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INTER-ORGANISATIONAL KNOWLEDGE TRANSFER PRACTICES FOR SMES

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ABSTRACT. The study of knowledge management system design and operation has a history of several decades, yet several research gaps can be found in the literature. Prominent among these is research among SMEs, particularly concerning knowledge management processes that influence their successful operation. This research aimed to explore which factors most influence the success of SMEs through knowledge transfer. The quantitative research, conducted in 2023-24, asked managers of Hungarian and Slovak SMEs about business-to-business knowledge transfer solutions and their impact on business success. This paper presents a part of the research, which investigated the prevalence of knowledge transfer (knowledge acquisition and transfer) between organisations using PLS-SEM path analysis. A total of 442 enterprises were involved in the two countries. The results show that SMEs have a limited amount and quality of internal knowledge and therefore acquire much of the new knowledge they need from external sources. Nevertheless, they are willing to share a small part of their knowledge with other market players. They are reluctant to share knowledge related to their activities and the characteristics of their products and services. The impact of knowledge transfer on success is not valued. Confidence is significantly more influential than communication in influencing external and internal knowledge transfer on the success of the enterprise.

JEL Classification: L2, M12, M21

Keywords: knowledge management, knowledge sharing, SME, trust, communication

Introduction

Although research in the field of knowledge management dates back several decades, many studies are still dealing with the most critical step of the process, namely the possible and necessary solutions for knowledge transfer (Ibidunni, 2020; Anand et al., 2021; Durst, 2023; Lopez & Yepes, 2024; Aztor & Lindberg, 2024). These studies mainly focus on the practices and conditions of knowledge sharing within and between individuals within organisations. Few studies address the importance of knowledge transfer between organisations (Johnston et al., 2020; Lopes et al., 2021; Ibidunni, 2024). Large international companies are ahead of the curve in this area (Milagres & Burcharth, 2019). Considerably less research addresses the problems

of building and operating knowledge management in SMEs. For SMEs, learning and knowledge acquisition are often the key to survival or success. Significantly less research has been conducted on the problems of establishing and operating knowledge management in SMEs, which play an important role in the economy due to their innovation flexibility and competitiveness. Knowledge transfer - the sharing of knowledge ranging from explicit to tacit knowledge - helps SMEs respond effectively to market changes and increase their innovation performance (Bencsik, 2024; Juracka & Valaskova, 2025).

In Central Europe, particularly in Hungary, the Czech Republic and Slovakia, the SME sector is a key factor in GDP and employment. Trust and communication play a prominent role in inter-organizational knowledge transfer. Trust reduces the risk of information misuse, while communication helps interpret knowledge, recognize its relevance, and bridge cultural differences (Aslam et al., 2022; Zsigmond & Mura, 2023). An empirical study of the SME sector in the United Kingdom showed that the relationship between entrepreneurial competencies and absorptive capacity is strengthened by mutual trust (Ortiz et al, 2023). In addition, case studies have shown that in networked SME clusters, trust can replace formal control mechanisms to facilitate knowledge transfer (Massaro et al, 2019). Regional clusters can contribute to the long-term sustainability of knowledge transfer. Research conducted in Romania has highlighted that cooperation between universities and SMEs, especially within clusters, promotes 'smart specialization' and makes knowledge transfer more efficient (Lianu et al., 2020).

In the globalised economic competition, many companies have only one option: to find the cheapest and fastest way to acquire the necessary knowledge and to find the most up-to-date and highest-quality intellectual capital (Anand & Walsh, 2020). There are numerous ways of knowledge acquisition in the literature, prominent among which are large corporations that seek to do so through capital outsourcing, investment and international expansion (Castro & Moreira, 2023). SMEs often have no choice but to join forces with other firms and companies to acquire knowledge (Saleh, 2017; Marulanda, et al., 2022; Boyes, 2025). A common motivating factor for alliances is the transfer and adoption of production knowledge and technological processes, the pooling and combining of accumulated technical knowledge and the addition of new knowledge (Al-Jabri & Al-Busaidi, 2020; Machova et al., 2023; Dube, 2024). However, not only forms of cooperation but also forms of competition are emerging to acquire the necessary knowledge. This implies that the criteria for building and operating a knowledge management system (trust-based organisational culture, a modern ICT system and a supportive management style) are essential for the principles professionally formulated in the strategy to be operational in practice (Corral de Zubielqui et al., 2019; Ortiz et al., 2023; Michalec et al., 2024; Gallo et al., 2023).

One of the most critical steps in the construction and operational cycle of a knowledge management system is knowledge acquisition, which can take place in formal and informal ways (Bencsik, 2024). According to Davenport and Prusak (2001), informal networks are generally more accurate but usually require personal interaction. However, precisely because knowledge is spread through personal contacts and word of mouth, these networks create the basis for successful knowledge exchange, namely trust. Tangible intra-organisational knowledge acquisition techniques such as learning, training, coaching, mentoring, etc. are often part of everyday corporate life (Kaba & Ramaiah, 2019; Mishchuk et al., 2021). The problem is more pronounced in the case of external knowledge acquisition solutions, which are more pronounced in the context of SMEs. Thus, we cannot ignore the issue of knowledge transfer, which is a counterpart to knowledge acquisition (Velásquez-Rojas & Laguna, 2021). In this context, there is a large body of research that summarizes human characteristics, cultural characteristics, ethical issues, leadership style, EQ, and motivation issues, which are mainly

aimed at addressing problems related to knowledge transfer within organizations but may also have an impact on the prevalence of knowledge transfer between organizations (Aslam et al., 2022; Zsigmond & Mura, 2023). Very little research has explored the latter possibilities. Most of these can be linked to open innovation, acquisitions, and networking (Samir, 2020; Qifari, & Hartono, 2024). There is a lack of research on the impact of knowledge transfer between organisations on the success of SMEs. Although knowledge sharing between market competitors may seem controversial, competitors do share knowledge under certain conditions, either voluntarily or by necessity (Kipchilim & Gatobu (2024). Increasing possibilities arise due to AI use in this regard (Kaczorowska-Spychalska et al., 2024). In such situations, those most affected are those who have an existing relationship and/or who expect reciprocity (Firdaul et al., 2020; Hössjer et al., 2022; Ye & Wang, 2023). In addition to competitors, other market relationships such as suppliers, customers, and other partners can also be important actors in the knowledge transfer process (Milagres & Burcharth, 2019; He et al, 2021; Kim et al., 2024). The motivation and actual implementation of this process depend mainly on the form of communication and the degree of trust in meeting basic expectations (Wuryaningrat et al., 2024; Zhibao & Sadat, 2025). Based on these findings, the present research aims to fill the aforementioned gap in the literature by examining the external knowledge transfer practices of SMEs and their impact on firm success.

The research questions raised are:

- What does market success mean for SME managers and how does it relate to the willingness to share knowledge?
- What is the relationship between trust and communication in relations between SMEs?
- How important are communication and trust in the process of external knowledge transfer?
- What role does the triad of communication - trust - knowledge transfer play in the subjective success of SME managers?

After the literature review, the methodology and results of the quantitative research are presented, followed by a discussion of the results and finally a conclusion chapter.

1. Literature review

1.1. Characteristics of the Knowledge Management (KM) process/cycle for SMEs

The economic role of SMEs is indisputable, as statistics show, with the share of SMEs in the European Union being close to 99% and employing about two-thirds of the workforce (World Economic Forum, 2024; European Commission, 2024). In the last decade or two, knowledge management at a strategic level has become crucial for SMEs, as gaining a competitive advantage in a market with a large number of competitors is not an easy task (Bencsik, 2024; Borsellino et al., 2020). Effective knowledge management can help them to do so, as it can compensate for the disadvantages of having fewer employees or fewer financial resources (Alonso et al, 2021; Audretsch & Belitski, 2021; Chaithanapat & Rakthin, 2021; Martinez Campos et al., 2023).

A knowledge-sharing organisational culture, permeated by a climate of trust, and the creation of incentive systems and technical conditions that encourage employees to share knowledge, work and think together as a matter of course are essential for the effective functioning of a talent management (TM) system (Curado & Vieira, 2019; Shekhar & Valeri, 2023). Not only knowledge sharing within the organisation is important, but also knowledge transfer between organisations, to exploit synergies between partner organisations and improve relationships between suppliers and customers. The positive impact of interpersonal trust within

an organisation on inter-organisational trust has been demonstrated in research by Oláh et al. (2021). This trust has a positive impact on knowledge transfer. Increased efficiency and the ability to respond quickly and flexibly to changes in the environment lead to increased interdependence between organisations (Serra et al., 2022).

Small firms are more likely to be characterised by knowledge sharing between organisations (Anser et al., 2022), where trust plays a significant role. Research has shown that SMEs could have an advantage over large firms due to lower turnover, flatter organisational structure, flexibility, greater trust, more direct personal vertical relationships, less bureaucratic processes, much shorter and informal communication channels based on personal relationships (Chacín et al., 2024).

Hanifah et al. (2022) found that knowledge sharing is important for SMEs primarily because they have limited internal knowledge, and therefore the degree of absorptive capacity of SMEs is important in achieving business success (Abbate et al., 2021). Although a small firm may not have a formal set of assets, this does not mean that no single element of TM is working. The only difference is that it is not consciously applied. In this case, knowledge management can work well in SMEs without formal knowledge management processes (Hall et al. 2022; Giampaoli et al, 2021).

1.2. Communication, trust and knowledge transfer

A large body of research shows that communication is closely linked to trust. In these, communication is understood as the exchange of meaningful and timely information through formal or informal means. And trust is the individual or group expectation that a verbal or written promise made by another individual or group will be kept. In this case, communication is a prerequisite for trust (Kmieciak, 2021; Kuráth et al., 2023). Research has also shown that trust can influence communication. The two factors interact, and it is difficult to know when one generates the other (Kacperska & Łukasiewicz, 2020). Most studies tend to find that communication has an impact on the development of trust (Schuh et al, 2020; Brüggemann & Rödder, 2020; Argot, 2024). Its quality and frequency are of particular importance in building trust, including in horizontal and vertical organisational relationships. Trust can also be seen as the cornerstone of knowledge transfer and social exchange (Setti & Fernandes, 2019; Genaut-Arratibel et al., 2022). Although several studies confirm this, Bakker et al. (2006) questioned the findings, arguing that trust is only the most frequently cited factor.

In summary, most studies identify trust as an important prerequisite for knowledge sharing and declare that greater trust results in more intensive knowledge sharing (Hevesi, 2017; Asiamah, 2023). The combination of trust and communication has a significant impact on the successful functioning of organisations and the extent of knowledge transfer within and between organisations.

1.3. Leadership success story

As shown above, the triad of communication, trust and knowledge transfer is closely interrelated (Swanson et al, 2020). All three characteristics have a significant impact on the successful functioning of organisations. Whether the combined effect of the three characteristics influences the perception of business success of SME managers has not been explored in the literature. To assess this, it is necessary to define what business success means for SME managers. Previous research has demonstrated the link between knowledge transfer and business success, but its impact in combination with its preconditions (communication and trust) has been neglected (Aliyev et al., 2022; Lopes et al., 2021; Ibidunni, 2024; Mishchuk et

al., 2016). When formulating expectations of success, do managers prefer the production and provision of quality products and services, their culture-shaping power and their promotion (in which case the impact of the three factors is significant)? Or do they prefer the number of products sold and the profit generated as success (competitiveness)? Two types of attitudes are typical of SMEs (Lee et al., 2021; Islam et al., 2021; Mehmood et al., 2022). The first group is composed of those who produce a so-called mass product. These firms are generally characterised by short-term objectives, which consist of producing products and services, even if of high quality, but of a lower quality and targeting larger customer segments. Their main objective is to produce as much as possible while increasing turnover and profit. The other group is made up of more expensive, high-quality, mid- to high-end products and services. Their turnover is not close to that of the companies mentioned above. Their main objective is not to address the mass market. Their primary objective is to increase quality, to develop their market segment and, of course, to increase profits (Deng & Lu, 2022). The question is whether the knowledge-sharing propensity of those who prefer quality or increasing turnover and profits differs. The responses capture the "success image" of business leaders. In this spirit, success (competitiveness) in the later part of the research model is defined as quality or profit-oriented thinking.

2. Research method

The research was conducted in 2023-2024. The research involved SME managers from two neighbouring Central European countries (Hungary and Slovakia). The two countries involved in the research are located close to each other, share a common historical and political past, and have similar economic conditions and operating conditions. This provided an opportunity to compare them according to the above-mentioned criteria. The research consisted of a quantitative survey based on an online questionnaire and a qualitative part based on interview techniques. This study presents the quantitative results.

2.1. Data collection

The research was based on data from an online questionnaire survey. At the beginning of the questionnaire, the randomly selected respondents were provided with general, comprehensive information about the research's purpose and methodology. The response was voluntary and anonymous. The responses were processed in aggregate form, so it is not possible to identify individual respondents. Although no research ethics committee approval was required at the time the research was launched, we kept the GDPR requirements and the Declaration of Helsinki – Ethical Principles in Mind throughout the research. The questions did not contain any personal rights or information that could be considered sensitive. The study population consisted of senior employees from the Slovak and Hungarian SME sectors. To reach the respondents, we used the Orbis database, which contains business information on 400 million companies. The online survey and data collection were carried out through the Lime Survey platform and respondents completed the questionnaire anonymously in about 20-25 minutes. Neither individuals nor organisations can be identified from the responses and the responses received have been processed in aggregate. The EU's classification of SMEs is shown in Table 1.

Table 1. EU classification of SMEs

	Number of people		Net turnover		Balance sheet total
Micro-enterprise	< 10 persons	and	≤ 2 M EUR	or	≤ 2 M EUR
Small business	< 50 persons	and	≤ 10M EUR	or	≤ 10 M EUR
Medium-sized company	< 250 persons	and	≤ 50 M EUR	or	≤ EUR 43 M

Source: own construction

2.2. Sample

Sampling was done using a random sampling technique. Responses to the questions were received from Hungary (212 respondents) and Slovakia (230 respondents). An equal representation of both countries was sought in the sample. All questionnaires received were scored, resulting in a final item count of 442.

The characteristics of the sample are shown in Table 2, by organisational classification and job classification. Employees in micro-enterprises accounted for 80% of the total sample, while small enterprises accounted for 13% and medium-sized enterprises for 7%. This ratio reflects the size characteristics of businesses in the countries examined, as 95% of SMEs in Hungary are micro-enterprises, while in Slovakia this ratio is 97%. In terms of the ratio between the two countries, we see similar proportions in terms of company size, and in terms of job titles, we find that 90% of the sample completed the questionnaire from senior managers, while middle managers represent 10%. In terms of area of operation, service and production activities dominate. In terms of the proportion of respondents, the service sector is prominent (77% HU, 85% SK) and will therefore be the focus of the analysis in the subsequent analysis of "same-sector" surveys.

Table 2. Characteristics of the sample

Business size	Position	EN (main)	Area of operation	SK (main)	Area of operation
micro-enterprise	senior manager	170	production, service	174	production, service
	middle manager	3		10	
small business	senior manager	21	production, service, consultancy	23	production, services, financial advice
	middle manager	4		7	
medium enterprise	senior manager	4	production, services, education, health	5	production, services, agriculture, education, health
	middle manager	10		11	

Source: own construction

2.3. Analysis

Univariate (mean, median, mode, standard deviation) and multivariate (correlation, regression) statistical methods were used to analyse the data (Sajtos & Mitev, 2007). The PLS-SEM (Partial Least Squares Structural Equation Modeling) method, which is widely used in social sciences, management and behavioural sciences, was applied to investigate the combined effects of trust, communication and knowledge sharing. This method allows the modelling and testing of complex relationship structures involving relationships between several variables. It is used to estimate the strength and direction of the paths that model the relationships between

variables and to assess the predictive ability of the model (Kovacs & Bodnár, 2016). The advantage of PLS-SEM is that it does not require a normal distribution, so it can be used as a non-parametric method and can handle a large number of indicator variables. This is particularly useful for complex models (Hair et al. 2017; Henseler et al. 2009). Overall, PLS-SEM was selected because it is well suited for small sample questionnaire surveys and can be applied to non-normal distributed or Likert-type data. It is well suited for exploring theoretical models or initial testing, as well as for predictive analyses. Thus, in our case, it is particularly well suited for analysing the sample under investigation and for the research.

2.4. Questionnaire

The questionnaire sent out asked respondents to answer 31 questions, all of which were closed. The variables were nominal and metric. The latter consisted of a 5-point Likert scale, with one being the weakest and five the strongest. The structure of the questionnaire is shown in Table 3. Some of the questions included in the questionnaire can be found in Table 4. In order to test the questionnaire, we conducted a trial run with 15 people before the start of the research, and the questions were refined based on their feedback.

Table 3. Structure of the questionnaire

Specification of the sample	Siker/ competitiveness	Knowledge transfer	Trust	Communication
Demographic issues, characterisation of the enterprise (7 questions)	Strategy and subjective perception of success factors (5 questions)	Knowledge acquisition, -sharing methods, tools, knowledge retention (11 questions)	Trust within and between organisations (4 questions)	Features of effective communication (4 questions)

Source: own construction

2.5. Hypotheses

Based on the reviewed literature and research questions, the following hypotheses were formulated:

H1 - *The willingness of SMEs to share knowledge depends on the subjective perception of management success (perception of competitiveness).*

H2 - *There is a significant positive relationship between trust and communication between organisations.*

H3 - *Trust has a stronger significant correlation with knowledge sharing than communication*.

H4 - *Trust and communication through knowledge sharing have a significant impact on the subjective success (competitiveness) of management.*

3. Results

The questions in the questionnaire (which typically assess the process of knowledge transfer, trust and communication in SMEs) were asked to the respondents to rate. Table 4 shows the mean and standard deviation of the responses to the dominant questions by country,

as well as the results of the ANOVA analysis. For all variables, the ANOVA analysis conditions of normal distribution and homogeneity of variance were checked.

Table 4. Statistical analysis of questionnaire responses

Questions	EN		SK		Anova
	M	SD	M	SD	
To what extent are other SMEs in your field willing to share their knowledge with you?	2.95	1.277	2.88	1.252	
To what extent does your company share its knowledge with other SMEs?	2.88	1.276	2.80	1.221	
To what extent do you think the following factors influence knowledge retention?	2.76	1.243	2.86	1.217	
To what extent does your business rely on external sources of knowledge (experts, consultants, partners or competitors) to be successful?	2.87	1.266	2.87	1.101	
What is the relationship of trust between SMEs in your field?	3.17	1.143	3.11	1.181	
To what extent do you think the following factors prevent trust between businesses?	2.75	1.225	2.81	1.201	
How effective is communication between businesses in your sector?	3.35	1.043	3.35	1.118	
To what extent do the following factors hinder effective communication?	3.13	1.178	3.25	1.166	
How does your business compare with other SMEs in your field of activity in the following categories? Which are you more satisfied with?	3.24	1.003	3.11	1.121	

Source: own construction

Based on the data in Table 4, the following conclusions can be drawn.

In terms of knowledge acquisition and knowledge sharing, Hungarian firms' behaviour is more winning, but by a small margin. Knowledge retention is slightly stronger in the Slovak case. No difference in the use of external resources. Trust is slightly stronger for Hungarians and consequently, the barriers to trust are rated higher for Slovaks. Although there is no difference in effective communication, barriers are felt more strongly by Slovaks. Also in terms of self-evaluation, Hungarians' ratings are higher.

The results of the analysis are not surprising, as they are supported by the national cultural characteristics of the two countries. The Slovaks' distrust and reluctance to share knowledge can be attributed to the power distance. Individualism is more characteristic of Hungarians, which reinforces the expression of their own values. In terms of several cultural characteristics (long-term orientation, indulgence, motivation), the differences between the two nations are not very significant, so the nearly identical evaluation of the responses is acceptable (Minkov & Kaasa, 2022). As the differences are small, the standard deviations are relatively high, and we

found no significant differences between the responses of the two nations, the databases of the two countries were merged for further analysis. Thus, 442 organisations participated in the analysis.

Further analysis examined how communication and trust influence the process of knowledge transfer and subjective perceptions of success (competitiveness), and how they explain the variance in these perceptions. A theoretical model was developed to visualise the relationships.

PLS-SEM analysis model

The relationships are shown in Figure 1.

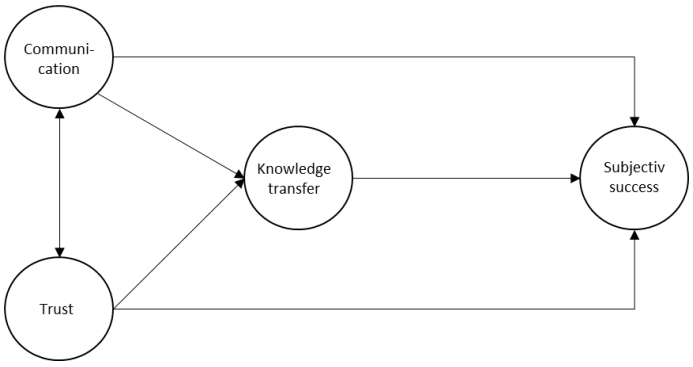

Figure 1. SEM analysis model
Source: own construction based on Hevesi, 2017

The reflective constructs of the model set-up need to be tested for both validity and reliability. Cronbach's alpha helps to assess the reliability of latent variables, where a value above 0.7 is accepted. The average variance extracted (AVE) and composite reliability (CR) are used to measure convergent validity and reliability. A CR value greater than 0.7 is acceptable for this method. AVE values above 0.5 indicate robust convergent validity. The reliability of the indicators can be checked by examining the factor loadings, with a minimum value of 0.6. The final model components are represented by the results presented below (Henseler, et al., 2015). The values obtained were below the threshold. Overall, the model evaluation provides evidence of the validity and reliability of the operationalization of the features under study (see Table 5).

Table 5. Validity of the test model

	Cronbach's alpha	Composite reliability	Average variance extracted (AVE)	Factor loadings
Trust	0.942	0.945	0.524	[0.701-0.787]
Communication	0.817	0.853	0.562	[0.712-0.779]
Knowledge transfer	0.724	0.802	0.575	[0.764-0.836]
Subjective picture of success/ Competitiveness	0.698	0.791	0.547	[0.723-0.858]

Source: own construction based on statistical analysis

In the questionnaire, respondents were asked to indicate (by selecting several parameters) what success or competitiveness means to them (based on their subjective judgement), as they measure the success of their activities according to their judgement. (As

economic data is sensitive information, respondents are reluctant to answer such questions). Therefore, subjective judgement was used as the basis for the question-wording. Of the several characteristics listed in the questionnaire, two groups emerged based on managerial choices: quality-oriented and profit-oriented perspectives.

The correlation between quality (Q) or profit orientation (P) as a success image (competitiveness) and the willingness to share knowledge with other SMEs was investigated. Table 6 shows the test data on knowledge sharing propensity broken down by profit and quality orientation. The header of the table lists the areas in which SMEs are willing to share information/knowledge.

Table 6. Areas of knowledge sharing in a quality and profit-oriented approach

		Average	Products	Services	Relationship (business)	Market	R & D	Government policy
Item number	Q	241	241	241	241	241	241	241
	P	201	201	201	201	201	201	201
Average	Q	3,64	4,02	3,79	3,59	3,34	3,65	3,43
	P	2.99	3,44	3,15	2,87	3,09	3,08	2,36
Median	Q	3,75	4,00	4,00	4,00	3,00	4,00	4,00
	P	3,00	4,00	3,00	3,00	3,00	3,00	2,00
Mode	Q	4,00	5,00	4,00	4,00	4,00	4,00	4,00
	P	2,00	4,00	2,00	2,00	4,00	3,00	2,00
Source	Q	0,90	0,99	1,00	1,03	1,17	1,21	1,27
	P	0,88	0,97	0,91	1,38	0,90	1,29	0,97

Source: own construction based on statistical analysis

As Table 6 shows, in all the categories studied, quality-oriented SMEs (Q – aims to achieve organisational success through quality assurance, see sub-section 1.3) are more willing to share their knowledge with other enterprises than their profit-oriented (P – organisational success means maximising profit, see sub-section 1.3) counterparts. This is also reflected in the average values. While the quality-oriented ones have a mean of 3.64 on the five-point scale, the profit-oriented ones have a mean of 2.99. The difference between the two scores is below 1 on the five-point scale. It is necessary to examine whether this difference can be considered statistically significant. The average standard deviation of the responses in each category is below 1 for both categories (0.9 and 0.88), indicating relatively homogeneous response distributions on average.

The statistical significance of the differences between the two groups shown in Table 6 above was demonstrated using an independent two-sample t-test. The t-test requires normality and identity of variances. The results of the Shapiro-Wilk test showed a significant result ($p < 0.05$), with the peak and skewness of the variables falling between the +1 and -1 intervals, allowing the t-test to be performed. The results of the analysis are illustrated in Table 7.

Table 7. Independent 2-sample t-test on the willingness to share knowledge of profit- and quality-oriented groups

		Levene's Test for Equality of Variances		t-test for Equality of Means				
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.
Willingness to share knowledge	EV	0,001	**0,981**	2,450	238	**0,014**	**0,62799**	0,25781
	NEV			2,509	13,529	0,024	0,62799	0,25106

Source: own construction based on statistical analysis

Explanation: EV- assuming equal variance, NEV- assuming non-equal variance,

The significance of the F-value (0.981) and the significance of the t-value (0.014) means that there is a significant difference between the means of the two groups. Statistically, the first hypothesis (H1) is proven for the study sample:

The willingness of SMEs to share knowledge depends on the subjective perception of success (perception of competitiveness) of management.

H2 - is demonstrated by the following train of thought.

Knowledge management research has shown that trust and communication are the two factors that significantly determine the extent, or lack thereof, of knowledge sharing. Therefore, the following hypothesis investigates whether there is a significant relationship between these two variables in the sample of SMEs currently under study. To test this hypothesis, the responses of SMEs in general and in the same field of activity were evaluated (referring to the dominant "service" field of activity mentioned in the sample presentation section, the results of the analysis refer to this field of activity).

Table 8. Relationship between trust and communication (correlation)

	Among SMEs in general	Between SMEs in the same sector
Trust	2,89	3,69
Communication	2,60	3,45
Pearson correlation coefficient	,517**	,576**
Significance	0,000	0,000
Item number	442	442

** Correlation is significant at the 0.01 level (2-tailed)

Source: own construction based on statistical analysis

SMEs place more trust in businesses operating in their sector than in the SME category in general. The same trend can be observed for communication. At the same time, it can be seen that the level of communication is lower than the level of trust in both cases. There is a highly significant positive relationship of medium strength between the values of trust and communication variables.

Hypothesis 2 (H2), that there is a significant relationship between trust between organisations and the level of communication, is confirmed

Hypothesis H3 analysed whether communication or trust has a greater impact on knowledge sharing. Both trust and communication were measured here in two categories: between SMEs in general and between SMEs in the same sector.

The debate on whether communication induces trust or vice versa was not examined in this research. To test hypothesis H3, linear regression analysis was performed. In contrast to correlation, the results of linear regression analysis show, in addition to the strength and direction of the relationship, the extent to which the variable defined as independent induces a change in the value of the dependent variable. In the case of bivariate linear regression, swapping the dependent and independent variables generates the same result. The results of the statistical test where communication is defined as the independent variable are shown in Table 9.

Table 9. Bivariate linear regression (communication as independent variable)

	between SMEs	Between SMEs in the same sector
Beta	0,517	0,576
R^2	0,310	0,339
Significance	.000	.000

Source: own construction based on statistical analysis

The Beta standardised regression coefficient values correspond to the Pearson correlation coefficient values obtained in the correlation. The value of R^2 indicates the extent to which trust explains the variation in the degree of communication (31% and 34%).

To test the hypothesis, we compared the trust, communication and knowledge sharing variables for the two different groups separately. The results are shown in Table 10. In the regression analysis, knowledge sharing is the dependent variable.

Table 10. Impact of trust and communication on knowledge sharing

	The impact of trust on knowledge sharing		The impact of communication on knowledge sharing	
	between SMEs	Between SMEs in the same sector	between SMEs	Between SMEs in the same sector
Beta	0,649	0,411	0,508	0,259
R^2	0,414	0,170	0,253	0,067
Significance	.000	.000	.000	.000

Source: own construction based on statistical analysis

There is also a strongly significant positive relationship between communication and knowledge sharing and between trust and knowledge sharing, but while the relationship between SMEs and knowledge sharing is medium strong in both cases, both relationships are weaker between those in the same field. Differences can also be seen in the values of R^2: the explanatory power of trust for knowledge sharing is significantly higher than that of communication (41.4% versus 25.3% and 17% versus 6.7% respectively). The explanatory power of trust is higher in both categories. The results obtained indicate that:

For the study sample, trust is more supportive of knowledge sharing than communication. **This proves hypothesis 3 (H3).**

To verify H4, we asked whether trust, communication and knowledge sharing directly or indirectly influence the subjective success (competitiveness) of SME managers. That is, how

much do the three variables (together and separately) affect the predicted success of SME managers? The relationship framework of the path model provides a basis for the verification of the hypothesis.

To define the final dependent variable of the model, subjective success (competitiveness), we used the questions asked in the questionnaire to find out whether there is a significant relationship between knowledge sharing in SMEs and managers' subjective success. Since both variables are metric scales, the relationship between them was tested by correlation analysis.

Two of the 8 factors listed in the questionnaire that determine subjective perceptions of success show a rather weak positive, but highly significant relationship. There is a significant positive relationship between the quality of services offered by SMEs (corr .198; sig. 0.002; $p<0.01$), the number of professional recognition (corr. 178; sig. 0.006; $p<0.01$) and the degree of knowledge sharing in the sample. The subjective success image (competitiveness) variable was created by averaging two variables correlated with knowledge sharing (in this case, principal component analysis was not relevant.)

Before analysing the results of the structural model, the significance of the path coefficients should be checked by t-tests based on the bootstrap distribution. To ensure the reliability of the results, the number of subsamples should be sufficiently large, at least 5000 subsamples are required. The p-values in Table 11 represent that at the five percent significance level, the explanatory variables have a strong effect on the associated explained variable. The f^2 values also support the strength of each relationship, in line with the effect size ranges defined by Gefen et al. (2000).

Table 11. Significance of path coefficients

	Original sample (O)	f^2	Standard deviation (STDEV)	T statistics	P values
TRUST -> KNOWLEDGE TRANSFER	0.540	0.424	0.019	28.478	<0.05
TRUST -> COMPETITIVENESS	0.206	0.136	0.016	20.825	<0.05
KNOWLEDGE TRANSFER -> COMPETITIVENESS	0.208	0.160	0.018	20.200	<0.05
COMMUNICATION -> KNOWLEDGE TRANSFER	0.210	0.035	0.024	7.032	<0.05
COMMUNICATION -> COMPETITIVENESS			0.009	4.339	<0.05

Source: own construction based on statistical analysis

The results show that trust ($\beta=0.540$) directly affects knowledge transfer, which can be considered a strong relationship. However, the direct effect of communication ($\beta=0.208$) is significantly weaker. The direct effect of trust on a subjective perception of success (competitiveness) ($\beta=0.206$) is weak, while communication has no direct significant effect. This implies that trust plays a significantly stronger role than communication in shaping the subjective image of success. The model summarises the relationships and values of the above analyses concerning the relationship between SMEs (see Figure 3).

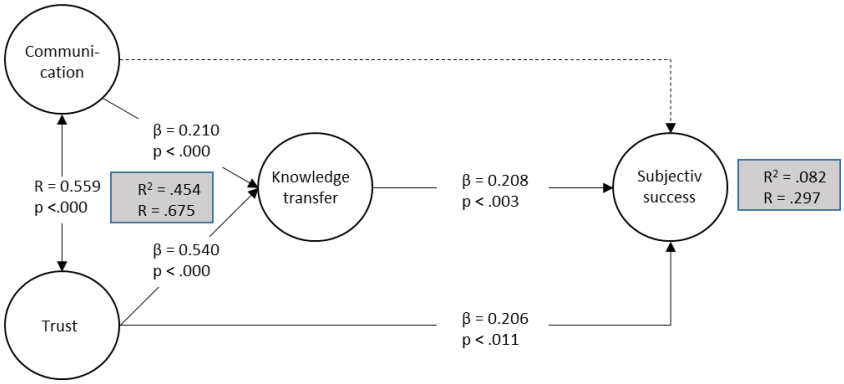

Figure 2. Statistical network of relationships between knowledge sharing and success image between SMEs
Source: own construction

(The values in the link arrows show the direct link values, while the grey boxes show the combined effect of the variables.)

The two independent variables in the path model (communication and trust) make a strong contribution to knowledge sharing (45.4% explanatory power). However, knowledge sharing combined with trust and communication has a relatively small effect on the success of managers. The explanatory power of the model is only 8.2%. This is supported by a relationship strength of 0.297, which falls into the weak relationship category. This means that the subjective perception of the success of SME managers is more influenced by other factors. The final result of the path model of 91.8% suggests this. The direct and indirect pathways leading from trust have a stronger impact on subjective perceptions of success than the indirect pathway leading from communication.

Following a similar logic, the path model for SMEs in the same sector shows the following results.

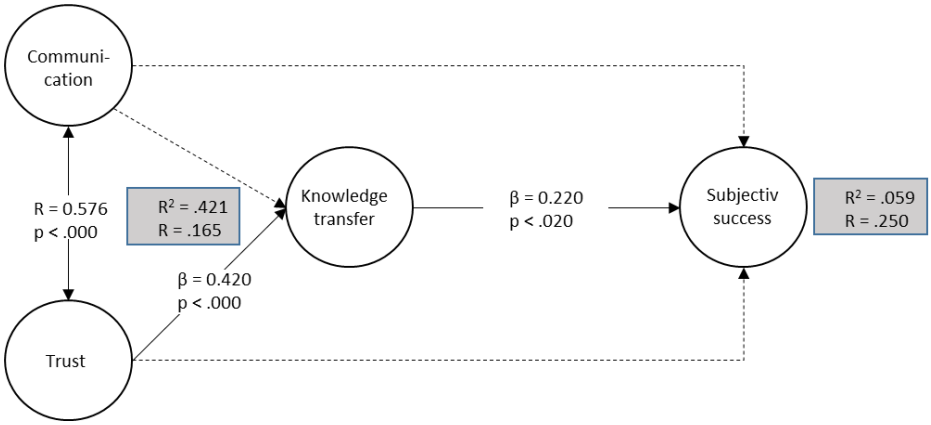

Figure 3. Knowledge sharing and the successful performance of SMEs in the same sector
Source: own construction

It can be seen that in this case the path model is reduced to a single indirect route. When analysing the combined effect of the two variables, it can be observed that communication does not contribute significantly to the subjective success of managers in SMEs in the same sector, either directly or indirectly. In both cases, the results show that:

Hypothesis 4 (H4) hypothesizes that communication - trust - knowledge transfer influences subjective perception of success (competitiveness).

However, no significant effect was found for communication.

4. Discussion

Little previous research has examined the characteristics of knowledge sharing between SMEs. This gap has also brought about the research gap in the relationship between knowledge transfer and managers' subjective perceptions of success (Islam et al., 2021; Mehmood et al., 2022. The present research has yielded interesting results on the behaviour of SME managers concerning the triad of communication, trust and knowledge transfer. As communication and trust are prerequisites for knowledge transfer (as supported by several previous researches) (Brüggemann & Rödder, 2020; Asiamah, 2023; Argot, 2024), it was essential to investigate the relationship between the three factors and confirm the existence of the relationships for the present research sample. The verification of the hypotheses provided a way to do so, which confirms the previous research findings of Lopez et al. (2021), Ibidunni (2024) and Boyes (2025). A sufficiently strong relationship was found between trust and communication, and trust and knowledge transfer, which partially contradicts the findings of Bakker et al. (2006). Trust has a stronger influence on knowledge sharing than communication, which can also be deduced from other research findings (Wuryaningrat et al., 2024; Zhibao & Sadat, 2025). It has been confirmed that knowledge transfer is highly dependent on the combined influence of communication and trust between the stakeholders. What is missing in the literature is an examination of the impact of knowledge transfer between organisations and the demonstration of its contribution to intra-organisational outcomes. Thus, the present research is at the forefront in this respect. It points to the value for firms to build relationships and communicate more and in different ways (face-to-face) and to build more trust between each other to succeed in the market (Kacperska & Łukasiewicz, 2020; Genaut-Arratibel et al., 2022). SME managers (based on the results of the present research) do not pay enough attention to the importance of knowledge transfer between organisations and their subjective perception of success depends little on this organisational characteristic. However, economic trends suggest that organizations that are willing to collaborate and rely on each other's achievements achieve a stronger position in the market competition (Swanson et al., 2020; Asiamah, 2023). Collaboration and knowledge transfer represent untapped opportunities for SMEs (Deng & Lu, 2022). This opportunity is already being felt in the case of quality-oriented thinking. The thinking and practices of the managers of these SMEs on knowledge transfer are more pronounced in the case of the business activities studied (Pratiwi, 2022; Tamsah et al., 2020).

For SMEs in the same sector, the combined effect of trust and communication has a smaller impact on changes in knowledge sharing than in SMEs in general. Moreover, in their case, no direct significant effect of communication could be detected, so only the degree of trust is dominant (although the interaction between communication and trust is strongly correlated). This may be because, for SMEs in the same field of activity, the quality of the relationship, knowledge sharing, trust and communication are inherently different (as they are competitors), as evidenced by the higher values of the variables (Wuryaningrat et al., 2024). An increase in the degree of communication or trust between two SMEs in different fields of activity leads to a higher degree of cooperation and knowledge transfer than between SMEs in the same field of activity (Kim et al, 2024). The relationship between competitors, SMEs offering the same service, is inherently closer based on market processes. They know more about each other's activities, communicate more, and are even willing to help or cooperate (Milagres & Burcharth,

2019; Aslam et al, 2022). This may explain the lower values obtained in the research for the effect of the communication-trust-knowledge sharing triad.

Conclusion

The results of the research bring a new approach to knowledge transfer practices between companies, especially SMEs. Although the examination of the operational characteristics of the SMEs involved in the study (trust, communication, knowledge sharing) individually is not new, their combined impact and influence on the success of managers is missing in the literature. The strength of the direct relationships between the characteristics under investigation is dominant, but once the joint influence (indirect effects) is detected, this degree weakens. In particular, it is important to weigh up the success that SME managers envision for themselves. An important finding is that knowledge transfer plays a more prominent role in quality-oriented thinking than in profit-oriented thinking. This result is also reflected in the formulation of the success picture. Indeed, a significant relationship was found between the quality of services offered by SMEs and the impact of recognition on the success image.

Practical relevance

The results are important for practitioners, as they provide a mirror for SME managers in terms of the combined impact of trust building, effective communication and knowledge transfer. It draws attention to these organisational characteristics, which in many cases offer untapped potential, particularly in the context of SME relations. Conclusions can also be drawn in the area of success projection. It is worth considering what is more important for the future market: quality or profit? Which opportunities for cooperation will lead to a dominant market presence? What management tools, thinking and behaviour will ensure the success envisioned?

Research limitations and future directions

Limitations of the research include the usual sampling problems (respondent reluctance) and the lack of coverage of the topic. There is limited literature on the relationship between the three characteristics under study. This makes it difficult to formulate a correct discourse and evaluate the results. Although the composition of the sample reflects the size distribution of SMEs in the countries surveyed, it is clear that the findings apply primarily to micro-enterprises. The survey is a cross-sectional study, and the results should be interpreted accordingly.

The next research direction is to increase the international outlook and involve more countries in the research. With a larger number of SMEs operating in the same fields (with a different operational focus), comparative studies could increase the potential for exploiting the results. Longitudinal studies could further broaden the picture of the area covered by the research.

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