

BALANCING EXPLORATION AND EXPLOITATION IN ORGANIZATIONS: THE ROLE OF ORGANIZATIONAL DESIGN, LEADERSHIP STYLE AND EMPLOYEE PERSONALITY

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Abstract This study examines the relationship between macro- (organizational design), meso- (leadership behavior) and micro-level (employees' personality) organizational characteristics and the individual's ability to manage the exploration–exploitation duality (balancing of exploring new and exploiting existing paths). This study aims to reveal how employees' ability to manage this duality can be enhanced and how these characteristics interact with each other. It is a work in progress, focused on building theoretical background and applying a new research design. An experiment is planned on two samples of Master students with a business background from Austria and Slovenia, using an experimental vignette methodology. Outcomes of this research will enable department and human resource managers to provide conditions at work for employees to balance their intention to explore new avenues while at the same time exploiting existing ones, as both behaviors are necessary to trigger organizational innovation and growth. This study will contribute to the organizational ambidexterity literature by recognizing the contextual and interactive role of macro-, meso- and micro-level organizational antecedents of individuals' ambidextrous behavior.

Keywords:

exploration–
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individuals'
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experiment

JEL:

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1 Introduction

In the business world, organizations face an apparent dilemma. On the one hand, they have to cut costs and push efficiency to stay competitive, applying “exploitative behavior” strategies. On the other hand, organizations also have to meet trends and be innovative so that they do not fall behind their competitors in the future, applying “explorative behavior” strategies (Zacher et al., 2016). These are rather opposing behavior strategies, which are difficult to combine and yet it is vital to balance them to secure the organization’s future. Notably, the balancing act between exploring and exploiting has always been a challenge; however, due to a more global business world, which comes along with increasing environmental uncertainties and more technical advancements, it has become even more important for organizations in recent years (Birkinshaw et al., 2016).

This paper is a work in progress as part of a bilateral research project between Slovenia and Austria,¹ which focuses on the balancing act of explorative and exploitative behavior to enhance the innovation, and thus secure the future, of organizations. Its goal is twofold. First, the study examines the question of to what extent organizational structure, leadership style and employee personality affect the balance between exploration and exploitation in an organization. As organizational structure represents the macro level in organizations while leadership style represents the meso and personality the micro level, this paper will also contribute to the questions regarding which level – macro, meso or micro – most strongly affects the exploration–exploitation balance. Second, the study aims to reveal combinations of organizational structure, leadership style and employee personality that make it particularly easy to balance exploration and exploitation behavior. Overall, the insights of this study will be valuable for processes regarding organizational learning and development as well as personnel selection. This paper focuses on building a theoretical background and proposing a research design for the project.

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2 Theoretical Background

The maintenance and growth of organizations partly depend on the employees' ability to balance the duality between exploration and exploitation activities (Pertusa-Ortega et al., 2021).

The ability to explore new avenues while at the same time exploiting existing ones is termed "ambidexterity." It represents "the capability of individuals to perform contradictory activities and switch between different mindsets and action sets" (Bledow et al., 2009, 322). Organizations that foster employee ambidexterity remain more adaptive to external and internal changes, appear more flexible in times of crisis and are particularly successful when representing the nonmanufacturing industry (Junni et al., 2013; Luu et al., 2019).

Organizational design, also referred to as organizational structure/architecture, is defined as a configuration of relationships with respect to the allocation of tasks, responsibilities and authority (Jones, 2004). It shapes the actions of employees, thereby directing their activities (Davis et al., 2009). Organizations can be more or less structured – meaning that they show high or low formalization, standardization, centralization and steep hierarchy (Burns & Stalker, 1966; Davis et al., 2009). Research offers a number of ideas on how to implement ambidexterity on an organizational level, e.g., by implementing structural, sequential or contextual solutions (e.g., O'Reilly III & Tushman, 2013; Raisch & Birkinshaw, 2008). However, little is known about how organizational structure impacts employee ambidexterity (Pertusa-Ortega et al., 2021).

Transformational leadership is part of Bass and Avolio's (1994) full-range model of leadership and comprises idealized influence, inspirational motivation, intellectual stimulation and individualized consideration. Research shows that transformational leadership relates to individual, group and organizational performance (Hoch et al., 2018; Judge & Piccolo, 2004; Waldman et al., 2001). Even though the organizational effects of transformational leadership are well researched, up to now no insights exist on whether transformational leadership impacts employee ambidexterity. Based on the circumstance that employees led by transformational leaders feel more inspired, intellectually stimulated and encouraged to go new ways, it is expected that transformational leadership positively relates to employee exploration behavior.

However, when it comes to the question of whether transformational leadership also relates to employee exploitation behavior, expectations are less clear.

Personality traits are important drivers of organizational success on the micro level (Barrick et al., 2001). Personality traits are a central reason for why different individuals act differently in the very same situations. They can be divided into cognitive traits and socio-emotional traits (Kanape & Bergner, 2015). General mental ability (GMA) as a cognitive trait denotes a very general mental capability that involves, for example, the ability to reason, plan, solve problems, think abstractly, comprehend complex ideas, learn quickly and learn from experience (Kanape & Bergner, 2015). Research on the importance of GMA on employee ambidexterity is nearly nonexistent, with the exception of Good and Michel's (2013) simulation study, which revealed that individuals with higher cognitive abilities more easily balance explorative and exploitative behavior.

With respect to socio-emotional traits, most attention has been directed at the Big Five model of personality, which comprises the five traits Openness, Conscientiousness, Extraversion, Agreeableness, and Emotional Stability (Costa & McCrae, 1992). Research on the link between the Big Five and ambidexterity is scant. First results reported by Keller and Weibler (2014) demonstrate that more open individuals engage more strongly in exploration tasks. In contrast, more conscientious employees are significantly more engaged in exploitation tasks than their less conscientious colleagues. It is expected that GMA and openness enhance an employee's exploration behavior while conscientiousness enhances exploitative behavior. With regard to the remaining traits (extraversion, agreeableness, emotional stability) no specific expectations can be derived from research. From the above reasoning we propose the following in a rather explorative manner:

Proposition: Specific combinations of organizational structure, transformational leadership and personality traits are positively related to employees' ambidextrous behavior.

3 Methodology

To address the project's aims an experiment is planned with the three factors 1) organizational design, 2) leadership style and 3) employee personality. As all factors will have two levels, a 2 (high/low structure) x 2 (high/low transformational) x 2 (high/low personality score) between-subjects design is planned. The dependent variables will be the employees' exploitation and exploration behavior. The sample will consist of Master students with a business background from the University of Graz and Ljubljana. Including students from both countries will increase the sample's diversity and will thus result in it being more representative. To estimate the sample size a power analysis was performed, where the alpha level ($\alpha=0.05$), the power (80%) and the expected effect sizes were taken into account. Based on research conducted by Al-Atwi et al. (2021), we expect a medium-sized interaction between organizational structure and ambidexterity. We also expect a medium-sized interaction between transformational leadership and ambidexterity, based on Weibler and Keller's (2014) research, and a medium-sized interaction between most personality traits of interest and ambidexterity (e.g., extraversion; Good & Michel, 2013). The power analysis revealed a required sample size of $N = 158$. We aim to collect data of 200 participants to obtain equal sample sizes per condition and thus comply with recent recommendations (Lonati et al., 2018).

Once the experiment is set up, pretested and preregistered, students will be recruited through classes and will be able to sign up for the experiment with a given time slot. As is common in organizational research, the experimental vignette methodology will be used (Finch, 1987). According to suggestions on vignette studies provided by Aguinis and Bradley (2014), we will develop vignettes for so-called "paper people" studies. This means that study participants will be presented with a short and pretested, carefully constructed description (=vignette) of an organization and leader they need to imagine they work for. The description of the organization and leader will be systematically varied. After that, participants will be asked to complete an exploration/exploitation task, which allows their level of ambidexterity to be measured (e.g., What might be the most acceptable way to deal with a product that needs a makeover?). The study participants' GMA and Big Five personality traits will be measured via respective questionnaires (e.g. the Wonderlic Personnel Test, NEO-PI-R).

4 Expected Outcome, Discussion and Conclusion

This research will contribute to research and practice on ambidexterity. First, the study will reveal in what way organizational structure/design affects employee ambidexterity. Based on research outlined above (Sitar & Škerlavaj, 2018), we expect that tightly structured organizations enhance exploitative behavior while loosely structured ones enhance exploration behavior. Second, we will be the first to test the relationship between transformational leadership and employee ambidexterity. We assume transformational leadership increases employee exploration because transformational leaders foster new ways of work and innovation – which are prerequisites of exploration. Third, this study will be the very first to study the link between employee cognitive ability and ambidexterity and it will also be among the first attempts to see how ambidexterity is related to the Big Five traits of employees. Fourth, this study is set up to reveal how organizational structure, leadership and personality interact in terms of employee ambidexterity. As research is scant to nonexistent regarding these questions our project will enrich the literature with unique insights on how to foster ambidexterity.

Regarding practice, two main implications are expected. First, the study will provide us with insights on how to foster individual ambidexterity. This insight can be used in human resource management or organizational learning to set up organizations where employees find the best circumstances to be both explorative and exploitative. Second, learnings from the study findings will inspire managers and leaders on how to change policies to help employees increase ambidextrous behavior. Doing so would be advantageous for contemporary organizations facing disruptions.

References

- Aguinis, H., & Bradley, K. J. (2014). Best practice recommendations for designing and implementing experimental vignette methodology studies. *Organizational Research Methods*, 17(4), 351–371.
- Al-Atwi, A. A., Amankwah-Amoah, J., & Khan, Z. (2021). Micro-foundations of organizational design and sustainability: The mediating role of learning ambidexterity. *International Business Review*, 30(1), 101656.
- Barrick, M. R., Mount, M. K., & Judge, T. A. (2001). Personality and performance at the beginning of the new millennium: What do we know and where do we go next? *International Journal of Selection and Assessment*, 9(1–2), 9–30.
- Bass, B. M., & Avolio, B. J. (1994). *Improving organizational effectiveness through transformational leadership*. SAGE Publications.

- Birkinshaw, J., Zimmermann, A., & Raisch, S. (2016). How do firms adapt to discontinuous change? Bridging the dynamic capabilities and ambidexterity perspectives. *California Management Review*, 58(4), 36–58.
- Bledow, R., Frese, M., Anderson, N., Erez, M., & Farr, J. (2009). A dialectic perspective on innovation: Conflicting demands, multiple pathways, and ambidexterity. *Industrial and Organizational Psychology*, 2(3), 305–337.
- Burns, T., & Stalker, G. M. (1966). *The management of innovation*. Tavistock Publications.
- Costa, P. T., & McCrae, R. R. (1992). Four ways five factors are basic. *Personality and Individual Differences*, 13(6), 653–665.
- Davis, J. P., Eisenhardt, K. M., & Bingham, C. B. (2009). Optimal structure, market dynamism, and the strategy of simple rules. *Administrative Science Quarterly*, 54(3), 413–452.
- Finch, J. (1987). The vignette technique in survey research. *Sociology*, 21(1), 105–114.
- Good, D., & Michel, E. J. (2013). Individual ambidexterity: Exploring and exploiting in dynamic contexts. *The Journal of Psychology*, 147(5), 435–453.
- Hoch, J. E., Bommer, W. H., Dulebohn, J. H., & Wu, D. (2018). Do ethical, authentic, and servant leadership explain variance above and beyond transformational leadership? A meta-analysis. *Journal of Management*, 44(2), 501–529.
- Jones, G. R. (2004). *Organizational theory, design, and change: Text and cases* (4th ed.). Prentice Hall.
- Judge, T. A., & Piccolo, R. F. (2004). Transformational and transactional leadership: A meta-analytic test of their relative validity. *Journal of Applied Psychology*, 89(5), 755–768.
- Junni, P., Sarala, R. M., Taras, V. A. S., & Tarba, S. Y. (2013). Organizational ambidexterity and performance: A meta-analysis. *Academy of Management Perspectives*, 27(4), 299–312.
- Kanape, A., & Bergner, S. (2015). Individual differences and educational leadership. In K. Beycioglu and P. Pashiardis (Eds.), *Multidimensional perspectives on principal leadership effectiveness* (pp. 171–206). IGI Global.
- Keller, T., & Weibler, J. (2014). Behind managers' ambidexterity: Studying personality traits, leadership, and environmental conditions associated with exploration and exploitation. *Schmalenbach Business Review*, 66(3), 309–333.
- Lonati, S., Quiroga, B. F., Zehnder, C., & Antonakis, J. (2018). On doing relevant and rigorous experiments: Review and recommendations. *Journal of Operations Management*, 64(1), 19–40.
- Luu, T., Viet, L., Masli, E., & Rajendran, D. (2019). Corporate social responsibility, ambidextrous leadership, and service excellence. *Marketing Intelligence & Planning*, 37(5), 580–594.
- O'Reilly III, C. A., & Tushman, M. L. (2013). Organizational ambidexterity: Past, present, and future. *Academy of Management Perspectives*, 27(4), 324–338.
- Pertusa-Ortega, E. M., Molina-Azorín, J. F., Tarí, J. J., Pereira-Moliner, J., & López-Gamero, M. D. (2021). The microfoundations of organizational ambidexterity: A systematic review of individual ambidexterity through a multilevel framework. *BRQ Business Research Quarterly*, 24(4), 355–371.
- Raisch, S., & Birkinshaw, J. (2008). Organizational ambidexterity: Antecedents, outcomes, and moderators. *Journal of Management*, 34(3), 375–409.
- Sitar, A. S., & Škerlavaj, M. (2018). Learning-structure fit part I: Conceptualizing the relationship between organizational structure and employee learning. *The Learning Organization*, 25(5), 294–304.
- Waldman, D. A., Ramirez, G. G., House, R. J., & Puranam, P. (2001). Does leadership matter? CEO leadership attributes and profitability under conditions of perceived environmental uncertainty. *Academy of Management Journal*, 44(1), 134–143.
- Weibler, J., & Keller, T. (2014). Führungsverhalten im Kontext von Ambidextrie. In J. Felfe (Ed.), *Trends der psychologischen Führungsforschung: Neue Konzepte, Methoden und Erkenntnisse* (pp. 270–289), Hogrefe.
- Zacher, H., Robinson, A. J., & Rosing, K. (2016). Ambidextrous leadership and employees' self-reported innovative performance: The role of exploration and exploitation behaviors. *The Journal of Creative Behavior*, 50(1), 24–46.

