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The Service Industries Journal, an international journal of service management, serves to improve our knowledge of the services sector, service firms and the effective management of these firms. This multidisciplinary journal was established in 1981 as the first academic peer reviewed journal in the world devoted to the services sector and service management. Since this time it has established a first class international reputation for quality knowledge.

The Service Industries Journal publishes research that contributes to the development of the theory in the areas of management, entrepreneurship, innovation, and financial management, the result of which are best practices in services. We seek to attract papers from researchers whose studies are informed by social sciences such as sociology, psychology, economics, law and politics. Contributions are especially welcomed from around the globe addressing contemporary social, economic, political and environmental issues.

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Special Issue Title: Innovations and Behaviour Change

Serious human and ecological problems - on an unprecedented scale - arise from rapidly rising global temperatures, as a result of accelerated (manmade) climate change. These problems are further exacerbated by diminishing finite resources, increasing waste, food & water insecurity and inequality & dispossession.

Decades of research exploring how to address these problems, by changing the behaviours embedded in business, policy-making and consumption, have had limited effect. With these problems reaching crisis point, it is time for innovative thinking and action to advance the development of theory and best practice, in order to significantly advance sustainability behaviours across all facets of service industries.

This special issue seeks to publish research that builds on existing theory and practice to develop new ways of thinking about and enacting behaviour change. Thus emphasis is placed on how research can advance knowledge and practice in generating more innovative solutions to trigger more authentic sustainability behaviours in the service industries, their stakeholders and consumers.

This special issue invites papers from a range of disciplines and methodological traditions, which adopt a critical perspective related (but not limited) to the following topics:

- Critically reviewing current sustainability behaviours in the service industries and/or their customers and the ensuing opportunities/challenges that arise.
- Evaluating the sustainability of consumer's contemporary sustainable consumption and how it might be strengthened.
- **Critically evaluating the contribution of corporate responsibility in advancing sustainability in the service industries and interactions with customers and/or other stakeholders.**
- **Appraising the barriers impeding innovation and/or behavioural change and how these might be redressed.**
- **Critically exploring how innovation in the service industries can facilitate the growth of agro-ecological farming and food production for human and societal health and wellbeing.**
- Evaluating how service industries are innovating to address the human/ ecological problems (outlined above).
- Critiquing current understanding of behavioural change theory and its contribution in advancing sustainability behaviours; including exploration of different cultures, industries and consumer groups.
- **Assessing the feasibility of social currency networks and/or other community initiatives to support local cooperatives and producers.**
- Evaluating the responsibilities of marketing in framing/promoting ecological messages to enhance consumption of foods that advance ecological and human health and wellbeing.
- Appraising the feasibility of agro-ecological consumer cooperatives and the contribution they can make in to societal health and wellbeing.

- **Critically exploring the role of marketing in advancing sustainability behaviours in B2B and B2C contexts.**
- **Effectively applying ideas embedded in the circular economy to the innovation and/or change mindset of service industries and/or their customers.**
- **Successfully overcoming the political and economic tensions that can impede sustainability innovation and its implementation.**
- **Appraising differences in sustainability behaviours within different cultures and/or service industries.**
- Evaluating the interrelationship between food, health, sustainability and consumer and societal well-being.
- Evaluating existing initiatives and/or policies aiming to encourage sustainability behaviours in organisations and individuals and how they can be improved; including examination of different cultures, industries and consumer groups.
- Appraising how stakeholders can be connected to create innovative solutions to advance sustainability behaviours.
- Assessing the acceptance of novel food innovations in addressing food insecurity due to climate change and the feasibility of their integration into the portfolio of mainstream service providers.
- **Identify and explore the potential for new services B2B and B2C innovations to facilitate and grow sustainability behaviours.**
- Identifying deficiencies in existing research conceptualisation and/or methods and ways in which these can be addressed to significantly advance the evidence base to 'drive' innovation for behavioural change.

Submission instructions

The deadline for full paper submission is **June 20, 2018**.

Full instructions for authors are available [here](#).

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12 Papers were recommended at SIJ Special issues by Guest editor JinHyo Joseph Yun, and Valentina Della Corte from SOItmC 2018.

✱This special issue is open to not just recommended papers but as SOItmC 2018 all papers + Alphas

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1.

The paradox of sustainable open innovation: a comparative analysis

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Abstract

Purpose/ Research Question:

Our study aims to analyze the practices of sustainable open innovation of the firms through the paradox approach, by putting forward the idea that sustainability is a multidimensional construct based on different dimensions of innovation that may coexist. The paradox, in fact, allows us to reason in terms of "synergistic and interwoven polarities" instead of "either / or dilemmas or trade-offs" (Andriopoulos Lewis, 2009). In this sense, our analysis will investigate the way companies address their sustainability innovation strategy leaving behind the traditional dichotomies of innovation: product/process, exploratory/ exploitative, organisational/technological, business-social driven

Key Literature Reviews (About 3~5 papers):

Innovation may be defined as sustainable when it generates positive implications on society and the environment (Hall et al., 2017). The extant literature recognizes the non-linear nature of sustainable innovation, suggesting that it can be engendered only thanks to the collaboration and constant interaction among the relevant stakeholders (Zeng et al, 2017).

In this sense, sustainable innovation would also be open, that is, resulting from the interaction between the actors in the value chain, including customers. In fact, several studies suggest that such interaction

activates and enhances the innovative processes (Svirina, Zabbarova, and Oganisjana, 2016; Afuah, 1998). Unlike other types of open innovation, however, the sustainable open innovation necessarily imply a widening of the perspective at the systemic level and a strong focus on the environment (Pancholi, Yigitcanlar, Guaralda, 2015; Trindade, 2017; Zeng, 2017).

The vast literature on open innovation confirms the positive relationship between the openness, the innovative capacity and the performance, both at firm level and at ecosystem level (Hsieh et al., 2017). In the case of sustainable innovation, however, sometimes the social goals and firms performance are still considered two aspects in conflict with each other, and not fully compatible.

Design/ Methodology/ Approach:

A set of 200 European companies is analyzed with reference to the sustainable open innovation practices implemented in terms of combining different elements together: product, process, organizational, explorative/exploitative collaborations, business and social goals. The data are collected by Eurostat and supplemented by the authors with reference to relevant specific cases. The data analysis is carried out by using the Qualitative Comparative Analysis (QCA), a method based on Boolean algebra, which allows to detect non-linear relationships, by identifying the effects on the outcome of the individual conditions, and also the effect of the interactions between conditions on the outcome. Some statistical checks will be used to test the robustness of the analysis (Ragin, 2008).

(Expected) Findings/Results:

Our analysis uses the approach based on the paradox in order to explore the tension between innovation dichotomies in framing sustainable open innovation practices. The expected results regards the chances for firms to manage disparate elements and crossing-over of multiple dichotomies to address sustainable open innovation practices. In addition, thanks to the method used, which allows to capture non-linear effects between the conditions and differences of sustainable open innovation practices and also to grasp the interaction effects between the conditions, we expect to identify specific situations in which the effects are much more relevant, for example as regards specific types of business, sectors or contextual conditions.

Research limitations/ Implications:

This paper may originally contribute to the scientific debate for its theoretical and managerial implications. On the theoretical side, it offers a valuable insight by improving general and specific understanding of what leads firms to sustainable open innovation practices, by taking into account the

paradoxes for innovation to thrive. tOn the managerial side, our analysis helps companies to shape their sustainable open innovation strategy by identifying and relieve the inherent conflict and paradoxes.

Keywords: paradox approach, open sustainable innovation, exploitative/explorative innovation

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2.

Innovation paths in the wine industry: the case of Campania Region

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Abstract

Purpose/ Research Question: Up to now, innovation studies focused on radical, technology-based innovations in large firms whereas innovation in small firms has not been largely deepened. However, over the past decades, an increased number of studies have explored the patterns of innovation in small firms (Freel, 2005; Gray, 2006; De Jong & Vermeulen, 2006; Terziovski, 2010; Rosenbusch et al., 2011). This tendency is related to the introduction of measures that are different from the traditional innovation indicators, such as R&D activities and patent applications (De Propriis, 2000), which fail to capture the innovation capacity of small firms (Avermaete et al., 2003; Venturini & Galizzi, 2008). In particular, several empirical studies underline that R&D intensity is a poor indicator to capture innovativeness within specific industries, such as the food and beverage (F&B) one due to some specific features of its innovation patterns (Capitanio et al., 2009):

- on the supply side, F&B firms are "technology-pushed"; indeed, they are mainly process-innovation oriented and use new technologies developed by upstream (high-tech) industries to create new products. In natural resource-based sectors, innovation mainly consists of process innovation, as few innovative efforts are required by the product characteristics *per se*, due to the specific sectorial patterns of acquisition of innovative knowledge;
- most innovations in the F&B industry are incremental rather than radical (Grunert et al., 1997). The prevalence of incremental innovations depends on the constraints from demand and conservative consumer behaviour. On the demand-side, F&B firms benefit from the interaction

with downstream partners, such as retailers, distributors, and consumers in order to make the introduction into the market of new products successful.

Generally, when thinking about innovation, the association with high-tech sectors, such as electronics, software, pharmaceutical and telecommunication, seems to be expected. Nevertheless, though often depicted as low value-added and with little innovation content, the F&B industry is a sector with enormous opportunities for innovative upgrading. The type of innovation required in this case, however, is very specific, since it is strictly linked with the territorial factors, identity and local cultures, that often represent also territorial tradition. Therefore, in this case, innovation looks like a revisited and innovative view of local traditions, which represent in any case the core of that specific production.

Most of the current literature on innovation in the F&B industry illustrates theoretical concepts with case studies, but the empirical studies have mainly focused on large firms or multinational corporations (Alfranca et al., 2005; Huiban & Bouhsina, 1998). Empirical evidence about innovation patterns in small F&B firms seems to be blurred.

Three motivations support the choice to analyse innovation dynamics in small F&B firms:

- 1) such firms are an important sector in the overall economy: the F&B industry is one of the largest businesses in the EU, in both terms of employment and production. Indeed, in 2015 its contribution to Europe's economy has been crucial: 4.25 million employees throughout the EU. The F&B industry also accounted for more than 285,000 SMEs that generated almost 50% of the F&B industry turnover and value added and provided 2/3 of the employment of the sector (Data & Trends of the European Food and Drink Industry 2016). Moreover, this industry has strong linkages with various other industries such as agriculture, chemicals, packaging, and last but not least tourism;
- 2) small F&B firms play a key role in achieving sustainable economic growth in local economies (Murdoch, 2000). They are particularly situated in rural areas where they have developed to process products from local agriculture. In addition, small F&B firms tend to rely heavily on local industries and local services;
- 3) small F&B firms produce certified local products of a different nature than those produced by large firms. These latter generally have a national or international market approach and consequently give more attention to products with a "mass appeal". In these terms, an important component of local/regional's highly valued cultural identity is invested in such small firms (Ilbery & Kneafsey, 1999).

Kaplinsky & Fitter (2004) in their studies have shown the process of *de-commodification* of primary commodities, which are increasingly transformed from standardised staples into high-quality, diversified goods, with high knowledge intensity, increasing value added content and high export price unit. Among the most dynamic primary industries there is wine.

In the contemporary wine industry, a number of scientific and technological changes have allowed a shift from the production of *table wines* (e.g. wines that are not very expensive and are used for ordinary meals) to the production of *fine premium wines* (e.g. wines that generally have more aging

potential than every day quaffing wines) (Beverland, 2006). Consequently, wine as a basic and undifferentiated commodity has become an increasingly sophisticated and differentiated luxury good. This is what literature defines as “wine revolution” (Crowley, 2001).

The wine industry is one of the most representative economic activities in many countries in terms of employment and companies’ revenues (Bigliardi & Galati, 2013; Re et al., 2014; Vrontis et al., 2016). In the previous years, the international wine industry has been characterized by a rapid growth of exports and by the emergence of new producing wine countries (New World countries - such as California, Australia, Chile, South Africa, Argentina, New Zeland) and their entry in the global wine market. Hence, wine producers, above all those operating in Old World countries (Italy, France, Spain, Portugal), are currently affected by increased competition, and this has obliged them to intensify their efforts to improve product quality and to enter higher value niches in international markets. So, the wine industry has been involved in a deep process of innovation.

The presence of small firms is common in the wine sector, due to the tradition of some long-standing family firms (Re et al., 2014). A sort of “wine factor” is created, since the wine represents a set of family values, symbols, and traditions rooted in the area in which the family is based (Georgiou & Vrontis, 2012).

Although innovation is a critical issue for small firms (Craig & Moores, 2006), the literature on how small wine firms implement innovation strategy is rather scarce and the relevance and significance of small firms operating in the wine sector requires further and more in-depth studies.

In these terms, the wine industry becomes an interesting case for analysing the process of innovation combined with local and cultural tradition. Most of works concentrate on innovation practices adopted in New World countries (Aylward, 2006), overlooking the traditional wine regions characterised by a *terroir* orientation. These Old World countries even if threatened by high competition, remain by far the largest producers, with Italy, France and Spain outstripping all other country producers by wide margins: these three countries together account for more than 40% of the world output (OIV, 2016). At this point, a question spontaneously arises: beyond the historical traditions (accumulated pool of informal and tacit knowledge) and the favourable conditions (soil, climatic and morphologic characteristics of the territory), what are the factors determining the success of Old World wine producers?

In addition, as innovation usually requires input from a range of external sources, a growing body of innovation research has shifted its focus from a single innovator to a cluster. The generality of these studies are mainly concerned with the analysis of the regional innovation systems and/or clusters, paying little attention to the role of innovation in a single wine firm and to the mechanisms (antecedents) that lead these firms to enter into an innovation network (Rebelo & Caldas, 2013; Aylward, 2004; McDermott, 2007; Larreina & Aguado, 2008). These works underline the major role of innovation networks in the emergence of New World countries in the international wine market. The huge growth of their wine production and export since the beginning of the 1990s relies on many factors, but, among them, the most important one is the construction of clusters between firms, universities,

research centers and government agencies.

On the contrary, it is interesting to understand if and to what extent wine small firms innovate and arrange external ties with other actors without compromising their unique and highly specific assets linked to their long-standing tradition.

Starting from these considerations, the purpose of this study is to fill these gaps. Indeed, this dissertation aims *to analyse how small wine firms characterized by a highly terroir orientation adopt and implement innovation*. Moreover, it intends to explore the nature and sources of innovation implemented by wine firms operating in Campania Region that is one of Italy's most innovative winemaking regions (SRM Report, 2016). The last three decades have seen a dynamic resurgence in Campania and distinctive wines have popped up in many provinces.

Hence, the limited existent research on the innovation patterns in the wine industry, and specifically in Campania Region are the primary motivators for undertaking this study.

Consistent with this aim, the following research questions have been formulated:

RQ1: Do traditional and terroir-oriented wine firms adopt innovation?

RQ1a: If yes, how do wine firms implement the different dimensions of innovation?

In order to answer these research questions, the next section will deal with the theoretical background based on a literature review on innovation.

Key Literature Reviews (About 3~5 papers): Innovation, as a concept, has been approached from different perspectives in the history of management research.

The "what" of innovation, or the focus of innovation processes, is often referred to as an innovation type. The most common categorizations are the innovation types presented by the Oslo Manual (Organisation for Economic Co-operation and Development, 2005): product, process, marketing, and organizational innovation. In particular, **product innovation** involves new or significantly improved goods or services; **process innovation** consists of new or significantly optimized method of production or distribution; **marketing innovation** refers to strategic tools, such as changes in the packaging, in the positioning of the product or even promotion of products and prices and, finally, **organizational innovation** is related to the introduction of new tools in the company's business activities or in their public relations.

In addition, there is a significant literature supporting that the act of innovating is concerned with the creation of new knowledge. Some scholars sustain that the concept of knowledge exchange among firms depends on innovation process (Liebeskind et al., 1996). Another stream of research considers knowledge creation as the core of innovation (Nonaka & Takeuchi, 1995). Panicia (2002: p.194) observes that innovation *will not come about through reliance on traditional local resources; instead, it will derive from "contamination" and "hybridisation" with new actors: processes that generate new practices and rationalities that may enrich local patterns of learning*. In the most recent years, most of studies concentrate on the concept of **open innovation** that is for the first time defined by Chesbrough

(2003).

The cornerstone of open innovation is that a firm increasingly uses external knowledge to speed up its own internal innovation process. More in detail, open innovation can be defined as “the proportion of innovations generated in cooperation/collaboration with universities, industry associations, clients, competitors, business consultants as opposed to innovations that are entirely generated within the company” (Dries et al., 2013, p.54). In a few words, the studies on open innovation take into account the new ways in which knowledge is generated and shared among different actors.

Strictly tied to the open innovation approach is the **systemic innovation** that corresponds to “the type of innovation that only generates value if accompanied by complementary innovations. It opposes autonomous innovation, which can be developed independently of other innovations” (Takey and Carvalho, 2016, p.97). In this optic, there clearly emerges that innovation requires collaboration across organizational boundaries to yield the necessary synergies.

Although there are several studies focusing on modes of innovation, for the purpose of this study, there seems to be appropriate to consider the sectorial system of innovation with specific reference to wine industry. Starting from this premise, the main assertion is that innovation is characterized by different rates, types and trajectories, depending on the sector in which they take place (Malerba, 2007). The conceptual framework, which the “innovation” of wine sector is based upon, takes into account both the types of innovation, in terms of product, process, marketing and organizational innovations, and the open innovation approach focused on the external sources of knowledge and systemic innovation.

Design/ Methodology/ Approach: The research methodology is structured as follows:

- 1) the first stage focuses on a review of the existing literature, paying particular attention to how small firms manage innovation, as well as a study of innovation patterns in the F&B industry, with a specific focus on wine sector;
- 2) the second stage concentrates on a multi-step methodology. The first phase aims at identifying all the wine firms operating in Campania Region. Wine is produced all over the region, with a concentration in Naples (particularly in Campi Flegrei and Vesuvius’ areas) and in the provinces of Avellino, Benevento, Salerno and Caserta.

A complete Campania’s wine firms list is developed using the following sources: the firms classified as wine firms by Campania Region government – Agro-food Department (Wine Guide 2016-2017), Movimento Turismo del Vino (www.movimentoturismovino.it), extrapolation of Campania region’s exhibitors taking part at national and international wine fairs such as Vitignoitalia (www.vitignoitalia.it), Vinitaly (www.vinitaly.com), ProWein (www.prowein.com), WineExpo Bordeaux (www.vinexpobordeaux.com), Merano Wine festivals (www.meranowinefestival.com) and London Wine Fair (www.londonwinefair.com).

The total amount of wine firms operating in Campania Region is 317 and 24 innovation indicators are employed. All the variables are qualitative and derived from the literature review on the subject. Then, in order to maintain a reasonable control over the research these variables have been discussed with three different oenologists and experts of the Campania Region's wine industry.

After, a pilot survey with a sample of 20 wine firms has been conducted and a definitive survey has been submitted to all selected wine firms through an online survey tool and computer-assisted telephone interviews.

By taking into account the theoretical framework on innovation and the different facets characterizing the world of wine, the empirical analysis, in line with the research question and the research scope, aims to verify if small wine firms implement innovation at different levels and, if yes, to test their inclination to adopt and implement some innovation practices rather than other ones.

(Expected) Findings/Results: The case of the wine industry in Campania Region is of interest because it enables the study of innovation practices, ranging from technical change and renovation to knowledge acquisition, in a traditional sector and in a region that has a long-lasting history in the viticulture process and still able to preserve some degree of competitiveness.

Campania Region was chosen for the first empirical test of this study because, although it is not one of the most productive regions on national scale, its recent figures reveal an ever-increasing growth recording year-by-year positive performances. In this perspective, for Campania wine region the growth opportunities are very wide.

From the empirical investigation what emerges is that Campania wine firms are mostly family enterprises, strongly linked with the region and its tradition and this reflects on competitive strategy decision-making processes and corresponding practices.

As for the first research question, the analysis has been carried out by defining three different hypotheses. The overriding purpose was to test if wine firms implement some kinds of innovation. Then, once obtained items with a value of *CI min* greater than 0,5, the study was deepened by just focusing on items, whose values corresponded to "much" (according to the Likert scale). This led to recognize as really significative the following innovation proxies: PR5 – Use of barriques during the fermentation and/or conservation processes; PR7 – Installation of new refrigeration devices at the various stage of vinification; MK3 – Organization of winery tours, food and wine tastings, cultural events; MK5 – Increase of visibility through in-store merchandising activities; SY2 – Reciprocity in sharing know-how with competitors.

The empirical analysis referred to RQ1 ran out by testing whether, among the most innovative wine firms, the implemented innovation tends to be marginal or, as opposite, noteworthy. The findings show that those firms that implement innovation can *de facto* be considered as "big innovators", since they have a propensity for attributing to the selected items a remarkable importance.

Research limitations/ Implications: Some limitations do not allow considering the conclusions of this

research project as universally valid or recognizable. Among the principal research constraints, there is the lack of performance data contained in the dataset. Accordingly, it is not possible to state the fit between the modes of innovation and business performance, in terms of profitability, revenue growth, etc.

Second, the survey seeks to capture information on the topic of innovation, asking the wine firms to state whether some kind of innovation was introduced during the previous five years. Nonetheless, it would be of great support to replicate the study in the future years, in order to provide the research with a longitudinal approach.

Third, the case study has been conducted on the Campania Region: the choice to focus on this Region derives from the fact that the culture of the wine in this context boasts ancient origins and traditions (Campania is one of the most ancient areas where the grapevine was cultivated, and still today – in the framework of the international wine-growing systems – is characterized by the presence of old vine varieties in many vineyards). Hence, the main challenge is to understand if and to what extent wine firms characterized by a long-lasting tradition can implement innovative *formula* to compete in international markets. However, caution should be taken in generalizing the results since not all regions and/or countries face similar wine growing and development conditions.

In this sense, it could be useful to repeat the research through a multiple case study analysis, in order to carry out the empirical investigation on different contexts, possibly with a cross-country approach. Finally, the demand-side perspective has not been examined. Therefore, a crucial hint for further research may be to deepen both offer and demand-side simultaneously. In particular, it would be of great interest to explore the link between the consumers' purchase decisions and the innovative practices implemented by wine firms.

Keywords: wine, innovation, small firms.

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3.

An innovative approach towards developing a Destination Brand Equity Model: a comparative study of three wine tourist destinations

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Abstract

Purpose/ Research Question: The innovative nature of the study is to combine the elements of brand equity with a specific focus on wine tourist destinations. These areas were previously viewed separately. In the academic literature, brand equity is often conceived as the value-added element assigned to a particular product or service (Kotler & Keller, 2011). The level and nature of equity impacts on how the associated brand is marketed. Kotler and Keller (2011) contend that brand equity can only be levied where the consumer response is heterogeneous, in terms of their perceptions, behaviour and preferences toward the product or service offered.

From a theoretical point of view, although the concept of branding has been extensively applied to both products and services, it has been recently extended to tourism destinations.

The most basic product place branding is the identification of country of origin (COO) (Johnson and Bruwe, 2007). Past research reveals that COO represents an extrinsic cue (Olson, 1972) valued by consumers because of its perceived relationship with important quality attributes (Steenkamp, 1990).

In a wine marketing context, above all with reference to Old World (OW) countries (the EU top producers, namely Italy, France, and Spain), vines have been part of the local landscape for generations, even centuries. In these specific cases, time integrates vines into regions' culture and tradition, becoming "place references" (Banks et al., 2007), whereby the iconic nature of some wines facilitates the identification of a wine region or the nation where the wine is produced (Alonso and Northcote, 2009). Accordingly, some regions (e.g. Chianti in Italy or St. Emilion in France) defend the use of their regional identity with legal protection for the geographic origin or grapes and wine, added by national

and international regulatory frameworks (Orth et al., 2005; Barham, 2003). Labels of origin such as the Appellation d'Origine Contrôlée (AOC) system in France or the Protected Designation of Origin (DOP) in Italy appear as an application of the notion of terroir, aimed to not only guarantee and communicate the traceability of the products, but also to promote innovative forms of rural development (Riviezzo et al., 2017). Terroir is about protection, but it is also a tool to engage constructively with a global market and its economic, legal and literary manifestations (Demossier, 2010). In this direction, the campaign for UNESCO recognition sheds light on the recent changes affecting the idea of terroir in the context of increasing competition for wine regions to be given world heritage status against the background of the globalization of the wine industry. Nowadays, most rural destinations are seeking to position themselves and become clearly visible on the wine "map" (Alonso, 2013). In this direction, some wine regions seem to have realised the importance of their heritage, and have consequently presented their candidacy to be granted as "UNESCO World Heritage Sites". The need to apply for UNESCO recognition offers an insight of the strength of a traditional model of terroir amongst intellectual and cultural elites (e.g. Italy, France, Spain, Germany) (Demossier, 2011). While terroir remains the winning formula at local, national and global levels, the campaign for UNESCO recognition introduces a new set of values and meanings, which ensure that the heritage factor will add further value to the place and the product *per sé*.

Generally speaking, beyond the recognition of UNESCO status, geographical indications like trademarks are distinctive signs, which allow producers to maintain their established reputation against imitation. However, trademarks are individually owned rights, whilst geographical indications can be considered as club goods (Josling, 2006). With specific reference to France, here the first appellations were essentially defensive mechanisms. "Defense" first against wines from outside a region being passed off as a local product and then "defense" against local producers who were debasing the region's collective brand through over-cropping, and poor wine-making. Appellation regulations had economic value first and then provided social benefits.

Besides the above-mentioned DOP certifications that properly refer to the specific geographic, environmental and human influences on the region, there are also the Protected Geographical Indications (IGP) that concern with the quality, reputation or other attributes specific to the region. The DOP/IGP certification scheme is basically a mechanism to protect national producer interests rather than a marketing tool (Ilbery and Kneafsey, 2000). Nonetheless, a relevant number of academic researchers (Skuras and Vakrou 2002; Dean, 2002; Felzensztein and Dinnie, 2005; Lockshin et al. 2006; Perrouty et al., 2006; Balestrini and Gamble, 2006; Goodman et al. 2007) state that country of origin (and the relative regional certification label) is a primary and implicit consideration of consumers in their decision to purchase wine. More specifically, the regional certification label, which guarantees that the product is the authentic product and not an imitation, is supposed to influence consumers in their purchasing behavior according to two different dimensions (Vlachvei et al., 2012). The first one is the quality warranty dimension that refers to consumer's beliefs about the way the label can support the economy in that region (Van Ittersum et al., 2007). Moreover, Van del Lans et al, (2001) showed that

the success of a marketing strategy based on the region of origin, depends on consumer's awareness and positive image of that region. The constitution of a certification scheme has been fundamental in certain wine areas acting as an opportunity for tourism development (Jiménez, 2001; Gomez and Molina, 2012). On the basis of these premises, a pivotal role in both influencing consumers' purchase decisions and wine tourists' behaviour can be played by the UNESCO recognition to a specific wine region.

Wine industries and tourism are increasingly identified as natural symbiotic partners and this relationship is embraced in the term "wine tourism" (Fraser and Alonso, 2006). According to the Western Australian Wine Tourism Strategy (2000) wine tourism is conceived to be a "travel for the purpose of experiencing wineries and wine regions and their links to lifestyle". This definition encompasses several characteristics including: a lifestyle experience, supply and demand, an educational component, linkages to wine and food, incorporation with the tourism-destination branding and as a marketing opportunity that enhances the economic, social and cultural values of the region (Charters and Ali-Knight, 2002). Getz (1998) sees wine tourism according three different perspectives: first, as a strategy by which destinations develop wine-related attractions; second, as a form of consumer behaviour, where wine consumers (or wine lovers) travel to preferred destinations, and as an opportunity for wineries to educate consumers and sell their product directly to them.

The link between wine tourist behaviour and destination branding is completely in line with the studies carried out in the field of country of origin and branding literature (Kotler and Gerner, 2004; Verlegh and Steenkamp, 1999). In this regard, a marketing strategy based on regional certification labels looks like a branding strategy in several aspects, and above all in terms of reputation building and promotional activities (Teubor, 2011). In this perspective, very interesting seems to be the theme of "wine territorial governance" (Charters and Michaux, 2013), according to which, without strong governance uniting all the actors of a wine region (growers, winemakers, cooperatives, etc.) it would not be possible to develop a common brand communication strategy that is the starting point for building reputation. In this optic, there seems to be useful to focus on the open innovation approach that is based on the assumption that firms can enhance their innovative performance by acquiring knowledge and competences from outside (Chesbrough, 2003; Chesbrough et al., 2006), and it also emphasizes the importance of inter-firm cooperation (Belussi et al., 2010; Teirlinck and Spithoven, 2008). Accordingly, firms are likely to benefit from opening up their internal boundaries by fostering relationships, strategic alliances and network activities with external actors (Christenen et al., 2005; Brunswicker and Van de Vrande, 2014; Freel and Robson, 2016). Beyond the importance to share knowledge and to enter in collaboration with suppliers, firms can activate mechanisms of inter-firm cooperation with a plethora of external actors, namely customers (they are an ever-increasing source of knowledge. Johannessen and Olsen (2010) discuss about the so-called "connected customer", who increasingly expects tailor-made products based on individualized and immediate feedback); competitors (know-how sharing with players operating in the same sector has been recognized as crucial for fostering innovation in small firms); and public and private research centers and/or universities (these are recognized as important sources for small firms due to the effort universities

and research organizations exert in transferring specialist knowledge and technology).

Starting from these premises, the purpose of the study is to produce recommendations, emanating from the comparative analysis, which will optimize the brand equity of each of the three selected wine tourist destinations: Vesuvius area, Lake Constance region and Swartland region.

Key Literature Reviews (about 3-5 papers)

Johnson, R., & Bruwer, J. (2007). Regional brand image and perceived wine quality: the consumer perspective. *International Journal of Wine Business Research*, 19(4), 276-297.

Kotler, P., & Keller, K. L. (2011). *Marketing Management*. Upper Saddle River, NJ: Prentice Hall.

Keller, K. L. (2003). *Strategic Brand Management: Building, measuring, and managing brand equity* (2nd ed.). Upper Saddle River, NJ: Prentice Hall.

Design/ Methodology/ Approach: Research within comparative destination brand equity can be conducted through qualitative or quantitative methods. Quantitative methodologies are statistically based and their outputs are analysed in order to test a theory or hypothesis.

A qualitative approach was considered better suited as a methodological approach for the comparative research outlined in this paper. A qualitative methodology allows the collation of verbal descriptive data, in order to form a much more context rich and detailed picture of a complex situation (Nykiel, 2015; Eames, 2011). The authors of this paper aim to provide guidelines on developing brand equity in internationally lesser-known wine tourist destinations, drawing on the experience of the three wine tourist destinations. The collation of qualitative data enabled, furthermore, an innovative approach to developing models on brand equity of internationally less-known wine tourist destinations.

Taking the work of Fairbrother (2007) on cultural and political biases in research into account, a qualitative methodology has the capacity to absorb cultural, economic and political nuances, specific to the three target regions in this paper. The result is that potential biases and misunderstandings, due to the impact of culture and politics on the brand equity, can be avoided or their affect at least mitigated. Quantitative methodologies, in contrast, tend to ignore these nuances and produce potentially misleading results.

More specifically, the methodology underlying the research in this paper produced example-based case studies with the aim of providing the necessary information to conduct a comparative study on brand equity.

The three regions, on which the comparative study is based, were selected due to their innovative status as wine tourist destinations, which have yet to develop an international reputation. The three regions have, nonetheless, different levels of social and economic development, as well as contrasting cultures. The corresponding brand equity of the three respective regions are so different that there was originally no common means of comparison.

The research methodology, employed by the authors, has its roots in comparative scientific research,

where the team identified what are referred to as "analogue phenomena" (Froese, 1983). Analogue phenomena are useful in pinpointing the reality of a situation or set of circumstances. Analogue phenomena can be identified and compared in two steps.

The first step is descriptive and seeks to capture and interpret a particular situation. This was achieved through organising focus groups in each of the three wine tourist destinations. Participants included all relevant stakeholder groups, such as market, local, political and social actors, who have a direct interest in the respective wine tourist destination, albeit in different capacities. The aim of the focus group sessions was to capture the views of the participants on brand equity, using a clear interview structure. In order to maintain a reasonable control over the research, the variables that have been selected from a literature review will be discussed with experts of Vesuvius area, Lake Constance and Swartland region. Actually, using a "panel of experts" familiar with the construct is a way in which this type of validity can be assessed (Hardesty and Bearden, 2004; Rubio et al., 2003). Specifically, the experts performed a formal content validity assessment providing the authors with proper suggestions and effective recommendations. Thus, once collected the qualitative evidence from the experts, the selected variables will be used to draw up the questionnaire, which, in turn will be submitted to a pilot survey. This one is conceived to be a strategy useful for testing the questionnaire. More precisely, the pilot survey allow the authors to gather information on whether the type of survey is effective in fulfilling the purpose of the current study.

Once the focus group outputs are categorized and the level of match between image and identity established, comparative methodologies can be used, to benchmark the three wine tourist destinations against each other (Nykiel, 2015; Zabeck, 1966).

(Expected) Findings/Results: The main finding of the current study is to create a source of strategic recommendations for the future development of brand equity in each of the wine tourist destinations.

Research limitations/ Implications: the implications are in effect the recommendations that we will make, regarding optimizing brand equity in each of the three regions. It will also include communicating the progress made on establishing a brand equity model for wine tourist destinations. It will provide concrete guidelines to all stakeholders as how to brand a wine tourism region. Accordingly, being the first to apply an adapted branding model for wine tourism destinations, it can be argued that this model can then be duplicated (including its principles and methodological guidelines) and implemented in other wine tourism regions.

Keywords: destination brand equity, wine tourism, wine destination

4.

Why and how did Alibaba become a top global electronic commerce company?

- Historical analysis of Alibaba's open innovation with system dynamic feedback loop, and open innovation culture

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<ABSTRACT>

Alibaba has grown as the world's largest e-commerce company for a short time. How could Alibaba become a global company in China where the Internet has not been developed in such a short period? This is a question that will be answered in this paper. Alibaba has completed the world's top-class creative e-commerce business model through open innovation for a short time. In addition, it has overcome the cost of complexity of open innovation, that is, the force that breaks down a company, through the “Jack Ma style consumer confidence Kwan-Si” culture, which is a new but strong Chinese corporate culture. This study analyzes the emergence of the dynamic open innovation process of Alibaba, and the process of continuously strengthening the new Kwan-Si culture, system, and leadership that restricts the force and complexity generated during the innovation process.

Keywords: Alibaba, Open innovation, New relation (Kwan-Si) open innovation culture

1. Introduction

Alibaba was established in 1999. Whereas the dot-com bubble in the 2000s destroyed many IT companies in China,

Alibaba overcame the crisis and has now grown as the world's leading e-commerce company. In particular, the competitors of Alibaba, such as Sina, Sohu, and NetEast at the time, started their business in large cities like Beijing or Shanghai, and their CEOs studied in prominent universities in the United States. However, Alibaba started as a local company in Hangzhou and its CEO, Jack Ma, graduated from Hangzhou Normal University and was an English teacher. Today, Alibaba is the only survivor and leads the global market.

The main objective of this study is to answer the question,

Why and how does Alibaba become a global leading e-company?

For this research, we analyzed Jack Ma's management strategy of Alibaba. First, we established the research analysis framework by analyzing previous studies on Alibaba. Second, we analyzed the lectures and interview of Jack Ma, which were conducted from 1999 to June 2017. Third, we interviewed Alibaba consumers and platform companies in China. We also interviewed Chinese consumers and platform companies in countries other than China, including Taiwan. Finally, we interviewed the members of the Alibaba research center and the CEO of Alibaba, Jack Ma.

2. Establishment of the analysis framework of the preceding research review

The initial concept of open innovation was understood as the creation of new values, produced by the free combination of new markets and new technologies of different companies beyond the boundary of technologies and market companies, and the introduction of new business models with combination (H. Chesbrough, 2010; H. W. Chesbrough, 2006).

However, as information technology (IT) has spread across all industries, research on the open innovation dynamics covering the aspect of open innovation has become an additional factor of open innovation (Teece, 2007; Witt, 2017). Open innovation has configured the self-sustainable system dynamics by making a platform through the feedback loop (Yun, Cooke, & Park, 2017; Yun, Won, & Park, 2016). For economic systems or sector-based innovation as well as individual companies, open innovation forms the system dynamics and becomes the driving force of sustainable growth and development (Yun, 2015; Yun, Won, Hwang, Kang, & Kim, 2015). The phenomenon that a new business model is continuously created during the process that open innovation leads system dynamics can be understood as the coevolution of open innovation and business model creation (Yun, Won, Jeong, et al., 2016).

However, one of the important tools to drive sustainable development through open innovation is the open innovation platform that covers a system dynamic loop (Boudreau, 2010; from Internal, 2003). More and more

markets are operating based on an open platform, and even a large company cannot be freed from the dominance of an open platform (Parker, Van Alstyne, & Choudary, 2016, p. 27). In other words, a key tool that creates the sustainable innovation through the business model dynamics is the completion of the feedback loop by re-establishing missing linkages (Cavalcante, Kesting, & Ulhøi, 2011; De Reuver, Bouwman, & MacInnes, 2009).

The openness in economic and financial sectors inevitably causes uncertainty (Arthur, 1995). However, open innovation causes complexity when it creates emergence by itself. Thus, the open innovation culture is needed for a continuous stable innovation and to create corporate performance (Yun, Yun, et al., 2016). Therefore, overcoming cultural barriers in the processes of open innovation through intermediaries is one of its key strategies (Aquilani, Abbate, & Codini, 2017). Sharing the open innovation culture between various subjects connected to a corporate system, in addition to all members of the company, can control the complexity caused by the open innovation of the company (Gassmann, Enkel, & Chesbrough, 2010; Van der Meer, 2007). In other words, the culture that stimulates and sustains creativity and innovation, that is, the organizational culture that controls complexity and maintains open innovation is one of the key factors that determine the success of open innovation (Martins & Terblanche, 2003).

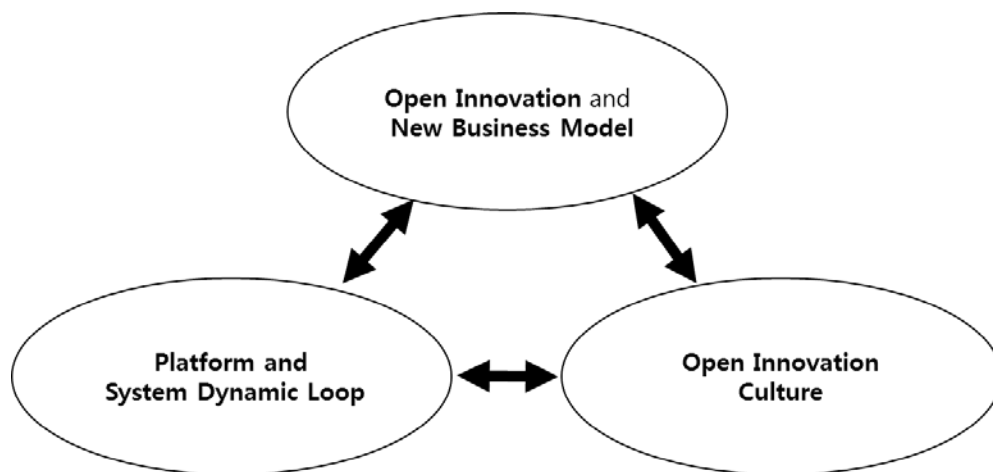


Fig. 1. Research Framework.

This study analyzes the dynamic process of expanding the open innovation and the business model of Alibaba as shown in the research framework of Fig. 1 by using the time series analysis with the process of creating the system dynamic loop and building the platform and the open innovation culture. Therefore, the evolution process of Alibaba is analyzed from three perspectives: open innovation and business model, platform and system dynamics, and open innovation culture.

3. Growth of Alibaba

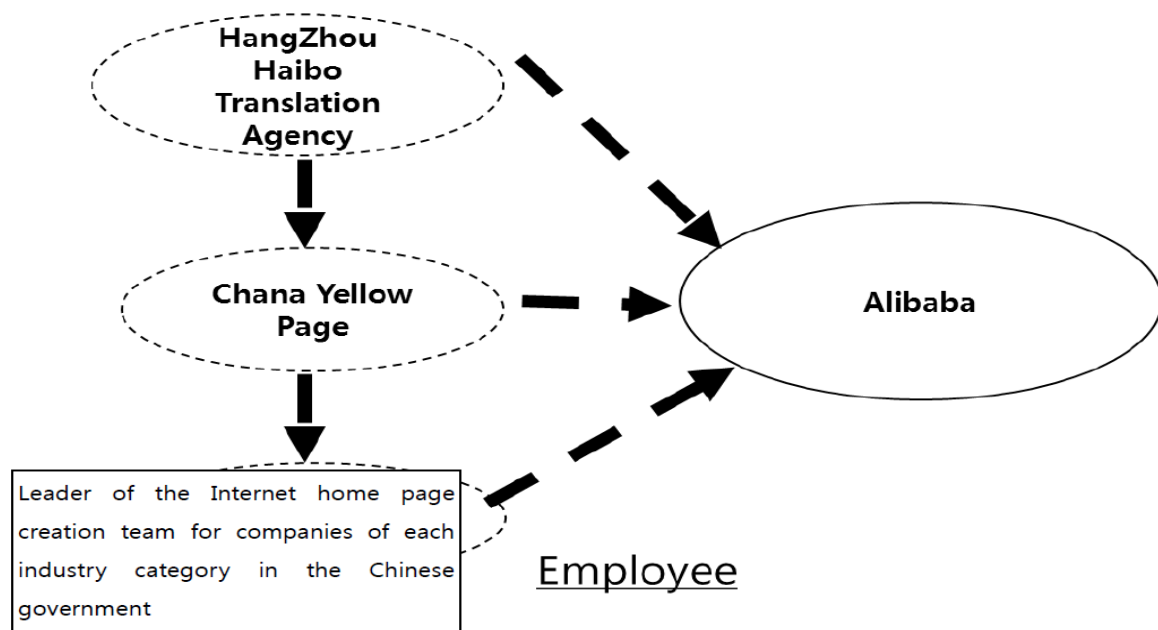
3.1. Alibaba start-up

The Alibaba start-up has three roots. The first root is the period when Jack Ma established Hangzhou Haibo

Translation Agency to conduct translation businesses, which targeted businesspeople, students, and engineers in Hangzhou. In addition, he gave a lecture on English. To continuously sustain the business, he was involved in intermediated transactions or wholesale and retail trades on the side to create profits. That became the idea for the creation of Alibaba. The second root is the period when he founded China Yellow Page, the almost first home page company in China, and started on the Internet business. Creating home pages for small- and medium-sized companies in Hangzhou became the start of Alibaba's entry into the e-commerce business.

Third, he worked at a department of the Chinese government and created initial e-commerce platforms for large companies based on 27 categories. The aforementioned experiences led to the foundation of Alibaba, a BtoB platform company, for small- and medium-sized companies in Hangzhou. He learned the transaction from the first experience, the e-commerce for small- and medium-sized companies from the second one, and the transaction platform from the third one.

Fig. 2. Alibaba Start-up System.



The initial model of Alibaba was a single corporate transaction platform based on Kwan-Si, the traditional Chinese culture of mutual trust and relation based on the internal organization of a company.

3.2. Taobao and Alipay

Taobao is the BtoC model of directly meeting consumers. However, Taobao extends the spirit of Alibaba. It is an almost completely open platform where people can sell products for free. It introduces the Alipay platform, and the platform is established as a financial platform for all e-commerce in addition to Alibaba. In other words, Alipay is also an open financial platform for e-commerce. The Alibaba e-commerce system builds the system

dynamics between Alibaba, Alipay, and Taobao to enable the activation of open innovation to additionally create a corporate performance.

Moreover, from this time, Alibaba has started to focus on the trust culture that stresses customer-centered corporate culture and customer profits, and the establishment of internal vision. That gave Alibaba an opportunity to accumulate the open innovation culture, vision, and consensus that can alleviate the complexity caused by open innovation.

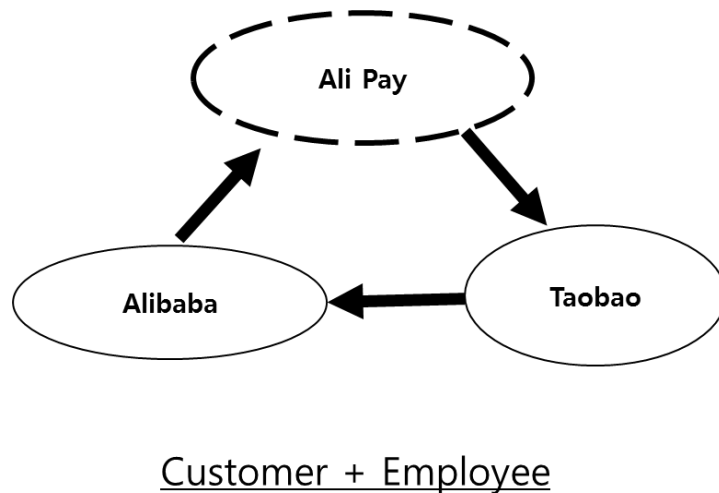


Fig. 3. Taobao and Alipay System Dynamics.

4. Development of Alibaba

4.1. TMall and Ali advertisement

As Alibaba entered the growth stage, it built TMall, an open BtoC e-commerce platform with charge, targeting good products and brand companies, in addition to the free platform of Taobao. Moreover, the company introduced an open paid advertising platform that charges advertising expenses based on performance, like the frequency of exposing an online AD to consumers or clicking an AD in Taobao and TMall. Its new business models built the system dynamics connected with the existing systems through the feedback loop. The system dynamics accelerated the dynamic growth of the entire system of Alibaba through a newly added open innovation platform like Ali Advertisement, as well as the existing open innovation platform.

At the time, Alibaba was listed on the stock exchange and promoted the strategy of sharing corporate culture internally and strongly, with a focus on the interests of consumers, workers, and shareholders.

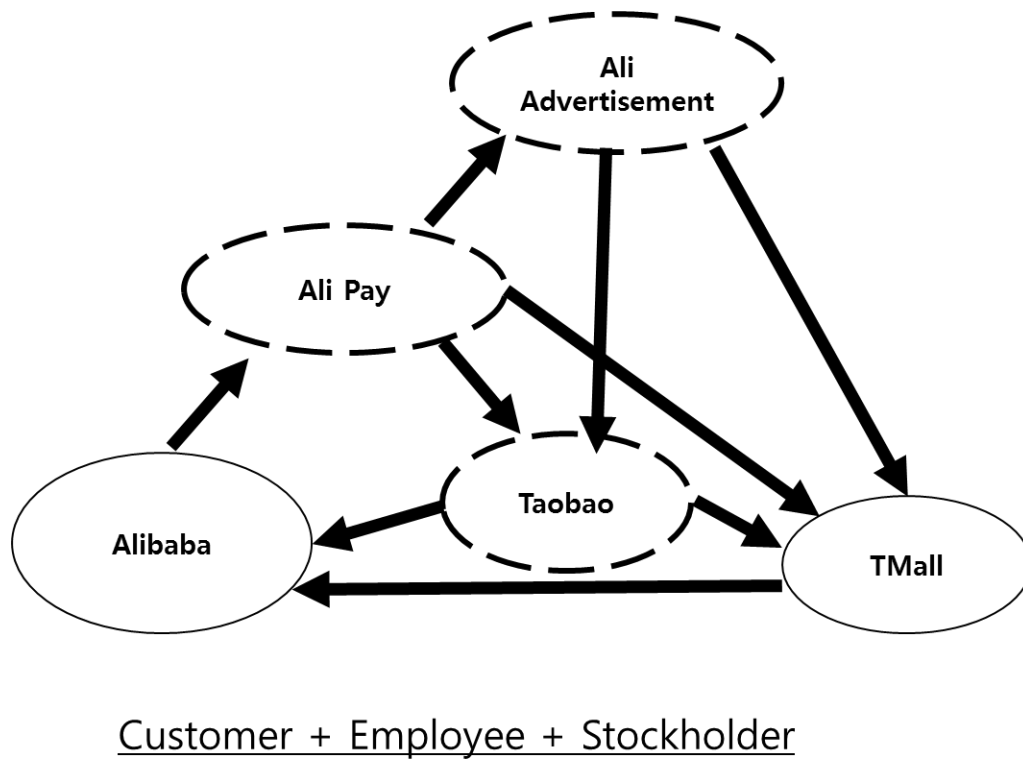


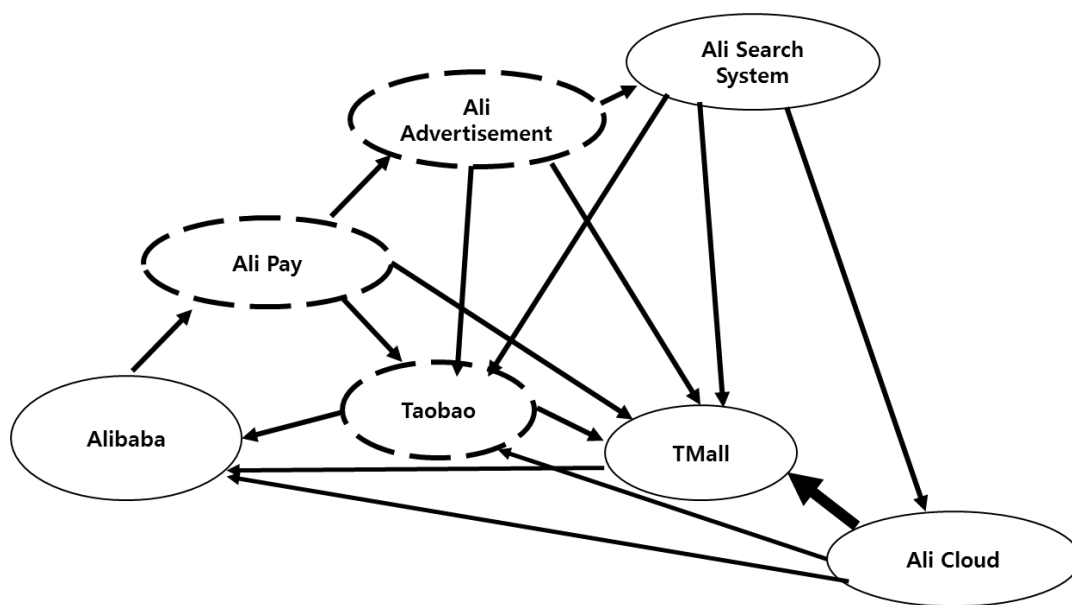
Fig. 4. TMall and Ali Advertisement.

4.2. Ali Search system + Ali Cloud

As Alibaba introduced the Ali Search system, as shown in Fig. 5, consumers can now find a product in the Taobao TMall easily. In addition, sellers can connect with an AD platform to allow their products to be displayed easily during the search process, and under a new payment system.

Furthermore, the introduction of Ali Cloud strengthens e-commerce platforms for the companies in the BtoC or BtoB platform, and allows building and operating e-commerce easily.

The additional connections of the new Ali system and the expansion of the feedback loop continuously strengthen the corporate culture that creates new market profits for the existing companies and consumers and connects with the open innovation culture. They are promoted with a strategy to block the complexity in advance, which may be caused by new business models and open innovation.

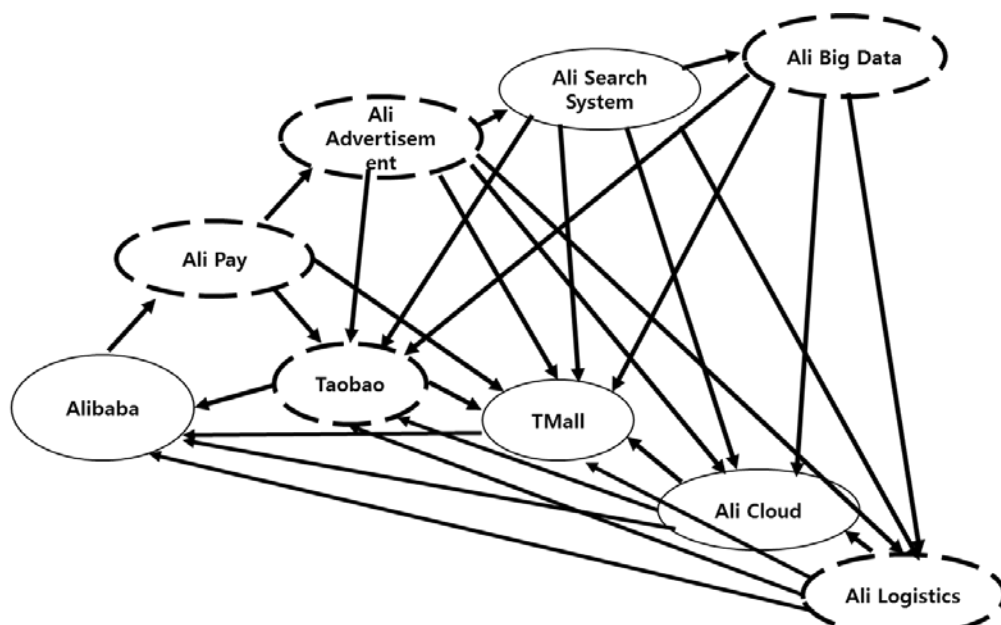


Customer + Employee + Stockholder + expanded economic value

Fig. 5. Ali Search Engine + Ali Cloud System.

5. Sophistication of Alibaba

5.1. Ali Big Data + Ali Logistics



Customer + Employee + Stockholder + expanded economic value + social Value

Fig. 6. Ali Logistics + Ali Big Data System.

Alibaba added two open innovation platforms to the existing Alibaba system as shown in Fig. 6. The addition of Ali Big Data created new social values, such as the protection of the disadvantaged group in China and the prevention of environmental catastrophe, as well as the existing economic value through the analysis of the big data found by analyzing Alibaba's transaction platform information.

Moreover, the company built an open platform for logistics firms across China, leading the significant increase in social values by aiding in the distribution platform for socially vulnerable people in the region. Furthermore, the distribution platform of Alibaba plays an important role in significantly improving the economy of socially weak people.

5.2. Ali Local-Smart firm and Ali Entertainment

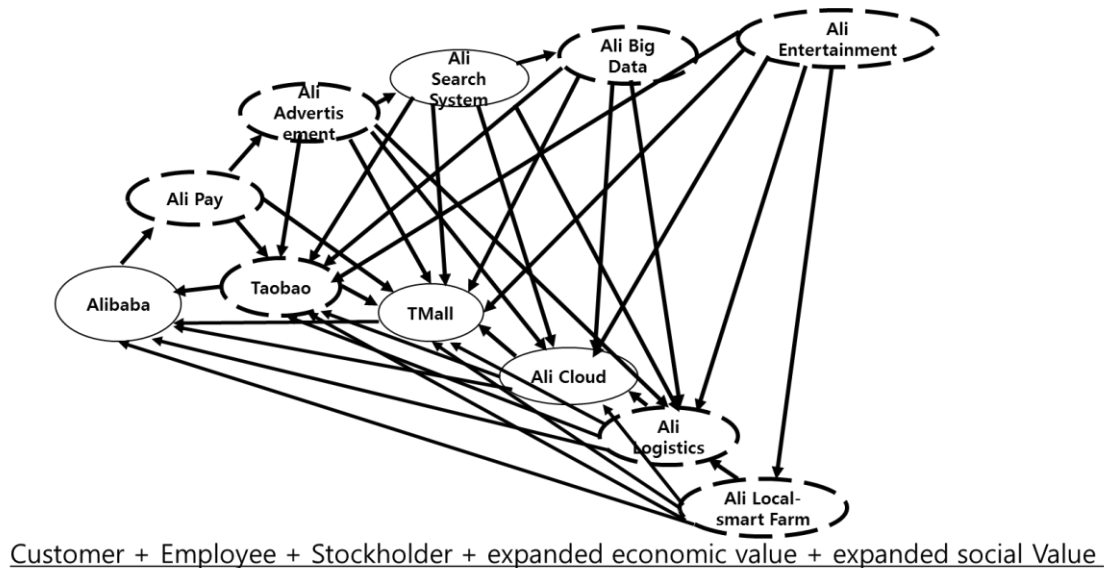


Fig. 7. Ali Local-Smart Farm and Ali Entertainment System.

Alibaba has evolved as a smart farm platform beyond a farm trade platform that connects agricultural products in rural areas with consumers in urban cities of China and other countries. Through this connection, Alibaba additionally creates new social, economic values, targeting farm villages and rural areas in western China. The smart farm platform is an open platform that allows farmers in diverse agricultural fields to join the transaction themselves voluntarily.

Ali Entertainment is also an open innovation platform that gives a chance for the diverse cultural values of China to be shared around the world in various ways.

The connection of an additional open innovation platform with the Alibaba system allows the creation of profits through the feedback loop rather than the increase in the complexity of the company.

strengthens the handling of the complexity caused by a new open innovation business model productively.

6. Conclusion

6.1. Implications

The creation or addition of a new business model through open innovation adds new complexity and uncertainty as well as new emergence from the perspective of companies. Thus, companies should strategically exert efforts to maximize the emerging performance of a new business model through open innovation as well as control its complexity and uncertainty.

Alibaba has added many open innovation business models with system dynamics in a simple technology-market business model, which is e-commerce, in a short time. Through this process, this company has strategically created systems that allow business models to have a virtuous cycle by building the feedback loop.

In addition, Alibaba continuously expands and develops its corporate culture to sustain corporate open innovation, and systematically strengthens it through Ali Academy, Ali Day, Ali Competition, and Ali Team cultural events. These efforts were driving factors for Alibaba to become a top global e-commerce firm even in just a short time.

6.2. Research limitations and additional research project

The first requirement was to conduct an additional research analysis for each case of Alibaba, such as continuous open innovation and business model creation, increase in complexity and uncertainty in companies, continuous expansion of the open innovation corporate culture to handle complexity and uncertainty, and construction of the virtuous system of open innovation.

In addition, further research is to be conducted on the cases of BlackBerry and Nokia in contrast to Alibaba; the systemic response to increasing open innovation requirement is not combined with the open innovation culture construction, and that companies face a crisis in the market for a short time because of uncertainty and complexity. In other words, it is necessary that additional clarification is made on the effect of the complexity and uncertainty caused by open innovation and the continuous addition of business models on companies, and the relation of open innovation culture diffusion to open innovation feedback loop construction.

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5.

Problem analysis and reform in Higher Education in Myanmar – from the case of Japanese Higher Educational Reform -

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Abstract

After over 50 years of isolation, Myanmar's higher education system is needed to renovate intensively to meet global standards. Therefore, this study attempts to point out the major obstacles of higher education which hinder the process of economic and social development in Myanmar for so many years. Moreover, this study looks at the best ways for these obstacles can be overcome. The purpose of this study under the framework of Japanese higher education system is to bring economic change. Under this framework, Myanmar higher education can apply its strong points to establish the strategic model and show right directions for providing huge visions and breakthroughs in Myanmar industrial development for changing poor nation to rich one rapidly.

Based on the above concerns, this research asks the following two questions:

What are the major problems that higher education faces in Myanmar?

How can these problems best be overcome?

Keywords: Myanmar, Japan, Higher Education, universities and industry, Internet, innovation

Purpose of Study

The purpose of this paper is to explore the current higher education crisis in Myanmar and discuss problems. It was tried to analyze and discuss from the context of higher education reform from the case of Japanese higher educational development process. It has captured the attention of current new government's policy-makers in their effort to change Myanmar outdated higher education system. For academics, studying the case of Japanese higher

educational reform presents high opportunity to improve the fundamental aspect of Myanmar higher education system.

The rationale for the study, there are many factors are involved in the HE's development. This means choosing the following important criteria to analyze in this paper include:

1. Purpose and objectives of higher education
2. Quality of current situation
3. Problem of current situation
4. Improvement Attempt and Idea

Research Question

The main research questions of the study aim to address are:

What are the major problems that higher education faces in Myanmar?

How can these problems best be overcome?

The main aims of this study are to point out the major obstacles of higher education which hinder the process of economic and social development in Myanmar for so many years. Moreover, this study looks at the best ways for these obstacles can be overcome by studying the framework of Japanese higher education system and apply its strong points to establish the strategic model and show right directions for providing huge visions and breakthroughs in Myanmar industrial development for changing poor nation to rich one effectively and efficiently.

Literature Reviews

The development of higher education is a necessary condition for the modernization of Myanmar. It has been universally recognized that knowledge is the most precious of all possessions (Myint, 2010). The effect of education is evident in economic, social and environmental developments. No one can deny that education is the best policy for the advancement and the quality of life. The objective is how to achieve the best results in a relatively short time for the country.

Kim, Ryoo & Ahn, (2017) state that as the creative economy has developed, the university has been given an important role of nurturing creative talents that companies desire to have. The

most important objective in creative education is to provide a support system and a good environment for fostering creativity. This will help students in obtaining results and profits through experimenting as well as gaining experience in each step of the process in performing innovation by developing their ideas through utilizing self-directed information and knowledge.

Moreover, Myint (2010) states Myanmar's industry has always been low-tech. To develop the sector, the government needs to start almost from its conception. Industrial development obviously has to be properly planned and executed with the objective to foster fast industrial growth. High-tech industry should also commence in order to transfer technology for various industries. Knowledge is abundant in the world ready to collect. Some emerging technologies may be limited by trade secrets, but there are more than enough technologies available for a country like Myanmar to use in various sectors of the economy. According to Danilevicien & Lace (2017), Economic development is perceived as a complex phenomenon, which essence is to adapt to the constantly changing environment and thus promote the economic development of the country. The key factor of the economic development is the productivity and purposeful use of the labour (Human resources) and capital resources.

Be able to sustain technological absorption for boosting Myanmar industrial sector, Myanmar need to solve out the poor system of higher or tertiary and technical education as fast as possible. According to Park (2017), a new business model, such as a sharing economy and a small organization with rapid growth, will appear. By using Internet of Things (IoT) and location-based big data, it will be possible to make transactions that were not possible in the past. It is because higher education in Myanmar is ranked one of the lowest systems in the world because all Universities are state run and higher centralized by government of the military regime almost five decades. According to Institute of International Education (2013), higher education in Myanmar is needed to reform intensively and the entire system requires nothing less than a complete renovation-from the physical infrastructure to the academic curriculum. The fact is the current Myanmar higher education system is facing a cumbersome administrative structure and inadequate teaching capacity. These are some of the challenges of Myanmar higher education investment and reform for the new elected government in early 2016.

In Japan, the Ministry of Education, Culture, Sports, Science and Technology (MEXT) sets Japan higher education institutions to be very important roles in the age of knowledge-based society and ongoing globalization. Moreover, MEXT tries to promote excellent and diverse

education and research activities under the well-balanced coordination with the establishment approval system and the quality assurance and accreditation system, which is continually reviewed for more efficient system.

According to MEXT, in Japan, academic freedom has been applied for many years and the Constitution of Japan stipulates that every citizen has equal opportunities to receive education based on concerned laws and his or her ability. Additionally, the Japanese Fundamental Law of Education stipulates that the independence, autonomy and the merits of education and research by higher education institutions shall be respected. This principle of self-governance has been assured by Japanese Supreme Court decision.

Therefore, the main aim in this study is to investigate the effects of higher education on industrial development activities by looking at recent Japanese ongoing higher education policy by the government and administrative systems development by the private institutes. This analysis is believed to illustrate the internal and external factors which are positively or negatively impacting the higher education system in Myanmar and to come out the best model strategy that will be very useful for the smooth drive towards international smart society and meet a global standard higher education system. It can be said that it is a major requirement of an immediate response for changing Myanmar higher education system in favour of industrial progress in Myanmar. Additionally, the main research question the study aims to address is analysing the main problems of Myanmar Higher Education System to catch up with a modern industry.

Although there are various factors that can analyse the problems of Myanmar Higher Education System, in this paper, it will be tried to prove that only changing the Government Policy and updating the universities Administrative system are the most important for the first steps of developing country, It is a fact that the research hypothesis for this paper is “When there are weak in government education policy and University administrative system in higher education system, the mechanism of collecting knowledge and having the right skills for improving industries suffer mostly.” Moreover, this research is designed to collect data based from academic personal interview for supporting this argument.

History of Myanmar's Higher Education

Myanmar's higher education has long history³⁶ back to the roots in Buddhist heritage from the

11th century. Since that time, Buddhist monks have played very major roles for educating people based on Buddha's philosophy. Myat Thein (2004, p. 144) states that Myanmar's educational achievement has its roots in Buddhist heritage so that the literacy rate has been very high even before the British occupation because of the monastery education system. Under the British colonial rule, secular education¹ spread and the country achieved a relatively high level of education. From 1921 to 1931, there was huge expansion of colonial and private education system and it had an impact of increasing the number of students enrolled in Universities. During colonial times, Myanmar was one of the richest countries in Asia with very high class higher education systems and had a high literacy rate. When Myanmar gained independence in 1948, the Myanmar government continued to create a literate and educated population, and Myanmar was believed to be on its way to become the first Asian Tiger in the region.² According to Ministry of Education, the major changes in higher education took place with the enactment of the University Education Law of 1964. This was later repealed and the University Education Law of 1973 was enacted.

During the time of ruling by the military government (1964-2011), they used closed-door policy of isolating the country from the outside world, especially the West. Between 1964 and 1980s, the government ordered the universities to use the Myanmar language as the medium of instruction and scholarship programmes offered each year by Western democratic countries were mostly rejected. As there were neither sufficient textbooks in Myanmar nor enough of them could be produced, especially in technical subjects, this system brought the whole system to fail. The quality of education also suffered from frequent disruptions of learning and discontinuity of the educational process which shut down of schools and universities many times. (MyatThein, 2004, p. 116 & 117). It was because thousands of students and citizens gathered to demonstrate against the military regime in 1962, 1963, 1967, 1969, 1970, 1974, 1975, 1976, 1987 and 1988 (MyaMaung 1998, p. 229).

In recent years, there are 163 of higher education institutions in states and regions of Myanmar. All of the universities are state funded. The ministry of education controls 66 universities and the other 12 different ministries are in charge of 97 universities. 61 are led by the Ministry of

¹ Secular education is a system of public education in countries with a secular government or separation between religion and state. (https://en.wikipedia.org/wiki/Secular_education)

² EDUCATION IN MYANMAR (http://factsanddetails.com/southeast-asia/Myanmar/sub5_5f/entry-3117.html)

Science and Technology (MoST) in the form of technical vocational education and training (TVET) facilities.

The following table indicates the number of higher education institutions in each ministry breaks down in 2011 – 2012

<i>Number</i>	<i>Name of Ministry</i>	<i>Number of University</i>
1	Ministry of Education	66
2	Ministry of Health	15
3	Ministry of Science and Technology	61
4	Ministry of defence	5
5	Ministry of Culture	2
6	Ministry of Environmental Conservation and Forestry	1
7	Ministry of Agriculture and Irrigation	1
8	Ministry of Livestock Breeding and Fisheries	1
9	Ministry of Co-Operatives	5
10	Ministry of Union Civil Service Board	1
11	Ministry of Religious Affairs	1
12	Ministry Border Affairs	2
13	Ministry of Transport	2
Total		163

Table (2.2): The number of universities in each ministry breaks down in 2011 – 2012

Source: Department of Higher Education (Lower Myanmar), MOE (2012).

The following figures are Myanmar "Academic Structure of Education System" and "Administrative Structure of Higher Education System".

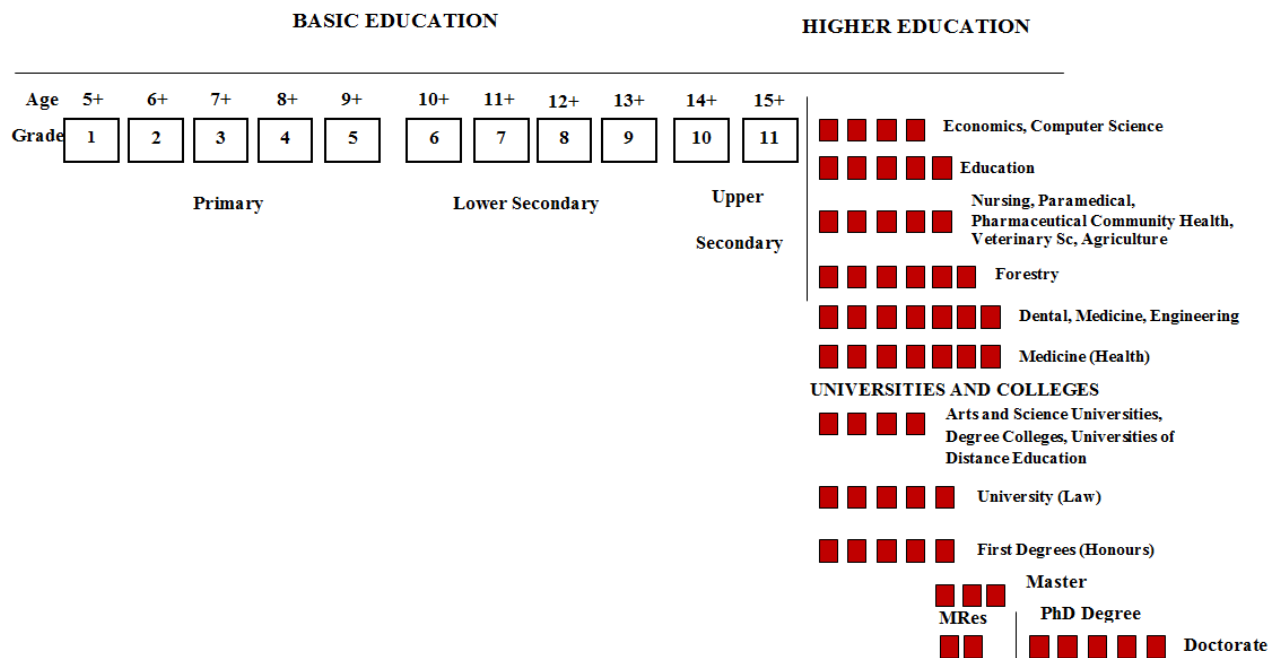


Figure (2.1): Myanmar Academic Structure of Education System

Source: Department of Higher Education (Lower Myanmar),

Higher Education Sector: Administrative Structure

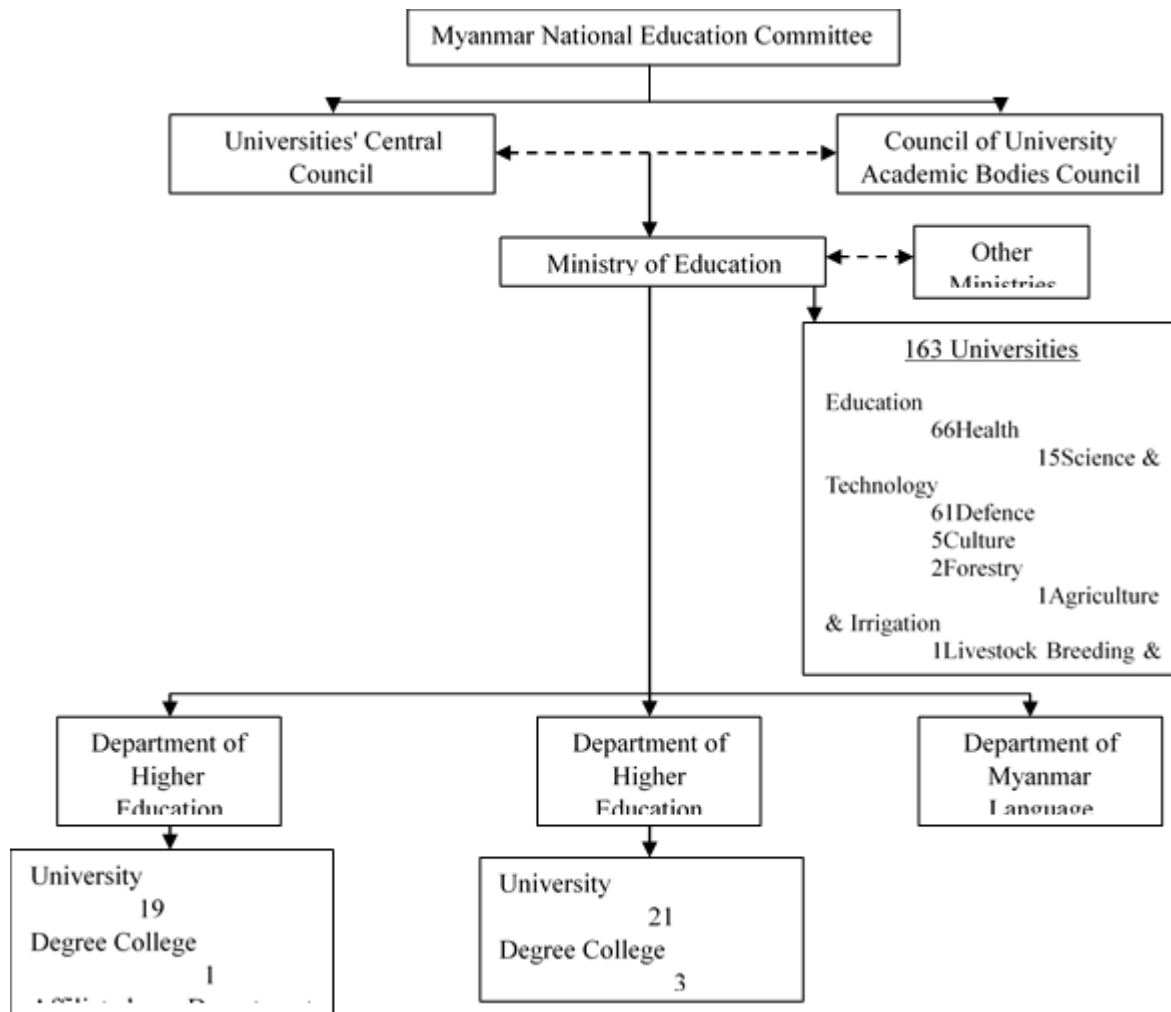


Figure (2.2): Administrative Structure of Higher Education System

Source: Department of Higher Education (Lower Myanmar), MOE (2012)

There are three main government organizations supervising the higher education sub-sector:

1. The National Education Committee (NEC)
2. The Universities Central Council (UCC)
3. The Council of University Academic Bodies (CUAB)

The higher education in the existing system is directly responsible to and managed by the Ministry of Education (MOE). The policy maker or the highest in its administrative hierarchy concerning with education is National Education Commission (NEC) chaired by Minister of Education, and the members consist of Deputy Ministers from other Ministries who are running universities and colleges. NEC is, as shown in above Figure (2.2), supported by two councils,

namely the Universities Central Council (UCC) and the Council of University Academic Bodies (CUAB).

Under the National Education Committee (NEC), administrative and academic policy matters of higher education are managed by UCC and CUAB chaired by the Union Minister for Education. The Universities Central Council is principally responsible for broad policy and co-ordination of the work of higher education institutions; meanwhile, the Council of University Academic Bodies is responsible for the adoption of academic regulations and co-ordination of academic work.

Background of Japanese Higher Education

Japanese education before World War II was characterized by hyper-nationalism. Students were brainwashed according to a nationalist agenda and taught other races were inferior and the Emperor was a god. After World War II, Japanese schools were modeled somewhat after American schools and came under control of a highly centralized Ministry of Education. “Following the end of World War II, the Fundamental Law on Education and the School Education Law were enacted in 1947 under the direction of the Occupation forces. The latter law defined the system that is still in use today: six years of elementary school, three years of junior high school, three years of high school, and two or four years of university Hays (2008)

Drummond (2010) states since the 1960s Japanese universities have been in crisis but so far have managed to escape major reforms. This is in part due to the vibrant and rapid growth of the manufacturing and services industries that have absorbed whatever graduates were produced. Employers themselves have been chiefly responsible for providing for education and development of its lifetime workforce. However, post-1990 and the Japanese economic bubble crisis where growth slowed and guaranteed employment for graduates has ceased, a new way forward has been sought as many previous employment assumptions have weakened.

According State University (2016), Japan has over 500 four-year colleges and universities. There are basically three types of four-year institutions: (1) national universities that are supported by the central government, such as Tokyo University; (2) public universities that are supported by governments at the municipal or prefecture level; and (3) privately funded institutions. Approximately 75 percent of all universities in Japan are private. Generally, universities aim to expose students to a broad range of knowledge while providing a context for research to be conducted by faculty. In 2010 more than 2.8 million students were enrolled

in Japan's 778 universities. At the top of the higher education structure, these institutions provide four-year training leading to a bachelor's degree, and some offer six-year programs leading to a professional degree. There are two types of public four-year colleges: the 86 national universities (including The Open University) and the 95 local public universities, founded by prefectures and municipalities. The 597 remaining four-year colleges were private.

As reported in MEXT (Ministry of Education, Culture, Sports, Science and Technology), in Japan, universities are divided into following three categories

1. National universities (originally established by the Japanese Government, but currently established by national university corporations)
2. Public universities (established by local public entities or public university corporations)
3. Private universities (established by educational corporations)

University	Bachelor's degree	Four years
Graduate school	Master's degree	Two years
	Doctor's degree	Five years
	Professional degree	Two years
Junior college	Associate's degree	Two or three years

Figure (2.4): Academic degrees awarded by higher education institutions and the standard periods required to obtain such degrees

Source: Higher Education Bureau, Ministry of Education, Culture, Sports, Science and

Methodology

This chapter gives details of the methods and procedures that are employed in carrying out this study.

The Research Question

The main research questions of the study aim to address are:

What are the major problems that higher education faces in Myanmar?

How can these problems best be overcome?

The main aims of this study are to point out the major obstacles of higher education which hinder the process of economic and social development in Myanmar for so many years. Moreover, this study looks at the best ways for these obstacles can be overcome by studying the framework of Japanese higher education system and apply its strong points to establish the strategic model and show right directions for providing huge visions and breakthroughs in Myanmar industrial development for changing poor nation to rich one effectively and efficiently.

Data Collection

This research utilized in depth interviews and semi-structured questionnaire from academic experts' opinions (e.g. rectors and professors, and heads of Universities) and policy makers of higher education as primary data. The semi-structured questionnaire

Category (A) : Purpose and Objective
What do you think about purposes and objectives of your university?
What do you think about some requirements of the faculty in your university?

Category (B) : Current Situation (Quality)
What do you think about names of academic degrees, facilities and equipment, and school buildings of your university?
How many organizations are conducting institutional quality assurance and accreditation of universities?
What do you think about autonomous quality assurance activities in your university?

What do you think about our strategies for internationalization of universities?

- Introducing classes in English
- Inviting international students to study in Myanmar
- Developing universities as centers of internationalization

Category (C) : Current Situation (Problem)

What are the main problems and challenges of our higher education system?

What are the key solutions? What are these problems causing?

Are they affecting their activities for promoting our higher education systems?

What activities your university applies for addressing the problems that we face as a human resource development?

Category (D) : Improvement Attempt and Idea

What do you think about sharing facilities and materials with researchers all over Myanmar?

What have you done as an educator to promote Higher Education? Were your activities efficient?

In your view, which are the improvements that your university should made in order to increase its efficiency and for promoting higher education more effectively?

What do you think about the role of private universities in terms of quality for developing Myanmar higher education?

Data analysis

Content analysis was used to analyze the data which was gathered from personal interviews.

Research limitations

Due to the limitation of time, the researcher will not analyze to all aspects of Myanmar higher education. To acquire more accurate results, the researcher might need to visit some Government Universities or Ministry of Education if it is necessary.

Keywords: Myanmar, Japan, Higher Education, and universities

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6.

Strategy Dynamics Market Competition with Business Innovations in the Service Industries

Min-Ren Yan, Bae-Chen Lin, Nelson Cruz

Abstract

1.1.1. The Importance of Business Innovations in the Service Industries

In industry after industry, pharmaceuticals, software, automobiles, integrated circuits, food, service, customer demands for continuous innovation and the plunging cost of experimentation are signalling a switch from anticipatory to adaptive styles of development. Highsmith (2009) define five key business objectives for a good exploration process and reliable innovation: (1) Continuous innovation, to deliver on current customer requirements; (2) Product adaptability, to deliver on future customer requirements; (3) Reduced delivery schedules, to meet market windows and improve return on investment (ROI); (4) People and process adaptability, to respond rapidly to product and business change; and (5) Reliable results, to support business growth and profitability. Innovation became in a key factor for firms if they want to be competitive in today's complex business and technology world and deliver customer value with their products. Product development teams are facing a quiet revolution in which managers have to adjust. In this new global competitive market, managers have to create strategies to develop competitiveness and market potential. In the recent year a new generation of business model have been highlighted where the process of innovations and business development, in addition to technological innovations, open products and services innovation and business model innovation comprising the value of the social environmental and sustainable development (Yan, 2016).

That is why it is necessary for companies to invest, not only in the innovation of their products and services, but also in the innovation of the production process, machinery and personnel training, therefore they can operate efficiently with the new technology, allowing to maximize the profits of the firm, making the company adapt without problems to a globalized market that is constantly changing and thus increase the firm value and improving customer perception.

In addition to the technological and process innovations, commercialization of innovations and proper pricing strategies for the innovative products is necessary to reach the market value as well as greater profits. Therefore, a successful introductions of new products into the market are important for the survival and growth of companies. However, many new products fail, many times because a wrong pricing decision strategy; the failure rate is as high as 50 percent at launch (Cooper and Kleinschmidt 1990). Since consumers can vary in their preferences, motivations and propensity to spend, the right pricing decision is regarded as one of the most important tactics for firms to overcome their rivals in a competitive market, and is a key element of the marketing strategy. According to Kohli & Suri (2011) pricing decision can offer a powerful advantage, when pursued carefully, businesses can make significant profits, and the impacts can be seen easily.

In a previous study made by McKinsey & Company based on Global 1200 companies, average operating profit accounts for 9.1%, with 66.4% accounted by variable costs and 24.5% accounted by fixed costs. Therefore, on average, a 1% increase in price would lead to an 11% increase in operating profit; a 1% increase in sales volume would increase profits by 3.7%; a 1% decrease in variable cost would increase the operating profit by 7.2%; and for a 1% drop in fixed cost, profits would increase by 2.7% (Baker, Marn, & Zawada, 2010).

Although previous studies show different tactics and methodologies to address an adequate price decision making, there are very few that show an approach in a dynamic context. Therefore, is necessary since the market nowadays, and the consumer's behaviour, is very changed and is in constant development.

1.1.2. Empirical Case Study: Sushi Restaurant market in Taiwan

With shares over 30% in the restaurant market, the fast-food industry has recently become one of the most influential restaurant businesses of Taiwan. Nowadays, the main family structure in Taiwan is nuclear family. The growth of occupational women and two-day-off-per-week system have led to the increasing number of out-

dining population. Annual domestic out-dining population is more than 20 million and there's about 80% eating out for lunch and 60% for dinner. In Taiwan, the biggest conveyor belt Sushi brand, is Sushi Express Group, founded in 1996 and have over 300 global outlets, including several in China, Hong Kong, Singapore, Thailand and the United States. The group have 5 brands, Sushi Express, Sushi Take-Out, Dim Sum Line and the newest Magic Touch; although Sushi is Japanese food, Sushi Express Group is a Taiwanese Brand. The main competitor for Sushi Express Group is Kura Sushi, a Japanese brand, which has been gaining market share in recent years and have proven hugely popular, since they are based on the fact that their product is of better quality and is originally from Japan. In January 2017 it became known that Kura Sushi plans to open 5 more restaurants in 2017 and octuplet the number of its Kura Sushi conveyor belt sushi restaurants in Taiwan to 40 by 2024 and bet on a more aggressive strategy to compete against Sushi Express. Magic Touch is the newest brand of Sushi Express Group, with the intention to compete directly, against Kura Sushi restaurant, with a good pricing decision to be competitive with Kura Sushi prices, also improving the quality of the product and service and also applying innovative technology in the service to give an add value to the company allowing to the customer get a better perception of the quality of the product and service.

At the eateries in Taiwan, a plate of sushi costs 40 New Taiwan Dollars, and a customer spends an average of 250 to 350 New Taiwan Dollars. Managing restaurant that depend on sales of alcoholic beverages is difficult in Taiwan because Taiwanese usually spend little when dining out and do not drink much, and they usually go to a restaurant in groups and stay for conversation long after they have finished their meals; that's why the sushi conveyor belt stores have a great opportunity to expand and compete in the food service industry of Taiwan.

1.1.3. The Role of System Dynamics Methodology in Systematic Analysis

The term System Dynamics came in the late 1950's at the Massachusetts Institute of technology by Professor Jay Forrest, his early work was developed for General Electric and simulated management and economical systems, but have latter was adopted in different areas, such as biology, ecology, agriculture, economy, epidemiology, military strategy, physics, chemistry, and many other fields proving been a useful tool to create strategies and making decisions. System Dynamics utilises a specific method of system description based on rates and levels, the need for a system description method, which is simple, compact, and easily understood is an important factor of any approach to system enquiry (Rodriguez-Ulloa & Paucar-Caceres, 2005). Forrest approach was to use sources and sinks for each type of flow, but today, system diagrams are almost entirely based on the diagraph principles of control engineering. According to Warren (2015), these are more commonly know as influence diagrams or casual loop diagrams, and since all enterprise are designed systems, all the principles of System Dynamics can be applicable in management. Therefore, became necessary to explain these principles, in order to be clearly and understandable for managers and executives, so they can make a systematic analysis and crate strategies. I the recent years, many studies has been conducted and the interest in firms dynamics, like Gary, Kunc, Morecroft & Rockart (2008), describe in his research, present a great opportunity for System Dynamics research to make important contributions to the field of strategy. The develop of this approach can be supported by computing technology advances to improve and get a better understanding of strategic decision making, it is a computer modelling techniques that simulate behaviour of system and have many complex feedback paths, because there is no limit on the size or complexity of systems that can be modelled.

Understanding feedback process is of greater importance in the strategic decision making process because depending on the modelled system, better decision-making can come from it, allowing the executive or manager, improve their performance over the time. Therefore, System Dynamics become in a powerful tool and have a big potential for dealing with issues that can be very complex in some systems that are driven normally by feedback processes (Lee, 2006). The scope of system dynamics includes feedbacks from soft elements in the system, such as social organizations, which are seldom dealt with in other quantitative methodologies.

System Dynamics concerns a dynamic behaviour over time under various conditions. Jay Forrest defines system dynamics as the study of the information-feedback characteristics of industrial activity to show how organizational structure, amplification in the policies, time delays in decisions and actions, interact to influence the success of the enterprise, therefore it allows the administrators to identify problems or situations in a certain period of time, and to be able to act or create strategies by performing a systematic analysis, in such a way they can create the most appropriate and efficient strategy (Jeng, Cheng & Liang, 2006). Also System Dynamics encourages the use of soft variables in modelling of the strategic decision making process, this is an advantage at the structuring of the model, it facilities the understanding, and can add a great value for researches and managers.

1.2. Research Objectives

This study employs a descriptive analysis base on strategy dynamics model for a Taiwanese company (Sushi Express Group) focused on the new brand of the ~~g~~roup, Magic Touch, as well as the perspective of customer satisfaction regarding to the service provided, against one of his principal competitor, a Japanese Brand, Kura

Sushi. The goals of this study are listed as follow:

- (1) Identifying the strategic roles of pricing decision for innovative products in the market with a systematic viewpoint.
- (2) Developing a new Strategy Dynamics Market Competition Model with business innovations which reflects the competitive pricing behaviour for innovative products/services in a competitive market.
- (3) To implement the proposed model of making decision using Strategy Dynamics Analysis, and demonstrate the decision support functions to improve service management process in the sushi service industry of Taiwan

Keywords: competitive strategy, business model, open innovation, decision support, service innovation, pricing.

7.

The Research on the Convenience Service of the Public Bicycle Share System in Haimen , Jiangsu Province

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Abstract : With the accelerated development of the urbanization, more and more issues have appeared in cities, such as traffic jam, traffic accident and environmental pollution, which hinders the development of the cities. Because of all these problems, the public bicycle has appeared in Europe in 1960s. The public bicycle has popularized around the world during the last fifty years. The Public Bicycle Share System in Haimen started in the December of 2014, which has provided much convenience to citizens. But at the same time, they have various issues during its operation. This research focuses on the convenience service of the Public Bicycle Share System in Haimen and tries to find some deficiencies in its operation. The main deficiencies are inappropriate locating of public bicycle rental station, lack of supporting service, [occupation](#) of the rental station and imperfect road traffic infrastructures. Finally, based on the introduction of the deficiencies, this paper has provided countermeasures to promote the convenience service of the Public Bicycle Share System in Haimen.

Purpose/ Research Question:

There is no doubt that the rapid urbanization improves the urban construction, however, "urban disease" such as traffic congestion, urban air pollution, travel complicated, and so on also appears, which bothers people who live in the city.

In the 1960s, Amsterdam first attempted to solve the problem of urban mobility by implementing a public bicycle rental system, which was also considered as the origin of the public bicycle system. Subsequently, Denmark, Paris and Lyon gradually promoted the public bike. Nowadays, public bicycles have become a new type of mass transit, which is accepted by many citizens. In China, public bicycle system started in Beijing in 2007. In order to provide better public services to citizens and tourists during the Olympic Games and ease the traffic pressure in Beijing, the Beijing municipal

government began to promote public bicycles. Later, Chinese cities such as Hangzhou, Ningbo, Wuhan and Nanjing started piloting. In general, public bicycles are still in the early stage of development in China. The public bike service provision, government role in public bicycle system, vehicle scheduling, citizen satisfaction and evaluation system are concerned by scholars.

Haimen's public bicycle rental project formally started trial by the end of December 2014. In order to solve the problem of "the last mile" of public transportation and ease the pressure on public road traffic in Haimen, the government decided to take this action. In more than a year of practice, the effectiveness of public bicycles in Haimen apparently has been gradually recognized by the public and become a new mode of transport for citizens. In the long run, using bicycles, especially public bicycles, is even more environmental-friendly and low-carbon, which stands for a new mode of convenient and low-cost transportation. But in actual operation, it still has many problems. Public bicycles serve the citizens, so their feeling of using public bicycles public bicycle rental project i should be focused. This paper investigates the convenience of Haimen public bicycle rental project and puts forward some constructive countermeasures in order to make it possible for public bicycles to serve the citizens better and enhance public satisfaction.

Key Literature Reviews:

In the process of urbanization, the urban public transportation system is more perfect today. Public transportation such as buses, subways and cars are becoming more and more common in modern cities. However, these public transportation are still unable to solve the problem of "the last mile". There is a shortage because it still needs to be strengthened in terms of the convergence of residential areas and bus stops. Therefore, in the long run, using bicycles, especially public bicycles, can solve the "last mile" problem in urbanization more effectively. China draws on the international experience in developing public bicycles and has successively put into operation public bicycles in many cities.

By summarizing the role of travel demand forecasting method in planning public bicycle rental in Paris, Geng Xue et al. (2009) further elaborated several important aspects concerning the setting of renting points, such as influencing factors, methods of determining and laying out principles, pointing out that although Bike, car rental points and service terminals are easy to do with, but adding more user-friendly design services will make the user experience of public bicycles more perfect.

After researching many aspects of public bicycles in Lyon, France, such as service terminals, parking piles, bicycle facilities, rental methods, costs and income, Han Huimin et al. (2009) analyzed the types of renting points, location and points. By laying out the method, Han found that Lyon set up piles based on their own characteristics in different regions. At the end of the article, they introduced the public bicycle publicity methods with distinctive features in all districts of Lyon. In terms of the time scale of public bicycle operation, there is roughly the pre-design phase, which includes determining the location of public bicycle rental points and calculating the amount of public bicycle investment. Therefore, Li Lihui et al. (2009) relied on Wuhan public bicycle rental point, laying out planning features and pointing out that the size of residential sites and public transport points should be, the size of public facilities and campus points Synergy.

Han Xiao of Southwest Jiaotong University (2012) analyzed the current status of Wuhan public bicycle operation and put forward targeted improvement measures. When studying the public bicycles in Shanghai, some scholars such as Guo Minhui et al. (2009) introduced their concrete planning and implementation and focused on the layout patterns of campuses, parks and rail transit stations. It is a new research point that needs to be paid attention to in the future operation of public bicycles to realize the personalized setting of the regional characteristics of the public bicycle.

Methodology:

This paper puts forward the questions that needs to be studied, then looks up and studies the relevant theories. The main research methods are based on literature collection, questionnaire and interview. After summarizing and summarizing the problems, the author puts forward some feasible improvement strategies to these problems.

The literature collection method refers to reading a large number of domestic and foreign literatures related to public bicycles and browsing various academic journals and scholars' articles.

The questionnaire survey means distributing questionnaires to citizens in the vicinity of several public bicycle rental sites in Haimen and analyzes related issues such as age, gender, purpose of use and convenience of public bicycles.

Interview method that random interviews with Haimen citizens to understand Haimen public bike in convenience of the existing problems, summed up the solution the people hope.

Results:

Through the research, this paper summarizes the problem of convenience in the public bike rental project in Haimen.

Modern transport, such as cars, subways, motorcycles and others, did indeed facilitate interpersonal interactions and did indeed have a significant role to play in improving people's travels, but with congested cities, pressure from rising oil prices, environmental pollution caused by car exhaust emissions, and frequent traffic accidents. Therefore, a new type of public bicycle transport, in the long run is a low-carbon and environmentally friendly, cost-effective mode of transport. Haimen public bicycle rental project is still in its infancy, the government focused on the needs of the public convenience of travel, the supply of public bicycles.

However, in actual operation, the public bike rental project has not fully met the expectation of the public, the convenience brought by travel has yet to be perfected, and the rental project has many problems in convenience and convenience. There is still much room for improvement in the public bicycle rental project in Haimen. The government should continue to listen to the opinions and suggestions of the public, earnestly clarify the deficiencies in public conveniences, adjust and improve the current operation mode and make democracy scientific decision-making to promote the improvement of public bicycle rental system in Haimen, to better facilitate public travel, benefit the people and improve the construction of government functions.

Research limitations:

This thesis is not limited to public bike dispatching problem that domestic scholars pay a great deal of attention to, or to study the whole operation of public bicycle, but from a point of view, starting from the public, focusing on the change of public bicycle convenience for people's travel, problems in convenience.

However, this paper is still inadequate, the total sample of the paper is not big enough, also led to the survey results may not be able to represent the vast majority of Haimen public bike convenience view. Analysis with a certain degree of subjective opinion, proposed measures to enhance the convenience of people in the specific implementation there is a certain degree of difficulty.

Keywords: Public Bicycle Share System convenience service rental station

8.

Meaning based Open Innovation

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Abstract

Research Background:

Though the rates vary widely from country to country, the world as a whole experienced unprecedented economic growth. Now it has become a difficult time for growth since the big economic growth. It is observed that the economic growth rate of major capitalistic nations is reaching 0%(JinHyo Joseph Yun 2015).

Companies need to find the way to overcome this market situation. The huge development of industry and technology makes it easy for people to get products. It is necessary to understand people's internal needs and find new opportunities. Consumer decision-making is affected by factors both internal (e.g., positive or negative emotional states) and external (e.g., brand names, gender)(Lee & Workman 2015). Now the role of internal factors is growing.

In the more developed and convenient industry, people pursue meaning in their consuming experience. People want to pay their money for meaningful experience. Post-materialist values emerge as people come to place increasing emphasis on autonomy, self-expression and the quality of life(Inglehart 2008).

Viktor Frankl believed that the individual's impetus toward meaningful living or the will to meaning is a fundamental motivation (Frankl 1946). Many literary works and movies show insights on how human nature craves for meaning of life.

Market researchers put emphasis on meaning for the future market. Rich Karlgaard, the savvy publisher of Forbes, says this is the next cycle of business. This research will explore the concept of meaning and its importance in customer experience.

Purpose/ Research Question:

The purpose of this study is to answer this research questions.

"What is the role of meaning in experience?"

1. How is the term of meaning used in customer experience?
2. What is the relationship between meaning and experience?
3. How can we design a good experience with meaning?

Design/ Methodology/ Approach:

The research scope and method start from the analysis of existing studies on the definition of meaning and the different use of the term in experience. And the analysis of the preceding studies covers the relationship between meaning and relevant terms such as experience, emotion and value. This will reveal the role of meaning in experience and how to design meaning in experience. In addition, the study result will be supported by customer experience cases in Korea.

The comparison and analysis of those studies will offer insights on designing meaningful customer experience. Finally from the study, a framework for meaning in experience will be developed.

(Expected) Findings/Results:

1) Meaning in Customer Experience

Oxford dictionary defines meaning as "what is meant by a word, text, concept, or action", "implied or explicit significance", and "Important or worthwhile quality; purpose".

Meaning is value that customers deeply desire. Diller insisted in his book, 'Making Meaning' that it is time that customers increasingly make their purchase decisions based on deeply valued meanings that company evoke for them through their products and services-in other words,

meaningful consumption(Diller 2005). Company can deliver what kind of meaning can be through a total experience. Peter Desmet and Paul Hekkert suggested three components of experience in their Framework of Product Experience. One of the three elements is 'Experience of meaning' and it corresponds with cognitive response category 'semantic interpretation' and 'symbolic association' (Desmet & Hekkert 2007).

Thus, the term of meaning is used to express inner mental desires. Recently, it has also been used to express the desire for higher quality of life such as improving spirituality or consumption according to personal political and social beliefs. Daniel Pink, in his book, 'A Whole New Mind', mentioned meaning as one of six aptitudes for the Conceptual Age. Kim suggested "Meaning Out" as one of the market trend for 2018. It means that people are consuming more in accordance with their political or social beliefs.

Companies may not create meaning but evoke meaning through experiences(Sohn, 2011). In this study, meaning will be explored in experience. Pine and Gilmore stated that the main commodity of economy is now experience. They defined the progression of economic value in their famous book, The Experience Economy. Major economic value has been shifted from commodities to goods to services to experiences to transformations (Pine & Gilmore 1999).

It can be seen that many studies on brand experience or consumption experience deal with meaning. Darrel Rhea in his book "Making Meaning" and Daniel Pink of "A Whole New Mind" and many other researchers mentioned about meaning in customer experience. Meaning that the human being pursues becomes an element of satisfaction when experiencing a product or service.

2) Framework of Meaning in Customer Experience

The process by which a customer personalizes and empowers one experience to become a memorable experience will be developed as a framework.

Forlizzi and Ford's Framework of Experience and Forlizzi and Battarbee's research on experience were explored. From the research, it was found that sharing experiences allows people to personalize their experience and make another meaning and add value in the process of sharing with others. At the third stage - the media and social innovation - since the customer share his ideas, needs and suggestions, he almost becomes a "producer" and makes the firm able to create highly customized products and services(Della Corte et al. 2015). In the final paper, framework of meaning in customer experience will be suggested.

3) Case Study

It is a consumer trend there are a growing number of people who want meaningful experiences. Small bookstores with unique concepts are a huge fad these days in Korea. This is the evidence of the importance of meaning in customer experience. People want to spend their time with meaningful contents and find their meaning of life. With this trend, some companies made bookstore or library. Ananti Cove, a multi-recreational facility in Korea is one of the examples. The newly opened recreational facility unusually made a bookstore called 'Eternal journey' in their largest space or over 15,000m². The signboard of the bookstore is called 'Soul Clinic'. They say that people can experience intellectual pleasure in there with art and culture.

72 Seconds, mobile-based micro drama is another case. The drama has a very short story about things that happen to ordinary people in a pleasant rhythm and dialogue. Some companies utilized the media as their commercial. The form of drama is a pleasant way what this product means to its customers.

Some other cases can be added for the final paper.

4) Conclusion

As it is getting difficult to differentiate in product only and consumers want more meaningful experience, it is important to take into consideration what kind of meaning people are concerned in customer experience.

Total experience of product such as aesthetics, package and distribution channel is like a symbol to people. They can be associated with a certain lifestyle and symbolic meaning.

The framework of meaning in experience that will be proposed in this paper will indicate that designers need to find an opportunity before creating experience for what kind of meaning people crave for. In addition, it needs to be designed to share to other people through social media for memorable experience.

Research limitations/ Implications:

This study can be used in any design process for creating effective and memorable customer experience. The framework of meaning in experience that was proposed in this paper will indicate that customer experience should be considered of personalizing and giving meaning to the experience in the process of sharing it with others after experience.

There is no such a thing as a general meaning of life that is applicable to everyone. In the next study, kinds of meaning that people want will be explored.

Keywords: Meaning, Experience, Brand Experience, Design Psychology, Human Factors

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9.

Can Green Investor Improve Green Governance Performance?

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Abstract

As the occurrence of such problems as the climate change, resource constraints is tighter, environmental pollution and ecological degradation, the environmental problems are becoming more and more globalized, good ecological environment become the basic conditions and common demand of various countries' economic and social development, green development and ecological environment protection become the common goal of all countries, thus global green governance become the inevitable trend of governance development. According to first global green governance principles (2017) which China Academy of Corporate Governance of Nankai University released, "Green governance is a public transactional activity which aims to construct ecological civilization and green sustainable development with participation of governance main body, implementation of governing measures and synergy of governance mechanism. It requires every country to promote the healthy development of social economy through the innovation of patterns, technologies and methods according to their own and international regional ecological environment carrying capacity, and it is a kind of new concept which conforms to the law of sustainable development." Institutional investors have the channels of directly involved in the management, rich experience and professional analysis tools. they have greater capacity and motivation to get the information relevant to the value of the company, they can affect the management to make decision depend on the information advantages and the strong voting rights relative to the other shareholders (Schnatterly et al., 2008). Moreover, based on their own characteristics and advantages, institutional investors have the ability and motivation affect the company decision-making. In addition to the investors guided by the interests, there are also a kind of green governance oriented investors, Barnea et al. (2003) call this kind of investors as the "green" investors, which investment decisions are according to the performance of enterprises and moral standards.

Based on this, the paper mainly from the perspective of stakeholder theory, based on a-share listed companies of Shanghai and Shenzhen as samples, we test the influence relation of green investors and the green governance effectiveness of the firm. After measure the effectiveness of green governance as environmental performance, the possible research conclusions are: (1) compared to listed companies which have no green investors, with green investors are more likely to take part in green governance action, and have higher green governance performance; (2) according to the equity structure, green investors can be divided into long-term equity investors and short-term equity investors, higher stakes investors and lower stakes investors, and then the research find that green investors of different share-holding structure have great difference influence in the effectiveness of green governance.

The contribution of this paper may be mainly include: (1) the existing research mainly investigate the firm fulfill social responsibility from the perspective of information disclosure, but the research for the enterprises to participate in the green governance are poor, although there are some research, but mostly from the perspective of theory, such as Li (2016) points out that the green governance is a transcending national governance view, Li and Hao (2017) argues that green governance is a new idea of corporate social responsibility, and Li (2017) points out that the effective practice of green management is not only to

identify companies, government, social organizations and the social public, all kinds of governance subjects, more need to build governance mechanisms such as collaborative governance and network governance, based on large samples, the paper empirically test the influences factors of enterprises to participate in green governance, is a good complement for green governance research; (2) the paper combined with stakeholder theory for the first time to investigate the influence of green investors to corporate take part in green governance, which provides a new research perspective for investors' research; (3) in this paper, we study confirmed that the green investors can actually affect the enterprises' green governance participation, this provide beneficial enlightenment for the government to formulate green governance relevant policies.

Keywords: green investor; green governance; environmental performance; empirical research

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10.

The effect of culinary tourism behavior on food festival visitors' revisit decision formation

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Abstract

In this paper, the effects of novelty seeking and food involvement on culinary tourism behavior as well as the culinary tourism behavior's effect on intention of revisiting the Jeonju Bibimbab Food Festival are studied. For the analyses, 400 participants are surveyed for four days from October 26th to 29th in 2017 and 340 questionnaires are finally used for the study. The results show that two variables of novelty seeking and food involvement have positive and statistically significant effects on the culinary tourism behavior. That is, the former finding reveals that the tourists who like to visit other places for the purpose of tasting the foods have a tendency to try unfamiliar or new menus and places rather than familiar dishes and restaurants. The latter finding means that people who usually like to talk about food related subjects or participate the culinary activities are inclined to enjoy the culinary tourism. In addition, it is found that food involvement gives more impact on the culinary tourism behavior than novelty seeking does. Therefore, this means that the usual interests and concerns are more important to the culinary tourists than unfamiliar foods or restaurants never visited. Finally, it is also known that the culinary tourism behavior gives a significant effect on the intention of revisiting the Jeonju Bibimbab Food Festival. It implies that people who like to enjoy food related festival at the tour places and to taste and experience the local food there are more likely to revisit the Jeonju Bibimbab Food Festival. These suggest that marketing efforts for food festival organizers should consider developing new local foods and products as well as informing the ample food materials and produces of Jeonju.

1.Purpose/ Research Question:

As Jeonju Bibimbap Festival have become successful festivals, local food festivals and food tourism are being studied as major research topics in academia. In addition, research on service quality, satisfaction, and intention to revisit local food festivals has been actively conducted (Kim, Min-jung, Jeon Hyun Mo, 2015; Kim Moon-moo, Kim Sang-beom, Lee Soo-Beom, 2012). Although there have been studies on general food festivals, it is hard to find any research on tourists' intention to return to Jeonju Bibimbap Festival, one of the most successful local food festivals. The purpose of this study is to investigate the relationship between food involvement and the pursuit of novelty in food touring behavior and the intention to visit food touristic behavior and revisit intention of Jeonju bibimbap food festival do. Through this, local

governments, tourism marketers and festival practitioners who are in charge of the Jeonju Bibimbap Festival will help to develop effective marketing strategies

2. Key Literature Reviews (About 3~5 papers):

2.1 Food Tourism

Long (1998) notes that food tourism is deliberate and exploratory participation in the eating habits of people of different cultural, social, and economic habits, including the consumption or cooking of food and cooking. The expression of tourism as food is related to intention and exploration. Scholars who consider only the anthropological aspect of tourism mainly emphasize the exploration of new places, and from the perspective of exploring new areas related to food, they can also refer to food as tourism. Therefore, food travelers do not just eat meals to solve hunger, but they will voluntarily decide and act on everything, expecting changes in eating habits and new experiences of those changes. Hall & Mitchell (2000) and Hall & Sharples (2003) found that food tourists visit certain restaurants and regions related to food producers and food festivals, and are more likely to experience local specialties, expectation was defined as the main purpose of travel.

2.2 JeonjuBibimbap festival

Among the local foods, bibimbap is a traditional food representing the culture of Jeonju province and has become a representative food of Korea. Korean Air's bibimbap was selected as the "Mercury Gold Award" by the International Travel Catering Association (ITCA) in 1998, and it was the opportunity to promote bibimbap as a representative food in Korea. (Binary Outdoors, 2014).

Also, in 2012, Jeonju city was selected as the first food craft city designated by UNESCO in Korea.

The Jeonju Bibimbap Festival is held every autumn in Jeonju and is one of the most successful local food festivals in Korea. The number of tourists visiting Jeonju Bibimbap Festival in 2017 is about 100,000 including foreigners. The '2014 Jeonju Bibimbap Festival' was held on October 26th for four days at the Korean Traditional Culture Center with the theme of "Rumble and Fun" and "Enjoy and Enjoy".

Jeonju Bibimbap Festival is based on taste and health based on Jeonju's representative food "Bibimbap" with characteristics of "harmony and individuality is alive." Since its launch in 2007, it has been canceled due to the swine influenza in 2009 It is held annually in Jeonju as an annual event until now. The Jeonju Bibimbap Festival was originally held under the name of 'Chunju 1000 year taste banquet', and it became the present Jeonju Bibimbap Festival since the 3rd Festival.

2.3. Involvement

Involvement can be defined as the degree of importance and concern of an individual perceived by a particular stimulus or subject under certain circumstances (Lee, 2011). Thus, involvement is caused by a specific stimulus or situation, and is the degree of information processing effort, such as the relevance of a particular subject or the search for a specific subject, depending on the degree of desire, value, or interest of the individual Wiley et al., 2000).

Food involvement is the degree of interest and importance of food or diet perceived by individuals in everyday life (Bell & Marshall, 2003). Therefore, consumers' involvement in food plays an important role as a criterion for choosing food along with perceived value of food, and leads to purchasing behavior for food when a favorable attitude toward food and food intake is formed (Kim, Sunjoo et al., 2011). Thus, food involvement has recently been

emphasized as a key variable in food selection behavior and food-related decisions (Eetermans et al., 2005).

Kim Mun-Myung et al. (2012) found that involvement in food festivals has a positive effect on satisfaction and return visit. In particular, the food festival, which is based on food compared to other types of festivals, emphasizes the support of the theory that the festival's intention and theme are clear, so that the involvement plays a very important role in understanding the satisfaction and redirection of food festival visitors.

2.4 Novelty seeking

Novelty means novel, marvelous or different experience, and innovation in the dictionary meaning (Moon Ki-cheol · Han Kyung-soo, 2012). Such a novelty was recognized as an important factor in allowing people to leave their familiar places and take a trip to a strange place (Shincheol · Hwang Sung-hye, 2011). Cohen (1972) found that the attitude and acceptance of tourists and other cultures are different according to the level of seeking novelty in the case of overseas travelers. In addition, many researchers such as Yiannakis & Gibson (1992) and Chang et al. (2006) have tried to examine the characteristics of tourists according to the level of novelty of tourists.

2.5 MGB

Perugini and Bagozzi (2001) developed the model of goal directed behavior (MGB), which adds three variables of affective, habitual, and motivational processes to the TPB to improve the prediction of behavior. These new variables are considered as significant factors in human decision-making processes (Conner and Armitage, 1998; Aarts et al., 1998; Perugini and Bagozzi, 2001). Wilson and Arvai (2006) highlighted that affective responses to a particular behavior may even sometimes overpower analytic computations in human decision formation. Hence, adding anticipated affective reactions to TPB is a useful way to heighten understanding of behavior. As such, anticipated emotions are adopted as a determinant to represent the affective aspect of behavior in MGB. A number of studies argue that frequent enacting of a behavior may result in subsequent behavior in terms of habitual processes, although past behavior does not necessarily have a causal relationship with subsequent behavior (Mullen, Hersey, and Iverson, 1987; Norman and Smith, 1995). Therefore, past behavior is incorporated as predictors of desire and intention into the MGB. Desire is also known as playing an important role in predicting human behavior from the motivational aspects of human decision formation. In MGB, desire is incorporated as a mediator to explain how reasons for behavior are consolidated and emerged as behavioral intentions, which would enhance the model in terms of predictive ability.

Recently, many researchers modified the MGB by adding new constructs or altering existing variables to capture the unique properties in a certain context (Taylor, 2007; Song et al., 2012a; 2012b; Lee et al., 2012). For an example, Taylor (2007) proposed a new model of predicting consumers' information search behaviors under uncertain and risky conditions by augmenting the MGB. In this model, he incorporated another emotion of anticipated regret to the MGB while other emotions remained in the model because feeling of regret is common and significant in decision formation under risk (Abraham and Sheeran, 2003). Moreover, attitude that was originally in the MGB into two exogenous variables, utilitarian and hedonic attitude toward information search, to specifically consider cognitive and affective aspects of attitudes (Hagger and Chatzisarantis, 2005). Song et al. (2012a) incorporated the construct of environmentally friendly tourism behaviors into the MGB to identify its effect on the festival visitors' intention at the Boryeong Mud Festival

in South Korea. In this study, environmental concerns and perceived customer effectiveness are incorporated as predictors of environmentally friendly tourism behavior which is a determinant of desire in the MGB. In another study by Song et al.(2012b), the MGB is extended by adding perception of responsible gambling strategy to explain its role on desire and casino visitors' intention to gamble. Lee et al.(2012) addressed an extended model of MGB in the tourism context by introducing two constructs of non-pharmaceutical intervention and perception of 2009 H1N1 influenza to examine the effects of them on behavioral intention of prospective international tourists.

2.6. Hypothetical relationships

2.6.1 Based on a review of research, the suggested hypotheses are the followings:

H1. Food involvement has a positive influence on culinary tourism behaviors.

H2. Novelty seeking has a positive influence on culinary tourism behaviors.

2.6.2. The relationships between attitude, subjective norm, perceived behavior control, and desire (The relationship between attitude and desire)

Most researchers claim that intention is a significant determinant of behavior and mediates the relationship between attitude and behavior (Ajzen, 1991; Cheng, Lam, & Hsu, 2006; Baker, Al-Gahtani & Hubona, 2007). Therefore, a person's behavior, as in the TRA and the TPB, is predictable from his attitude toward that behavior if intention and behavior are highly correlated. It follows that a person's attitude toward performing the act represents his evaluation of that act. That is, a person who evaluates the suggested act as positive has a higher intention and is more likely to act so.

Bagozzi (1992) introduced the desire as a determinant of intention to enhance the predictive ability of intention in the MGB. More specifically, the desire in the MGB is a direct function of attitude toward a behavior, subjective norm, perceived behavior control, and positive/negative anticipated emotions and in turn a major predictor of intention (Perugini and Bagozzi, 2001). In other words, a person's attitude, subjective norm, and anticipated emotions give indirect impacts on intention only through desire, and perceived behavior control affects intention directly or indirectly through desire in the MGB. Therefore, a person's attitude toward a behavior acts as a predictor of desire in the MGB. Based on a review of research, the proposed hypothesis is as followed:

H3. Attitude has a positive influence on desire.

2.6.3. The relationship between subjective norm and desire

In the TPB, subjective norm acts as a determinant of intention in decision making process. Therefore, people tend to undertake the particular behavior that their significant others expect them to perform. That is, if an individual thinks that other people expect him to do an act, then he has higher intention to do that act, and in turn he has a higher tendency to do so. The role of a person's behavioral intention as a direct function of subjective norm in the TPB is revised in the MGB, where subjective norm affects the behavioral intention indirectly only through desire. Therefore, subjective norm affects desire, which mediates the effect of subjective norm on the behavioral intention in the MGB. Specifically, Taylor (2007) found that, in the

broadened MGB of information search behaviors under conditions of uncertainty and risk, subjective norm has an effect on desire, which mediates the effect of subjective norm on behavioral intention. Based on the prior research, the following hypothesis is proposed:

H4. Subjective norm has a positive influence on desire.

2.6.4. The relationship between anticipated emotions and desire

H5. Positive anticipated emotion has a positive influence on desire.

H6. Negative anticipated emotion has a positive influence on desire.

2.6.5. The relationship among perceived behavioral control, desire, and behavior intention

H7. Perceived behavior control has a positive influence on desire.

H8. Perceived behavior control has a positive influence on behavior intention.

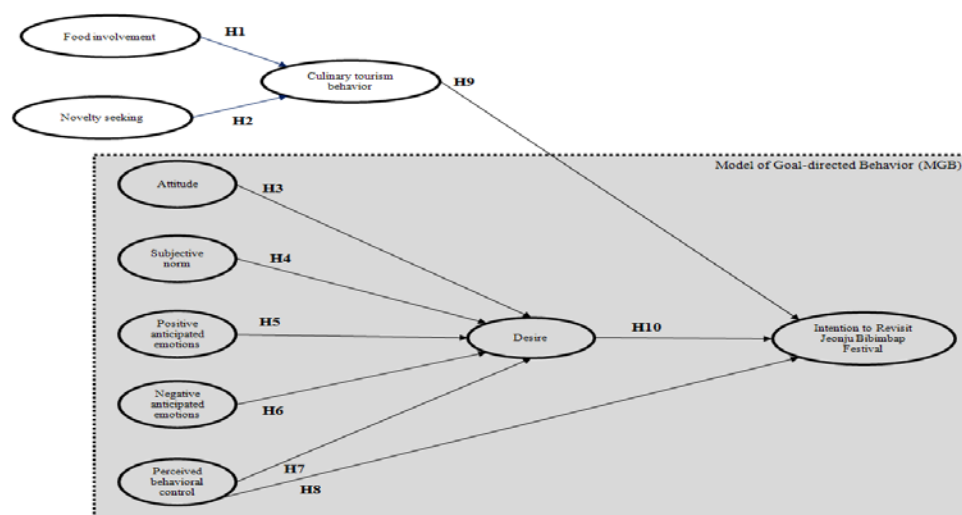
2.6.6. The relationship between culinary tourism behavior and behavior intention

H9. Culinary tourism behaviors have a positive influence on behavior intention.

2.6.7. The relationship between desire and behavior intention

H10. Desire has a positive influence on behavior intention.

In summary, this extended MGB can serve as a new theoretical framework to explain the behavior intention of the food-based festival behaviors. Therefore, this study proposes the theoretical model as shown in the following figure.



A proposed research model.

3. Methodology:

3.1 Measurements

All constructs in this study except the frequency of past behavior were measured with multiple items, as recommended by Churchill(1979) and Kline(2005). Using multiple indicators to measure theoretical

constructs can enhance validity, thereby covering various facets of the construct. An extensive literature review on tourist behaviors, environmentally friendly tourism behaviors, and human behavior theories was conducted to elicit a preliminary list of measurement items for this study (Ajzen, 1991; Ajzen & Madden, 1986; Bagozzi & Edwards, 1998; Bentler & Speckart, 1979; Carrus et al., 2008; Kim & Han, 2010; Lam & Hsu, 2004; 2006, Lee et al., 2012; Oh & Hsu, 2001; Perugini & Bagozzi, 2001; 2004, Song et al., 2012a; 2012b; Song et al., 2014).

To test face validity of the study instrument, five tourism scholars and festival managers were asked to review and refine the preliminary generated items to ensure that these items were appropriate to assess the measurement items for the Jeonju Bibimbop festival. Furthermore, a pilot test was also conducted with 30 festival attendees who had visited the and 5 graduate students majoring in tourism management. Items that had been identified as ambiguous were reworded for clarity.

Three newly added constructs, food involvement, novelty seeking about food, and culinary tourism behaviors were selected from the tourism literature (e.g., Bell & Marshall, 2003; Lee & Crompton, 1992; Shenoy, 2005). Each construct was operationalized with four questions. The original MGB constructs were modified to fit the context of the Jeonju Bibimbap festival setting as follows. First, the respondents' attitudes associated with the Jeonju Bibimbap festival were operationalized with eight items (e.g., "I think that visiting the Jeonju Bibimbap festival is a [like, desirable, pleasant, intelligent, attractive, exciting, enjoyable, valuable] behavior"). By the same context, the subjective norm was operationalized with four items (e.g., "Most people who are important to me [agree with, recommend, support, and understand] that I visit the Jeonju Bibimbap festival"). Anticipated emotions were evaluated with six items (3 items on positive anticipated emotions and 3 items on negative anticipated emotions) (e.g., "If I will revisit the Jeonju Bibimbap festival I will be [delight, pleasant, happy.]" and "If I can't revisit the Jeonju Bibimbap festival I will be [angry, unpleasant, disappointed.]") Lastly, the perceived behavior control was composed four items (e.g., "I am confident that if I want, I can visit the Jeonju Bibimbap festival," "I am capable of attending the Jeonju Bibimbap festival," "I have enough resources (money) to visit the Jeonju Bibimbap festival." and "I have enough time to visit the Jeonju Bibimbap festival"). Desire is operationalized with three items (e.g., "I [would like to, hope to] revisit the Jeonju Bibimbap festival in the near future," and "I [want to have fun] when I revisit the Jeonju Bibimbap festival in the near future").

3.2. Data Analysis

Statistical analysis of the collected data was analyzed by using statistical package of SPSS 18.0 and AMOS 20.0 widely used in social science field. First, prior to verifying the model and hypotheses of the study, internal consistency between each measurement item was evaluated and reliability analysis was conducted to ensure reliability of the measurement tool. In order to secure the validity, exploratory factor analysis was performed first. Second, confirmatory factor analysis was conducted to determine the suitability for more rigorous validation and structural equation modeling. The validity of construct validity was evaluated by calculating Average Variance Extracted (AVE) and Composite Construct Reliability (CCR) through confirmatory factor analysis. Third, correlation analysis was performed to ascertain the correlation between the measurement variables as the preceding step to verify the research hypothesis in this study. Fourth, the hypothesis test of this study was analyzed through the Structure Equation Modeling (SEM), and each concept set in the model and hypothesis of this study was input as a latent variable and the mean of the items measured in the multidimension And as input variables for each latent variable.

4. (Expected) Findings/Results

The purpose of this study was to investigate the effect of the pursuit of novelty and food involvement on food tourism behavior and the influence of food tourism behavior on the inquiry of Jeonju bibimbap food festival. The results of this study are summarized as follows: First, the pursuit of novelty has a positive impact on food tourism behavior. In other words, those who travel to other regions for food tourism tend to pursue a new place or an unfamiliar place, rather than a usual restaurant or menu. Therefore, it is necessary to concentrate attention on efforts to differentiate from other regions in order to satisfy people who enjoy food tourism and to show newness. Second, it was confirmed that food involvement had a positive effect on food tourism behavior

As a result, you can see that people who usually talk a lot about food, or people who are involved in food-themed activities, can also enjoy food sightseeing. Therefore, tourist attractions based on food suggest that they should focus on developing or informing the theme of the area about food in order to increase food involvement. Third, it was revealed that the food involvement had a greater influence on food tourism behavior than the pursuit of novelty. Therefore, it is shown that tourists who travel to tourist destinations for food main purpose are more interested in food and interest than food for unfamiliar food or new restaurant. Finally, food tourism behaviors have a positive impact on the revisit of the Jeonju Bibimbap Food Festival. This shows that people who enjoy food-related festivals at sightseeing spots and taste and experience local food are more likely to revisit the Jeonju Bibimbap food festival.

Therefore, in order to make the existing visiting tourists not as new customers who are participating in Jeonju Bibimbap Festival for the first time, as a loyal customer, it is necessary to grasp the tendency of the people who enjoy the sightseeing of food, and to provide products and attractions that they can enjoy. In other words, they are interested in local culture, history, and local souvenirs as well as local foods in other regions. Therefore, various approaches and efforts are needed to discover and interpret cultural properties and history.

The academic significance of this study is that it was the first study of the intention of returning to the Jeonju Bibimbap Food Festival, one of the most successful food festivals in Korea, and the food touristic behavior of the tourists participating in it. In addition, it can be said that the pursuit of novelty in food has a direct effect on food tourism behavior.

5. Research limitations/ Implications:

The purpose of this study is to investigate the recall of Jeonju Bibimbap food festival in order to find out who participated in Jeonju Bibimbap food festival. Therefore, it has a time limitation that it does not target those who have previously participated. Future research may be an interesting attempt to mitigate these seasonal constraints or to explore the intention to visit people who have not participated in the Jeonju Bibimbap food festival.

Keywords: Food involvement, Novelty seeking, Jeonju Bibimbap, Food festival, Tourism

11.

Inside-Out: the forgotten side of Open Innovation and the Role of ICT

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Abstract

Purpose/ Research Question: Information and communication technologies provide firms with unprecedented tools to support their Open Innovation processes, in that they provide new enabling factors for generating, sharing, retrieving and storing data, information or knowledge that could dramatically impact how organizations manage their boundaries (Bogers et al., 2017). However, although Open Innovation is deeply affected by ICT, many are the aspects and questions that ICT poses when used to support firms in managing knowledge transfer from and to external partners (Awazu et al., 2009; Cui et al., 2015), particularly in outbound OI processes. One specific aspect that remains scarcely investigated in the extant literature on the topic is the role of ICT platforms in enabling the connectivity and collaboration between different actors. Therefore, this is felt in the scientific community as a compelling gap which should feed the next research agenda on OI (Bogers et al., 2017). Nevertheless, also firms are more and more interested in using ICT to support Outbound OI processes.

Therefore, the aim of this research is to explore the role and potential of Information and Communication Technology in supporting the outbound OI process. In so doing, this paper tries to contribute mobilizing ICT resources to support Open Innovation processes (Cui et al., 2015). Specifically, while participating to the academic debate on how ICT research can boost firms at exploiting internal resources for commercialization, it would enable the development of an integrated ICT-based system for outbound Open Innovation.

So far, addressing the investigation of the role of ICT in the outbound OI process, we focus specifically on a preliminary and exploratory phase of the design process, which is functional to any conceptual design. The relative significance of conceptual design, to support basic design or detail design, is widely recognized due to its influential roles in determining the product's fundamental features and development costs (Umeda et al., 1996). Nevertheless, a preliminary investigation step, trying to match the right technologies/tools with the appropriate process task, is very opportune.

Key Literature Reviews (About 3~5 papers): Over time, Open Innovation (OI) strategy was considered a "must" for many firms in different industries (Oganisjana, 2015). Therefore, research on Open Innovation has gained incredible momentum and the scientific literature has begun to analyze OI from different perspectives, encompassing multiple and heterogeneous viewpoints, representations, theories, contexts, levels of analysis, and even research methodologies (Svirina et al., 2016; Yun, 2016). One of the most promising perspectives proposed in the extant literature interprets OI as a macro-process (West and Bogers, 2013; Slowiski and Sagal, 2010): such perspective indeed has great potential both for theory and also practice, in that it provides managers/professionals with tangible guidance (Tavakoli et al., 2017). In such macro-process, three key processes (also modes) can be differentiated (Enkel et al., 2009; Gassmann and Enkel, 2004): the outside-in process, also referred to as 'inbound' process, which consists of accessing the technical and scientific knowledge and competence from external sources in order to integrate them internally; the inside-out process, also referred to as 'outbound' process, which involves looking for partners with a business model better suited to commercialize a technology (Chiaroni et al., 2009); and the coupled process, that consists of a balance of the two previous processes.

While focusing on the process which undoubtedly suffered dearth of attention by the extant literature, i.e. the outbound OI process (Lichtenthatler, 2011; Gassman et al., 2010), it emerges that, generally speaking, OI process is characterized by a number of complex tasks and decisions which could deeply benefit of ICT support. ICT, in fact, can foster and support process coordination, communication and related tasks that are essential in OI, such as for instance communication among different actors, cooperation, knowledge creation and sharing/transfer. In this line, we contend that, similarly to many other organizational processes, also the outbound OI process could greatly benefit

from the support given by a dedicated ICT platform that, while being capable of integrating all its activities and phases and facilitating the information and control flow, could avoid the fragmentation of the different process phases.

On this point, the empirical evidence and the scientific debate move forward with different speed, being undoubtedly the first forward of the second. On the one hand, the empirical evidence shows that platforms have exponentially grown during the last years (see, for example: Innocentive, NineSigma, Yet2come.com). However, on closer view, existing platforms support only specific OI phases or sub-processes, but not the process in its own entirety. On the other hand, the scientific debate, although recognizing that ICTs can enable the entire inbound process (Awazu et al., 2009) and although analyzing the existing platforms (for a review see Tavakoli et al., 2017), has rather disregarded the way firms can support the whole Open Innovation outbound process by means of ICTs (Cui et al., 2015). Also, to our best knowledge, literature does not offer any contribution regarding a systematic investigation on how ICT can support the outbound OI process which is propaedeutic to any preliminary, systematic design (specifically a conceptual design) of such an ICT platform.

Therefore, in the attempt to contribute filling this research gap, the main purpose of this manuscript is to shed further light on where (in which process phases and tasks) and how (which kind of coordination/communication mechanisms and technologies) ICT can foster firms implementing the outbound Open Innovation process. In so doing, this research would also provide directions for the conceptual design of an integrated ICT platform supporting the different phases of the outbound Open Innovation process.

Design/ Methodology/ Approach: The research has gone through the following main steps.

Firstly, in a preliminary-step, we carefully reviewed the extant literature in order to identify process phases and tasks which characterize the outbound OI processes. To ensure an exhaustive literature review, we analyzed articles selected from the top 50 most-cited technology and innovation management journals as reported by Linton and Thongpapanl (2004) and specialized articles from the ICT field.

Afterwards, we concentrated more specifically on the role of ICT during the different process phases and referring to the specific tasks identified. Again, we tried to merge evidence from the scientific literature with empirical insight emerging from the field.

On one hand, in fact, some research streams in the literature regarding knowledge management already investigated the role of ICT in facilitating the KM process (Griffith et al., 2003; Koh and Kim,

2014; Alavi and Leidner, 2001; Von Krogh, 2012). Therefore, this specific stream has been very helpful for designing the OI platform, being the outbound open innovation a knowledge intensive process. Whether failing to hone in specific organizational processes and being not conclusive/exhaustive in providing a thorough understanding of how ICT can support the OI process, KM literature effectively illustrates a variety of IT tools may be drawn upon for support of different KM processes (creation, storage/retrieval, transfer, and application; Alavi and Leidner, 2001) in organizations.

On the other hand, a number of ICT platforms (Innocentive, NineSigma, Yet2come.com) and tools (Bretschneider et al., 2015), or at least design proposals, are already existent and studied in the literature.

(Expected) Findings/Results:

Because of the severe challenges many firms face in managing Open Innovation, after a first initial disinterest of the literature on the process through which firms implement Open Innovation (Chiaroni et al., 2009), recent work has pointed to a process-based understanding of OI, although the scientific focus has primarily been on the outside-in process (Lichtenthatler, 2011; West and Bogers, 2013; Slowinski and Sagal, 2010; Gassman et al., 2010; Tavakoli et al., 2017).

According to a process-based view of outbound OI, it is possible to identify two main phases (Bianchi et al., 2009; Teece, 2007): firstly, the (i) opportunity identification, aimed at identifying the technologies which may create value by means of their external transfer, as well as the markets which may benefit from them, and, secondly, (ii) the external transfer of technologies identified in the first phases. The first phase can be divided between two sub-phases, i.e. (i.1) the exploration of markets and technologies and (i.2) the assessment of the internal technological portfolio.

In the following, each (sub)phase is described.

The exploration of markets and technologies

In turbulent environments, new opportunities open up both for those well-established companies and "newcomers" which are able to explore both "local" and "distant" technologies and markets (Teece, 2007), i.e. able to search for information on what is happening in the entire business ecosystem. This includes the understanding of customer needs, technological possibilities, latent demand, the structural evolution of markets with the final aim of searching for new applications for technologies. Such research primarily requires the company that owns the technology to learn how to separate the technology from the context in which it was conceived and deepen the

functionalities the technology can exercise.

The sources of information that companies can use to explore markets and technologies can be both formal and informal. In this regard, external professionals such as intermediaries and the corporate network as well can find valuable information sources. The intermediaries, defined as organizations which match supply and demand of technology to facilitate IP-based transactions (Benassi and Di Minin, 2009), are experienced professionals who advise companies in the evaluation of their patents, in research of new business options and identification of potential partner companies (Aarikka-Stenroos et al., 2014). Company networks consist of individuals (users, experts, managers and entrepreneurs), groups (collaborative communities, peer communities and sub networks) and organizations (companies, associations and universities). Specifically, the presence in the corporate network of innovative companies can create new fields of activity and new markets for innovations (Möller and Rajala, 2007; Möller and Svahn, 2009): scientific literature, indeed, has shown that innovative companies can commercialize their innovations in new markets, combining them with resources present in their networks (Tolstoy and Agndal, 2010). In other words, the larger the corporate network and the greater the chances of successfully running outbound Open Innovation activities.

Detecting opportunities and threats can also be facilitated if the company employs explicitly or implicitly some kind of analytical frameworks (Teece, 2007). In this regard, companies can obtain information through patent analyses (Daim et al., 2006), trend curves, such as the life cycles of technology (Jones et al., 2001) and the analysis of the S curve (Sood and Tellis, 2005; Modis, 2007; Phillips, 2007). In addition, intelligent data mining tools (Porter and Cunningham, 2005), automatic search mechanisms for obtaining information in databases, can help companies in searching faster for the most relevant information for their goals.

Assessment of the technological portfolio

Companies often cope with great difficulties in assessing the value of their technologies and, in some cases, tend to overestimate the value which can derive from their exploitation (Duhamel et al., 2014). The assessment of the return the technology promises is very compelling as it may influence the decision about whether or not to undertake an innovative project (Cohen et al., 2000).

At a general level, the objective of this phase is to establish the royalty at which a technology can be licensed, being many the variables which can affect such an assessment, such as, for instance, the specific characteristics of the innovation itself, the licensee bargaining power, and the legal aspects.

The first step to carry out an assessment of the technological portfolio consists of the identification of the proprietary technologies which can potentially be licensed. One way to make this selection is to determine the potential royalty rate (Duhamel et al., 2014) at which technologies can be licensed, considering influencing factors such as (Santiago et al., 2015): the expiry of patent protection (the larger the period in which the technology is protected, the greater the potential royalty rate; in fact, in the event that the patent protection is close to expiry, the potential licensee could decide not to buy the technology and to wait for the deadline, instead); the geographical coverage (if the patent is protected in a country characterized by a very competitive market, the royalty rate must be set at a minimum value, as the competitive market has an easier access); the interdependency to third parties' patents (in this case the royalty rate strongly depends on the negotiation with third parties; in case of difficult negotiations, the royalty rate must be set at a minimum value); the compliance with regulatory and/or other legal aspects (if the State permit for the commercialization of technologies is required, the royalty rate must be set at a minimum value).

The second aspect consists of the evaluation of the effects caused by technologies when they are introduced in external environments. This requires the prediction of the possible reactions of customers, suppliers and competitors to the introduction of technology in the market (Duhamel et al., 2014). To do this, patents are to be evaluated, building on both technical and market dimensions (Santiago et al., 2015). The technical dimension concerns aspects like the impact on the industry due to the innovativeness of the technology, the technological superiority over substitutes, and the differentiation level, taking secondary aspects into account. The market dimension is connected with aspects like the market potential (taking into consideration the patent's activity, functionality and benefit), its contextualization in a known market trend, and the existence of a commercialization bottleneck.

Appropriate tools for carrying out the assessment phase of the technology portfolio are the execution of the analysis of the 5 Porter Forces (Duhamel et al., 2014; Teece, 2007) and multi-criteria analysis to support the decision making process.

Stipulation of contracts with licensees

Once an opportunity is identified and the potential value that a technology can generate by exploiting it outside the company boundaries is estimated, a company must assess how it can effectively "capture" that value.

There are different ways in which a technology can be transferred externally and each of them has different managerial and organizational implications (Jeong, et al., 2013; Chiesa et al., 2008) because of the different degrees of risk and the different potential for generating profits they imply (Jeong

et al., 2013; Megantz, 2002). These are: technologies sales, strategic alliance, joint ventures, licensing, spin-off.

Research limitations/ Implications: Main limitations of this research are due to its exploratory nature and the characteristics of preliminary findings, which draws on the existent literature and artefacts (platforms), and the specific needs of the investigated and application settings. As an addition, findings remains conceptual in nature and are not completely validated. Future developments of this work should plan for an extension to other application contexts in order to enrich and verify the advanced propositions. Also, further advances should concern the achievement of a conceptual design of the ICT platform which would set the stage for the next stages detailed design, implementation and testing.

Conceptual design is a relevant and very resource consuming result, which can be considered a crucial long term output for this research in its attempt to support the development of an ICT tools/platform supporting the outbound OI process. Specifically, the related implication are relevant to both academics and practitioners.

As regards scholars, contributing to the ideation of an integrated ICT platform could be considered as a step forward in the OI research. The literature on Open Innovation is in fact far from being conclusive in understanding relationship between Open Innovation and the digital transformation. Specifically, the role of digital technologies and platforms in enabling the connectivity and collaboration between actors is neglected when dealing with the outbound OI process and felt in the scientific community as a compelling research question which should feed the next research agenda on OI (Bogers et al., 2017).

As regards the practitioners, the conceptual design is essential to allow the achievement of the final goal, i.e. the development of the ICT platform. Whether finding of this research belong just to a preliminary stage, it could be useful for setting direction to other firms opening approaching the Outbound OI process, as well as for software developers: both can be inspired and build on the advanced propositions.

Keywords: Outbound, Open Innovation, Information and Communication Technology, Platform

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12.

The Impact on Congestion and Efficiency of Hospital Specialization

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1. Purpose / Research Question

In the past decades, the number of private hospitals has continued to increase, and the similarity of the services provided has caused the over-supply of demand in the Korean medical industry. In addition, external environmental changes such as the government medical fee regulation, separation of dispensing and prescribing function the division of medicine have added to the crisis, and the medical industry has been facing a crisis of bankruptcy due to market competition if it is not careful about management decisions. Therefore, hospitals should respond to changes in the environment, and analyze the internal factors that affect profitability to improve hospital management efficiency. As the importance of the efficiency of the hospital has been emphasized, studies related to this have been preceded, and most of the previous studies showed that the inefficiency exists in the operation of the hospital(Valdmanis, 1992; Grosskopt et al., 1987; Park, 1997; Park et al., 2002;Ahn et al., 2005; Shin, 2006; Kim, 2010; Cho et al., 2013). Excessive input in operations can be a major cause of hospital efficiency. Based on this concept, it is needed the congestion analysis that can measure overloaded elements. Congestion refers to the phenomenon that one or more outputs increase when one or more inputs decrease. In other words, the output generally decreases when the input is decreased, whereas the congestion is the phenomenon that the output increases when the input is decreased, Therefore, congestion is a necessary concept to measure the overrun factor.

Indeed, Cooper et al.(2001) used congestion analysis to demonstrate congestion in the labor input and investment capital which is the input of the textile and automobile industries in China from 1981 to 1997. In addition, Simões and Marques (2009) conducted a congestion analysis of 68 hospitals in Portugal, demonstrating that congestion occurred in more than half of the hospitals. Therefore, it is necessary to verify the existence of congestion in the Korean medical industry, where the problem of efficient operation is greatly increasing. In addition, it is necessary to analyze the elements of congestion in detail and to suggest ways to improve the operation of the hospital. On the other hand, specialization strategies are being considered as one of the most effective countermeasures that many hospitals in the medical industry can take in order to increase efficiency(Faley, 1990). Previous studies that have analyzed the relationship between hospital specialization and hospital performance have reported that appropriately specialized hospitals could provide quality services at reduced cost(Farley, 1990; Eastaugh, 1992a; Eastaugh, 1992b; Eastaugh, 2006; Lee and Clarke, 1992; Zwanziger et al., 1996; Hillner et al., 2000). Schneider et al. Emphasized the need for strategies to improve hospital outcomes by focusing on highly competitive health care services. Lee Kwang-soo (2016) also demonstrated that hospital specialization increases efficiency. Therefore, this study attempts to analyze the relationship between hospital specialization and congestion. In other words, the purpose of this study is to demonstrate that hospital specialization is a factor to reduce congestion, and provide suggestions that will help the future decision making of hospitals realistically.

2. Key Literature Reviews

2.1 Congestion Analysis

The analysis of congestion and efficiency of Korea hospitals, which is the subject of this study, is based on Data Envelopment Analysis(DEA). DEA is a nonparametric technique designed to evaluate efficiency, and has been widely used in various fields such as schools, banks, hospitals, and public institutions. The concept of efficiency is that an organization can achieve the maximum output with a given resource or use minimal resources to achieve a certain goal. Meanwhile, congestion is the concept of increasing one or more output when one or more inputs are reduced, which is a necessary concept for measuring overloaded elements. Cooper et al. (2001) used two-step non-radial measure model. In the first stage, the total slack obtained from the efficiency measurement is measured. In the second stage, technical inefficiency and congestion are measured separately.

$$\begin{aligned}
& \text{(First stage)} \quad \text{Max } \phi + \epsilon \left(\sum_{r=1}^s S_r^+ + \sum_{i=1}^m S_i^- \right) \\
& \text{s.t.} \quad \phi y_{ro} = \sum_{j=1}^n y_{rj} \lambda_j - S_r^+ \quad r = 1, 2, \dots, s, \\
& \quad \quad x_{io} = \sum_{j=1}^n x_{ij} \lambda_j + S_i^- \quad i = 1, 2, \dots, m, \\
& \quad \quad 1 = \sum_{j=1}^n \lambda_j \\
& \quad \quad \lambda_j, S_r^+, S_i^- \geq 0 \quad \text{for } i, j, r.
\end{aligned}$$

$$\begin{aligned}
& \text{(Second stage)} \quad \text{Max } \sum_{i=1}^m \delta_i^- \\
& \text{s.t.} \quad \hat{x}_{io} = \sum_{j=1}^n x_{ij} \lambda_j - \delta_i^- \quad i = 1, 2, \dots, m, \\
& \quad \quad \hat{y}_{ro} = \sum_{j=1}^n y_{rj} \lambda_j \quad r = 1, 2, \dots, s, \\
& \quad \quad 1 = \sum_{j=1}^n \lambda_j \\
& \quad \quad \delta_i^- \geq \delta_i^- \quad i = 1, 2, \dots, m,
\end{aligned}$$

In the case of Fleggand and Allen(2007), the efficiency of the 41 universities converted from the former College of Science and Technology in the UK to the general university in 1992 was compared with that of the existing general universities. Conversational colleges have a high incidence of congestion, and the reason for this is excessive academic staff. Park Sung-hoon(2015) examined the differences in congestion and efficiency according to the types of public hospitals(by establishment type and treatment function). By comparisons of congestion by input element, the study provided practical value to help prioritize management. Kim Se-hong(2015) proved that congestion occurred in 51.7% of 87 tourist hotels, and it occurred especially in the number of employees and area inputs. In previous studies, congestion analysis has been useful for quantifying and over-exploiting large inputs to various industries.

2.2 Hospital specialization

Dayhoff and Cromwell(1993) defined specializations by comparing the difference between the health care provided by the whole hospital and the health care provided by a particular hospital. In other words, from the average of the services provided by the whole hospital, it is defined as more specialized if there is a difference in the case of the medical service provided by the specific hospital. Zwanziger et al.(1996) define specialization as the provision of centralized services that perform uncommon services that are differentiated from other hospitals or that perform a narrow range of services. Although it is difficult to measure specialization in medical services, many scholars have sought to develop indicators to measure the level of specialization of hospital. The information

theory index (ITI) and the internal herfindahl index (IHI) are among the most frequently used indicators in recent empirical studies based on the services provided to patients.

(Information theory index; ITI)

$$I_h = \sum_{i=1}^I \left(\frac{N_{ih}}{N_h} \right) \times \ln \left[\left(\frac{N_{ih}}{N_h} \right) / \theta_i \right]$$

where

N_{ih} = number of DRG in category (i) in a hospital (h);

N_h = number of inpatient in a hospital (h);

θ_i = number of DRG in category (i) in Korea/total number of inpatient in Korea

And

$\ln[*]$ = natural log of relative hospital specialization

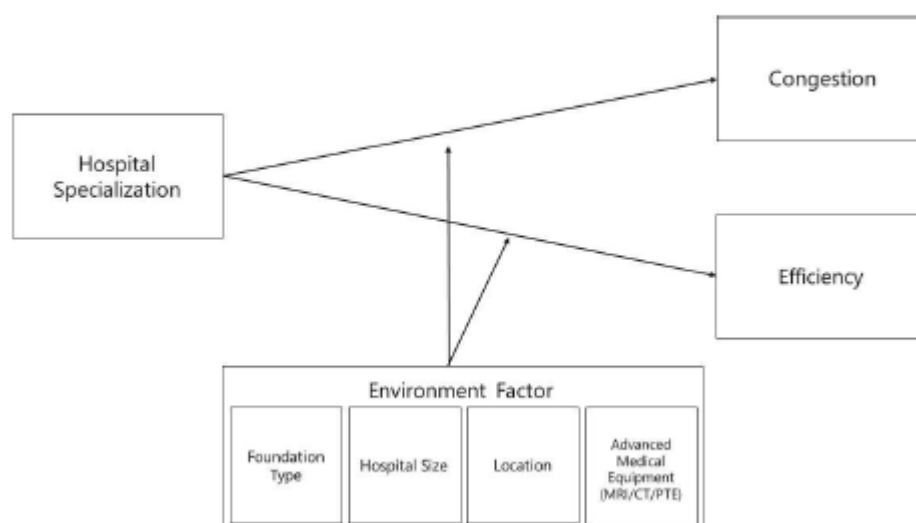
(Internal herfindahl index; IHI)

$$IHI = \sum_i P_i^2$$

where

P_i = proportion of the hospital's discharges accounted for by the i^{th} service category

3. Design / Methodology / Approach



Hypothesis 1.

Hospital specialization may negative impact on congestion.

Hypothesis 2.

Hospital specialization may positive impact on efficiency.

Hypothesis 3.

In relationship between hospital specialization and congestion, environment factors(Foundation type, Hospital size, Location, Advanced medical equipment) may play a role in control effect.

Hypothesis 4.

In relationship between hospital specialization and efficiency, environment factors(Foundation type, Hospital size, Location, Advanced medical equipment) may play a role in control effect.

In this study, HIRA-NIS(National Inpatient Sample) data was used which is provided by the Health Insurance Review & Assessment Service. HIRA-NIS is a statistical sample of secondary data (hospitalized patient rate of 13%, about 1 million people) after removing information on individuals and corporations using the health claim data as a population. And the data is constructed by the medical treatment details which is billed for one year. The validity of HIRA-NIS has been evaluated through several studies. In this study, the hospital specialization index (ITI, IHI) was calculated based on HIRA-NIS in 2013, and input and output variables were selected for congestion analysis. After excluding hospitals with missing variables, 1185 hospitals were selected for this study. Table 1 shows the general characteristics of the analysis subjects.

[Table 1] general characteristics of the analysis subjects

Division		Number	Ratio
Hospital Size	Advanced General Hospital	23	1.9
	General Hospital	296	25.0
	Hospital	866	73.1
Location	Urban area	559	47.2
	Rural are	626	52.8
Foundation Type	Private	1147	96.8
	Public	38	3.2
Advanced Medical Equipment (MRI/CT/PTE)	Possession	904	76.3
	Absent	281	23.7
Total		1185	100

The congestion and efficiency of the hospital, which is a dependent variable of this study, were selected based on previous studies. The DEA model is based on a combination of multiple input and output factors, and it is essential to select a clear variable that is appropriate for the purpose of the study based on the relevant studies. As the number of DMUs increases, the reliability of the DEA model increases, and the reliability could be decreases as the number of input and output elements increases(Banker and Morey, 1986). In addition, because of the characteristics of research purpose, it is necessary to select variables that can be adjusted in the future direction of operation. The most common prior researches on the efficiency of hospitals using DEA were the selection of medical and non-medical manpower and capital as input factors and the number of patient days and the medical revenues as output factors. Therefore, in this study, the variables necessary for congestion analysis and efficiency analysis were selected as shown in [Table 2].

[Table 2] Input / Output factors required to measure dependent variables

Variable	
	87 Number of Doctor

Input Factor	Number of Nurse
	Number of Bed
Output Factor	Number of Hospitalized Patients
	Number of Operations
	Medical Revenues

And also, the descriptive statistics of the measure variables are shown in [Table 3].

[Table 3] Descriptive statistics of the input / output factors.

Division			Input factors			output factors		
			Doctor	Nurse	Bed	Inpatient	Operation	Revenue
Size	Advanced General	Mean	25.96	39.91	18.74	6325.43	2968.48	17359.6
		SD	6.64	9.17	2.63	3919.37	2002.58	12658.2
		Min	16	20	11	2649	1220	6276.4
		Max	46	61	21	17037	8842	56929.6
	General	Mean	8.71	21.92	8.08	1377.61	548.51	2875.1
		SD	6.19	10.71	4.26	1166.74	585.79	3033.4
		Min	1	0	3	182	4	164.2
		Max	28	76	21	7395	3856	17990.8
	Hospital	Mean	4.82	10.84	2.66	304.58	141.07	386.4
		SD	3.75	10.36	1.54	200.73	154.87	319.1
		Min	0	0	1	100	0	31.5
		Max	28	101	12	1519	1396	2715.2
	Urban	Mean	7.30	15.73	4.48	790.88	374.74	1672.1
		SD	6.39	12.51	4.43	1541.79	745.62	4444.2

Location		Min	0	0	1	100	0	31.5
		Max	46	76	21	17037	8842	56929.6
	Rural	Mean	5.23	12.78	4.19	598.92	228.95	1038.6
		SD	4.53	11.40	3.56	835.33	395.24	2030.1
		Min	0	0	1	100	0	36.5
		Max	28	101	21	7395	3856	17990.8
Foundation	Private	Mean	6.22	14.04	4.27	690.03	300.98	1399.1
		SD	5.65	12.14	4.01	1238.71	598.17	3449.8
		Min	0	0	1	100	0	31.5
		Max	46	101	21	17037	8842	56929.6
	Public	Mean	5.87	18.32	6.08	672.50	199.29	1288.9
		SD	3.14	6.29	2.93	636.19	316.50	1440.2
		Min	3	8	2	127	1	352.7
		Max	20	36	16	4144	1993	9096.9
Medical Equipment	Possession	Mean	6.07	14.47	5.07	829.17	342.27	1668.8
		SD	5.85	11.25	4.26	1369.42	665.46	3835.4
		Min	0	0	1	100	0	38.3
		Max	46	76	21	17037	8842	56929.6
	Absent	Mean	6.64	13.21	1.94	240.05	154.40	271.3
		SD	4.60	14.20	1.21	141.58	154.40	214.0
		Min	0	0	1	100	0	31.5
		Max	19	101	11	798	764	1182.0
Total		Mean	6.21	14.17	4.33	689.47	297.72	1337.4
		SD	5.58	12.02	3.99	1223.85	597.41	3403.5
		Min	0	0	1	100	0	31.5

	Max	46	101	21	17037	8842	56929.6
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The level of hospital specialization, which is a dependent variable of this study, was measured using the specialization index used in previous studies. The Information Theory Index (ITI) and the Internal Herfindahl Index (IHI) were used in the existing literature (Evans and Walker, 1972; Farley, 1989; Farley and Hogan, 1990; Eastaugh, 1992; Dayhoff and Cromwell, 1993; Eastaugh, 2001; Eastaugh, 2006). ITI is measured relative to the hospital's average specialization level, while IHI is measured based on service concentration within a hospital. The measurement of specialization level is not clear because the scope of service is relatively comprehensive and diverse compared to the general service industry. Therefore, it is very important how to define the concept of specialization manipulatively. Therefore, this study defined the specialization considering two aspects in the hospital and outside. In other words, narrowing the range of services provided by the hospital itself, and defining and centralizing the services provided by the entire hospital (or a competitive hospital). Table 4 shows the specialization index descriptive statistics of the subjects analyzed using ITI and IHI.

[Table 4] Descriptive statistics of hospital specialization index

Division			Hospital specialization index	
			ITI	IHI
Size	Advanced General	Mean	.59535	.00978
		SD	.10661	.00292
		Min	.436	.007
		Max	.781	.018
	General	Mean	.94395	.02103
		SD	.49949	.02161
		Min	.3585	.005
		Max	5.070	.196
		Mean	.94395	.02103
		SD 90	.49949	.02161

	Hospital	Min	.358	.005
		Max	5.070	.196
Location	Urban	Mean	1.99231	.11639
		SD	1.06456	.14496
		Min	.358	.005
		Max	6.587	.992
	Rural	Mean	1.64831	.07460
		SD	.86041	.09719
		Min	.368	.006
		Max	6.553	.949
Foundation	Private	Mean	1.82345	.09651
		SD	.98289	.12505
		Min	.358	.005
		Max	6.587	.992
	Public	Mean	1.42226	.02784
		SD	.67767	.03762
		Min	.362	.006
		Max	4.888	.244
Medical Equipment	Possession	Mean	1.45755	.05713
		SD	.69618	.07153
		Min	.358	.005
		Max	5.070	.731
	Absent	Mean	2.94635	.21394
		SD	.88077	.17169
		Min 91	.863	.018

		Max	6.587	.992
Total		Mean	1.81059	.09431
		SD	.97694	.12380
		Min	.358	.005
		Max	6.587	.992

4.Findings / Results

4.1Congestion analysis result

The congestion analysis results of 1185 hospitals were as shown in [Table 5]. As a result, congestion occurred in 71.90% hospitals(852) of all hospitals(1185) and the average size of congestion was 34.74%. And the congestion rate and the size of congestion in the number of nurses were the largest. The congestion rate of nurses was 69.37%, which means that there exists congestion in 822 hospitals, 69.37% of the total hospitals. The mean was 33.62%, which means that about 33.62% of 822 hospitals' nurses were overworked. Conversely, the incidence of doctor's congestion was 3.71% and the mean was 0.61%, which is relatively low compared to the number of nurses. The incidence of bed's congestion was similar to the congestion rate of doctors. The incidence was 3.04% and the mean was 0.51%. As a result of examining the congestion level reflecting the size of hospitals, the incidence of congestion in advanced general hospitals and general hospitals was higher than in smaller hospitals(Advanced general hospital: 95.65%, General hospital: 93.92%, Hospital: 63.74%). The average was the highest in general hospitals. Characteristically, the incidence of congestion(43.48%) and average(8.72%) on the number of doctors in the general hospitals were significantly higher than the total. In the location of hospitals, the incidence and size of congestion in urban and rural hospitals were analyzed to be similar. Considering the type of foundation of hospitals, the incidence and size of congestion were somewhat higher in public hospitals than in private hospitals. However, there was no congestion in the number of doctors in the public hospitals, which can be interpreted as an efficient input to the number of doctors in public hospitals. Hospitals with advanced medical equipment had a slightly higher incidence and size of congestion than hospitals that did not, but the congestion of hospitals with advanced medical equipment was lower in the number of doctors.

[Table 5] Congestion analysis result

Environmental factor		Division	Congestion			
			Total	Doctor	Nurse	Bed
Size	Advanced General	mean	37.26	8.72	27.52	1.02
		frequency	22	10	20	1
		percent	95.65	43.48	86.96	4.35
	General	mean	46.14	0.33	45.24	0.57
		frequency	278	13	269	12
		percent	93.92	4.39	90.88	4.05
	Hospital	mean	30.79	0.49	29.82	0.48
		frequency	552	21	533	23
		percent	63.74	2.42	61.55	2.66
Location	Urban	mean	35.41	1.12	33.88	0.41
		frequency	407	34	389	17
		percent	72.81	6.08	69.59	3.04
	Rural	mean	34.15	0.16	33.39	0.60
		frequency	445	10	433	19
		percent	71.09	1.60	69.17	3.04
Foundation	Private	mean	34.31	0.63	33.18	0.50
		frequency	817	44	787	33
		percent	71.23	3.84	68.61	2.88
	Public	mean	48.18	0.00	47.17	1.01
		frequency	35	0	35	3
		percent	92.11	0.00	92.11	7.89
		mean	36.62	0.45	35.58	0.59

Medical Equipment	Possession	frequency	684	29	666	30
		percent	75.66	3.21	73.67	3.32
	Absent	mean	28.74	1.13	27.35	0.26
		frequency	168	15	156	6
		percent	59.79	5.34	55.52	2.14
	Total	mean	34.74	0.61	33.62	0.51
		frequency	852	44	822	36
		percent	71.90	3.71	69.37	3.04

4.2 Efficiency analysis result

The efficiency analysis results of the hospitals are shown in [Table 6] below. As a result, the overall hospital efficiency(VRS) average was 0.34 and the standard deviation was 0.21. The inefficiency was caused by pure technology efficiency(PTE) rather than by scale efficiency(SE)(SE= 9.1%, PTE= 91.9%). In terms of the size of hospitals, the efficiency of advanced general hospitals was relatively high(0.43), followed by hospitals(0.35) and general hospitals(0.28). In the hospital location, the urban hospital(0.35) was slightly higher than the rural hospital(0.32), and the private hospital(0.34) was more efficient than the public hospital(0.21). In terms of whether or not to have advanced medical devices, the efficiency was lower than that of hospitals(0.31) that do not have advanced medical devices(0.31).

[Table 6] Efficiency analysis result

Environmental factor		Division	Efficiency						
			TE	PTE	SE	Cause of Inefficiency(%)		Returns to Scale(%)	
Size	Advanced General	mean	0.43	0.43	0.99	PTE SE	95.7 4.3	CRS	21.7
		SD	0.21	0.21	0.01			DRS	47.8
		Min	0.23	0.23	0.97			IRS	30.4
		Max	1.00	1.00	1.00				
	General	mean	0.27	0.28	0.95	PTE SE	99.0 1.0	CRS	0.7
		SD	0.12	0.12	0.06			DRS	53.4
		Min	0.07	0.08	0.63			IRS	45.9
		Max	1.00	1.00	1.00				
	Hospital	mean	0.26	0.35	0.78	PTE SE	88.0 12.0	CRS	2.2
		SD	0.18	0.23	0.18			DRS	85.7
		Min	0.05	0.05	0.18			IRS	12.1
		Max	1.00	1.00	1.00				
Location	Urban	mean	0.28	0.35	0.83	PTE SE	88.7 11.3	CRS	3.2
		SD	0.18	0.23	0.17			DRS	79.2
		Min	0.05	0.05	0.24			IRS	17.5
		Max	1.00	1.00	1.00				

	Rural	mean	0.26	0.32	0.82	PTE SE	92.8 7.2	CRS	1.3
		SD	0.15	0.19	0.17			DRS	74.8
		Min	0.05	0.06	0.18			IRS	24.0
		Max	1.00	1.00	1.00				
Foundati on	Private	mean	0.27	0.34	0.82	PTE SE	90.6 9.4	CRS	2.3
		SD	0.17	0.21	0.17			DRS	77.8
		Min	0.05	0.05	0.18			IRS	20.0
		Max	1.00	1.00	1.00				
	Public	mean	0.19	0.21	0.93	PTE SE	100.0 0.0	CRS	0.0
		SD	0.09	0.10	0.10			DRS	50.0
		Min	0.05	0.06	0.76			IRS	50.0
		Max	0.49	0.51	1.00				
Medical Equipme nt	Possession	mean	0.26	0.31	0.85	PTE SE	94.5 5.5	CRS	1.9
		SD	0.16	0.18	0.16			DRS	72.7
		Min	0.05	0.06	0.25			IRS	25.4
		Max	1.00	1.00	1.00				
	Absent	mean	0.30	0.43	0.73	PTE SE	79.4 20.6	CRS	3.2
		SD	0.19	0.25	0.19			DRS	90.4
		Min	0.05	0.05	0.18			IRS	6.4
		Max	1.00	1.00	1.00				
Total		mean	0.27	0.34	0.82	PTE SE	90.9 9.1	CRS	2.2
		SD	0.17	0.21	0.17			DRS	76.9
		Min	0.05	0.05	0.18			IRS	20.9
		Max	1.00	1.00	1.00				

4.3 Hypothesis test

As a result of Hypothesis 1 that hospital specialization(ITI) will have a negative effect on the overall congestion, hypothesis 1 was adopted(t -value=-3.922, sig =.000, α = 0.01). In other words, the higher the hospital specialization, the lower the overall congestion rate of the hospital. The specialization of hospitals was also found to have negative effects on the congestion of nurses(sig = .000, α = 0.01). On the other hand, hospital specialization has a positive effect on the congestion of doctors numbers. Hospital specialization was not found to have a significant effect on the congestion of beds(sig = .904, α = 0.01).

[Table 7] The impact of hospital specialization(ITI) and congestion

Independent Variable	Dependent Variable	Std. Error	β	t	sig	statistic
Specialization	Congestion					
ITI	(Constant)	1.764		22.876	.000	$R=.113$ $R^2=.013$ $Adjusted\ R^2=.012$
	Total	.868	-.113	-3.922	.000	$F=16.886$ $P=.000$
	(Constant)	.242		.773	.440	$R=.068$ $R^2=.003$ $Adjusted\ R^2=.003$
	Doctor	.118	.068	1.992	.047	$F=3.968$ $P=.047$
	(Constant)	1.769		22.635	.000	$R=.119$ $R^2=.014$ $Adjusted\ R^2=.013$
	Nurse	.860	-.119	-4.117	.000	$F=16.943$ $P=.000$
	(Constant)	.209		2.560	.011	$R=.004$ $R^2=.000$ $Adjusted\ R^2=-.001$
	Bed	.102	-.004	-.121	.904	$F=.016$ $P=.904$

The results of the test between the hospital specialization(IHI) and the congestion using the internal Hefindall index were the same as those on the hospital specialization (ITI) using the information theory index.

[Table 8] The impact of hospital specialization(IHI) and congestion

Independent Variable	Dependent Variable	Std. Error	β	t	sig	statistic
Specialization	Congestion					
IHI	(Constant)	1.062		35.098	.000	$R=.120$ $R^2=.014$ <i>Adjusted R</i> ² =.014 $F=17.892$ $P=.000$
	Total	6.762	-.120	-4.170	.000	
	(Constant)	.143		1.176	.240	$R=.147$ $R^2=.022$ <i>Adjusted R</i> ² =.021 $F=26.065$ $P=.000$
	Doctor	.921	.147	5.105	.000	
	(Constant)	1.054		34.722	.000	$R=.134$ $R^2=.018$ <i>Adjusted R</i> ² =.017

	Nurse	6.772	-.134	-4.634	.000	$F=21.474$ $P=.000$
	(Constant)	.125		5.051	.000	$R=.045$ $R^2=.002$ <i>Adjusted R</i> ² =.001 $F=2.332$ $P=.123$
	Bed	.802	-.045	-1.543	.123	

Analysis of the impact between hospital specialization(ITI) and efficiency shows that hospital specialization has a positive impact on efficiency under statistical significance(sig= .000, $\alpha= 0.01$). In other words, the higher the hospital specialization, the higher the efficiency of the hospital. The results of the test between the hospital specialization(IHI) and the efficiency using the internal Hefindall index were the same as those of the hospital specialization(ITI) using the information theory index.

[Table 9] The impact of hospital specialization and efficiency

Independent Variable	Dependent Variable	Std. Error	β	t	sig	statistic
Specialization	Efficiency					
ITI	(상수)	.012		19.749	.000	$R=.246$ $R^2=.060$ <i>Adjusted R²=.060</i> $F=76.058$ $P=.000$
	PTE	.006	.246	8.721	.000	
IHI	(상수)	.007		40.119	.000	$R=.302$ $R^2=.091$ <i>Adjusted R²=.090</i> $F=118.465$ $P=.000$
	PTE	.046	.302	10.884	.000	

※ Hypothesis 3 and hypothesis 4 will be tested in the future.

5. Research limitations / Implications

The purpose of this study is to identify the causes of congestion and to suggest the direction of improvement through the verification of the presence of congestion at hospitals in Korea. This paper also aims to clarify that hospital specialization is a factor to reduce congestion. The main results of this study are as follows. First, congestion analysis showed that congestion occurred in 71.90% of hospitals(852 hospitals of 1185 hospitals), and the size of congestion(average) was 34.74%. And the congestion rate and the size of congestion in the number of nurses were the largest. The congestion rate of nurses was 69.37%, which means that there exists congestion in 822 hospitals, 69.37% of the total hospitals. The mean was 33.62%, which means that about 33.62 of 822 hospitals' nurses were overworked. Conversely, the incidence of doctor's congestion was 3.71% and the mean was 0.61%, which is relatively low compared to the number of nurses. The incidence of bed's congestion was similar to the congestion rate of doctors. The incidence was 3.04% and the mean was 0.51%. As a result of examining the congestion level reflecting the size of hospitals, the incidence of congestion in advanced general hospitals and general hospitals was higher than in smaller hospitals(Advanced general hospital: 95.65%, General hospital: 93.92%, Hospital: 63.74%). The average was the highest in general hospitals. Characteristically, the incidence of congestion(43.48%) and average(8.72%) on the number of doctors in the general hospitals were significantly higher than the total. In the location of hospitals, the incidence and size of congestion in urban and rural

hospitals were analyzed to be similar. Considering the type of foundation of hospitals, the incidence and size of congestion were somewhat higher in public hospitals than in private hospitals. However, there was no congestion in the number of doctors in the public hospitals, which can be interpreted as an efficient input to the number of doctors in public hospitals. Hospitals with advanced medical equipment had a slightly higher incidence and size of congestion than hospitals that did not, but the congestion of hospitals with advanced medical equipment was lower in the number of doctors.

In addition to congestion analysis, this study also analyzed the efficiency of the study subjects. As a result, the overall hospital efficiency(VRS) average was

0.34 and the standard deviation was 0.21. The inefficiency was caused by pure technology efficiency(PTE) rather than by scale efficiency(SE)(SE= 9.1%, PTE= 91.9%). In terms of the size of hospitals, the efficiency of advanced general hospitals was relatively high(0.43), followed by hospitals(0.35) and general hospitals(0.28). In the hospital location, the urban hospital(0.35) was slightly higher than the rural hospital(0.32), and the private hospital(0.34) was more efficient than the public hospital(0.21). In terms of whether or not to have advanced medical devices, the efficiency was lower than that of hospitals(0.31) that do not have advanced medical devices(0.31).

As a result of Hypothesis 1 that hospital specialization(ITI) will have a negative effect on the overall congestion, hypothesis 1 was adopted(t -value=-3.922, sig= .000, α = 0.01). In other words, the higher the hospital specialization, the lower the overall congestion rate of the hospital. The specialization of hospitals was also found to have negative effects on the congestion of nurses(sig= .000, α = 0.01). On the other hand, hospital specialization has a positive effect on the congestion of doctors numbers. Hospital specialization was not found to have a significant effect on the congestion of beds(sig= .904, α = 0.01). The results of the test between the hospital specialization(IHI) and the congestion using the internal Hefindall index were the same as those of the hospital specialization (ITI) using the information theory index.

Analysis of the impact between hospital specialization(ITI) and efficiency shows that hospital specialization has a positive impact on efficiency under statistical significance(sig= .000, α = 0.01). In other words, the higher the hospital specialization, the higher the efficiency of the hospital. The results of the test between the hospital specialization(IHI) and the efficiency using the internal Hefindall index were the same as those of the hospital specialization(ITI) using the information theory index.

※ Hypothesis 3 and hypothesis 4 will be tested in the future.

The academic significance of this study is as follows. First, it can be said that there is a primary

meaning in that evidence is presented on the basis of empirical analysis on the advantages of the hospital specialization which has been suggested theoretically or politically. Second, unlike studies that have demonstrated the relationship between management performance and specialization focusing on existing output only, the study suggests efficiency and specialization that considers inputs and amounts simultaneously as well. Third, there is a difference in that it is the first time that we have studied the relationship between congestion and specialization, which are necessary to measure over-input factors. Fourth, it is meaningful that hospital specialization affects congestion by controlling various factors(hospital size, location, Foundation type, and advanced medical equipment).

6. Key words

Congestion, Efficiency, Hospital specialization, Hospital environmental factor.

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