



The role of Human Resource Management in the Digital Transformation of Small and Medium-sized enterprises

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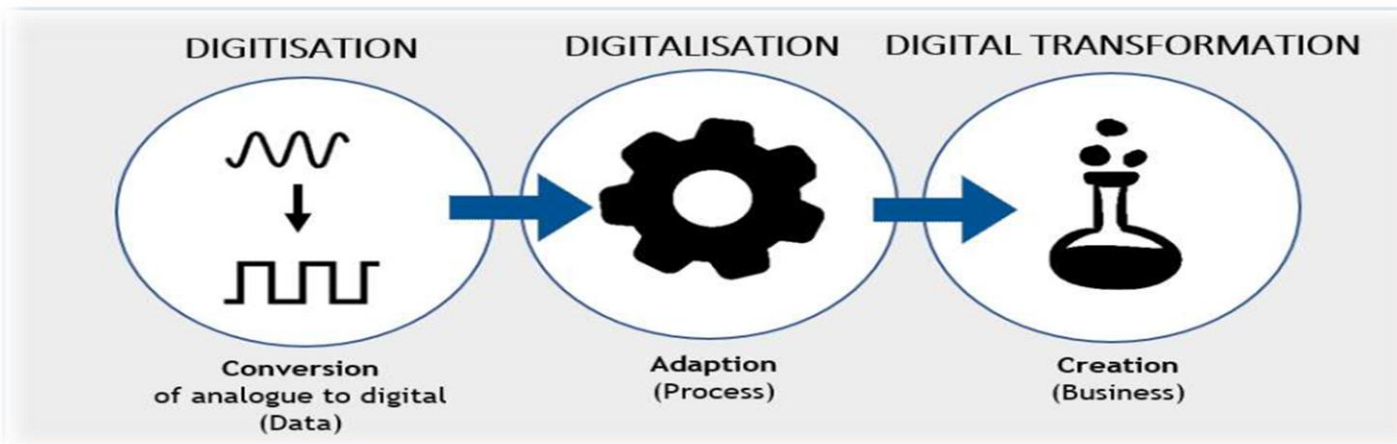
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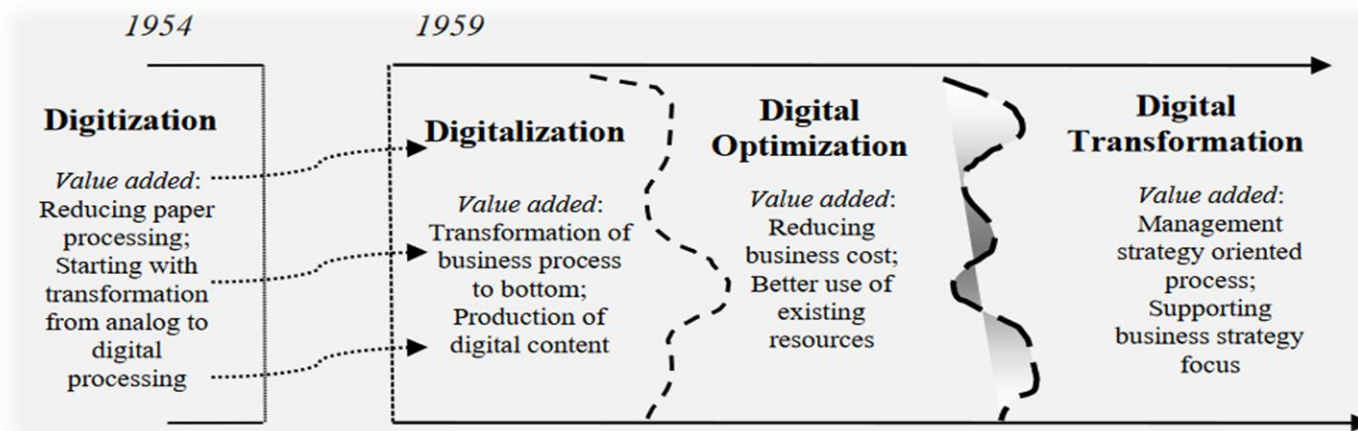
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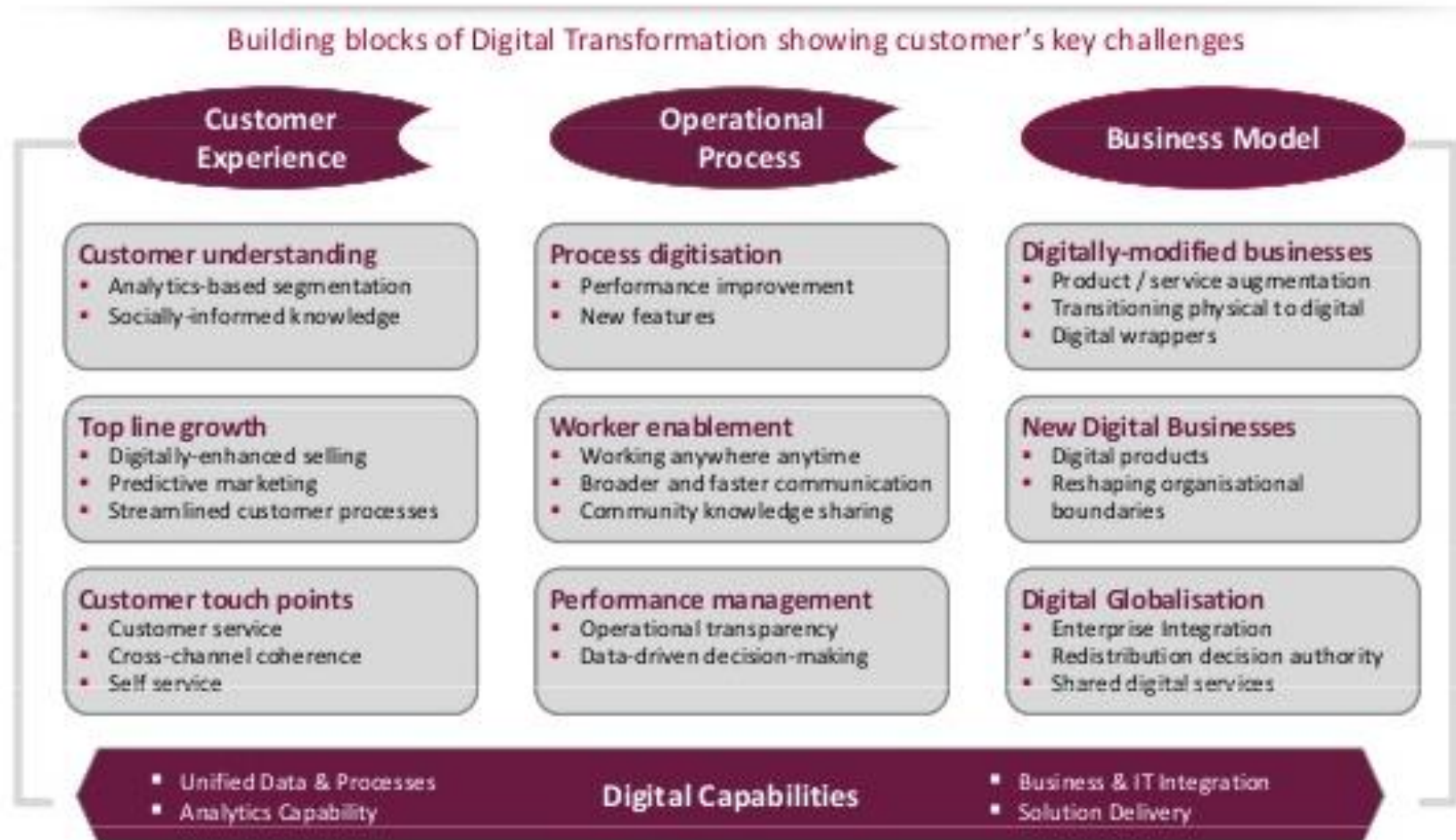
Digitization, Digitalization, Digital Transformation (Bumann and Peter, 2019)



The way to digital transformation (Przygoda et al., 2019)

Digital Transformation

The MIT study shows that organisations are digitally transforming three key areas: customer experience, operational processes and business models

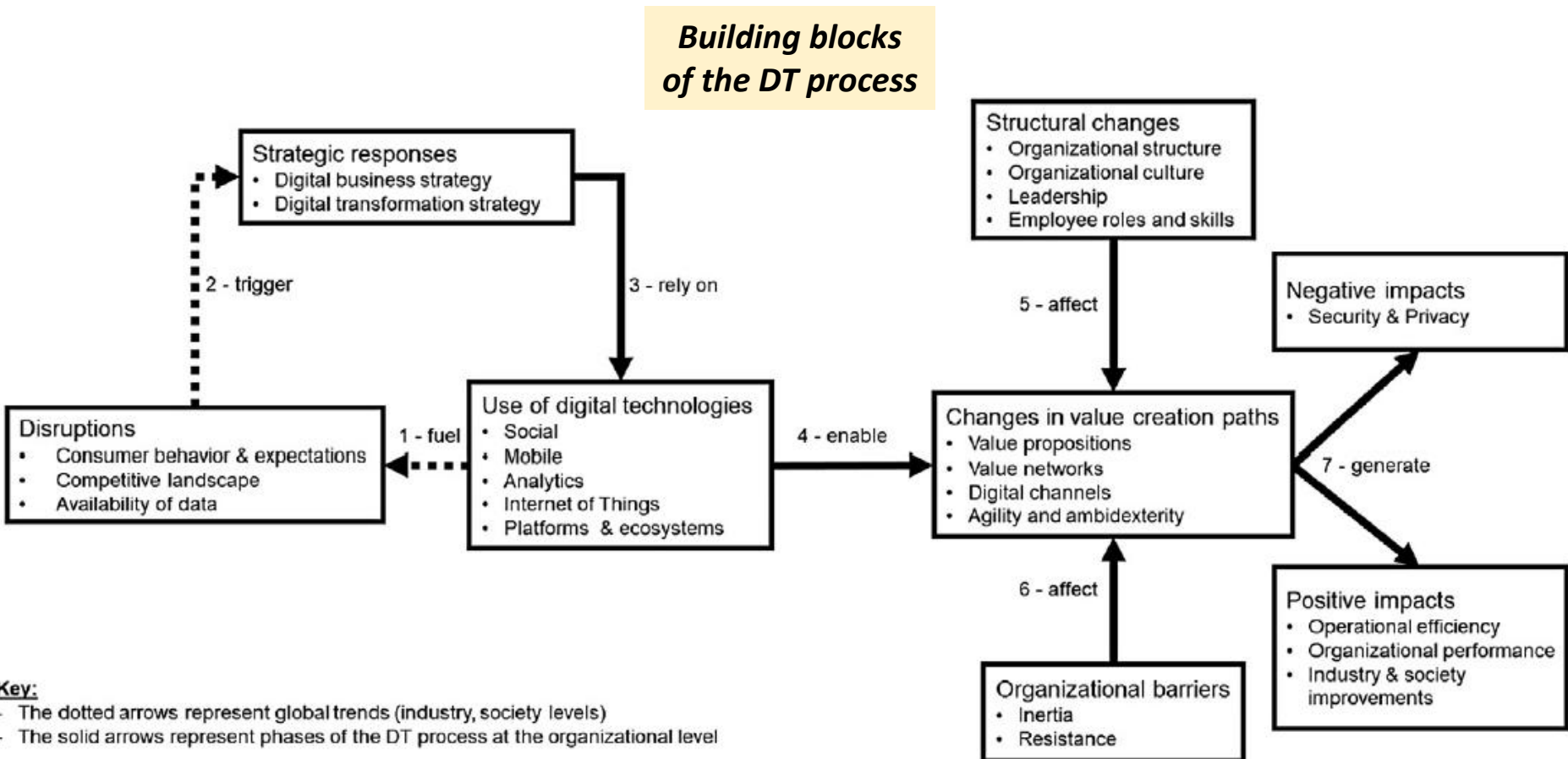


Source: Capgemini Consulting-MIT Analysis

Digital Transformation

“a process that aims to improve an entity by triggering significant changes to its properties through combinations of information, computing, communication, and connectivity technologies”.

Vial, G. (2019) Understanding digital transformation: A review and a research agenda, The Journal of Strategic Information Systems, Volume 28, Issue 2, pp. 118-144.



Small and Medium-sized enterprises (SMEs)

The main factors determining whether an enterprise is an SME are:

- Number of employees (staff)
- Either turnover or balance sheet total



https://single-market-economy.ec.europa.eu/smes/sme-fundamentals/sme-definition_en

Category	Micro	Small	Medium-sized
Staff	< 10	< 50	< 250
Turnover	≤ €2 million	≤ €10 million	≤ €50 million
OR			
Balance Sheet	≤ €2 million	≤ €10 million	≤ €43 million

SMEs:

- considerably **differ from large enterprises** in terms of structure, culture, human resource management, leadership and decision-making
- are the backbone of the European economy, accounting for **>95% of all businesses** in the EU

Human Resource Management

“HRM involves management decisions related to policies and practices that together shape the employment relationship and are aimed at achieving certain goals”.

Boselie P., Van Harten J., Veld M. (2021). A human resource management review on public management and public administration research: stop right there... before we go any further...., Public Manag. Rev.23, 483–500



Human Resource Practices

Recruitment-selection, Training, Performance management, Compensation-benefits-rewards, Employee engagement, Teamwork, Decision-making, etc.

***Human Resource Management
as a strategic partner (or enabler, catalyst etc.) of Digital Transformation in SMEs***

Challenges: lack of appropriate skills, resistance to change, lack of clear vision and strategic alignment, lack of resources and old-traditional organizational culture.

Aim and Scope of our Research

To explore the **role of Human Resource Management in the Digital Transformation of SMEs**, considering and examining factors like Digital maturity, HRM practices, Digital leadership, Digital culture and Digital skills, together with the digital tools used, as well as the challenges-benefits-barriers that SMEs face in the process of digital transformation.

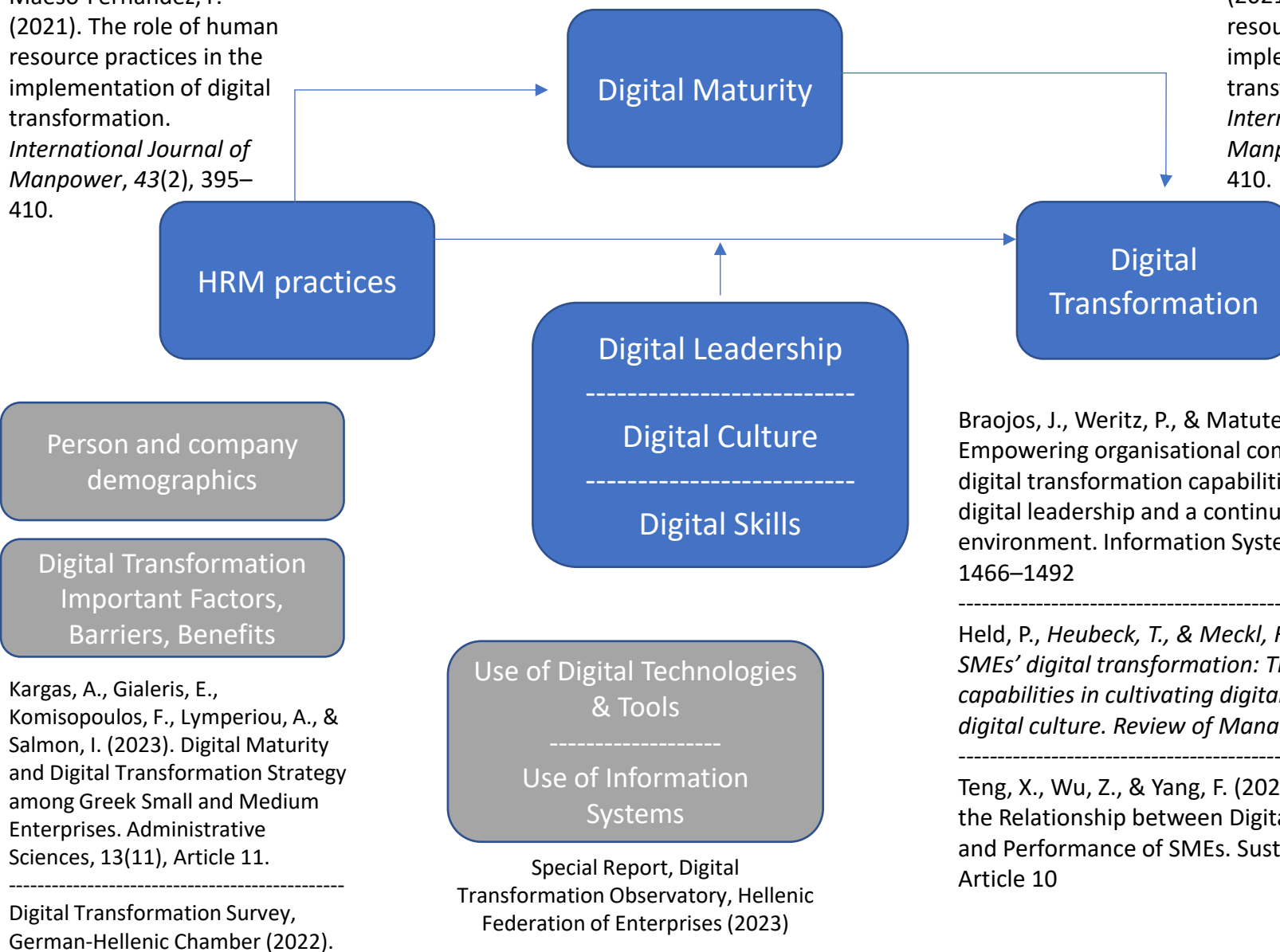


Conceptual model

Nicolás-Agustín, Á., Jiménez-Jiménez, D., & Maeso-Fernandez, F. (2021). The role of human resource practices in the implementation of digital transformation. *International Journal of Manpower*, 43(2), 395–410.

Jie, H., Gooi, L. M., & Lou, Y. (2025). Digital maturity, dynamic capabilities and innovation performance in high-tech SMEs. *International Review of Economics & Finance*, 99, 103971

Nicolás-Agustín, Á., Jiménez-Jiménez, D., & Maeso-Fernandez, F. (2021). The role of human resource practices in the implementation of digital transformation. *International Journal of Manpower*, 43(2), 395–410.



Braojos, J., Weritz, P., & Matute, J. (2024). Empowering organisational commitment through digital transformation capabilities: The role of digital leadership and a continuous learning environment. *Information Systems Journal*, 34(5), 1466–1492

Held, P., Heubeck, T., & Meckl, R. (2025). Boosting SMEs' digital transformation: The role of dynamic capabilities in cultivating digital leadership and digital culture. *Review of Managerial Science*

Teng, X., Wu, Z., & Yang, F. (2022). Research on the Relationship between Digital Transformation and Performance of SMEs. *Sustainability*, 14(10), Article 10

Methodology

Quantitative Research, online survey

Research instrument - procedure

- Electronic questionnaire, based on previous studies - appropriately modified
- Close-ended questions (on a 5-point scale)
- Distribution via email
- December '25 – February '26

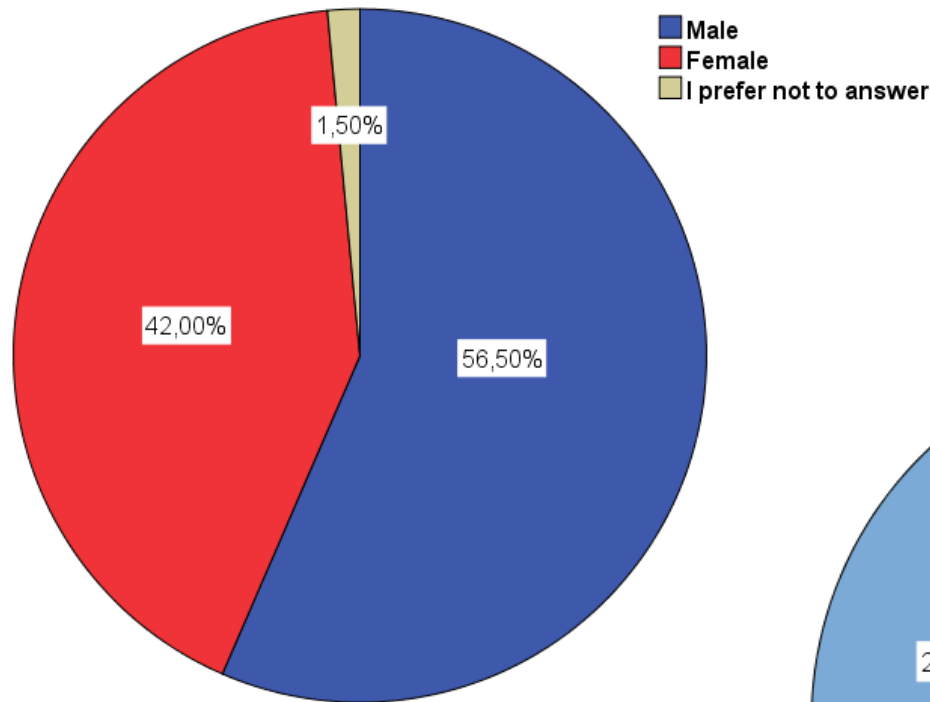
Factor	No of items	Cronbach's Alpha
Use of Digital technologies & tools	18	,787
Use of Information Systems	8	,868
Digital Transformation Importance	7	,905
Digital Transformation Barriers	7	,774
Digital Transformation Benefits	14	,934
HRM Practices	7	,843
Digital maturity	9	,835
Digital Transformation	8	,864
Digital Leadership	5	,918
Digital Culture	4	,718
Digital Skills	5	,875

Sampling method: Purposive + convenience

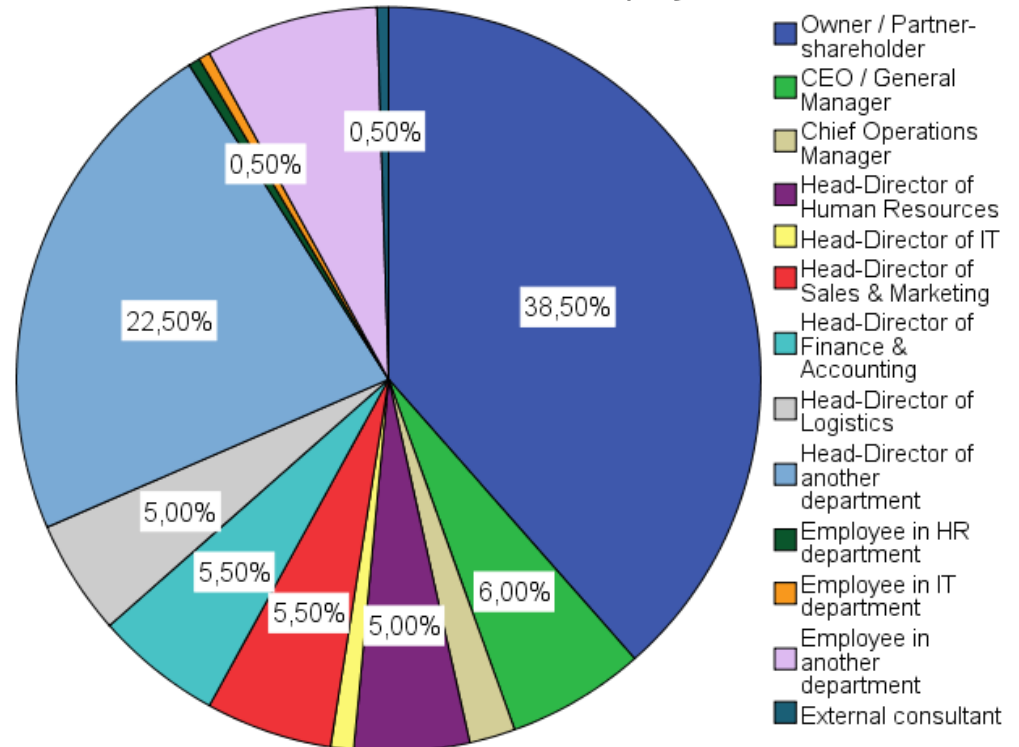
Sample: 200 managers and employees of Greek SMES

Demographics (N=200)

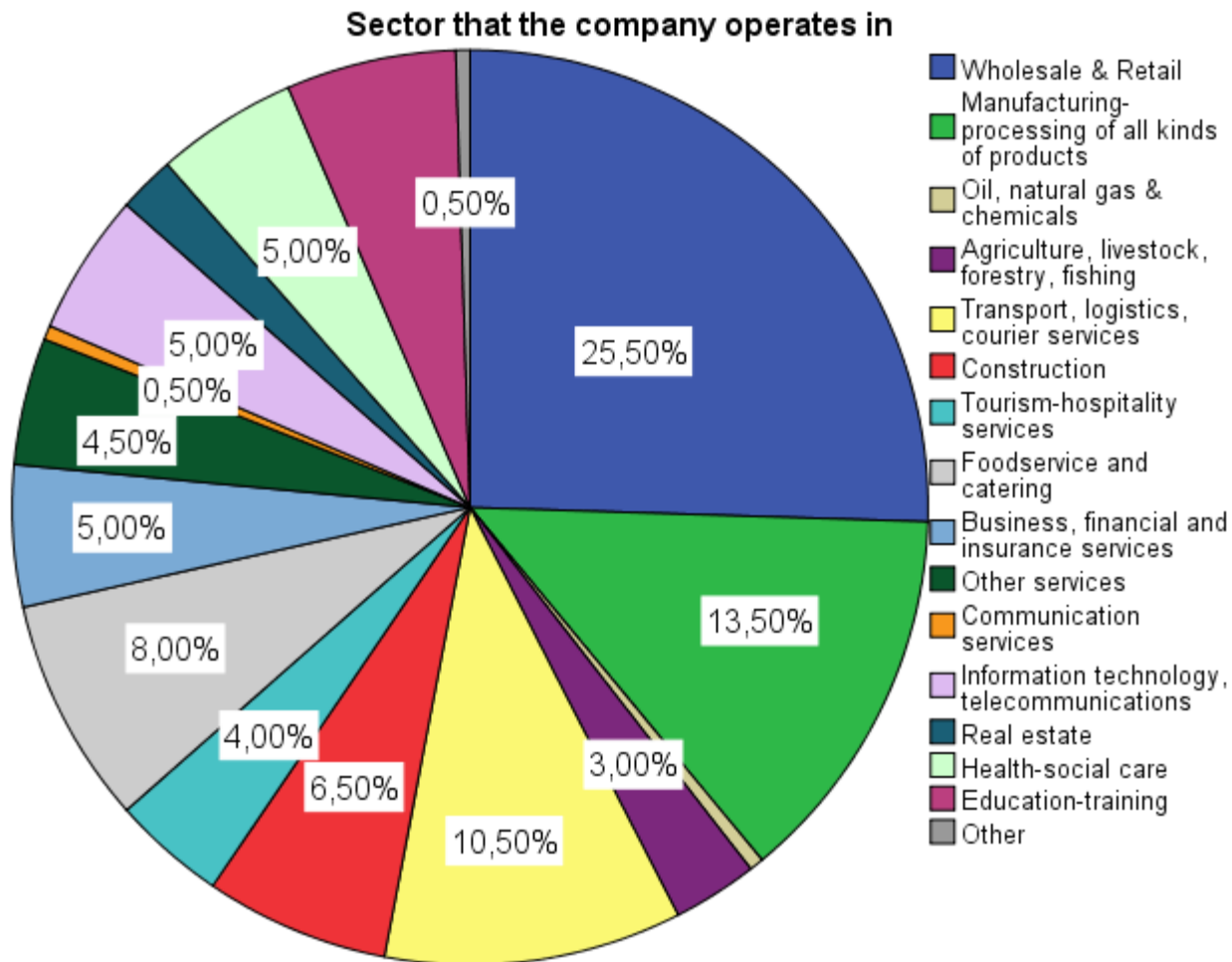
Gender



Position-role in the company

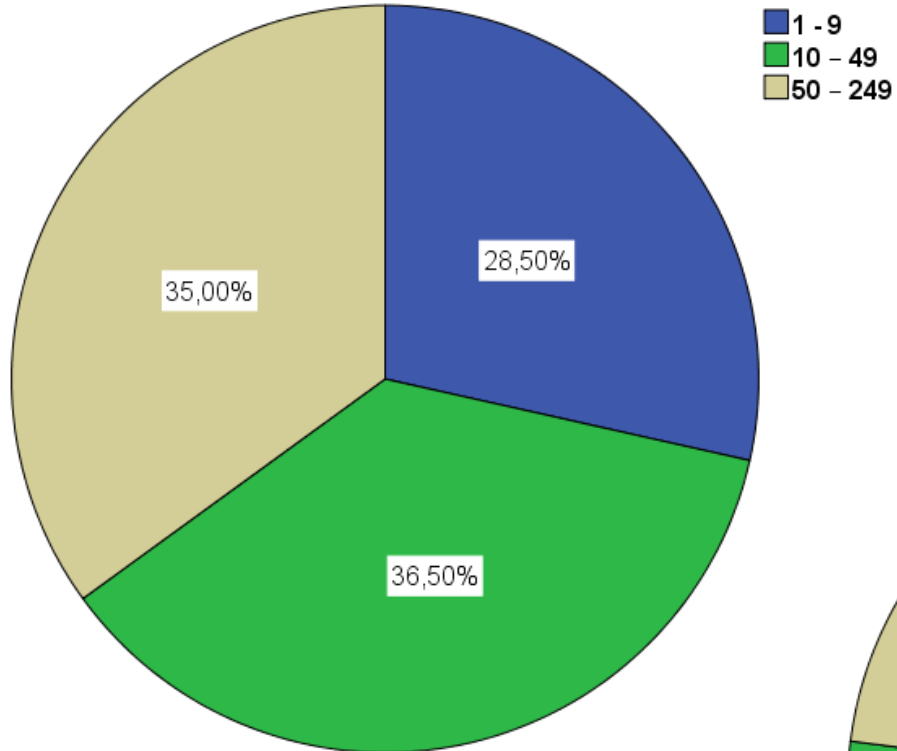


Demographics (N=200)

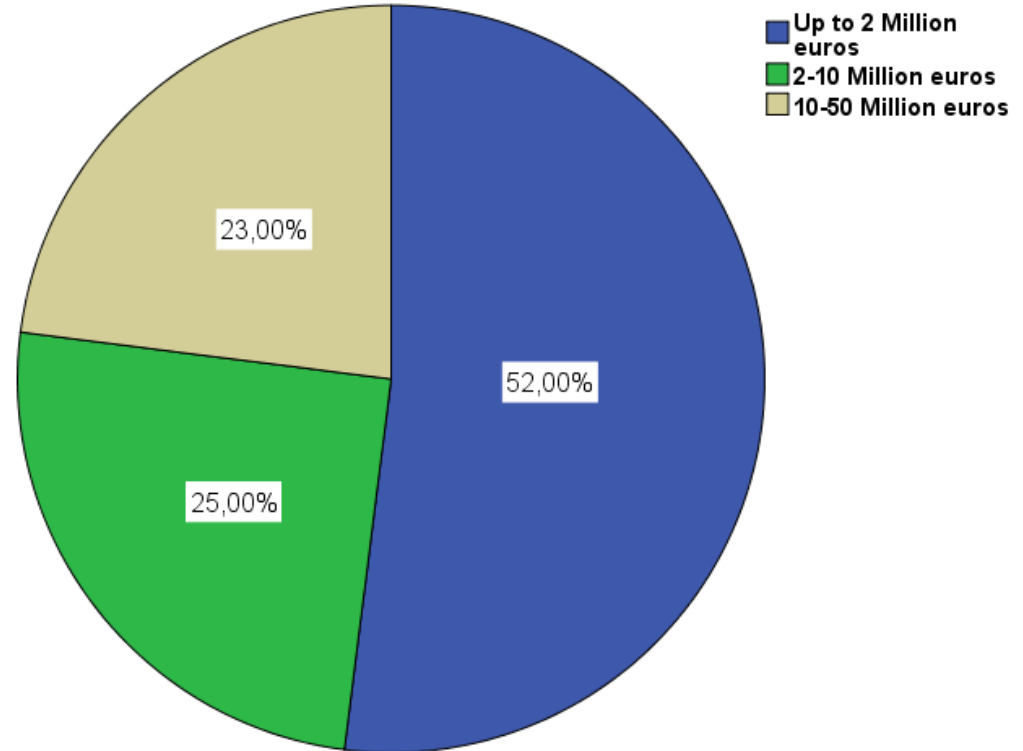


Demographics (*N=200*)

Number of employees in the company

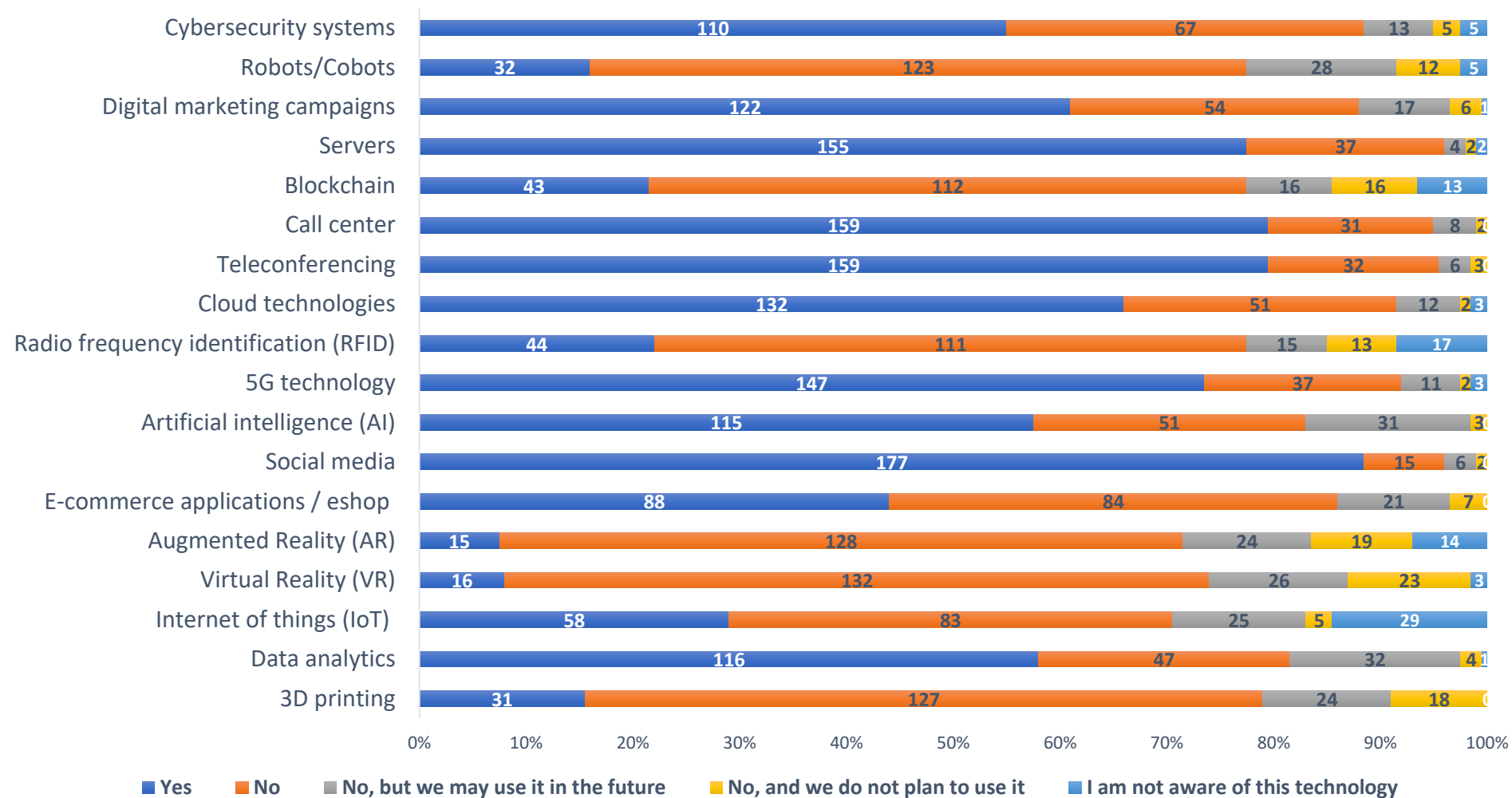


Annual turnover of the company



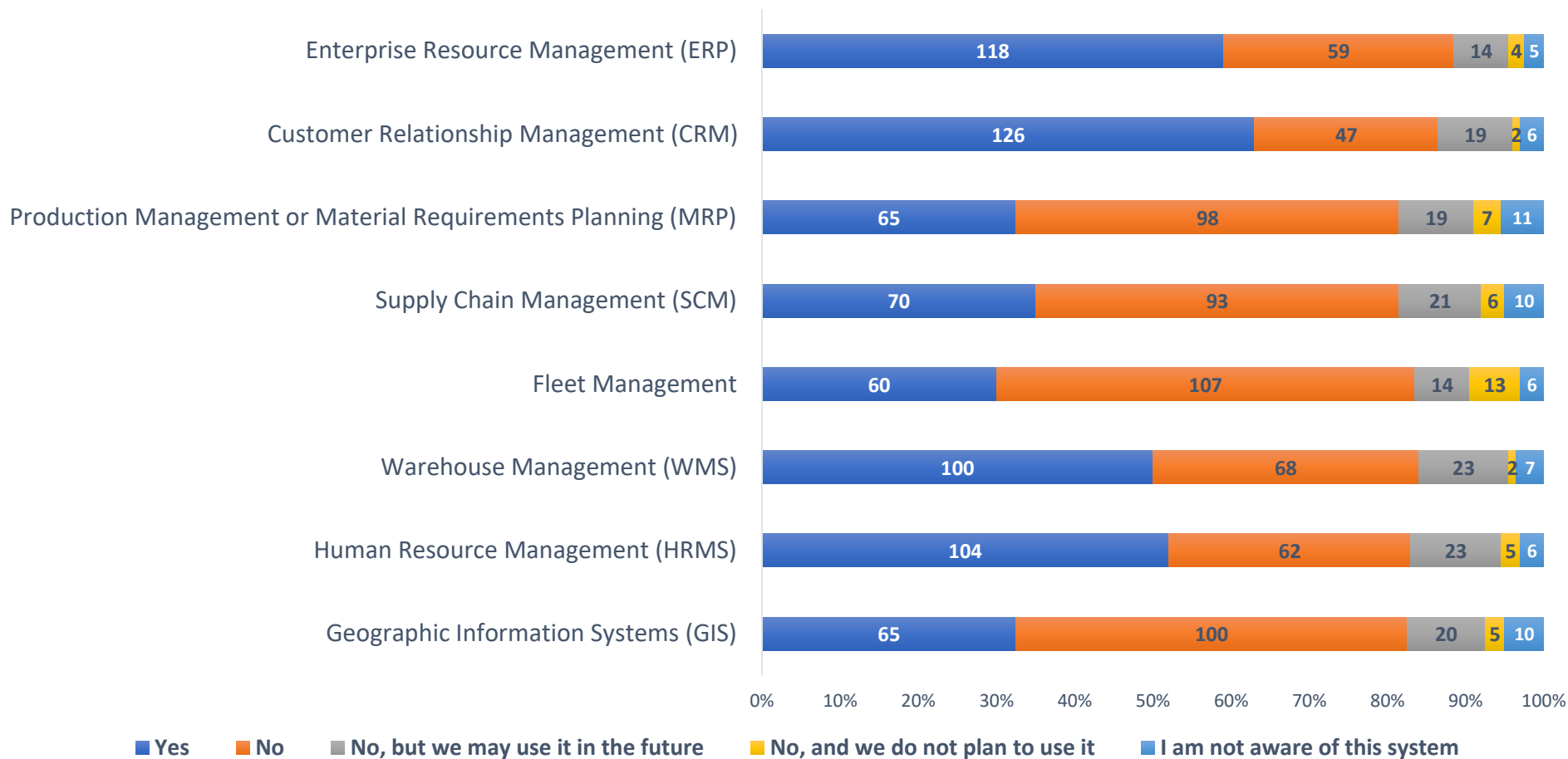
Results

Use of Digital Technologies & Tools



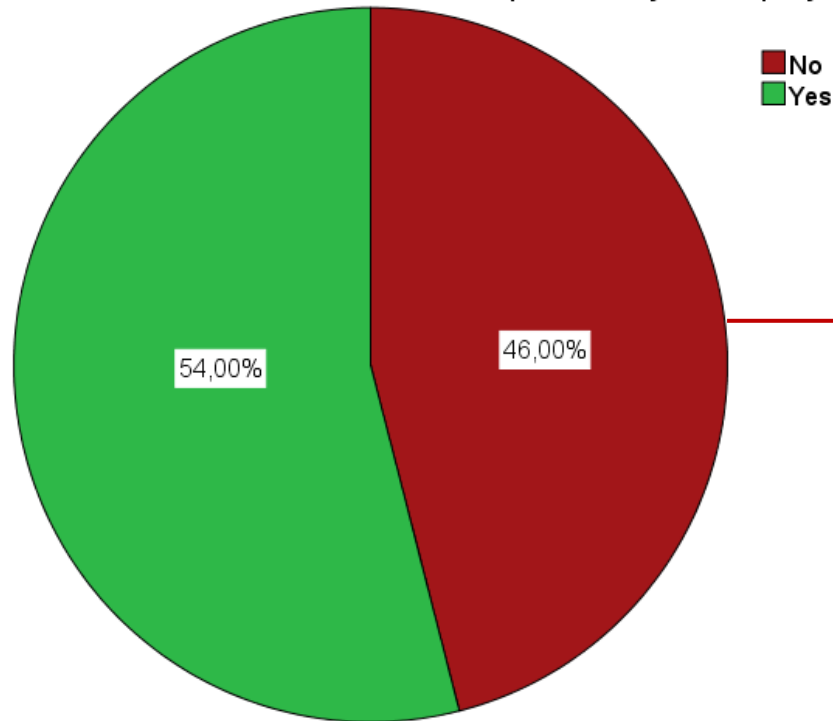
Results

Use of Information Systems

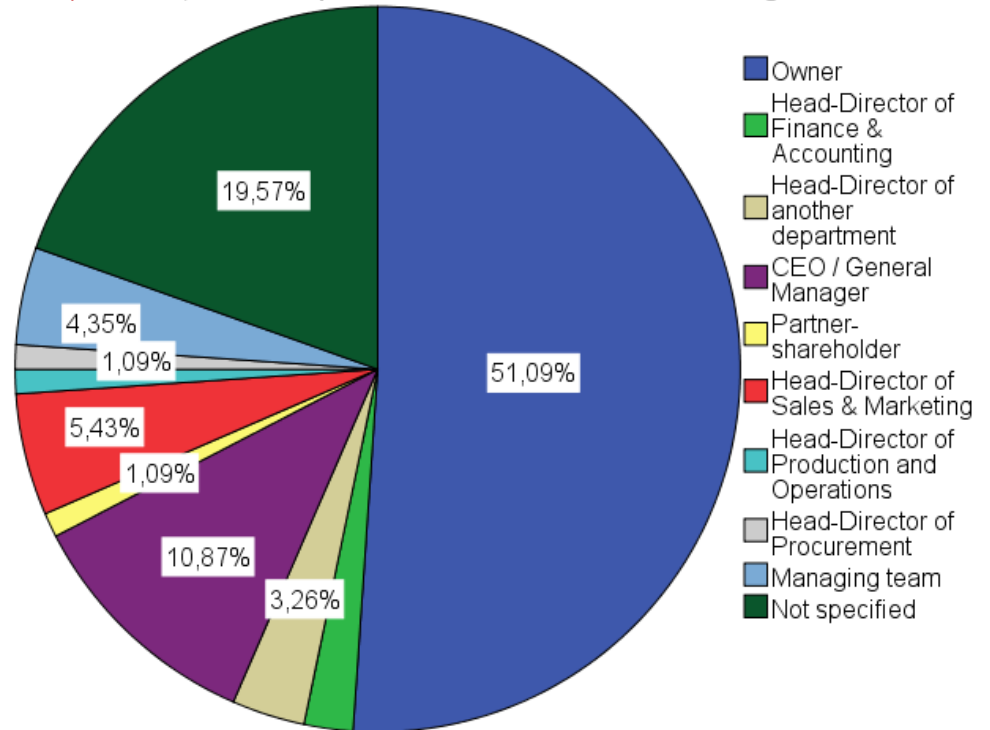


Results

Is there a Human Resources department in your company?

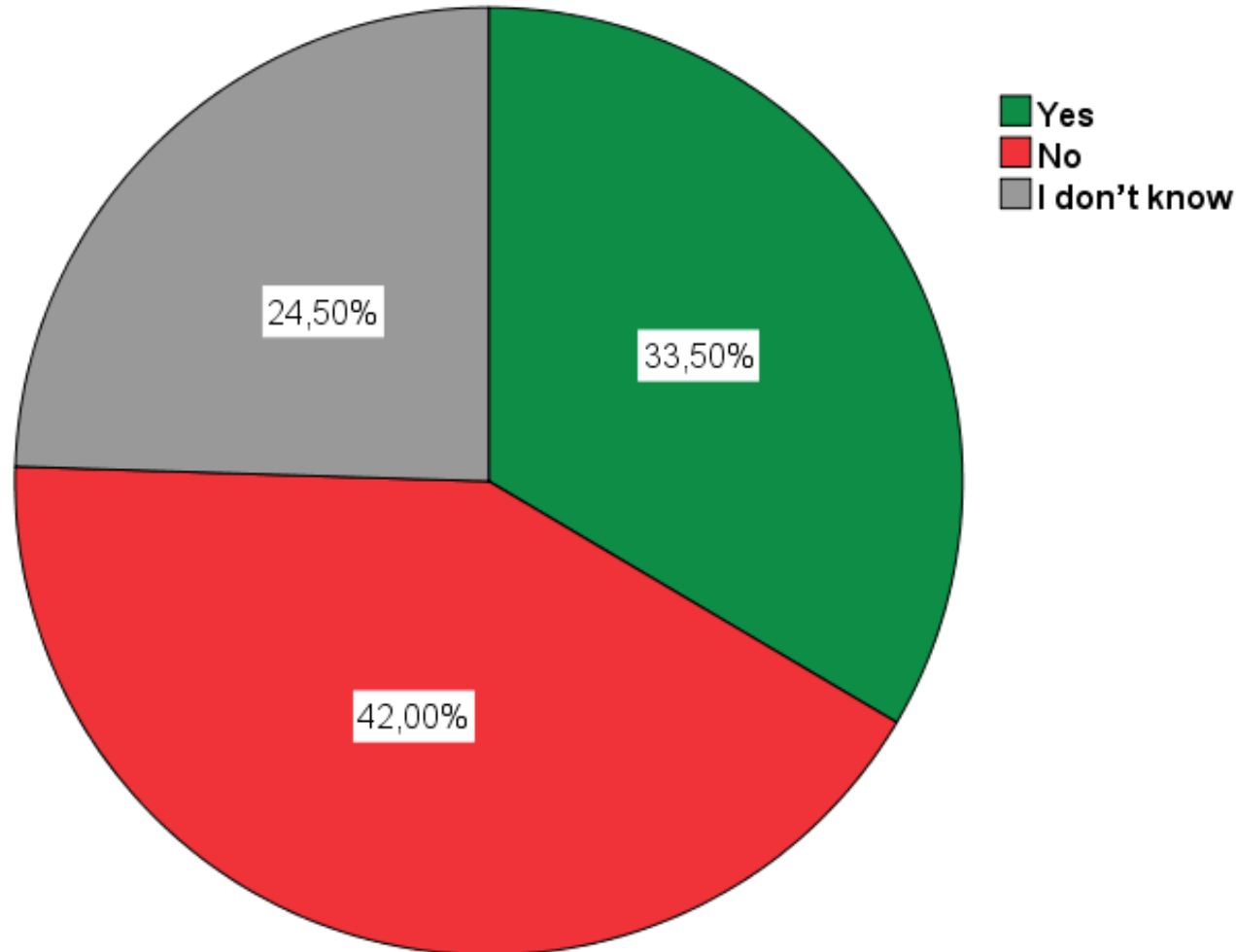


If not, who is responsible for Human Resources Management?



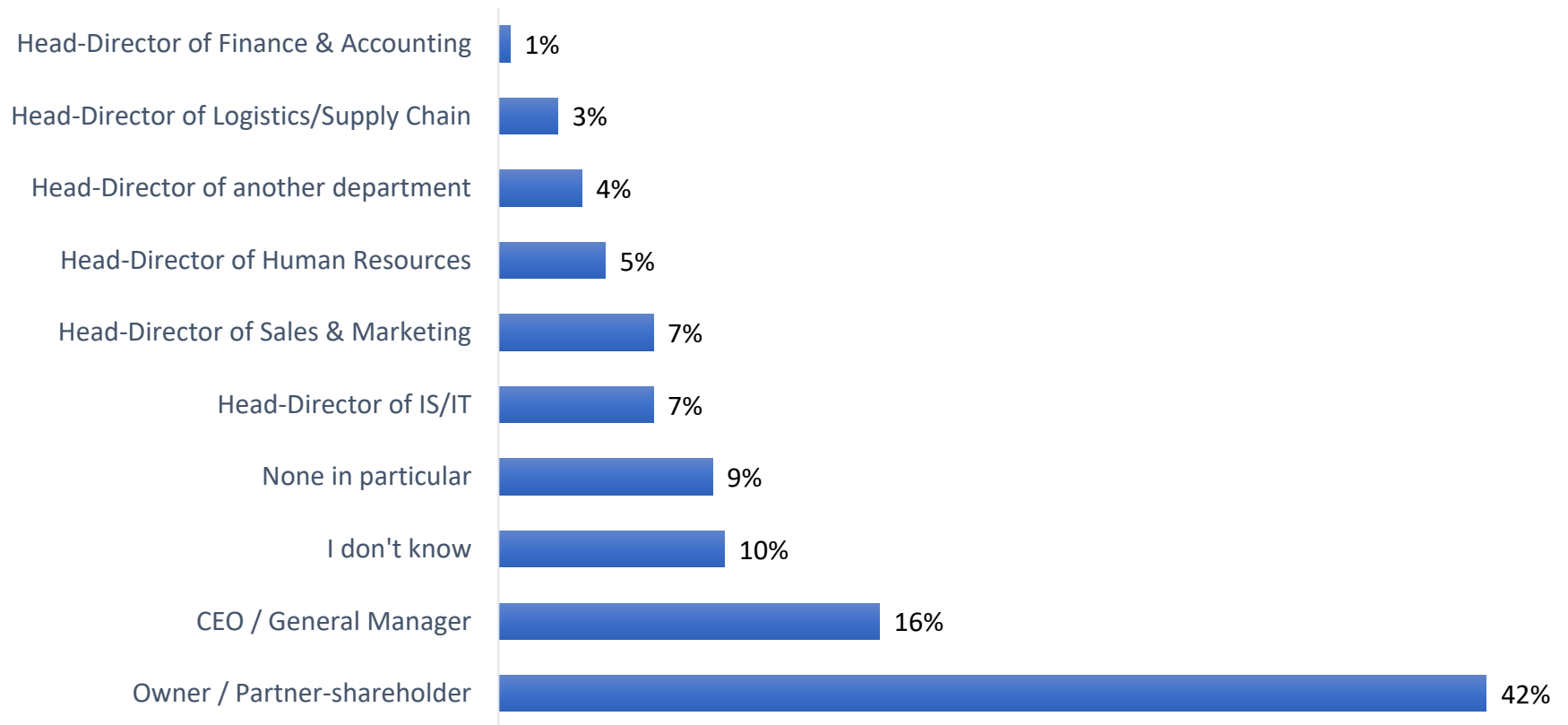
Results

Does your company have a clear and documented Digital Transformation strategy?



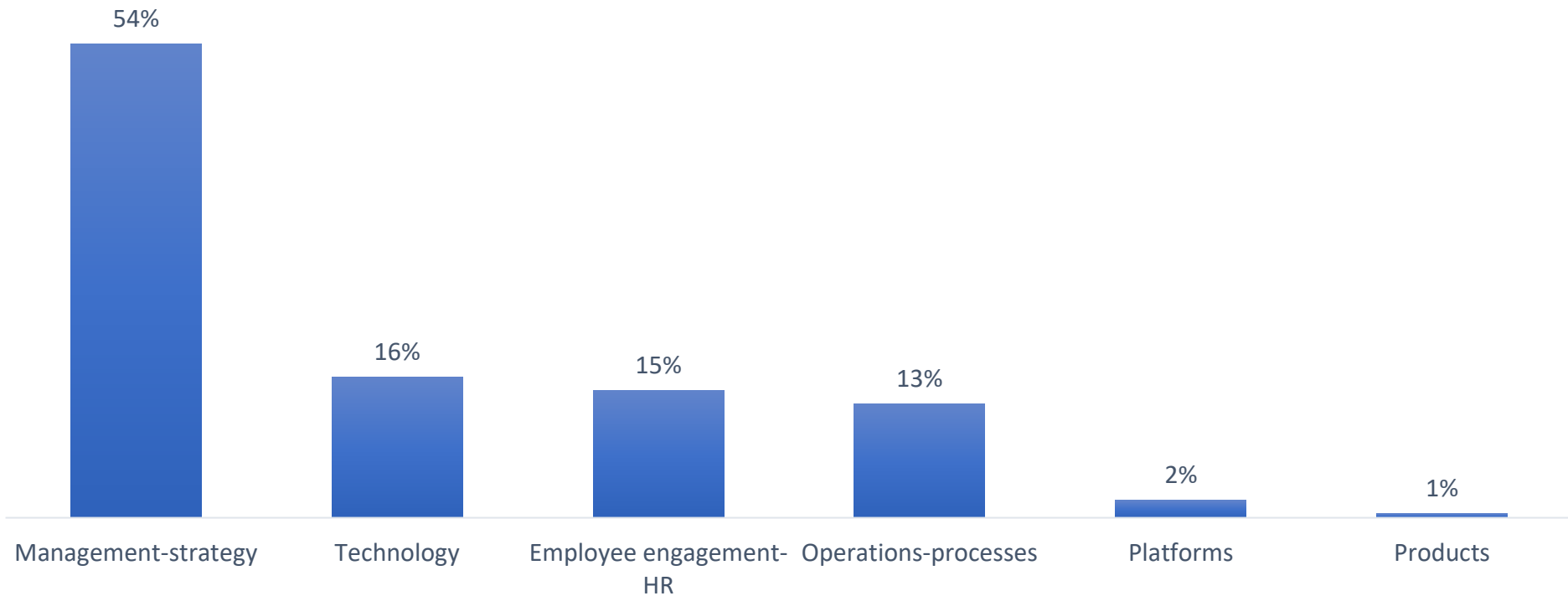
Results

Currently, who is leading your company's digital transformation?



Results

In your opinion, where should companies start with digital transformation?



Results

How important are the following factors in your company's Digital Transformation strategy?

<i>5-point Likert scale (Not at all important - Extremely important)</i>	Mean	Std.Dev.
Technology	4,10	,922
Funding-investments	4,08	,972
Top management	4,00	,956
Agility	3,89	,955
Human resources	3,76	1,110
Knowledge sharing	3,72	1,003
Digital transformation culture	3,67	1,112

Which are the main barriers of digital transformation regarding your company?

<i>5-point Likert scale (Strongly disagree - Strongly agree)</i>	Mean	Std.Dev.
Lack of properly trained personnel	3,65	1,088
Lack of funding-investments	3,57	1,091
Lack of knowledge	3,47	1,088
Lack of infrastructure	3,43	1,077
Regulations-legislation	3,22	1,052
Lack of willingness to change	3,13	1,249
Inadequate management	3,02	1,190

Results

How important are the following benefits that your company expects to achieve as a result of its digital transformation?

<i>5-point Likert scale (Not at all important - Extremely important)</i>	Mean	Std.Dev.
Improved customer satisfaction	4,08	,937
Increased customer acquisition	4,03	,905
Increased business speed and agility	3,99	,964
Increased revenue	3,97	,953
Improved products-services	3,91	,963
Better monitoring of business processes	3,91	,898
Enhanced automation of business processes	3,87	,981
Increased market share	3,86	,984
Reduction of operating costs	3,79	1,073
Attraction and retainment of talented personnel	3,60	,993
Reduction of development time for new products-services	3,59	1,104
Reduction in energy consumption	3,44	1,176
Compliance with laws-regulations	3,42	1,048
Provision of flexible forms of employment	3,33	1,090

Results

Digital Maturity

<i>5-point Likert scale (Strongly disagree - Strongly agree)</i>	Mean	Std.Dev.
We use digital channels (website, eshop, social media) to promote our products and services	4,19	1,066
We have a clear and integrated view about our key operations and our customers	3,87	,921
We use digital technologies to understand our customers better	3,73	,997
We use digital channels to provide customer service	3,61	1,295
We use digital technologies to increase the added value of our products - services	3,60	1,170
We use analytics to make better decisions	3,54	1,138
We use digital technologies to increase the added value of our products - services	3,38	1,192
We sell our products - services through digital channels (eshop, social media, emarketplaces etc.)	3,28	1,471
Our core processes are automated	3,17	1,120

Results

Digital Transformation

Please indicate the extent to which your company has/uses:

<i>5-point Likert scale (Never - To a great extent)</i>	Mean	Std.Dev.
Digital communication channels with customers (email, online forms, chatbots etc.)	4,00	,948
Digital channels of communication with employees (employee portal, email or WhatsApp groups, digital newsletter, etc.)	3,60	1,182
Digital communication channels with suppliers (online orders etc.)	3,49	1,268
Information analytics with modern tools	3,34	1,175
Digital metrics to measure customer satisfaction (visits to the website/eshop, interactions in social media etc.)	3,26	1,265
A flexible organizational structure that allows us to face the changes derived from digital transformation	3,11	,984
Online surveys to measure customer satisfaction	3,01	1,292
Digital dashboards to monitor key performance indicators (KPIs)	2,95	1,344

Results

HRM Practices

During the last 3 years, to what extent your company has achieved the following?

<i>5-point Likert scale (Never - To a great extent)</i>	Mean	Std.Dev.
Teamwork	3,67	,983
Creation of a good working environment through proper leadership	3,44	,959
Strategic decision-making	3,37	1,038
Development of a reward system for the employees, based on objective criteria	3,16	1,072
Alignment of employees with the vision and values of the company	3,11	,923
Involvement of employees in decision making	2,90	1,089
Implementation of remote work policies	2,44	1,274

Digital Leadership

In your opinion, the Management of your company:

<i>5-point Likert scale (Strongly disagree - Strongly agree)</i>	Mean	Std.Dev.
Supports and encourages the employees' digital skills and development	3,70	,957
Gives encouragement for the organizational digital transformation	3,65	1,021
Communicates a clear and digital vision for the digital future	3,49	,987
Is clear about the values and practices for the digital transformation	3,46	,996
Instils pride and respect in others and inspires employees by being digitally competent	3,39	1,040

Results

Digital Culture

Please indicate your level of agreement with the following statements:

<i>5-point Likert scale (Strongly disagree - Strongly agree)</i>	Mean	Std.Dev.
Decisions within our company are transparent and clear to our employees	3,63	,942
Continuous change is part of our corporate culture	3,48	1,056
Digitization has an impact on the decision-making agility of our company	3,42	,937
In day-to-day business, employees and executives exchange information about the digital transformation	3,28	,977

Digital Skills

Please indicate your level of agreement with the following statements:

<i>5-point Likert scale (Strongly disagree - Strongly agree)</i>	Mean	Std.Dev.
We advance continuous learning in digital technologies	3,32	1,092
We provide employees with resources and opportunities to acquire the appropriate digital skills for digital transformation	3,22	1,160
We can assemble teams with the right mix of skills for each digital project	3,22	1,051
Employees have the skills to understand both business and digitalization	3,12	,995
There is an equal number of employees with general and specialized digital skills	2,85	1,042

Conclusions

- Greek SMEs largely use basic digital technologies and Information Systems, such as ERP, CRM, WMS and HRM. The use of more advanced and modern technologies is rather low, except AI and Data Analytics.
- Most companies seem to not have a clear and documented Digital Transformation Strategy.
- Digital Transformation is led mainly by the owners and the top management of the company.
- Respondents seem to recognize the customer-centric philosophy of Digital Transformation and the importance of proper management and strategy.
- Companies face several barriers for digital transformation, mainly the lack of properly trained personnel, lack of funding-investments and lack of knowledge.



Conclusions (cont'd)

- The main benefits that companies expect from digital transformation refer to customer satisfaction, new customer acquisition, business speed and agility, increased revenue and improved products-services.
- The most commonly used HRM practices are Teamwork, Creation of a good working environment through proper leadership, Strategic decision-making and Development of a reward system for the employees, based on objective criteria.
- As far as the Digital Leadership is concerned, respondents stated that the management of their company seems to be supportive for employees' digital skills and development
- Companies seem to have a moderate level of Digital Culture, but rather low level of Digital Skills
- **HRM is a critical factor for SMEs digital transformation.**



Limitations – Further Research

➤ **Sample**

- ✓ Need for a research
 - ✓ *In a larger sample*
 - ✓ *In special samples
(e.g. Micro, Small, Medium enterprises)*



➤ **Research model**

- ✓ *Incorporate factors related to initiatives from the Greek Government and the European Union to support Digital Transformation (DT) in SMEs*
- ✓ *Take into account the financial outcome from the adoption of DT*
- ✓ *Measure the efficiency of HRM after the adoption of DT*

➤ **Sample consisted of companies from every sector of the economy**

- ✓ *Need for research on specific sectors, e.g. wholesale/retail trade, tourism etc.*

➤ **Research based on electronic questionnaire, therefore there may be a response bias**

- ✓ *Need for research through personal interviews and/or case studies.*



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