing New Quantitative Research Instrument. *Technol. Rep. Kansai Univ.* **2020**, *62*, 5293–5301.
26. Isanzu, J.N. The Relationship Between Intellectual Capital and Financial Performance of Banks in Tanzania. *J. Innov. Sustain.* **2016**, *7*, 28. [CrossRef]
27. Wendra, W.; Sule, E.T.; Joeliaty, J.; Azis, Y. Exploring dynamic capabilities, intellectual capital and innovation performance relationship: Evidence from the garment manufacturing. *Versl. Teor. Prakt.* **2019**, *20*, 123–136. [CrossRef]
28. Sveiby, K.; Edvinsson, L.; Malone, M.S. *Intellectual Capital*; HarperBusiness: New York, NY, USA, 2007; ISBN 0887308414.
29. Hsu, L.-C.; Wang, C.-H. Clarifying the Effect of Intellectual Capital on Performance: The Mediating Role of Dynamic Capability. *Br. J. Manag.* **2010**, *23*, 179–205. [CrossRef]
30. Huang, G.; Qian, Z.-W. Human Capital and Innovation Ability in Medical Education: An Empirical Study. *Eurasia J. Math. Sci. Technol. Educ.* **2017**, *13*, 5395–5403. [CrossRef]
31. Agostini, L.; Nosella, A.; Filippini, R. Does intellectual capital allow improving innovation performance? A quantitative analysis in the SME context. *J. Intellect. Cap.* **2017**, *18*, 400–418. [CrossRef]
32. Bini, L.; Dainelli, F.; Giunta, F. Business model disclosure in the Strategic Report. *J. Intellect. Cap.* **2016**, *17*, 83–102. [CrossRef]
33. Chen, J.; Zhao, X.; Wang, Y. A new measurement of intellectual capital and its impact on innovation performance in an open innovation paradigm. *Int. J. Technol. Manag.* **2015**, *67*, 1–25. [CrossRef]
34. Chung, S.-Y.; Tong, M.-S.; Sheu, J.-J.; Lee, F.-Y.; Sung, P.-H.; Chen, C.-J.; Yang, C.-H.; Wu, C.-J.; Yip, H.-K. Short-term and long-term prognostic outcomes of patients with ST-segment elevation myocardial infarction complicated by profound cardiogenic shock undergoing early extracorporeal membrane oxygenator-assisted primary percutaneous coronary intervention. *Int. J. Cardiol.* **2016**, *223*, 412–417. [CrossRef]
35. Peñalba-Aguirrezabalaga, C.; Sáenz, J.; Ritala, P. Marketing-specific intellectual capital: Conceptualization, scale development and empirical illustration. *J. Intellect. Cap.* **2020**, *21*, 947–984. [CrossRef]
36. Subramanian, A.M.; van de Vrande, V. The role of intellectual capital in new product development: Can it become a liability? *J. Oper. Manag.* **2019**, *65*, 517–535. [CrossRef]
37. Barkat, W.; Beh, L.S. Impact of intellectual capital on organizational performance: Evidence from a developing country. *Acad. Strateg. Manag. J.* **2018**, *17*, 6104.
38. Abhayawansa, S.; Aleksanyan, M.; Cuganesan, S. Conceptualisation of intellectual capital in analysts' narratives: A performative view. *Account. Audit. Account. J.* **2018**, *31*, 950–969. [CrossRef]
39. Pasamar, S.; Lopez-Cabrales, A.; Valle–Cabrales, R. Ambidexterity and intellectual capital architectures for developing dynamic capabilities: Towards a research agenda. *Eur. J. Int. Manag.* **2015**, *9*, 74. [CrossRef]
40. Ramadan, B.M.; Dahiyat, S.E.; Bontis, N.; Al-Dalahmeh, M.A. Intellectual capital, knowledge management and social capital within the ICT sector in Jordan. *J. Intellect. Cap.* **2017**, *18*, 437–462. [CrossRef]
41. Massaro, M.; Dumay, J.; Bagnoli, C. Where there is a will there is a way. *J. Intellect. Cap.* **2015**, *16*, 490–517. [CrossRef]
42. Ahuja, G. Collaboration Networks, Structural Holes, and Innovation: A Longitudinal Study. *Adm. Sci. Q.* **2000**, *45*, 425–455. [CrossRef]
43. Subramaniam, M.; Youndt, M.A. The Influence of Intellectual Capital on the Types of Innovative Capabilities. *Acad. Manag. J.* **2005**, *48*, 450–463. [CrossRef]
44. Edvinsson, L.; Malone, M.S. *Intellectual Capital: The Proven Way to Establish Your Company's Real Value by Finding Its Hidden BrainPower*; Piatkus: London, UK, 1997; ISBN 0749918500.
45. Petty, R.; Guthrie, J. Intellectual capital literature review. *J. Intellect. Cap.* **2000**, *1*, 155–176. [CrossRef]
46. Alford, P.; Duan, Y. Understanding collaborative innovation from a dynamic capabilities perspective. *Int. J. Contemp. Hosp. Manag.* **2018**, *30*, 2396–2416. [CrossRef]
47. Cabrilo, S.; Dahms, S. The Role of Multidimensional Intellectual Capital and Organizational Learning Practices in Innovation Performance. *Eur. Manag. Rev.* **2020**, *17*, 835–855. [CrossRef]
48. Dabić, M.; Lažnjak, J.; Smallbone, D.; Švarc, J. Intellectual capital, organisational climate, innovation culture, and SME performance: Evidence from Croatia. *J. Small Bus. Enterp. Dev.* **2019**, *26*, 522–544. [CrossRef]

49. McDowell, W.C.; Peake, W.O.; Coder, L.; Harris, M.L. Building small firm performance through intellectual capital development: Exploring innovation as the "black box. " *J. Bus. Res.* **2018**, *88*, 321–327. [CrossRef]
50. Arfah, A. Does Intellectual Capital have a Positive Effect on the e-Service Innovation of Public Employees? In Proceedings of the International Conference on Science, Technology & Environment (ICoSTE) 2019, Yogyakarta, Indonesia, 29–30 August 2019.
51. Rehman, W.U.; Ahmad, A.; Azeem, S. Intellectual Capital Driven Performance: Role of Innovative Performance and Business Process Capabilities. *Pak. Econ. Soc. Rev.* **2017**, *55*, 223–246.
52. Vézina, M.; Ben Selma, M.; Malo, M.C. Exploring the social innovation process in a large market based social enterprise. *Manag. Decis.* **2019**, *57*, 1399–1414. [CrossRef]
53. Luo, X.; Wang, H.; Raithel, S.; Zheng, Q. Corporate social performance, analyst stock recommendations, and firm future returns. *Strat. Manag. J.* **2014**, *36*, 123–136. [CrossRef]
54. Cleary, P.; Quinn, M. Intellectual capital and business performance. *J. Intellect. Cap.* **2016**, *17*, 255–278. [CrossRef]
55. Cohen, S.; Naoum, V.-C.; Vlismas, O. Intellectual capital, strategy and financial crisis from a SMEs perspective. *J. Intellect. Cap.* **2014**, *15*, 294–315. [CrossRef]
56. Amin, S.; Aslam, S. Intellectual Capital, Innovation and Firm Performance of Pharmaceuticals: A Study of the London Stock Exchange. *J. Inf. Knowl. Manag.* **2017**, *16*, 1750017. [CrossRef]
57. Buenechea-Elberdin, M.; Sáenz, J.; Kianto, A. Knowledge management strategies, intellectual capital, and innovation performance: A comparison between high- and low-tech firms. *J. Knowl. Manag.* **2018**, *22*, 1757–1781. [CrossRef]
58. Gimenez-Fernandez, E.M.; Sandulli, F.D.; Bogers, M. Unpacking liabilities of newness and smallness in innovative start-ups: Investigating the differences in innovation performance between new and older small firms. *Res. Policy* **2020**, *49*, 104049. [CrossRef]
59. Zhou, S.S.; Zhou, A.J.; Feng, J.; Jiang, S. Dynamic capabilities and organizational performance: The mediating role of innovation. *J. Manag. Organ.* **2019**, *25*, 731–747. [CrossRef]
60. Pedro, E.; Leitão, J.; Alves, H. Intellectual capital and performance. *J. Intellect. Cap.* **2018**, *19*, 407–452. [CrossRef]
61. Ansari, R.; Barati, A.; Sharabiani, A.A.A. The role of dynamic capability in intellectual capital and innovative performance. *Int. J. Innov. Learn.* **2016**, *20*, 47. [CrossRef]
62. Scafarto, V.; Ricci, F.; Scafarto, F. Intellectual capital and firm performance in the global agribusiness industry. *J. Intellect. Cap.* **2016**, *17*, 530–552. [CrossRef]
63. Beretta, V.; DeMartini, C.; Trucco, S. Does environmental, social and governance performance influence intellectual capital disclosure tone in integrated reporting? *J. Intellect. Cap.* **2019**, *20*, 100–124. [CrossRef]
64. Secundo, G.; Massaro, M.; Dumay, J.; Bagnoli, C. Intellectual capital management in the fourth stage of IC research. *J. Intellect. Cap.* **2018**, *19*, 157–177. [CrossRef]
65. Lirios, C.G. Specification a model for study of intellectual capital. *Behav. Stud. Organ.* **2020**, *3*, 1–4. [CrossRef]
66. Rubio-Misas, M. Ownership structure and financial stability: Evidence from Takaful and conventional insurance firms. *Pac. Basin Financ. J.* **2020**, *62*, 101355. [CrossRef]
67. Asiaei, K.; Barani, O.; Bontis, N.; Arabahmadi, M. Unpacking the black box. *J. Intellect. Cap.* **2020**, *21*, 809–834. [CrossRef]
68. Han, Y.; Li, D. Effects of intellectual capital on innovative performance. *Manag. Decis.* **2015**, *53*, 40–56. [CrossRef]
69. Khouroh, U.; Sudiro, A.; Rahayu, M.; Indrawati, N.K. The mediating effect of entrepreneurial marketing in the relationship between environmental turbulence and dynamic capability with sustainable competitive advantage: An empirical study in Indonesian MSMEs. *Manag. Sci. Lett.* **2020**, *10*, 709–720. [CrossRef]
70. Mehralian, G.; Nazari, J.A.; Ghasemzadeh, P. The effects of knowledge creation process on organizational performance using the BSC approach: The mediating role of intellectual capital. *J. Knowl. Manag.* **2018**, *22*, 802–823. [CrossRef]
71. Engelman, R.M.; Fracasso, E.M.; Schmidt, S.; Zen, A.C. Intellectual capital, absorptive capacity and product innovation. *Manag. Decis.* **2017**, *55*, 474–490. [CrossRef]
72. Gonzalez, R.V.D.; Melo, T.M. Linkage between dynamics capability and knowledge management factors. *Manag. Decis.* **2017**, 2256–2276. [CrossRef]
73. Jordão, R.V.D.; De Almeida, V.R. Performance measurement, intellectual capital and financial sustainability. *J. Intellect. Cap.* **2017**, *18*, 643–666. [CrossRef]
74. Ferreira, J.; Coelho, A.; Moutinho, L. Dynamic capabilities, creativity and innovation capability and their impact on competitive advantage and firm performance: The moderating role of entrepreneurial orientation. *Technovation* **2020**, *92–93*, 102061. [CrossRef]
75. Wilden, R.; Gudergan, S. The impact of dynamic capabilities on operational marketing and technological capabilities: Investigating the role of environmental turbulence. *J. Acad. Mark. Sci.* **2015**, *43*, 181–199. [CrossRef]
76. Benevene, P.; Kong, E.; Barbieri, B.; Lucchesi, M.; Cortini, M. Representation of intellectual capital's components amongst Italian social enterprises. *J. Intellect. Cap.* **2017**, *18*, 564–587. [CrossRef]
77. Chahal, H.; Bakshi, P. Examining intellectual capital and competitive advantage relationship. *Int. J. Bank Mark.* **2015**, *33*, 376–399. [CrossRef]
78. Teece, D.J.; Pisano, G.; Shuen, A. Dynamic capabilities and strategic management. *Strateg. Manag. J.* **1997**, *18*, 509–533. [CrossRef]
79. Jin, X.; Wang, J.; Chen, S.; Wang, T. A study of the relationship between the knowledge base and the innovation performance under the organizational slack regulating. *Manag. Decis.* **2015**, *53*, 2202–2225. [CrossRef]

80. Feiler, P.F.; Teece, D.J. Case study, dynamic capabilities and upstream strategy: Supermajor EXP. *Energy Strat. Rev.* **2014**, *3*, 14–20. [CrossRef]
81. Teece, D.J. Dynamic capabilities as (workable) management systems theory. *J. Manag. Organ.* **2018**, *24*, 359–368. [CrossRef]
82. Jørgensen, C.; Friis, O.U.; Koch, C. Transforming capabilities in offshoring processes. *Strat. Outsourcing Int. J.* **2015**, *8*, 53–75. [CrossRef]
83. Babelytė-Labanauskė, K.; Nedzinskas, Š. Dynamic capabilities and their impact on research organizations' R&D and innovation performance. *J. Model. Manag.* **2017**, *12*, 603–630. [CrossRef]
84. Koryak, O.; Mole, K.F.; Lockett, A.; Hayton, J.C.; Ucbasaran, D.; Hodgkinson, G.P. Entrepreneurial leadership, capabilities and firm growth. *Int. Small Bus. J. Res. Entrep.* **2015**, *33*, 89–105. [CrossRef]
85. Nah, S.; Kim, T.H.; Lee, K.M. Deep Multi-scale Convolutional Neural Network for Dynamic Scene Deblurring. In Proceedings of the 2017 IEEE Conference on Computer Vision and Pattern Recognition (CVPR), Honolulu, HI, USA, 21–26 July 2017; pp. 257–265.
86. Teece, D.J. Explicating dynamic capabilities: The nature and microfoundations of (sustainable) enterprise performance. *Strat. Manag. J.* **2007**, *28*, 1319–1350. [CrossRef]
87. Fischer, T.; Gebauer, H.; Gregory, M.; Ren, G.J.; Fleisch, E. Exploitation or exploration in service business development? *J. Serv. Manag.* **2010**, *21*, 591–624. [CrossRef]
88. Andreeva, T.; Garanina, T. Do all elements of intellectual capital matter for organizational performance? Evidence from Russian context. *J. Intellect. Cap.* **2016**, *17*, 397–412. [CrossRef]
89. Alonso, A.D.; Kok, S.K. Sensing, seizing and reconfiguring: Understanding wine tourism development in emerging economies through the dynamic capabilities approach. *Tour. Anal.* **2020**, *25*, 2–3. [CrossRef]
90. Hendry, L.C.; Stevenson, M.; Macbryde, J.; Ball, P.; Sayed, M.; Liu, L. Local food supply chain resilience to constitutional change: The Brexit effect. *Int. J. Oper. Prod. Manag.* **2019**, *39*, 429–453. [CrossRef]
91. Souza, C.P.D.S.; Takahashi, A.R.W. Dynamic capabilities, organizational learning and ambidexterity in a higher education institution. *Learn. Organ.* **2019**, *26*, 397–411. [CrossRef]
92. Choi, S.; Cho, I.; Han, S.H.; Kwak, Y.H.; Chih, Y.-Y. Dynamic Capabilities of Project-Based Organization in Global Operations. *J. Manag. Eng.* **2018**, *34*, 04018027. [CrossRef]
93. Furnival, J.; Boaden, R.; Walshe, K. A dynamic capabilities view of improvement capability. *J. Health Organ. Manag.* **2019**, *33*, 821–834. [CrossRef]
94. Tseng, S.-M.; Lee, P.-S. The effect of knowledge management capability and dynamic capability on organizational performance. *J. Enterp. Inf. Manag.* **2014**, *27*, 158–179. [CrossRef]
95. Guthrie, J.; Dumay, J.; Roos, G.; O'Connor, A. Government policy implications of intellectual capital: An Australian manufacturing case study. *J. Intellect. Cap.* **2015**, *16*, 364–389. [CrossRef]
96. Yavari, F.; Ohadi, F. Impact of Dynamic Capabilities on Knowledge Management Processes. *Int. J. Econ. Manag. Eng.* **2019**, *13*, 1210–1214.
97. Makkonen, H.; Pohjola, M.; Olkkonen, R.; Koponen, A. Dynamic capabilities and firm performance in a financial crisis. *J. Bus. Res.* **2014**, *67*, 2707–2719. [CrossRef]
98. Mishra, V.; Sharma, U.; Rawat, D.; Benson, D.; Singh, M.; Sharma, R.S. Fast-changing life-styles and ecotoxicity of hair dyes drive the emergence of hidden toxicants threatening environmental sustainability in Asia. *Environ. Res.* **2020**, *184*, 109253. [CrossRef]
99. Alrowwad, A.; Abualoush, S.H.; Masa'Deh, R. Innovation and intellectual capital as intermediary variables among transformational leadership, transactional leadership, and organizational performance. *J. Manag. Dev.* **2020**, *39*, 196–222. [CrossRef]
100. Cabrales, Álvaro, L.; Barrachina, M.D.M.B.; Diaz-Fernandez, M. Leadership and dynamic capabilities: The role of HR systems. *Pers. Rev.* **2017**, *46*, 255–276. [CrossRef]
101. Hernández-Linares, R.; Kellermanns, F.W.; López-Fernández, M.C. Dynamic capabilities and SME performance: The moderating effect of market orientation. *J. Small Bus. Manag.* **2021**, *59*, 162–195. [CrossRef]
102. Jabbouri, N.I.; Siron, R.; Zahari, I.; Khalid, M. Impact of Information Technology Infrastructure on Innovation Performance: An Empirical Study on Private Universities In Iraq. *Procedia Econ. Financ.* **2016**, *39*, 861–869. [CrossRef]
103. Thabit, T.H.; Mardini, M.M. The Relationship between Commercial Banks and Microfinance Institutions for Sustainable Development-Case of Iraq. In Proceedings of the 14th Scientific Conference, Al-Mansour University College, Baghdad, Iraq, 2–3 December 2015.
104. Al-Jubouri, M.A. The Management of Intangible Assets and their Role in Improving Financial Performance and Creating Value, Analytical Study of a Sample of Iraqi Private Banks. *Transylv. Rev.* **2019**, *17*, 12352–12364.
105. Muhannad Hussein, M. Creative accounting practices and their reflection on the reliability of the data published in the financial statements An applied study on a sample of commercial banks in Iraq. *AL-Dananeer Mag.* **2017**, *1*.
106. Adeleye, N.; Osabuohien, E.; Bowale, E.; Matthew, O.; Oduntan, E. Financial reforms and credit growth in Nigeria: Empirical insights from ARDL and ECM techniques. *Int. Rev. Appl. Econ.* **2017**, *32*, 1–14. [CrossRef]
107. Khafajy, N.A.; Alzoubi, H.M.; Aljanabee, A.K. Analyzing the Effect of Knowledge Management Processes in The Services' Quality in Iraqi Commercial Banks. *Int. Rev. Manag. Bus. Res.* **2016**, *5*, 302.
108. Kazem, E.H. Fair value and the effect of its use in creative accounting applications for the Iraqi commercial banking sector An empirical study of the Middle East Commercial Bank and Al-Mansour Bank. *Al Kut J. Econ. Adm. Sci.* **2016**, *1*.

109. Krejcie, R.V.; Morgan, D.W. Determining Sample Size for Research Activities. *Educ. Psychol. Meas.* **1970**, *30*, 607–610. [CrossRef]
110. Cavana Delahaye, B.; Sekaran, U. *Applied Business Research: Qualitative and Quantitative Methods*; John Willey & Sons: New York, NY, USA, 2001.
111. Hair, J.F.; Gabriel, M.; Patel, V. AMOS covariance-based structural equation modeling (CB-SEM): Guidelines on its application as a marketing research tool. *Braz. J. Mark.* **2014**, *13*, 44–55. [CrossRef]
112. Hair, J.F.; Black, W.C.; Babin, B.J.; Anderson, R.E. Always Learning. In *Multivariate Data Analysis*; Pearson: London, UK, 2013.
113. Byrne, B.M. Structural equation modeling with AMOS: Basic concepts, applications, and programming (multivariate applications series). *N. Y. Taylor Fr. Gr.* **2016**, *396*, 7384.
114. Allameh, S.M. Antecedents and consequences of intellectual capital. *J. Intellect. Cap.* **2018**, *19*, 858–874. [CrossRef]
115. Dost, M.; Badir, Y.F.; Ali, Z.; Tariq, A. The impact of intellectual capital on innovation generation and adoption. *J. Intellect. Cap.* **2016**, *17*, 675–695. [CrossRef]
116. Hamad, A.A.; Tuzlukaya, Ş.; Kırkbeşoğlu, E. The Effect of Social Capital on Operational Performance: Research in Banking Sector in Erbil. *Copernic. J. Financ. Account.* **2019**, *8*, 101–122. [CrossRef]
117. Maboudi, M.; Mobaraki, M.H.; Khavandkar, J. The Effect of Intellectual Capital on Innovation: A Case Study of an Institute for Advanced Studies in Basic Sciences Located in the Science and Technology Park of Zanjan. *J. Entrep. Organ. Manag.* **2015**, *4*. [CrossRef]
118. Teece, D.J. A dynamic capabilities-based entrepreneurial theory of the multinational enterprise. *J. Int. Bus. Stud.* **2014**, *45*, 8–37. [CrossRef]
119. Shiri, M.M.; Salehi, M.; Abbasi, F.; Farhangdoust, S. Family ownership and financial reporting quality: Iranian evidence. *J. Fam. Bus. Manag.* **2018**, *8*, 339–356. [CrossRef]
120. Mehta, A.M.; Ali, F.H.; Farooq, S.; Tariq, M. Dynamic Managerial Capabilities, Competitive Advantage and Business Performance: An Integrative Model, Literature Review and Research Propositions. *Acad. Strateg. Manag. J.* **2020**, *19*, 1–12.
121. Čirjevskis, A. The Role of Dynamic Capabilities as Drivers of Business Model Innovation in Mergers and Acquisitions of Technology-Advanced Firms. *J. Open Innov. Technol. Mark. Complex.* **2019**, *5*, 12. [CrossRef]
122. Khan, O.; Daddi, T.; Iraldo, F. Sensing, seizing, and reconfiguring: Key capabilities and organizational routines for circular economy implementation. *J. Clean. Prod.* **2021**, *287*, 125565. [CrossRef]
123. Kelliher, F.; Kearney, A.; Harrington, D. Managing innovation in the hospitality micro firm: A framework for sensing, seizing and reconfiguring dynamic capabilities. *Hosp. Soc.* **2018**, *8*, 159–178. [CrossRef]
124. Wagner, D.; Wenzel, M.; Wagner, H.-T.; Koch, J. Sense, seize, reconfigure: Online communities as strategic assets. *J. Bus. Strat.* **2017**, *38*, 27–34. [CrossRef]
125. Khan, O.; Daddi, T.; Iraldo, F. Microfoundations of dynamic capabilities: Insights from circular economy business cases. *Bus. Strat. Environ.* **2020**, *29*, 1479–1493. [CrossRef]
126. Farzaneh, M.; Ghasemzadeh, P.; Nazari, J.A.; Mehralian, G. Contributory role of dynamic capabilities in the relationship between organizational learning and innovation performance. *Eur. J. Innov. Manag.* **2021**, *24*, 655–676. [CrossRef]
127. Chiu, W.-H.; Chi, H.-R.; Chang, Y.-C.; Chen, M.-H. Dynamic capabilities and radical innovation performance in established firms: A structural model. *Technol. Anal. Strat. Manag.* **2016**, *28*, 965–978. [CrossRef]
128. Aminu, M.I.; Mahmood, R. Mediating Role of Dynamic Capabilities on the Relationship between Intellectual Capital and Performance: A Hierarchical Component Model Perspective in PLS-SEM Path Modeling. *Res. J. Bus. Manag.* **2015**, *9*, 443–456. [CrossRef]
129. Chowdhury, L.A.M.; Rana, T.; Akter, M.; Hoque, M. Impact of intellectual capital on financial performance: Evidence from the Bangladeshi textile sector. *J. Account. Organ. Chang.* **2018**, *14*, 429–454. [CrossRef]
130. Nimtrakoon, S. The relationship between intellectual capital, firms' market value and financial performance. *J. Intellect. Cap.* **2015**, *16*, 587–618. [CrossRef]
131. Tiwari, R.; Vidyarthi, H. Intellectual capital and corporate performance: A case of Indian banks. *J. Account. Emerg. Econ.* **2018**, *8*, 84–105. [CrossRef]
132. Nadeem, M.; Gan, C.; Nguyen, C. Does intellectual capital efficiency improve firm performance in BRICS economies? A dynamic panel estimation. *Meas. Bus. Excel.* **2017**, *21*, 65–85. [CrossRef]
133. Hameed, A.A.; Anwar, K. Analyzing the Relationship between Intellectual Capital and Organizational Performance: A Study of Selected Private Banks in Kurdistan. *Int. J. Soc. Sci. Educ. Stud.* **2018**, *4*, 39.
134. Al–Jinini, D.K.; Dahiyat, S.E.; Bontis, N. Intellectual capital, entrepreneurial orientation, and technical innovation in small and medium–sized enterprises. *Knowl. Process. Manag.* **2019**, *26*, 69–85. [CrossRef]
135. Tsou, H.-T.; Chen, J.-S. Dynamic capabilities, human capital and service innovation: The case of Taiwan ICT industry. *Asian J. Technol. Innov.* **2020**, *28*, 181–203. [CrossRef]