Managing Knowledge in Tourism Industry: A Nonaka's SECI Model

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Abstract— With the uncertainty in the environment, most sectors have experienced the significance of knowledge creation and sharing during the COVID-19 pandemic. Tourism is one of the most affected sectors during the pandemic, searching for knowledge creation and sharing to cater to tourism business dynamics. Nonaka's SECI model has been used for creating and sharing knowledge since its introduced in 1995. The Japanese concept of the shared commonplace, known as "ba", is crucial for this spiral process of SECI. The "ba" could play a significant role in Socialization and Externalization in the SECI model. This study aims to explore the adoption of the SECI model for knowledge creation and sharing, in the recent past study, exclusively in tourism-related studies. Therefore, fifty empirical studies in the last ten years were used for this study. SECI model has contributed to transferring intangible knowledge into valuable knowledge assets in the tourism industry in various countries by promoting and sustaining it in the tourism business. The study found that previous studies have hardly discussed the importance of the "ba" concept.

Keywords— SECI Model, Knowledge Management, 'ba' Concept, Tacit Knowledge, Tourism, Hospitality Industry, Knowledge Sharing.

I. INTRODUCTION

The global impact of the worldwide tourism industry due to the COVID-19 pandemic indicated uncertainty in the business environment [12],[23] by hard-hitting the industry risking 100 million direct tourism jobs [56]. Figure 1 illustrates the catastrophic damage caused by the COVID-19 pandemic to the global tourism industry by locking down international tourists by 74% in 2020.
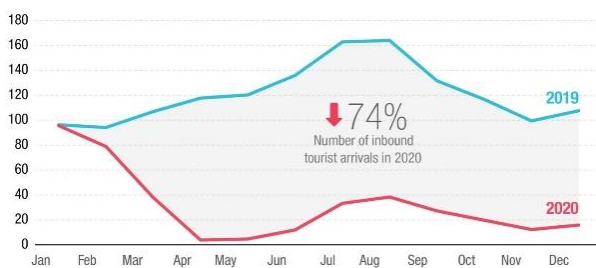

Figure 1. International tourist arrivals (in thousands)
Source (UNCTAD, 2021)

Global tourism has been damaged significantly by the COVID-19 pandemic by sudden, unforecastable, determinantal changes beyond the control of the tourism industry [57]; however, some studies show that by enhancing innovative capabilities, firms could recover the impact during and post the COVID-19 pandemic crisis [15], [24].

Innovative services and products are the key ingredients to use in a rapidly changing business environment [32]. Knowledge is dynamic and gives different meanings in different contexts [42]. In the 20th century, knowledge management became a hot topic in management [17] because knowledge has become an essential strategic tool for organizations to achieve competitive advantage in a rapidly changing business environment [38]. Tourism is one of the business sectors based on innovative products and services [12], [47], [6]. Knowledge creation, sharing, and acquisition in tourism are complicated and sometimes unorganised [32]. Knowledge management is crucial in tourism because it produces innovation in the tourism industry [60].

The knowledge can create innovative products or services that meet the competitive expectations of the Customers [21]. The ability to exploit customer knowledge [30] and employees' tacit knowledge could create innovative products or services [24],[44],[6],[40]. Tacit knowledge is the crucial ingredient that makes innovative products and services [48]. Tacit knowledge is hard to capture and convert as explicit; hence tacit remains in individual experience and non-tangibly (beliefs, cultural values, perspective etc.) because knowledge generation occurs in different tourism sectors [4], [39].

Knowledge Management can be a strategic tool for the tourism industry to compete with rivals and emerging markets [24],[38] As Michele Polanyi expressed, we do not know how to say all we know [46]; therefore, managing knowledge is essential in any industry. Businesses should not drive only by analysing the past ("much like driving a car using only the rear-view mirror"); in the rapidly changing and uncertain environment, organisations must dynamically assess their business environment and trigger knowledge-creation operations that align with their future [57],[28].

Knowledge Creating and Sharing

The new knowledge will be created during the transformation of Tacit to Explicit Knowledge [59], [41]. Explicit knowledge can be shared between individuals through manuals (physical or digital) or specifications. Tacit Knowledge is gained through experience, emotions, performance, ethics etc. [6],[40]. Collecting tacit and explicit knowledge success depends on knowledge management [53].

Knowledge needs to be organised as a strategic tool used at the right time and place unless knowledge remains a silent intangible asset [19],[40]. The epistemology process of converting Tacit to Explicit knowledge and ontological

dimension for creating and sharing knowledge throughout the different organisation ontological layers were introduced by [39]. Knowledge creation is to generate new knowledge for the future by ontologically and epistemologically view of humanity [28]. The Japanese "ba" concept is a shared place that persistently and dynamically moves to create, share or utilise knowledge in the physical or virtual place [41],[40]. Many studies have highlighted that tourism is one of the sectors that is becoming increasingly knowledge-intensive and how the tourism sector can benefit by acquiring internal and external knowledge [24].
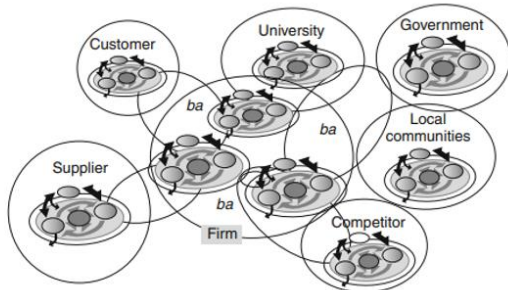

Figure 2. Organization as the organic configuration of *Ba*: the knowledge ecosystem
Source: Nonaka et al., 2008

The shared commonplace or "ba" are the places where it creates interaction among people, the knowledge that creates is from the relationships of the employees, clients, suppliers, local communities, rivals, government etc., at its respective ecosystem [41]. This commonplace or "ba" can be physical, virtual or mental; these three places are embedded with knowledge in common where that can be accessed by the experience of individuals or from the experience of other individuals [10], [5],[43],[40]. The "ba" is where the spiral process of knowledge occurs through networking between people, relationships, and the surrounding context when something occurs [10]. A "ba" is not limited to the organization; "ba" can create across the organisation's boundaries by forming a joint venture with key suppliers or alliances with rivals and building communicative relationships with clients, local communities, universities, or critical stakeholders, as shown in figure 2 [41].

The knowledge conversion process is the creation and utilization communicating explicit and tacit knowledge [22],[39]. Four modes of the spiral model of SECI (Socialization, Externalization, Combination, Internalization) for knowledge creation were introduced by Nonaka and Takeuchi in 1995 for converting tacit knowledge to explicit knowledge, and its spiral process of converting knowledge between both types to create new knowledge [41],[39]. SECI process will trigger the dynamic interaction between tacit and outside information [49]. The spiral process of the SECI model creates new knowledge and further expands through the interaction between tacit and explicit [20],[41],[39]. In 1998, Nonaka and Konno defined four types of "ba": Originating, Interacting, Cyber, and Exercising are associated with the SECI spiral process.
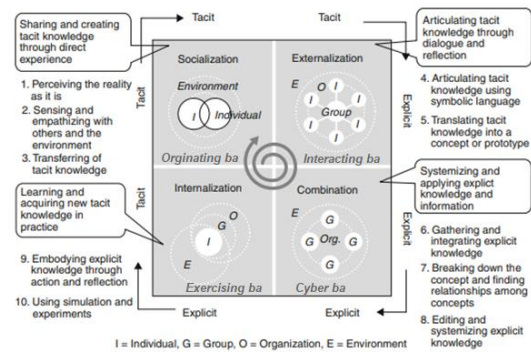

Figure 3. The knowledge-creating process with the four characteristics of ba
Source: (Nonaka et al., 2008; Nonaka & Konno, 1998; Nonaka & Takeuchi,1995)

The SECI model spiral process begins with socialization at the personal level and gradually moves to the group level with externalization, and after the combination in the organization again, its moves to the personal level by internalization [42]. The SECI model can create knowledge in the organisation using these modes for continuous conversation between tacit and explicit knowledge under the "ba" concept that facilitates communication through these four modes [2]; [42]. This model emphasises the significance of the "ba" that represents the knowledge perspective and promotes the right environment within the firm [14].

Socialization

[39] introduced socialisation as the first mode of their SECI model. Tacit knowledge is not easy to acquire, and the organisation needs formal and informal social interaction by creating space to share experiences in the same environment or time [41]. During the socialisation process, by interacting or actively participating with individuals or members, individual tacit knowledge will be passed as a shared experience to the group or individual(s) as new tacit knowledge [24],[47],[41],[39]. The socialization process begins with mutual and close interaction with the Tacit knowledge holder and the knowledge seeker most of the time, and it happens outside the world ("ba") [24],[39].

Externalization

During this process, tacit knowledge is articulated by dialogues and reflection that need to create explicit knowledge using language, models, images and other modes of expression to share with groups [41],[39]. Externalization creates a learning environment within the organisation for transfusing collected knowledge more effectively to others when collected knowledge even remains tacit [47],[39]. Externalization could be considered a research and development team that tries to understand the stakeholders in the organisation of their tacitly realised expertise or the form of their product concept at forming new products or services [49],[41].

Combination

The process that combines, edits or further processes or breakdown up to the concept levels, the knowledge collected from within or outside the organisation and disseminated new,

more complex and systematic explicit knowledge throughout the organization is called the Combination process [27],[58],[41],[39]. The combination process can be enriched by the technology where technology allows the large crowd to access the information concurrently online such as through social media, to collect conversations, comments feedback from clients or other stakeholders [47],[49],[41].

Internalization

It is hard to create explicit knowledge by reading a book, and one needs to practice or experience the knowledge that is grasped in its context. During the internalization process, explicit knowledge actualizes across activities, reflection, and rehearsal to internalize the explicit knowledge and enhance the tacit knowledge [41],[39]. With transferring explicit knowledge into tacit knowledge, knowledge will be internalized and formalized, and a standard course of action; therefore, teams or individuals or trainees should be given adequate time to possess basic knowledge and then enrich their knowledge with confidence to perform their job [47],[49].

II. METHODOLOGY

The literature review is the method used for this study. It used Google Scholar with the keywords of SECI Model, Knowledge Management, 'ba' Concept, Tacit Knowledge, Tourism, Hospitality Industry and Knowledge Sharing. Further, a search with keywords is carried out individually and combinations of the keywords. The published articles related directly and indirectly to the tourism industry in the last ten years that discussed adopting the SECI model were screened. Further, articles not in the English language were omitted.

Empirical Studies

In this study, fifty empirical studies were chosen that adopted fully or partially of SEIC model. Accordingly, among the fifty studies, different authors used the SECI model adaptation in the tourism industry in 24 countries within the last ten years, as illustrated in Table 1. Most contributing studies are from Indonesia, and six were conducted during the last ten years in Thailand. Four studies have been conducted in Malaysia and three studies in Indonesia. Most of the studies were carried out in 2019 (Table 2).

Table 2 indicates that most of the studies were carried out in 2019, and declining in the studies indicated in 2020. However, there are substantial studies carried out in 2021 and 2022. Moreover, the distribution of the studies in Table 2 highlighted that thirteen studies were based on the Hotel sector, and eleven were based on the tourism sector. However, [8],[52] have conducted about adopting the SECI model for cultural tourism. There are two studies carried out based on tourists; accordingly, [16] conducted a study based on an ontology-based knowledge Management system by adopting the SECI model for knowledge creation and another study conducted to find the Embedded knowledge of Halal that reside in Muslim tourist in Japan by [60]. Further, among the fifty items, at least one study was carried out using the SECI model in Marine tourism [23], Sport Tourism [58], Health Tourism [29], Beer

Tourism [6], Wine Tourism [59], Health Tourism (Lestari & Salim, 2019).

TABLE 1: Number of Empirical Studies based on Country wise

Country	No of Studies
Indonesia	7
Thailand	6
Malaysia	4
Greece	3
Sri Lanka	3
Nepal	2
Spain	2
New Zealand	2
China	2
Brazil	2
Turkey	2
Japan	2
Australia	2
Jordan	1
Portugal	1
Ghana	1
Ghana	1
Slovakia	1
Nigeria	1
Columbia	1
Norway	1
Iran	1
Poland	1
Kenya	1
Grand Total	**50**

Only nine out of fifty studies discussed the "ba" concept for SECI model adaptation (Table 3). [6] conducted a study on beer tourism by gathering the feedback of the consumers/customers using SECI model socialization using the "ba" concept to select the production of styles of beers. The "ba" concept has highlighted the SECI model for studying the contribution of fishermen to tourism [10]. The role of the SECI model and the "ba" concept has been emphasized in the event services in the tourism sector [14].

The Originating "ba" that plays a critical role in the use of the SECI model for knowledge-creating and facilitating the common shared place ("ba") has been identified as an effective way of socialisation where the tacit knowledge will acquire in the tacit form in this phase, either through traditional communication method or technology-based communication or a mix of that could be taken place [44], [6]. Likewise, interacting "ba" create a shared common place in the externalization process where the "ba" facilitates very crucial knowledge to be gathered explicitly from stakeholders and customers ([10],[6]).

III. CONCLUSION

The recent impact of the COVID pandemic has alerted most business sectors to focus on knowledge-based products and services to compete in the uncertain environment in business. Tourism is one of the rapidly changing industries that affect business environmental uncertainty. Therefore, as most studies discussed, this industry model depends on knowledge since it is a dynamic business. As highlighted in studies, knowledge can create innovative products and services necessary for the tourism industry. The knowledge can be used to promote

tourism in public and private sectors as direct or indirect contributions to the tourism industry. There has been significant adoption of the SECI model in the tourism industry before the COVID pandemic, and it has been further adopted during and after the pandemic. The SECI model has been used in tourism sectors since it was introduced in 1995, and still, it is accepted in the tourism industry.

TABLE 2: List of Empirical Studies

Nos	Year	Country	Focused on	Model/ Concept	Source
1	2022	Brazil	Fishermen's contribution to Tourism	SECI, Ba	[10]
2	2022	Ghana	Restaurant Industry	SECI	[27]
3	2022	China	Rural tourism actors	SECI	[32]
4	2022	New Zealand	Wine Tourism	SECI	[59]
5	2022	Greece	Tourism Sector	SECI	[61]
6	2022	Greece	Tourism Sector	SECI, Ba	[11]
7	2022	Indonesia	Cultural Tourism	SECI	[8]
8	2022	China	Hotel Sector	SECI	[48]
9	2021	Thailand	Hotel sector	SECI	[47]
10	2021	Indonesia	Educational Tourism	SECI	[12]
11	2021	Indonesia	Marine Tourism	SECI	[23]
12	2021	Turkey	Hotel Sector	SECI	[24]
13	2021	Poland	Event Services	SECI, Ba	[14]
14	2021	Iran	Tourism Sector	SECI	[21]
15	2021	Slovakia	Cultural Tourism	SECI	[52]
16	2021	Japan	Hotel Sector	SECI	[37]
17	2020	Malaysia	Small Hotels sector	SECI	[30]
18	2020	Indonesia	Cultural Tourism	SECI	[51]
19	2020	Thailand	Tourists	SECI	[16]
20	2020	Kenya	Tourism Sector	SECI, Ba	[44]
21	2020	Columbia	Tourism Sector	SECI, Ba	[20]
22	2019	Sri Lanka	Hotel Sector	SECI	[26]
23	2019	Jordan	Hotel Sector	SECI	[63]
24	2019	Malaysia	Tourist Resorts	SECI	[31]
25	2019	Greece	Hotel sector	SECI	[11]
26	2019	Nepal	Tourism Sector	SECI	[33]
27	2019	Brazil	Tourism Sector	SECI	[50]
28	2019	Ghana	Tourism Sector	SECI, Ba	[2]
29	2019	Nepal	Tourism Sector	SECI	[64]
30	2019	Indonesia	Tourism Village	SECI	[65]
31	2019	Indonesia	Health Tourism	SECI	[29]
32	2018	Malaysia	Hotel Sector	SECI	[49]
33	2018	Thailand	Nature-based Tourism	SECI	[53]
34	2018	Portugal	Hotel Sector	SECI	[19]
35	2017	Australia	Beer Tourism	SECI, Ba	[6]
36	2017	Australia	Travel Forum Threads	SECI	[18]
37	2017	Japan	Tourists	SECI, Ba	[60]
38	2017	Thailand	Tourism Sector	SECI	[25]
39	2017	Malaysia	Family-Owned Hotels	SECI	[36]
40	2017	Indonesia	Restaurants and Cafe	SECI	[66]
41	2016	Spain	Hotel Sector	SECI	[7]
42	2016	Thailand	Online Travel Agencies	SECI	[9]
43	2016	Sri Lanka	Hotel Sector	SECI	[1]
44	2015	Thailand	Community-Based Tourism	SECI	[54]
45	2015	Sri Lanka	Hotel Sector	SECI	[45]
46	2015	Spain	Tourism Sector	SECI	[34]
47	2015	Nigeria	Hotel Sector	SECI	[3]
48	2014	Turkey	Hotel Chain	SECI	[62]
49	2014	New Zealand	Sport Tourism	SECI	[58]
50	2012	Norway	Small Tourism Operators	SECI, Ba	[13]

TABLE 3: Number of Studies that used the "Ba" Concept with SECI

Models	No of Studies
SECI	41
SECI with "ba" concept	9
Total	**50**

Various studies found that knowledge of cultures, communities and maritime can be exposed to promote tourism. The SECI model has created new business opportunities in the tourism industry by creating innovative services and products. Most studies have identified tourism as one of the sectors based on tacit knowledge and the importance of tacit knowledge for promoting tourism. The SECI model spiral process was not fully discussed based on the common-shared place used to create and share knowledge, except few studies identified the importance of the "ba" concept. This Japanese philosophy of the "ba" concept is a practising method in Japan for knowledge

management. Future studies should focus on how this concept can be used to ease the effects of the SECI model.

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