

# MULTIDIMENSIONAL MODEL OF EMPLOYEE INTRAPRENEURSHIP AND WORK ENGAGEMENT: THE CASE OF SLOVENIAN COMPANIES

Maja Rožman<sup>1</sup>  
Katja Crnogaj<sup>2</sup>

DOI: <https://doi.org/10.31410/EMAN.S.P.2020.101>

---

**Abstract:** *The main objective of this paper is to analyze the employee intrapreneurship and work engagement in the case of companies in Slovenia. Structural equation modelling has been proven to be useful in exploring the links between these five constructs. The main survey involved 50 companies in Slovenia, and from each company, up to 15 employees participated in our research. Thus, 637 employees responded to the questionnaire. The results show that employee satisfaction, employee motivation and leadership have a positive effect on the employee intrapreneurship and work engagement. The results also show that the employee intrapreneurship and work engagement have a positive effect on employee innovation. By giving employees the right tools, resources, support, and recognition at the workplace, it is easy to create the culture of intrapreneurship. It makes for happy, satisfied, motivated, engaged employees that are more innovative and make businesses more productive. Intrapreneurship can lend itself to new products, services or even processes.*

**Keywords:** *Employee intrapreneurship, Work engagement, Innovativeness, Structural equation modelling.*

---

## 1. INTRODUCTION

Organizational performance, growth and development may depend considerably on entrepreneurship in existing organizations (intrapreneurship) (Auer Antoncic and Antoncic, 2011). Intrapreneurship is a process whereby employees recognize and exploit opportunities by being innovative, proactive and by taking risks, in order for the organization to create new products, processes and services, initiate self-renewal or venture new businesses to enhance the competitiveness and performance of the organization (Neessen et al., 2019). Because of its beneficial effects for organizational performance, employee intrapreneurship has been an important research topic for scholars within the area of management research (Antoncic and Hisrich, 2001; Edú Valsania et al., 2016, Reuther et al., 2017). Although a body of research has been published on how employees' entrepreneurial behavior for their organization relates to innovativeness (Bierwerth et al., 2015) the literature on its effect on employees has received less scrutiny. According to Neessen et al. (2019) attitudinal dimensions of intrapreneurs like employee satisfaction, employee motivation and leadership, have a positive association with intrapreneurship of the organization which increase innovation of employees in companies (see, e.g. Antoncic and Antoncic 2011; Giannikis and Nikandrou 2013; Gawke et al., 2017; Neessen, 2019). Employee satisfaction represents a combination of feelings (positive or negative) that employees have towards their work (Armstrong, 2014). Jex and Britt (2008) argued that satisfied employees commit to work more and have higher rates in productivity. The authors also assert that high satisfaction often means lower level of absenteeism while improving mental or physical health, and higher level of work engagement.

---

<sup>1</sup> University of Maribor, Faculty of Economics and Business, Slovenia

<sup>2</sup> University of Maribor, Faculty of Economics and Business, Slovenia

According to Neessen (2019) motivation and the intention to act intrapreneurially are also important attitudinal dimensions in relation to intrapreneurship. Islam and Ismail (2008) summarize that employee motivation energizes behavior, gives direction to behavior, and underscores the tendency to persist. Thus, motivation is an important aspect by leading function in influence on others to work toward companies' goals. Also, Pang and Lu (2018) argue that motivation is an internal mechanism that guides behavior. This can be referred to the catalyzer for individual employees to enhance their working performance to achieve organizational performance. Rožman (2017), Bakker and Demerouti (2008) emphasize that the goal of motivation is to enable employees to improve productivity, increase efficiency and increase engagement in the workplace. Therefore, work motivation is positively related to employee intrapreneurship and work engagement.

In addition to employee satisfaction and employee motivation, good leadership is also crucial for intrapreneurship (Antoncic and Hisrich, 2001; Alpkan et al., 2010). Receiving good leadership is very important to the employees willing to undertake intrapreneurial activities. According to Neessen et al. (2019) good leadership refers to the willingness of management to facilitate and promote intrapreneurship including encouraging employees and recognizing that their activities involve some risk-taking and creating a norm within the organization. Castrogiovanni et al. (2011) summarize that open channels of communication and providing mechanisms that allow for ideas to be evaluated, selected and implemented are positively related to intrapreneurship. According to Xu and Cooper-Thomas (2011) good leadership is a key antecedent of engagement and also, leadership have positive impact on work engagement of employees in company.

May et al. (2004) emphasize that employee engagement concerns the degree to which individuals make full use of their cognitive, emotional, and physical resources to perform role-related work. Thus, engaged employees have an energetic, enjoyable, and effective connection with their work (Macey and Schneider, 2008). Furthermore, employees who are engaged in the workplace and behave intrapreneurial, have courage and the driving force to put new and unproven ideas, innovations, into practice (Barlett and Dibben, 2002). Engaged employees see it as their personal mission to contribute the best they can to the organisation's goal. They have a sense of ownership as if it were their own company. They understand how their role adds up to the big picture and they feel appreciated, recognised, and actively maintain a healthy blend of work and life. Moreover, they are also more innovative (see, e.g. Attridge, 2009; Bakker, 2009). Any aspects connected with combining resources in new ways are included in innovation; everything from relatively minor improvements or innovations of services, products, routines and procedures, or organizational design to more radical and revolutionary changes (Westrup, 2013). It is the fact that something has to be changed or developed and someone has to do it that starts the process of intrapreneurship. An innovation is carried out proactively, rather than reactively, in response to an assignment created by the organization (Westrup, 2013). Camelo-Ordaz et al. (2012) underlines the proactiveness, as there is no expectation that something will be done and nobody will enquire about or blame anyone for not taking action. Intrapreneurship is thus created within the existing situation. According Darwin et al. (2018) high levels of employee engagement are positively correlated to high levels of innovation.

The main objective of this paper is to analyze the employee intrapreneurship and work engagement in the case of companies in Slovenia. Flowing from the definition of work engagement as an active positive motivational state, scholars have related work engagement to proactive work behavior in several studies (cf., Bakker, 2011). To determine the impact of three constructs em-

ployee satisfaction, employee motivation and leadership on construct employee intrapreneurship and work engagement, as well as to determine the impact of construct employee intrapreneurship and work engagement on construct employee innovation in Slovenian companies, structural equation modelling has been proven. This paper aims to verify the following hypotheses:

**H1:** Employee satisfaction has a significant positive impact on employee intrapreneurship and work engagement in Slovenian companies.

**H2:** Employee motivation has a significant positive impact on employee intrapreneurship and work engagement in Slovenian companies.

**H3:** Leadership has a significant positive impact on employee intrapreneurship and work engagement in Slovenian companies.

**H4:** Employee intrapreneurship and work engagement has a significant positive impact on employee innovation in Slovenian companies.

## 2. METHODOLOGY

### 2.1. Sample and data

The main survey that was conducted from December 2019 to February 2020 involved 50 companies in Slovenia, and from each company, up to 15 employees participated in our research. Thus, 637 employees responded to the questionnaire. Table 1 shows the profile of respondents – employees with respect to control variables.

**Table 1.** Profile of respondents – employers and control variables

Characteristic of respondents – employees		Number of respondents	Percentage
Gender	Female	309	48.5%
	Male	328	51.5%
Age	Up to 30 years	47	7.4%
	From 31 to 40 years	129	20.2%
	From 41 to 50 years	224	35.2%
	From 51 to 60 years	203	31.9%
	More than 61 years	34	5.3%
Company activity	Processing activities	136	21.4 %
	Trade, maintenance and repair of motor vehicles	107	16.8 %
	Professional, scientific and technical activities	94	14.8 %
	Financial and insurance activities	122	19.1 %
	Information and communication activities	64	10.0 %
	Real estate services	54	8.5 %
	Health and social security	39	6.1 %
	Catering	17	2.7 %
Other activities	4	0.6 %	
Size of companies	Small company	146	22.9 %
	Medium-sized company	238	37.4 %
	Large company	253	39.7 %

### 2.2. Instrument

The respondents indicated on a 5-point Likert-type scale their agreement to the listed statements, where 1 = I completely disagree, 2 = I do not agree, 3 = I partially agree, 4 = I agree and 5 = I completely agree. In the questionnaire employees answered on questions about the employee intrapreneurship and work engagement in Slovenian companies. Items for the con-

struct employee satisfaction were formed by Hayday (2003). Items for the construct employee motivation were formed by Kooij et al. (2011). Items for the construct leadership were formed by Avery et al. (2007). Items for the construct employee intrapreneurship and work engagement were adapted by Robinson et al. (2004) and items for the construct employee innovation were formed by Armstrong (2014).

### 2.3. Statistical analysis

We established the justification to use the factor analysis based on the Kaiser-Meyer-Olkin measure of sampling adequacy ( $KMO \geq 0.5$ ) and Bartlett's test of sphericity. Also, fulfilment of criteria regarding factor loadings ( $\eta \geq 0.5$ ), communalities of variables ( $h > 0.4$ ), and eigenvalues of factors ( $\lambda \geq 1.0$ ) was analyzed (Tabachnick, Fidell, 2013). The quality of the measurement model was measured by the variance explained for a particular construct. We checked the reliability of measurements within the scope of inner consistency with Cronbach's alpha coefficient (Chronbach, 1951). As part of the convergent validity, we examined average variance extracted (AVE) and composite reliability coefficients (CR), keeping in mind the criteria  $AVE > 0.5$  and  $CR > 0.7$  and the criterion  $CR > AVE$  (Kock, 2019). In order to check for multicollinearity, we used variance inflation factors (VIF), considering the criterion  $VIF < 5.0$  (Hair et al., 2010). The quality of the structural model was measured by the R-squared and adjusted R-squared coefficients, reflecting the percentage of explained variance of latent variables in the structural model and the Stone-Geisser Q-squared coefficient. Thus, we examined the predictability value of the structural model. Acceptable predictive validity in connection with an endogenous latent variable is suggested by  $Q^2 > 0$  (Kock, 2019). To test the model, the following rules were also applied: average path coefficient (APC,  $p < 0.05$ ), average R-squared (ARS,  $p < 0.05$ ), average adjusted R-squared (AARS,  $p < 0.05$ ), average block variance inflation factor (AVIF  $< 5.0$ ), average full collinearity VIF (AFVIF  $< 5.0$ ), goodness-of-fit (GoF  $\geq 0.36$ ), Simpson's paradox ratio (SPR  $\geq 0.7$ ), the R-squared contribution ratio (RSCR  $\geq 0.9$ ), statistical suppression ratio (SSR  $\geq 0.7$ ) and nonlinear causality direction ratio (NLBCD  $\geq 0.7$ ) (Kock, 2019, Tabachnick, Fidell, 2013). To test the hypotheses, we used the path coefficient associated with a causal link in the model ( $\gamma$ ) and indicator of Cohen's effect ( $f^2$ ), with 0.02, 0.15, and 0.35 indicating the small, medium, and large effect sizes (Kock, 2019; Tabachnick, Fidell, 2013). The Statistical Package for the Social Sciences (SPSS) and WarpPLS software were used for data analysis. According to Kock (2019), SEM is based on the linear or non-linear connections between constructs. The results obtained by WarpPLS show that the observed links in our model are non-linear.

## 3. RESULTS

The results in Table 2 show that the values of the measure of sampling adequacy and the results of Bartlett's test of sphericity for each construct (employee satisfaction, employee motivation, leadership, employee engagement and employee innovation) suggest that the use of factor analysis is justified. The values of all communalities for all five constructs are higher than 0.40; therefore, we have not eliminated any variable. Also, all factor loadings are higher than 0.70 and significant at the 0.001 level. For each construct, the one-dimensional factor solution was obtained. All measurement scales proved high reliability (all Cronbach's alpha  $> 0.80$ ). In addition to the results in Table 2, the total variance explained for employee satisfaction is 76.7%, for employee motivation is 67.1%, for leadership is 84.4%, for employee engagement is 85.0% and for employee innovation is 83.7%.

**Table 2.** Factor analysis results

Statement	Factor label	Cronbach's alpha	Communalities	Factor loadings
At my workplace I am satisfied with working hours and distribution of work obligations.	Employee satisfaction	0.947	0.810	0.900
At my workplace I am satisfied with flexible working hours.			0.820	0.906
At my workplace I am satisfied with the balance between work and private life.			0.632	0.795
At my workplace I am satisfied with the working conditions, such as better light, air conditioning, and bigger inscriptions.			0.675	0.821
At my workplace I am satisfied with the interpersonal relationships in the company.			0.786	0.886
At my workplace I am satisfied with the leadership in the company.			0.847	0.921
At my workplace I am satisfied with enabled self-regulation of speed of work performed.			0.798	0.893
KMO = 0.914; Bartlett's Test of Sphericity: Approx. Chi-Square = 7537.944, df = 21, p < 0.001				
The company offers me the possibility of a higher salary for a job well done.	Employee motivation	0.928	0.544	0.738
The employer gives us compliments for the well-done work.			0.802	0.896
The employer gives me the possibility of flexibility in the workplace.			0.787	0.887
The employer gives me the possibility of autonomy at work.			0.714	0.845
The employer gives me the opportunity to provide diverse tasks.			0.574	0.758
The employer gives me the possibility of advancement.			0.735	0.857
The employer gives me the possibility for training and education.			0.712	0.844
The company gives me the opportunity to work from home on certain days of the week.	0.497	0.705		
KMO = 0.913; Bartlett's Test of Sphericity: Approx. Chi-Square = 6639.722, df = 28, p < 0.001				
I have all necessary information to perform my work.	Leadership	0.960	0.815	0.903
I have everything I need to carry out my work tasks.			0.808	0.899
The company owner/manager fosters good relationships between employees.			0.890	0.943
The company owner/manager of the company fosters good relationships between employees and superiors.			0.870	0.933
The company owner/manager ensures the work satisfaction and well-being of employees.			0.837	0.915
The company owner/manager emphasizes and encourages employee motivation in the workplace.			0.842	0.918
KMO = 0.878; Bartlett's Test of Sphericity: Approx. Chi-Square = 8706.045, df = 15, p < 0.001				
I do my work proactive and with passion.	Employee intrapreneurship and work engagement	0.966	0.819	0.905
I am engaged to the quality of my work.			0.846	0.920
I am engaged to achieve successful and innovative business results.			0.833	0.913
I feel connection with the company in which I worked.			0.877	0.937
I feel that my work and job are important.			0.869	0.932
I believe in the successful development and operation of our company.			0.862	0.928
I feel very good at my workplace.			0.845	0.919

KMO = 0.929; Bartlett's Test of Sphericity: Approx. Chi-Square = 10265.358, df = 21, p < 0.001				
I am aware of the importance of innovation for our company and I help in the development of the company.	Employee innovation	0.942	0.840	0.917
I am aware the necessity of changes in the company.			0.875	0.936
We are constantly improving and updating our products/services.			0.851	0.922
In the company is expected to make suggestions for improving our products/services by employees - not just by managers.			0.787	0.887
Employees are familiar with how and to whom we submit our proposal or innovative ideas to improve work processes, services or other improvements that could add value to the company.			0.832	0.912
KMO = 0.896; Bartlett's Test of Sphericity: Approx. Chi-Square = 5552,002, df = 10, p < 0.001				

Key quality assessment indicators of research model are presented in Table 3.

**Table 3.** Model fit and quality indicators

Quality indicators	Criterion of quality indicators	Calculated values of indicators of model
Average path coefficient (APC)	p < 0.05	0.471, p < 0.001
Average R-squared (ARS)	p < 0.05	0.858, p < 0.001
Average adjusted R-squared (AARS)	p < 0.05	0.859, p < 0.001
Average block variance inflation factor (AVIF)	AVIF < 5.0	1.148
Average full collinearity VIF (AFVIF)	AFVIF < 5.0	2.103
Goodness-of-fit (GoF)	GoF ≥ 0.1 (low) GoF ≥ 0.25 (medium) GoF ≥ 0.36 (high)	0.735
Simpson's paradox ratio (SPR)	SPR ≥ 0.7	1.000
R-squared contribution ratio (RSCR)	RSCR ≥ 0.9	1.000
Statistical suppression ratio (SSR)	SSR ≥ 0.7	1.000
Nonlinear causality direction ratio (NLBCD)	NLBCD ≥ 0.7	1.000

Table 3 shows that the indicators APC, ARS, AARS are statistically significant (p < 0.001), and the indicators AVIF and AFVIF are lower than 5.0 and are suitable. Indicator GoF shows the power of the underlying conceptual model (Kock, 2019), and the results of indicator GoF show that the model is highly appropriate. The values of indicators SPR, RSCR, SSR and NLBCD are higher than the minimal prescribed values and are suitable. Table 4 shows the indicators of quality of structural model.

**Table 4.** Indicators of quality of structural model

Constructs	CR	AVE	R <sup>2</sup>	Adj. R <sup>2</sup>	Q <sup>2</sup>	VIF
Employee satisfaction	0.867	0.735	(-)	(-)	(-)	1.253
Employee motivation	0.846	0.718	(-)	(-)	(-)	1.417
Leadership	0.863	0.752	0.462	0.448	0.463	1.987
Employee engagement Employee innovation	0.871	0.796	0.439	0.426	0.452	2.115

**Note:** (-) values cannot be calculated because the construct is a baseline

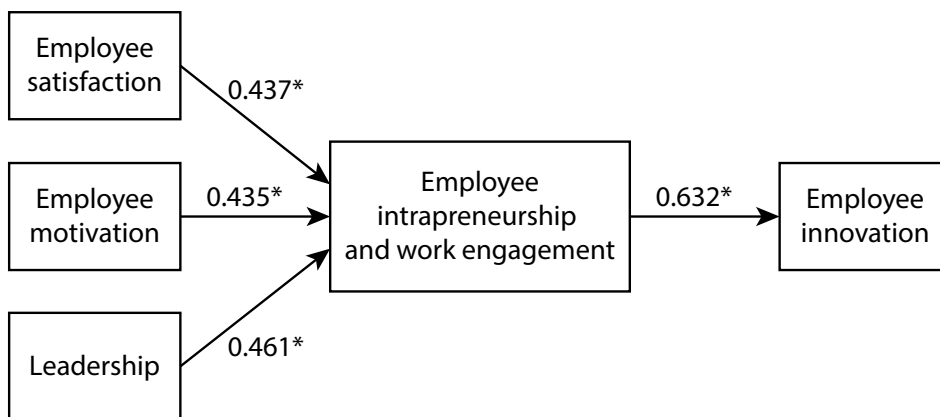
Table 4 indicates that the values of the latent variables' R<sup>2</sup>, adjusted R<sup>2</sup> and Q<sup>2</sup> coefficients are greater than zero. Composite reliabilities (CR) for all five constructs are greater than 0.7. Also, values of AVE for all five constructs are greater than 0.5. As all CR values were higher than AVE values, the authors confirmed the convergent validity for all the constructs studied. The VIF values ranged between 1.253 and 2.115 (VIF < 5.0), providing confidence that the structural

model results were not affected by collinearity. The results of SEM and structural coefficients of links of the basic structural model are presented in Table 5. Also, Figure 1 presents the conceptual model with the values of path coefficients.

**Table 5.** Standardized path coefficients for proposed model

Hypothesized path	Link direction	Shape of link	Path coefficient ( $\gamma$ )	Effect size ( $f^2$ )	Standard error
ES → EE	Positive	Nonlinear	0.437*	0.356	0.030
EM → EE	Positive	Nonlinear	0.435*	0.354	0.031
LE → EE	Positive	Nonlinear	0.461*	0.362	0.027
EE → EI	Positive	Nonlinear	0.632*	0.468	0.029

**Note:** \* $p < 0.001$ ; ES – employee satisfaction, EM – employee motivation, LE – leadership, EE – Employee intrapreneurship and work engagement, EI – employee innovation



**Note:** \* $p < 0.001$

**Figure 1.** Conceptual model of employee intrapreneurship and work engagement with the values of path coefficients

The results in Table 5 show that employee satisfaction has a positive effect on the employee intrapreneurship and work engagement ( $ES \rightarrow EE = 0.437, p < 0.001$ ). The value of Cohen's coefficient ( $f^2 = 0.356$ ) is greater than 0.15 and shows that the effect of predictive latent variables is of high strength. In addition, employee motivation has a positive effect on the employee intrapreneurship and work engagement ( $EM \rightarrow EE = 0.435, p < 0.001$ ). The value of Cohen's coefficient ( $f^2 = 0.354$ ) shows that the effect of predictive latent variables is of high strength. The results in Table 5 show that the leadership has a positive effect on employee intrapreneurship and work engagement ( $LE \rightarrow EE = 0.461, p < 0.001$ ). The value of Cohen's coefficient ( $f^2 = 0.362$ ) shows that the effect of predictive latent variables is of high strength. The results also show that the employee intrapreneurship and work engagement have a positive effect on employee innovation ( $EE \rightarrow EI = 0.632, p < 0.001$ ). The value of Cohen's coefficient ( $f^2 = 0.468$ ) shows that the effect of predictive latent variables is of high strength. The results show that there is a non-linear connection between the individual constructs. Based on the results we confirmed hypothesis 1 (employee satisfaction has a significant positive impact on employee intrapreneurship and work engagement in Slovenian companies), hypothesis 2 (employee motivation has a significant positive impact on employee intrapreneurship and work engagement in Slovenian companies), hypothesis 3 (leadership has a significant positive impact on employee intrapreneurship and work engagement in Slovenian companies) and hypothesis 4 (employee intrapreneurship and work engagement has a significant positive impact on employee innovation in Slovenian companies).

## CONCLUSION

The employee intrapreneurship and work engagement has become of strategic importance for the performance of companies. According to Neessen et al. (2019) intrapreneurship is a process whereby employees recognize and exploit opportunities by being innovative, proactive and by taking risks, in order for the organization to create new products, processes and services, initiate self-renewal or venture new businesses to enhance the competitiveness and performance of the organization. Therefore, it is necessary for companies to be aware of the importance of construct of employee satisfaction, employee motivation, leadership which leads to employee intrapreneurship and work engagement and to higher employee innovation.

Based on the results, we found that employee satisfaction, employee motivation and leadership have a positive impact on employee intrapreneurship and work engagement in companies. This is consistent with the findings of Neessen et al. (2019), Daley (2017), Bakker and Demerouti (2008), Xu and Cooper-Thomas (2011). The results of research also show that employee intrapreneurship and work engagement have a significant positive impact on employee innovation in companies, which is in line with findings of Gawke et al. (2017) and Darwin et al. (2018) in which authors found out that employee engagement lead to higher employee innovation. Blanka (2019) emphasizes that human capital plays a significant role when it comes to the success of ventures. Intrapreneurs, defined as entrepreneurial-thinking people within existing companies, are crucial as they think across the boundaries of organizational units. Therefore, intrapreneurial employees are the foundation for innovation and the subsequent competitive advantage of companies.

When companies build an intrapreneurial environment, one that fosters risk-taking and innovation, they gain invisible ways. Enthusiasm increases manifold when people believe they are not only given a real opportunity to think, try and transform but will be rewarded for it. Therefore, employees become more industrious, consistent, content and efficient. Thus, an intrapreneurship culture is not an overnight event. The owner or manager should help to create an intrapreneurial thinking environment and continuously support it. Owner or manager should be aware of the importance of investing and creating intrapreneurial environment, because it allows employees to feel that they are an important part. By giving employees the right tools, resources, support, and recognition at the workplace, it is easy to create the culture of intrapreneurship. It makes for happy, satisfied, motivated, engaged employees that are more innovative and make businesses more productive. Intrapreneurship can lend itself to new products, services or even processes. Companies that foster an intrapreneurship culture are more competitive and successful.

Our study is limited to the focus of employee intrapreneurship and work engagement in Slovenian companies. The limitations of our research are reflected in five constructs, which are employee satisfaction, employee motivation, leadership, employee intrapreneurship and work engagement and employee innovation. Our further research refers to analyzing other constructs among intrapreneurship in companies with structural equation modelling.



## REFERENCES

- Alpkan, L., Bulut, C., Gunday, G., Ulusoy, G., Kilic, K. (2010). Organizational support for intrapreneurship and its interaction with human capital to enhance innovative performance. *Management Decision*, 48(5), 732–755.
- Antoncic, J. A. and Antoncic, B. (2011). Employee satisfaction, intrapreneurship and firm growth: a model. *Industrial Management & Data Systems*, 111(3–4), 589–607.
- Antoncic, B., Hisrich, R.D. (2001). Intrapreneurship: construct refinement and cross-cultural validation. *Journal of Business Venturing*, 16(5), pp. 495–527.
- Armstrong, M. (2014). *Human resource management practice*. London: Kogan Page Limited.
- Attridge, M. (2009). Measuring and managing employee work engagement: a review of the research and business literature. *Journal of Workplace Behavioral Health*, 24, pp. 383–398.
- Auer Antoncic, J., Antoncic, B. (2011). Employee satisfaction, intrapreneurship and firm growth: a model. *Industrial Management & Data Systems*, 111(4), pp. 589–607
- Avery, D. R., McKay, P. F., Wilson, D. C. (2007). Engaging the aging workforce: The relationship between perceived age similarity, satisfaction with coworkers, and employee engagement. *Journal of Applied Psychology*, 92(6), pp. 1542–1556.
- Bakker, A.B. (2009). Building engagement in the workplace, *Organizational Dynamics*, 46, pp. 67–75.
- Bakker, A.B. (2011). An evidence-based model of work engagement. *Current Directions in Psychological Science*, 20, pp. 265–269.
- Bakker, A. B., Demerouti, E. (2008). Towards a model of work engagement. *Career Development International*, 13(3), pp. 209–223.
- Barlett, D., Dibben, P. (2002) Public sector innovation and Entrepreneurship: Case studies from local government. *Local Government Studies*, 28(4), pp. 107–121.
- Bierwerth, M., Schwens, C., Isidor, R., Kabst, R. (2015). Corporate entrepreneurship and performance: A meta-analysis, *Small Business Economics*, 42(1), pp.1–65.
- Blanka, C. (2019). An individual-level perspective on intrapreneurship: a review and ways forward. *Review of Managerial Science*, 13(5), pp 919–961.
- Camelo-Ordaz, C., Fernández-Alles, M., Ruiz-Navarro, J. (2012). The intrapreneur and innovation in creative firms. *International Small Business Journal*, 30(5), pp. 513–535.
- Castrogiovanni, G. J., Urbano, D., Loras, J. (2011). Linking corporate entrepreneurship and human resource management in SMEs. *International Journal of Manpower*, 32(1), 34–47.
- Chronbach, L.J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3), pp. 297–334.
- Daley, D. (2017). Job satisfaction versus job engagement: A comparative analysis on perceptions of accountability and turnover. *International Journal of Organization Theory & Behavior*, 20(2), pp. 161–192.
- Darwin, J., Guhanandan, S., Panchanatham, N. (2018). Drivers of Employee Engagement and Innovation in Information Technology Industry. *Journal of Business and Management*, 20(1), pp. 38–46.
- EdúValsania, J.A. Moriano, F. Molero (2016). Authentic leadership and intrapreneurial behavior: cross-level analysis of the mediator effect of organizational identification and empowerment. *International Entrepreneurship and Management Journal*, 12(1), pp. 131–152.
- Gawke, J., Gorgievski, M. J., Bakker, A. B. (2017). Employee intrapreneurship and work engagement: A latent change score approach. *Journal of Vocational Behavior*, 100, 88–100.
- Giannikis, S. and Nikandrou, I. (2013). The impact of corporate entrepreneurship and high-performance work systems on employees' job attitudes: empirical evidence from Greece

- during the economic downturn. *International Journal of Human Resource Management*, 24(19), 3644–3666.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E. (2010). *Multivariate data analysis*. Upper Saddle River: Pearson Prentice Hall.
- Hayday, S. (2003). Questions to Measure Commitment and Job Satisfaction. Available at <https://www.employment-studies.co.uk/system/files/resources/files/mp19.pdf>
- Islam, R., Ismail, A. Z. H. (2008). Employee motivation: a Malaysian perspective, *International Journal of Commerce and Management*, 18(4), pp. 344–362.
- Jex, S.M., Britt, T.W. (2008). *Organizational Psychology: A Scientist-Practitioner Approach*. New York: John Wiley & Sons.
- Kock, N. (2019). *WarpPLS User Manual: Version 6.0. ScriptWarp Systems*. Texas: ScriptWarp Systems <sup>TM</sup>
- Kooij, D., De Lange, A., Jansen, P., Kanfer, R., Dikkers, J. (2011). Age and work-related motives: results of a meta-analysis. *Journal of Organizational Behavior*, 32, pp. 197–225.
- Macey, W. H., Schneider, B. (2008). The meaning of employee engagement. *Industrial and Organizational Psychology*, 1(1), pp. 3–30.
- Mack, W.R., Green, D., Vedlitz, A. (2008). Innovation and implementation in the public sector: An examination of public entrepreneurship. *Review of Policy Research*, 25(3), 233–252.
- May, D. R., Gilson, R. L., Harter, L. M. (2004). The psychological conditions of meaningfulness, safety and availability and the engagement of the human spirit at work. *Journal of Occupational and Organizational Psychology*, 77 (1), pp. 11–37.
- Neessen, P. C. M., Caniëls, M. C. J., Vos, B., de Jong, J. P. (2019). The intrapreneurial employee: toward an integrated model of intrapreneurship and research agenda. *International Entrepreneurship and Management Journal*, 15(2), pp. 545–571
- Pang, K., Lu, C. (2018). Organizational motivation, employee job satisfaction and organizational performance: An empirical study of container shipping companies in Taiwan. *Maritime Business Review*, 3(1), pp. 36–52.
- Reuther, K., Schumann, C., Borodzicz, E.P., Johnston, J.B. (2017). Intrapreneurship employees' attitude and the appropriate working environment. 2017 International Conference on Engineering, Technology and Innovation (ICE/ITMC), Funchal, pp. 271-281.
- Robinson, D., Perryman, S., Hayday, S. (2004). The drivers of employee engagement. Available at <http://www.employmentstudies.co.uk/report-summary-drivers-employee-engagement>
- Rožman, M., Treven, S., Čančer, V. (2017). Motivation and satisfaction of employees in the workplace. *Business systems research journal*, 8(2), 14–25.
- Tabachnick, B. G., Fidell, L. S. (2013). *Using multivariate statistics*. Boston: Pearson Education.
- Westrup, U. (2013). Internal entrepreneurship in the public sector: the challenges of integrating innovative project into the regular organization. *Offentlig förvaltning Scandinavian Journal of Public Administration*, 16(4), pp. 97–112.
- Xu, J., Cooper-Thomas, H. (2011). How can leaders achieve high employee engagement? *Leadership & Organization Development Journal*, 32(4), pp. 399–416.