

How Does BPM Maturity Affect Process Performance?

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How Does BPM Maturity Affect Process Performance?

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ABSTRACT

Organizations are increasingly confronted with the consequences of globalization, digitalization and disruptive (technological) developments. The constantly changing and dynamic social, economic, and political environment as well as the public opinion require public organizations to deliver effective and efficient services. These trends also apply to Dutch housing associations who are working together with suppliers in the process of property maintenance to increase quality and to reduce costs. Business Process Management (BPM) has the prospect of enhancing the performance of maintenance processes. Previous studies have confirmed a positive relationship between BPM-maturity and Process performance. However, in different contexts this relation is sometimes inconclusive. Especially, it is not yet clear which BPM-maturity dimensions add most value to performance within a specific environment. Therefore, in this research we focus on studying the influence of BPM-maturity on Process performance of maintenance processes at Dutch housing associations. Furthermore, we focus on intra- versus inter-organizational processes. The findings show that an increase in BPM-maturity leads to improved Process performance. This is specifically true within the inter-organizational context.

Keywords: Housing Associations, Property Management, Maintenance Processes, Business Process Management, Process Performance

INTRODUCTION

Housing associations are typically struggling with the optimal and cost-efficient execution of their maintenance processes. In the Netherlands, housing associations officially started with the 1901 Housing Act in which they are stated to be not-for-profit housing providers to low-income households by delivering services at lower-than-market-value rates (Boelhouwer et al., 2014). Housing associations need to organize all maintenance in relation to their housing inventory, from small routine maintenance activities to larger planned maintenance and renovation works. Consequently, Dutch housing associations are the largest group of clients on the Dutch construction maintenance market (Langenhof, Denissen-Visscher, Huizingh, & van Oosterom, 2009). Maintenance and construction projects are often considered one-off projects for which several (sub)contractors are invited to submit a tender to minimize costs (Briscoe & Dainty, 2005). According to figures from the trade association Aedes, in recent years (2015 to 2019) there has been a sharp increase (50 percent) in the costs of maintaining and improving homes. Tenant surveys show that tenants are particularly dissatisfied with unclear and inefficient maintenance processes (Aedes, 2021). In addition, digitalization is increasing, and customers and governments are making changing demands on the quality, reliability, and integrity of services. The housing industry is struggling to successfully align maintenance activities with these changes and the (technological) developments and challenges they face. There is increasing attention for process-oriented work and process management to meet these challenges.

Property maintenance is a process of recurring series of activities and always related to long-term activities. It can be seen as a service that generates opportunities for a more fundamental cooperation between supply chain partners and a more structural coordination of activities, resources, and benefits and risks. Several studies suggest that in order to experience these benefits, a trust relationship must be built (Beccerra & Gupta, 1999; Chow, Cheung, & Chan, 2012; Jelodar, Yiu, & Wilkinson, 2016; Pinto, Slevin, & English, 2009). Dutch housing associations are increasingly working together with suppliers in the supply chain process of property maintenance. However, it is unclear in what way such processes can be effectively managed, and whether this is different for internally organized versus externally outsourced maintenance. Business Process Management (BPM) is considered a common discipline for process improvement (Ongena & Ravesteyn, 2020).

In terms of Supply Chain Cooperation, BPM is seen as a methodology that allows organizations to respond faster to constantly changing requirements (Pradabwong et al., 2017). Initiatives towards a more mature BPM in Dutch housing associations are driven by the trade organization Aedes, knowledge network CorpoNet and representatives of suppliers and housing associations.

However, there is a lack of knowledge about the influence of process management on the achievement of the goals.

Research question

Based on some exploratory interviews and through literature review, a research question was formulated. The starting point for this question is the assumption that a higher maturity of Business Process Management leads to improved Process performance and that this also applies to maintenance processes at housing associations. The study focuses on the aspect of intra- versus inter-organizational processes as described by the integrated framework of Brocke et al. (2016).

This results in the following main research question:

What is the influence of BPM Maturity on the Process performance of intra- and inter-organizational maintenance processes at Dutch housing associations?

THEORETICAL BACKGROUND AND HYPOTHESES

In this section we briefly discuss the concepts that are central to our research.

Business Process Management

Business processes are at the core of every organization (Accorsi et al., 2015). They are important because they are how all the resources of an organization can be used in a reliable, repeatable and consistent manner to achieve its objectives (Zairi, 1997). As such, business processes play a vital role in the efficient and effective functioning of the organization. Moreover, effective processes support the adoption and use of new technology (Lee et al., 2007).

In practice, many organizations strive to improve their business processes. Organizations use BPM as an approach and strategy to achieve efficiency, productivity and better performance (Trkman, 2010). There is increasing evidence that controlling and improving processes enables long-term sustainable competitive advantage and compliance with laws and regulations (Hung, 2006; Ongena & Ravesteyn, 2020). BPM is considered the most common domain for research and practical application in the field of process orientation (Ongena & Ravesteyn, 2020).

BPM Maturity

In recent years, much attention has been paid to the impact of BPM Maturity on the Performance of processes and organizations (de Waal et al., 2017; Ongena & Ravesteyn, 2020; Ravesteyn et al., 2012). Processes are increasingly seen as strategic business assets that require investment and development as they mature. For this reason, the concept of process maturity is becoming increasingly important when organizations adopt a process-oriented attitude (McCormack et al., 2009). In practice, many organizations use maturity models to improve their business processes. The practical relevance of Business Process Maturity Models is widely recognized, especially as improving business processes is becoming increasingly important (Looy & Poels, 2017).

Inspired by the Capability Maturity Model Integration (CMMI) and the work of (Rosemann, 2005; Rosemann et al., 2004; Rosemann et al., 2005) Ravesteyn et al. (2012) developed a model to assess the influence of BPM Maturity on Process performance. The model shows BPM Maturity divided into 7 dimensions (Table 1) that are operationalized into 37 statements.

Table 1.
BPM Maturity Dimensions (Ravesteyn et al., 2012)

BPM Dimension	Description
Process awareness	Management realizes the importance of a process-oriented organization and incorporates this into its strategy.
Process description	Processes and related information within the organization are identified and recorded in process descriptions.
Process measurement	A system for measuring and monitoring processes is being implemented to improve them.
Process control	Process owners are appointed within the organization who are "horizontally" responsible for managing the processes.
Process improvement	The organization strives to continuously improve its processes and has a system in place to make this possible.
Resources & knowledge	The organization has sufficient resources (such as people with process knowledge) to create a "culture of process orientation."
Information technology	The organization uses IT to design, simulate and execute processes, and to obtain real-time measurement information (critical performance indicators).

Process performance

Process performance, according to Schmiedel et al. (2020), is often viewed as the efficiency and effectiveness of organizational processes. It is stated that it is a difficult construct to operationalize because it varies by context, process, organization and other levels. According to Neely (2005) measuring performance can be defined as quantifying the efficiency and effectiveness of an activity. According to Glavan (2011) Key Performance Indicators (KPI) can be classified into the dimensions of quality, time, flexibility and cost.

Within their study on the relationship between BPM and Process performance Ravesteyn et al. (2012) defined the construct of Process performance based on 12 characteristics that measure Process performance (Table 2). The ten characteristics (Cost, Traceability, Efficiency, Lead time, Customer focus, Quality, Employee satisfaction, Competitive advantage, Flexibility, Comprehensiveness) relate to quantitative and qualitative benefits, while two elements (Continuous improvement, Measurability) are based on the BPM life cycle theory (de Waal et al., 2017).

Table 2.
Characteristics of Process performance (Ravesteyn et al., 2012)

Process performance attribute	Description
Costs	The processes within the organization are carried out at an acceptable cost.
Traceability	Processes within the organization are easily traceable (i.e., transparent).
Efficiency	The processes within the organization are efficient.
Lead-time	The processes within the organization have an acceptable turnaround time.
Customer orientation	Processes within the organization are customer centric.
Continuous improvement	The processes within the organization are constantly being improved.
Quality	The results resulting from the processes within the organization are of good quality.
Measurability	Processes within the organization are easy to measure.
Employee satisfaction	Processes within the organization contribute to employee satisfaction.
Competitive advantage	The processes within the organization give our organization a competitive advantage.
Flexibility	Processes within the organization can be easily changed.
Understandability	Processes within the organization can be understood by everyone.

Contextual factors

There is a lack of research on identifying and describing business contexts relevant to applying the right BPM approach. According to Brocke et al. (2016), BPM initiatives that follow a standard approach are doomed to fail because they do not adequately account for situational requirements. This, according to the same study, is also evidenced by conflicting findings from previous studies on whether BPM initiatives increase or decrease organizational performance.

In relation to BPM, contexts can be defined as situational factors related to the dimensions of the process, the organization, and the environment. In recent years, there has been increasing attention to, and recognition of the importance of situational factors for the successful application of BPM in practice (Brocke et al., 2014). To better understand contexts, a framework has been proposed by Brocke et al. (2016) that consists of various contextual factors. One of the factors they describe is 'scope' within the organizational dimension. Here, reference is made to several methodologies related to dealing with the increased complexity in intra-organizational processes compared to inter-organizational processes (Brocke et al., 2016). The scope of a BPM initiative may include processes executed within the organization as well as processes that cross organizational boundaries, such as entire supply chains where suppliers are involved in the role of chain partner. Some of these methodologies focus on issues such as information exchange, the alignment of physical flows of goods, and the integration of business processes.

Supply Chain Collaboration (SCC) or chain cooperation is known as a collaborative strategy in which one or more firms or business units work together to create common benefits (Spekman et al., 1998). Studies show that higher levels of SCC can lead to greater competitive advantage and organizational performance (Li et al., 2006; Pradabwong et al., 2017). Research conducted by (Pradabwong et al., 2017) confirmed a positive influence of BPM on SCC.

Hypotheses

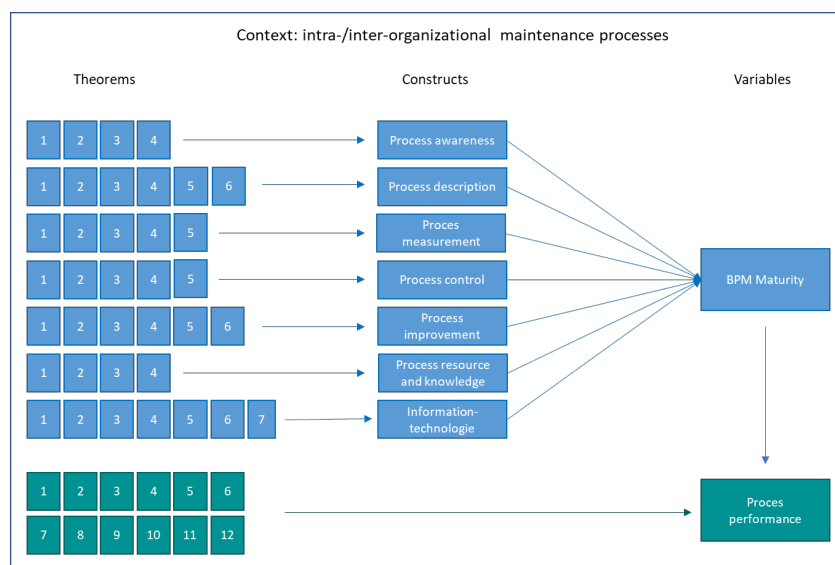
Based on the literature study we developed the conceptual model as shown in Figure 1. Subsequently, several hypotheses were formulated, which together will provide an answer to the main research question. As previous research by Ravesteyn et al. (2012) has shown BPM Maturity overall has a positive impact on Process performance. Empirical research by Pradabwong et al. (2017) found a similar positive effect in SCC. Based on these previous findings, we expect the same results for both intra- and inter-organizational maintenance processes. Consequently, we postulate the following two hypotheses:

H1: Higher BPM Maturity has a positive impact on performance of intra-organizational processes.

H2: Higher BPM Maturity has a positive impact on performance of inter-organizational processes.

H3: BPM Maturity has a greater impact on performance for inter-organizational processes than for intra-organizational processes.

Figure 1.
Conceptual Model



RESEARCH METHOD

To investigate the influence of BPM Maturity on Process performance the model of Ravesteyn et al. (2012) forms the foundation to our research. This model has been used in multiple studies over the years to test the relationship between the concepts of BPM Maturity and Process performance. This has been done in different organizations as well as in different countries (de Waal et al., 2017; Janssen & Ravesteyn, 2015; Ongena & Ravesteyn, 2020; Ravesteyn et al., 2012). For this research a cross-sectional study was conducted among employees working within the Dutch housing corporation industry. This was paired with a

comparative study to inspect differences between intra- and inter-organizational processes. The respondents represented a cross-section of employees working within maintenance processes at housing associations.

Data collection

A survey was conducted to investigate the relation between BPM Maturity and Process performance. The questionnaire was based on the previous work of Ravesteyn et al. (2012) and measurement was based on a Likert scale of 1-5. The questionnaire consisted of the 37 items related to BPM Capabilities (across 7 dimensions) and the 12 items for Process performance.

For practical reasons, we chose to conduct non-probability sampling based on convenience (Bell et al., 2019). Respondents were invited through various channels and knowledge networks such as Aedes meetings and online communities. The target audience were managers, property managers, information managers, consultants and technical specialists working in the property management of housing associations.

Primary data was collected by means of the questionnaire. This data is used to test the assumption that Process performance of maintenance processes will improve with a higher degree of BPM Maturity. Secondary data was collected from the Aedes data center and is used to divide the respondents into two groups of (1) housing associations in which maintenance is fully or partially carried out in-house (intra-organizational) and (2) housing associations in which maintenance is fully outsourced (inter-organizational).

Through the questionnaire, data was collected from 55 respondents representing 33 housing associations. Based on this the data was divided into a group 'intra-organizational' containing 44 respondents, and 'inter-organizational' containing 11 respondents. We also checked the type of maintenance that was performed. Most respondents completed the questionnaire for "Maintenance processes as a whole (40.4%)." This is followed by "Repair maintenance" and "Mutation maintenance" and these two both fall under the subprocess corrective maintenance (49.1%).

The smallest proportion filled out the survey in the context of "Multi-year maintenance budget and condition measurement" or "Planned maintenance" which both fall under the subprocess "preventive maintenance" (10.5%).

Reliability

To examine the reliability of the scales, an analysis was conducted based on Cronbach's alpha as it is one of the most widely used ways to validate the internal consistency of scales (Bell et al., 2019). There are several sources and studies to indicate acceptable values of Cronbach's alpha. It is generally believed that a value

ranging from .700 to .950 is an indication that the scale is reliable (Bell et al., 2019; Hair et al., 2020; Tavakol & Dennick, 2011). The reliability of the scales was confirmed for BPM Maturity and Process performance with results ranging from .745 to .910 (Table 3).

Table 3.
Reliability of scales

Construct / Dimension	Items	Cronbach's alpha
BPM Maturity	7	.910
Process awareness	4	.805
Process description	6	.875
Process measurement	5	.836
Process control	5	.833
Process improvement	6	.891
Resources & knowledge	4	.843
Information technology	7	.745
Process performance	12	.839

RESEARCH RESULTS AND INTERPRETATION

Correlation analysis

A correlation analysis was conducted to examine the relationship between BPM Maturity and its underlying dimensions with Process performance. The correlation analysis was conducted based on Pearson's r to determine the direction and proximity of the correlation (Schober & Schwarte, 2018). A scatter diagram confirmed that the relationship between BPM Maturity and Process performance is linear within both contexts (Bell et al., 2019). In the Pearson method, the sample should be large enough (>30), or smaller but without extreme outliers (Baarda & van Dijkum, 2014). The former is the case for intra-organizational and the latter for inter-organizational.

The results of the correlation analysis are shown in Table 4. The results for intra-organizational are shown in above the diagonal (white) and for inter-organizational below the diagonal intra-organizational (gray).

Table 4.
 Correlation analysis BPM dimensions and Process performance
 * significant at the 0.05 level (two-tailed), ** significant at the 0.01 level (two-tailed)

	Process awareness	Process description	Process measurement	Process control	Process improvement	Resources & knowledge	Information technology	BPM Maturity	Process performance
Process awareness	1	.256	.485**	.569**	.442**	.557**	.471**	.679**	.229
Process description	.476	1	.567**	.545**	.628**	.430**	.426**	.685**	.216
Process measurement	.448	.689*	1	.659**	.678**	.696**	.568**	.825**	.277
Process control	.553	.857**	.809**	1	.783**	.777**	.612**	.882**	.334*
Process improvement	.660*	.682*	.375	.712*	1	.798**	.705**	.894**	.283

Resources & knowledge									
	.430	.927**	.546	.734*	.633*	1	.696**	.879**	.369*
Information technology									
	.425	.519	.709*	.642*	.483	.516	1	.786**	.211
BPM Maturity									
	.692*	.906**	.813**	.939**	.793**	.828**	.741**	1	.350*
Process performance									
	.638*	.731*	.778**	.705*	.631*	.566	.460	.797**	1
	Process awareness	Process description	Process measurement	Process control	Process improvement	Resources & knowledge	Information technology	BPM Maturity	Process performance
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Process performance	.638*	.731*	.778**	.705*	.631*	.566	.460	.797**	1

Intra-organizational

The Pearson analysis shows that there is a significant weak correlation between BPM Maturity and Process performance ($r = .350$; $p = .020$; $N = 44$) for housing associations where maintenance is performed in-house.

Weak correlations were found for the BPM dimensions *process control* ($r = .334$; $p = .029$; $N = 43$) and *resources and knowledge* ($r = .369$; $p = .016$; $N = 42$).

Inter-organizational

For housing associations that have fully outsourced maintenance, we see a significantly strong correlation between BPM Maturity and Process performance ($r = .797$; $p = .003$; $N = 11$). Also, we see three significantly strong correlations for BPM dimensions *process description* ($r = .731$; $p = .011$; $N = 11$), *process measurement* ($r = .778$; $p = .005$; $N = 11$) and *process control* ($r = .705$; $p = .015$; $N = 11$). Additionally, two significantly medium correlations are found for the dimensions *process improvement* ($r = .631$; $p = .037$; $N = 11$) and *process awareness* ($r = .638$; $p = .035$; $N = 11$).

What is further notable in the results is that there is a significant correlation between the dimensions of BPM Maturity. A multicollinearity diagnostic was performed based on Variance Inflation Factor (VIF) that has been used in similar research (de Waal et al., 2017; Ongena & Ravesteyn, 2020). Although in some cases the correlations between the independent variables were relatively high, the VIF factors were not greater than 5 in any of the models (Kutner et al., 2005).

Regression analysis

A single and multiple regression analysis was applied for each context. This was done to examine to what extent BPM Maturity and its dimensions contributes to Process performance.

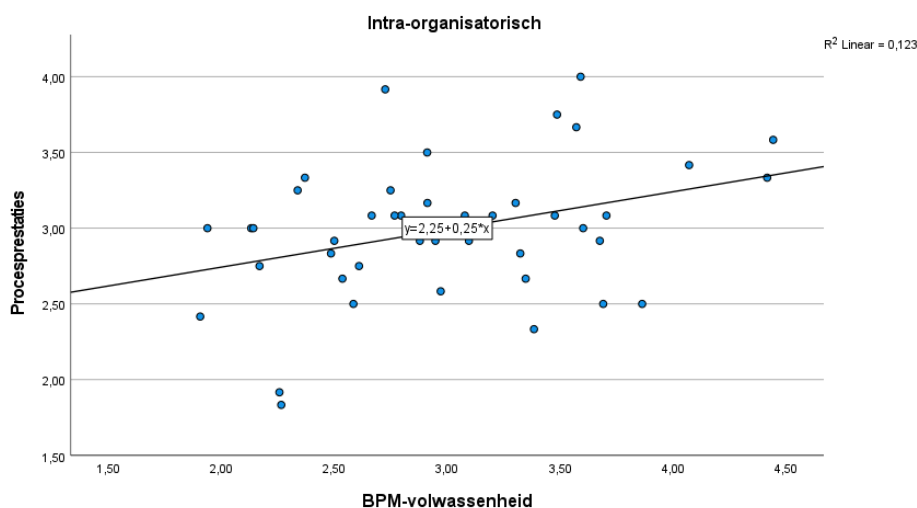
Intra-organizational

In the results of the single regression, we see that 12.3% (R^2) of the variance in Process performance can be explained by BPM Maturity as a whole. The regression coefficient is .249 and significant ($t(42) = 2.423$; $p .020$). The remaining 87.7% is explained by other factors.

Based on a multiple regression analysis we found that the *resources and knowledge* dimension is found to be a significant predictor of Process performance. The explanatory power of the dimension is 14.4% (R^2). The regression coefficient was .206 and significant ($t(39) = 2.565$; $p .014$). Thus, the remaining 85.6% is explained

by other factors. There were no additional dimensions that provided a better result of the prediction. The scatter diagram in Figure 2 shows that there is a linear relationship between the variables BPM Maturity and Process performance.

Figure 2.
Scatterplot intra-organizational maintenance processes

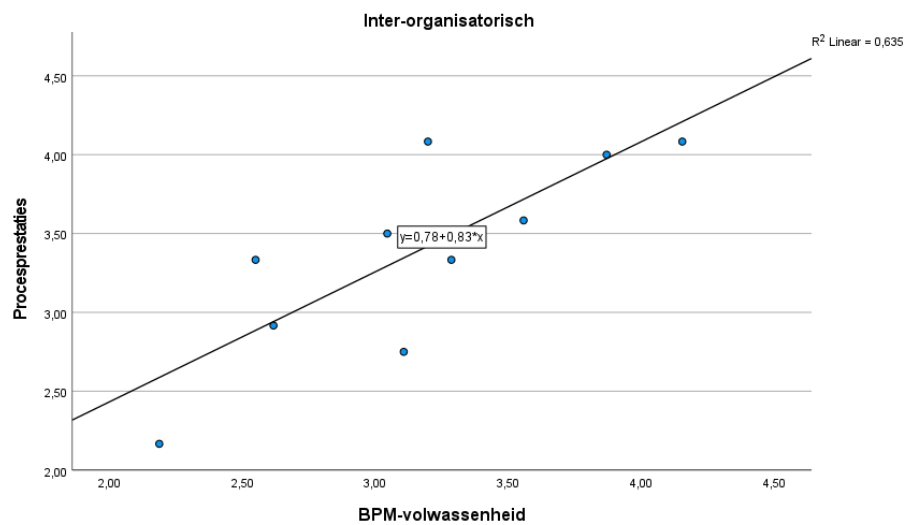


Inter-organizational

In this context the single regression analysis shows that 63.5% (R^2) of the variance in Process performance could be explained by BPM Maturity. The regression coefficient is .825 and significant ($t(9) = 3.957$; $p .003$). The remaining 36.5% is explained by other factors.

Based on a multiple regression analysis we can conclude that the BPM dimension *process measurement* is determinant of Process performance. The explanatory power of this dimension is 60.6% (R^2). Again, there were no additional dimensions that provided a better result. The regression coefficient of *process measurement* was .641 and significant ($t(9) = 3.917$; $p .005$). The remaining 39.4% was explained by other factors. By means of a scatter diagram (Figure 3) it is shown that there is a linear relationship between BPM Maturity and Process performance.

Figure 3.
Scatterplot inter-organizational maintenance processes



DISCUSSION

Looking at the intra-organizational maintenance processes the results of the single regression shows that BPM Maturity contributes 12.3% to better Process performance. This is a meaningful but also a modest contribution compared to previous research (de Waal et al., 2017; Dijkman et al., 2016; Ravesteyn et al., 2012). Based on this study and current literature we don't have a clear explanation for this.

According to Simatupang & Sridharan (2008), BPM can be seen as the most important element of supply chain collaboration used to improve performance. This view is confirmed by the results of the regression analysis for the inter-organizational maintenance process. Here, BPM Maturity contributes 63.5% to improved Process performance. This is a relatively high score and a strikingly large difference from the intra-organizational context.

In their study, Ongena & Ravesteyn (2020) concluded that organizations initiating activities to improve the performance of their processes should primarily focus on the dimension's *information technology* and *resources and knowledge*. They also showed that the dimension *process measurement* plays an important role in large organizations. The results of this study partially confirm these findings. However, in our study it is notable that *information technology* does not reappear as a factor of significance in either context.

This might have to do with the relative low level of automation within housing associations.

Looking at the intra-organizational process, the results of the multiple regression analysis on the intra-organizational subset show that the *resources and knowledge* dimension plays a central role in an organization's performance. The importance of education, skills, and knowledge was previously highlighted by vom Brocke & Rosemann (2015) and Rosemann et al. (2004), and later linked to performance by Ongena & Ravesteyn (2020). The results of this and previous studies suggest that in the case of intra-organizational processes, human capital is particularly important in the application of BPM Maturity.

In the case of inter-organizational maintenance processes, *process measurement* appears to be an important factor of significance with respect to performance. By measuring processes, employees are continuously informed about the results related to performance indicators. This research shows that facilitating employees to adjust their behaviors to achieve the goals benefits performance. Empirical research by Pradabwong et al. (2017) confirmed that measuring and improving processes, as part of BPM, contributes positively to SCC and to performance.

CONCLUSIONS

This research sought to answer the question:

What is the influence of BPM Maturity on the Process performance of intra- and inter-organizational maintenance processes at Dutch housing associations?

To answer this question, quantitative research was conducted. The required data was collected by issuing a questionnaire to housing association employees who may be involved in maintenance processes in various ways. The primary dataset has subsequently been split into intra- and inter-organizational processes using secondary data from the Aedes data center. Based on literature review, three hypotheses were formulated to further guide the research. The hypotheses aimed to answer the main question and provide new knowledge and insights. Through correlation and regression analysis, the relationship between an organization's BPM Maturity and Process performance was examined within both contexts. This was done to answer the first, second and third hypothesis.

H1: Higher BPM Maturity has a positive impact on intra-organizational Process performance.

The results of the analysis for intra-organizational processes showed that BPM Maturity contributes 12.3% to better Process performance. We can conclude from the results that BPM Maturity has a positive (albeit limited) influence on Process performance. With this, *H1* can be confirmed.

H2: Higher BPM Maturity has a positive impact on inter-organizational Process performance.

Based on the analysis for inter-organizational processes it can be concluded that BPM Maturity also positively influences Process performance within this context. The contribution of BPM Maturity to a higher degree of Process performance is 63.5%. This confirms *H2*.

H3: BPM Maturity has a greater impact on Process performance in inter-organizational processes than in intra-organizational processes.

The results confirm that a higher BPM Maturity within both contexts is associated with achieving better results from maintenance processes. Housing associations that fully outsource maintenance clearly benefit the most from this. This leads to the conclusion that *H3* is also confirmed.

Implications

This research shows that housing associations in general can benefit from an improvement in Process performance by increasing BPM Maturity. Based on this and the findings of this research, the general advice to the industry is to view process management as a strategic tool to achieve more flexible, manageable, cost-efficient, and customer-oriented processes within property maintenance. This applies both to housing associations where maintenance is fully or partially carried out in-house (intra-organizational), and to associations where maintenance is fully outsourced (inter-organizational).

To make targeted recommendations, additional depth was added during the analysis by also looking at which BPM dimensions play a determining role in relation to Process performance. This applies to intra-organizational processes for resources and knowledge, and to inter-organizational for process measurement. So, depending on the context, housing associations should focus primarily on these BPM competencies to improve the performance of their processes.

Limitations

The validity of the study was ensured by using the validated model by Ravesteyn et al. (2012) and standardizing the results. Several studies (de Waal et al., 2017; Ongena & Ravesteyn, 2020; Ravesteyn et al., 2012) have shown that this is a successful way to investigate the relationship between BPM Maturity and Process performance within different contexts. Based on this, it can be expected that if this study were repeated, the results would yield similar results. There were however some implications concerning the generalizability of this study. The following aspects combined to lower the external validity of the study, advising caution in generalizing the results.

- According to the sample size calculation, 364 respondents were needed to achieve a 95% confidence level. The final sample yielded 55 respondents resulting in a margin of error of 13.2%. The dataset was then split into intra-organizational (N=44) and inter-organizational (N=11) which has implications for statistical significance.
- There was a skewed relationship between housing associations because 28.1% of the respondents were from one housing corporation. As a result, these respondents were over-represented in the intra-organizational subset.
- The survey covered the combination of four types of maintenance processes, but within the sample not all processes were representative. A relatively large number of responses came from maintenance processes as a whole and corrective maintenance.
- This also applies to the jobs of respondents where the tasks, responsibilities and distance from the maintenance process vary.
- In addition, the extent to which external supply chain partners may be involved varies. For example, partners can be involved, not involved or partially involved. Together with the limited number of respondents, this made it difficult to divide the data into distinct groups that could be compared. As a result, the intra-organizational group was not homogeneous.

Future work

Follow-up research on different levels of supply chain collaboration, its performance and the influence of BPM Maturity can help housing associations and suppliers in their shared ambition to transcend the traditional customer-supplier relationship.

Because corrective maintenance processes may exhibit more characteristics of product-oriented processes because of their frequency and predictability, among other things, it seems plausible that they would benefit more from the exercise of

process management than preventive maintenance processes. Preventive maintenance processes, on the other hand, due to their complex, analytical, and planning nature, seem to be more knowledge intensive. According to the framework by Brocke et al. (2016), there may be differences in knowledge-intensive and non-knowledge-intensive processes and this difference may be subject to investigation in a subsequent study.

Finally, future research based on a more targeted or larger sample may help to gather more knowledge and evidence about the hypothesized cause-and-effect relationship between BPM Maturity and Process performance within property maintenance, or the housing association industry as a whole.

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