

# Is There a Relationship between Making Digital Payments and Internet Usage, Digital Skills, and Education Worldwide? †

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**Abstract:** This paper examines whether there is a significant positive relationship between making digital payments and the following variables: 1. Internet usage, 2. digital skills, and 3. education. Data for 114 countries are gathered from the Global Findex database 2017, World Economic Forum—The Global Competitiveness Report 2017–2018, and the World Bank database. The correlation analysis results show a statistically significant strong positive relationship between making digital payments and each of the variables, i.e., the level of Internet usage, digital skills, and education. The strongest relationship is identified between making digital payments and Internet usage, indicating the critical role of Internet infrastructure and affordability.

**Keywords:** making digital payments; internet usage; digital skills; education

## 1. Objectives

Improvements in technology and changes in human behavior related to increasing usage of the Internet and mobile devices (smartphones, laptops, and tablets) in everyday life have significantly changed the way individuals execute their financial activities. Numerous studies investigated the association between the usage of digital financial services and variables such as Internet usage, digital skills, and education [1–6]. Considering that no study has been conducted on a global level, the aim of this research is to determine whether there is a statistically significant positive relationship between making digital payments and the level of 1. Internet usage, 2. digital skills, and 3. education worldwide.

## 2. Methodology

For the analysis, we collected data for 114 countries from the following publicly available databases: the Global Findex database 2017 [7], Global Competitiveness Report 2017–2018 [8,9], and the World Bank database [10]. We used correlation analysis with a 95% confidence interval to test the formulated hypotheses. We observed only the 2017 data, considering that it was the initial year of digital skills data publication.

## 3. Results

Our findings reveal that there is a significant strong positive relationship between making digital payments and:

1. The level of Internet usage, i.e., the percentage of citizens who used the Internet (correlation coefficient = 0.721);
2. The level of citizens' digital skills, i.e., computer skills, basic coding, digital reading (correlation coefficient = 0.633);
3. The level of citizens' education, i.e., tertiary education enrollment rate (correlation coefficient = 0.659).



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#### 4. Implications

The results highlight the significance of the Internet infrastructure and its affordability, considering that the highest value of the correlation coefficient is between variables Making digital payments and the level of Internet usage, i.e., the percentage of citizens who used the Internet. In addition, our findings indicate the importance of education and the possession of an adequate level of digital skills for adopting digital financial services. Countries, especially low-income countries, should develop strategies to improve the state of their citizens' financial inclusion in the mentioned segments.

#### 5. Originality Value

There is no similar research that has examined the existence of a statistically significant relationship between the citizens' level of Internet usage, digital skills, and education and their execution of digital payments on a global level.

#### 6. Contribution

The results of this study will be a valuable contribution to the existing body of literature in this research field. In addition, our research provides insights into the relationships between the mentioned variables globally.

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**Informed Consent Statement:** Informed consent was obtained from all subjects involved in the study.

**Data Availability Statement:** The data sources for the variables are listed below. Making digital payments, available online: <https://www.worldbank.org/en/publication/globalindex/Data>; Internet usage, available online: <http://reports.weforum.org/global-competitiveness-index-2017-2018/competitiveness-rankings/#series=NETUSERPCT>; Digital skills, available online: [https://tcdata360.worldbank.org/indicators/h945a9708?country=BRA&indicator=41400&viz=line\\_chart&years=2017,2019](https://tcdata360.worldbank.org/indicators/h945a9708?country=BRA&indicator=41400&viz=line_chart&years=2017,2019); Education, available online: <http://reports.weforum.org/global-competitiveness-index-2017-2018/competitiveness-rankings/#series=ENROL3GR>.

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