Among Fumblers, Talkers, Mappers and Organizers - Four applications of process orientation

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Abstract

The study describes different applications of process orientation and associates the applications with organizational performance and inhibiting factors. The objective of the study is to analyze potential differences between the various applications of process orientation and thus to empirically validate what organizations actually do when managing their processes.

The article uses survey data from 183 employees of various healthcare facilities in one region in Sweden. Four significantly different user groups of process orientation existed in the

studied population. These were Fumblers, Talkers, Mappers and Organizers. The Organizers perceived the greatest effect on organizational performance, slightly greater than the Talkers. The Mappers perceived a significantly lower effect. The results also show that the perceived resistance from inhibiting aspects decreases the more visible and structural the application of the process orientation is, i.e., Mappers and Organizers. The linguistic and cognitive approach that the Talkers have taken has been perceived as fruitful in terms of organizational performance. We argue that the suggested classification of process orientation contributes to a better understanding among practitioners by showing that different applications of process orientation exist and by showing what effects can be expected from these applications. By not seeing process orientation as one single idea or application, it is our intention that this study contribute to a broader view of process orientation.

Keywords: process orientation, organizational performance, healthcare, cluster analysis, Sweden

1 INTRODUCTION

Process management has recently emerged as a management idea in the private and public sectors for organizational improvement and success. Here, we look at how value is actually created in organizations (i.e. through its processes) and not only on outcome (i.e. the product), and process orientation has been called perhaps the most important management idea of the past 20 years (Cole and Scott 2000).This recognition and the broad application of process orientation today are reason enough to take a detailed look into how process orientation is being used and what benefits it offers.

The management literature frequently discusses management ideas but discussions often remain on the conceptual level and do not deal with how the ideas are in fact used in organizations (Benders 1999). In fact, there is some conceptual ambiguity in descriptions of

management ideas, which makes it difficult to identify their literal meaning (Alänge et al. 1998). It is possible to interpret them differently and one single idea can be given different meanings according to the subjective perceptions of members of an organization. This makes it necessary to look at these interpretations in research on management ideas as the "impact on organizational practice lies in the first place in its interpretations rather than in its original content" (Benders and van Bijsterveld 2000). This means that, to be able to say anything about how useful management ideas are, we have to study how they are applied.

In this paper we address practitioners' interpretations of process orientation and we will try to empirically validate what organizations actually do to manage the processes in their organization. Since it seems reasonable to assume that the idea of process orientation may allow a wide spectrum of different applications of the same original idea, the objective of the present study was first to investigate whether such a spectrum exists. Secondly, we have sought to explore potential differences among these applications of process orientation in terms of:

– what is perceived as the effects of the application on the organizational performance
– what inhibiting factors arise during the introduction

In addressing these questions we hope to shed light on how organizations conceptualize process orientation, and by analyzing different applications of process orientation our intention is to contribute to a better understanding of process orientation.

These questions will be explored by means of a survey of respondents who have knowledge of process orientation in the Swedish healthcare sector. Via a cluster analysis of items regarding the respondents' application of process orientation, the existence of different user groups among the population will be tested. These cluster groups will then be compared against generated indices regarding organizational performance and perceived inhibitors. The next section gives a literature review of related fields; we then outline the research approach

and methods used. In the third section we provide a detailed overview of the data analysis and results. In the last section we present a discussion, some general conclusions and managerial implications.

1.1 Process orientation

Process orientation as a concept goes back to the quality movement and the shift in focus from product characteristics to process characteristics (Shewhart 1931). The next generation of scholars in the quality movement gave process characteristics even more attention, suggesting that the whole organization should be viewed as a system of processes that should be mapped, improved and kept under control (Ishikawa 1985; Deming 1988; Juran 1989). Process orientation became a vital element of Total Quality Management (Hackman and Wageman 1995). The importance and value of process orientation was further emphasized by other management ideas such as Lean Production (Womack et al. 1990; Liker 2004), Business Process Reengineering (Hammer and Champy 1993) and Six Sigma (Schroeder et al. 2008). Process orientation offers a powerful answer to many of the problems that functional and product-oriented structured organizations feel that they face by its focus on activities that generate value for customers and the view of the organization as a chain of activities that cuts across departments (Garvin 1998). The belief is that most processes have grown in a boundless way without relevant control and are thus terribly inefficient (Garvin 1998). However, if the focus is moved to the processes that generate value for customers and activities in the organization that do not directly contribute to these processes are questioned, process orientation promises both speed and organizational efficiency (Davenport 1993; Elzinga et al. 1995; Armistead et al. 1999).

Even though process orientation has been around for a long time, there is still debate about what process orientation means and how organizations should interpret the process message (Love and Gunasekaran 1998; Pritchard and Armistead 1999; Biazzo and Bernardi 2003;

Hellström 2006; Palmberg 2009). Van Looy et al. (2011) mean that there are six basic components of business processes ((1) modeling, (2) deployment, (3) optimization, (4) management, (5) culture and (6) structure) and the components can be used in order to evaluate and improve the business processes. With a lack of any clear-cut directions that might provide guidance on how to deploy process orientation, it has been described as both a set of tools and techniques for improving processes and a method for integrating the whole organization and it needs to be understood by all employees (Lee and Dale 1998). In a review of the literature in process management Palmberg (2009) makes a similar distinction as Lee and Dale and categorizes approaches of process management into (1) process management for single process improvement and (2) process management for system improvement. A typical example of the first category might be a PlanDoStudyAct-inspired approach as described by Ahire and Dreyfus (2000) in which four continuing steps are described. The first step is to select key processes through prioritization. After that, root causes of problems in the process are identified by the use of quality tools. In the third step changes are implemented in the daily operations and in the last step the improvements are measured.

In the second category, process management is seen as a more holistic fashion to manage all aspects of the business and a valuable perspective to adopt in determining organizational effectiveness (Pritchard and Armistead 1999; Palmberg 2009). Process orientation is also described as an evolution, instead of different distinct approaches – an evolution with a series of steps leading to a higher degree of orientation towards the processes. A typical beginning in this evolution is that processes are identified and mapped. In this work, process mapping techniques are important tools, in which the value creating flow through the organization is identified and illustrated (McKay and Radnor 1998; McAdam and McCormack 2001; Biazzo 2002). By identifying and mapping the processes, an important architecture is developed as a way to understand the organization and the improvement opportunities. This is not a simple

task, and Biazzo (2002) emphasizes that the difficulties regarding the identification of key processes in an organization should not be underestimated. Biazzo further stresses that this procedure must be regarded as an interpretation of how the company actually operates. When an architecture has been created, the processes are streamlined by reducing variation, getting rid of redundant activities, smoothening handoffs between traditional organizational boundaries, and putting related tasks and responsibilities into groups. This may then be translated into changes in organizational structures when process owners are designated, whose role is to lead the improvements of the processes, ensure integration and be "spokespersons" for the process in relation to the rest of the organization (Harrington 1991; Garvin 1998; Pritchard and Armistead 1999; Biazzo and Bernardi 2003).

Thus, with a stronger orientation towards processes, there might also be effects on the distribution of power and organizational structure. The more radical process rhetoric, promoted most by Business Process Reengineering advocates during the 1990s, argued for more fundamental changes in organizational structures by skipping the functional organization and "going horizontal". Not many organizations actually took the step to becoming fully process-based (Stalk Jr and Black 1994; Boehm and Phipps 1996; Braganza and Korac-Kakabadse 2000), but there is instead a "design continuum" that ranges from the highly departmentalized functional organization to the fully process-based organization (Boehm and Phipps 1996). This continuum can be illustrated as four possible types of organizational forms (see Figure 1): the vertical functional organization, the functional organization with horizontal process overlays, the process organization with functional overlays, and the process-based organization.

Fig. 1 Principal stages of process orientation (Hellström and Eriksson 2008)

Given the reasoning above we will mainly use the concept process orientation in this article instead of the more commonly used process management. We argue that process orientation is a relative term that captures the whole scale for minor process initiatives (that can hardly be regarded as true management of processes) to large scale reorganizations of the operation and management structure. Our interest in process orientation in this study is furthermore on a more principle than an operative level. Our definition of process orientation must consequently be rather general and incorporate a broad spectrum of process initiatives. Benner and Tushman (2003) emphasize some critical elements that suit such a definition: (1) the shift from the view of organizations as a collection of departments with separate functions and outputs to a view of them as systems of interlinked processes that cross functions and link organizational activities; (2) processes are collections of activities that produce output for customers (both external and internal, i.e., subsequent processes); (3) the core focus in the approach is on measuring, improving and rationalizing organizational processes.

1.2 Contextual factors inhibiting process orientation

There is a risk that managers can be overly persuaded or hear only the easy and appealing components in the process literature. Stalk Jr and Black (1994) state that the rush to an orientation towards processes has many times been hasty and ill-considered. Hence, there is a great hazard that organizations will undertake initiatives that do not fit their broader organizational context (Davenport 1993). When starting to develop a greater orientation towards processes it is difficult to predict what obstacles and new problems might arise along the way. It seems fruitful and easy to draw process maps and to analyze the organization in a process perspective. But it is quite another matter to start to manage the organization in a process perspective. Gemmel et al. (2008) show that there is a misalignment between three components of process orientation, 1) process view, 2) process job and 3) process management and measurements at their surveyed hospital. This kind of misalignment is

important to understand in order to improve the adoption of process orientation, according to Gemmel et al. (2008).

Organizational consequences of the process orientation seem much more complex and troublesome than is often described in the mainstream process management literature (Hellström et al. 2010; Hellström and Peterson 2006). The process perspective brings new insight, but action cannot always be taken in the light of this insight - sometimes because the existing structures and power positions are too strong for it to be possible to implement the change (Lindvall 1999). This is most likely one reason why many organizations have improved their processes but only a few have made fundamental changes in their management.

Hammer and Stanton (1999) state that the functional structure often shows a natural hostility towards integrating processes, considering them a threat to power. This balance of power is most critical in the mid-section of the "design continuum" described in Figure 1. The co-existence of both horizontal and vertical management structures has in many cases generated states of confusion and conflicts when people in the organizations are torn between different organizational logics – a state that undermines the performance of the organization according to Hammer and Stanton (1999). These findings were later confirmed in a recent study by Hellström et al. (2010) in which the authors studied the introduction of process management at a hospital. In their study they found that e.g. the job identity of the employees, budgeting, reimbursement systems, IT structure and the architecture of the facilities were often referred to as obstacles to the idea of process management and its realization. In a survey by Pritchard and Armistead (1999), confusion between functions and processes and a lack of consistency in the approach to process management across the organization were found to be the greatest inhibitors of process initiatives. This was found in organizations that had been working with

process management for some time. For the less experienced organizations, a lack of understanding was named as the greatest inhibiting factor.

1.3 Effect on organizational performance

Rogers and Wright (1998) state that organizational performance is one of the vaguest and most loosely defined constructs in organizational research. One common definition of performance is put forward by NIST (2008), however, where it is written that the term "performance" refers "to outputs and their outcomes obtained from processes, products, and services that permit evaluation and comparison relative to goals, standards, past results, and other organizations".

Advocates of process orientation point out numerous benefits and performance improvements from process-based activities. These include shorter product development times, reduced inventory (Stalk Jr and Black 1994), improved productivity, fewer customer complaints and fewer late deliveries (Boehm and Phipps 1996). In another study, McCormack (2001) makes a distinction between different elements in process orientation ('process management and measurement', 'process jobs' and 'process view') and shows that the first two elements had a strong relationship with overall business performance, reduced interfunctional conflict, improved interfunctional connectedness and esprit de corps. Studies of Kaynak (2003), Kaynak and Hartley (2008) and Zu et al. (2008) have shown that process management has a direct relationship to what they define as quality performance. The results showed that process management reduced variation through practices such as foolproofing, stabilizing production schedules, and preventive maintenance. Ahire and Dreyfus (2000) tested the relationship between process management and what they defined as internal and external quality and showed strong support for this relationship.

ISO 9000 registration is sometimes seen as a proxy for the adoption of process management practices, see Benner and Veloso (2008), who found that as the majority of the firms within

an industry adopt ISO9000, late adopters no longer gain financial benefits from these practises. In a study of the relationship between quality management practice and organizational performance, Samson and Terziovski (1999) show a significant relationship in a cross-sectional sense, in that quality management practice intensity explains a significant proportion of variance in performance. In particular, the categories of leadership, management of people and a customer focus are the strongest significant predictors of operational performance. However, the study shows no significant relationship between process management and operational performance. In addition, other studies have shown no consistent benefits of working with process management practices (Benner and Tushman 2003; McNulty and Ferlie 2004).

Despite the ambiguous results concerning the effect that process orientation might have on organizational performance, we decided to include performance in the study in order to investigate whether and how different applications of process orientations affect the organizational performance. There are many different performance measures, including performance related to product and service, customer, financial and marketplace and operations, see NIST (2008). Another classification by Sila (2006) includes human resource results, customer results, organizational effectiveness, and financial and market results. Yeung (2007) uses still other performance areas.

Moreover, the operationalization of process management is, similar to performance, not the same in all these studies. The operationalizations used are also on a more operative and detailed level, e.g., meet the production schedule every day (Zu et al. 2008), cost of scrap is tracked and reported (Ahire and Dreyfus 2000), extend to which employees are authorized to stop production for quality problems (Kaynak and Hartley 2008).

2 METHODS

In an explorative study like this one it is important to consider the appropriateness of the sample criterion, i.e., who is best suited to give high quality responses to the questions raised. Sample size is not a particularly major issue in this case since assurance of confidence is rather established by the appropriateness of the sample size and response rates for the sort of statistical analysis being undertaken (Adams 2003). In the present study we decided here to include employees of Region Västra Götaland in Sweden that have theoretical and practical experience of process orientation. Region Västra Götaland has 1.5 million inhabitants and about 50,000 employees and its major task is to manage the region's healthcare system. Most of the employees work at the region's 17 hospitals, 134 healthcare centers and 170 public dental care clinics. To ensure a selection of respondents with explicit knowledge of process orientation, the criteria we used were that the respondents either had participated in a two-day course in process orientation or occupied a position such that it can be assumed that they had knowledge about process orientation (e.g., quality managers, process facilitators). These criteria generated 183 individuals, and we considered this number to be manageable and sufficient for exploratory purposes. Thus we decided to include the whole target group of initiated people and regard it as the population at hand. Consequently, with the population used in this study, no claims of generalizability in a statistical sense can or will be made other than to say it is representative of itself. However, Lincoln and Guba (1985) advocate another kind of generalization, so called transferability, which is built around concepts such as cognition, abstraction and comprehension instead of concepts such as sample and population. By investigating the chosen knowledgeable population, we hope to achieve transferability (Lincoln and Guba 1985) of the results. However, transferability should be seen from the perspective of the user of any generalization, i.e., the reader in this case.

2.1 Developing the questionnaire

Questions concerning the applications of process orientation were included in the questionnaire to serve as a basis for the cluster analysis. Aspects of organizational performance and inhibiting factors of process orientation were also included. The items were developed from a literature review of process orientation and a focus group workshop with professionals experienced in process orientation in the healthcare sector. Krueger and Casey (2000) advise that there should be a limited number of participants. In our case, four participated in the focus group because of the rather complex topic and the high level of knowledge among the participants. In summary, we decided that the measures regarding process orientation, the organizational performance and the inhibiting factors should primarily be identified in a dialogue with a focus group and adjusted after the recommendation from a pilot survey for the reason that we strove to identify measures that reflect the respondents' environment.

Despite the exploratory nature of this study, some precautions were taken to ensure the validity of the questionnaire. Six practitioners with extensive experience of process orientation approaches in general and knowledge of the various ways to work within the Region Västra Götaland in particular reviewed the questionnaire in order to reduce the possibility of effects of non-random errors. Special attention was given to whether it was comprehendible, i.e., that there would not be misinterpretations of questions and vocabulary. Appropriate adjustments were made after the review so that we would have relevant questions with an adequate vocabulary. The final questionnaire was distributed via web questionnaire software.

2.1.1 Response rate

The population consisted of 183 individuals, among whom two stated that they no longer worked at the Region Västra Götaland. Another claimed she had not followed the two-day course and therefore did not belong to the target population. These three individuals excluded from the original set (N=180). In all, 122 individuals answered the questionnaire, thus a response rate of 68% (122/180).

Non-responses were analyzed by sending a shorter version of the original questionnaire to all the non-respondents. This generated 16 responses. The abbreviated questionnaire contained background questions on the respondents' experience, how successful the applications had been and how they would describe the application of process management. The final question was what the main reason was for not responding to the first call. The responses to this question showed no reason to suspect any biases in the group of first responders. A majority of the late responders stated that the main reason for not responding was a lack of time. A t-test was also made on the background questions among the two response groups. The results indicated that there was no significant difference (at $p<.05$), and non-response bias was thus not recognized as a problem.

The encouraging response rate and the results of the non-respondent analysis made us confident that the results generated are likely to reflect the structure to be found in the population. Hence, results may form the basis for a series of propositions about process orientation types that can be explored, refined and tested in future research.

3 DATA ANALYSIS AND RESULTS

3.1 Identifying applications of process orientation

The questionnaire included six questions concerning the application of process orientation, see Table 1. The number of variables may be able to be reduced by making a principal component analysis of variables, where redundant correlated variables in the data set are removed and replaced with a smaller number of uncorrelated variables. We also examined the structure of the data in this analysis and identified potential underlying factors. Tests showed that principal component analysis was a suitable analytical method for the variables (Kaiser-Melkin-Olkin Measure of Sampling Adequacy=0.807, Barlett's Test of Sphericity with p=0.000).

The Kaiser criterion for deciding the number of factors suggested two factors. The scree plot showed that it would be possible to retain two or three factors. Because of ambiguous factor loadings it was troublesome to interpret the factor solution of the analysis (using varimax rotation) with two factors, but the factor solution from the analysis with three factors made more sense. The rotated component matrix for three factors is shown in Table 1.

Table 1 Factor loadings for the variables describing usage of process orientation. (Hellström and Eriksson 2008)

The first factor is marked by high loadings on the last three variables (process owner, measurement system, assessments and improvements) and the factor was labelled "process management". The second factor has high loadings on variables two and three (processes are identified and processes are mapped) and was suggested to be labelled "process mapping". The load of the last factor is entirely on variable one – processes are seen as a certain

perspective on the organization/operation – and was consequently suggested to be labelled "process view". These three new factors that concern ways of working with process orientation are a condensed structure of the original data. Although this is just a reduction from six to three variables, it is still a reduction by half and a solution that is easier to interpret and simpler to explain.

3.2 Classifying process orientation users

A cluster analysis was made to classify respondents into groups whose members see the application of process orientation in similar ways. Cluster analysis seeks to maximize homogeneity within clusters while simultaneously maximizing heterogeneity between clusters. It is a purely empirical method of classification and as such an inductive technique that explicitly attempts to classify (Hair et al. 1998).

The method used consisted of first making a hierarchical analysis in order to determine the number of cluster groups that would be suitable. This cluster solution was then refined by a non-hierarchical analysis (k-means), a combination of methods that is recommended (Ketchen and Shook 1996; Hair et al. 1998). By using the three uncorrelated factor scores obtained in the previous principal component analysis as a basis for clustering (instead of the six original items) the problem of multicollinearity among clustering variables, which may overemphasize one or more underlying constructs and thereby distort the shape of clusters, is addressed (Ketchen and Shook 1996).

A mixed method approach was used in the hierarchical analysis to assess the consistency of the cluster solution. Tests with various agglomerative algorithms gave similar results. After these tests, the average linkage method (within-group linkage) with squared Euclidiean distance was selected as the preferred solution. The appropriate number of clusters was determined by dendrogram observations and a priori theory. The average linkage method

provided a four cluster solution with a well defined structure and variation in terms of clustering variables.

All of the clustering variables differed in a statistically significant manner across the four cluster groups. Thus truly distinctive groups were identified that may reflect an underlying structure. Following Adams (2003), we tested the stability of the solution by dropping cases from the data set, one at the time. Since these tests for the most part generated the same clusters we were confident that our cluster solution was consistent.

During the second step of the analysis, the results from the hierarchical procedures were adjusted and refined by performing a non-hierarchical analysis (k-means). The cluster profiles corresponded well to the profiles provided by the hierarchical analysis, and the solution resulted in groups of almost equal size. Again, the solution provided distinctive clusters with a statistical difference.

3.2.1 Interpreting the classification

When interpreting and describing the nature of the four clusters we followed the advice of Hair et al. (1998), who state that, if factor scores are used as a basis for the clustering, the researcher would have to use raw scores for the original variables and compute average profiles. Figure 2 illustrates the mean values of the original six variables for the four cluster groups.

Fig. 2 Mean values for the six original variables. The statements were measured on a four-grade scale (1 = "not at all/to a very small extent", 4 = "to a very large extent")

The first cluster, consisting of 34 respondents, has low values in all six variables. Respondents in this cluster have not identified or mapped their processes. Consequently, management structures for the processes (designated process owners and/or measurement systems) are nonexistent. Processes do not commonly exist in the mind or vocabulary of the organization. Since this group is still fumbling with their application of process orientation, they are suggested the label Fumblers.

The second cluster profile (31 respondents) includes applications in which process orientation might best be defined as a linguistic or cognitive model. Processes might be used metaphorically as a perspective of the organization by which the personnel can be encouraged to view individual actions as links in a much longer chain of events, crossing traditional functional barriers. The usage of the concept 'chain of care' might be a typical application of this mode of process orientation. In this 'softer' application of process orientation, the main objective is not to establish a new structure since no real efforts have been made to identify or map the processes that could be the basis for a management structures for the processes. We suggest giving this cluster the label of Talkers.

The third cluster, which we call Mappers, consisted of 31 respondents. In this user group the focus is directed towards a 'harder', more technical and tool-oriented side of process orientation. Processes exist in a linguistic and cognitive manner within the organization to a somewhat lesser extent than in the previous cluster. In relation to the Talkers, the Mappers aim more at the visual elements in process orientation, i.e., the process maps. A great deal of effort has probably been invested in identifying the process architecture in the organization and abstracting these to process maps. However, ownership or measurement systems for the processes have not been established.

The fourth cluster is suggested the label of Organizers and consists of 26 respondents. Members in this cluster responded with generally high scores in all six variables. In this

cluster, the objective is to establish a new organizational structure. Special responsibilities for the processes have been assigned to a new management position – the process owners. Control over the processes has further been developed by linking objectives and measurements to them. Since processes are an established structure in the organization, improvements and assessments of the processes have been carried out. However, it is noteworthy that the element of process orientation as a linguistic and cognitive model is somewhat less apparent among the Organizers.

3.2.2 Validating the classification

After interpreting the clusters it is important to validate the cluster solution. Because of the exploratory basis for the cluster analysis, validation is critical, although often neglected (Ketchen and Shook 1996). In accordance with the recommendations of Hair et al. (1998), predictive (or criterion) validity was tested by focusing on variables that have a theoretically based relationship to the six clustering variables (but not included in the cluster solution). For this purpose, a variable was selected for the organizational relationship between the traditional line organization and the process initiative. The variable is a five-scale operationalization of the "design continuum" illustrated earlier in Figure 1, ranging from the highly departmentalized functional organization to the fully process-based organization (Stalk Jr and Black 1994; Boehm and Phipps 1996). Validation is affirmed by significance tests (Chi-Square) that show that the clusters differ in a significant manner in relation to the validating variable, see Table 2.

Table 2 The relationship between the traditional line organization and the process initiative converted into five possible types of organizational forms (missing = 1)

3.3 Performance and inhibiting indices

The questionnaire included two additional sets of items: 13 items on the influence of process orientation on organizational performance; and ten regarding potential aspects that inhibit the application of process orientation. Tests showed that principal component analysis was a suitable analytical method for both data sets (Kaiser-Melkin-Olkin Measure of Sampling Adequacy > 0.5, Barlett's Test of Sphericity with p=0.000). Each set of items was therefore entered into principal component analysis procedures in order to reduce these variables to a smaller (and handier) number of factors, i.e., indices.

For the 13 performance items, the Kaiser criterion suggested two factors. However, since the second factor just passed the criterion (eigenvalue = 1.081) and the scree plot showed that one factor was clearly dominant, we decided to be satisfied with only one factor. This factor accounted for 55% of the total variance and can be regarded as an index for the overall organizational performance. The component matrix of the factor is shown in Table 3.

Table 3 The component matrix for the 13 items regarding organizational performance.

The Kaiser criterion suggested two factors for the ten items on inhibiting aspects for applying process orientation. Again, the second factor just passed the criterion (eigenvalue = 1.332) while the scree plot showed that one factor clearly dominated. According to our evaluation the separation of two factors did not make sense or generate additional meaning; consequently we again decided to be satisfied with only one factor. This factor can be regarded as the index for inhibiting factors, which accounts for 53% of the total variance. The component matrix of the factor is shown in Table 4.

Table 4 The component matrix for the ten items on inhibiting factors.

3.4 Differences between Fumblers, Talkers, Mappers and Organizers

After segmenting the applications of process orientation into four distinctive cluster groups and developing two indices (factors) in the additional data set, it is time to consider the practical significance of the suggested classification of process orientation users. In this stage, the classification is tested against the factor scores of the overall performance and inhibition generated. It is noteworthy that significant differences ($p<0.05$) could be observed in both indices.

3.4.1 User groups and organizational performance

Concerning overall organizational performance it is evident that the Organizers have experienced the greatest effects, see Figure 3. Not surprisingly, the Fumblers is the group with the least reported effects on performance. An interesting result is the difference between the Talkers and the Mappers. The relatively low effect on performance experienced among the Mappers and relatively high effect among the Talkers might be surprising. This implies that the effects that process mapping has on performances must not be overstated. Perhaps the process maps run the risk of being too abstract and reduced from the original context since the results indicate that the user groups that are less abstracted from the organization's social system and prevailing way of working, i.e., Talkers and Organizers, have a significantly greater effect on the organizational performance.

Figure 3 Factor scores regarding overall organizational performance. The results differ significantly ($p< 0.001$).

3.4.2 User groups and inhibiting aspects

As concerns inhibiting factors for applying process orientation, it is noteworthy that they actually decrease the more manifest and explicit the application of the process orientation is,

see Figure 4. This result contradicts theories stating that problems will increase when the process orientation is implemented and previously unknown downsides of the management idea will be apparent to the members of the organization. Instead, the result implies that problems and resistance are greater when process orientation is abstract and less known.
If we assume that most process initiatives are aimed at reaching the higher degrees of process orientation and that the classification can be seen as an evolution towards this objective, the higher degree of resistance and perceived inhibition in the 'initial phases' could be explained by a low fit between the newly adopted idea and the local context and a lack of consensus and clarity regarding the objective. In other words, the translation from the external management idea to a mutually adapted practice in the local context has not taken place in a successful way for the Fumblers and the Talkers. Consequently, this would also imply that the Organizers have been quite successful in this translation of the management idea.

Figure 4 Factor scores regarding perceived inhibition. The results differ significantly ($p < 0.1$).

4 CONCLUSION

4.1 Theoretical implications

For the explorative purpose of this study, factors in process orientation were identified by means of a principal component analysis. With theoretically and empirically generated variables as a basis, the analysis gave a categorization consisting of three factors: process view, process mapping and process management. In the cluster analysis of the three factors, we concluded that four significantly different user groups of process orientation existed in the studied population. The first group in this classification was fumbling with their application – labelled the Fumblers. Another group mainly talked about their processes – labelled the Talkers. The third group had mainly identified and mapped their processes. Consequently, this

group was called the Mappers. The last group was managing their processes, with designated process owners and measurement systems, and was therefore labelled the Organizers. The four user groups were compared in terms of differences on the effects on organizational performance and on the inhibiting factors.

Significant differences were found. The Organizers perceived the greatest effect on organizational performance, slightly more than the Talkers. The Mappers perceived a significantly lower effect. Hence, it can be concluded that mapping has a relatively low impact on performance. The linguistic and cognitive approach that the Talkers have taken has been perceived as fruitful in terms of organizational performance. The effects on performance perceived by the Organizers are relatively weak given the investments they have made in creating a new management structure. Their perceived results in performance are just slightly better than the Talkers' way of coordinating through language. Hung (2006) elaborates on process improvement initiatives such continuous improvement, process re-engineering and benchmarking and show that "the results present evidence that Process Alignment and People Involvement are positively associated with organizational performance." Our study adds value by focusing on empirical based classification regarding how practitioners work with process orientation.

The results show that the perceived resistance to process orientation decreases the more manifest and explicit the application of the process orientation is (i.e., Mappers and Organizers). Apparently, concrete elements like process maps, process oriented structure, targets and measurements actually decrease resistance. The result implies that problems and resistance are greater when process orientation is abstract and less well known (i.e., Fumblers and Talkers).

4.2 Managerial Implications

The effects on performance perceived by the Organizers are relatively weak given the investments in process orientation they have made in creating a new management structure. Their results are just slightly better than the Talkers' way of coordinating through language and the goal of a shared view among employees. In summary, this study suggests that talking continuously with colleagues and neighbours in the value chain may be an effective tool to improve the performance. This could be done through networks, for example, with representatives from all parts of the process, and in which improvement areas for the customers are dealt with in dialogue. It is important to note that this means that the approach to communication within the value chain should be systematic and integrated in the business and not ad hoc occurrences.

We argue that the suggested classification of process orientation contributes to a better understanding among practitioners by showing that different applications of process orientation exist and by showing which effects can be expected from these applications. Indeed the various applications can be seen as a continuum, but the different applications can also be seen as different conscious strategies taken by an organization. We suggest that one should either choose a cognitive and linguistic approach (Talkers) or the more resource-demanding organizational approach to process orientation (Organizers). However, it is our suggestion that a purely technical and tool-oriented approach is not advisable. Our results can also be seen in the light of evolution within the quality movement– a movement that have had its phase of tool orientation, but also a shift towards a more systematic approach (Dahlgaard-Park, 2011). In addressing these questions we hope to shed light on how organizations conceptualize process orientation both in terms of strategy formulation and deployment.

5 DISCUSSION

Process orientation and process improvement are vital elements of many contemporary management ideas such as Lean Production, Six Sigma and the ISO 9000 series. Even if the process view is slightly different, for example, ISO 9000 focuses on uniforming the processes, Six Sigma focuses on reducing the variation in the processes and Lean stresses the improvement of the flow in the processes, see Andersson et al. (2006), the general aim of all concepts is improvements. To approach process improvement, one can choose, consciously or unconsciously, different applications. With the purpose of exploring various applications of process orientation, and not seeing it as one single idea or application, it is our intention that this study contribute to a broader view of different applications of process orientation regardless if one works with Lean, Six Sigma or the ISO 9000 series or combinations.

One explanation for the differences between the user groups concerning performance might be that the Talkers' and Organizers' applications are more clearly connected to the everyday practice in the organization than the Mappers' application. In this perspective, process maps can be seen as reconstructions of everyday activities in the organization and, by that, abstractions of "reality". These abstractions from "reality" might be good for analytical purposes and as a fruitful complement to the classical organization chart (Hellström and Peterson 2006). However, the present study indicates that the maps' effect on organizational performance should not be overstated if the results of the processes maps are not managed accordingly. It can be that complexities in the specific contexts are reduced so much that they become irrelevant in terms of achieving performance enhancements. Cardwell (2008) also states that it is apparent that many organizations are still not enjoying the benefits of proper business process managements. This may be especially true for the healthcare sector in which patient processes pass traditionally strong department boundaries, including budgets and reimbursement systems (Hellström et al., 2010). Perhaps it can also be the way the process

maps have been conducted that causes these weak effects, e.g., low participation, poor knowledge of using the technique, inability to administrate the result.

The results concerning the perceived resistance contradict studies arguing that "it is easier to analyze a business in processes than to organize it subsequently" (Lindvall 1999 p. 102). This study raises the question of whether the idea of process orientation may be more threatening than its practice. One explanation for this intriguing result might be found in the translation process from the general idea to the local application. From the perspective that the meaning of a management idea is not anything given but something being created, the study implies that the Mappers and Organizers have been quite successful in their translation from the original idea to a context-adapted application. The same reasoning might also be an explanation of why the Fumblers are still fumbling – they have not been able to overcome initial barriers of the implementation and translation. Since translation is a human action, the inability found among the Fumblers highlights the importance of possessing knowledge to translate ideas into practice.

The results of this explorative study should be viewed with some caution. Due to the choice of population, only explorative hypotheses can be generated. Furthermore, it is a biased population since it consists only of people initiated in process orientation. The respondents also come from different levels in their organizations, which may lead to problems in perspective since the perceived degree of process orientation and its effects may be different in different levels of the organization. Consequently, confirmative studies are desirable in order to be able to make generalizations. With these limitations in mind, this research delivers support to the importance of treating process orientation as a variety of applications. With our suggested classification we hope to contribute to a more balanced debate on applications of management ideas in general and process orientation in particular. The study also contributes to a further understanding of the 'loose coupling' (Benders and van Bijsterveld 2000) between

the label of a management idea (i.e., rhetoric) and its substantive implementation (i.e., application).

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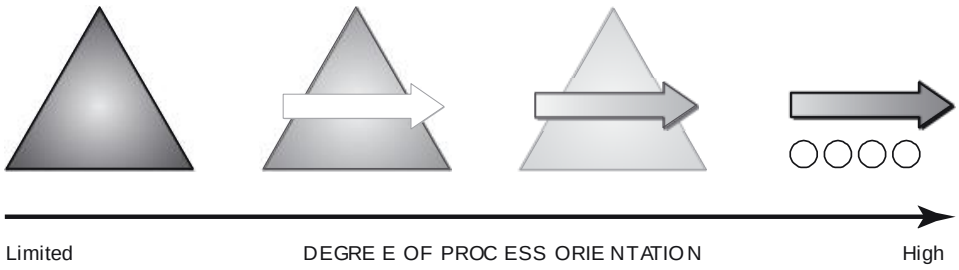

Fig. 1 Principal stages of process orientation

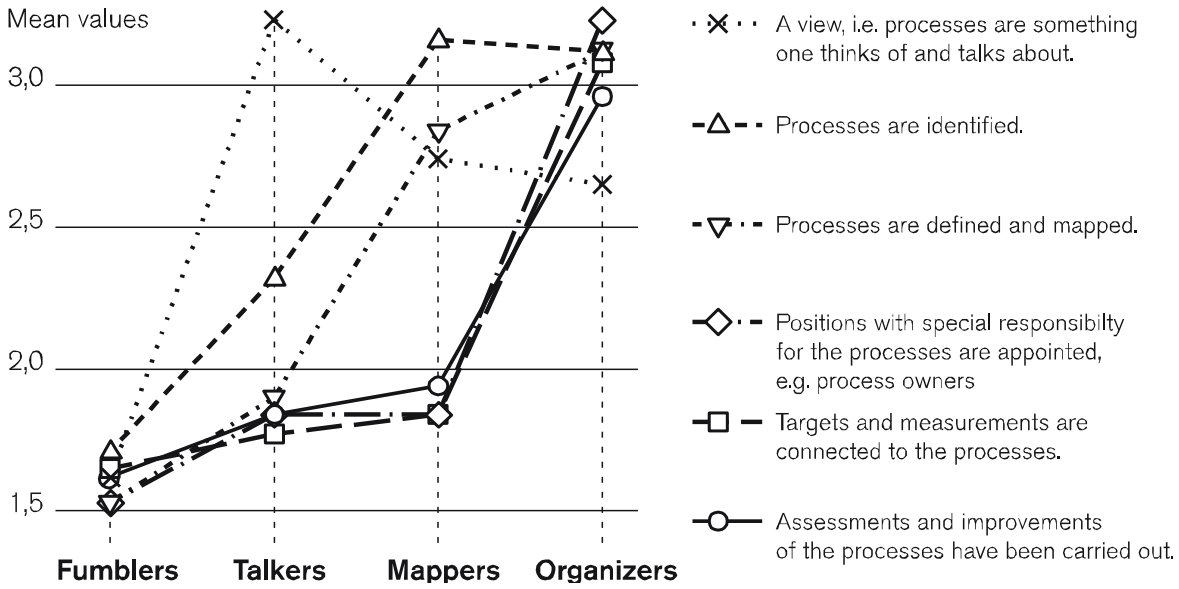

Fig. 2 Mean values for the six original variables. The statements were measured on a four-grade scale (1 = "not at all/to a very small extent", 4 = "to a very large extent")

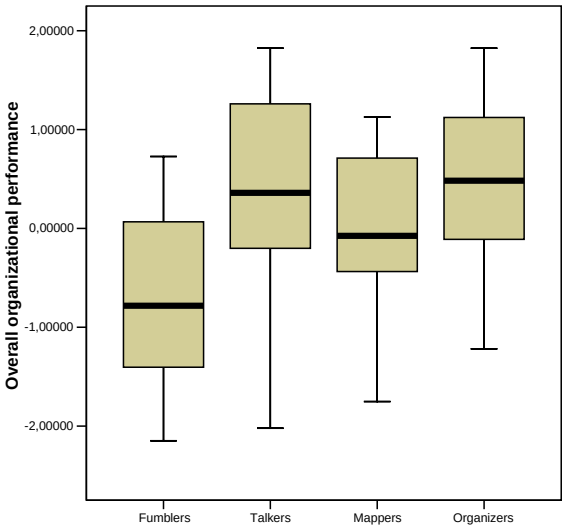

Figure 3 Factor scores regarding overall organizational performance. The results differ significantly (p< 0.001).

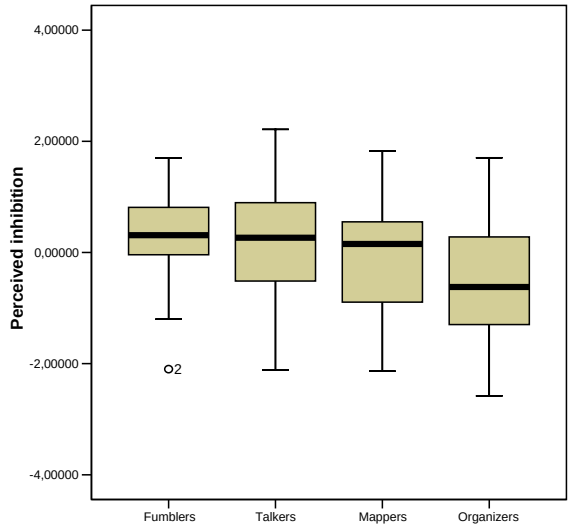

Figure 4 Factor scores regarding perceived inhibition. The results differ significantly (p< 0.1).

Table 1

Table 1. Factor loadings for the variables describing usage of process orientation.
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in five iterations. The three factors account for 85% of the variance.

According to Hair (1998) factor loads below 0.5 are not significant in a sample size below 120 and are not shown in the table.

Item	**Factor Loads**		
	1. *Organization of processes*	**2. *Mapping of processes***	**3. *Viewing of processes***
1. A view, i.e. processes are something one thinks of and talks about			.967
2. Processes are identified		.845	
3. Processes are defined and mapped		.828	
4. Positions with special responsibility for the processes are appointed, e.g. process owners	.783		
5. Targets and measurements are connected to the processes	.865		
6. Assessments and improvements of the processes have been carried out	.844		
Rotation Sums of Squared Loadings	*39.4%*	*28.0%*	*18.0%*
Cronbach's alpha	*.85*	*.88*	-

Table 2

Table 2 The relationship between the traditional line organization and the process initiative converted into five possible types of organizational forms (missing = 1)

Relationship between the line organization and the process initiative	**Cluster groups**				
	Fumblers	**Talkers**	**Mappers**	**Organizers**	***Total***
Status 1: Traditional line organization. Processes are not discussed.	9	1	0	0	*10*
Status 2: Traditional line organization. The process perspective is used primarily as a method for improvement.	22	19	18	8	*67*
Status 3: Line organization supplemented with a process perspective. Formal decisionmaking takes place in the line but is supplemented with a process perspective.	2	11	12	16	*41*
Status 4: Operations are described for the most part on the basis of processes. Formal decisionmaking takes place in the process, but the line organization is seen as a complement.	1	0	1	1	*3*
Status 5: Operations are organized according to their processes. The line organization in the traditional sense has been dismantled. Operations are managed and steered on the basis of their processes.	0	0	0	0	*0*
Total	*34*	*31*	*31*	*25*	*121*

Table 3

Table 3 The component matrix for the 13 items regarding organizational performance.
Extraction Method: Principal Component Analysis. One component extracted. The factors are sorted in decreasing order.

	Component
Use of resources	,836
Structuring work tasks	,809
Productivity	,802
Work enjoyment	,767
Cross-professional work	,754
Cost savings	,746
Understanding of the operation's purpose/task	,746
Practicing improvement work	,718
Involvement of the staff	,715
Time for the customer/patient	,692
Customer/patient satisfaction	,679
Practicing the management of operations	,677
Cooperation with adjacent operations/departments	,644

Table 4

Table 4 The component matrix for the ten items on inhibiting factors.
Extraction Method: Principal Component Analysis. One component extracted. The factors are sorted according to decreasing order.

	Component
The organizational culture counteracts the application of process orientation	,796
Process orientation leads to conflicts with the line organization	,783
Process orientation leads to conflicts with adjacent activities	,774
The way in which management is practiced counteracts the application of process orientation	,771
Process orientation leads to conflicts with different professional groups	,767
Process orientation leads to controversies in a single area of operation	,739
The view of which work tasks shall be given priority counteracts the application of process orientation	,733
The reward system counteracts the application of process orientation	,665
The level of knowledge concerning process orientation counteract the application of process orientation	,594
The financial control system counteracts the application of process orientation	,592