Investigating the Role of Alliance Knowledge Learning and Institutional Isomorphism in Strategic Alliance Performance of Green Supply Chain

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Manuscript submitted August 12, 2021; accepted September 3, 2021.
doi: 10.17706/ijeeeee.2022.12.1.16-29

Abstract: As the outbreak of COVID-19 pandemic disordered the majority of all global supply chains, alliance knowledge learning played a fundamental function during the crisis. This paper aims to identify the relationships of both alliance green knowledge learning and institutional processes with the alliance performance of the green supply chain. It also specifies the mechanism by which Institutional isomorphism affects green innovation performance, through alliance institutional processes and further to increase their competitive advantage in the global market. Data were collected with questionnaires distributed to Taiwanese companies that are listed on the stock market which produced 242 usable responses for the analysis, both multiple regression analyses and SEM were used to test the hypotheses. Our results showed that the majority of our hypotheses were supported, which is similar to the existing literature. The outcomes imply that institutionalization processes and alliance green knowledge sharing play salient functions in firm alliance performance while implemented in the context of green supply chain management. Furthermore, the results indicate that the concept of institutionalization and isomorphism are relevant and Mimetic pressures were found to be the most significant in both internal and external green SCM practices, while also providing instructive managerial implications through empirical evidence.

Key words: Alliance knowledge learning, green supply chain management, institutional isomorphism, alliance performance.

1. Introduction

The COVID-19 pandemic has drastically struck the globe not only in sessions of world health topics but also in supply chains from distinct industry sections that have been challenged to prevent impending disturbances on their flows strongly. The turn toward a manufacture model with less influence on the environment may make sure companies significant economic rises by stimulating innovations focused at diminishing environmental impacts whereas offering economic profits [1]. Building green innovations therefore is a win-win solution for the conflict between environmental protection and economic growth. In the green supply chain situation, disruptive technologies will specifically play a determinant function in seeking to sharpen performance of the supply chain processes and then enhance the strategic results. Strategic alliances are voluntary concerted inter-firm agreements planned to succeed in competitive advantage by allowing partners to share resources and hazards, acquire knowledge, and have access to markets [2], [3]. Prior strategy study has suggested that firms can develop abilities to handle any given task
successfully by adopting deliberate, firm-level processes in order to learn and cumulate knowledge related to managing that chore [4]. In the context of strategic alliance, the focal firm develops knowledge and skills related to strategic alliances, such as finding, developing, and managing alliances in order to maintain its success [5].

In the context of green supply chain management (SCM), strategic alliance’s premise is understandable as sharing knowledge and co-creating between different partners. Because of the fact that each becomes more dependent on the other, each both loses and gains power as a result. With effectual knowledge sharing, the strategic intention of inter-organizational collaborations for a sustainable competitive advantage is achievable by consolidating the abilities and connected organizational resources of all parties [6], [7]. This research is intended to build on this literature to build the idea of an ‘alliance learning mechanism’, which is a method involving articulation, codification, sharing, and internalization of alliance management intelligence [8]. Strategic alliances are typically utilized while the depended-on job integration between the partners is excellent and when the alliance business is characterized through decision-making urgency and uncertainty [9], [10]. Whereas most study on strategic alliances has focused on why they develop, as referred to above, and some have concentrated on how they must be organized [11] and when firms enter them [7], little study has noticed on the processes existing inside the alignment processes, and thus these topics stay unexplored.

A review of studies on the institutionalization of learning within organizations therefore implies that the processes through which knowledge is embedded at the organizational level need to be sufficiently interpreted. Theoretically, the contribution of this study is therefore to consider the interplay and relationships among all of these factors, which has not previously been considered. Specifically, this study will answer two research questions: To what extent are firms greening their supply chains and implementing green innovation strategies? And are there any significant direct and indirect links between green SCM, alliance green knowledge learning, institutional processes, institutional isomorphism and alliance performance? To justify our research objective, this study outlines and accentuates the role of institutional processes and institutional isomorphism in creating business groups and networks, and their possible role in illuminating corporate governance mechanisms for the post-COVID-19 period is formulated.

2. Literature Review and Hypotheses

2.1. Green SCM and Strategic Alliance

Green supply chains integrate the idea of "green" or "environmental awareness" into the entire supply chain to achieve a green manufacturing purpose and make full use of a green advantage related to external resources and enterprises with green competitiveness that contributes to establishing a strategic alliance. These concerted preparations depict new organizational structure seeking to accomplish organizational aims better by using collaboration than until contest [12], [13]. The literature, nevertheless, has likewise reported alliances' failure rate between 60% and 70% [14], [15], with high risk associated with inter-firm collaboration being identified as a primary reason [2], [16]. Strategic alliance's premise is understandable as sharing knowledge and co-creating between different partners in Green SCM. There is more to explore in the study on how companies arrange their technology-related strategic alliances [17], [18]. In the meantime, rare attention has been paid to the management mechanisms and trade-offs among alliance firms with different partners from the portfolio level viewpoint, particularly in emerging markets cases. This study therefore intends to build a more excellent understanding of the different learning mechanisms affecting collaborative green technology portfolios’ management.

2.2. The Effect of Green SCM on Alliance Knowledge Learning Mechanisms
Kale & Singh conceptualize the idea of an ‘alliance learning processes’ in strategic alliances. In this process, partners take deliberate attempts to learn, cumulate, and leverage alliance management intelligence [8]. Our research indicates that the transfer of managerial knowledge from an alliance entity back to the parent firm is difficult to achieve and often unsuccessful. A context in which vicarious learning is made easier and boosted is provided by alliance. Actually, it has been advised that it is their knowledge learning characteristics that is the reason for their existence [19]. Few researchers, nevertheless, have tried to broaden organizational learning theory to an inter-organizational level [20]. Sharing and alliance green knowledge acquisition is as a result conceptualized as a joint campaign in which two companies strive to generate more value in collaboration than they would create separately or with other partners. As a multidimensional, it is dealt with construct with multiple aspects, that embracing joint sense-making, green knowledge integration and green relationship learning [21], [22].

Green Relationship Learning. This research defines green relationship learning as firms joint learning campaigns in the field of environmental management occurring as a result of making information easier interchange, producing prevailing learning arenas, and bringing their conduct up to date into a shared relationship-domain-specific recollection to sharpen the probability or scope of potential relationship-domain --specific behavior [22], [23]. Green relationship learning is cultivable using a collaborative culture formulating exact purposes for learning campaigns and formulates relational trust [24].

Joint Sense-Making. In joint sense-making, members need to scan, attend, and formulate significance for environmental movements. Information that is related, objective, and explicit must be shared by buyers and suppliers so that they can examine their own contributions' validity, permitting them to discuss and measure thoughts [25], [26]. Joint sense-making depends on a sensing ability shown in exercises that let firms learn, sense, filter, and calibrate so as to discover new chances [27]. Therefore, the probability that knowledge integration will be effectual is increased because it aids buyers and suppliers to realize future problems by joint sense-making; actively detect, analyze, and sketch inferences from the failures and successes of their supply chain policies; create consistence among various kinds of decisions, creating ideas for fulfilling customer needs; and articulated strategies and objectives for each alliance partner.

Knowledge Integration. Relationship-specific recollections into which gained relationship-specific knowledge is integrated are developed by organizations. From a knowledge integration perspective, coordinating collaborative schemes is not convenient granted that it involves distributed knowledge's integration spanning cross-functional capabilities [28], [29]. Based on the unlike features and the supply chain alliance of industry, each node firm selects a suitable knowledge integration model to reach knowledge integration within the union and access innovation value so as to increase core competence [30].

2.3. The Effect of Alliance Learning Mechanisms on Institutional Processes and Alliance Performance

If alliance capability is to influence the success of a firm's alliance portfolio, it is necessary for a firm to be able to institutionalize its prior experiences and alliance-related knowledge [31], [32]. This study argues that the success of a strategic alliance depends on the success of the institutionalization of both parties in the newly developed organization. This process begins with experience accumulation, after which the resulting knowledge is articulated and ultimately codified [33]. According to the perspectives of Esmaeili, Khalili & Gholipour; in addition to implementation and internalization, this study argues that institutionalization process needs to be grounded by integration [34].

The pervasiveness of the internalization-externalization cycle over the five organizational learning procedures used to Nonaka's organizational knowledge creation process. Therefore, whether extra combinations socialization processes are implicated is subject to the organizational context and learning.
Furthermore, institutionalization is the process distinguishing organizational learning from group learning and individual as it is by using this process that notions are converted into the organization’s institutions, which are available to all employees [35]. This study’s objective is to explore, identify and characterize the institutionalization processes that result in the embedding of knowledge in inter-partner recollection. Kostova & Roth and Shaqrah and Maliki further argued that there are three dimensions which determine the success of the institutionalization process: implementation, internalization, and integration [36], [37]. According to Heimeriks et al. and Majuri and Halonen, organization-level learning makes sure that routinized activities exist by embedding the learning into the organization’s institutions; institutionalizing is created structures and routines by activities, mechanisms and predefined tasks [32], [38]. On the grounds of internalizing existent alliance management knowledge and best practices, managers dominate a knowledge-based aids them to substantially absorb any new know-how in the future, underlying related skills as a consequence to better administer alliances and boost success of the prevailing alliance [8]. Based on this, the following hypothesis is suggested:

\[ H_1: \text{The higher the level of alliance learning (green relationship learning, joint sense-making and green knowledge integration), the higher of alliance institutional process (implementation, internalization, and integration) to integrating mechanisms.} \]

Further examination shows that all three dimensions of the institutionalization processes have an effect on the success of an alliance. While the alliance applies positive knowledge and practices through formal principles that are established by both value creation, performance, or parties’ enhancement can be anticipated. Furthermore, alliance performance is a complex, systems-level concept becoming related merely while its component proportions are thoroughly known down to the functional level. Ince & Çemberci, Chu, and Cheung defined alliance performance and discovered two dimensions: perceived supply chain performance and relationship value [21], [23], [39]. Following up Lapière and Cheung, the “relationship value” construct in this research is defined as the difference between the profits and the sacrifice (the total costs, both monetary and non-monetary perceived through buyers/or suppliers) in terms of their expectations [21], [40], [41]. In the marketing literature and strategic management, firm performance generally has been assessed utilizing a subjective method on a Likert scale [42]. Thus, the integration of knowledge and practices can have positive effects on the value creation or performance of certain alliances. Summing up, the following hypothesis is proposed:

\[ H_2: \text{The higher the level of alliance institutional process to integrating mechanisms, the higher of alliance performance (relationship value and perceived supply chain performance).} \]

2.4. The Effect of Institutional Isomorphism on Institutional Process and Alliance Performance

Institutional isomorphism theory is defined as the similarity among firms that result from the institutional environment and argues that regularized organizational behavior is the product of notions, values and beliefs stem from the institutional environment [43]. The crucial status for isomorphism to happen is that the respective organizational settings sustain relationships and are subject to each other to adopt a form more suitable to their survival [44], [45]. Isomorphism process theorists affirm that within the equivalent organizational area, organizations track an evolutionary route from diversity to homogeneity. There exist three processes of institutional isomorphism: mimetic, coercive and normative forces.

Mimetic Pressure. Mimetic isomorphism occurs while organizations, facing uncertainty, copy other organizational trainings and aspects that are outstanding or perceived to be successful in the field [46], [47]. Munir et al. argued that mimetic behavior owns a conformity element, wherein organizations take contemporaneous exercises to legitimize their systems, processes and structures through seem in mastery [48]. Organizations may initiate contact with another one for the reason that the agents of the first perceive
those of the second to own significant information about technologies, manufacture techniques, socio-economic ties, and market chances that might allow the initiator to accomplish and attain its tasks more efficiently [49], [50].

*Coercive Pressure.* Coercive isomorphism is the homogenization of organizations that arise from compelling organizations to be in compliance with cultural expectations or with the requirements of another institution (informal and formal pressures like local culture or government regulations) on which they are resource dependent [51], [52]. These pressures are considered by companies as forces for persuasion or activity. The nature of asymmetric dependencies among organizations in extremely institutionalized interorganizational networks can subject companies to pressures to conform strategic behaviors to powerful constituents’ requirements, with the outcome that the firms’ strategies get homogenous.

*Normative Pressure.* The normative component shows beliefs, values, assumptions and norms about human nature and human behavior supported by individuals in a nation [36]. Normative isomorphism happens when organizations approve behavioral patterns that are deemed to be suitable in the institutional environment. Consequently, one of the most significant mechanisms for generating isomorphic behavior depends on education. A model of most excellent practices other institutions obtained by using one-to-one strategies' program may be imitated by institutions.

Mueller et al. and DiMaggio & Powell led to the conclusion that institutional pressures' ultimate result is to raise organizational structures' homogeneity in an institutional environment [43], [53]. Institutional theorists argue that economic explanations, as we have seen above, rely exclusively on institutional isomorphism or mimetism-driven by the rational belief that anew practice will enhance economic performance [54], [55]. This research has integrated the core elements of alliance performance-related theories, including the resource-based theory, institutional process, and knowledge-based theory, with creativity, learning and knowledge frameworks. Taken together, the following hypothesis is suggested by the above discussion:

\[ H_3: \] The higher the level of Institutional isomorphism (mimetic, coercive and normative pressures), the higher of alliance institutional process to integrating mechanisms.

\[ H_4: \] The higher the level of Institutional isomorphism, the higher of alliance (performance relationship value and perceived supply chain performance).

3. **Methodology**

3.1. **Research Methodology**

This article spreads out and examines theory drawing upon survey study with an imbedded design, which reduces risk of spurious effects due to analyses that are excluded but related levels [56]. Figure 1 indicates the study model and delineates the proposed relationships among alliance that learns institutional processes, alliance performance and mechanisms.

3.2. **Sample and Data Collection**

This study excludes companies in the services industry, which generates final population about 1,000 companies from a database obtained from Taiwan Stock Exchange and Over the Counter.

The sample was choosing from managers of corporate planning departments, R&D, and marketing departments who have joined in a special strategic alliance case’s implementation. The cover letter and questionnaire were mailed to Taiwan manufacturing subsidiaries and firms of multinational companies that operated in Taiwan. Respondents were used by us in managerial positions since their apprehension would reflect a larger portion of its relationship and the firm with the supplier. The respondents’ most common
job titles were purchasing's corporate director, supply chain director, and supply chain manager. Data were collected over a six-month period from the beginning of January, 2020 to the end of June, 2020, yielding 242 usable responses, with a response rate of 67.6% (67.6% out of 358 completed responses). Table 1 indicates the sample profile, which reflects the participating firms’ diversity, based on the number of employees, industry sectors, annual sales, times for alliance with current partner, and initiated this green alliance.

Table 1. Profile of the Sample

<table>
<thead>
<tr>
<th>Description</th>
<th>Frequency</th>
<th>%</th>
<th>Description</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of Industry</td>
<td></td>
<td></td>
<td>Establishment for</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electronics</td>
<td>85</td>
<td>35.1%</td>
<td>Less than 5 years</td>
<td>5</td>
<td>2.1%</td>
</tr>
<tr>
<td>Industrial Products</td>
<td>82</td>
<td>33.9%</td>
<td>6 - 10 years</td>
<td>66</td>
<td>27.3%</td>
</tr>
<tr>
<td>Chemicals/plastics</td>
<td>19</td>
<td>7.9%</td>
<td>11 - 15 years</td>
<td>95</td>
<td>39.3%</td>
</tr>
<tr>
<td>Pharmaceutical</td>
<td>24</td>
<td>9.9%</td>
<td>More than 15 years</td>
<td>76</td>
<td>31.4%</td>
</tr>
<tr>
<td>Others</td>
<td>32</td>
<td>13.2%</td>
<td>Total Employees</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Annual Sales</td>
<td></td>
<td></td>
<td>Partners’ Country of Origin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 50 million</td>
<td>39</td>
<td>117</td>
<td>Taiwan</td>
<td>95</td>
<td>39.3%</td>
</tr>
<tr>
<td>51 - 200 million</td>
<td>78</td>
<td>58</td>
<td>38.0%</td>
<td>92</td>
<td>38.0%</td>
</tr>
<tr>
<td>201 - 1,000 million</td>
<td>75</td>
<td>16</td>
<td>12.8%</td>
<td>31</td>
<td>12.8%</td>
</tr>
<tr>
<td>More than 1 billion</td>
<td>50</td>
<td>20.7%</td>
<td>9.9%</td>
<td>24</td>
<td>9.9%</td>
</tr>
<tr>
<td>Times for Alliance with Current Partner</td>
<td></td>
<td></td>
<td>Frequency of Alliance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newly established</td>
<td>27</td>
<td>92</td>
<td>Newly established</td>
<td>19</td>
<td>7.9%</td>
</tr>
<tr>
<td>1 - 3 times</td>
<td>94</td>
<td>31</td>
<td>28.1%</td>
<td>68</td>
<td>28.1%</td>
</tr>
<tr>
<td>4 - 6 times</td>
<td>80</td>
<td>24</td>
<td>55.4%</td>
<td>134</td>
<td>55.4%</td>
</tr>
<tr>
<td>More than 6 times</td>
<td>41</td>
<td>16.9%</td>
<td>8.7%</td>
<td>21</td>
<td>8.7%</td>
</tr>
<tr>
<td>Length of Alliance</td>
<td></td>
<td></td>
<td>Benefit from Alliance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than 1 year</td>
<td>41</td>
<td>68</td>
<td>Our company</td>
<td>62</td>
<td>25.6%</td>
</tr>
<tr>
<td>1-3 years</td>
<td>44</td>
<td>134</td>
<td>Both</td>
<td>64</td>
<td>18.71</td>
</tr>
<tr>
<td>4-6 years</td>
<td>59</td>
<td>21</td>
<td>Initiated this Green Alliance</td>
<td>130</td>
<td>53.7%</td>
</tr>
<tr>
<td>7-10 years</td>
<td>62</td>
<td>25.6%</td>
<td>Our company</td>
<td>89</td>
<td>36.8%</td>
</tr>
<tr>
<td>More than 10 years</td>
<td>36</td>
<td>14.9%</td>
<td>Our partner</td>
<td>57</td>
<td>16.67</td>
</tr>
<tr>
<td>Form of Alliance Management</td>
<td></td>
<td></td>
<td>Important for your Alliance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A dedicated division</td>
<td>88</td>
<td>36.4%</td>
<td>Both</td>
<td>92</td>
<td>38.0%</td>
</tr>
<tr>
<td>A mixed division</td>
<td>85</td>
<td>35.1%</td>
<td>R &amp; D alliance</td>
<td>69</td>
<td>28.5%</td>
</tr>
<tr>
<td>No special division</td>
<td>69</td>
<td>28.5%</td>
<td>Production alliance</td>
<td>118</td>
<td>48.8%</td>
</tr>
<tr>
<td>Stage of the Green Alliance</td>
<td></td>
<td></td>
<td>Distribution alliance</td>
<td>55</td>
<td>22.7%</td>
</tr>
<tr>
<td>Initial stage</td>
<td>44</td>
<td>18.2%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On-going stage</td>
<td>69</td>
<td>28.5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mature stage</td>
<td>86</td>
<td>35.5%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dissolve stage</td>
<td>19</td>
<td>7.9%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial stage</td>
<td>24</td>
<td>9.9%</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fig. 1. Research framework.
3.3. Survey Items

The items that were applied to evaluate variables of this research were adjusted from validated scales and fine-tuned based on feedback from the pilot test. Data from a survey sample were used to evaluate the reliability and validity of the instrument, and to examine the study model’s hypothesized relationships. The survey instrument’s all measures were built from the literature. All scales that were reported in this part were discovered to possess single-factor structures (PCA, Varimax). Unless expressed otherwise, response scales ranged from 1 (strongly disagree) to 7 (strongly agree).

<table>
<thead>
<tr>
<th>Construct</th>
<th>Factors</th>
<th>No. of Items</th>
<th>Factor Loading</th>
<th>Item-to-total Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alliance Knowledge Learning</td>
<td>Green Relationship Learning (GRL)</td>
<td>6</td>
<td>0.67-0.81</td>
<td>0.68-0.73</td>
</tr>
<tr>
<td></td>
<td>Joint Sense-Making (JSM)</td>
<td>4</td>
<td>0.74-0.85</td>
<td>0.58-0.74</td>
</tr>
<tr>
<td></td>
<td>Knowledge Integration (KI)</td>
<td>5</td>
<td>0.63-0.86</td>
<td>0.52-0.76</td>
</tr>
<tr>
<td>Alliance Institutional Process</td>
<td>Implementation (IMP)</td>
<td>3</td>
<td>0.73-0.84</td>
<td>0.65-0.78</td>
</tr>
<tr>
<td></td>
<td>Internalization (INN)</td>
<td>3</td>
<td>0.69-0.79</td>
<td>0.63-0.73</td>
</tr>
<tr>
<td></td>
<td>Integration (ING)</td>
<td>3</td>
<td>0.70-0.87</td>
<td>0.55-0.72</td>
</tr>
<tr>
<td>Institutional Isomorphism</td>
<td>Coercive Pressure (CP)</td>
<td>9</td>
<td>0.65-0.91</td>
<td>0.62-0.79</td>
</tr>
<tr>
<td></td>
<td>Mimetic Pressure (MP)</td>
<td>6</td>
<td>0.66-0.87</td>
<td>0.662-0.894</td>
</tr>
<tr>
<td></td>
<td>Normative Pressure (NP)</td>
<td>5</td>
<td>0.74-0.89</td>
<td>0.454-0.883</td>
</tr>
<tr>
<td>Alliance Performance</td>
<td>Relationship Value (RV)</td>
<td>9</td>
<td>0.69-0.88</td>
<td>0.525-0.870</td>
</tr>
<tr>
<td></td>
<td>Perceived Supply Chain Performance (PSCP)</td>
<td>7</td>
<td>0.68-0.92</td>
<td>0.786-0.839</td>
</tr>
</tbody>
</table>

The goodness-of-fit indices’ findings are revealed in Table 2. Some of the items in each of the construct were removed, as they were discovered to be devised in an improper manner. The factor loadings of each item in the four constructs are all over 0.65. Additionally, convergent validity was evaluated by using the average variance that was extracted (AVE) [57]. As Table 2 turns up, AVE ranged between 58% and 84%. All χ2 differences were significant, providing discriminant validity with support [58]. The factor loadings and reliability are shown in Table 2, and the discriminant validity correlation between variables is shown in Table 3.

<table>
<thead>
<tr>
<th>Construct</th>
<th>Mean</th>
<th>Stand. Dev.</th>
<th>Alliance Knowledge Learning</th>
<th>Alliance Institutional Process</th>
<th>Institutional Isomorphism</th>
<th>Alliance Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alliance Knowledge Learning</td>
<td>4.89</td>
<td>1.62</td>
<td>0.52</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alliance Institutional Process</td>
<td>4.67</td>
<td>1.49</td>
<td>0.33**</td>
<td>0.61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Institutional Isomorphism</td>
<td>4.99</td>
<td>1.69</td>
<td>0.27**</td>
<td>0.23**</td>
<td>0.54</td>
<td></td>
</tr>
<tr>
<td>Alliance Performance</td>
<td>5.22</td>
<td>1.80</td>
<td>0.38**</td>
<td>0.29**</td>
<td>0.24**</td>
<td>0.63</td>
</tr>
</tbody>
</table>

Note: ** represents that the correlations are significant at 0.01 or above, * represents that the correlations are significant at 0.05 or above.
Diagonal elements are the square root of the average variance extracted (AVE).

4. Results

Based on the former chapter, the results of factor analysis indicate that each study item gets a high factor loading and Cronbach alpha. This study thus uses the second order factor to examine the full model through adopting SEM. The structural model outcomes are shown in Figure 2 and the standardized regression weights and fit statistics for the structural model are summed up in Table 4. It is indicated that the
chi-square value of 476.84 with 217 degrees of freedom is acceptable at the 0.05 significance level. Besides, the GFI is 0.916, the AGFI is 0.927, and the RMSEA = 0.053. A good fit is indicated by these fit indices for this model. As fit's overall goodness is making a promise, it is furthered to further discover the significance and magnitudes of the path structural the model's coefficients.

5. Discussion

5.1. Summary of Results

Due to the COVID-19 disease pandemic, their most rigorous times which has never been found out before are being faced by green supply chains. Green supply chain management needs to be rethought in terms of its strategic alliance mechanisms to searching for more excellent robustness against sudden incidents. In this context, institution process mechanism and alliance knowledge learning become a suitable and well-timed strategy to be considered. However, it can help to improve environmental chain integration if information delivery quality is timely and accurately enhanced. As a multi-dimensional construct with multiple aspects including information that shares, joint sense making, and knowledge integration, this is discussed. Joint sense-making invokes the degree and degree of green relationship learning and information sharing, as well as to knowledge's integration into memory of a firm. Hence, beneficial performance outcomes will be led to by development of knowledge that shares in green supply chain relationships, as discovered in this research. The value of integrating knowledge integration in terms of sharpening supply chain performance is indicated by the outcomes from examining the second research hypothesis. The importance of inter-firm knowledge that shares on increased relationship value is underscored by the findings. Linked companies within supply chains share that same responsibility in coordination of value
that understands, creation and delivery over the entire supply chain [21], [59]. Ince & Çemberci likewise researched knowledge’s result sharing on green supply chain performance and implied that the function of knowledge that shares on the supply chain's effectiveness is very significant [39]. Therefore, support is provided by the hypothesized relationship and the empirical discoveries in this research to inter-firm knowledge that shares and chain is supplied by green SCM as antecedents to higher alliance performance in the green.

Secondly, the findings exhibit that strategic alliance knowledge learning has a significant positive effect on the alliance institutionalization process and green alliance performance. These findings are concordance with the proposition of Martínez-Noya & Narula and Drewniak & Karaszewski that alliance competence plays a prominent role in the alliance process as well as on alliance success [18], [60]. Therefore, when a firm lacks alliance competence, it might have difficulty with managing its current alliance and may in turn generate less benefit from it [61]. Furthermore, the focal firm will infuse itself with new knowledge and skills through implementation, internalization [36] and integration that will facilitate the overall success of the alliance. Moreover, by learning from its partners, it will complement its own lack of resources with specific resources and thus will maintain its competitive advantage in the market [2]. This study’s determination is to explore, identify and characterize the institutionalization processes leading to the embedding of knowledge in inter-partner recollection. On the grounds of internalizing best practices and existent alliance management knowledge, managers possess a knowledge base helps them to better absorb any new know-how underlying related skills consequently in order to better manage alliances in the future [8], [62] and rise the prevailing alliance’s success. Alliance learning's impacts and institutionalization processes on alliance accomplishment will be therefore improved if they have higher relationship quality, in turn, raising alliance success.

Finally, in this study was debated those isomorphic pressures (coercive, normative and mimetic) would craving firms to compete in regard to green supply chain management. Mimetic pressures were amazingly discovered to get a negative effect on institutional isomorphism, implying that alliances do not follow the leads of rivals adopting proactive 'green' strategies. These outcomes show that external forces may likewise take that same role in the green supply chain adoption decision. Coercive pressures’ threat was alternatively discovered to be related with institutional isomorphism, implying that the green supply chain can substantially affect the alliance institutional process. Green supply chain management ought to therefore concentrate on encouraging alliances with limited institutional processes to use more practices and to utilize them to a greater degree to achieve better alliance results. The normative pressure from others in the industry is in a similar way a factor in this decision. Permission or disapproval from those in the industry social network is a role of the green supply chain decision. Support is provided by normative pressure from major customers in building a green SC strategy because it will make it easier in these significant relationships' development. Those firms that did not reply quickly to green supply chain development shortly discovered that business as usual had transferred.

5.2. Implications and Future Research

There are two main practical implications of our results. First, though the associated and pandemic social and economic crises have indeed resulted in the accelerated emergence of an ecosystem of novel alliances, there are several significant gaps. The most visible gap is the lack of alliances involving ties. Some of the prerequisite footsteps are depicted by this model in organizational learning's institutionalization. This article investigates alliance that learns that happens beyond a firm's boundaries, particularly in a supply chain's context in preference to a cross-sectional analysis of a strategic partnership or joint venture [63], and also offers a model of organizational learning in a supply chain context that can be used to assess an organization's capability to acquire, assimilate, transform and exploit new knowledge. Knowledge has
the potential to turn institutionalized and embedded in organizational memory, after these prerequisite processes have existed.

The second practical implication is the need for isomorphism and institutionalization in the relationship between alliance partners. The three isomorphic pressures that were confronted by institutions have been investigated by a lot of research studies, as dealt with by DiMaggio & Powell [43]. Firms use these types of pressure as motivation to legitimize themselves to their industry, suppliers, and customers [64]. Most have examined at by mimetic pressures, but none (particularly in marketing) have taken into consideration the fact that all three forces can contribute to the decision-making of an institution [65]. As each is distinct, each possesses its own impact on the selections that are created by a firm. Former studies have demonstrated that institutional pressures are more significant in supply chain practices' adoption than strategic or structural considerations [66], [67]. This study's contribution is to offer empirical testament of the elaborate mechanisms through which these institutional pressures perform an operation. In considering what is steering firms to adopt green supply chain management, firms are motivated to use green supply chain management as a marketing strategy for the reason that they view the achievement their competitors are experiencing. Firms will be driven by uncertainty in the environment most probably to imitate successful competitors. Those that were most potential to adopt will adopt the same types of strategies as those of their competitors most in all probability. Coercive pressures are also reached to possess an effect on the intent to approve green supply chain management through a firm, in terms of customers and competitors. Support is provided by external pressure from major customers in building a green SCM innovation strategy, as it will assist in these important relationships' development.

Future research on the relationship between governments within alliances and governments directing the link between alliances and business/environmental needs is crucial to react to the prevailing crisis and to develop resilient systems in the decades to come. That is to say, do pairs of firms whose descriptions indicate that an acquisition would be a more suitable governance selection for their resource combination experience better performance results and more convenient implementation than those pairs of firms making what we would describe as the improper option? Future research that will examine this important topic is welcomed by us.

Conflict of Interest

The authors declare no conflict of interest.

Author Contributions

Kuo-Ming Chu and Hui-Chun Chan conducted the research; Kuo-Ming Chu and Chi-Fang Liu analyzed the data. We wrote the paper together. All authors had approved the final version.

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