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# The Effect of Dynamic Capabilities on MSMEs Digitalization: Exploring the Moderating Role of Firm Age

## PROBLEM

The digital era is characterized by the abundance of technologies that may challenge firms to recognize its benefits and identify the appropriate digital technologies. MSMEs (Micro, Small and Medium Enterprises) suffer from limited access to resources, restricting their capacity to take advantage of digital technologies adoption (Masood & Sonntag, 2020).
MSMEs do not comprehend that digital transformation (DT) is a continuous process of change and improvement (Machado et al., 2021) that should be built on their existent capabilities. Understanding the conditions to advance digitalization is necessary to support their development (Bouwman et al., 2019),

## MAIN OBJECTIVE

This study aims to investigate the effect of dynamic capabilities (DC) as enabling mechanisms of MSME's digitalization in a developing economy. We focus, specifically, on sensing and seizing DC with their role in raising business awareness of internal and external opportunities of digital technologies adoption. In addition, firm age is analyzed as playing a moderator role in the relationship between sensing and seizing capabilities, and digitalization.

## PROPOSAL

The study used data from 280 MSMEs who answered the Chequeo Digital questionnaire, which is an online self-assessment tool developed by Inter-American Development Bank (IDB) and Fundación Pais Digital, to help Latin American MSMEs to assess their level of digital maturity and to improve their digitalization.

We selected 13 questions to generate the first-order reflective constructs: Sensing (3 items), Seizing (5 items), and Digitalization (5 items). The questions were mesuread using a semantic differential scale of 7 points.

Partial least squares (PLS) analysis was employed using SmartPLS Software (Ringle et al., 2024) to examine the measurement and structural model. Confirmatory factor analysis (CFA) was performed to determine whether the measurement items were loaded on the proposed latent research constructs (Table 1). Also, convergent validity and internal consistency were examined (Table 2).

**Table 1.** Factor Loadings

| | Sensing | Seizing | Digitalization |
|---|---|---|---|
| SEN1 | 0.754 | | |
| SEN2 | 0.850 | | |
| SEN3 | 0.844 | | |
| SEI1 | | 0.653 | |
| SEI2 | | 0.733 | |
| SEI3 | | 0.680 | |
| SEI4 | | 0.761 | |
| SEI5 | | 0.786 | |
| DIG1 | | | 0.804 |
| DIG2 | | | 0.717 |
| DIG3 | | | 0.641 |
| DIG4 | | | 0.784 |
| DIG5 | | | 0.841 |

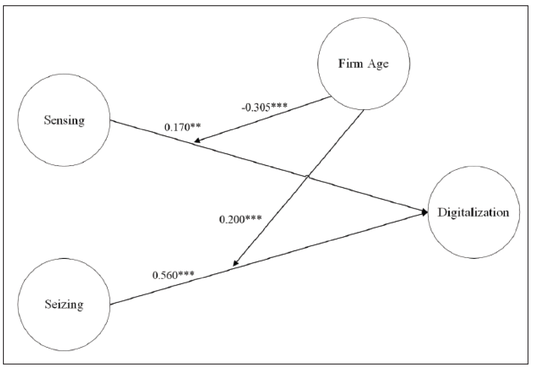
**Table 2.** Construct Reliability and Convergent Validity

| | CR | AVE | Cronbach |
|---|---|---|---|
| Sensing | 0.857 | 0.668 | 0.762 |
| Seizing | 0.846 | 0.524 | 0.773 |
| Digitalization | 0.872 | 0.578 | 0.815 |

## RESULTS

As specified by the path loadings in the adjacent Figure, the main results are:

- The direct effect of sensing dynamic capabilities on digitalization is significant (β=0.170, p<.05).
- Seizing dynamic capability shows a significant and positive effect on digitalization (β =0.560, p<0.01).
- Firm's age negatively impacts the influence of sensing dynamic capabilities on digitalization.
- Firm's age positively affects the influence of seizing dynamic capability on firms' digitalization.




## CONCLUSIONS

- Firms' understanding of the benefits of adopting digital technologies (sensing) is a basic condition for the advancement into the next steps of digital transformation.
- The likelihood of investment, the intention to implement changes, and the occurrence of digital training (seizing) positively contribute to MSME's digital adoption.
- Firm age moderation suggests that, over time, firms may tend to accommodate to the context, although with more rigid organizational structures.
- Once firms pass the challenge of identifying appropriate digital technologies, older firms, with greater experience in the market, can assimilate these changes, take advantage of them, and consequently, translate into value-added products and services.