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EXAMINING COMPETENCES AFFECTING FINANCIAL SUCCESS AMONG MICRO-ENTERPRISES IN THE SOUTHERN GREAT PLAIN

Results of a pilot study[1]

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ABSTRACT

In micro-enterprises, financial decision-making is typically concentrated in the hands of one person, therefore the competences of the leading financial decision-maker significantly determine the financial success of the enterprise. In our pilot study, we examined the impact of three competences (financial literacy, digital and entrepreneurial competences), on financial success among micro-enterprises in the Southern Great Plain region, in a 92-item sample, using PLS path analysis. The results showed that the most important factors in financial decision-making are the behaviour and acquired practices of the decision-makers, and we proved that the combination of the three competences has a positive effect on the financial success of enterprises.

JEL codes: C31, G41, G53, L25, L26, D83

Keywords: financial literacy, competence, financial success, PLS path analysis

1 INTRODUCTION

In the past one and a half decades, the literature on financial literacy research has focused primarily on the examination of the financial literacy of individuals and certain groups in society, but the examination of entrepreneurs and finan-

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cial decision-makers of enterprises has also become increasingly important. The examination and development of financial literacy is not a micro-level issue, its shortcomings can have serious macroeconomic consequences for both individuals and businesses (Béres–Huzdik, 2012; Kovács L.–Terták, 2016; 2019; Lusardi–Mitchell, 2014). Our current study presents the results of a pilot research project, in which we deal with the latter target group, specifically the financial decision-makers of micro-enterprises.

The relevance of our research is given by recent events, especially the economic downturn after the coronavirus pandemic and its impact on businesses. As Tóth et al. (2022) also emphasized, the SME sector is an important building block of our national economy and contributes greatly to macro-financial stability, economic growth and job creation. SMEs employ more than two-thirds of Hungarian workers, produce nearly half of the added value, and more than 30% of corporate investments are realized in this sector (Tóth et al., 2022). The domestic SME sector (and the majority of micro-enterprises within it) plays a stabilizing and balancing macroeconomic role. In view of this, the wide-ranging support of their competitiveness can be considered one of the most important driving forces of future economic growth (Tóth et al., 2019).

Although the research following the 2008 global economic crisis mainly looked for the root causes of the crisis in the gaps in the population's financial literacy, due to their macroeconomic importance, micro-enterprises cannot be neglected either. In our research, we want to find out how the competences of the leading decision-makers of micro-enterprises influence the financial success of those enterprises. In addition to financial literacy, the most frequently appearing competences are digital and entrepreneurial competences, as factors determining financial success. However, although these competences are often examined together in pairs, the shortcoming of the literature is that not all three competences have appeared in an integrated examination model yet. The aim of our study is to show how the financial literacy, digital and entrepreneurial competences of financial decision makers, the complex system of relationships between competences and their effect on financial success can be examined simultaneously and in an integrated structure by means of a PLS path analysis model (PLS-SEM, partial least squares structural equation modelling). Our study was conducted on a 92-item sample of Southern Great Plain micro-enterprises. This study presents a pilot research project that precedes a later, large-scale data collection. The aim of our study is to examine whether it is worth including the presented variables in a model, and whether the experience of data collection can help in revising the received questionnaire so that it can be used to properly examine micro-enterprises.

In the following part of the study, we first present the definitions of competence and financial success used in our study model, and their system of relations. We

introduce the hypotheses of our research based on the explored literature. Finally, all of this is followed by the description of our primary research, where we examined the relationships between the individual elements (latent variables) using PLS path analysis.

2 LITERATURE REVIEW

In our research, we want to find out how the competences of the leading decision-makers of micro-enterprises influence the financial success of those enterprises. Competences and financial success both can be approached from several directions. In the following part, through literature related to the topic, we present the competences which constitute the basis of our study model as the input side, and then we review financial success as the output side of the model.

2.1 Competences: financial literacy, digital and entrepreneurial competence

The most important question of financial literacy research both at the level of individuals or companies is how financial literacy affects the financial situation of the individual or the company. In the models examining the relationship between financial literacy and financial success, in the case of businesses, digital and entrepreneurial competence is most often seen as a competence interacting or overlapping with financial literacy (Oggero et al., 2019; Nwachukwu et al., 2017; Kulathunga et al., 2020; Ye–Kulathunga, 2019). In order to be able to present the competences which make up our model, we must first briefly define what competence is in the case of individuals and businesses, and on what basis we can consider financial literacy as a competence too (Kuruczleki, 2018). Subsequently, we describe the competence concepts used in our study model, derived from the individual definitions.

On the proposal of the European Commission, in May 2018 the Council of the European Union adopted a recommendation on key competences for lifelong learning (EC, 2019), which defined key competences as the set of knowledge, skills and attitudes which are necessary for the active participation of individuals in democratic societies. The recommendation defined eight key competencies, which included digital and entrepreneurial competence, which is part of our present research, but also included literacy, multilingualism, mathematical competence. These competences are not isolated from each other, but complement and support each other. In certain areas they can overlap, therefore neither their investigation, nor their development can take place in isolation from each other. Common elements in the definitions of competences are that, on the one hand, competences

are defined as a combination of knowledge, behavioural elements and attitudes (Mihalkovné Szakács, 2013), and, on the other hand, that the purpose of the competences is always to ensure some kind of security and stability for the individual or the enterprise (e.g. EC, 2019; Bacigalupo et al., 2016; Ferrari, 2013).

The most widespread definition of financial literacy comes from the OECD, which defined financial literacy for individuals as the set of knowledge, skills, attitudes and behaviours needed to make informed financial decisions and ultimately create individual financial well-being (Atkinson–Messy, 2012). The OECD created its definition of the financial literacy of SMEs in 2015 (OECD, 2015), and then extended it to micro-enterprises in 2018 (OECD, 2018). According to the OECD (2018) definition, the financial literacy of micro, small- and medium-sized enterprises is the set of knowledge, skills, attitudes and behaviours that a potential entrepreneur or the owner or manager of a micro, small- or medium-sized enterprise must have to be able to make effective finacial decisions to start, run and ultimately ensure the sustainability and growth of a business (OECD, 2018).

The authors (OECD, 2018) emphasize here that the subject of the definition is not the enterprise as an impersonal entity, but an individual who is responsible for making financial decisions in their own enterprise. The definition above defines the same elements as the dimensions of financial literacy as the previously presented competence framework, i.e. separates the dimensions of knowledge, behaviour and attitudes, which are examined for individuals in the same way as according to the competence definitions. We discussed earlier why financial competence is considered a key competence (Kuruczleki, 2018), however, due to the similarities of the above definition with competence definitions, we can also state here that financial literacy can also be considered a key competence, which overlaps with mathematical competence (e.g. due to the calculations used during financial decisions), with digital competences (which overlap and relationship are becoming stronger and stronger due to the spread of Fintech tools and services), and with entrepreneurial competences.

In this research, we defined entrepreneurial and digital competence on the basis of the European Commission's DigComp digital competence and EntreComp entrepreneurial competence frameworks. The DigComp framework (the latest DigComp 2.2 framework was published in March 2022) defines three dimensions of digital competence (knowledge, skills and attitudes), which are divided into 5 topics: information and data management, communication and cooperation, creation of digital content, safety and problem solving (Ferrari, 2013; Vuorikari et al., 2022). Although the framework basically applies to individuals, the listed dimensions play an extremely important role not only in private life, but also in a business environment, as the *DigComp At Work* guides and case studies (Kluzer et al., 2018, 2020) show. In today's increasingly digitized world, it is crucial that

in business life individuals are not only able to keep up with the development of digital technology, but also to cope with the challenges caused by digitization, such as learning how to use new tools and services, therefore it is worth examining competences at the level of both entrepreneurs and the financial decision-makers of enterprises.

EntreComp is an EU framework for entrepreneurial competences, which defines entrepreneurial competence as a transversal competence that not only plays a role in the personal development of individuals and their active participation in society, but is also essential when participating in the labour market (whether as an employee or as a self-employed person), and even during the establishment of various social, commercial and cultural enterprises (Bacigalupo et al., 2016). The definition already implies that, although entrepreneurial competences are defined on an individual level, they can also be applied to the business environment. The structure of EntreComp has a similar structure to DigComp, therefore it distinguishes three dimensions of knowledge, skills and attitudes, which it examines within following three main topics: ideas and opportunities (which includes, inter alia, the ability to recognise opportunities, define a vision and evaluate ideas in a sustainable and ethical way), resources (which includes the ability to manage tangible and intangible resources, be it self-motivation, financial resource management or even human resource management), and the ability to act (which includes initiative, planning and management skills, cooperation skills, the ability to learn from one's own experience and the ability to react to risks and unforeseen situations) (Bacigalupo et al., 2016).

Our present research was based on the observation that although the three competences presented (financial literacy, digital and entrepreneurial competences) often appear in pairs as the factors influencing financial performance together in research (e.g. Nwachukwu et al., 2017; Kulathunga et al., 2020; Rahmandoust et al., 2011), a model examining the combination of the three aforementioned competences (including the sub-dimensions of the competences, such as knowledge, behaviour and attitudes) and their influence on each other has not yet been prepared. In Sariwulan et al. (2020)'s research, although *economic literacy*, *digital literacy* and *entrepreneurial skills* appear together, their model only deals with attitudes and behavioural elements, and does not cover the examination of knowledge elements. In our study, we examine all three sub-dimensions of all three competences at the same time. In this way, we try to get a more complete picture of how the three competences simultaneously influence the financial success of micro-enterprises.

2.2 Financial success

Numerous studies confirm the effects of financial literacy, digital and entrepreneurial competences on the quantifiable and non-quantifiable measures of success of companies, be it financial performance, growth, competitiveness or innovation. In this chapter, we review our definitions applied to the financial success of businesses, examining them based on three main aspects following the OECD financial literacy framework: financial well-being, financial resilience and financial performance. This chapter provides a brief overview of the definitions and elements of the three concepts related to financial results, and briefly presents the differences between financial well-being and financial resilience. These two phenomena – in the case of which we repeatedly referred to the definitions of the OECD (2020a) – describe the aforementioned two concepts as very similar phenomena, therefore the presentation of their differences needs some explanation.

Based on the OECD (2020a) definition, *financial resilience* is a quality and skill that everyone must have in order to cope with unexpected and unforeseen financial difficulties and financial decisions during their lifetime. The definition distinguishes six elements, which together determine the extent to which an individual is able to cope with unexpected and unpredictable events (such as the 2008 global economic crisis or, as a closer example, the consequences of the economic downturn caused by the coronavirus pandemic): keeping finances under control, carefully considering expenses, building up financial reserves, the ability to deal with unexpected expenses, long-term planning and awareness of financial fraud. In spite of the fact that financial resilience is basically a definition created for individuals, therefore its dimensions primarily apply to personal finances, we can easily adapt these skills to entrepreneurs as well: the decision-makers of businesses must also be able to keep control over the company's money and be responsible for ensuring that the company is not affected by debt and financial uncertainty. Consequently, the careful consideration of expenses is at least as important from the point of view of a company's budget as in the case of a private individual. In a business, it is extremely important that the decision-makers are prepared for unexpected events, since, although they may not necessarily lose their personal assets, the main source of income of the business may be at risk (as, for example, during the coronavirus pandemic, masses of tourism businesses lost their main income). In view of this, they must be able to react quickly and mobilize additional resources which ensure that the business can continue to operate and that the existing financial emergency causes the least of concerns regarding the future of the business. Long-term vision is just as important for a business as it is for individuals, because financial planning can already include the consideration

of future risks, which can cover not only the previously mentioned unexpected cases, but also potential other sources of danger, such as fraud.

While financial resilience refers to a set of professional skills, financial well-being describes a state in which an individual's finances are secure. Based on the definition of the OECD (2020a), we can speak of financial well-being when the following four conditions are met: finances are „in order", their stability exists (e.g. by settling expenses in time, managing debts), they have financial reserves and clearly defined financial goals, and are not restricted in making decisions which prevent them from „enjoying life freely". Although the elements listed above may seem similar to the elements of financial resilience, a significant difference between the two is that, in the case of the former, all the elements refer to the set of active actions or abilities necessary to achieve these goals, while in the case of financial well-being, the above elements are considered to be the results of the actions and the financial status achieved as a result. Financial stability is therefore a state when the individual has no debt and has stable financial background. Similarly, the existence of financial reserves does not refer to the skills and activities (e.g. accumulation of savings) by means of which we can form reserves, but only to the existence of reserves, a state in which the resources which we can tap into are available in unexpected financial situations. Adapted to the environment of businesses, financial well-being has a similar meaning: the business is in a stable, debt-free financial situation, emergency reserves are available to deal with unexpected situations (for example, there is no need to sell tangible assets to cover an unexpected expense), and they have specific financial goals regarding the operation of the company (and here we do not take into account whether they do anything to achieve these goals, as it belongs to the skills related to financial resilience). The last element is somewhat different in the context of a business, since financial freedom may not necessarily mean that the entrepreneur is able to enjoy life, but rather that they are not restricted in making decisions that support employees in enjoying life (for example, by providing certain benefits). Although the aforementioned two concepts do not belong to the classical studied elements of financial success, in addition to traditionally quantifiable indicators, it is also important to examine financial success through dimensions which are not part of a report.

The third examined dimension of financial success in our research is financial performance, which can be studied in countless ways. The examination of financial performance goes back decades. Drucker (1954) defined the achievement of financial performance as the first and most important function of companies. Running a business can undoubtedly lead to other non-economic results, such as employee satisfaction or contributing to the welfare of society, but a company and its management have failed if they do not produce economic results (Drucker, 1954). Although these nearly seven-decade-old statements may sound

a bit extreme, the performance of a company is a very broad concept that can encompass many different aspects. Economic and financial indicators are still important measures of business success and survival. A review of the literature on financial performance is beyond the scope of this paper, however, it is important to mention that a number of performance measurement models have been developed over the past decades (see e.g. Kaplan–Norton, 1992; Keegan et al., 1989; Fitzgerald, 1991), all of whose measurement tools are based on the eight areas stated by Drucker: market standing, innovation, productivity, physical and financial resources, profitability, managerial performance and development, worker performance and attitude, and public responsibility. A common characteristic of performance measurement models is that they include the examination of many financial and non-financial areas of performance, and that financial performance is described by „hard", quantifiable indicators. Therefore, in our research model, the third dimension of financial success will therefore refer to these quantifiable financial indicators. By financial performance, we mean the measurable financial performance indicators of enterprises, such as net income, profit or the loan/equity ratio, etc. The combination of these, together with financial resilience and well-being, shows how a business performs according to objective metrics, and how prepared it is for unexpected situations.

3 HYPOTHESES

There have been numerous studies to examine how financial literacy affected various company performance indicators (e.g. Adomako–Danso, 2014; Ishtiaq et al., 2020; Koropp et al., 2014; Ye–Kulathunga, 2019), and several researchers have examined the bilateral relations of financial literacy and digital & entrepreneurial competences and their impact on financial success (e.g. Nwachukwu et al., 2017, Oggero et al., 2019). As opposed to the aforementioned studies, in our research, we have created a complex study model that not only examines the effect of isolated competences on financial success indicators, but also includes their relationship with each other.

The first group of our hypotheses deals with the influence of competences on each other. In several studies, financial literacy is displayed either as one of the subdimensions of entrepreneurial competence (e.g. Nwachukwu et al., 2017) or as a feature that positively influences entrepreneurial competence (e.g. Rahmandoust et al., 2011). Digital competence appears in research as a factor determining both financial literacy and entrepreneurial competence. With the rise of FinTech and the rapid development of digital technology, digitization has become an increasingly important element of all competence models. FinTech has revolutionized

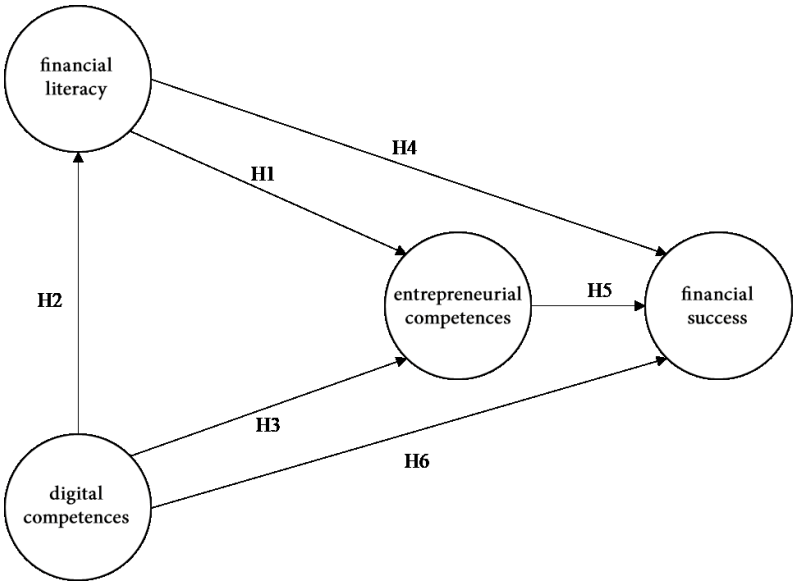
the world of financial services and has a major impact on well-being and the economy, whether we approach it from the perspective of the finances of individuals or those of collective societies or businesses. However, a high level of financial literacy is not sufficient for the proper use of FinTech tools and services, it must also be accompanied by appropriate digital competence. Digitization developments can give a competitive advantage to those who are able to use them properly, but we must not forget that, in addition to potential benefits, it can also hide dangers (Panos–Wilson, 2020; Nemoto–Koreen, 2019), therefore it is extremely important to have the highest level of digital competence in the case of both individuals and businesses. Digital competence is also an important determining factor of entrepreneurial competence. Together with financial literacy, they can positively influence the level of entrepreneurial competence (Oggero et al., 2019; Sariwulan et al., 2020), therefore, in our model, we assume the positive, direct effect of digital competence on financial literacy and entrepreneurial competence. In addition, we also assume that financial literacy also has a positive, direct effect on entrepreneurial competence.

- *H1: Financial literacy has a positive, direct effect on entrepreneurial competence.*
- *H1: H2: Digital competence has a positive, direct effect on financial literacy.*
- *H1: H3: Digital competence has a positive, direct effect on entrepreneurial competence.*

The second group of our hypotheses examines the effect of competences on financial success. There is a consensus in professional literature that a higher level of competence is associated with higher financial success, and businesses with a higher level of knowledge, a more open attitude (more positive attitudes) and those who make better decisions will be more successful. Only a previously mentioned study (Sariwulan et al., 2020) examined the attitudes and skills related to the three competences together, using a path analysis model similarly to our present study, and the results for all three attributes proved that both financial literacy and digital and entrepreneurial awareness had a positive, direct impact on the success of businesses. Taking into account their results and the studies examining the effects of these factors on financial performance, efficiency and success separately (e.g. Adomako–Danso, 2014; Ishtiaq et al., 2020; Koropp et al., 2014; Nwachukwu et al., 2017; Oggero et al., 2019, Ye–Kulathunga, 2019), in our current research, we also assume the direct, positive effects of the individual competences on financial success. Our hypotheses and our model based on them are shown in *Figure 1*

- *H4: Financial literacy has a positive, direct effect on financial success.*
- *H5: Entrepreneurial competence has a positive, direct effect on financial success.*
- *H6: Digital competence has a positive, direct effect on financial success.*

Figure 1
The theoretical model



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4 PRIMARY RESEARCH

In the chapter describing the primary research, we introduce the measurement method of the latent variables included in the model (financial literacy, digital competence, entrepreneurial competence, financial success), and also present the background of the data collection, as well as the methods used during the analysis.

4.1 Measurement, operationalization

In the research, financial decision-makers of micro-entrepreneurs completed an online questionnaire so that the competences (financial literacy, digital competence, entrepreneurial competence) can be measured and the perceived financial success can be evaluated. To measure financial literacy and financial success, we used questionnaires developed by the OECD (OECD 2020a; 2020b) and the CFPB (Consumer Financial Protection Bureau) (CFPB 2015), which were supplemented based on the DigComp and EntreComp frameworks for examining digital and entrepreneurial competences (Bacigalupo et al., 2016; Ferrari, 2013).

We used the financial knowledge, financial attitude and financial behaviour scores to measure the *financial literacy* of the financial decision makers of micro-enterprises. The creation of the latent variable – in this case financial literacy, but also digital competence, entrepreneurial competence or financial success can be mentioned later – was done by means of PLS (Partial Least Squares) path analysis, which is described in the applied analysis methods subsection. The three indicators related to financial literacy (financial knowledge, financial attitude, financial behaviour) were defined as the sum or average of the questions/statements related to each area based on the methodology published by the OECD (OECD 2020a; 2020b). In this case, the financial knowledge score was defined as the sum of the correct answers to the related questions, the financial attitude score was created as the average of the related five-point Likert scale statements, and the financial behaviour score was calculated as the sum of the correct answers to the related questions.

In order to measure *digital competence*, we used digital knowledge, digital attitude and digital behaviour indicators, from which the latent variable (digital competence) was created by using PLS path analysis. The three indicators related to digital competence (digital knowledge, digital attitude, digital behaviour) were defined as the sum or average of the questions/statements related to each area based on the methodology published in the DigComp framework (Ferrari, 2013). In this case, the digital knowledge score was defined as the sum of the correct answers to the related questions, and the digital attitude and digital behaviour scores were created as the average of the related five-point Likert scale statements.

In order to measure *entrepreneurial competence*, we used the indicators of entrepreneurial knowledge, entrepreneurial attitude and entrepreneurial behaviour, from which the latent variable (entrepreneurial competence) was created by using PLS path analysis. The three indicators related to entrepreneurial competence (entrepreneurial knowledge, entrepreneurial attitude, entrepreneurial behaviour) were determined as the sum or average of the questions/statements related to each area based on the methodology published in the EntreComp framework (Bacigalupo et al., 2016). In this case, the entrepreneurial knowledge score was defined as the sum of the correct answers to the related questions, and the entrepreneurial attitude and entrepreneurial behaviour scores were created as the average of the related five-point Likert scale statements.

In order to measure *financial success*, we used the financial resilience, financial well-being, and financial performance indicators mentioned in Chapter 2, from which the latent variable (financial success) was also created using PLS path analysis. Among the indicators, financial resilience and financial well-being were defined as the sum of the questions related to them based on the methodology published by the OECD (OECD 2020a; 2020b). Financial performance was also

defined as the sum of the related questions, based on the CFBP questionnaire (CFPB, 2015). It is important to note that financial resilience, financial well-being and financial performance also contain Likert-scale statements based on subjective evaluation, therefore the latent variable of financial success actually reflects the perceived financial success of the given micro-enterprise.

4.2 Data collection

The population for the research consisted of micro-enterprises operating in the Southern Great Plain Region of Hungary, since micro-enterprises make up 95.23 percent of enterprises in the region. For the analysis, the companies were randomly selected from the CrefoPort company register. A letter of invitation to participate in the research was sent to a total of 3,050 businesses by e-mail, of which 157 businesses responded to the questionnaire, which was completed by the respondents in the period between 22.04.2021 and 09.03.2021. Among the responses received, the proportion sent by micro-enterprises was high, therefore our sample was not representative of SMEs in terms of size. As a result, we limited our investigation to micro-enterprises. We were able to include a sample of 92 items in the pilot study, because these answers contained valid information about micro-enterprises (1,440 micro-enterprises were included in the sampling frame).

Examining the location of the headquarters of the enterprises, the composition of the sample and the population was approximately the same in Békés County (22.75 percent in the population and 20.65 percent in the sample). Smaller differences can be observed in the case of the other two counties: while the businesses of Csongrád-Csanád County were overrepresented (35.39 percent in the population and 47.83% in the sample), and the businesses of Bács-Kiskun County were underrepresented in the sample.

Differences in composition can be observed in terms of the form of company. In the population, sole proprietors (67.36 percent) make up the majority of enterprises in the Southern Great Plain Region, while limited liability companies appear in the largest proportion (67.78 percent) in the sample. However, it can be stated that in the population, limited liability companies and sole proprietors together account for more than 90 percent of all enterprises in the Southern Great Plain (90.24%), while the same two groups together consitute 83.13 percent of the enterprises in the sample.

4.3 Applied analysis method

In order to test the hypotheses, it is necessary to examine the relationships between latent variables, for which the Structural Equation Model (SEM), which can simultaneously create the latent variables from the individual indicators (external/measurement model), can be applied, as well as the relationships between the latent variables (internal/structural model). (Hair et al., 2017; Kazár, 2014). Within the SEM model family, PLS path analysis can be used in this case (Hair et al., 2017), since none of the indicators used in the model can be considered to have a normal distribution (in the case of Shapiro-Wilk tests, $p < 0.05$ for all indicators). SmartPLS4 software (Ringle et al., 2022) was used for the analysis. During the analysis, the testing of individual paths and indicators can be performed using the bootstrap algorithm (Hair et al 2017), where, in this case, the number of subsamples used was 5,000. (A detailed description of the application of PLS path analysis and the interpretation of the results can be found in Hair et al. (2012; 2017) and Kazár (2014).)

It is also important to mention that latent variables can be measured with formative and reflective indicators (Hair et al., 2017; Kazár, 2014). In the case of formative indicators (in the formative measurement model), the indicators embody the cause, and they cannot be replaced when measuring the latent variable. Omitting an indicator from the model modifies the meaning of the examined latent variable. However, in the case of reflective indicators (in a reflective measurement model), the cause-and-effect relationship is reversed: the indicators can be considered the reflection and manifestation of the latent variable (Hair et al., 2017).

In the course of our research, financial literacy, digital and entrepreneurial competence can be considered as indexes, the values of which are made up of knowledge, attitude and behaviour scores, therefore these three latent variables can be examined in a formative measurement model. However, financial success is reflected in the indicators that measure it (i.e. Likert-scale statements measuring the perception of financial effectiveness), therefore a reflective measurement model can be used for this latent variable.

5 RESULTS

Among the results, the *outer (measurement) model* is presented first. Since the input side of the model set up during the research (financial literacy, digital and entrepreneurial competences) can be examined with formative indicators, while the output side can be examined with reflective indicators, they will be presented separately. Within the framework of the *reflective measurement model*, the reli-

ability of the constructions was examined using the Cronbach's Alpha (> 0.7) indicator and the CR (Composite Reliability) indicator (composite reliability > 0.7), for which it can be established that the criteria in brackets (Hair et al., 2017) are fulfilled in the case of the financial success construction ($\alpha = 0.726$; CR = 0.846)). To check the convergence validity, we considered the standardized factor weights (> 0.5) and the AVE (Average Variance Extracted) indicator (average extracted variance, > 0.5). By comparing the indicators in *Table 1* with the minimum criteria values in parentheses (Hair et al., 2017), the existence of the financial success construction can be verified. Discriminant validity can be examined using the Fornell-Larcker Criterion and the HTMT ratio (heterotrait-monotrait ratio of correlation) (Hair et al., 2017), although, in this case, not all results can be evaluated. The Fornell-Larcker Criterion was met (in the case of financial success, the square root of the AVE was higher than its correlation coefficient calculated with any other latent variable), i.e. financial success is separate from the other latent variables. However, the HTMT ratio cannot be calculated, since the other latent variables can be measured with formative indicators. Applying a bootstrap algorithm to test the individual indicators, it can be established that all indicators of the latent variable of financial success can be considered significant (part of the final model in *Table 1*).

Table 1
Results of the external model

Latent variable (Cronbach-α, AVE, CR)*		Indicator	Starting model				Final model			
			Standardized factor weight		VIF***	t-value (p-value)**	Standardized factor weight		VIF	t-value (p-value)
			original sample	average of bootstrap subsamples			original sample	average of bootstrap subsamples		
Formative measurement models	**Financial literacy**	Financial attitude	0.563	0.561	1.085	*2.385 (0.017)*	0.551	0.515	1.082	*2.352 (0.019)*
		Financial behaviour	0.575	0.500	1.100	*2.441 (0.015)*	0.696	0.687	1.082	*3.522 (0.000)*
		Financial knowledge	−0.367	−0.264	1017	**1248 (0.212)**				
	Digital competence	Digital attitude	−0.071	0.172	1.729	**0.152 (0.879)**				
		Digital behaviour	1.036	0.759	1.728	*2.502 (0.012)*	(1):	(1):		n.a.
		Digital knowledge	−0.331	−0.276	1.027	**1.236 (0.217)**				
	Entrepreneurial competence	Entrepreneurial attitude	0.137	0.179	1.084	**0.281 (0.779)**				
		Entrepreneurial behaviour	0.952	0.787	1.083	*2.350 (0.019)*	1	1		n.a.
		Entrepreneurial knowledge	0.042	0.023	1.000	**0.183 (0.855)**				
Reflective measurement model	**Financial success (α=0,726; AVE=0,650; CR=0,846)**	Financial performance	0.823	0.804		*8.806 (0.000)*	0.830	0.822		*13.100 (0.000)*
		Financial resilience	0.690	0.690		*5.440 (0.000)*	0.679	0.676		*7.124 (0.000)*
		Financial well-being	0.892	0.884		*12.242 (0.000)*	0.893	0.888		*25.473 (0.000)*

Notes: *The CR indicator can only be used in a reflective measurement model
**Testing the significance of standardized factor weights can be used in formative as well as in reflective measurement models.
***The VIF (Variance Inflation Factor) indicators can be used in the case of formative measurement models where the investigated latent variable consists of at least 2 indicators.
n.a.: Not applicable because the latent variable has only one indicator.
Source: own editing

In the case of *formative measurement models*, the analysis of multicollinearity and the application of the bootstrap algorithm are necessary to test the significance of the standardized factor weights (Hair et al., 2017). In the starting model of *Table 1*, it can be seen that for all formative latent variables, the VIF indicators are below the threshold value of 5 (Hair et al., 2017), i.e. there is no significant multicollinearity in the model. However, during the application of the bootstrap

algorithm, it was revealed that neither the knowledge items nor the two attitude items (the digital and entrepreneurial attitudes) have a significant effect on the corresponding latent variable.

The non-significant items were removed from the model using an iterative procedure (items were omitted one by one, and the analysis was rerun after each change). First, we omitted the knowledge elements from the model, followed by the omission of the non-significant attitude elements (digital and entrepreneurial attitudes). Subsequently, the external model was run again, and in the case of financial literacy, the attitude and behavioural elements, and in the case of digital and entrepreneurial competences, the behavioural elements remained in the final model (part of the final model in *Table 1*).

Regarding the results of the *inner (path) model*, it is worth mentioning that the effects between the latent variables can be examined using the standardized path coefficients, the significance of which can be tested using the bootstrap algorithm (Hair et al., 2017). After running the bootsrap algorithm, it was found that digital competence does not have a direct significant effect on entrepreneurial competence (t = 0.481, p = 0.631), therefore hypothesis *H3* was rejected. Furthermore, financial literacy does not directly have a significant effect on financial performance (t=1.669, p=0.095), therefore we also rejected hypothesis *H4*. After omitting the two non-significant paths, we can speak of a significant effect for all the paths remaining in the final model (*Table 2*). Based on the above, the hypotheses *H1*, *H2*, *H5* and *H6* were accepted.

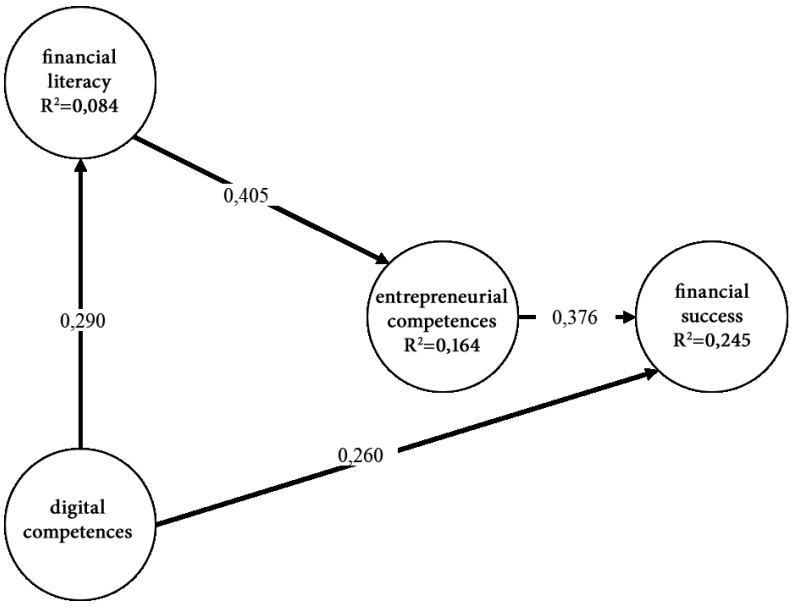
Table 2
Testing the significance of the path coefficients in the final model

Path	Direct effects				f^2
	Path coefficient (original sample)	Path coefficient average (from bootstrap samples)	Standard error	t-value (p-value)	
Digital competence → Financial literacy	0.290	0.294	0.097	*2.992 (0.003)*	0.092
Digital competence → Financial success	0.260	0.259	0.092	*2.810 (0.005)*	0.086
Entrepreneurial competence → Financial success	0.376	0.380	0.101	*3.711 (0.000)*	0.181
Financial literacy → Entrepreneurial competence	0.405	0.416	0.091	*4.454 (0.000)*	0.196

Source: own editing

In the final model created by taking into account the significant effects, with regard to the direct effects, based on the standardized path coefficients shown in *Figure 2* on the individual arrows, it can be established that we can expect positive effects in all pairings between the latent variables. It can also be emphasized that although financial literacy does not have a direct effect on financial success, when examining the total effect – which results from the sum of indirect and direct effects (Hair et al., 2017) –, it can be concluded that it is weak, positive, but significant (0,405 × 0,376 = 0,152, p = 0,013, in this case the total effect is the same as the indirect effect, since we cannot calculate with a direct effect). All this means that a higher level of financial literacy does not directly improve the financial success of micro-enterprises, but it has a positive effect on it through entrepreneurial competences. Looking at the total effects of the other two latent variables on financial success, it can be stated that entrepreneurial competence has a stronger effect on financial success (β = 0.376) than digital competence (0.304 = 0.260 (direct effect) + 0.290 × 0.405 × 0.376 (indirect effect), p = 0.001).

Figure 2
Latent variables appearing in the final model



Source: own editing

Although the R^2 indicators (coefficients of determination) belonging to the latent variables in *Figure 2* show a weak explanatory power, it is worth mentioning the significance of the effects between the variables based on the f^2 (effect size) indicator, which examines the change in the coefficient of determination of the endogenous variable by omitting a given exogenous variable (Hair et al. 2017). Based on the f^2 indicators (Table 2), it can be stated that the strongest effect in the model is shown by the financial literacy → entrepreneurial competence path (f^2=0.196). The effect of digital competence on financial literacy (f^2=0.092) and the effect of digital competence on financial performance (f^2=0.086) can also be considered weak. In the case of the entrepreneurial competence → financial success path (f2=0.181), we can speak of a moderate effect. Consequently, the strongest effect in the model is exerted by financial literacy, to which it is worth adding that financial literacy, together with entrepreneurial competence, mediates the effect of digital competence on financial success; thus, omitting the latent variable of financial literacy or entrepreneurial literacy would reduce the explanatory power of the model. Finally, based on the results of the external and internal models, a summary of the decisions on the hypotheses (which were supported by the testing of the standardized path coefficients, see above: description of the results of the inner model) is included in *Table 3*.

Table 3
Decision on hypotheses

	Hypothesis	Decision
H1	Financial literacy has a positive, direct effect on entrepreneurial competence.	We accept it.
H2	Digital competence has a positive, direct effect on financial literacy.	We accept it.
H3	Digital competence has a positive, direct effect on entrepreneurial competence.	We reject it.
H4	Financial literacy has a positive, direct effect on financial success.	We reject it.
H5	Entrepreneurial competence has a positive, direct effect on financial success.	We accept it.
H6	Digital competence has a positive, direct effect on financial success.	We accept it.

Source: own editing

6 SUMMARY

In our study, we looked for the answer to how the competences of the financial decision-makers of the Southern Great Plain micro-enterprises influence the success of the enterprise. For this, we examined three competences, financial literacy, digital and entrepreneurial competences, of which three dimensions (knowledge, behaviour and attitude) were distinguished. We also examined financial success along three dimensions, taking into account financial resilience, well-being and performance. We examined the effect of competences on financial success using PLS path analysis on a sample of 92 items, which consisted of micro-enterprises operating in the Southern Great Plain region.

Our present study is a pilot study, the novel result of which is that the aforementioned three competences have not been tested yet in the case of micro-enterprises, in one model. The relationships between competences were supported by our model, although digital competence does not have a direct, significant effect on entrepreneurial competence, its indirect effect is positive and significant, therefore overall, it can be stated that digital competence has a positive influence on both financial literacy and entrepreneurial competence. In addition, financial literacy has a significant, positive effect on entrepreneurial competence. The results are in line with the bilateral relations described in literature. For example: it is necessary to supplement financial literacy with additional digital knowledge for the effective use of FinTech services (Nemoto–Koreen, 2019), or financial literacy in certain studies (e.g. Nwachukwu et al., 2017) appears as a defining element of entrepreneurial competence. In the case of competences, it has been proven that entrepreneurial and digital competences have a direct, positive, significant effect on the financial success of businesses, and although the direct effect was not significant in the case of financial literacy, through entrepreneurial competence it has a significant, positive, indirect effect on financial success.

Among the research limitations of this study, it is important to mention that the PLS path analysis model presented is a simplified model of the relationship systems of competences and sub-dimensions, resulting from the limitations of PLS path analysis. The value of each sub-dimension (knowledge, behaviour, attitude) was calculated as a linear combination or average of answers based on the linear combination or average of answers given to the individual questions of the adapted OECD questionnaire, therefore, in this simplified model, we did not have the opportunity to examine the influence of individual competence dimensions on each other. The same applies to the three dimensions of financial success on the output side of the model. Financial performance, financial resilience and well-being also did not include all the answers to the original questions, but showed their value with only one measure each. As an additional limitation, it can be

highlighted that the adopted OECD questionnaire did not include an objective measure for the dimensions of financial success. The Likert-scale variables did not allow an objective evaluation of the financial situation of the companies, but rather focused on how the respondents evaluated certain aspects, which might actually have meant that due to certain deficiencies (e.g. lack of knowledge, overly optimistic attitude) the respondents have a wrong picture of the actual finances of the business.

In order to resolve these limitations and as a future research direction, we are planning to revise the questionnaire based on the experience gained from our present pilot study. By asking about the measures needed to calculate each financial indicator, we could get an objective picture of the actual financial performance of businesses. What must be taken into account is that the measures must be comparable, for example, in percentage form and not in absolute value, since some measures (e.g. revenue) are not necessarily comparable between different activities and business sizes. The questionnaire should be redesigned based on experience, and new questions on financial indicators should be inserted, while keeping in mind that the survey should be as concise as possible.

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