ANALYSIS OF PROCRASTINATION AT WORK AND EMPLOYEE DEMOGRAPHIC PROFILES IN SLOVAK SMEs

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Abstract

More efficient and productive employees enable businesses to achieve better results, innovate, enhance the quality of products and services and respond to changing market conditions. The research therefore focuses on an analysis of procrastination at work in Slovak SMEs. We focus on the prevalence of procrastination and demographic determinants that were investigated and analysed among 253 administrative employees of various SMEs in Slovakia. Quantitative research was carried out by online inquiry using the standard questionnaire Procrastination at Work Scale, which focuses on online and offline employee procrastination and its total score. Small and medium-sized enterprises (SMEs) play a crucial role in maintaining economic stability in Slovakia. They generate jobs, stimulate local markets and contribute to overall GDP growth. They are not only the driving force of innovation but can be characterised by flexibility and the ability to react quickly to changes on the market. They also contribute to increasing the country's competitiveness and balanced regional development. However, the performance of SMEs depends on the productivity of employees. Motivating employees is essential for businesses as it boosts employee efficiency, productivity and performance, promotes collaboration and stimulates creativity and innovation.

Implications for Central European audience: The present study provides answers to many questions and can help SMEs obtain the necessary recommendations that are applicable in practice in the field of motivation. Addressing this issue opens up the ground for conducting similar research dealing with global changes in management of small and medium-sized enterprises.

Keywords: Procrastination at work; SME employees; cyberslacking; small and medium

enterprises; demographic profiles **JEL Classification:** M10, L26, O15

Introduction

SMEs (small and medium enterprises) are defined by the European Commission as enterprises with fewer than 250 employees, an annual turnover that does not exceed EUR 50 million or a total balance sheet not exceeding EUR 43 million. These companies are a fundamental component of the European economy. In 2015, the Eurostat database reported SME statistics revealing that the European Union's non-financial corporate economy consisted of 23.4 million small and medium-sized enterprises (SMEs), which collectively provided employment to 91 million individuals and created an added value of 3934 billion euros (Matt et al., 2020).

SMEs play a crucial role in the economy (Civelek et al., 2023; Muthee & Maina, 2023) and broader business ecosystems, particularly in OECD countries and worldwide. Within the OECD region, SMEs dominate the business landscape, representing approximately 99% of all types of businesses. They serve as the primary providers of employment (Civelek & Krajčík, 2022; Ližbetinová & Hitka, 2016), representing an average of 70% of jobs. They are the main drivers of value creation (Ključnikov et al., 2022a), generating around 50-60% of value added. In developing economies, SMEs account for up to 45% of total employment and 33% of GDP. SMEs contribute to over half of employment and GDP in most countries, regardless of their income levels (Al-Omoush et al., 2023). Moreover, fostering the development of SMEs can promote economic diversification and resilience, leading to a more sustainable economy (Yu et al., 2023; Saleh & Manjunath, 2023; Lazarević et al., 2020).

However, in the current demanding business environment, companies are constantly looking for maximum quality of output through human capital. Employee productivity is an important factor that employers consider in terms of performance (Chang et al., 2022; Oladimeji et al., 2023) and profits. Companies also implement human resource activities to increase their workers' productivity (Civelek et al., 2023b) by workplace design, focusing on employee engagement or efficient digital transformation introduced in the organisation (Krajcik et al., 2023; Jafir & Ahmed, 2023). Moreover, the quality of human resources determines the success of companies (Rozsa et al., 2022).

Employee productivity is the real value that a company's employees provide in exchange for the costs of retaining them. Therefore, small and medium-sized enterprises must focus on increasing the productivity of employees and understand what problems procrastination can cause and how to approach this undesirable behaviour in the workplace from a managerial aspect. This study offers evidence on procrastination behaviour of SME employees and its analysis in terms of demographic profiles and specifics of employees in administrative positions.

The connection between procrastination and reduced productivity among employees has long been established, creating negative implications for both individuals and businesses. However, when delving into the psychological aspects, the essence of procrastination primarily revolves around time management, heavily influenced by motivation and neurophysiological processes (Chen et al., 2020). Procrastination is a growing phenomenon that is extensively studied from various theoretical angles, providing diverse explanations and outcomes. Its presence is evident in our daily lives, with approximately a quarter of the

general population estimated to exhibit procrastination tendencies (Ferrari et al., 2009; Steinert et al., 2021).

Nevertheless, the prevalence of procrastination and the numbers of individuals prone to procrastinating can vary based on different types of jobs (Vveinhardt & Sroka, 2022; Wieland et al., 2021). Generally, procrastination tends to be more common in the context of "office work" than other types of work. A study presenting a sample of 22,053 individuals discovered that procrastinators were less inclined to hold positions that demanded high levels of motivation (Sirois et al., 2023; Godany et al., 2021).

Understanding how procrastination tendencies vary across different demographic groups can help organisations formulate and tailor their management and leadership strategies. Demographic variations in procrastination tendencies can serve as a base for the development of training programmes and contribute to obtaining knowledge on workforce behaviour. The results obtained might be important for academics and practitioners, leading to the development of evidence-based management practices. Therefore, the objective of this study is to identify and establish the relationship between gender, age, education and procrastination in terms of office workers in Slovak SMEs (Mura et al., 2023).

In addition, we address the key motivation concepts relevant to procrastination in terms of inherent energetic implications rather than treating them solely as sub-processes of self-regulation (Prem et al., 2018). Motivation poses a common challenge for all types of organisations, in both the public and private sectors (Asimakopoulos et al., 2009; Lulewicz-Sas et al., 2022). It is described as a significant effort that has to be exerted in order to achieve organisational objectives, influenced by the potential of fulfilling the individual's needs (Šmahaj & Cakirpaloglu, 2015; Wang et al., 2021; Mishchuk et al., 2023).

According to Armstrong, a motive is an incentive to do something and consequently, motivation is a set of external and internal factors that influence human behaviour (Klingsieck, 2013). It means that motivation can be described as a behaviour aimed at achieving a goal (Armstrong et al., 2015). In the context of work motivation, employees' self-motivation to perform the task at a high quality is crucial. While this condition is highly desirable, it is rather uncommon (Kalirajan, 1993; Göncü et al., 2018).

1 Literature Review

1.1 Procrastination at work and gender

Procrastination is a widespread issue that many people encounter, but it is a phenomenon that is difficult to measure. A study concerning procrastination among students and staff (N = 2893) in Germany, Finland, Italy, Poland, Norway and Sweden (Svartdal et al., 2016; Maier et al., 2022) provided an analysis and comparison of neighbouring countries. The results of the study showed higher procrastination scores among men compared to women. This gender difference remained consistent in all the countries except Finland and Poland, where no significant disparities were observed. However, in Norway, men scored higher than women on all three subscales of procrastination. Women tend to report higher levels of procrastination due to their fear of failure, while men justify their procrastination as a form of risk-taking against control (Zsigmond & Mura, 2023). It was found that women exhibit better

time management skills. Steel and Ferrari (2013) conducted a meta-analysis examining the connection between personality traits and procrastination (Steel & Ferrari, 2013). The results indicated a weak correlation between procrastination and traits such as neuroticism, rebelliousness and sensation-seeking. However, task aversion, self-efficacy, impulsivity, as well as conscientiousness and its components such as self-control, distractibility, organisation and achievement motivation, emerged as strong and consistent predictors of procrastination (Alblwi et al., 2021; Mullan & Wajcman, 2019). The further research results demonstrate that men show a slightly greater inclination towards procrastination in contrast to female respondents, suggesting a subtle negative correlation between the female gender and procrastination, possibly attributable to women typically possessing stronger self-discipline (Van Eerde, 2000).

1.2 Procrastination at work and age group

Studies suggest that there is a mild and inverse relationship between age and procrastination (Matsuo, 2024), a pattern that was similarly observed in the data from the referenced study. Generally, a negative correlation was detected between age and procrastination. However, there were exceptions in the case of Norway and Poland (Ključnikov et al., 2022b). The six countries examined in the study displayed variations in individualism, which is associated with planning behaviour. Finland, Germany, Norway and Sweden were discovered to utilise planning tools heavily, whereas Italy and Poland exhibited a lower adoption rate of planning strategies.

The research findings suggest that Italy had the lowest amount of planning, whereas Germany had the highest (Reinecke et al., 2013).

Moreover, one of the studies also observed an age-related effect on procrastination, aligning with previous findings that suggest a decrease in procrastination levels with increasing age. This is consistent with data indicating that approximately one-fifth of the adult population experiences issues with procrastination, while at least half of the student population frequently struggles with meeting their responsibilities. The correlation with age may stem from the development of advanced cognitive functions during adolescence, which are integral to self-regulation and goal-setting. This could help explain the higher occurrence of selfprofessed procrastinators among students (Rozental & Carlbring, 2014). Several factors contribute to this phenomenon, including the accumulation of life experience, which tends to reduce procrastination tendencies. Additionally, the development of executive functions and changes in time perception, influenced by age, contribute to the reduction of procrastination tendencies. Aligned with socioemotional selectivity theory, individuals experience a shift in their perception of time as they age. During childhood, time is perceived as abstract, but as individuals grow older, it becomes more concrete. As time becomes more limited, there is less room for postponing important tasks, which ultimately leads to decreased procrastination (Carstensen et al., 1999).

1.3 Procrastination at work and education

In terms of education, individuals with higher qualification levels tend to report lower levels of procrastination in several studies. Based on research involving a group of Turkish adults, it was discovered that people with high qualification levels tend to report lower levels of procrastination (Jaškevičiūtė et al., 2024; Karaferis et al., 2022) as well as higher satisfaction with work (Fedor, 2021). Delaying academic work until the very last minute, beyond the point

you know you should begin, is not a viable approach to achieving academic success (Dryll, 2017). Similarly, "white-collar" employees exhibited greater educational attainment compared to "blue-collar" workers. They reported notably elevated scores in all three categories of chronic procrastination in comparison to their "blue-collar" counterparts. This suggests that individuals in professional roles tend to experience procrastination more frequently than those in unskilled positions (Hammer & Ferrari, 2002; Lodha et al., 2019). This may occur because white-collar jobs often come with more significant responsibilities, complex tasks and higher expectations. Furthermore, these positions frequently involve decision-making and problem-solving (Grund & Fries, 2018). According to another study, individuals with lower qualifications tend to have lower average scores in comparison to those with higher qualifications (Beutel et al., 2011). For instance, undergraduates and similar groups demonstrate a lower tendency to postpone decision-making compared to individuals holding professional, graduate or postgraduate degrees. (Mura & Stehlikova, 2023). The analysis clearly reveals that individuals with graduate degrees exhibit a higher propensity for procrastination, as evidenced by their highest mean score (Gagné et al., 2022).

2 Methods

Small and medium-sized enterprises are considered a significant driving force of the economy, mainly due to their contribution to job creation and added value, thus contributing to economic growth. In 2023, the share of SMEs in employment in the business economy reached 75.7% and 61.3% in the overall employment in the Slovak economy. The research conducted in Slovakia targeted administrative "white collar" employees working in small and medium-sized enterprises. An online data collection approach was used, employing a computer-assisted web interviewing (CAWI) questionnaire. The primary objective of the questionnaire survey was to detect a connection between work motivation and procrastination. A total of 253 administrative employees from small and medium-sized enterprises in Slovakia were invited to participate in the study. Among the participants, 49% were female, while 51% were male respondents. The respondents' age ranged from 18 to 60. The questionnaire was created and distributed in Google Forms, and the results were processed using SAS software.

In order to measure the respondents' level of procrastination in the work environment, the researchers utilised the 12-item standardised Procrastination at Work Scale (PAWS) developed by Metin et al. (2018). The questionnaire was originally in English and was translated into Slovak using the back translation method. This process involved translating the content from the target language back into the source language to ensure accuracy and comparability with the original version.

In selecting and developing the research instrument, we also focused on assessing the reliability of the questionnaires. Questionnaire reliability is a key factor in measurement and collection, and it refers to the reliability and consistency of the results obtained. If the questionnaire is reliable, it means that it is consistent in measuring one variable and the results are repeatable and predictable. A reliable questionnaire helps reduce inaccuracies and enables accurate information gathering, facilitating effective measurement and examination of relationships between various variables. This reduces our risk of obtaining misleading results and increases the measurement accuracy (Table 1).

Table 1 | Statistical indicators of WEIMS

	Report											
	01	o2	03	04	05	06	07	08	о9	o10	o11	o12
N	265	267	266	265	267	263	266	266	267	267	267	267
Mean	3,3811	3,3970	3,4361	3,5321	3,3820	3,4297	3,5489	3,6429	3,5918	3,7790	3,3970	2,6704
Std. Deviation	1,78642	1,84342	1,86468	1,74510	1,82612	1,77606	1,70002	1,97061	1,96444	1,64061	1,78119	1,83839
Minimum	,00	,00	,00	,00	,00	,00	,00	,00	,00	,00	,00,	,00
Maximum	6,00	6,00	6,00	6,00	6,00	6,00	6,00	6,00	6,00	6,00	6,00	6,00
Median	4,0000	4,0000	4,0000	4,0000	4,0000	4,0000	4,0000	4,0000	4,0000	4,0000	4,0000	3,0000

Source: Own elaboration in statistical software

The Procrastination at Work Scale (PAWS) consists of two dimensions: soldiering (offline procrastination) and cyberslacking (online procrastination). The offline procrastination dimension assesses intentional work slowdowns to avoid completing a full day's work, including behaviour such as taking prolonged coffee breaks. This dimension is measured using eight items in the procrastination at work scale, for example, "I take a long coffee break at work". The dimension of online procrastination, referred to as cyberslacking, is measured using three items that capture behaviour such as shopping online during working hours, indicating the use of the internet or mobile devices for personal purposes while at work. We focused on investigating cyberslacking, specifically online procrastination, and presented data related to these items in the study (Table 2).

Table 2 / Reliability of PAWS

PAWS	N	Cronbach's alpha	PAWS
Soldiering	8	0.984	Soldiering
Cyberslacking	4	0.915	Cyberslacking
Procrastination	12	0.980	Procrastination

Source: Own elaboration

The main objective of the research is to analyse procrastination at work among employees of small and medium-sized enterprises in Slovakia by analysing the demographic profile of employees and interpreting the results of the questionnaire survey. Three hypotheses were formulated to support the research objective.

We set the following objectives:

- Establish dependence between gender and procrastination rate.
- Establish dependence between age and procrastination rate.
- Establish dependence between education level and procrastination rate.

A hypothesis that we verify is called the basic (zero) hypothesis and is referred to as H_0 . Against the basic hypothesis, the so-called alternative hypothesis H_1 was formulated, which is an alternative assumption (most often negation). The purpose of statistical testing of hypotheses is to reject H_0 or approve H_0 (in favour of H_1).

We recognised the following main tests on parameters:

- Tests on mean values and tests of comparison of two mean values.
- · Share tests and two-ratio tests.
- Scatter tests and two-scatter tests.

To evaluate the dependencies between gender, age, education and procrastination, we set the following hypotheses:

- *H*₁: Men procrastinate more often than women.
- *H*₂: Employees with lower educational attainment procrastinate more often than employees with higher education.
- *H*₃: Generation *Z* procrastinates more often than older generations (Millennials, Gen *X* and Boomers).

Correlation analysis focuses on determining the interdependence between two or more variables or processes, which are focused on the intensity of the relationship of the variables to be investigated rather than on the direction of causality between them (regression analysis).

Data analysis works with their estimates, i.e., with sample pair correlation coefficients r_{12} , r_{13} , r_{23}

The paired correlations are usually given in the form of a correlation matrix:

$$R = \begin{bmatrix} 1 & r_{12} & r_{13} \\ r_{21} & 1 & r_{23} \\ r_{31} & r_{32} & 1 \end{bmatrix}$$
(1)

The spot estimation used in practice is the selective partial correlation coefficient. Using the paired correlation coefficients, we can calculate this partial correlation coefficient according to Equation (2).

$$r_{12.3} = \frac{r_{12} - r_{13}r_{23}}{\sqrt{\left(1 - r_{13}^2\right)\left(1 - r_{23}^2\right)}}$$
 (2)

In addition to employing general logic methods, the secondary input data mentioned above required processing through suitable statistical techniques. The selection of the most appropriate method hinged on several factors, including the nature of the problem at hand, the characteristics of the available data and prior experience with the chosen method in previous empirical investigations. Our approach encompassed both descriptive and statistics methods, which provide insights into the data characteristics and inductive statistics methods.

$$yt = \alpha_0 + \alpha_{1}x_1 + \alpha_{2}x_2 + \ldots + \alpha_{k}x_k + \varepsilon_t$$
 (3)

where

- y_t denotes the dependent variable, which represents the individual performance indicators.
- $\alpha_0 \alpha_k$ are the model parameters, also known as regression coefficients,
- $x_1 x_k$ signify the independent variables, representing the individual potential determinants of performance, and

εt accounts for the random component within the model.

This regression model framework facilitated the investigation of relationships between the explanatory variables and the dependent variable, enabling us to gain valuable insights into the factors influencing performance outcomes.

3 Results

The aim of our extensive research was to examine the relationship between intrinsic motivation, integrated regulation, identified regulation, introjected regulation, extrinsic regulation and motivation. We included motivational tendencies based on self-determination theory and procrastination at work with variables such as cyberslacking (online procrastination) and soldiering (offline work procrastination) among the main variables. For a better understanding of the published partial results of our research, we present a summary of the main findings emerging from the quantitative research (Table 3).

Table 3 | Correlation analysis of motivational dimensions and procrastination

Correlations								
		Internal motivation	Integrated regulation	Identified regulation	Introjected regulation	External regulation	Amotivation	PROCRASTINATION
	Pearson Correlation	1	,334**	,377**	,260**	,150	-,434**	-,644**
Internal motivation	Sig. (2-tailed)		,000	,000	,000	,015	,000	,000,
	N	263	263	263	263	263	263	253
	Pearson Correlation	,334**	1	,348**	,333**	,156*	-,376**	-,482 **
Integrated regulation	Sig. (2-tailed)	,000		,000	,000	,011	,000	.000
	N	263	263	263	263	263	263	253
	Pearson Correlation	,377**	,348**	1	,334**	,186**	-,374™	-,340**
Identified regulation	Sig. (2-tailed)	,000	,000		,000	,002	,000	,000
	N	263	263	263	263	263	263	253
	Pearson Correlation	,260**	,333**	,334"	1	,089	-,260**	-,206**
Introjected regulation	Sig. (2-tailed)	,000	,000	,000		,149	,000	,001
	N	263	263	263	263	263	263	253
	Pearson Correlation	,150*	,156*	,186**	,089	1	-,133*	,088
External regulation	Sig. (2-tailed)	,015	,011	,002	,149		,031	,162
	N	263	263	263	263	263	263	253
	Pearson Correlation	-,434**	-,376**	-,374**	-,260**	-,133*	1	,703**
Amotivation	Sig. (2-tailed)	,000	,000	,000	,000	,031		,000
	N	263	263	263	263	263	263	253
	Pearson Correlation	-,644**	-,482**	-,340**	-,206**	,088	,703**	1
PROCRASTINATION	Sig. (2-tailed)	,000	,000	,000	,001	,162	,000	
	N	253	253	253	253	253	253	257

^{**.} Correlation is significant at the 0.01 level (2-tailed).

Source: Own elaboration in statistical software

3.1 Procrastination and education level

Based on the survey data analysis (Figure 1), we found that the employees' education level affects the level of procrastination at work. According to the average rate of overall procrastination, the most frequent procrastinators are employees who have completed high school or grammar school (3.81). They were followed by employees with completed bachelor's degrees (3.60) and master's degrees (3.14) at the university. The lowest rate of procrastination was demonstrated among employees who completed their tertiary education at university (3.05).

Employees with higher education may procrastinate less due to better time management skills, for example. Higher education often requires students to develop effective time management skills to meet deadlines, complete assignments and balance multiple

^{*.} Correlation is significant at the 0.05 level (2-tailed)

responsibilities. These skills can also be transferred to a workplace environment, making individuals more adept at prioritising tasks and avoiding procrastination. Higher education often also instils in individuals a sense of purpose and goal orientation. They are used to setting long-term goals, breaking them down into manageable steps and consistently working towards their completion. This goal-based mindset can help them stay focused and avoid procrastination in their professional endeavours. However, in general, the level of self-discipline and self-motivation can also have an impact.

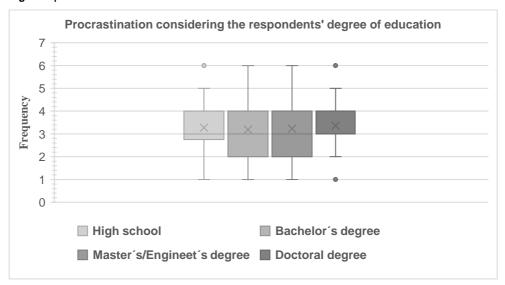


Figure 1 | Procrastination and education

Source: Own elaboration in statistical software

Students often have to follow strict study schedules, complete assignments independently and engage in self-study. This cultivated discipline can also be reflected in a workplace setting, reducing the likelihood of procrastination. Students also invest time and energy in their studies, often taking on challenging assignments and long-term projects. This experience can foster a stronger work ethic, making them more inclined to tackle tasks quickly and avoid unnecessary delays. Tendencies to procrastinate may vary between individuals, regardless of their education. In addition, factors such as work environment, personal habits and individual differences can also affect an employee's propensity to procrastinate.

3.2 Procrastination and gender

Based on further analysis (Table 4), we can conclude that gender has a minimal effect on the level of procrastination at work. However, according to the average rate of total procrastination, men procrastinate slightly less than women. The findings indicate a slight difference in the average rate of total procrastination between men and women, with men reporting an average score of 3.31 and women reporting a slightly higher score of 3.56 on a scale where 0 represents "never" and 6 represents "always" procrastinating.

Table 4 | Procrastination and gender

Gender	Mean	N	Std. deviation
Men	3.31	127	1.65661
Women	3.56	130	1.65615
Total	3.44	257	1.65777

Source: Own elaboration

Procrastination is a complex behaviour influenced by various factors such as personality traits, work environment, individual differences and personal habits. Gender alone does not determine an individual's propensity to procrastinate. Although there may be studies examining procrastination and gender differences, it is important to approach such research with caution and consider the limitations and details within each study. Research findings on gender differences in procrastination are not consistent and may vary depending on the sample population, methodology and cultural context.

3.3 Procrastination and age group

The findings of statistical analysis evaluating procrastination levels in relation to age categories of employees (Generation Z, Generation X, Millennials and Boomers) offer valuable insights into the procrastination tendencies of different generational groups within the workplace. The findings clearly highlight significant differences in procrastination tendencies among the generations. Generation Z reports the highest average procrastination score of 3.74, followed by Generation X at 3.40. Millennials come next with an average score of 3.32 and Boomers demonstrate the lowest level of procrastination tendencies with a score of 1.64.

These findings have important implications for workforce management and leadership. Understanding the procrastination tendencies of different generational groups can help organisations tailor management strategies, interventions and training programmes to address the unique needs and challenges faced by each generation (Figure 2).

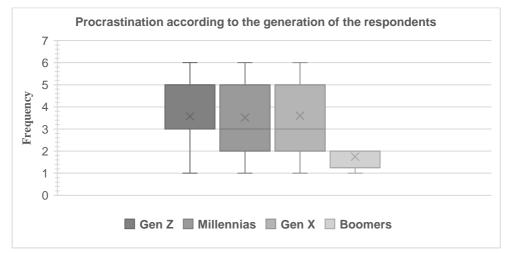


Figure 2 | Procrastination according to generation groups

Source: Own elaboration in statistical software

Several possible factors may contribute to the explanation that younger generations may procrastinate more at work compared to older generations. In an era of technological advancement and constant online presence, the widespread use of smartphones, social media and other digital distractions can make it easy for young workers to irrationally postpone their work tasks. The younger generation is enthusiastic about the variety of tasks and new experiences. If their work tasks become monotonous, they may be more inclined to procrastinate as they seek more engaging or stimulating activities. Older generations, on the other hand, thanks to many years of professional experience, can acquire stronger skills in the field of time management and better understand prioritisation of tasks. However, it is important to note that individual differences play a significant role, and the research findings may be limited by the smaller sample of respondents.

4 Discussion

Nevertheless, cyberslacking research should not focus on attempts to eliminate it. Rather, the focus should be on understanding it so that businesses can strike a balance between productivity and the needs and concerns of their employees. An overly strict approach to internet use at work could negatively affect employee satisfaction and perceived fairness, as well as the retention of talented employees. However, being overly lenient regarding internet use could have a negative impact on productivity. Researchers have proposed several different explanations for online procrastination, also called cyberslacking. Research in this area suggests seeing justice as the main cause. Employees feel that the company or its members are treating them unfairly and view cyberslacking as a way to restore justice (Askew et al., 2014).

We summarised the investigated demographic profiles and the obtained results into general recommendations for managers of small and medium-sized enterprises in Slovakia. On the

basis of the obtained data, they should take into account the individuality of employees. When addressing procrastination behaviour, they have to consider an approach to achieve its elimination.

- Managers should consider employees' individual characteristics, including age.
 Employees of different age groups bring different perspectives, experiences and knowledge to the workplace. Managers who understand these differences can adapt their communication styles and motivational strategies to better engage and support employees of different age groups. It is important that managers approach age-related considerations fairly, avoid stereotyping or prejudice and view age as just one aspect of an employee's overall profile when addressing procrastination.
- By considering individual gender-related traits, managers can tailor their strategies to
 meet the unique needs of their employees. This can include support, providing
 mentoring opportunities or creating a supportive environment for employees to thrive
 and avoid procrastination. By considering individual gender-related traits, managers
 can contribute to creating a diverse and inclusive organisational culture. It is important
 for managers to approach employees sensitively and fairly and understand the
 broader context of gender equality.
- Knowledge of employee skill levels allows managers to identify skill gaps and
 development needs within the team. They can tailor training programmes, workshops
 or professional development opportunities to address these gaps and increase staff
 expertise in relevant areas. After considering individual qualifications, managers can
 design targeted training initiatives that support employee growth and increase
 employees' overall effectiveness.

While the findings are informative, it is important to recognise the limitations of the study. Procrastination is a complex behaviour influenced by numerous factors, including individual personality traits and work environment. Further research should explore the underlying reasons for these generational differences to provide a more comprehensive understanding.

Conclusion

Similarly to other developed countries, small and medium-sized enterprises are the most common form of entrepreneurship in Slovakia. They are the basis for the social and economic development of regions, contributing to reducing unemployment and increasing the standard of living. However, when the economy is hit by adverse changes, these enterprises must also think about survival and maintaining optimal functioning. The nature of work is changing and employees must also develop new skills to remain competitive. In this context, managing and supporting employees in a sustainable way is a key task, especially for those employees who are more prone to negative work habits such as procrastination in completing work tasks. Based on our research results, in the specific conditions of Slovakia, we have identified the most effective ways in which managers can learn to communicate effectively, build relationships and create a team atmosphere that contributes to achieving collaboration and increasing the efficiency of small and medium-sized enterprises.

Overall, small and medium-sized enterprises in Slovakia need a strategy to increase work motivation and eliminate employee procrastination because motivated employees are not only more productive but also more loyal and less prone to fluctuation. When employees feel that they can contribute to the development and improvement of the business, they will be

more willing to put forward new ideas and solutions. A strategy to motivate employees is crucial for businesses since it helps increase employee efficiency, productivity and performance, encourages teamwork and fosters creativity and innovation. An anti-procrastination strategy can also help employees improve their organisation and planning, which can lead to better use of time and higher productivity. It helps employees gain more control over their work and time, which can lead to greater satisfaction and motivation. SMEs can thus gain a competitive advantage through more efficient use of employees' time and resources. When employees are better organised and planned, businesses can perform better and improve their market position.

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References

- Alblwi, A., McAlaney, J., AlThani, D., Phalp, K., & Ali, R. (2021). Procrastination on social media: predictors of types, triggers and acceptance of countermeasures. Social Network Analysis and Mining, 11, 19. https://doi.org/10.1007/s13278-021-00727-1.
- Al-Omoush, K. S., Anderson, A., & Ribeiro-Navarrete, B. (2023). The Impact of Absorptive Capacity, Corporate Social Innovation, and E-Business Proactiveness on SMES Survival. *Transformations in Business & Economics*, 22(1), 130–148.
- Armstrong, M., Taylor, S., & Šikýř, M. (2015). Řízení lidských zdrojů: moderní pojetí a postupy (13th edition). Grada Publishing.
- Asimakopoulos, I., Samitas, A., & Papadogonas, T. (2009). Firm-specific and economy wide determinants of firm profitability: Greek evidence using panel data. *Managerial Finance*. *35*(11), 930–939. https://doi.org/10.1108/03074350910993818.
- Askew, K., Buckner, J., Taing, M., Ilie, A., Bauer, J., & Coovert, M. (2014). Explaining cyberloafing: The role of the theory of planned behavior. *Computers in Human Behavior*, *36*, 510–519. https://doi.org/10.1016/j.chb.2014.04.006.
- Beutel, M. E., Brähler, E., Glaesmer, H., Kuss, D., Wölfling, K., & Müller, K. (2011). Regular and Problematic Leisure-Time Internet Use in the Community: Results from a German Population-Based Survey. Cyberpsychology, Behavior, and Social Networking, 14(5), 291–296. https://doi.org/10.1089/cyber.2010.0199.
- Carstensen, L. L., Isaacowitz, D. M., & Charles, S. T. (1999). Taking time seriously: A theory of socioemotional selectivity. *American Psychologist*, 54(3), 165–181. https://doi.org/10.1037/0003-066X.54.3.165.
- Chang, K., Chang, W., & Yeh, Y. (2022). How to improve tour leaders and guides service performance through emotional display rules –the moderating effect of job stress. *Journal of Tourism and Services*, *13*(25), 156–175. https://doi.org/10.29036/jots.v13i25.403.

- Chen, Z., Liu, P., Zhang, Ch., & Feng, T. (2020). Brain Morphological Dynamics of Procrastination: The Crucial Role of the Self-Control, Emotional, and Episodic Prospection Network. *Cerebral Cortex*, 30(5), 2834–2853. https://doi.org/10.1093/cercor/bhz278.
- Civelek, M., & Krajčík, V. (2022). How do SMEs from different countries perceive export impediments depending on their firm-level characteristics? System approach. *Oeconomia Copernicana*, 13(1), 55–78. https://doi.org/10.24136/oc.2022.002.
- Civelek, M., Krajčík, V., & Fialová, V. (2023a). The impacts of innovative and competitive abilities of SMEs on their different financial risk concerns: System approach. *Oeconomia Copernicana*, 14(1), 327–354. https://doi.org/10.24136/oc.2023.009.
- Civelek, M., Krajčík, V., & Fialová, V. (2023b). The impacts of dynamic capabilities on SMEs' digital transformation process: The resource-based view perspective. *Oeconomia Copernicana*. *14*(4), 1367–1392. https://doi.org/10.24136/oc.2023.019.
- Dryll, E. (2017). Procrastination why do we still know too little. Educational Psychology, 54(12), 152–163. https://doi.org/10.5604/01.3001.0011.7867.
- Fedor, A. R. (2021). Job satisfaction in Hungary comparative study. *Economics and Sociology*, *14*(2), 331–349. https://doi.org/10.14254/2071-789X.2021/14-2/18.
- Ferrari, J. R., Özer, B. U., & Demir, A. (2009). Chronic Procrastination Among Turkish Adults: Exploring Decisional, Avoidant, and Arousal Styles. *The Journal of Social Psychology*, *149*(3), 402–408. https://doi.org/10.3200/SOCP.149.3.402-408.
- Gagné, M., Parker, S. K., Griffin, M. A., Dunlop, P. D., Knight, C., Klonek, F. E., & Parent-Rocheleau, X. (2022). Understanding and shaping the future of work with self-determination theory. *Nature Reviews Psychology*, 1(7), 378–392. https://doi.org/10.1038/s44159-022-00056-w.
- Godany, Z., Machová, R., Mura, L., & Zsigmond, T. (2021). Entrepreneurship Motivation in the 21st Century in Terms of Pull and Push Factors. *TEM JOURNAL-Technology Education Management Informatics*, 10(1), 33 –342. https://doi.org/10.18421/TEM101-42.
- Göncü Köse, A., & Metin, U. B. (2018). Linking leadership style and workplace procrastination: The role of organisational citizenship behavior and turnover intention. *Journal of Prevention & Intervention in the Community, 46*(3), 245–262. https://doi.org/10.1080/10852352.2018.1470369.
- Grund, A., & Fries, S. (2018). Understanding procrastination: A motivational approach. *Personality and Individual Differences*, 121, 120–130. https://doi.org/10.1016/j.paid.2017.09.035.
- Hammer, C. A., & Ferrari, J. R. (2002). Differential incidence of procrastination between blue and white-collar workers. Current Psychology, 21(4), 333–338. https://doi.org/10.1007/s12144-002-1022-y.
- Jafir, M. M. I., & Ahmed, S. (2023). Efficacies of HR Innovation Lab: A Study on an Innovative HRM Approach to Achieve Organisational Success. *Journal of Human Resource Management - HR* Advances and Developments, 26(2), 15–32. https://doi.org/10.46287/JNCS7095.
- Jaškevičiūtė, V., Zsigmond, T., Berke, Sz., & Berber, N. (2024). Investigating the impact of personorganisation fit on employee well-being in uncertain conditions: a study in three central European countries. *Employee Relations: The International Journal*, 46(1), 188–211. https://doi.org/10.1108/ER-12-2022-0535.
- Kalirajan, K. P. (1993). On the simultaneity between market concentration and profitability: the case of a small-open developing country. *International Economic Journal*, 7(1), 31–48. https://doi.org/10.1080/10168739300000019.

- Karaferis, D., Aletras, V., Raikou, M., & Niakas, D. (2022). Factors Influencing Motivation and Work Engagement of Healthcare Professionals. *Materia Socio Medica*, 34(3): 216–224. https://doi.org/10.5455/msm.2022.34.216-224.
- Klingsieck, K. B. (2013). Procrastination: When Good Things Don't Come to Those Who Wait. *European Psychologist*, 18(1), 24–34. https://doi.org/10.1027/1016-9040/a000138.
- Ključnikov, A., Civelek, M., & Farana, R. (2022a). Export risk perceptions of SMEs in selected Visegrad countries. Equilibrium. Quarterly Journal of Economics and Economic Policy, 17(1), 173–190. https://doi.org/10.24136/eq.2022.007.
- Ključnikov, A., Civelek, M., Krajcik, V., Novak, P., & Cervinka, M. (2022b). Financial performance and bankruptcy concerns of SMEs in their export decision. *Oeconomia Copernicana*, *13*(3), 867–890. https://doi.org/10.24136/oc.2022.025.
- Krajcik, V., Novotny, O., Civelek, M., & Zvolankova, S. (2023). Digital literacy and digital transformation activities of service and manufacturing SMEs. *Journal of Tourism and Services*, *14*(26), 242–262. https://doi.org/10.29036/jots.v14i26.551.
- Lazarević, D., Dobrodolac, M., Švadlenka, L., & Stanivuković, B. (2020). A model for business performance improvement: A case of the postal company. *Journal of Business Economics and Management*, 21(2), 564–592. https://doi.org/10.3846/jbem.2020.12193.
- Ližbetinová, L., & Hitka, M. (2016). Selection of most suitable candidates for the talent pool in a furniture manufacturing company. *Drvna Industrija*, *67*(4), 333–340. https://doi.org/10.5552/drind.2016.1601.
- Lodha, P., Sharma, A., Dsouza, G., Marathe, I., Dsouza, S., Rawal, S., Pandya, V., & Desousa, A. (2019). General Procrastination Scale: Development of Validity and Reliability. *International Journal of Medicine and Public Health*, *9*(3), 74–80. https://doi.org/10.5530/ijmedph.2019.3.19.
- Lulewicz-Sas, A., Kinowska, H., & Fryczyńska, M. (2022). How sustainable human resource management affects work engagement and perceived employability. *Economics and Sociology*, 15(4), 63–79. https://doi.org/10.14254/2071-789X.2022/15-4/3.
- Maier, T., Kühnel, J., & Zimmermann, B. (2022). How Did You Sleep Tonight? The Relevance of Sleep Quality and Sleep–Wake Rhythm for Procrastination at Work. Frontiers in Psychology, 12, 785154. https://doi.org/10.3389/fpsyg.2021.785154.
- Matsuo, M. (2024). High-performance work systems and proactive behavior: the mediating role of customer-oriented behavior. Employee Relations: *The International Journal*, *46*(1), 1–18. https://doi.org/10.1108/ER-07-2022-0317.
- Matt, D. T., Modrák, V., & Zsifkovits, H. (eds.). (2020). Industry 4.0 for SMEs: Challenges, Opportunities and Requirements. Springer International Publishing. https://doi.org/10.1007/978-3-030-25425-4.
- Metin, U. B., Peeters, M. C. W., & Taris, T. W. (2018). Correlates of procrastination and performance at work: The role of having "good fit". *Journal of Prevention & Intervention in the Community*, 46(3), 228–244. https://doi.org/10.1080/10852352.2018.1470187.
- Mishchuk, H., Bilan Y., Androniceanu, A., & Krol, V. (2023). Social capital: Evaluating its roles in competitiveness and ensuring human development. *Journal of Competitiveness*, *15*(2), 1–17. https://doi.org/10.7441/joc.2023.02.01.

- Mullan, K., & Wajcman, J. (2019). Have Mobile Devices Changed Working Patterns in the 21st Century? A Time-diary Analysis of Work Extension in the UK. Work, Employment and Society, 33(1), 3–20. https://doi.org/10.1177/0950017017730529.
- Mura, L., Zsigmond, T., Bako, F., & Kupi, M. (2023). New Organisational Environment Types Based on Garvin and Quinn – the Case of Slovakian Small and Medium Enterprises. *TEM Journal*, 12(2), 691–699, https://doi.org/10.18421/TEM122-12.
- Mura, L., & Stehlikova, B. (2023). Innovative Approaches: Using DEMATEL Method in the Research of SMEs Operating in Tourism Sector. In M. Valeri (Ed.) Family Businesses in Tourism and Hospitality (pp. 175–188). Springer. https://doi.org/10.1007/978-3-031-28053-5_10.
- Muthee, E., & Maina, R. (2023). Entrepreneurial social capital and performance of micro, small and medium enterprises. *International Journal of Entrepreneurial Knowledge*, *11*(2), 126–138. https://doi.org/10.37335/ijek.v11i2.208.
- Oladimeji, K. A., Abdulkareem, A. K., & Ishola, A. A. (2023). Talent Management, Organizational Culture and Employee Productivity: The Moderating Effect of Employee Involvement. *Journal of Human Resource Management HR Advances and Developments*, 26(1), 43–56. https://doi.org/10.46287/DPKF9953.
- Prem, R., Scheel, T., Weigelt, O., Hoffmann, K., & Korunka, Ch. (2018). Procrastination in Daily Working Life: A Diary Study on Within-Person Processes That Link Work Characteristics to Workplace Procrastination. *Frontiers in Psychology*, *9*, 1087. https://doi.org/10.3389/fpsyq.2018.01087.
- Reinecke, K., Nguyen, M., Bernstein, A., Näf, M., & Gajos, K. (2013). Doodle around the world: online scheduling behavior reflects cultural differences in time perception and group decision-making. In *Proceedings of the 2013 conference on Computer supported cooperative work* (CSCW '13) (pp. 45–54). ACM. https://doi.org/10.1145/2441776.2441784.
- Rozental, A., & Carlbring, P. (2014). Understanding and Treating Procrastination: A Review of a Common Self-Regulatory Failure. *Psychology*, *5*(13), 1488–1502. https://doi.org/10.4236/psych.2014.513160.
- Rozsa, Z., Minčič, V., Krajčik, V., & Vranova, H. (2022). Social capital and job search behavior in the services industry: online social networks perspective. *Journal of Tourism and Services*, *13*(25), 267–278. https://doi.org/10.29036/jots.v13i25.481.
- Saleh, M. A. K., & Manjunath, K. R. (2023). The performance of small and medium enterprises in Yemen: A cross-sectional study. *International Journal of Entrepreneurial Knowledge*, *11*(2), 39–56. https://doi.org/10.37335/ijek.v11i2.198.
- Sirois, F. M., Stride, C. B., & Pychyl, T. A. (2023). Procrastination and health: A longitudinal test of the roles of stress and health behaviours. *British Journal of Health Psychology*, 28(3), 860–875. https://doi.org/10.1111/bjhp.12658.
- Šmahaj, J., & Cakirpaloglu, P. (2015). *Význam motivace v pojetí osobnosti: teoretický, výzkumný a aplikační rozměr* [The significance of motivation in the concept of personality: theoretical, research and application dimension]. Univerzita Palackého v Olomouci, Katedra psychologie Filozofické fakulty.
- Steel, P., & Ferrari, J. (2013). Sex, Education and Procrastination: An Epidemiological Study of Procrastinators' Characteristics from A Global Sample. European Journal of Personality, 27(1), 51–58. https://doi.org/10.1002/per.1851.

- Steinert, C., Heim, N., & Leichsenring, F. (2021). Procrastination, Perfectionism, and Other Work-Related Mental Problems: Prevalence, Types, Assessment, and Treatment—A Scoping Review. *Frontiers in Psychiatry*, 12, 736776. https://doi.org/10.3389/fpsyt.2021.736776.
- Svartdal, F., Pfuhl, G., Nordby, K., Foschi, G., Klingsieck, K., Rozental, A., Carlbring, P., Lindblom-Ylänne, S., & Rebkowska, K. (2016). On the Measurement of Procrastination: Comparing Two Scales in Six European Countries. *Frontiers in Psychology*, 7, 1307. https://doi.org/10.3389/fpsyg.2016.01307.
- Van Eerde, W. (2000). Procrastination: Self-regulation in Initiating Aversive Goals. *Applied Psychology*, 49(3), 372–389. https://doi.org/10.1111/1464-0597.00021.
- Vveinhardt, J., & Sroka, W. (2022). What determines employee procrastination and multitasking in the workplace: personal qualities or mismanagement? *Journal of Business Economics and Management*, 23(3), 532–550. https://doi.org/10.3846/jbem.2022.16178.
- Wang, J., Li, Ch., Meng, X., & Liu, D. (2021). Validation of the Chinese Version of the Procrastination at Work Scale. Frontiers in Psychology, 12, 726595. https://doi.org/10.3389/fpsyg.2021.726595.
- Wieland, L. M., Ebner-Priemer, U., Limberger, M., & Nett, U. (2021). Predicting Delay in Goal-Directed Action: An Experience Sampling Approach Uncovering Within-Person Determinants Involved in the Onset of Academic Procrastination Behavior. Frontiers in Psychology, 12, 695927. https://doi.org/10.3389/fpsyq.2021.695927.
- Yu, M., Liu, X., Xu, J., Cheng, X., & Li, X. (2023). Risk Spillover Effect between Banks & SMEs in China: A Perspective Based on GARCH-Copula-CoVaR Model. *Transformations in Business & Economics*, 22(58), 221–237.
- Zsigmond, T., & Mura, L. (2023). Emotional intelligence and knowledge sharing as key factors in business management evidence from Slovak SMEs. *Economics & Sociology*, *16*(2), 248–264. https://doi.org/10.14254/2071-789X.2023/16-2/15.

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