The Relations between Digitalization, Service Innovation and Service Value Creation Capability: A Model Adaption in the Service Industry

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ABSTRACT

Purpose: The purpose of this paper is to determine the effect of service innovation and service value creation capability on the digitalization process on a firm scale.

Methodology: The 1-7-point Likert-type measurement scale was administered to tourism enterprise managers and operational staff. Partial Least Square-Structural Equation Modelling (PLS-SEM) modeling was used to analyze the relationships among the following constructs: service innovation capability, service value creation capability, and effect on digitalization. Three types of service facilities were considered: Hospitality, Food & Beverage (F&B), and health care. Descriptive analysis and model structure were analyzed on SPSS 24 and Smart PLS 3.0 respectively.

Findings: The relationship between service value creation capability and digitalization service innovation capability and service value creation capability, and service value creation capability and digitalization is supported, as all other constructed hypotheses respectively.

Originality: This study is one of a limited number of studies that have empirically addressed service innovation capability and value creation capability relations with digitalization in firms' operational processes. Additional attempt is required to integrate all functions of the enterprise with in organizational perspective. The main contributions of this paper lie in proposing empirical research that supports service innovation capability, service value creation capability, and digitalization in the case of tourism enterprises.

Keywords: Digitalization, Service Value Creation Capability, Service Innovation Capability, Tourism.

JEL Codes: Z3, L8, L83, M15.

Dijitalleşme, Hizmet İnovasyonu Kabiliyeti ve Hizmet Değeri Yaratma Kabiliyeti Arasındaki İlişki: Hizmet Endüstrisi İçin Bir Model Uyarlaması

ÖZET

Amaç: Bu çalışmanın amacı, hizmet inovasyonu ve hizmet değeri yaratma kabiliyetinin dijitalleşme sürecine etkisini firma ölçeğinde belirlemektir*.*

Yöntem: 7'li Likert ölçeğiyle geliştirilmiş ölçüm aracı, turizm işletmesi yöneticilerine ve işletme çalışanlarına uygulanmıştır. PLS SEM modellemesi, şu yapılar arasındaki ilişkileri analiz etmek için kullanılmıştır: hizmet inovasyon kabiliyeti, hizmet değeri yaratma kabiliyetinin ve dijitalleşme üzerindeki etkisi. Çalışmada üç tür hizmet tesisi göz önünde bulundurulmuştur: Konaklama, yiyecek-içecek ve sağlık hizmetleri. Betimleyici istatistikler ve model yapısı SPSS 24 ve Smart PLS 3.0'da analiz edilmiştir.

Bulgular: Hizmet değeri yaratma yeteneği ve dijitalleşme, hizmet yeniliği yeteneği ve hizmet değeri yaratma yeteneği, hizmet değeri katlama yeteneği ve dijitalleşme arasındaki ilişkiler ve kurulan tüm diğer hipotezler sırasıyla doğrulanmıştır.

Özgünlük: Bu çalışma, işletmelerin operasyonel süreçlerinde dijitalleşme ve hizmet inovasyon kabiliyeti ve değer yaratma kabiliyeti arasındaki ilişkiyi ampirik olarak ele alan sınırlı sayıdaki çalışmadan biridir. Bu çalışmanın, turizm işletmelerinde hizmet inovasyon kabiliyeti, hizmet değeri yaratma kabiliyeti ve dijitalleşme arasındaki ilişkiyi destekleyen ampirik bir araştırma olması açısından önemli olduğu düşünülmektedir.

Anahtar Kelimeler: Dijitalleşme, Hizmet Değeri Yaratma Kabiliyeti, Hizmet İnovasyon Kabiliyeti, Turizm.

JEL Kodları: Z3, L8, L83, M15.

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1. INTRODUCTION

Digitalization and digital transformation have been a buzzword recently. Although it became popular after the last pandemic, the phenomenon is still so much to say about it. It is more than a fashion; it has a function to create a new value for enterprises to change their business models. After the structure of advanced economies shifted from manufacturing towards service industries the importance of innovation, R&D, and investing in digital technologies became a more important issue in case of increasing productivity (Hall, 2011). Moreover, the service value creation and innovation capability of enterprises is still an issue to put on the agenda.

The structure of the service industry especially the tourism industry and most of its sectors are labor intensive. Any abnormal changes in participating in the work affect the productivity negatively. In order to minimize this negative effect investing in digital assets has become crucial subject than ever. Moreover, the upcoming digital economy and digitalization on a firm scale have a positive effect on productivity in a firm scale. Besides, the capability of value generation in this digitalization process is an issue to be considered on the digitalization process. Accepting all, enterprises should know their ability or capability on digitalization of utilizing service value creation capability and innovation capability to invest in digitalization. Investing in digital technologies has resulted in an increase in productivity efficiency and modularity in business operations in an enterprise (Tuunanen and Cassab, 2011; Voss and Hsuan, 2009; Cenamor et al., 2017; Opresnik and Taisch, 2015).

Service innovation capability of a firm means the ability to come up with new ideas, and knowledge to leverage the firm within the competitive environment (Parashar and Singh, 2005). Service innovation creates new services, products, and combinations of both for value-adding to a firm's scale (Parida et al., 2015; De Brentani and Ragot, 1996). An increase in service innovation in products and processes has resulted in increased performance of enterprises (Martinez-Roman et al., 2015; Örmeci and Öcal, 2023). The increase in overall performance directly results in a productivity improvement (Grünberg, 2004).

Utilizing new technologies results in value creation in organizations' processes or the generation of new business models (Corsaro and Anzivino, 2021). Service value creation capability and digitalization relations were handled by scholars under these subjects; implementation of IT Technologies (Dominguez-Pe´ry et al., 2013), digital technology adaption (Cenamor et al., 2017), strategy (Möller et al., 2008), value creation in B2B digital context (Corsarao and Anzivino, 2021), value offering, performance and customer satisfaction (O'Cass and Ngo, 2011), tangible technologies (Maglio and Spohrer, 2008; Häikiö and Koivumäki 2016), service value creation capability for an enterprise from an operational perspective (Nada and Ali, 2015). In operational meaning, the service value creation capability is dealt with under service process management, service performance management, and IT infrastructure (Nada and Ali, 2015). This study was discussed based on the operational processes of the service business.

After a detailed literature review, it was seen that there was a gap between service value creation and service innovation capability effect on digitalization and that there were rare studies in this area. This study tries to unpack the digitalization, service innovation, and service value creation concepts in the case of tourism enterprises. The main aim of this study is to reveal and measure the effect of service value creation capability and innovation capability of a firm on digitalization. The study also investigates the relationship between Information Technology (IT), Performance, process management of a firm, and service value creation capability. This study is novel for considering the ability of a firm to take a digital journey in case innovation capability and service value creation capability from an operational perspective. The study is original because of handling the subject in the tourism industry, one of the sectors most prone to the use of digital technology. The paper is organized as follows. In section 1 the digitalization, relations with service innovations and service value creation capability, the importance and the role of digitalization as a triggering force in I4.0, service innovation and service innovation capability, service value creation capability and implementation in service and especially tourism industry is discussed broadly. In sections 2 and 3 an empirical model is explained and tested statically to show the acceptance/ rejection of constructed hypothesis. Lastly, two parts of the study consist of the interpretation of the results and the discussion of the evidence for future recommendations.

2. THEORETICAL BACKGROUND and LITERATURE REVIEW

Digitalization is the main devastating force triggered by Industry 4.0 (I 4.), which has changed the way of doing business and forced businesses to think about new business models (Parida, 2018: 23). B2B mainstream has an effect in increasing e-services and digitalization. Digital services and channels soared after the implementation of B2B models (Oliveira and Roth, 2012). The idea behind directly reaching the client without any mediator has resulted in thinking more broadly on the digitalization phenomenon.

Accepting digitalization and the level of digital transformation are not the same in each industry and sector. Digitization speed and acceptance level are higher in human-intensive sectors like service industries than the capital incentive sectors because of the technological infusion and its effect on humans (Andrews et al., 2018). Including human capital, digitalization, and reaching maturity in digitalization requires the investment in infrastructure in IT like servers, software, analytic tools, etc. (Parida et al., 2015). Thus, digital technology adoption resulted in increased enterprise value, maximized profitability, decreased operational costs and reduced middleman, and increased operational efficiency and productivity (BarNir et al., 2003; Benjamin and Wigand,1995; Gallaugher, 1997; Gago and Rubalcaba, 2006). Tangible Technologies and technology-oriented approaches are accepted as an integral part of service value creation and innovation (Maglio and Spohrer, 2008; Häikiö and Koivumäki, 2016). This technology-driven approach is now termed digitalization.

Digitalization capability is directly related to the ability to use advanced smart and connected physical products to facilitate service innovation. Besides, innovation orientation directly affects digitalization in processes, products, and services and entirely in organizations (BarNir et al., 2003). Service-dominant logic, servitization, and digitalization are accepted as megatrends and important tools in the generation value-generation process (Häikiö and Koivumäki, 2016). In other words, an increase in service innovation capability results an increase in value creation (Parida et al., 2015).

Furthermore, digitalization and value creation have positively related to and implementation of digital technologies to reach the demand of mass customization and resulted in an increase in productivity efficiency and modularity in business operations in an enterprise (Tuunanen and Cassab, 2011; Voss and Hsuan, 2009; Cenamor et al., 2017; Opresnik and Taisch, 2015).

2.1. Service Innovation Capability

Innovation is the idea of creating a new process, product, or service as a powerful tool to meet customer needs, and increase service quality (Rogers, 2004; Fitzsimmons and Fitzsimmons, 1999: 106). It is accepted as a major force propelling economic dynamics (Carlsson, 2007) and bundling relevant and different resources, and knowledge to create a new powerful, and useful resource and knowledge (Lusch and Nambisan, 2015; Parashar and Singh, 2005).

Innovation was described as a multidimensional phenomenon. Thus, deploying the typology of innovation helps to understand and explain the subject broadly. According to OECD and Eurostat, innovation can be subdivided into two groups: technological innovation and non-technological innovation. Technological innovation is improvement comprised of product and process innovations while nontechnological innovations deal with organizational and marketing innovation (Opazo-Basaez et al., 2021). Digitalization can be handled in both cases but it is rather closer subject to product & process innovation or operational innovation which is accepted as an issue of this study. Additionally, it is stated that knowledge is fed by innovation capability, because the and innovation capability provides instant and accurate access to information (Gulyaz and Erturk, 2020). Real-time data and instant access to the data is the core function of every digital system. Thus, it can be concluded that the company's innovation ability has a direct impact on digitalization.

Innovation in service industries or service innovation is accepted as the most powerful tool to fight commoditization. Because of the structural characteristics of service industries, there is no physical product in most of the cases. The innovation in service is easier, more comfortable, and less time-consuming than the physical product comparable, because of the patents, commercial rights, shorter product life cycle, and less capital investment (Lyons et al., 2007).

Service innovation offers the potential to create new services, products, or combinations of value-adding to a firm's scale (Parida et al., 2015; De Brentani and Ragot, 1996). Service innovation capability is accepted as the ability to come up with new ideas, and knowledge to leverage the firm within the competitive environment (Parashar and Singh, 2005). Service innovation capability is important for hotels whether to meet customer requirements or exceed them. However, its importance, and enhancing service innovation is still a gap in the tourism area. Studies related to service innovation in tourism emphasize the importance and mediating effect of social capital, and knowledge, in the whole process (Tang et al., 2015). Also, tourism and innovation studies are limited in the success of the innovation process, factors influencing the process, and performance results after new service innovation (Ottenbacher and Gnoth, 2005). In another study scholars have developed a three phase to simplify the process of service innovation capability such as: sensing, seizing & transforming (Pöppelbuß et al., 2011). In the sensing phase, the idea, itself should be scanned, evaluated, and detailing. In other words, it is the step of understanding the issue. In the seizing phase, it is focused on the solution more than identification. In the transforming phase, the idea has already been understood, hashas acted for a solution and now it consists also unfreezing, changing, and freezing steps.

Service and tourism studies are mostly related to service innovation. However, in order to overcome the innovation process in firm operations, innovation capability should be defined and assessed. Innovation capability directs the firm to new products, process, and techniques (Yousaf et al., 2022). Innovation from in operational perspective resulted in; improving high speed to deliverables, improving computational capabilities, reducing deployment cost, supporting identity management functionalities, improving data security reliability of digital processing capability, productivity, improving real-time response to customer feedback, quality improvement, customization of operational processes, services and products (Edu et al, 2020). Innovation capability and technological innovation directly affect the performance of the firm. An increase in innovation in products and processes is resulted in increased performance of enterprises (Martinez-Roman et al., 2015; Örmeci and Öcal, 2023). Thus, the hypothesis is;

H1: digitalization and service innovation capability positively related to digitalization

H3: service innovation capability and service value creation capability are positively related

2.2. Service Value Creation Capability

Value creation is a redesigning of the process, product, and strategy of an enterprise to meet customers' experimentation (O'cass and Ngo, 2011; Martin et al., 2019). Customers' needs and demands are accepted as de facto in the value creation process (Grönroos, 2011; Vargo and Lusch, 2008). This value-creation process cannot be successful regarding the digital instrument, of which has a direct effect on digitalization (Schroeder and Kotlarsky, 2015). The increased use of new technologies and digital instrument facilitate adaptation to the Industry 4.0 revolution (Karaata, 2021). Besides, ongoing trends on servitization and blending servitization into an operational process to create new generating revenue-generating areas is linked with digitalization and digital instruments (Vendrell-Herrero et al., 2014; Vandermerwe and Rada, 1988).

Service value creation and innovation capability are directly related elements and innovation capability is accepted as a crucial and critical factor in the service value creation process (Hogan et al., 2011; Saunila, 2016; Pöppelbuß et al., 2011; Häikiö and Koivumäki, 2016). Using innovative technologies results in value creation in organizations' processes or the generation of new business models (Corsaro and Anzivino, 2021).

Implementing any Information Technologies (IT) to upgrade the service and processes in the service area which is called IT-driven service innovation using digital technologies mostly results as value creation on a firm scale (Dominguez-Peryet al., 2013; Fitzgerald et al., 2014). It is realized by means of the service value creation ability of enterprises.

Service value creation capability and digitalization concepts are fall between IT-driven service innovation and implementation of IT Technologies (Dominguez-Peryet al., 2013; Mahmoud et al., 2017), digital technology adaption (Cenamor et al., 2017), strategy (Möller et al., 2008), value creation in B2B digital context (Corsarao and Anzivino, 2021), value offering, performance and customer satisfaction (O'Cass and Ngo, 2011). Service value creation capability for an enterprise from an operational perspective can be classified as service process management, service performance management, and IT infrastructure (Nada and Ali, 2015). In this study, the service value creation capability is examined in the case of enterprise operational capability. Therefore, the hypothesis is;

H2: digitalization and service value creation capability positively related

H4: service value creation capability and IT infrastructure are positively related

H5: service value creation capability and service performance management are positively related

H6: service value creation capability and service process management are positively related.

Under the comprehensive search on service value creation capability, innovation capability, and effect on digitalization, the study tries to fill the gaps on service value creation capability and innovation capability effect on digitalization for tourism industries. The study is also focused on the relationship between process management, performance, and IT and service value creation capability.

3. METHOD

Study grounded to service value creation capability and innovation capability models. It is a section cross-section of tourism enterprises in three sectors: hospitality, food& beverage, and healthcare facilities. In the model exogenous variable is digitalization which is affected by two endogenous variables; service value creation capability and service innovation capability.

3.1. Sampling

Stratified random sampling is used in this study. If the population is heterogeneous the stratified sampling methods should be implemented. In stratified sampling whole population is divided into a homogenous subgroup, known as strata, and the units of each subgroup is chosen randomly (Singh and Masuku, 2013). It is the method of increasing efficiency by means of increasing sample size (Arnab, 2017: 107). In stratified sampling, you dealtdeal with the bigger heterogeneous subgroups (but homogenous inside the group), rather than one homogenous small sample size. Besides, the random selection inside each stratum provides the researcher with statistical inference and generality to a population. Subgroups might be based on selected factors depending on the research such as company size, sector, occupation, etc. (Taherdoost, 2016). Eventually, in stratified sampling, the sample size is smaller, it is less costly and samples within the strats are more homogenous than the other random sampling methods (Neuman et al., 2011).

The tourism industry consists so many sectors and branches. The study is dealt on three of the most revenue-generating heterogeneousheterogeneous tourism sectors: hospitality, food & beverages, and health. Therefore, there are three strats. The criteria for deciding stratums are their business type, products, and services. The number of samples in each stratum will be chosen proportionally considering the weight of each stratum in the population. Random selection principle will be considered to assign to each subgroup. The number of samples for exploratory studies depends on the number of variables. Depending on the complexity of the study and structural design it is common to have at least *20 observations for each variable. Besides, if the construct is fewer than 7 the minimum number of the sample size is suggested to be 150 (Hair et al., 2010: 662). In order to decide the proportion, the number of facilities in a city (Eskişehir) should be considered. Each strats is summarized on Table 1.

Table 1. The # of facilities and proportion for each strats

Strats*	The #of units in each strats	The proportion of each strats (%)*	Sample size of each strats
Hospitality	19	34	68
Food & Beverage	27	48	96
Health care facilities	10	18	36
Total	56	100	200

*: according to the proportion sampling methods, the proportion is each strats is calculated as: (34/56) *100 for hospitality and rest is calculated respectively.

The number of hospitality facilities is 19, and the number of food and beverage facilities is 27 calculated as an enterprise that has a certificate of the Ministry of Culture and Tourism (The Ministry of Culture and Tourism, 2023). the number of tourist arrivals, especially from the Middle East, to the city is increasing catastrophically for medical (health and wellness) purposes. In the selection of healthcare facilities, the main consideration is determining if the facility has involved any process or department providing a service for medical tourists or not. The private & public hospitals, beauty & wellness centers and physical treatment/therapy facilities are subjected to this study as care facilities. As accepted sample size for these 6 variable studies is 120 (6*20-Hair et al., 2010). Respecting scientific notions but to increase the generality, the number of 438 participants is subjected to in this study. The stratified sampling principle is only used to allocate the enterprises into a homogenous subgroup. The stratified samples will be considered as one sample in further analysis and explaining the results.

3.2. Measurement Scale

The measurement scale consists of six sections. Sections 1 and 2 consist of demographic information, Section 3 items adapted from Oliviera and Roth, 2012; Section 4 items from Rabetino et al. (2017); Section 5 items from Martinez-Roman et al., (2015) (items 1-6); from Grawe et al., (2009) (items 7-10); from Panayides, (2006); from Vicente et al., (2015) (articles 11-12); Section 6 from Häikiö and Koivumäki (2016); Mahmud et al, (2016). All questions were translated into Turkish.

To approve scope and face validity a face-to-face interview was executed to have an expert opinion between 15.02.2023 and 20.02.2023 a group of 5 experienced academicians and sector representatives. Besides, reliability and validity tested by conducting a pilot study between 23.02.2023 and 28.02.2023 after necessary corrections the measurement scale will be implemented.

3.3. Data Gathering

The pilot study was conducted between 23.02.2023 and 28.02.2023 and after a few changes data was collected between 15.04.2023-15.05.2023 from a senior & executive manager in facilities. Besides, the study is mainly focused on operational structure and service processes in the facility, so, data also will be collected from the operation personnel who are the main owners of the processes and who are the people doing the job at the operational level.

4. RESULTS

The PLS-SEM model is best to meet Maximum Likelihood Estimation requirements and is an appropriate tool to test if the construct consists of reflective and formative structures together and if normality conditions fail (Fornell, 1981). This study failed in normality tests. Thus, the PLS-SEM model will be used and tested with Smart PLS software. Smart PLS is reliable software in which reflective and formative structures can created and tested in the same model while the data is not normally distributed. SPSS 24 and Smart PLS 3.0 is used in this study for analyzing descriptives and model structure.

Demographic results for participants are summarized in Table 2. As indicated 51.5 % of the participants are female, 37.1 % of participants are between age 36-45, 34.1 % of them are between age 20-35 and 28.8 % of participants fall between age 46-60 which are supposed to be executives and senior managers.

Table 2. Demographic variables

		Frequency	%
Age	20-35	149	34.1
	36-45	162	37.1
	46-60	126	28.8
Gender	Male	212	48.5
	Female	225	51.5
Education	Primary school	54	12.4
	Secondary school	70	16.0
	High school	226	51.7
	Bachelor	83	19.0
	Postgraduate	4	0.9
HR Profile	Operational staff	264	60.4
	Senior manager	124	28.4
	Executives	49	11.2
Capacity of Enterprise	1--50	60	13.7
	51-100	366	83.8
	101-500	11	2.5
The # of Personnel	1-10	88	20.1
	11-30	250	57.2
	31-100	74	16.9
	101-500	25	5.7

Most of the participants graduated from high school (51.7 %) and worked as operational staff (60.4 %). the highest record for the capacity of enterprises is 83.8 % which has the capacity of visitors between 51-100. The number of personnel working in enterprises fall between 11-30 with a 57.2 % percentage in all sample. The study consists of six variables. The relationship between the variables and model structure is shown in Figure 1.
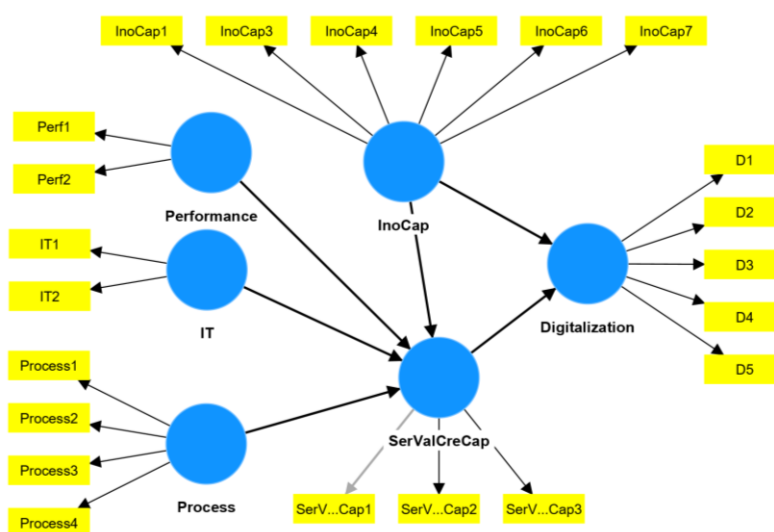

Figure 1. The model structure

As shown in Figure 1 the model tests the relation between digitalization &service value creation capability, digitalization and innovation capability, and service value creation capability with IT, Performance &

Process respectively as indicated in the given hypothesis in the previous sections. Before going further in analyzing the construct validity and reliability statistics are interpreted in Table 3.

Table 3. The measurement scale

Structures	Loadings	α	AVE	CR
Service Value Creation Capability		0.72	0.61	0.84
SerValCreCap1	0.71			
SerValCreCap2	0.65			
SerValCreCap3	0.88			
Process		0.64	0.58	0.78
Process1	0.69			
Process2	0.77			
Process3	0.67			
Process4	0.71			
IT		0.72	0.65	0.83
IT1	0.68			
IT2	0.98			
Performance		0.60	0.53	0.73
Perf1	0.87			
Perf2	0.46			
Innovation Capability		0.76	0.62	0.87
InoCap1	0.59			
InoCap2	0.61			
InoCap3	0.72			
InoCap4	0.75			
InoCap5	0.60			
InoCap6	0.77			
InoCap7	0.53			
Digitalization		0.78	0.71	0.89
D1	0.98			
D2	0.64			
D3	0.51			
D4	0.62			
D5	0.65			

As indicated in Table 3 AVE>0.50) and CR (>0.70) values are acceptable for convergent validity and discriminant validity confirmation. Besides, exploratory factor analysis indicates that the number of factors in this construct is six. Besides AVE and CR values, HTMT values are also significant (>0.85). The goodness of fitness value of SRMR is lower than 0.10 (0.09). Another important parameter for the goodness of fitness NFI value is <1 (0.858, $p<0.05$). The Squared Euclidean distance-d_ULS and The Geodesic Distance d-G values are more significant (at $p>0.05$) than the model is acceptable. Looking at R^2 values on Table 4; Service value creation capability is explained 38 % by IT ($R^2= 0.38$), 30 % by process ($R^2= 0.30$), and 24 % by performance ($R^2= 0.24$). Innovation capability is explained by the 21 % of service value creation capability ($R^2= 0.21$) and respectively Innovation capability and Service value creation capability are explained by the digitalization with 42 % and 39 % ($R^2= 0.42$ and $R^2= 0.39$ $p<0.05$). Besides, the effect size should also be considered. Table 4 interprets the results of effect sizes.

Table 4. Hypothesis

Hypothesis	ß	R^2	t-values	f^2	Decision
H1: Dig&InnoCap	0.548	0.42	7.891	0.48 (large)	Supported
H2: Dig&SerValCreCap	0.456	0.39	6.782	0.369 (large)	Supported
H3: InnoCap&SerValCreCap	0.298	0.21	3.283	0.013 (small)	Supported
H4: SerValCreCap&IT	0.476	0.38	5.267	0.391 (large)	Supported
H5: SerValCreCap&Performance	0.314	0.24	3.675	0.016 (small)	Supported
H6: SerValCreCap&Process	0.345	0.30	4.218	0.089 (medium)	Supported

* $p<0.05$

As stated the effect size index are f^2 for small, medium, and large effects are $f^2 = 0.02$, 0.15, and 0.35 respectively (Cohen, 1998). According to f^2 values, there is a large effect between digitalization & and innovation capability and digitalization & and service value creation capability, Service value creation capability & IT, a medium effect between service value creation capability & and process management, small effect between innovation capability & and service value creation capability and performance & service value creation capability respectively. Besides, comparing ß and t-values of path analysis shows

that outcomes are reliable and significant in our case. Going further, the mediator effect of service value creation capability in this study is also examined. Table 5 shows the results of the analysis.

Table 5. Mediator effect of service value creation capability

Variables	Coefficient	S.E.	t	p	LLCI	ULCI
constant	4.3383	0.3017	14.3771	0.0000	3.7452	4.9313
Process1	0.0060	0.0503	0.1189	0.9054	-0.0929	0.1049
SerValCr	-0.0613	0.0511	-1.2001	***0.2308***	-0.1617	0.0391

Since p values in Table 5 (0.2308>0.05 accept) are not significant hypothesis that indicates the mediation effect of service value creation capability has failed. This means that there is no mediation effect of service value creation capability on digitalization. Otherwise, this variable cannot be accepted as a mediator in this model. Hence all the hypothesis is supported in this study.

5. CONCLUSION and DISCUSSION

The study is based on constructing a model to test the relations between six variables which are explained in the previous sections: digitalization (as a dependent variable), service value creation capability, innovation capability, IT, process, and performance. The outcomes approved the positive relations between dependent and independent variables exist, hence hypothesis is supported.

However, scholars insist on the importance of service value creation capability and digitalization concept, digital technology adaption (Cenamor et al., 2017), strategy development (Möller et al., 2008), value creation in B2B digital context (Corsarao and Anzivino, 2021), value offering, performance and customer satisfaction (O'Cass & Ngo, 2011) there is still a gap in service value creation capability and digitalization especially on service industries. Accepting all the studies with their novelty, there is a need to explore this relation for most of the revenue-generating tourism sectors. Looking in service value creation capability context, service value creation capability is explained digitalization with 42 % (R^2=0.42). This result supports previous studies explaining the relationship between service value creation capability and digitalization (Schroeder and Kotlarsky, 2015; Corsarao and Anzivino, 2021; Häikiö and Koivumäki, 2016; Parida et al., 2015; Edu et al, 2020; Vendrell- Herrero et al., 2014; Vandermerwe and Rada, 1988).

Tangible technologies like IT-driven ones have a direct effect on service value creation capability and hence digitalization (Parida et al., 2015; BarNir et al., 2003; Benjamin and Wigand,1995; Gallaugher, 1997; Gago and Rubalcaba, 2006; Maglio and Spohrer, 2008; Häikiö and Koivumäki 2016). The result of this study supports the main findings of recent studies; service value creation capability is explained 38 % by IT (R^2= 0.38) and there is a strong relationship between service value creation capability and digitalization as stated before (R^2= 0.42). Performance is accepted as the main component of the service value creation process from an operational perspective (Nada and Ali, 2015). One of the findings of this study supports also the previous studies, to show the relationship between service value creation capability and performance relation (R^2 = 0.24). There is a weak relation between innovation capability and service value creation capability, which is not supposed to be at the beginning of the research. Although scholars emphasized using digital technologies for service innovation mostly resulted in a value creation on the firm scale (Péry et al., 2013; Fitzgerald et al., 2014) supporting the literature but relationship between those two variables is lower than expected. As considering the dynamics and structural situation of the tourism industry as human human-intensive sector and in which innovative technologies are rarely used in operational processes, the results can be acceptable. Thus, respondents failed to answer these questions positively. However, the relations (R^2 = 0.21) were weak the hypothesis was still supported.

Although there is a weak relationship between innovation capability and service value creation capability, there is a strong relationship between innovation capability and digitalization, which is supported by our beginning hypothesis.

The study is the first to consider the effect of service value creation and innovation capability on digitization in three sectors of tourism. In this case, it is contributed to the literature in:

- Adding value in the creation of the relations digitalization and service value creation and innovation capability in the tourism industry with three main revenue generating sector
- Giving a framework to tourism stakeholder in digitalization, innovation capability, and service value creation capability in their information technology, process, and performance management.

The structural characteristics of service industries facilitate the realization of innovation easily and are accepted as the most powerful tool for fighting commoditization with characteristics of easy, comfortable, and less consuming time-consuming than the physical product because of the commercial rights, and short Product Life Cycle (PLM). The short PLM is also an important point for innovation in the service industry. The mass customization and personalization concepts shorten the lifecycle of a tourism product. In the

case of being agile and adapting the process and services to a rapid change, the tourism industry decision-makers should be more aware of the innovation and innovative technologies concepts.

6. LIMITATIONS and FUTURE WORKS

Almost all the technology developments are launched as fancy toys or magic wands. It is given meaning as expected to solve the ongoing and possible problems in a utopian way. Besides, the power of technology in the current human resources is another issue that should also be considered for adapting the technology to the enterprises. Digitalization and digital transformation are also long-term changes and need strategic plans for human resource planning. The study can be rehandled by considering the HR capital adaption capability in a digitalization process.

The technological investment among competitors becomes a fashion somehow. But in reality, it is more than a trendy concept. While investing the technology, enterprises may fall into "The Modern Productivity Paradox". As Van Ark (2016) quoted the Modern Productivity Paradox tells the firm in order to see the super effect of technology in the processes, the investment costs should be acceptable. Otherwise, the management or decision makers see the investment in the related technology as unnecessary. The digitization concept can be reconsidered by taking a return on investment values into account.

The main belief of the service industry is that it is human-intensive. This phenomenon is thought of as a constant parameter that cannot be changed by any means. Because of this cultural barrier and lack of vision some parts of the tourism industry fall behind in accepting the digitalization. To change the situation, well-educated young managers with a technological background should be hired in this sector. Being still under the impression of the last pandemic wave, the tourism industry may recover by adapting digital technologies to its operational processes. Because of the human-intensive structure investment in digitalization is more important than any other sector considering such a new pandemic wave or any other loss of man-hours.

According to "Neo-Schumpeterian meso dynamics: theory" the innovation process is subdivided into two sections: objects and subjects of the innovation process. Subjects of the process are accepted as entrepreneurship, firms, networks, and suppliers, object of the process is explained as knowledge and competencies (Carlsson, 2007). Study based on a firm perspective without touching intellectual capital, knowledge, and some other subjects. The study can be extended with customer involvement in the processes.

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