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Janina Kettenbohrer

University of Bamberg, Janina.Kettenbohrer@uni-bamberg.de

Daniel Beimborn

Frankfurt School of Finance and Management, d.beimborn@fs.de

Andreas Eckhardt

German Graduate School of Management & Law (GGS), andreas.eckhardt@ggs.de

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EXAMINING THE INFLUENCE OF PERCEIVED JOB CHARACTERISTICS ON EMPLOYEES' PROCESS ORIENTATION

Research

Kettenbohrer, Janina, University of Bamberg, Bamberg, Germany,
janina.kettenbohrer@uni-bamberg.de

Beimborn, Daniel, Frankfurt School of Finance & Management, Frankfurt, Germany,
d.beimborn@fs.de

Eckhardt, Andreas, German Graduate School of Management and Law (GGS), Heilbronn,
Germany, andreas.eckhardt@ggs.de

Abstract

A lot of companies struggle by shifting the focus from function orientation to process orientation, especially due to missing process-oriented thinking and behavior of their employees. While, enhancing employees' knowledge about processes by training and empowerment has been considered as the sole adjusting screw to influence process orientation, the characteristics of the jobs, in which the employees work, were not considered in the same extent. As the daily job and its related characteristics represent the core of individuals' working life, we examine in our paper how these perceived job characteristics influence employees' process orientation. Therefore, we develop a research model on the influence of five job characteristics – autonomy, feedback, skill variety, task identity, task significance – on employees' process orientation and evaluate the model by using data from a field survey with 191 employees of a global service company of the aviation industry. The results depict that autonomy, feedback and task significance are all significant predictors for individuals' process orientation. By considering job characteristics, organizations can successfully shift from function orientation towards process orientation.

Keywords: Process Orientation, Job Characteristics, Acceptance, Influencing Factors.

1 Introduction

Many organizations strive for changing towards a process-oriented organization (Hammer and Champy, 1993; Škrinjar *et al.*, 2008). Expected advantages are a higher level of adaptability to market changes or increased speed for delivering high-quality output for the customers (Braganza and Bytheway, 1997; Kohlbacher, 2010). However, a lot of companies struggle with shifting from a function-oriented to a process-oriented organization (Leyer *et al.*, 2015). Major reasons are missing methods to identify the right process (Schäfermeyer *et al.*, 2012), cultural resistance (vom Brocke and Sinnl, 2011), missing employee acceptance towards standardized processes (Kettenbohrer *et al.*, 2015b), and a lack of process orientation of the employees (vom Brocke and Sinnl, 2011).

Changing employees' mindset towards process orientation requires that employees have to have abilities and capabilities but also the willingness to change their way of thinking and working towards process-oriented work procedures (Kumar *et al.*, 2010; Tang *et al.*, 2013; Leyer *et al.*, 2015). Accordingly, process initiatives must take the employees into account and need to understand what drives their willingness and motivation to achieve process orientation. Over the last years, enterprise and business process management (BPM) culture (e.g., Hammer, 2007; Willaert *et al.*, 2007; vom Brocke and Sinnl, 2011) as well as employee training and empowerment have been discussed as drivers for process orientation (Škrinjar and Trkman, 2013; Kohlbacher and Gruenwald, 2011). In the context of these BPM-related actions, the focus lies on increasing employees' knowledge about the nature of processes or process improvement methodologies (e.g., Kohlbacher and Gruenwald, 2011; Hammer, 2007). But the nature of the performed jobs (i.e., job characteristics) is not considered in the same extent. In the research strands of organizational psychology and management research, these factors are associated to increase positive personal and work-related outcomes (e.g., increase performance or work satisfaction or decrease turnover) (Hackman and Oldham, 1975; Hackman and Lawler, 1971; Hackman and Oldham, 1976). As job characteristics drive work-related outcomes we assume that they also influence the process performed to achieve this outcome as well as the way the individual employee perceives this process (i.e. process orientation). For instance, employees exhibiting a job with high skill variety have to be trained well (Hackman and Oldham, 1976). Due to this training, they know the overall process as well as the interdependency between their own tasks and adjacent tasks. In an earlier study, we examined the impact of the different job characteristics on process standardization acceptance (Kettenbohrer *et al.*, 2015a). In particular, we showed that a high degree of skill variety and autonomy significantly influences employees' willingness to accept working in a new business process. Accordingly, knowing which characteristics influence employees' process orientation helps to define the right adjustable screws to successfully change employees' mindset towards process-oriented thinking – and, thus, successful process changes, in an organization.

Hence, to understand, to what extent these factors drive process orientation, the paper is guided by the following research question: *How do job characteristics affect employees' process orientation?*

The remainder of the paper is structured as follows: Drawing on the literature on organizational psychology and management research, we develop five hypotheses regarding how job characteristics influence process orientation of employees. The resulting research model is tested using a data set gathered by an employee survey in a global service company. Finally, we discuss the findings, limitations, and implications of our study.

2 Research background and development of hypotheses

In this section, we provide an overview about existing research on process orientation and job characteristics. This chapter ends with the development of the hypotheses.

2.1 Organizational process orientation

The concept of organizational process orientation is a company's philosophy to manage its processes, internally as well as across firm boundaries (Deming, 1982; Hammer and Champy, 1993). Process orientation highlights the importance of processes which run through an organization in contrast to hierarchies (McCormack, 2001). Thereby, it is a multidimensional construct consisting of different elements (e.g., process design and documentation or process ownership) (Kohlbacher and Reijers, 2013). Process orientation implies emphasizing on the process ranging from customer to customer while diminishing the focus on functional structures (Reijers, 2006). In contrast, the management approach of function orientation is applied to an organization which is "*structured functionally and only recognizes processes within organizational departments or units*" (da Silva et al., 2012, p. 765).

Process orientation requires a systematic management of tasks through several relevant business processes rather than separate functional business units. Consequently, an organization is able to focus on managing simultaneous processes to serve customers' needs (Harrington, 1991). By adopting a process view, firms are able to enhance their overall performance. For instance, McCormack and Johnson (2000) showed in a study that process orientation leads to increased business performance due to reduced conflicts and encouraged connectedness between the different units within an organization. Moreover, process orientation has a positive effect on process quality, customer satisfaction, and financial performance (Kohlbacher, 2010).

To shift an organization from function orientation to process orientation, often a cross-unit business process management is implemented (Armistead and Machin, 1998; Kohlbacher and Gruenwald, 2011). BPM's task is to document firm-wide processes, to clarify process responsibilities and to implement methodologies for continuous process improvement across the organization but also to empower and enable employees to perform tasks within these processes (Kohlbacher and Gruenwald, 2011).

2.2 Individual process orientation

Enhancing process orientation on an organizational level also requires that employees adopt a process-oriented perspective since they have to work in and according to the documented processes (Jeston and Nelis, 2008). Thus, this individual process orientation is expressed in the execution of the daily working routine of the employees (Leyer et al., 2015). Process-oriented thinking means focusing the own thoughts on business processes rather than stressing hierarchy and business units (Kohlbacher and Gruenwald, 2011). This process-oriented thinking is reflected in employees' behavior (Leyer et al., 2015) which refers to employees acting "*in their daily work while considering these aspects to behave in a process-oriented way*" (Leyer et al., 2015, p. 3). This paper aims to examine the influence of job characteristics on employees' process orientation. Thus, only the individual process orientation is considered in our research model.

2.3 Job characteristics

To understand the drivers for employees' process orientation, organizational psychology and management literature provide several theories that explain the influence of work design on employee reaction (e.g., motivation, satisfaction or absenteeism). The most important work in this research strand is developed by Hackman and Oldham (1975; 1976), who defined five core job characteristics, summarized in Table 1.

| Job characteristic | Description |
|--------------------|--|
| Autonomy | The degree to which the job provides substantial freedom, independence, and discretion to the individual in scheduling the work and in determining the procedures to be used in carrying it out. |
| Feedback | The degree to which carrying out the work activities required by the job results in the individual obtaining direct and clear information about the effectiveness of his or her performance. |
| Skill variety | The degree to which a job requires a variety of different activities in carrying out the work, which involve the use of a number of different skills and talents of the person. |
| Task identity | The degree to which the job requires completion of a 'whole' and identifiable piece of work; that is, doing a job from beginning to end with a visible outcome. |
| Task significance | The degree to which the job has a substantial impact on the lives or work of other people, whether in the immediate organization or in the external environment. |

Table 1. Job characteristics (Hackman and Oldham, 1976; Kettenbohrer et al., 2015a)

Hackman and Oldham (1976) showed that these five job characteristics drive positive work outcomes (e.g., work satisfaction) and reduce negative ones (e.g., absenteeism). This effect is mediated by several critical psychological states (i.e., meaningfulness of work, responsibility for outcomes of the work, and knowledge of the actual results of the work) (Hackman and Oldham, 1976).

Several other authors (e.g., Morgeson and Humphrey, 2006; Kiggundu, 1983; Humphrey et al., 2007) based their work on Hackman and Oldham's model. For instance, Humphrey et al. (2007) added five motivational characteristics (i.e., task variety, information processing, job complexity, specialization, and problem solving), split autonomy in a three-dimensional construct as well as added social and work context characteristics. In addition, they extended the original model by adding work context characteristics as well as social characteristics. In their study, they also showed the mediation of the critical psychological states whereby meaningfulness of work was the strongest mediator (Humphrey et al., 2007).

Job characteristics were already analyzed in related research strands. In the context of business process management, we proposed that all job characteristics have a positive impact on meaningfulness of work and business process standardization (BPS) acceptance of the employees (Kettenbohrer et al., 2015b). Besides job characteristics, we discussed the influence of other possible influencing factors (e.g., co-worker relations, work-role fit and the perceived embeddedness of employees' tasks in the overall process). Moreover, the impact of job characteristics on BPS acceptance has also been examined (Kettenbohrer et al., 2015a). We analyzed which job characteristics drive employees' acceptance of process standardization initiatives. Here, we could show that skill variety has the strongest (positive) effect on acceptance. Another interesting characteristic in this context is autonomy, which has a negative impact on employees' acceptance towards process standardization. The other three characteristics (i.e., feedback, task identity, and task significance) seem hardly be related with business process standardization acceptance (Kettenbohrer et al., 2015a).

Morris and Venkatesh (2010) examined the impact of enterprise resource planning (ERP) implementation on job satisfaction. Here, they showed that ERP implementation moderates the relationship between three job characteristics (i.e., skill variety, autonomy, and feedback) and job satisfaction. The results of their study showed a positive interaction effect between the three job characteristics and job satisfaction before implementation and a negative effect after implementation (Morris and Venkatesh, 2010).

Bala and Venkatesh (2013) analyzed the nature, extent, determinants, and outcomes of changes in employees' job characteristics following an enterprise systems implementation. They showed that changes in employees' job characteristics (due to tremendous changes during the shakedown phase) increase

job demands and decrease job control, which consequently influences job satisfaction (Bala and Venkatesh, 2013).

In a later paper, Bala and Venkatesh (2015) developed a model where they discussed technology adaption behaviors as linking mechanism between IT implementation and job outcomes of the employees. They showed that technology adaption behavior leads to changes in job satisfaction and job performance (Bala and Venkatesh, 2015).

3 Model development

Process orientation of the employees refers to performing tasks while considering the aspects of organizational process orientation to behave in a process-oriented way (Leyer et al., 2015). In the following, we compose our research model (see Figure 1) by deriving five hypotheses regarding how job characteristics influence process orientation of employees.

Autonomy refers to the degree of freedom regarding scheduling the work and determining the procedures, methods, and tools to be used in carrying out the task (Hackman and Oldham, 1976). This independence provides the employees the opportunity to plan and define the applied procedures to do their job (Kettenbohrer et al., 2015a). However, this does not mean that there is no interconnectivity to other process participants or other process steps. It rather highlights that employees can decide – to a certain degree – about how to execute their task on their own. Based on the still existing interfaces, employees executing a job of high autonomy know the overall process in detail to be able to estimate the impact of their doing on other process participants' steps as well as on the fulfillment of customer requirements. Based on the autonomous execution of their tasks, they continuously reflect on the overall process execution and the appropriate time to communicate with other process participants to smoothly give over their outcomes. Thus, we hypothesize:

H1: A job with a high degree of autonomy influences the employee's process orientation positively.

Employees performing a job with a high degree of feedback receive direct and clear information about their work (Hackman and Oldham, 1976; Kettenbohrer et al., 2015a). Based on different feedback sources (e.g., feedback from colleagues, superiors, or customers) and the consequent experienced knowledge about their results and performance, employees are aware that their work is a step in a bigger process and that it impacts tasks of colleagues. So, employees can reflect more easily about their process execution (Kettenbohrer et al., 2015b; Leyer et al., 2015).

H2: A job with a high degree of feedback influences the employee's process orientation positively.

Employees with a job that shows high skill variety are required to have several skills. Consequently, they have to be trained well (Hackman and Oldham, 1976) which leads to increased understanding of the job and the corresponding environment (Kettenbohrer et al., 2015a). Based on the training, employees know the overall process in which they perform a certain task. In addition, they are aware of process indicators and customer requirements but also of the interdependency between their own tasks and their colleagues' tasks. In the context of process management, employee training and empowerment also involves methods and techniques for process improvement (Kohlbacher and Gruenwald, 2011; Hammer, 2007) which imply continuous reflection about the overall process and its optimization potentials.

H3: A job with a high degree of skill variety influences the employee's process orientation positively.

Employees performing a job exhibiting high task identity have the opportunity to produce a whole and identifiable piece of work (Hackman and Oldham, 1976). So, the job has a clear beginning and end, and it produces a visible outcome (Kettenbohrer et al., 2015a). Due to the visibility of task results, the interfaces between the different process steps accomplished by different employees become clear. Hence, employees get used to know the overall process and its contribution for the overall organization as well as for external stakeholder groups.

H4: A job with a high degree of task identity influences the employee's process orientation positively.

Employees executing a job of high task significance have impact on the jobs of others. So, they have the opportunity to influence colleagues and their work (Hackman and Oldham, 1976). Because of that impact and the resulting responsibilities, they know the overall process and not just their own individual activities (Škrinjar and Trkman, 2013). Here, it is important to continuously communicate with those colleagues, who are receivers of the employees' task outcome because their own results highly depend on its quality. Besides the impact on colleagues' works, employees performing a job of high task significance also affect the outcomes that are visible for customers. Consequently, these employees are aware of customer requirements (Tang et al., 2013) but also of corresponding performance indicators. Based on the importance of their work, these employees continuously reflect on the process and identify potential weak points or areas for optimization.

H5: A job with a high degree of task significance influences the employee's process orientation positively.

The overall resulting research model is depicted in Figure 1 below.

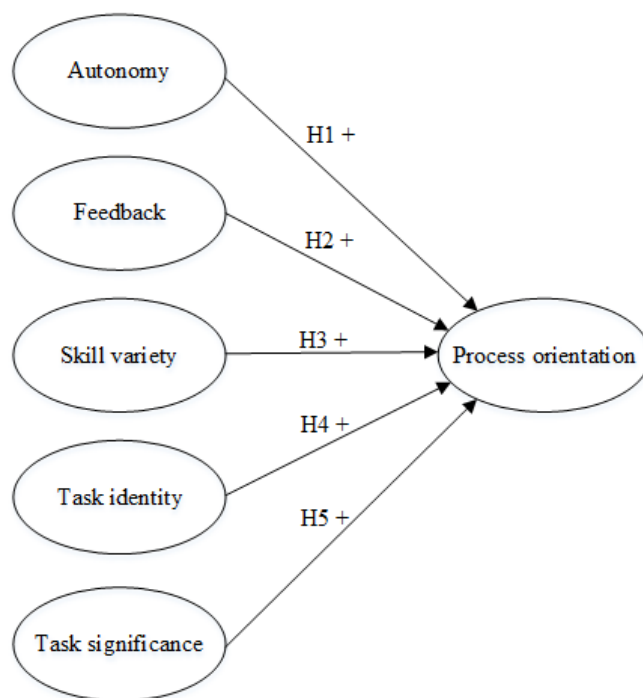


Figure 1. Research model

4 Research design

To evaluate our research model, we conducted an online survey in a global service company of the aviation industry. In the following, we explain the data collection procedure and the used measures.

4.1 Data collection procedure

We evaluated our hypotheses by collecting data in a global service company of the aviation industry. This company is in the midst of a process change initiative. 650 employees will be affected by this change, which basically consists of the implementation of new process management procedures. The organization’s process management will be reorganized by a newly implemented governance structure comprising standardized processes for communication with responsible decision makers.

The data collection took place in July and August 2015. We sent online surveys to all 650 employees and managed to receive 191 completed questionnaires (response rate of 29.4%). In Table 2, the demographics, which also served as control variables, are shown. Looking at the demographics, there are some mentionable aspects. Mostly male employees with an academic degree working in the administration participated in the survey. Here, administration comprises the administrative departments of the organization (e.g. human resources or finance) whereby production refers to the value adding units (e.g. overhaul or repair units).

| | | | | | | |
|---|------------------------------|------------------|----------------------------|---------------------|------------------------|----------------------------|
| Academic degree | <i>No degree</i> | | <i>Non-academic degree</i> | | <i>Academic degree</i> | |
| | 0% | | 20.4% | | 79.6% | |
| Age | <i>Younger than 25 years</i> | | <i>25-40 years</i> | <i>41-55years</i> | | <i>Older than 55 years</i> |
| | 0% | | 24.1% | 62.3% | | 13.6% |
| Sex | <i>Male</i> | | | <i>Female</i> | | |
| | 80.6% | | | 19.4% | | |
| Work area | <i>Administration</i> | | | <i>Production</i> | | |
| | 89.5% | | | 10.5% | | |
| Work experience in current company | <i>Less than 1 year</i> | <i>2-5 years</i> | <i>6-10 years</i> | <i>11- 20 years</i> | <i>21-30 years</i> | <i>More than 30 years</i> |
| | 0% | 6.3% | 14.1% | 30.4% | 30.9% | 18.3% |

Table 2. Demographics

4.2 Measures

The different constructs were operationalized by reflective multi-item measures adopted from literature. We rephrased the items so that they fit to the focus of process orientation as well as discussed them with the responsible project team of the observed initiative. The used items are presented in Table 5.

Employees’ perception of the different characteristics of their job were measured by items from Sims et al. (1976) and Morgeson and Humphrey (2007). To capture employees’ process orientation, we

used measurement items proposed by Leyer et al. (2015). Participants could respond based on a 5-point Likert scale with anchors by 1 (strongly disagree) to 5 (strongly agree).

We chose to use these specific measures because the items proposed by Sims et al. (1976) as well as Morgeson and Humphrey (2006) have been adopted in various studies examining job characteristics' impact. The items proposed by Leyer et al. (2015) were chosen because they were – as far as we know – the only ones explicitly measuring individual process orientation by the employees.

5 Results

The measurement mentioned before were used to evaluate the research model. For validation, partial least squares and the SmartPLS 2 software (Ringle *et al.*, 2005) were used.

For our measures, content validity, indicator reliability, construct reliability, and discriminant validity had to be checked (Bagozzi, 1979). All of the used measures were already validated by prior studies. Nonetheless, we discussed each item with the responsible project team of the BPS initiative. In addition, we pre-tested all items with six employees of the corresponding organization in order to identify ambiguous formulations that might cause misunderstandings in our particular empirical context.

Next, statistical validity criteria regarding our measurement models were checked. All loadings are above .707 (cf. Appendix, Table 5), the AVEs are above .5, and the composite reliabilities are larger than .7 (cf. Table 3).

| Job characteristic | AVE | CR |
|---------------------------|------------|-----------|
| Autonomy | .699 | .875 |
| Feedback | .828 | .935 |
| Skill variety | .820 | .932 |
| Task identity | .737 | .893 |
| Task significance | .682 | .865 |

Table 3. Measurement model validation

For testing for discriminant validity, we used the Fornell-Larcker criterion which compares the square root of the AVE values with the latent variable correlations (Fornell and Larcker, 1981; Hulland, 1999). Our measurement fulfills this requirement, as the square root of each construct's AVE is greater than its highest correlation with any other construct (shown on the diagonal in Table 4).

| Construct | <i>Autonomy</i> | <i>Feedback</i> | <i>Process Orientation</i> | <i>Skill Variety</i> | <i>Task Identity</i> | <i>Task Significance</i> |
|----------------------------|-----------------|-----------------|----------------------------|----------------------|----------------------|--------------------------|
| <i>Autonomy</i> | √AVE= .836 | | | | | |
| <i>Feedback</i> | LV= .248 | .910 | | | | |
| <i>Process Orientation</i> | .257 | .306 | .760 | | | |
| <i>Skill Variety</i> | .229 | .321 | .276 | .906 | | |
| <i>Task Identity</i> | .187 | .250 | .179 | .221 | .858 | |
| <i>Task Significance</i> | .185 | .317 | .294 | .326 | .019 | .826 |

Table 4. Average variance extracted (AVE) (diagonal, shaded cells), latent variable correlations

In survey-based single-informant approaches, there could be a lack of validity because of common method bias (CMB). To address this issue, we used several measures including distributing two different versions of the questionnaire with altered item sequences. This does not reduce CMB but based on that one can test whether context or ordering of questions influences the answers. A group comparison between the different versions of the survey showed no differences.

In addition, we tested the validity of our results for potential CMB by using the Harman single factor test. It showed that no single component explains the majority of the overall variance (the largest component explained only up to 29.9%).

The results for testing the hypotheses are presented by Figure 2 below.

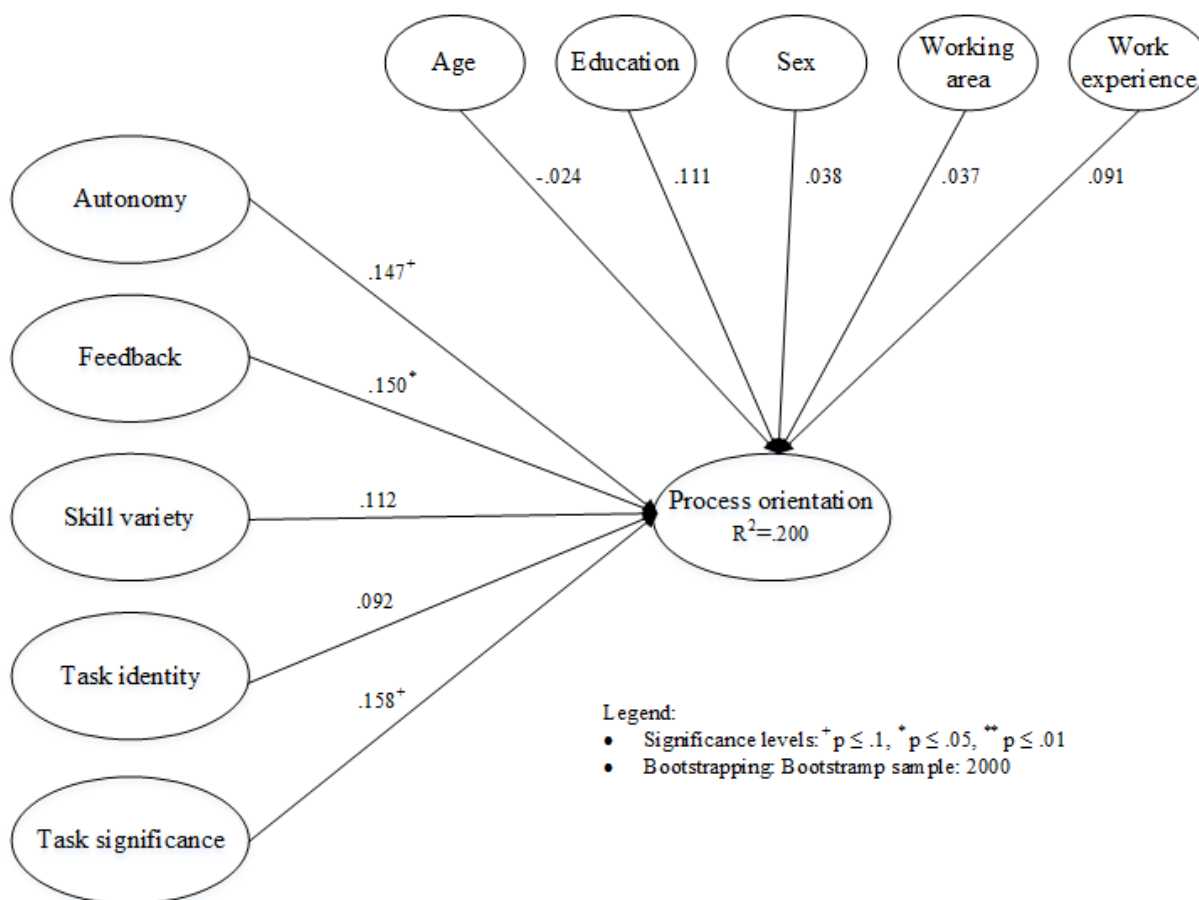


Figure 2. Test results

The results of our study show that autonomy, feedback and task significance are significantly positive-ly related to process orientation (support of H1, H2, and H5). The remaining two job characteristics show no impact on process orientation. Therefore, H3 and H4 have to be rejected.

6 Discussion and limitations

In this section, the results of our study are discussed as well as limitations and implications are pre-sented.

6.1 Discussion

This paper aimed to examine the impact of different job characteristics on employees' process orienta-tion. Feedback is the job characteristic exhibiting the strongest effect on process orientation. This re-sult indicates that feedback about the job coming from different sources increases employees' percep-tion of their jobs embeddedness in a larger process. This finding confirms results from existing re-search on process orientation. For instance, Škrinjar and Trkman (2013) showed that employees do not need to have new skills to work process-oriented but they rather need "a new way of thinking" (Škrinjar and Trkman, 2013, p. 55). This new mindset could be influenced by feedback from col-leagues and even customers. Despite, feedback has not been shown to be a critical practice to increase process orientation, so far.

Autonomy, as the other, at least weakly significant, determinant of process orientation, refers to autonomous decisions about tools, methods, and techniques (Hackman and Oldham, 1976) regarding process execution. Although employees executing a job of high autonomy have comparably higher degree of freedom, they also know and consider the overall process and the interfaces between their own and their colleagues' tasks, which consequently increase process orientation. Moreover, a job with high autonomy often goes along with a higher hierarchical position. To check the impact of an employee's hierarchical position, we asked the survey participants for their process management role before and after the implementation of the new process management governance structure. Here, our results show that the hierarchical position has no effect on process orientation. In addition, due to many missing values, we did not consider it as control variable for our research model.

Our study shows that a job with high task significance significantly positively influences process orientation of the employees. Individuals exhibiting those jobs have great impact on their colleagues' jobs (Hackman and Oldham, 1976). This fact requires them to know the interfaces between their own tasks and the tasks of their colleagues. Consequently, they know the overall process and the interdependencies between the single activities, which increase process orientation.

Unexpectedly, the remaining two job characteristics (i.e., skill variety and task identity) seem hardly be related to process orientation. The results of our study indicate that a job with high skill variety has no impact on an individual's process orientation. A job that shows high skill variety requires employees to have several skills. Consequently, employees have to be trained well (Hackman and Oldham, 1976) which leads to increased understanding of the job and the corresponding environment (Kettenbohrer *et al.*, 2015a). But due to the various different skills, we assume that employees exhibiting those jobs are often generalists coordinating a process rather than experts performing specialized tasks. Indeed, due to their coordination-based activities, they know the overall picture and consequently the overall process. But they do not know the different activities and their interdependencies in detail. So, they do not think and act as process-oriented as employees exhibiting a job which requires fewer skills.

Just as skill variety, task identity has no impact on employees' process orientation. We assume that the opportunity to produce an own and identifiable product (Hackman and Oldham, 1976) leads to employees not considering the interfaces between their own job and their colleagues' jobs because it is not necessary to do so to produce the required product. So, employees exhibiting a job with high task identity are somehow 'not forced' to think and work in processes.

Comparing our results with related research on the role of job characteristics in the context of BPM, our findings are partially conflictive. In our earlier study examining the impact of job characteristics on BPS acceptance, we showed that skill variety has a strong positive effect whereas autonomy has a negative effect on BPS acceptance (Kettenbohrer *et al.*, 2015a). Interestingly, in the context of process orientation, skill variety does not have an impact, at all. In contrast, autonomy positively influences process orientation of the employees. We assume that the differing results are based on the nature of process standardization: BPS induces a lot of changes which are perceived as threatening and unpleasant for the employees (Kettenbohrer *et al.*, 2015a); it is perceived as very restrictive because the processes become more rigid and controlled (Kettenbohrer *et al.*, 2015b). As the aim of process standardization is to homogenize process execution and to reduce variants and deviations by restricting the degrees of freedom, process orientation is not as restrictive. Even if an employee thinks and works in a process-oriented manner, she is allowed to decide about the tools and methods to execute their process tasks on her own.

6.2 Limitations

It has to be mentioned that our work has some limitations. We conducted a survey in one company only. So, the generalizability of our conclusions is limited. In addition, we are aware that there are various other influencing factors that determine an individual's process orientation (e.g. training or the perceived embeddedness of employees' tasks in an overall process) but were not considered in this

paper. Future research should combine these factors (such as employee empowerment and training, process ownership, or usage of information systems) with the results of our study. For instance, the interdependence of job characteristics and different training modes could be analyzed. As a result, individual and adequate training could be provided for employees, depending on the characteristics of their current job. Furthermore, future research could examine the influence of personality characteristics (e.g. individual inertia) on employees' process orientation¹. We did additionally use the .9 confidence level since some of the paths showed coefficients well above 0 so that we could assume missing power rather (and thus the likelihood of a type-II error) than an actually non-existing effect in those cases.

7 Conclusion

Aim of this paper was to examine the impact of job characteristics on process orientation of employees. The results of our study show that autonomy, feedback, and task significance have a significantly positively effect on process orientation while the remaining two job characteristics (i.e. skill variety and task identity) are not related to employees' process orientation. Our research contributes to the BPM literature by extensively examining job characteristics as influencing factors for process orientation.

Our work provides important implications for research and practice. Our study focuses on examining the impact of job characteristics on process orientation, which is also a prerequisite for process changes. Therefore, the results of our study have particularly great implications for the BPM literature. Over the last years, employee empowerment and training have received rising attention (e.g., Škrinjar and Trkman, 2013; Kohlbacher and Gruenwald, 2011; vom Brocke *et al.*, 2014) because a lack of employees' identification and motivation have shown to be reasons for failures of process-related projects (Grau and Moormann, 2014). To successfully implement process management, employees have to "begin to understand the entire process and the inter-process linkages and not just their individual activities" (Škrinjar and Trkman, 2013, p. 55). Our work contributes to this research by identifying the impact of job characteristics on process orientation of the employees. So, our results indicate that not only empowerment and training are important prerequisites but also the different characteristics of jobs executed by the employees have to be considered while implementing BPM and increasing process orientation. As a consequence, the findings of our study also give interesting insights for practitioners. Our results show that three job characteristics (i.e. autonomy, feedback, and task significance) have a strong impact on employees' process orientation. So, if knowing and considering the relevant job characteristics, better targeted activities can be initiated, which in turn save time and cost for organizations.

Appendix

| Construct | Item ID | Loading | Item | Reference |
|-----------|---------|---------|---|-------------------------------|
| Autonomy | AUT-1 | .825 | The job allows me to decide on the order in which things are done on the job. | (Morgeson and Humphrey, 2006) |
| | AUT-2 | .839 | The job allows me to plan how I do my work. | |
| | AUT-3 | .845 | The job allows me to make decisions about what methods I use to complete my work. | |
| Feedback | FEE-1 | .935 | The job itself provides me with information about | (Morgeson and |

¹ We are grateful for this comment made by one of the anonymous reviewers.

| | | | | |
|---------------------|-------|------|---|-------------------------------|
| | | | my performance. | Humphrey, 2006) |
| | FEE-2 | .935 | The job gives me the opportunity to find out how well I am doing on my job. | (Sims <i>et al.</i> , 1976) |
| | FEE-3 | .857 | The job itself provides feedback on my performance. | (Morgeson and Humphrey, 2006) |
| Process orientation | POR-1 | .735 | In my area of operation I know for which products my activities make a contribution. | (Leyer <i>et al.</i> , 2015) |
| | POR-2 | .728 | I know the employees with whom I am working on the compilation of products. | |
| | POR-3 | .747 | I know the goals of the employees with whom I work together including those outside my area of operation. | |
| | POR-4 | .824 | I know the benefit of my activities to external customers. | |
| Skill variety | SKI-1 | .890 | The job requires me to utilize a variety of different skills in order to complete the work. | (Morgeson and Humphrey, 2006) |
| | SKI-2 | .925 | My job requires a variety of skills. | |
| | SKI-3 | .901 | The job requires the use of a number of skills. | |
| Task identity | IDE-1 | .783 | The job involves completing a piece of work that has an obvious beginning and end. | (Morgeson and Humphrey, 2006) |
| | IDE-2 | .910 | The job provides me the chance to completely finish the pieces of work I begin. | |
| | IDE-3 | .876 | The opportunity to complete work I start. | |
| Task significance | SIG-1 | .813 | The results of my work are likely to significantly affect the lives of other people. | (Morgeson and Humphrey, 2006) |
| | SIG-2 | .833 | The job itself is very significant and important in the broader scheme of things. | |
| | SIG-3 | .831 | The job has a large impact on people outside the organization. | |

Table 5. Measurement model

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