Ph.D THESIS

VIKTÓRIA ŐRI
GÖDÖLLŐ
2025

HUNGARIAN UNIVERSITY OF AGRICULTURAL AND LIFE SCIENCES

THE IMPORTANCE OF ERP SYSTEMS AND INFORMATION STAGNATION RISKS IN THE DATA-DRIVEN DECISION-MAKING PRACTICES OF HUNGARIAN ORGANISATIONS

The thesis of The Ph.D Dissertation

Viktória Őri

Gödöllő

2025

Doctoral School's

Name:	Doctoral School of Economics and Regional Sciences
Discipline:	Management and Organisation sciences
Head:	**Prof. Dr. Zoltán Bujdosó Ph.D.** University Professor MATE, Institute for Rural Development and Sustainable Economy
Supervisor(s)	**Dr. habil. Ildikó Rudnák Ph.D.** Associate Professor MATE, Institute of Agricultural and Food Economics Department of Agricultural Management and Leadership

....

Approval by the Head of School Approval of the supervisor(s)

TABLE OF CONTENTS

1. INTRODUCTION AND OBJECTIVE

Nowadays, data-driven operations and decision making are a prominent topic not only in the literature, but also in the everyday life of organisations. A data-driven approach means that data forms the basis for business strategy formulation, process optimisation and efforts to improve performance and efficiency.

The unprecedented quantity and quality of data that will be generated, thanks mainly to sensor technology, will offer opportunities that have never been available before in history. We can have accurate and real-time data on the functioning of machines and other assets, on changes in the condition or state of products during their manufacture, on the current state of logistical processes, on the progress of human work, on the financial impact of individual events. According to some experts, the realisation of data-driven decision making depends mainly on the amount of data taken into account (Bokrantz et al., 2020a). Data-driven decision making can be applied throughout the whole operation of an organisation, from production planning and scheduling to purchasing or process improvement (Osterrieder et al., 2020).

This data, available in reliable quality and in large quantities, allows decisions to be made on the basis of concrete data and facts, using predictive analysis rather than speculation and misinformation. Of course, for this to be a valid finding, it is important that the data collected can actually be used to make decisions (Gandomi & Haider, 2015). Equally, it is essential that decision-makers have unquestioning confidence in the validity of the data and the decisions made on the basis of the data (Zaitsava et al., 2022).

The collection, storage and analysis of operational data is carried out in IT systems. ERP (Enterprise Resource Planning) systems, which are designed to cover the operations of organisations to the greatest extent , are usually integrated software applications that coordinate and manage processes and data

across different units within the organisation. They enable centralised data management, ensuring access to consistent data. This means that these systems are able to support decision making as much as possible as a data source, or even to execute the decision itself for structured decisions where the problem can be well algorithmed (Gaol et al., 2023).

Reasons for the uptake and popularity of ERP systems include the demonstrable reduction in organisational size and shortening of supply chains, which obviously lead to lower business costs and faster response to customer needs. Together, these increase the competitiveness of the organisation by promoting the operationalisation of organisational relationships (Tsai et al., 2011).

ERP systems also play a major role in knowledge sharing between different departments in an organisation, bringing collaboration to the fore rather than separate activities (Goldston, 2020).

The relationship between data-driven decisions and the ERP systems that cover a large part, or even all, of the operation is a poorly explored area, as is the problem of how far the important (relevant) information needed for decisions is available to decision-makers before they make them.

Keeping up to date with technology and IT is essential for modern operations. However, in theory, all the data and information relevant to the decision should be available to make data-driven decisions. The question is whether IT up-to-dateness alone can provide this prerequisite for data-driven decisions. What kind of information can be left out of the data managed by ERP? What are the reasons why decision-relevant information can get lost in the organisation? Are there identifiable organisational characteristics that affect the free flow of information?

In the same way, the question arises whether the presence of ERP systems in operations has an impact on decision makers' attitudes towards intuition?

These key issues form the backbone of the dissertation.

As with global trends, digital transformation and the spread of data-driven culture is becoming increasingly important in organisations operating in Hungary. ERP systems provide an opportunity for the spread of data-driven decisions by providing centralised, real-time, high quality data, with the availability of advanced analytical tools. However, the question arises as to what factors are holding back the spread of this new technology and decision-making direction.

In this paper, I examine how the actual practice of ERP system use and the implementation of data-driven decisions are related, how this is affected by the attitude of intuitive decision making in organizations, and what role the possible barriers to information processes outside the IT system play in this issue.

2. MATERIAL AND METHOD

2.1 Hypotheses

H1 The importance attached to intuition in managerial decisions contributes significantly to the loss of relevant information in organisational operations

The relationship between the importance of intuitive decision-making and the risk of missing relevant information is often a critical factor in the functioning of an organisation. Intuitive decision making, based on experience, intuition and instant judgement, can be an essential tool for a manager in many situations, especially in a rapidly changing and uncertain environment. However, the benefits and risks of this approach can be closely linked to the effectiveness of organisational information flows.

A lack of relevant information can be a serious risk for an organisation. Information stagnation occurs when the necessary data or information is not delivered to decision-makers in a timely manner, or when information is

distorted in the process of being delivered. This often happens as a result of organisational silos, poor communication channels or excessive hierarchy. When relevant information is not available at the right time, decision-makers are forced to rely on incomplete data or hunches, which increases the likelihood of incorrect decisions.

There is a link between the importance of intuitive decision making in an organisation's operations and the risk of missing relevant information. When information stagnation is frequent in an organisation, decision-makers are forced to rely more on intuition because they do not have access to all the necessary data. This phenomenon can be particularly true in fast-changing industries where circumstances are constantly evolving and available information can quickly become outdated.

Another aspect of the relationship is that increased reliance on intuition can also increase the risk of missing relevant information. If the norm in an organisation is for decision-makers to rely on intuition rather than thoroughly examining the available data, the importance of information flow may be overshadowed. As a result, the motivation to communicate information accurately and in a timely manner may be reduced, which further increases the frequency of information stagnation. I will seek to verify this aspect in the statistical test of the first hypothesis.

H2 There is a demonstrable link between the risk of missing relevant information and the size of the organisation

The risk of missing relevant information is often related to the size of the organisation. This phenomenon arises from a number of factors, including the complexity of the organisational structure, the number of hierarchical levels, the potential for functional silos, the multiplicity of communication channels, the limitations of the IT infrastructure, the specificities of the organisational culture,

the increasing cost of information acquisition, the difficulties of coordination and geographical dispersion.

As an organisation grows, information flows become more complex and challenging, increasing the likelihood of information stagnation.

H3 No link between data-driven decision making and ERP system use

The relationship between data-driven decision making and the use of ERP systems is an important issue in the operation of modern organisations. Although ERP systems are essentially used to manage, integrate and share data within an organisation, it may be surprising to argue that there is no direct link between data-driven decision making and the use of ERP systems.

Data-driven decision-making is an approach in which decisions are based on systematically collected and analysed data. It emphasises fact-based decision-making, minimising the risk of decisions based on hunches or assumptions. The advantages of data-driven decision making include greater accuracy, objectivity and soundness of decisions.

ERP systems are integrated software solutions designed to efficiently manage processes and information flows between different departments in an organisation. ERP systems bring together financial, logistics, human resources, manufacturing and other organisational activities, enabling the organisation to gain a comprehensive view of its operations and optimise the use of resources.

Although the use of ERP systems is widespread in many organisations, and these tools generate and manage a significant amount of data, there is no guarantee that the decision-makers in the organisation are actually adopting a data-driven approach.

The lack of a link between data-driven decision making and the use of ERP systems suggests that the introduction of information technology alone does not guarantee the development of a data-driven culture in an organisation. The

willingness to make decisions depends fundamentally on the organisational culture, the mindset of managers and their ability to interpret data. ERP systems can be an important tool for managing and integrating data, but for this data to really contribute to data-driven decisions, the organisation needs to ensure that the data is relevant, accessible and interpretable, and that decision-makers are willing and able to use it.

H4 The risk of relevant information being lost is not related to whether the organisation uses an ERP system

The risk of losing relevant information depends on a number of factors, including organisational structure, communication culture, information systems and management style. However, the fact whether an organisation uses an ERP system does not necessarily directly affect the risk of information stagnation.

While ERP systems offer significant benefits in making information flows more efficient, reducing the risk of information stagnation depends more on organisational culture, communication practices, data quality and management style. This means that even if an organisation has the most modern ERP system, if the above factors are not in place, the risk of information stagnation remains high. An ERP system can therefore be an important tool in addressing information challenges, but it is not the only solution and it alone does not guarantee the unhindered flow of information throughout the organisation.

H5 The less precisely managers define their expectations before making decisions, the greater the importance of intuition in the functioning of organisations

In modern organisations, managers often find themselves in situations where expectations and objectives cannot be clearly defined before decisions are made. In such cases, the role of intuition is particularly valued, as managers are forced to make decisions based on incomplete or unclear information. In this context, intuition becomes a key tool for maintaining and managing the functioning of

the organisation, especially when formal analysis and data-based decision making are constrained.

In an organisational culture where there is an increased reliance on intuitive decisions (for example, in the context of a successful, highly experienced manager), it is easy to find that the decision criteria and the information needs themselves are not well defined during the decision preparation phase, which can severely hamper the effectiveness of the decision preparation work and, in the worst case, lead to the loss of relevant information.

H6 The lower the level the relevant information is in the organisation, the more likely it is to get lost on its way to decision-makers

Organisational information flow is a critical factor in enabling managers to make informed decisions. But relevant information often gets stuck when it flows from lower levels of the organisation to senior management. This phenomenon can be caused by a number of factors, including organisational structure, the effectiveness of communication channels, organisational culture, and the role and motivation of lower-level staff. Information stagnation at the lower levels of the organisation can have serious consequences, as it can prevent managers from gaining a full picture of the organisation's operations and responding to challenges and opportunities accordingly.

Most organisations operate in a hierarchical structure, where information has to be passed through different levels to the decision-makers. As information flows upwards in the organisation, each level can represent a new barrier where information can become stuck, distorted or delayed. The risk is even greater for information originating from lower levels, as it has to flow through several levels before reaching decision-makers.

If relevant information gets stuck at lower levels, decision-makers do not get the full picture, which can lead to decisions based on incomplete or distorted information. This can be particularly dangerous in situations where the lower

levels are close to the operational processes and could provide important feedback on the functioning of the organisation.

2.2 Research method

The figure below shows the steps of the empirical research and the methods used to analyse the samples and data.

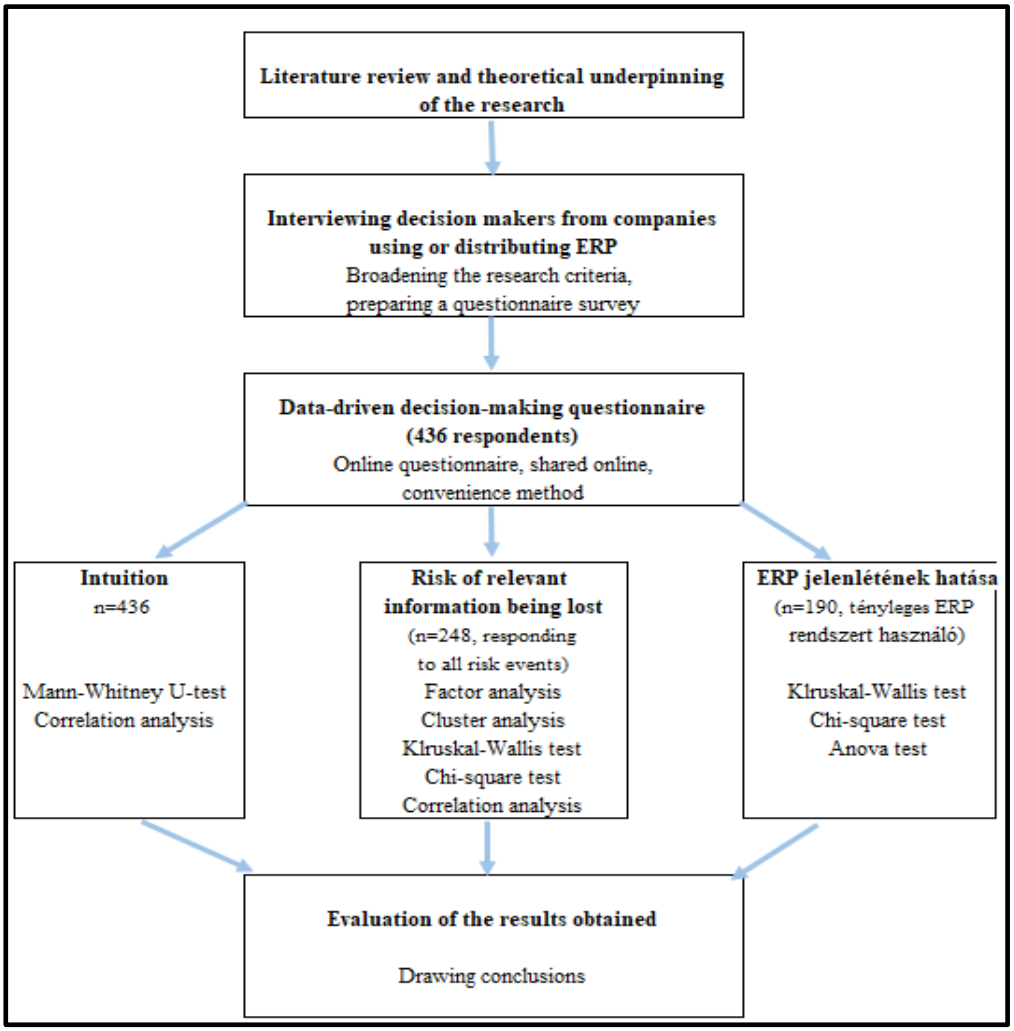

Figure 1: Steps and methods of empirical research
Source: own editing

An important prerequisite for the questionnaire survey was that, following the literature review, interviews were conducted with representatives of companies both using and distributing ERP systems. The points raised here helped to formulate the questions of the questionnaire and also influenced the hypotheses.

2.3 Methods of data collection

Prior to the questionnaire research, I conducted several interviews with professionals who work either in a company that uses ERP systems or in a company that distributes them. The interviews took place between December 2022 and November 2023.

I prepared the unstructured interviews with predefined questions, which mainly focused on the role and importance of the ERP system, the prior expectations, its role in organisational decisions and processes, and the interviewee's own decision-making behaviour. However, during the interviews I allowed the interviewee to express his/her own thoughts freely, which in several cases changed the interview process somewhat.

All of those interviewed held a senior role in the company they worked for. Of the five interviewees, three work in large organisations and two are employed in medium-sized organisations. Four of the interviewees were ERP system users and one interviewee was an employee of a company that distributed ERP.

I recorded the interviews with the prior permission of the interviewees and then transcribed what was said. The information gathered during the interviews greatly helped me in my work in formulating the questions and hypotheses of the questionnaire.

The most appropriate method for conducting the research was an online questionnaire, which allows a large number of respondents to be reached in a relatively short time.

In order to have a sufficient quantity and quality of data for statistical analysis, I used mostly closed questions, aiming to ensure that the pre-written answers actually covered the options that respondents considered possible.

Initially, I circulated the questionnaire to a narrower professional circle (colleagues) and asked for feedback on the interpretability of the questions. After minor modifications (no need to redraft the questionnaire), I used the snowball method to expand the circle of respondents through colleagues reached in the first round and my own contacts outside the company.

The questionnaire, created using the Google Forms Editor, was open for completions between October 2023 and July 2024. Completion of the questionnaire was anonymous and no information about the respondents was requested to be shared.

During this time, I managed to reach out to smaller, larger groups in several waves.

2.4 Presentation of the questionnaire

The questionnaire contains a total of 30 questions, of which the last 6 are only for those who are actual users of an ERP system at their workplace.

The introductory block of demographic questions consists of 6 questions in total. Here I ask for information about the respondents' workplace (region, size, sector), followed by questions about the respondent himself (in which organisational function he works, how many years he has worked and what level of decision making he makes in his job).

The next three questions examine the respondent's attitude towards intuition (single-choice and multiple-choice questions. From question 10 to question 21, I ask the respondent to evaluate situations that in real life might lead one to decide

to withhold certain information. For each of these questions, I ask the respondent to rate the importance of the information that might be withheld (Importance), the frequency with which such a case - withholding information - might occur in his or her case (Frequency), and the possibility that the information might be passed on by others (Availability). For each of these dimensions, I asked for a five-point Likert scale rating, the purpose of which was to be able to make a risk assessment of the risk of later planned relevant information being withheld based on the responses received.

I asked for a description of any situation not listed in the previous block, but experienced by the respondent and which led him/her to withhold information, in an open question, and then asked about the accuracy of the information provided by managers on the pre-decision work in the next question.

After asking the respondent about the availability of the ERP system, I ask about his/her role in the implementation of ERP, the depth of his/her knowledge of using the system, the reasons for working outside the system in spreadsheets and the frequency of use.

The summary table of questions is as follows (Table 1).

Table 1: Summary table of questions from the questionnaire

Block name	Question order number	Question type
Demographic questions	1-6	Nominal, Multiple-choice, Ordinal
Intuitive attitude	7-9	Ordinal, Likert scale
Information risk	10-21	Likert scale, multiple choice, binary
Other cases, accuracy of instructions	22-23	Open, textual, Nominal, multiple choice
Use of ERP systems	24-28	Nominal, ordinal, binary
Spreadsheets in addition to ERP	29-30	Nominal multiple choice, Open, textual

Source: own editing

2.5 Presentation of the sample

The summary table of the sample based on demographic questions is as follows.

Table 2: Presentation of the sample

	ERP implemented User (n=190)	ERP implemented No user (n=134)	No ERP (n=112)
Company size			
Micro (<10 employees)	4 (2,1%)	2 (1,5%)	14 (12,5%)
Small (11-50 employees)	12 (6,3%)	8 (6,0%)	34 (30,4%)
Medium (51-250 employees)	12 (6,3%)	14 (10,4%)	32 (28,6%)
Large (>250 employees)	162 (85,3%)	110 (82,1%)	32 (28,6%)
Sector			
Primer sector	4 (2,1%)	4 (3,0%)	2 (1,8%)
Secondary sector	140 (73,7%)	88 (65,7%)	8 (7,1%)
Tertiary sector	36 (18,9%)	30 (22,4%)	54 (48,2%)
Quarterly sector	10 (5,3%)	12 (9,0%)	48 (42,9%)
Area			
Manufacturing	54 (28,4%)	64 (47,8%)	16 (14,3%)
R&D	14 (7,4%)	10 (7,5%)	6 (5,4%)
Marketing	2 (1,1%)	-	6 (5,4%)
Procurement	10 (5,3%)	6 (4,5%)	2 (1,8%)
Logistics	34 (17,9%)	2 (1,5%)	2 (1,8%)
Public Relations	2 (1,1%)	-	-
Human resources management	6 (3,2%)	14 (10,4%)	8 (7,1%)
Finance	16 (8,4%)	6 (4,5%)	12 (10,7%)
Other	52 (27,4%)	32 (23,9%)	60 (53,6%)
Years of work experience			
>1	18 (9,5%)	34 (25,4%)	14 (12,5%)
2-5	64 (33,7%)	36 (26,9%)	28 (25,0%)
6-10	36 (18,9%)	20 (14,9%)	22 (19,6%)
11-15	34 (17,9%)	24 (17,9%)	14 (12,5%)
16-20	24 (12,6%)	12 (9,0%)	4 (3,6%)
21-25	10 (5,3%)	6 (4,5%)	6 (5,4%)
26+	4 (2,1%)	2 (1,5%)	24 (21,4%)
Decision making aspect			
Own work	72 (37,9%)	60 (44,8%)	54 (48,2%)
Team daily work	30 (15,8%)	14 (10,4%)	16 (14,3%)
Long-term team plans	58 (30,5%)	42 (31,3%)	20 (17,9%)
Team strategy	20 (10,5%)	14 (10,4%)	8 (7,1%)
Corporate strategy	10 (5,3%)	4 (3,0%)	14 (12,5%)

Source: own editing

The table shows that the majority of respondents (304 out of 436) work in a large organisation. The largest number of respondents work in the secondary sector (236), while manufacturing has the largest share in terms of field of activity (30.7%).

Most people have been in their current job for between 2 and 5 years, and the majority of respondents (42.7%) make decisions about their own employment.

3. DISCUSSION OF THE RESULTS

Based on the results of the research, the hypotheses were confirmed or rejected as follows (Table 3).

Table 3: Confirmation of hypotheses

HYPOTHESES	ACCEPTANCE
H1 The importance attached to intuition in managerial decisions contributes significantly to the loss of relevant information in organisational operations	✗
H2 There is a demonstrable link between the risk of missing relevant information and the size of the organisation	✓
H3 No link between data-driven decision making and ERP system use	✓
H4 The risk of relevant information being lost is not related to whether the organisation uses an ERP system	✓
H5 The less precisely managers define their expectations before making decisions, the greater the importance of intuition in the functioning of organisations	✗
H6 The lower the level the relevant information is in the organisation, the more likely it is to get lost on its way to decision-makers	✓

Source: own editing

H1: A non-parametric Spearman correlation test, initially conducted only for managers and subsequently for subordinates, revealed a significant relationship contrary to the hypothesis, and thus the hypothesis was not confirmed.

H2: The hypotheses were not confirmed by Spearmann correlation analysis, however, cross tabulation analysis with risk clusters showed that there is a significant correlation between organization size and risk cluster membership. The correlation is such that while the risk of information stagnation is highly present for extreme organisational sizes, the presence of a low-risk cluster is most prevalent for medium sized organisations.

H3 Based on the Kruskal-Wallis test, the presence of ERP was found to have no significant effect on intuitive decision making. Digging deeper into the reasons for actual decision-making against the data, I was able to demonstrate, using the Khi2 test, that the highest proportion of ERP users decide against the data because they cannot extract relevant information from the ERP for their decisions or because they do not trust the data in the system,

H4 For this hypothesis, the Kruskal-Wallis test was also applied, which revealed that there was no detectable association between risk factors and ERP use.

H5 The Spearman correlation test conducted only for managers revealed that there is no correlation between the precise clarification of criteria or expectations prior to managerial decisions and the intuitive attitude towards the organisation.

H6 Spearman's correlation applied to the full sample for this hypothesis showed that there is a significant correlation between decision level and overall risk, and between risk due to bad experiences and risk due to fear of consequences. Kruskal-Wallis tests run to further test the hypothesis confirmed and further clarified the findings. It was found that employees who make decisions at the lowest (operational) managerial level are most likely to be stuck with relevant information and that this is mainly due to the influence of external (constraining) circumstances.

4. CONCLUSIONS AND PROPOSALS

Transparent representation of data-driven decision making by management will certainly help to shift the organisational culture in a positive direction, which may also lead to improved information processes in the longer term.

The information processes of a medium-sized organisation deserve special attention. The question is to what extent the low risk of information stagnation

in these organisations is due to the fact that at this size they may need the process control that is still indispensable in small organisations, but at the same time they may have a family atmosphere in which employees are more willing to share their insights than those in large organisations. Acknowledging these reasons, or discovering other correlations, could help to improve the operational processes of small and large organisations in ways that better facilitate the free flow of information.

Managers of companies using ERP should seek to take into account the experiences of users in order to achieve widespread use of the system. A very good way to do this is to conduct a questionnaire survey at certain intervals, giving users the opportunity to express their thoughts in addition to the fixed questions, from which much important information can be extracted through content analysis for further ideas about ERP (Őri et al., 2023)

Ideally, the impact of using an ERP system goes beyond the technical solutions and the control of the processes involved in its use. It contributes to improving (information) processes for the organisation as a whole.

This of course requires encouraging the widespread use of the ERP system and reviewing the availability of the necessary conditions from time to time, and then taking the necessary actions (e.g. repeat training) based on the feedback received.

Understanding the motivations of operational decision makers (who are at the highest risk of information stagnation due to external factors, between decision levels) can be very important to address existing concerns. Regular face-to-face or small group discussions can be a major contribution to this, giving employees the opportunity to express their own thoughts and receive feedback that can improve their willingness to communicate.

5. NEW SCIENTIFIC RESULTS

1. **Empirical evidence shows that the operational management level is the riskiest in terms of information stagnation.**

2. **In medium-sized organisations, the risk of information stagnation among employees is less intense than in other sizes of organisation.**

3. **The risk of information stagnation is not associated with the use of ERP.**

4. **The size of the organisation and the interaction between the size of the organisation and the use of ERP has a significant impact on the risk of information stagnation.**

6. REFERENCES

1. Bokrantz, J., Skoogh, A., Berlin, C., Wuest, T., Stahre, J., 2020. smart maintenance: a research agenda for industrial maintenance management. *International Journal of Production Economics,* vol. 224, p. 107547.

2. Gandomi, A. & Haider, M., 2015. beyond the hype: big data concepts, methods, and analytics. *international journal of information management,* 35(2), pp. 137-144.

3. Gaol, F. L., Deniansyah, M. F. & Matsuo, T., 2023. the measurement impact of ERP system implementation on the automotive industry business pro cess efficiency. *int J Bus Inform Syst,* Issue 43(3), pp. 429-442..

4. Goldston, J. L., 2020 The Evolution of ERP Systems: A Literature Review, *International Journal of Research Publications,* Issue 501, pp. 1-17.

5. Őri, V., Bajkai-Tóth, K. & Rudnák, I., 2023. Maintaining extensive system usage in the post-ERP system implementation period. *15th International Conference of J. Selye University : Section of Economics, Mathematics and Informatics* , 213 p.. volume, pp. 116-128.

6. Osterrieder, P., Budde, L. & Friedli, T., 2020. the smart factory as a key construct of industry 4.0: a systematic literature review. *international journal of production economics,* vol. 221, p. 107476.

7. Tsai, M., Li, E., Lee, K. & Tung, W., 2011 Beyond ERP implementation: the moderating effect of knowledge management on business performance. *Total Quality Management & Business Excellence,* pp. 131-144.

8. Zaitsava, M., Marku , E. & Di Guardo, C. M., 2022. is data-driven decision-making driven only by data? When cognition meets data. uropean *Management Journal 40,* pp. 656-670.

7. PUBLICATIONS

1. Katinka, Bajkai-Tóth; Judit, Garamvölgyi; Viktória, Őri; Ildikó, Rudnák
   LABOUR MARKET MOBILITY IN THE PUBLIC AND PRIVATE SECTORS IN HUNGARY
   Vadyba: Journal Of Management: 38 pp. 69-79., 11 p. (2022)

2. Őri, Viktória; Bajkai-Tóth, Katinka; Rudnák, Ildikó
   MAINTAINING EXTENSIVE USE OF THE SYSTEM IN THE PERIOD FOLLOWING THE INTRODUCTION OF THE ERP SYSTEM
   In: Enikő, Korcsmáros; Ferdinánd, Filip; Zsuzsanna, Gódány (eds.)
   15th International Conference of J. Selye University: Section of Economics, Mathematics and Informatics : Conference Proceedings
   Komárno, Slovakia: Janos Selye University (2023) 213 p. pp. 116-128., 13 p.

3. Őri, Viktória EXCEL TABLES AS SOURCES OF ASSIMMETRIC INFORMATION IN ECONOMIC ORGANISATIONS In Karlovitz, János Tibor (ed.) Studies in the field of competence-based, sustainable cultural and technological development Komárno, Slovakia: International Research Institute (2019) pp. 213-222., 10 p.

4. Bajkai-Tóth, Katinka; Őri, Viktória THE ROLE OF TRAINING METHODS IN HIGHER EDUCATION In: Tóth, Péter; Simonics, István; Manojlovic, Heléna; Duchon, Jenő (eds.) New Challenges and Pedagogical Innovations in Vocational Education and Higher Education Budapest, Hungary: Óbuda University Trefort Ágoston Engineering Pedagogical Centre (2018) 736 p. pp. 186-198., 13 p.

5. Őri, Viktória; Bajkai-Tóth, Katinka THE TRADITION AND NEW PATHS OF MANAGEMENT AND ORGANISATION IN HUNGARIAN HIGHER EDUCATION In.) New challenges and pedagogical innovations in vocational education and higher education Budapest, Hungary.

6. Őri, Viktória; Bajkai-Tóth, Katinka; Rudnák, Ildikó THE CIRCUMSTANCES OF INTRODUCING AN ERP SYSTEM AND THE LESSONS LEARNED FROM IT In. International Scientific Days : online conference : Environmental, economic and social challenges after 2020 : Studies Gyöngyös, Hungary.

7. Bajkai-Tóth, Katinka; Őri, Viktória; Rudnák, Ildikó ANALYSIS OF LABOR MARKET OPPORTUNITIES FOR RECENT GRADUATES IN TWO SECTORS. In Bujdosó, Zoltán; Dinya, László; Csernák, József (eds.) XVII International Scientific Days: online conference on Environmental, Economic and Social Challenges after 2020: Studies Gyöngyös, Hungary.

8. Bajkai-Tóth, Katinka; Őri, Viktória; Rudnák, Ildikó ANALYSIS OF LABOR MARKET OPPORTUNITIES FOR RECENT GRADUATES IN TWO SECTORS In: Bujdosó, Zoltán; Dinya, László; Csernák, József (eds.) XVII International Scientific Days - Abstract Book : 17th International Scientific Days - Abstract Book Gyöngyös, Hungary : EKE Líceum Kiadó (2020) 245 p. pp. 47-47., 1 p.

9. Őri, Viktória; Bajkai-Tóth, Katinka; Rudnák, Ildikó CIRCUMSTANCES AND LESSONS LEARNED OF AN ERP SYSTEM IMPLEMENTATION In: Bujdosó, Zoltán; Dinya, László; Csernák, József (eds.) XVII International Scientific Days - Abstract Book : 17th International Scientific Days - Abstract Book Gyöngyös, Hungary : EKE Líceum Kiadó (2020) 245 p. pp. 179-179., 1 p.

10. Őri, Viktória EXCEL TABLES AS FORMS OF ASSIMMETRIC INFORMATION IN ECONOMIC ORGANISATIONS In Karlovitz, János Tibor (ed.) VII IRI Social Science Conference: programme - abstracts Komárno, Slovakia: International Research Institute (2019) 63 p. pp. 46-46., 1 p.

11. Viktória, ŐrI; Ildikó, Rudnák; Katinka, Bajkai- Tóth THE MANIFESTATIONS OF ASYMMETRIC INFORMATION IN BUSINESS OPERATION Mechanical Engineering Letters: R And D: Research And Development 19 pp. 145-152., 8 p. (2019)

12. Ildikó, Rudnák; Viktória, Őri; Katinka, Bajkai-Tóth WORKPLACE ENGAGEMENT AS A COMPETENCE FOR FUTURE ENGINEERS Mechanical Engineering Letters: R And D: Research And Development 19 pp. 7-15., 9 p. (2019)

13. Katinka, Bajkai-Tóth; Viktória, Őri; Ildikó, Rudnák THE IMPORTANCE OF COACHING BASED LEADERSHIP AMONGST ENGINEERING MANAGERS Mechanical Engineering Letters: R And D: Research And Development 19 pp. 131-144., 14 p. (2019)

14. Őri, Viktória ; Bajkai-Tóth, Katinka ; Rudnák, Ildikó THE MANIFESTATIONS OF ASYMMETRIC INFORMATION IN BUSINESS OPERATION In: Magó, László; Kurják, Zoltán (ed.) Synergy - Engineering, Agriculture and Green Industry Innovation : Abstracts of the VI. International Conference of CIGR Hungarian National Committee and the Szent István University, Faculty of Mechanical Engineering and the XXXIX. R&D Conference of Hungarian Academy of Sciences, Committee of Agricultural and Biosystems Engineering, Gödöllő, Hungary, 4 - 6. November 2019.Gödöllő, Hungary : Szent István University Faculty of Mechanical Engineering (2019) 96 p. p. 69.

15. Bajkai-Tóth, Katinka ; Őri, Viktória ; Rudnák, Ildikó THE IMPORTANCE OF COACHING BASED LEADERSHIP AMONGST ENGINEERING MANAGERS In: Magó, László; Kurják, Zoltán (eds.) Synergy - Engineering, Agriculture and Green Industry Innovation : Abstracts of the VI. International Conference of CIGR Hungarian National Committee and the Szent István University, Faculty of Mechanical Engineering and the XXXIX. R&D Conference of Hungarian Academy of Sciences, Committee of Agricultural and Biosystems Engineering, Gödöllő, Hungary, 4 - 6. November 2019. Gödöllő, Hungary : Szent István University Faculty of Mechanical Engineering (2019) 96 p. p. 68.

16. Rudnák, Ildikó ; Bajkai-Tóth, Katinka ; Őri, Viktória WORKPLACE ENGAGEMENT AS A COMPETENCE FOR FUTURE ENGINEERS In: Magó, László; Kurják, Zoltán (ed.) Synergy - Engineering, Agriculture and Green Industry Innovation : Abstracts of the VI. International Conference of CIGR Hungarian National Committee and the Szent István University, Faculty of Mechanical Engineering and the XXXIX. R&D Conference of Hungarian Academy of Sciences, Committee of Agricultural and Biosystems Engineering, Gödöllő, Hungary, 4 - 6. November 2019. Gödöllő, Hungary : Szent István University Faculty of Mechanical Engineering (2019) 96 p. p. 16.

17. Őri, Viktória; Rudnák, Ildikó THE COMMUNICATION OF ECONOMIC ORGANIZATIONS IN SITUATION OF ASYMMETRIC INFORMATION Journal Plus Education / Educatia Plus 25: 2 pp. 76-83., 8 p. (2019)

18. Őri, Viktória; Rudnák, Ildikó THE IMPACTS OF ASSIMMETRIC INFORMATION ON THE INTERNAL COMMUNICATION OF ECONOMIC ORGANISATIONS In: Czeglédi, Csilla (ed.) Studies on the Possibilities of Enhancing Economic Performance Gödöllő, Hungary: Szent István University (2019) 87 p. pp. 66-74., 9 p.

19. Őri, Viktória COMPUTATIONAL INFORMATION SYSTEMS AS CHANNELS OF ORGANIZATIONAL COMMUNICATION In Káposzta, József (ed.) IV Winter Conference of Doctoral Students and Researchers in Economics: abstract Gödöllő, Hungary: Szent István University (2018) 119 p. pp. 65-65., 1 p.

20. Őri, Viktória COMPUTATIONAL INFORMATION SYSTEMS AS CHANNELS OF ORGANIZATIONAL COMMUNICATION In: Földi, Péter; Borbély, András; Kápolnai, Zsombor; Zsarnóczky, Martin Balázs; Bálint, Csaba; Fodor-Borsos, Eszter; Gerencsér, Ilona; Gódor, Amelita Kata; Gubacsi, Franciska; Nyírő, András; Szeberényi, András (eds.) IV Winter Conference of PhD Students and Researchers in Economics.

21. Rudnák, Ildikó; Őri, Viktória; Barczi, András THE PRESENTATION OF DANISH CULTURE THROUGH DIMENSIONAL EXAMINATIONS In F., Sára Orosz (ed.) Individual and Context Gödöllő, Hungary: Szent István University Press (2018) 91 p. pp. 4-22., 19 p.