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Impacts of Company Factors on Digital Business Model Maturity for Yachting Tourism Agencies

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ABSTRACT

Digital business models are reshaping tourism landscape, causing disruptive shifts within its entire ecosystem – including in the provision of services, employment modalities, value networks and more. In the light of such developments, there is a growing body of scholarly literature studying various aspects of digital business models in tourism. Yet, papers dealing with tourism's digital business models maturity and factors influencing it are still scarce. The objective of this study is to address the identified research gap and contribute to the growing literature base by empirically testing the relationship between digital business models maturity and factors such as company location, size, age and business model history. Methodologically, the paper is based on an extensive empirical research constructed upon a valid framework and administered internationally through a structured online questionnaire. The final sample included 162 companies active in yachting tourism sector, headquartered in 42 countries and 5 continents, thus reflecting the study's global scope.

The findings imply that there is a statistically significant impact of company's size on its digital business model maturity, while there is no significant impact when it comes to company's age and business model history. Finally, the effects of the company location are specific – although there is no general statistical correlation between location and digital business model maturity, other layers of analysis do indicate the companies with highly mature digital business models do tend to originate from highly developed countries.

ARTICLE INFO

1 Introduction

In the new millennium, it has become evident that digital transformation (DT) and digital business models (DBMs) are thoroughly reshaping businesses and even disrupting the whole industries (Kotarba, 2018; Rojers, 2018; Zentner et al., 2021). In fact, no business industry or organization at any level can remain immune to the changes brought by digitalization (Savastano et al., 2022), which fosters the uptake of DBMs in various settings.

To understand the phenomenon of DBMs, it is first necessary to define the term business model. In essence, it describes the manner in which the company creates and delivers value to customers, entices customers to pay for this value, and makes profit of it (Teece, 2010). Specifically, a DBM is such a business model where value creation

and delivery are conducted primarily through the use of digital technologies (Bock and Wiener, 2017). The characteristics of DBMs often differ to a large extent in comparison to traditional business models (Härting et al., 2018; Remane et al., 2017; Weill and Woerner, 2013; Voigt and Hinz, 2016), including in many cases the possibility to exploit substantial network effects while growing the business with low marginal costs.

It has been well noted by prior researchers that DBMs have had a major impact on a number of industries, including tourism (Zentner and Spremić, 2021), where major digital platforms have become highly important market players on a global scale (Bollette, 2018; Zentner et al., 2022). Following such developments, there has been a number of studies analyzing tourism's DBMs from various

angles and perspectives (e.g. Martin-Fuentes et al., 2018; Garrigos-Simon et al., 2016; Lee & Kim, 2019; Tekin Bilbil, 2019; Guttentag, 2015; Caccinelli & Toledano, 2018; Zentner and Spremić, 2021: Yoo et al., 2016).

Even though DBMs have been increasingly studied in the contemporary literature (Massa et al., 2017), there is a lack of prior research with regards to the impact of various general factors, such as company location, age and size, on the company's DBM. The objectives of this study is to fill the identified research gap in the field of DBMs and – specifically for the yacht charter sector – investigate whether the factors such as company location, company size, its age and its business model history have an impact on the level of DBM maturity of those companies. Therefore, the research question which has guided this research is: Do company factors such as location, company size, company age or its business model history have an impact on DBM maturity?

The scientific contribution of this paper is, therefore, focused on providing an understanding of the connection between those general factors that characterize a business organization, on one side, and the development level of this organizations' DBM on the other side. A further contribution is related to deepening the understanding of DBMs in nautical tourism, particularly its yacht charter segment, which can have both academic and practical utility.

The remainder of the paper has been structured as follows: chapter Research hypotheses presents the hypotheses to be tested, while next chapter describes the Methodology and variables in the study. This is followed by Hypotheses testing in and finally, the Discussion and conclusions in the last chapter.

2   Research Hypotheses

The group of factors whose influence on the maturity of DBMs is analyzed in this paper are general factors such as the size of the company, its age and digital history, and the location of the company itself. Therefore, four hypoheses are proposed and empirically tested to investigate whether the above factors influence the maturity of the company's DBM.

Firstly, the size of the company is expected to correlate positively with DBM maturity, while the age of the company is not expected to have a similar positive correlation. Indeed, in various industries, there are often cases where young companies have mature digital business models and, thanks to them, achieve rapid growth at the expense of older competitors.

Furthermore, this study also analyzes the digital history of the company, i.e., it compares companies that had a DBM from the beginning with those that started their business with a traditional business model and transformed it into a digital one over time. In this context, DBMs are expected to be more mature in the group of companies that have operated with a DBM since their foundation.

Finally, the influence of the company location, i.e., the country in which the company is headquartered, on DBM maturity is analyzed. Since the company location is a categorical variable, a corresponding numerical variable was also created: the development index of company location as a measure of the development of the particular country in the context relevant to digital services in tourism.

The method used to derive this numerical variable is based on publicly available data (Eurostat), in line with relevant previous work (e.g. Žmuk and Mihajlović 2018; Ruiz Gomez et al. 2018; Marić and Zoroja 2019; Dumičić et al. 2016; Mihajlović 2014). Based on the results of these works, relevant criteria for measuring the country's development index in this context were identified, and it can be reasonably assumed that the country's development index is positively related to DBM maturity of companies operating in the country.

As a result of the considerations outlined above, four hypotheses were made about the influence of general factors on the maturity of DBM, as follows:

– H1: Company size is positively correlated with DBM maturity.
– H2: There is no significant influence of company age on DBM maturity.
– H3: DBM maturity depends on the company's digital history, in the way that companies that have had a DBM since their foundation have a higher DBM maturity level than companies that have transformed their traditional business model into a digital one.
– H4: The development of the company's location has a positive influence on the maturity level of the DBM.

The next section presents the research methodology used to test the above hypotheses.

3   Methodology and Variables

During the empirical research, the method of primary data collection through an online survey was used. In addition, for obtaining further insights the authors have used the content analysis method, including the analysis of the websites and social networks of the observed companies. The survey had a multi-national scope and the contacted population consisted of 932 yacht charter agencies from around the world. Following an initial invitation to take part in the study and a series of professional reminders, the final response rate was 17.81%. In particular, a total of 166 companies from 42 countries responded to the survey, out of which 4 have been left out from further analysis due to methodological issues identified, thus leaving a final sample of 162 companies to be analyzed. Thereafter, the processing and analysis of the results has been performed using relevant statistical procedures, such as correlation analysis, regression analysis and cluster analysis.

The survey questionnaire was the main research tool in this empirical study. Since it is an international re-

search, the questionnaire was written in English. During the design of the survey, a phase of preparatory research was also conducted in which a small number of companies completed the survey and their feedback was analyzed to improve the content and clarity of the questions before they were sent to all other respondents. This phase resulted in a number of improvements in the language of the questions to make them as clear and unambiguous as possible. Technically, the questionnaire was designed using Google Forms tool.

As can be seen from Table 1, since business location is a categorical variable, a corresponding numerical variable was also created: business location development as a measure of the development of a single country in the context relevant to digital services in tourism. The method for measuring this numerical variable is based on publicly available data (Eurostat). Since data is available in Eurostat for only a subset of the countries included in this study, hypothesis H4 is tested on a reduced sample of n=132, which includes all respondents from countries whose relevant development data is available in the Eurostat database.

The selection of relevant data from Eurostat is based on previous research related to tourism (e.g. Žmuk and

Table 1 Overview of the variables used in the research

1. Company size _____	A variable indicating the approximate size of the company, measured in classes of the number of employees.	Measured directly by the questionnaire: respondents could choose among several classes offered (e.g., 0-2 employees, 3-5 employees, etc.). Source: adapted from Kane et al. 2015, Kane et al. 2016
2. Company age _____	A variable indicating the approximate number of years the company has been in the charter tourism business.	Measured directly by the questionnaire: respondents could choose between several classes offered (0-1 years, 2-3 years, etc.). Source: adapted from Kane et al. 2015, Kane et al. 2016

3.
Digital history
_____
	A variable indicating when the digital business model was introduced in the company, related to the start of the business.
	This variable divides the companies into three groups depending on the option chosen, with the first two groups of companies being compared as part of the test of the hypothesis H3.
		Measured directly by the questionnaire: respondents could choose from several offered answers:
		    DIGP1: Since the beginning of our business, we have used a digital business model.
		    DIGP2: We did not use a digital business model at the beginning of our business activity, but later we transformed our business model into a digital model.
		    DIGP3: We mostly use a traditional (non-digital) business model.
		In order to classify the companies as realistically as possible, the percentage of new customers that the respondent has acquired through digital channels has also been taken itno account. All respondents with a low percentage (below 50%) were automatically classified in the group that predominantly uses a traditional business model.

4. Company location _____	Categorical variable indicating the country where the company headquarters are located.	Collected directly through the questionnaire: respondents were asked to indicate the country of their headquarters.

5.
Development of company location
_____
	The development of the company's location refers to the economic and digital development of the country in which the company is headquartered is located, in terms of development indicators relevant to the digital business in the observed activity.
	Source: adapted from Žmuk and Mihajlović 2018, Dumičić et.al. 2016, Ruiz Gomez et al. 2018
		For the country that the respondent indicated as the location of their headquarters, the following data was obtained from publicly available sources:
		    RLOP1: E-commerce development as measured by the percentage of the population using the Internet to order products or services.
		    RLOP2: Percentage of population that is digitally literate.
		    RLOP3: Gross national product per capita.
		The above data was used to calculate the business location development index, which was then used as a measure of business location development in further quantitative analysis.
		Source: Eurostat – Data source. Selection of relevant data according to Žmuk and Mihajlović 2018. Index calculation adjusted according to Ruiz Gomez et al. 2018

6. Digital business models maturity (DBM maturity) _____	The level of development or maturity of the digital business model for yacht charter agencies, viewed according to the corresponding DBM framework. Source: Weill and Woerner 2018 and Weill and Woerner 2013, Zentner et al. 2021.	Calculated based on the measured DBM maturity indicators: digital content, user experience, and platform, collected through the survey. Source: Zentner et al. 2021

Source: Authors

Table 2 Development of company location

Indicator / Measuring unit / Last year available	Original values from Eurostat			Normalized values			Index
	GDP-PC PPS 2018	DIG-SKILLS % population 2019	E-COMM % population 2018	GDP-PC 0-100	DIG-SKILLS 0-100	E-COMM 0-100	
Belgium	116	61	66	61,70	73,49	75,86	70,35
Czechia	91	62	64	48,40	74,70	73,56	65,56
Germany	124	70	79	65,96	84,34	90,80	80,37
Estonia	82	62	68	43,62	74,70	78,16	65,49
Ireland	188	53	67	100,00	63,86	77,01	80,29
Greece	68	51	39	36,17	61,45	44,83	47,48
Spain	92	57	58	48,94	68,67	66,67	61,43
France	104	57	70	55,32	68,67	80,46	68,15
Croatia	63	53	45	33,51	63,86	51,72	49,70
Italy	96	42	38	51,06	50,60	43,68	48,45
Cyprus	87	45	39	46,28	54,22	44,83	48,44
Lithuania	81	56	48	43,09	67,47	55,17	55,24
Hungary	71	49	49	37,77	59,04	56,32	51,04
Netherlands	130	79	81	69,15	95,18	93,10	85,81
Austria	128	66	62	68,09	79,52	71,26	72,96
Poland	71	44	54	37,77	53,01	62,07	50,95
Romania	65	31	23	34,57	37,35	26,44	32,79
Slovenia	88	55	56	46,81	66,27	64,37	59,15
Slovakia	78	61	60	41,49	73,49	68,97	61,32
Finland	111	76	73	59,04	91,57	83,91	78,17
Sweden	122	72	82	64,89	86,75	94,25	81,96
United Kingdom	105	74	87	55,85	89,16	100,00	81,67
Norway	151	83	82	80,32	100,00	94,25	91,52
Switzerland	157	77	80	83,51	92,77	91,95	89,41
Montenegro	47	51	16	25,00	61,45	18,39	34,95
Serbia	40	46	34	21,28	55,42	39,08	38,59
Turkey	65	36	30	34,57	43,37	34,48	37,48

Source: Eurostat for the data in the left part of the table; Authors' work in the right part.

Mihajlović 2018; Ruiz Gomez et al. 2018; Marić and Zoroja 2019; Dumičić et al. 2016; Mihajlović 2014). Specifically, a number of data and indicators potentially relevant in the observed context were analyzed in Eurostat databases. Based on a detailed analysis and examination of previous research, three indicators were selected to measure the development index of business locations in this paper: gross national product per capita in standard units of purchasing power, digital skills of the population – measured by the percentage of residents who have basic or advanced digital skills, and e-commerce development – measured by the percentage of residents who use the Internet to order products or services. From these three indicators, a relevant index of business location development was formed in such a way that each of the three indicators was first standardized to obtain an equal measurement scale, and then the arithmetic mean of the standardized indicators was calculated for each country.

Table 2 shows the original data from Eurostat for all three observed indicators, as well as the normalized values of these indicators, and finally the index for the development of the business location itself, which is used to test hypothesis H4. The table shows that countries such as Norway, Switzerland, the Netherlands, Sweden, the UK, Germany, etc. have the highest values of the business location development index, while Romania, Montenegro, Serbia and Turkey recorded the lowest value of the index.

4 Testing the Hypotheses

To test the hypotheses H1, H2, and H4, the corresponding descriptive statistics are first presented below (Table 3). From the table, it can be seen that the hypothesis H4 is tested on a slightly smaller sample, as explained in the previous chapter (n=132).

Table 3 General factors – descriptive statistics

	Mean	Std. Deviation	N
Company size	4,36	5,98	162
Company age	12,55	9,95	162
Development of company location	61,92	15,64	132
Digital business models maturity	3,44	,85	162

Source: Authors' work using SPSS

Below are tables of correlation coefficients for the hypotheses H1, H2, and H4, namely Spearman's (Table 4) and Pearson's (Table 5) correlation coefficients.

Table 4 Spearman correlation coefficients

General factors Spearman correlation coefficients			Company size	Company age	Development of company location	DBM maturity
Spearman's rho	Company size	Correlation Coefficient	1,000	,123	-,020	,314**
		Sig. (2-tailed)	.	,120	,818	,000
		N	162	162	132	162
	Company age	Correlation Coefficient	,123	1,000	,050	-,029
		Sig. (2-tailed)	,120	.	,568	,711
		N	162	162	132	162
	Development of company location	Correlation Coefficient	-,020	,050	1,000	,135
		Sig. (2-tailed)	,818	,568	.	,124
		N	132	132	132	132
	DBM maturity	Correlation Coefficient	,314**	-,029	,135	1,000
		Sig. (2-tailed)	,000	,711	,124	.
		N	162	162	132	162
**. Correlation is significant at the 0.01 level (2-tailed).						

Source: Authors' work using SPSS

Table 5 Pearson correlation coefficients

General factors Pearson correlation coefficients		Company size	Company age	Development of company location	DBM maturity
Company size	Pearson Correlation	1	,110	,067	,291**
	Sig. (2-tailed)		,164	,446	,000
	N	162	162	132	162
Company age	Pearson Correlation	,110	1	,102	-,003
	Sig. (2-tailed)	,164		,244	,967
	N	162	162	132	162
Development of company location	Pearson Correlation	,067	,102	1	,101
	Sig. (2-tailed)	,446	,244		,250
	N	132	132	132	132
DBM maturity	Pearson Correlation	,291**	-,003	,101	1
	Sig. (2-tailed)	,000	,967	,250	
	N	162	162	132	162
** Correlation is significant at the 0.01 level (2-tailed).					

Source: Authors' work using SPSS

Looking at the correlation coefficients in the tables presented, it is clear that the DBM maturity correlates positively with the size of the company. This is a positive, relatively low correlation with a Pearson correlation coefficient of 0.291 and a Spearman correlation coefficient of 0.314, all with a significance level of 0.01.

It was additionally tested whether the correlation between these variables would be stronger if a smaller and more homogeneous sample was considered. Table 6 shows the correlations for the subset of companies that have a DBM and do not actively engage in other nautical tourism activities (i.e. they do not have their own fleet of vessels, etc.). Indeed, having their own fleet and other similar activities requires additional employees and therefore affects the size of the company itself. As expected, this more homogeneous sample of companies yielded a slightly higher correlation coefficient between the size of the company and its DBM maturity. In the correlation table of this smaller sample, it can be seen that the Pearson correlation coefficient between DBM maturity level and the size of the company is 0.327 and points in a positive direction, with a significance level of 0.05.

Regarding the hypothesis H1, it can be concluded from the above findingsthat there is a positive correlation be-

Table 6 Pearson's correlation coefficients – narrower sample

| General factors Correlations for the narrower sample		Company size	Company age	Development of company location	DBM maturity
Company size	Pearson Correlation	1	-,123	,073	,327*
	Sig. (2-tailed)		,436	,673	,034
	N	42	42	36	42
Company age	Pearson Correlation	-,123	1	,082	,061
	Sig. (2-tailed)	,436		,635	,703
	N	42	42	36	42
Development of company location	Pearson Correlation	,073	,082	1	,141
	Sig. (2-tailed)	,673	,635		,411
	N	36	36	36	36
DBM maturity	Pearson Correlation	,327*	,061	,141	1
	Sig. (2-tailed)	,034	,703	,411	
	N	42	42	36	42
* Correlation is significant at the 0.05 level (2-tailed).					

Source: Authors' work using SPSS
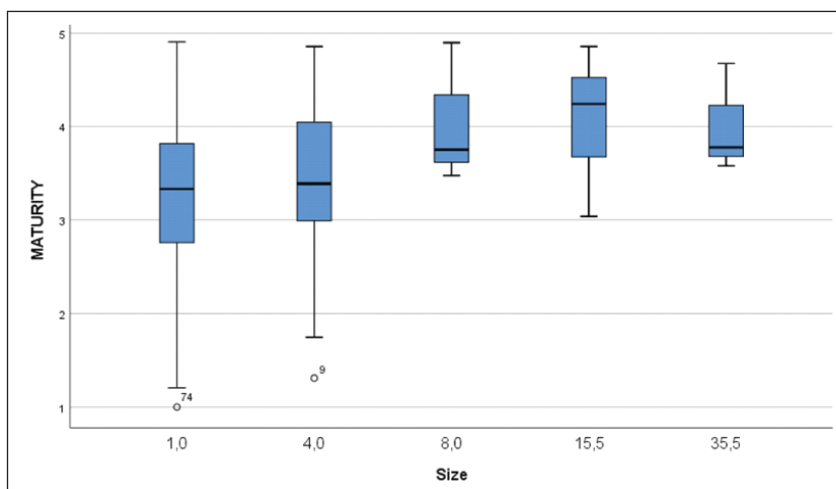
Figure 1 Relationship between company size and digital business model maturity

Table 7 Regression analysis for H1

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,291[a]	,084	,079	,817	1,858

a. Predictors: (Constant): Size
b. Dependent variable: Maturity

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	9,853	1	9,853	14,749	,000[b]
	Residual	106,880	160	,668		
	Total	116,733	161			

a. Dependent variable: Maturity
b. Predictors: (Constant): Size

Regression Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,261	,080		40,993	,000
	Size	,041	,011	,291	3,840	,000

a. Dependent variable: Maturity

Source: Authors' work using SPSS

tween the size of the company and the maturity of its DBM. Although it is a correlation of low intensity, it is positive and statistically significant, so hypothesis H1 can be confirmed.

To get an additional insight into the relationship between the observed variables, Figure 1 shows the maturity level of the digital business model for each company size group. From this representation, a trend toward increasing DBM maturity at the increasing company size is evident, with the exception of the group of the largest companies, which records a slightly lower average DBM maturity level than the previous group.

Finally, a regression analysis of the connection between DBM maturity and the company size was performed, the results of which are shown below (Table 7).

Based on the results of the regression analysis presented, it is clear that the regression equation is:

$$\text{MATURITY} = 3{,}261 + 0{,}041 * \text{SIZE} \qquad (1)$$

while in case of using standardized coefficients the regression equation is:

$$\text{MATURITY} = 0{,}291 * \text{SIZE} \qquad (2)$$

The regression equations presented above can be interpreted as follows:

– When the company size increases by 1 employee, the company's DBM maturity increases by 0.041 units on average.

– When the company size increases by 1 standard deviation, the company's DBM maturity increases by 0.291 standard deviations on average.

The above tables also show that the aforementioned correlation between the variables was established with a significance level of 1%. Since the existence of a positive correlation between the size of the company and the company's DBM maturity was established using the statistical methods described above, it is concluded that the hypothesis H1 is empirically confirmed and we proceed to the testing of the hypothesis H2.

Hypothesis H2 states that there is no significant impact of the company age on its DBM maturity. If one observes the correlation tables presented above (Table 4 and Table 5), it is clear that there is no statistically significant correlation between the age of the company and the maturity of its DBM, neither in the whole sample nor in the observed sub-sample.

This also leads to the conclusion that these two variables are not directly correlated and that the age of the company actually has no influence on the company's DBM maturity. This means that the hypothesis H2 is also supported, as it correctly assumed that there is no significant relationship between these variables.

The lack of correlation between those two variables is also evident from Figure 2, which clearly shows that there is no trend toward increasing DBM maturity with increasing company age.
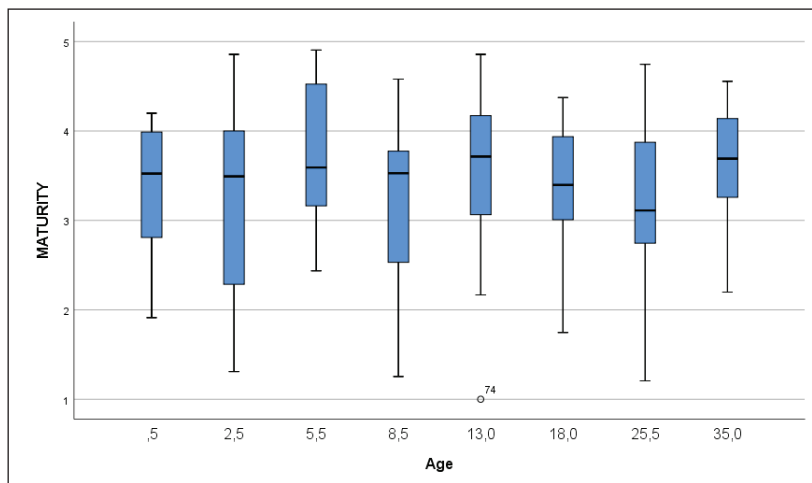
Figure 2 Relationship between the age of the company and the maturity of the digital business model

The same conclusion regarding the hypothesis H2 can be reached by using a regression analysis. The results of the regression analysis are shown in Table 8.

The first part of the table shows that R2 is zero, which means that the variability of the data is not explained by the model at all, while the second table shows a significance level of 0.967, which also indicates that such a regression model is not appropriate, i.e., there is no statistically significant relationship between the age of the company and its DBM maturity.

In addition, the third part of the table shows that the regression coefficient with the age variable is zero, i.e., the model does not predict any influence of the company age on the maturity of its DBM, as was assumed. This also supports the conclusion that the hypothesis H2 is confirmed by this research.

Next, we approach the investigation of the hypothesis H3, which assumes that DBM is more mature in companies that have had a DBM since their inception than in companies that initially operated with a traditional business model and later transformed it into a DBM.

Since this hypothesis actually observes differences between two groups of companies, the test is first performed by comparing the mean values of DBM maturity between

Table 8 Regression analysis for H2

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,003[a]	,000	-,006	,854	1,919

a. Predictors: (Constant), Age
b. Dependent Variable: maturity

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	,001	1	,001	,002	,967[b]
1	Residual	116,731	160	,730		
	Total	116,733	161			

a. Dependent Variable: Maturity
b. Predictors: (Constant), Age

Regression Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,445	,108		31,834	,000
	Age	,000	,007	-,003	-,041	,967

a. Dependent Variable: Maturity

Table 9 Test of differences of arithmetic means for H3

Means Compared Report					
Maturity					
Digital history	Mean	N	Std. Deviation		
Digital business model since their foundation	3,77	68	,74		
Now digital business model, but previously the traditional model	3,65	29	,56		
SUM	3,73	97	,69		
ANOVA					
		Sum of Squares	df	Mean Square	F	Sig.
Maturity * Digital history	Between Groups (Combined)	,329	1	,329	,692	,408
	Within Groups	45,236	95	,476		
	Total	45,565	96			

Source: Authors' work using SPSS

these two groups. The first part of Table 9 shows the mean values being compared, along with the corresponding standard deviations, while the second part of this table shows the analysis of ANOVA.

Although it can be seen from the first part of the table that the mean value of DBM maturity is indeed slightly higher for companies that had a DBM from the beginning, it can be concluded from the second part of the table that this difference between the mean values is not statistically significant. This is evident from the Sig. column, which contains a value of 0.408, which is above the usual significance levels. The same conclusion can be drawn by comparing the F-test size with the critical values from the F-distribution tables, for example:

- $F(1;95;0.05) = 3.96$. Since $0.692 <$ is 3.96, H0 is accepted, i.e., the difference between the means is not statistically significant at 5% significance.

- $F(1;95;0.10) = 2.77$. Since $0.692 <$ is 2.77, H0 is accepted, i.e., the difference between the means is not statistically significant at 10% significance.

Since there is no statistically significant difference between the mean values of DBM maturity for the two groups of companies observed, this suggests that the hypothesis H3 is not supported. This is also tested using the regression analysis method (for a subset of companies that have a DBM) as follows (Table 10):

Table 10 Regression analysis for H3

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	
1	,085[a]	,007	-,003	,690	

a. Predictors: (Constant), Digital history

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	,329	1	,329	,692	,408[b]
	Residual	45,236	95	,476		
	Total	45,565	96			

a. Dependent Variable: Maturity
b. Predictors: (Constant), Digital history

Regression Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,517	,270		13,047	,000
	Digital history	,064	,077	,085	,832	,408

a. Dependent Variable: Maturity
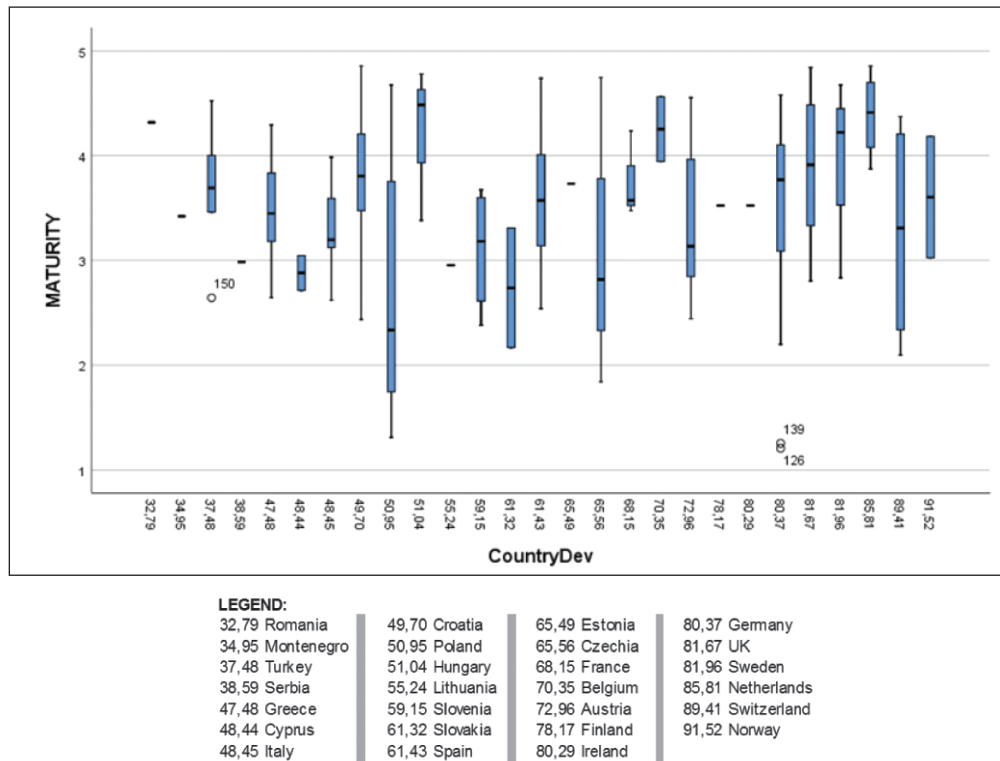
Source: Authors' work using SPSS

Figure 3 The relationship between the development of the business location and DBM maturity

Source: Authors' work using SPSS

As can be seen from the the presented results of the regression analysis, the obtained regression model has an extremely low R^2 indicator, which means that very little variation is explained by the model. Similarly, the results of the ANOVA table show that the obtained significance level is 0.408, which is far above the usual significance levels. This means that there is indeed no statistically significant relationship between the observed variables.

In summary, all the procedures previously performed indicate that the difference between DBM maturity of the two groups is not statistically significant and therefore the hypothesis H3 was not confirmed in this study.

Finally, hypothesis H4 is tested. Using the correlation tables presented previously (Table 4 and Table 5), it is also possible to investigate the existence of a relationship between the location development variable and DBM maturity.

The study of the Pearson and Spearman correlation coefficients obtained shows that there is no statistically significant correlation between the two variables mentioned, although the hypothesis H4 assumes that there would be a relationship between these variables. This leads to the conclusion that the hypothesis H4 is not supported in the observed sample of companies.

For a more detailed overview of DBM maturity by country see Figure 3, which shows differences in DBM maturity depending on the development of the business location.

In particular, Figure 3 shows that in this sample, Polish agencies had the lowest average maturity, followed by Slovak and Czech agencies. The highest average maturity level in this sample was recorded by Hungarian agencies, followed by Dutch, Swedish and Belgian agencies. Looking at the graph as a whole, we see that there is no clear correlation between the development of the business location and the maturity of the digital business model, although it should be noted that only those countries for which data are available in the Eurostat database were included in this part of the analysis.

Finally, a regression analysis was performed on the two observed variables, the results of which are presented below (Table 11).

The regression analysis also concludes that the two observed variables are not related: the regression coefficient is very low and the significance level is insufficient (0.250), while R^2 is also very low, indicating that most of the variability is not explained by the regression model. Therefore, all statistical procedures performed indicate that the hypothesis H4 was not confirmed. However, with regard to the dependence of DBM maturity on the company's location, it should be noted that in the qualitative part of the research, that included a detailed analysis of the population using the content analysis method, it was found that there are several companies which emphasize on their websites that they are the leading portals in the yacht charter sector, and their prominent position is also visiblefrom the other collected

Table 11 Regression analysis for H4

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,101[a]	,010	,003	,827	2,070
a. Predictors: (Constant), Location development; b. Dependent Variable: Maturity					
ANOVA					
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	,911	1	,911	1,333	,250[b]
	Residual	88,838	130	,683		
	Total	89,749	131			
a. Dependent Variable: Maturity; b. Predictors: (Constant), Location development					
Regression Coefficients						
Model		Unstandardized Coefficients		Stand. Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,147	,295		10,667	,000
	Location development	,005	,005	,101	1,155	,250
a. Dependent Variable: Maturity						

Source: Authors' work using SPSS

evidence. These agencies are from the following countries: Germany, Switzerland, France, Spain, the United Kingdom and the United States, which are all quite developed countries. So, from this part of the research, it can be inferred that there is some influence of location development, given that the companies with the most mature and successful DBMs are mostly located in developed countries.

However, if we look in general at all the companies in the sample analyzed here, it is clear that there is no statistically significant relationship between the company location and DBM maturity, i.e. despite the evidence of a positive relationship, applying statistical analysis leads to the conclusion that the hypothesis H4 is not confirmed.

5 Discussion and Conclusions

This paper has empirically explored the connection between company characteristics such as location, size, age and business model history on one hand and the maturity of the company's DBM on the other hand. During the process of hypotheses testing, it has been found that some of the observed company characteristics indeed do impact the company's DBM maturity, while others do not. In particular, Table 12 summarizes the research findings for the four research hypotheses:

Table 12 Research Findings Summary

	Hypotheses empirically confirmed
H1	YES
H2	YES
H3	NO – measured difference is not statistically significant
H4	NO – but there are exceptional cases to be considered

Source: Authors

From the above results it can be concluded that the company's DBM maturity tends to increase as the company size increases (as assumed in H1) while there is no significant connection between the company age and its DMB maturity (as assumed in H2). The later finding is indeed consistent with the indications from prior literature, given that it is often the young companies that successfully develop DBMs. With regards to the impact of business model history on DBM maturity, the measured difference was not statistically significant and consequently H3 could not have been confirmed. Therefore, whether the company has initially started operating with a DBM or they have started with a traditional one and later pivoted to a DBM, they would have nearly equal chances to reach a solid level of DBM maturity. This is a potentially relevant practical contribution of the research, as it can be of use not just to the academic community but also to the practitioners in the process of digital transformation.

One of the most interesting findings of this research is related to H4, i.e. the effects of the company location on DBM maturity. The statistical analysis of the entire sample suggests that a company might have rather similar chances to reach a high DBM maturity regardless of its country of origin. In other words, in the overall sample the level of DBM maturity does not correlate with the level of the development of the country where the company is located. Still, although the H4 has not been statistically confirmed when looking at the entire sample, the results from the qualitative part of the study do indicate that the location may yet have an impact on DBM maturity in exceptional cases. Namely, the qualitative part of the study indicates that the few market leading digital yacht charter agencies (with highly developed DBMs) do in fact tend to originate from well developed countries, and furthermore, the indications suggest that their leadership position may be related to accessibility of external funding. However, these

indications were not explored in a sufficient depth in the scope of the current study, which is why they remain as a recommendation for further research.

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