CONSUMERS' DIGITAL LITERACY AND TRUST IN ONLINE SHOPPING TRANSACTIONS. AN EMPIRICAL ANALYSIS OF ISTAT AND EUSTAT DATA

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Introduction

The last few years have been marked by a significant process of technological transformation, which continues to impact various aspects of daily life. A notable emerging research trend is **Digital Literacy**, defined by the University of Illinois as the ability to utilize digital technology, communication tools, or networks to locate, evaluate, use, and create information. It also involves understanding and using information in multiple formats from diverse sources presented via computers, as well as effectively performing tasks in a digital environment. One domain profoundly affected by this technological revolution is the **purchase of goods or services**, which can now be conducted online, necessitating new mechanisms to establish and maintain **trust** between sellers and consumers

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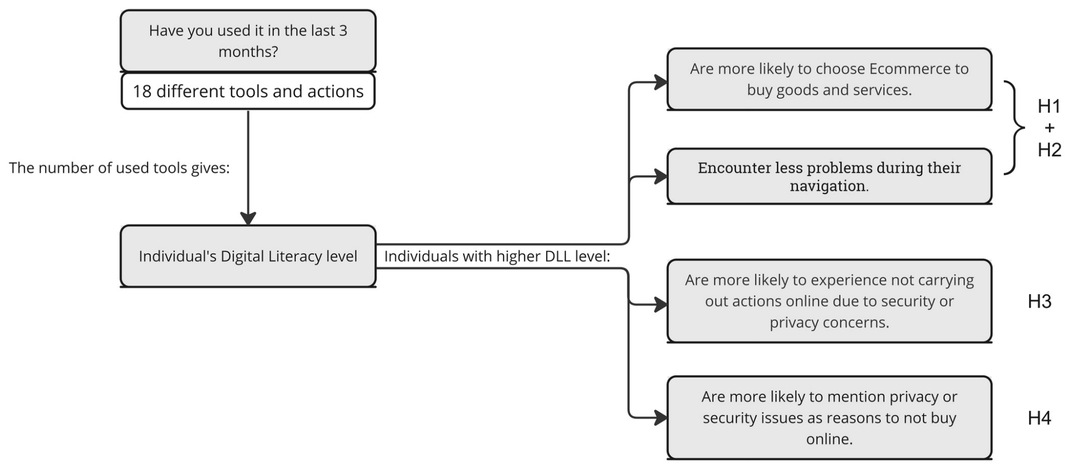
Therefore, the central **research question** driving this thesis is:"Do individuals' digital literacy and digital skills level influence consumers' level of trust in online transactions and internet commercial interactions?"

Data and methods

The study was based on two datasets. The first dataset, **"Aspetti della vita quotidiana,"** was collected during the 2019 round by Istat, and it comprises 45,483 cases, reflecting approximately 20,000 Italian households, providing a comprehensive overview of the Italian landscape. The second dataset, **"ICT equipment of the population,"** was collected during the 2017 round by Eustat, the institution responsible for statistics in the Basque Country. Although smaller in size, with 5,987 cases, this dataset was specifically designed to explore participants' interactions with technological devices.

For both datasets, a variable called **"Digital Literacy level"** (DLL) was created. This variable was derived from 18 different variables, which assessed individuals' usage of various digital tools in the three months leading up to the questionnaire administration. **DLL** serves as the independent variable in the study.

The study is framed by four distinct hypotheses.



Results

The first hypothesis finds confirmation in both datasets, with a higher propensity to purchase through Ecommerce by people with higher levels of DLL.

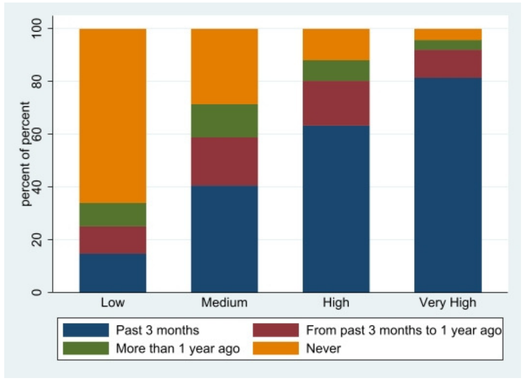


Figure 1 Difference in the usage of Ecommerce from people with different DLL. Istat dataset

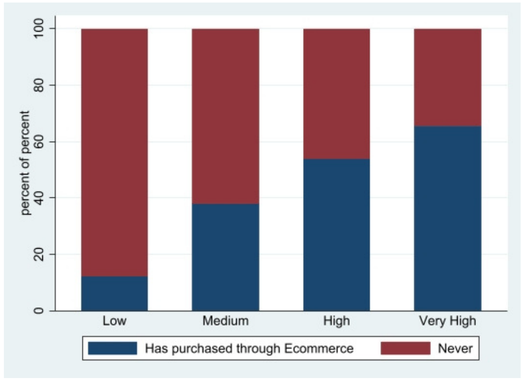


Figure 2 Difference in the usage of Ecommerce from people with different DLL. Eustat dataset

Based on the conducted chi2 tests, there seems to be a statistically significant association between an individual's DLL level and the occurrence of various browsing issues. This contradicts the initial hypothesis, as it is individuals with lower DLL levels who encounter more problems during browsing.

The observed associations could be attributed to selection bias, wherein individuals with higher DLL levels tend to use a wider range of technological means, increasing their likelihood of encountering browsing problems.

The evidence supports the formulated third hypothesis, indicating that individuals with higher levels of Digital Literacy are more inclined to limit or refrain from completing online purchases or using internet banking services due to security or privacy concerns.

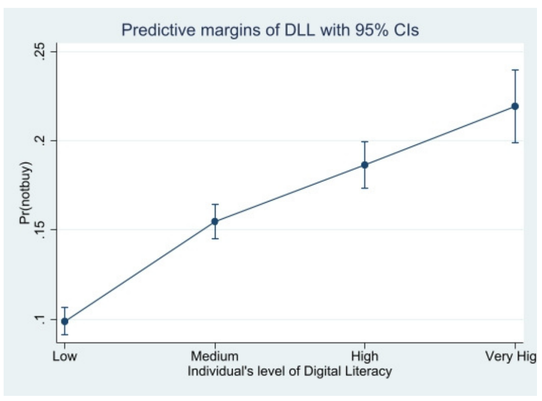


Figure 3 Predictive margins of DLL about people prepared to limit Ecommerce purchases. Istat dataset

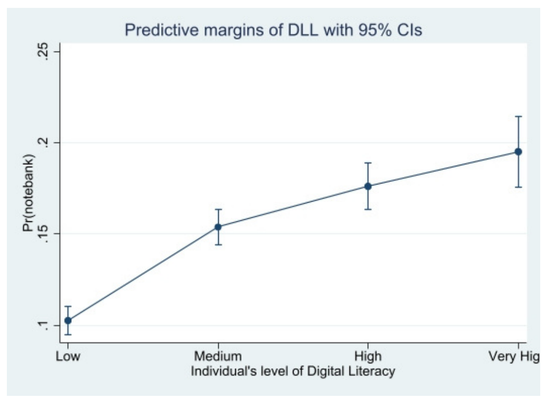


Figure 4 Predictive margins of DLL about people prepared to limit Ebanking services. Istat dataset

The analysis of the fourth hypothesis also demonstrated a statistically relationship concerning the Istat database; however, the results were contrary to the initial hypothesis. It is individuals with lower levels of DLLs who tend to view privacy, security, and lack of guarantees as sufficient reasons to decide against making online purchases a priori.

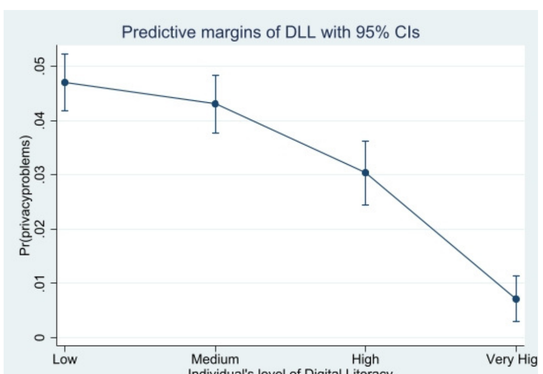


Figure 5 Predictive margins of DLL about people prepared point privacy and security concerns as enough to not buy online. Istat dataset

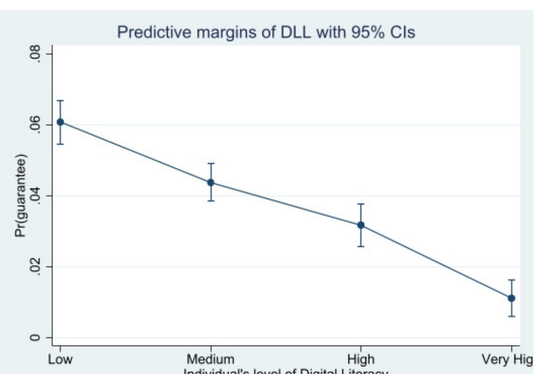


Figure 6 Predictive margins of DLL about people prepared point guarantees and complaints doubts as enough to not buy online. Istat dataset

The results concerning the analysis conducted on the Eustat database are less definitive. Only the chi2 test conducted on security-related motivations allows us to reject the null hypothesis, which predicts no difference between various DLL levels. Privacy, however, appears to follow a somewhat distinct pattern, but the limited number of observations related to the highest DLL level prevents clear and confident conclusions.

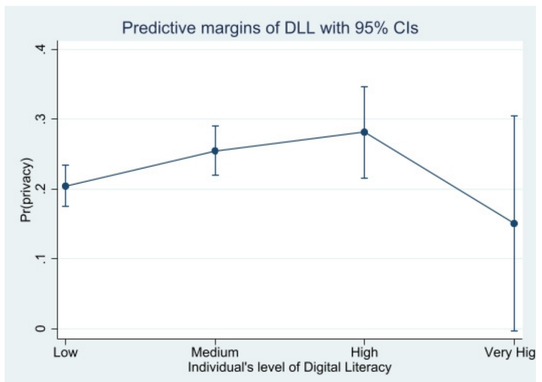


Figure 7 Predictive margins of DLL about people prepared point privacy concerns as enough to not buy online. Eustat dataset

Conclusion

In the end, consumers appear to experience **two distinct moments of truth** when making online purchases. Initially, those with higher digital literacy are less likely to consider factors like privacy, personal safety, or guarantees as sufficient reasons to forgo online purchases. However, during the second moment of consideration, which occurs during the online purchasing process, this pattern seems to reverse.

Individuals with higher digital literacy are less inclined to cite the same reasons as sufficient for deciding against an online purchase, yet they still tend to limit or not complete their purchases due to privacy or security concerns.

The study's primary limitation is the impact of the Covid-19 pandemic, which emerged in 2020. This global event profoundly altered people's behaviors, significantly affecting their individual levels of digital literacy and the widespread adoption of Ecommerce as a tool for buying goods or services.