



# Internet traffic and firm performance in big-ticket sectors: there are two sides of the coin

## Tráfico de internet y desempeño de las empresas en sectores de alto costo: hay dos caras de la moneda

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### Abstract

The importance of well-established and customer-friendly firms' websites has increased in the context of the digitalization of the economy. The COVID-19 pandemic has become a new driver for the development of Internet communications between manufacturers and consumers. This article explores the relationship between the Internet traffic of companies' websites and their sales volumes and profitability. We apply panel data regression analysis and model of Prais-Winsten regression with panel standard error adjustment, which provides conservative and reliable estimates. In the sample of 268 observations drawn from 67 Russian firms operating in the big-ticket industries of car manufacturing and real estate development during the period of 2017-2022 characterized by a major exogenous shock, we demonstrate that internet traffic exerts a positive effect on firm sales. At the same time, this positive effect on sales is accompanied by a negative effect of internet traffic on firm profitability. The negative effect on profitability is particularly pronounced for younger firms that are likely to face severe resource constraints and can thus be said to sacrifice profitability to ensure sales. In such situation, application of cost-effective strategies may be critical for younger firms. Younger firms should pay particular attention to the contents of their websites to ensure that they provide enough adequate information that will help win the trust of new customers.

### Resumen

En el contexto de la digitalización de la economía ha aumentado la importancia de los sitios web de las empresas, bien establecidos y fáciles de usar. La pandemia de COVID-19 se ha convertido en un nuevo motor para el desarrollo de las comunicaciones por internet entre fabricantes y consumidores. Este artículo explora la relación entre el tráfico de internet de los sitios web de las empresas y sus volúmenes de ventas y rentabilidad. Aplicamos el análisis de regresión de datos de panel y modelo de regresión de Prais-Winsten con ajuste de error estándar de panel, que proporciona estimaciones conservadoras y confiables. Sobre la muestra de 268 observaciones extraídas de 67 empresas rusas que operan en las industrias de gran valor de la fabricación de automóviles y el desarrollo inmobiliario durante el período 2017-2022 caracterizado por un gran impacto exógeno, demostramos que el tráfico de internet ejerce un efecto positivo en la empresa. Al mismo tiempo, este efecto positivo sobre las ventas va acompañado de un efecto negativo del tráfico de internet sobre la rentabilidad de la empresa. El efecto negativo sobre la rentabilidad es particularmente pronunciado para las empresas más jóvenes que probablemente enfrenten severas limitaciones de recursos y, por lo tanto, puede decirse que sacrifican la rentabilidad para asegurar las ventas. En esta situación, la aplicación de estrategias rentables puede ser fundamental para las empresas más jóvenes. Las empresas más jóvenes deben prestar especial atención a los contenidos de sus sitios web para asegurarse de que proporcionen suficiente información adecuada que ayude a ganar la confianza de nuevos clientes.

### Keywords | palabras clave

Internet traffic, sales, profitability, big-ticket items, economic crisis, exogenous shock, firm age, e-commerce.

Tráfico de internet, ventas, rentabilidad, artículos caros, crisis económica, choque exógeno, antigüedad de la empresa, comercio electrónico.

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## 1 Introduction

Over the last two decades industries have witnessed the emergence of Web 4.0 and adopted their practices to correspond to the fast-changing environments. Companies maintain multiple channels in order to reach existing and potential customers, signal their positioning to the market, and build the brand (Herhausen et al., 2020). The importance of well-established and comprehensive websites has increased even further with the Covid-19 pandemic. Administrative restrictions on the number of people inside the buildings, reduced open hours, and other constraints have created significant challenges for companies by minimizing customer exposure and direct communication with customers. As a result, a lot of companies have failed to quickly adjust to these external shocks and went out of business. Companies that survived have managed to upgrade their Internet presence and start providing their offerings and communicating with customers online (García-Madurga et al., 2021; Loupiac & Goudey, 2019). Although websites and their traffic became one of the staples of a company's operations and means of establishing and understanding a company's strategic position, the effects of Internet traffic that a company generates on a company's performance remains unclear. While a significant body of research is dedicated to the challenges of developing the efficient and attractive website, there are a limited number of studies that highlight the managerial difficulties of maintaining the web presence. This research is dedicated to fulfilling this gap by highlighting the relationship between Internet traffic generated by companies' websites and company sales and companies' profitability. Consistently with general knowledge, we demonstrate that big-ticket companies are able to stimulate sales with Internet traffic. However, companies may experience diminished profitability due to resource requirements to maintain higher Internet traffic, especially during external shock, such as the Covid-19 pandemic. Furthermore, we demonstrate that the requirements for maintaining Internet traffic are more detrimental to younger firms that may not possess sufficient resources.

This paper is organized as follows. First, we summarize existing literature and context of the study. Second, we highlight how maintaining Internet traffic may affect company sales and profitability, as well as distinguish that effect for younger and older firms. Third, we discussed the methodology that was applied to investigate proposed relationship. Fourth, we present the results of our study and elaborate their implications for both practitioners and researchers. Finally, we discuss how this study contributes to the existing research, overview its limitations, and suggest directions for future studies.

## 2 Literature review and hypothesis development

In the most general sense, firms strive to build and sustain competitive advantage understood as above-average performance and typically measured with firm valuation, sales (size), and profitability. In many developing countries, due to the lack of a highly liquid stock market, valuation as a business goal does not resonate with business owners quite as well as it does in the United States or Western Europe. Sales and profitability, on the other hand, have universal appeal as performance metrics.

Nowhere is sales performance more important than in big-ticket industries, that is, industries dealing with high-price items such as cars and real estate. Even a small decline in sales in this case may be overly costly for firms to bear given the disproportionate value of lost business it brings about. When economies within which such firms are embedded are plagued by the exogenous shock, their ability to close sales is severely undermined, which calls for a broad search of tools to stimulate sales or at least minimize the loss of

clients. This was the case in Russia post 2014 due to the Western sanctions imposed on the country for its alleged involvement in the Ukrainian crisis, and the ensuing loss by the Russian ruble of about 50% of its value (Anokhin et al., 2021), which in turn rendered the products offered by the big-ticket industries inaccessible to many customers. In response to this crisis, many firms turned their attention to the multitude of channels to promote their products, including heavy investments in their online presence meant to drive the internet traffic to their websites in hopes of winning their customers' business.

Both practitioners and academics have established that companies' websites play a crucial role in companies' operations. Well-established and maintained website enables companies to educate and attract the customers (Demangeot & Broderick, 2016), establish brand positioning and reputation (Bravo et al., 2012; Constantinides, 2002), communicate with stakeholders (Abeysekera, 2019), attract new employees and collaborators (Hausdorf & Duncan, 2004), just to name a few.

Big-ticket industries are characterized by high priced items, which require customers to have high levels of psychological comfort to make a purchase (Abrell et al., 2018; Shaw et al., 1989). Such items tend to have higher profit margins, but due to the pricing, the amount of sales may be lower comparing to cheaper products. Maintaining constant sales in big-ticket industries is crucial for companies' survival, however achieving this is complicated since online shopping is usually perceived risky (Bashir et al., 2021; Bhatnagar et al., 2000). Big-ticket items create hesitation among the customers due to the price and uncertainty. As a result, customers engage in extensive information search about the product. During the pandemic, retail locations can be closed and customer traffic are minimized, so regular communication channel between the company and its customers may be unavailable, forcing customers to rely on companies' websites (Agus et al., 2021; Kwak, 2001). Once consumers collect enough of valuable information, they will consider the product for purchase. However, if customers have difficulty finding required information or have difficulties recognizing the brand or understanding the website, they will not reach the point when they will be ready for a purchase (Wu et al., 2014). Customer's perception of ease, adequacy, and completeness of information on companies' websites plays a crucial role in forming a positive customer perception that may result in sales (Carlson & O'Cass, 2011). As a result, companies should strive for creating the website that will efficiently educate the customers and create a positive experience of interacting with the company. Yang, Pan and Song (2014) have demonstrated that the online traffic can be efficiently used as an indicator and predictor of the demand. In other words, a well-built website plays a crucial role in forming communicating with customers and forming their perceptions, especially during the pandemic (Auger, 2005; Burt & Sparks, 2003). Therefore, we hypothesize that:

*H1: In big-ticket industries under crisis, there is a positive relationship between the internet traffic attracted by the firm and firm sales*

As discussed above, companies' websites play a crucial role in generating sales, and existing research tends to focus on the positive aspects of that role. However, industries have demonstrated that companies that heavily invest into their e-commerce activities may fail as well. Burt and Sparks (2003) noted that e-commerce may create a negative effect if implemented incorrectly. Therefore, the presence of the website itself does not guarantee profitability for the company. Instead, the quality of the company's website defines whether the effect is going to be positive or negative (Kim & Peterson, 2017; Agrebi & Boncori, 2017). Existing research dedicates significant efforts to explain how to build and maintain the website that will create the best perception among the

customers and increase sales. This area of research is currently emerging, and consensus has not been reached. However, extant research is congruent on the idea that companies' websites should be adapted to and congruent with the given customers and company's offerings (Bartikowski et al., 2022). In particular, efficient structure of the company's website allows customers to find necessary information about the brand easier and faster, which in turns tends to minimize uncertainty and helps to develop trust (Loupiac & Goudey, 2019; Nam et al., 2014). The abundance of relevant information about the company, its products and mission also influences viewers attitude toward the website itself and impact their purchase intentions (Bartikowski et al., 2022). In addition to the functional content, the website should be designed with aesthetic appeal and efficient performance which are necessary for forming positive attitudes toward the website (Bolton et al., 2022). Such design requirement cannot be achieved and maintained automatically. Companies should invest into market and customer research in order to obtain relevant and up-to-date information and be able to integrate it into the website (Freixanet et al., 2020). These processes create continuous expenditures to support qualified personnel or contract a third party. In addition to the maintenance of the website, companies have to dedicate additional expenditures to the promotion of the website in order to generate internet traffic (Lee et al., 2015; Nieto et al., 2014). While websites help companies to generate additional sales, the creation and maintenance of the website require continuous investments (Guerra Villalta et al., 2021). Therefore, we hypothesize that:

*H2: In big-ticket industries under crisis, there is a negative relationship between the internet traffic attracted by the firm and firm profitability*

Constantly changing industry conditions and intense competition can cast a significant pressure on companies to maintain their website activities on higher levels. Such pressure is even stronger when a regular communication channel between the company and its customers is jeopardized by the pandemic. These rough conditions demand significant resources and may put the companies with limited resources to a serious disadvantage. Extant research has highlighted numerous significant differences between younger and older companies (Ewerth & Giroto, 2021). In particular, older companies tend to possess more resources, knowledge, and experience comparing to their younger counterparts. Maintaining website and sufficient Internet traffic is a complex task that requires knowledge and significant dedication of resources. Moreover, younger firms may not have a well-established brand, which will increase customers' uncertainty. Jarvenpaa et al. (2000) have demonstrated that the size of the e-vendor may serve as an indication of trust that consumers may have for it since better companies tend to survive and grow over a period of time (Zambrano-Farías et al., 2021). As a result, younger companies have higher requirements for well-organized and appealing website comparing to older firms. Younger firms can experience even higher expenses if they don't possess enough capabilities to own and maintain the websites and have to rely on a third-party to do so.

*H3: In big-ticket industries under crisis, the negative relationship between the internet traffic attracted by the firm and firm profitability is moderated by the firm age such that it is more pronounced for younger firms*

## 3 Methodology

### 3.1 Data

We have compiled secondary data from several secondary sources to test our hypotheses. According to the SPARK information system (Spark, 2021), we formed samples of firms manufacturing expensive goods for the retail consumer (population). To ensure homogeneity of the sample, we have used the following criteria for including a firm in the sample:

- Receipt of revenue in the amount of at least 100 million rubles (Around \$1.7M) annually during the period 2017-2020.
- Compliance of the real type of economic activity with the declared main type of economic activity in the SPARK system;
- Sales of products to retail consumers (population).

As a result, our final is represented by automotive industry (CAR) – 38 firms or 152 firms\*years of observations; developers of residential real estate (CONS) – 29 firms or 116 firms\*years of observation. The sample includes 67 firms observed across four years, from 2017 to 2021, total sample is 268 observations. We then obtained the data on financial performance and age of firms from the SPARK information system. We have then obtained data on website traffic from The Serpstat service (Serpstat, 2022). This database tracks information on the attendance (demand) of firms' websites from buyers – an indicator of “organic site traffic”, which we have aggregated by company on annual basis.

### 3.2 Variables

#### 3.2.1 *Dependent variables*

The firm's sales variable (Sales) acts as a dependent variable when we test hypothesis #1. A similar dependent variable is considered in Suhardiyah et al. (2016). The Sales variable is defined as the company's annual sales volume in billion rubles. The data was obtained from SPARK.

To test hypotheses 2 and 3, we consider the company's net return on assets (ROA) as a dependent variable that characterizes the efficiency of the enterprise. This approach to measuring firm performance is widely used in modern economic research (Lovallo et al., 2020; Munjal et al., 2019; Chatterjee, 2012; Vaicondam & Ramakrishnan, 2017). ROA is calculated as the ratio of net profit to the firm's assets, multiplied by 100%.

#### 3.2.2 *Independent variables and moderator variables*

In accordance with the purpose of the work and the formulated hypotheses, the independent variable is the organic Internet traffic of firms' websites (Traffic), which is measured as the estimated number of clicks on the analyzed website. The data for this variable was obtained from the Serpstat Internet service. Given the nature of the data, we utilize the natural logarithm of this variable of Traffic in our modelling (Holland et al., 2021; Plaza, 2011).

The moderator variable is the firm's age (Age), measured as a number of years since company's establishment according to SPARK database. This variable is considered as a control variable as well as a moderator variable in many modern economic studies (Vithessonthi & Tongurai, 2015; Spitsin et al., 2020).

### 3.2.3 Control variables

In accordance with the generally accepted methodology of econometric calculations, we include in our regression models a wide range of control variables that can affect the dependent variable in order to control for alternative explanations. We control Size of the enterprises (Size), defined as the natural logarithm of revenue, adjusted for the inflation index (Ibhagui & Olokoyo, 2018; Munjal et al., 2019):

- Share of fixed assets in total assets (FATA) is used to control for amortization costs of fixed assets, which are very relevant for big-ticket industries (Anokhin et al., 2021; Chatterjee, 2012).
- Current liquidity ratio (CACL) measured as the ratio of current assets to current liabilities and controls for company's ability to launch and sustain capital-intensive initiatives (Le & Phan, 2017; Anokhin et al., 2021).
- Leverage measured as the share of debt in the balance sheet of firms controls for company's ability to meet its financial obligations (Vithessonthi & Tongurai, 2015; Ibhagui & Olokoyo, 2018).
- Sales growth (Growth) measured as the ratio of difference in Revenue between years  $t$  and  $(t-1)$  to Revenue in year  $(t-1)$ . This variable controls for a company's size and growth rates, which is crucial given a panel nature of our data (Le & Phan, 2017).
- Asset turnover (Turnover) measured as the ratio of revenue to the company's assets serves as a control for company's efficiency to generate sales (Liang et al., 2020).

## 3.3 Statistical procedure

This research applies regression analysis to the panel data. The regression model based on the least squares' method (pooled OLS model) is evaluated as inadequate for this case. The panel nature of the data does not allow the use of a model based on the least squares method. Also, a number of shortcomings are noted in regression models with random and fixed effects (Blackwell, 2005). The preferred method appears to be Prais-Winsten regression with panel standard error adjustment, which provides more conservative and reliable estimates according to Beck and Katz (1995). This method has been successfully applied in existing literature that deals with similar research topic, the influence of factors on the profitability of high-tech firms in paper (Spitsin et al., 2020) and will use it in the present study.

## 4 Results

Table 1 reports the descriptive statistics and correlations for the independent and control variables for the full sample of enterprises. The data in Table 1 shows that there

is no strong correlation between the predictor variables ( $r \ll 0.70$ ), therefore, we can use them in regression analysis without violating multicollinearity assumption. To further minimize the problems of multicollinearity, all independent variables and controls in regression models were standardized according to Marquardt (1980).

**Table 1**

*Descriptive statistics and correlations between variables*

N	Variables	Mean	Standard deviation	Correlations (r) and their significance (p)						
					2	3	4	5	6	7
1	Size	22.18	1.49							
2	FATA	13.25	12.38	0.21***						
3	CACL	2.34	2.77	-0.16**	-0.09					
4	Age	20.25	6.52	0.13*	0.15*	0.24***				
5	Growth	0.14	0.48	-0.01	-0.06	0.03	-0.13*			
6	Leverage	66.67	27.53	0.11†	-0.15*	-0.56***	-0.29***	0.01		
7	Turnover	145.58	100.67	0.13*	0.13*	-0.25***	-0.11†	0.04	0.06	
8	Traffic	10.23	2.05	0.47***	0.23***	-0.1†	0.04	-0.07	0.03	0.01

† $p < 0.10$ , \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

We have built five regression models sequentially to test our hypotheses and demonstrate incremental effects on the main and moderator variables.

**Table 2**

*Results of regressions: dependent variable - Sales volume of the firm, standard errors are shown in parentheses*

	Model 1.1	Model 1.2
FATA (Share of fixed assets in total assets)	8,13* (3,73)	5,56 (3,76)
CACL (Current liquidity ratio)	-0,41 (0,89)	-0,21 (0,47)
Age (Firm age)	1,19 (0,91)	0,40 (1,04)
Growth (Sales growth)	0,27 (0,41)	0,25 (0,29)
Leverage (Total debt in assets)	3,01* (1,25)	2,33† (1,36)
Turnover (Asset turnover)	2,30*** (0,61)	2,40*** (0,53)
Traffic (Internet traffic)		11,06** (3,43)

	Model 1.1	Model 1.2
Intercept	17.20*** (1.14)	17.04*** (1.76)
R2	0.088	0.165
Wald statistic	47.87	74.94
Probability	<.001	<.001

Note. Estimation: Prais-Winsten regression, heteroskedastic panel corrected standard errors with AR-1 common autoregression.

† $p < 0.10$ , \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

Model 1.1 includes only control variables and serves as a base model, the variables FATA, Leverage, and Turnover have a significant positive effect on firms' sales, which is consistent with existing literature. The model contains only control variables and explains 8.8% of the variation in the dependent variable.

We then add our main independent variable, Traffic, to model 1.2 to test hypotheses 1. Traffic variable significantly improves the regression result. R-square increases to 16.7%. At the same time, the variable Traffic has a strongly significant positive effect on the volume of firms' sales. Therefore, increased internet traffic is positively associated with firms' sales. Therefore, we obtain support for Hypothesis #1 ( $\beta = 11.28$ ,  $p < 0.01$ ).

### Table 3

Results of regressions: dependent variable - ROA, standard errors are shown in parentheses

	Modelo 2.1	Modelo 2.2	Modelo 2.3
Size (Firm size)	-0.37 (0.65)	0.60 (0.90)	0.58 (0.84)
FATA (Share of fixed assets in total assets)	-1.31* (0.57)	-1.00† (0.60)	-0.78† (0.60)
CACL (Current liquidity ratio)	-0.97** (0.35)	-1.04* (0.44)	-0.78† (0.41)
Age (Firm age)	0.16 (0.51)	0.07 (0.55)	-0.04 (0.49)
Growth (Sales growth)	1.64*** (0.36)	1.54*** (0.35)	1.51*** (0.33)
Leverage (Total debt in assets)	-6.19*** (0.87)	-6.24*** (0.92)	-6.03*** (0.86)
Turnover (Asset turnover)	2.72*** (0.72)	2.55*** (0.76)	2.71*** (0.75)
Traffic (Internet traffic)		-2.17*** (0.62)	-1.85** (0.57)
Traffic * Age			1.31** (0.45)

	Modelo 2.1	Modelo 2.2	Modelo 2.3
Intercept	3.80*** (0.42)	3.81*** (0.51)	3.75*** (0.49)
R2	0.409	0.437	0.462
Wald statistic	441.26	752.30	915.37
Probability	<.001	<.001	<.001

Note. Estimation: Prais-Winsten regression, heteroskedastic panel corrected standard errors with AR-1 common autoregression.

† $p < 0.10$ , \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

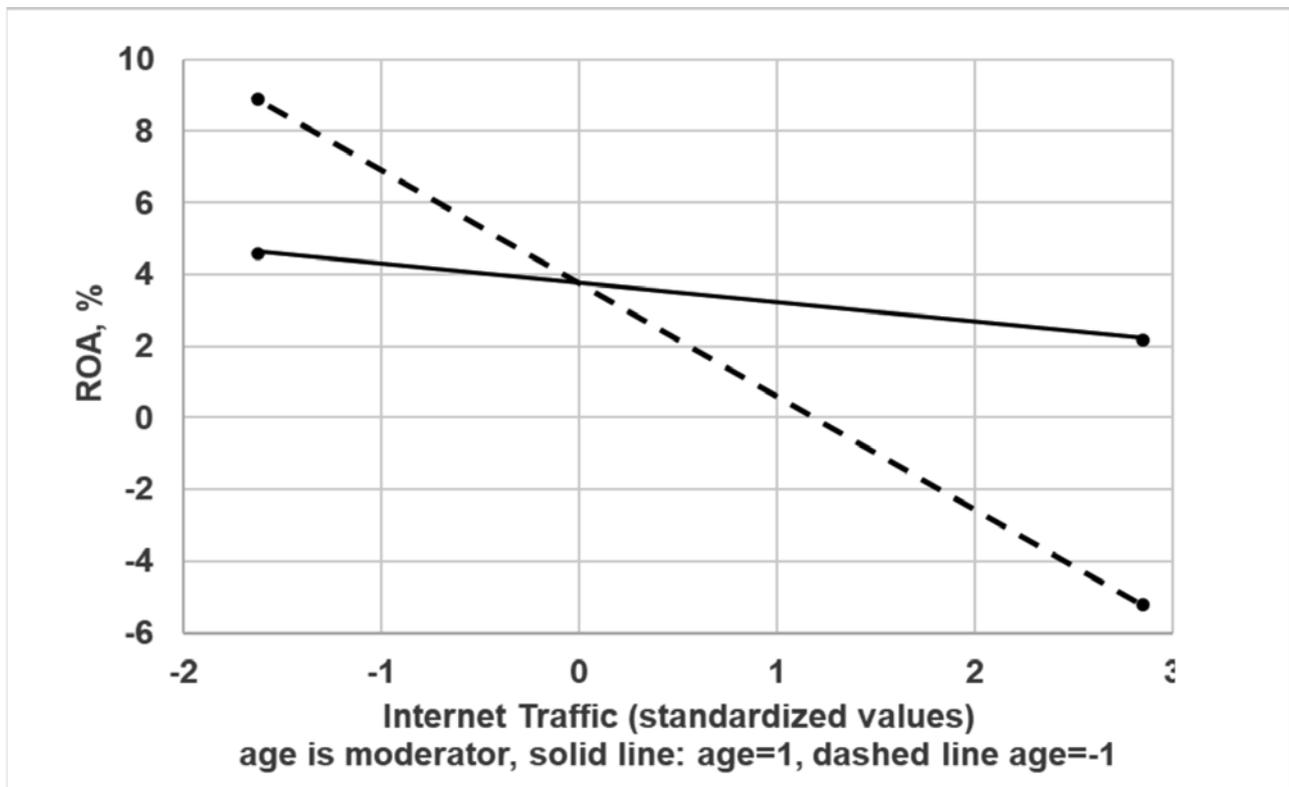
We then use ROA as a dependent variable in models 2.1, 2.2, and 2.3. Model 2.1 serves as a base model for ROA dependent variable, and it includes only control variables. In the base model (Model 2.1), variable Growth and Turnover have a highly significant positive impact on firm profitability. The Leverage ratio and the Current liquidity ratio have a highly significant and strongly significant negative impact. The model contains only control variables and explains 40.9% of the variation in the dependent variable.

We include Traffic variable in model 2.2 to test hypothesis 2. includes control variables and the tested variable Traffic. Inclusion of the Traffic variable to model 2.2 significantly improves the regression results by increasing R-square increases to 43.7%. The variable Traffic has a highly significant negative effect on the profitability of firms. Therefore, increase in internet traffic on company's website is negatively associated with firms' profitability. Thus, we obtain support for Hypothesis 2 ( $\beta = -2.17$ ,  $p < 0.001$ ).

Finally, we utilize model 2.3 to test our moderation hypothesis 3. Inclusion of the moderation term to model 2.3 (Traffic \* Age) further improves the quality of the model as indicated by R-square increase to 46.2%. The variable Traffic remains negative and strongly significant, which provides further support to hypothesis 2. The moderation term between age and traffic is positive and also strongly significant ( $\beta = 1.31$ ,  $p < 0.01$ ). Therefore, we have identified significant differences in the impact of traffic on profitability depending on the age of firms.

The visualization of these differences is shown in Fig. 3. When constructing Fig. 3 (according to model 2.3), we take into account that all variables, except for the dependent one, are standardized. Therefore, their means are 0 and their standard deviations are 1. Figure 1 shows two lines:

- A solid line of the influence of Traffic on profitability for mature firms. When constructing it, the moderator Age differs from the mean age by plus one standard deviation (takes the value +1), and we get the dependence:  $ROA = \text{Intercept} - 0,04 * 1 - 1,85 * \text{Traffic} + 1,31 * 1 * \text{Traffic}$ .
- Dotted line of influence of Traffic on profitability for young firms. When constructing it, the moderator Age differs from the mean age by minus one standard deviation (it takes the value -1), and we get the dependence:  $ROA = \text{Intercept} - 0,04 * (-1) - 1,85 * \text{Traffic} + 1,31 * (-1) * \text{Traffic}$ .

**Figure 1***Moderation effect between internet traffic and age*

The chart shows that the impact of Traffic on profitability is more pronounced for young firms, thus providing support for Hypothesis #3. We find a rapid decline in profitability with increasing traffic in young firms. Note that the increase in traffic and sales is extremely important for young companies that have recently entered the market. Consequently, they have to sacrifice more profitability, including the risk of incurring losses, in order to increase sales.

## 5 Discussion and conclusion

### 5.1 Theoretical contributions

A new digital era creates constant pressure for companies to establish and expand their internet presence. The rise of new technologies and changing internet trends demand companies to continuously invest in improvement of their online capabilities. Such demands are even higher during external shocks, like the COVID-19 pandemic, when regular communication channels with customers are severed. While existing research is congruent on the idea that companies have to establish themselves in the internet in order to survive and the majority of the companies follow that advice, we still see both theoretical and practical evidence that companies fail despite their best efforts. This research attempts to shed some light on this discrepancy by shedding some light on the connection between performance of company's websites, e.g. internet traffic, and company's performance. Our panel data estimations have provided support evidence to the hypothesized relationships between internet traffic, company's sales,

profitability, and age. In particular, we demonstrate that a company's website traffic helps generating additional sales. However, companies have to allocate certain expenditures towards stimulating internet traffic via updating website and performing marketing campaigns, which in turn, tends to reduce company's profitability. Such a backfire is even more pronounced in younger companies due to the differences between older and younger companies, such as the amount of resources available and brand recognition among others.

Therefore, our first contribution is the extension of the nomological nets of company's performance and website's performance. Company's online presence is a necessity in modern industries that incorporates tangible stores and distribution with online websites. The demand for a well-structured informative website is even greater during the pandemic, when companies may experience difficulties communicating with customers in a regular face-to-face fashion. In such situations, companies' websites become a primary media of communication and sales. Our hypotheses provided significant empirical evidence that company's online traffic is associated with company's performance.

Our second contribution goes beyond a basic assumption of uniform company's performance. In particular, we further distinguish between sales and profitability of the company and demonstrate how companies may increase overall sales using the website traffic at the expense of profitability. Online traffic of companies' websites provides necessary information and communication means to customers in order to minimize their uncertainty and generate sales. This hypothesis is congruent with existing literature. However, we further investigate the company's profitability as another operationalization of company's performance. Our second hypotheses demonstrates that generating online traffic is negatively associated with companies' profitability due to the expenditures required to generate that traffic. These findings highlight dual nature of internet traffic and suggest that website traffic maximization should not be a sole goal.

Our third contribution is a further extension of aforementioned relationships by highlighting the differences between older and younger firms. Extant research differentiates companies depending on their age across multiple dimensions, such as experience, size, resources, to name a few. Younger firms tend to experience higher costs associated with building the online presence and educating their customers. Consistently with existing knowledge, younger firm who tend to possess less resources comparing to older firms, will suffer greater losses when generating website traffic.

## 5.2 Implications for practitioners

First of all, this research connects the traffic performance of companies' websites to the performance of the company. Creation and maintenance of the website is a complex process that requires significant efforts and resources, and although websites provides multiple communication and signaling functionalities, the primary function is to communicate with customers and increase companies' performance. It is important to note that this paper distinguishes two types of financial performance: sales and profitability. A well-structured website with a lot of information and appropriate appeal tend to increase company's sales. On the other side, companies incur additional expenses associated with creation, managing, and maintaining the website. These expenses tend to decrease companies' profitability, which may be especially severe during the market shocks such as COVID-19 pandemic. Given the opposite relationship between sales and profitability from the internet traffic, managers should carefully consider both performance indicators in order to maximize overall company's performance and ensure

company's survival. Second, our findings suggest that younger companies may experience more difficulties when creating and maintaining websites. Younger companies tend to have less resources, capabilities, and market knowledge comparing the older firms. As a result, they may not be able to achieve the website goals as easily as older and resource-rich firms. In such situation, application of cost-effective strategies may be critical for younger firms. They may spend extra time and train existing personnel to perform website routines instead of continuously hiring a third-party. In addition to the resource issues, younger firms may experience hindered online sales due to the less-known brands. Younger firms should pay particular attention to the contents of their websites to ensure that they provide enough adequate information that will help win the trust of new customers.

### 5.3 Limitations and future research

We acknowledge that this paper has several limitations that need to be addressed by the further investigations. One limitation is the utilization of secondary data as a means of studying the internet traffic that companies generate. This data does not uncover the in-depth processes that companies have in place for the e-commerce activities. In particular, we cannot say if companies have dedicated employees and/or department that handles website management. Future studies should address these gaps by collecting primary data from the companies to fully uncover the processes companies have in place and their effect on performance. Second limitation is that this study is restricted to Russia exclusively. While we expect that our finding will hold in other countries, there might be some economic conditions, such as economy health, internet penetration, just to name a few, that may impact the relationship between companies' website traffic and company's performance. Future research should address this shortcoming by collecting the data from other countries to make sure a better generalizability of the results. Third limitation is that our sample consists of big-ticket industries during the pandemic. Authors believe that highlighted relationships will be magnified in the conditions of big-ticket items and additional market pressure from pandemic. Additional studies should be implemented to uncover these relationships in other industries.

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