Investigating the Role of Inertia in Business Process Standardization Initiatives

Research-in-Progress

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Abstract

Business process standardization (BPS) is an important instrument for transforming an organization from function orientation to process orientation. But, standardization initiatives’ implementation success is highly volatile. One major reason for failure is the behavior and the underlying job-related attitude of the affected employees. Recent research examining BPS implementation success proposes that different factors of employees’ current jobs (e.g., job characteristics) influence employees’ acceptance of BPS-induced changes. Besides these motivational aspects, IS research has shown that non-adoption of a system is influenced by inertia of the employees. Our research-in-progress paper draws on these findings and aims to analyze the role of inertia in the context of BPS. The contribution of this paper lies in developing a theoretical model for understanding the determinants of individual inertia in the context of BPS. By knowing the influential factors, we will be able to derive adjustable screws for practitioners to successfully implement process standardization initiatives.

Keywords: business process standardization, business process management, inertia, status quo bias

Introduction

During the last decades, organizations have strived for moving from functional toward process-oriented organizational structures. In the context of Business Process Management (BPM) which provides methods, techniques, and tools for process discovery, analysis, redesign, execution, and monitoring (Dumas et al. 2013), business process standardization (BPS) is an important element to realize process orientation and to increase organizational performance (Münstermann and Weitzel 2008). There is consensus that companies that have standardized their processes could realize cost synergies, ensure quality, and increase operational performance more easily (Manrodt and Vitasek 2004) due to decreasing process errors, facilitating communication and reporting, achieving economies of scale, and using expert knowledge (Wüllenweber et al. 2008).

However, some studies (Manrodt and Vitasek 2004; Schäfermeyer and Rosenkranz 2011) show that there are huge differences in the success of standardization initiatives. One major reason for failure of such projects is non-congruent behavior of the affected employees and their underlying job-related attitudes and behaviors (Cao et al. 2001; Grau and Moormann 2014; Lee and Dale 1998). As Kettenbohrer et al. (2015) propose, different factors of employees’ current jobs (i.e., job characteristics, work-role fit, co-worker relations and the broader process environment) influence employees’ acceptance of process standardization initiatives. Though, this work focuses only on the motivational aspects of work and their impact on acceptance, without examining further aspects which potentially hinder employees’ acceptance. In other research strands, i.e. information systems (IS) adoption research, resistance of employees has shown to be based on the unwillingness of users to switch from an incumbent technology to a newly introduced one. For instance, Polites and Karahanna (2012) show that status quo bias and habitual use of an incumbent system encourage development of inertia. In turn, inertia mediates the impact of the old system on the acceptance of the new one (Polites and Karahanna 2012). We draw on the findings of this
research and intend to examine the role of inertia in the context of BPS initiatives. Thus, the paper is guided by the following research question: How does inertia influence employees’ acceptance of business process standardization initiatives?

The remainder is structured as follows: In the next section, we introduce related work. Then, our research model and our propositions are derived. Afterwards, we present some indications for our model from a case study and give an outline for a quantitative study aimed at validating our research model. In the conclusion, we highlight potential implications for research and practice.

**Related work**

**Changes induced by business process standardization**

Business process standardization (BPS) can be understood as "the unification of business processes and the underlying actions within a company in order to facilitate communications about how the business operates, to enable handoffs across process boundaries in terms of information, and to improve collaboration and develop comparative measures of process performance" (Schäfermeyer et al. 2010, p. 2). Due to its objective to serve as a template (Tregear 2010), BPS comes along with a lot of changes for the employees (vom Brocke et al. 2014). For instance, business process standardization alters the tasks performed by employees: this could include new tasks, a changed scope of the tasks, or new or altered ways in which the current tasks have to be executed. In the following, the different changes induced by BPS (Borgen et al. 2010; Kettenbohrer et al. 2015) will be explained in detail. Overall, BPS makes processes more rigid and regulated; it requires staff to work in altered or determined workflows which also goes along with new policies and practices (workflow change) (Volkoff et al. 2007). Furthermore, employees’ tasks or the scope of their tasks change (task change) (Volkoff et al. 2007) or employees have to take over new roles and responsibilities (working condition change). Besides, there might be new requirements about which technologies have to be used (technology change) and the governance affecting employees (e.g., employees have to for a new manager) (governance change) will be changed (Borgen et al. 2010; Kettenbohrer et al. 2015).

These changes influence the perception of employees regarding the processes supposed to be standardized. In the related research strand of enterprise systems introduction, Bala and Venkatesh (2013) analyze the changes in employees' job characteristics during the implementation of an enterprise system and examine the influence of three process characteristics (perceived process complexity, perceived process rigidity, and perceived process radicalness) on job demands and job control as well as on job satisfaction. They show that during the shakedown phase of the implementation (period from going live to when normal operation has been achieved), employees feel an overall increase in job demands and decrease in job control. Perceived process radicalness is the strongest predictor of increase in job demands while perceived process complexity is the strongest predictor of decrease in job control. In addition, these effects do reduce employees’ job satisfaction (Bala and Venkatesh 2013). As the introduction of an enterprise system often also implies the standardization of business processes (Volkoff et al. 2007), these findings are also relevant for our work.

**Employees’ acceptance of BPS-induced changes**

Employees often perceive process changes (e.g., a change in tasks or working conditions) as threatening and unpleasant (vom Brocke et al. 2014), which decreases acceptance. Psychology and Organization Science have shown that particularly the meaningfulness of work perceived by the workers explains this phenomenon (Barrick and Mount 2013; Hackman and Oldham 1976; Humphrey et al. 2007). Meaningfulness of work is “the degree to which the individual experiences the job as one which is generally meaningful, valuable, and worthwhile” (Hackman and Oldham 1976, p. 256). In their job characteristics theory, Hackman and Oldham define five job characteristics which increase positive behavioral and attitudinal outcomes while decreasing negative ones (Hackman and Oldham 1976). Kettenbohrer et al. (2015) propose a theoretical model to describe BPS acceptance by employees. Here, BPS acceptance refers to employees’ acceptance of different BPS-caused changes of their work. In detail, they explain the relationship between employees’ job-related attitudes, perceived meaningfulness of work and the resulting acceptance of BPS-induced changes (Kettenbohrer et al. 2015, p. 12). Their work transfers job characteristics theory (Hackman and Oldham 1976) as well as work-role fit (May et al.
In the following, we draw on their model and their definition of BPS acceptance as well as on the findings from Bala and Venkatesh (2013) and intend to examine the role of inertia in the context of business process standardization. The full research model is shown in Figure 1.

The role of inertia in the context of business process standardization

Status Quo Bias and Inertia

The status quo bias (SQB) perspective by Samuelson and Zeckhauser (1988) describes "why individuals disproportionately make decisions to continue an incumbent course of action, rather than switching to a new (potentially superior) course of action" (Polites and Karahanna 2012, p. 23). It provides various theoretical explanations to understand why employees stick to their old processes and are not willing to switch to the new standardized process.

The SQB perspective states that individuals who have to decide between two alternatives are biased toward maintaining the status quo. This means "doing nothing or maintaining one's current or previous decision" (Samuelson and Zeckhauser 1988, p. 7). The bias is a result of rational decision making, whereby "the individual takes into account the costs (real or perceived) of switching from the status quo to a new position, and chooses not to make the switch" (Polites and Karahanna 2012, p. 23). For instance, an individual recognizes that a task will be done more efficiently if another system is used. But the individual weighs the costs for learning how to use the system as higher than the potential benefits (Polites and Karahanna 2012). In addition, SQB is also influenced by cognitive commitment based on loss aversion. Individuals tend to perceive potential losses as greater than potential gains (Kahnemann and Tversky 1979). Moreover, psychological commitment to an existing course of action leads to SQB. This commitment can be the result of, e.g., incorrectly factoring in sunk costs or striving for cognitive consistency in decision making (Kim and Kankanahalli 2009; Polites and Karahanna 2012; Samuelson and Zeckhauser 1988). Other views in the literature see SQB as rather (or completely) irrational perspective (e.g., Ritov and Baron 1992). Baron (1988) states that rationality is the best method for achieving our goals which consequently influence our future decisions. Consequently, he sees SQB as irrational perspective because "the current state or the means of achieving outcomes are irrelevant (unless these affects the achievement of goals)" (Ritov and Baron 1992, p. 50). In this paper, we follow the literature strand which sees SQB as rational because it provides a lot of theoretical explanations for status quo bias, but the theoretical mechanisms through which status quo bias acts is context-specific (Samuelson and Zeckhauser 1988).

Externally, status quo bias is reflected by inertia, which is defined as the "attachment to, and persistence of, existing behavioral patterns (i.e., the status quo), even if there are better alternatives or incentives to change" (Polites and Karahanna 2012, p. 24). Thereby, "inertia reflects unwillingness to abandon the status quo irrespective of present alternatives or alternatives that may potentially become available at the future" (Polites and Karahanna 2012, p. 24). Inertia is conceptualized to have behavioral, cognitive, and affective components (Polites and Karahanna 2012):

- **Behavior-based inertia**: Individuals perform a certain activity (e.g., use a certain information system) because that is what they have always done. In addition, the individuals do not think consciously about the execution of the activity (Gupta et al. 2007; Polites and Karahanna 2012).

- **Cognitive-based inertia**: Individuals consciously perform a certain activity although they are aware that it is not the best way of doing things (Polites and Karahanna 2012; Rumelt 1995) (e.g., they perform a task in a certain way but they know that there is another, better, way of working).

- **Affective-based inertia**: Individuals continue doing things as they always have done because changing things is too stressful, because they enjoy doing things this way, or because they are highly emotionally attached to these ways of working (Barnes et al. 2004; Rumelt 1995).

BPS induces a lot of changes (see section ‘Employee’s acceptance of BPS-induced changes’) which will lead to individual inertia by the employees. Based on the SQB perspective, we assume that inertia negatively influences BPS acceptance by the employees:
**Proposition 1:** Inertia will negatively influence BPS acceptance by the employees.

**Changed process characteristics induced by business process standardization**

This paper aims to examine the role of inertia in the context of business process standardization initiatives. Therefore, the focus is solely on changed process characteristics - induced by BPS - and their impact on inertia.

Given that BPS might impose a lot of changes on the employees involved in executing the particular business process, we expect that they will experience uncertainty and disruption in their work environment. To handle these uncertainties, employees like to maintain stable routines which have proven to be successful (Feldman and Pentland 2003). As a consequence, employees will have a strong tendency to persist with their routines (Gersick 1991). In the course of BPS, especially the order of interdependent and coordinated tasks might be significantly changed (workflow change). As employees try to orient themselves with the new process and the corresponding workflow, they might find their previous and stable routines obsolete. This feeling will also be strengthened by new information systems to be used. So, workflow changes will disrupt employees' working routines tremendously.

Prior research has shown that embedded routines are a common source of inertia in organizations (Roy et al. 1996; Rumelt 1995). Since organizational routines can be composed of many interlocking individual-level routinized sequences (Becker 2004), this implies that the routinized execution of a process respectively a sequence of tasks can be a major source of inertia when a process gets standardized. So, we expect that changes in the workflow and the used technology – induced by BPS – will have the greatest impact on inertia in the context of business process standardization.

For instance, IS research shows that when IS users “engage in behavior automatically” (Polites and Karahanna 2012, p. 26) they will not reevaluate their behaviors. They will simply continue employing their existing behavioral patterns if there is no strong need to change them (Petty and Cacioppo 1981; Ronis et al. 1989). So, routines are seen as beneficial by the individual since they prevent the individuals from choices, information processing, and weighing information against each other (Wood and Quinn 2004). In addition, Wood and Quinn state that once individuals are satisfied with a behavior they will continue performing it. Thereby, they seek to avoid an undesired state “what would happen if they quit doing the behavior” (Wood and Quinn 2004, p. 8). Tolerating such an undesired state will increase stress from change (Polites and Karahanna 2012). According to Wood and Quinn (2004), solely considering alternative behaviors might increase stress leading an individual to be more committed to its current behavior.

Rumelt (1995) states that increasing complexity is a source for inertia. He explains the impact of complexity on inertia via an example: U.S. firms dropped out of the liquid crystal flat-screen technology when Japanese firms entered the market. The Japanese firms jumped too far ahead and the corresponding events overtook the U.S. firms’ resource allocation systems and the judgments to be made were too complex to understand. So, it led to inertia (Rumelt 1995).

In the course of BPS, processes might become more complex. Due to several changes (e.g., workflow change) employees perceive the new standardized process as a new and non-routine process. This kind of process (non-routine process) is characterized by vague or unknown sets of inputs and outputs (Lillrank and Liukko 2004). This uncertainty can only be dealt with by experienced or highly skilled employees (Schäfermeyer et al. 2012). Otherwise it triggers employees’ perceptions of having problems to understand their new work sequences or to access the information for task execution. So, they will find their work processes to be more complex. In accordance, Bala and Venkatesh (2013) define process complexity as “the degree to which an employee believes that elements of his or her work processes (i.e., activities, information and resource requirements) are difficult to understand or act upon” (Bala and Venkatesh 2013, p. 1119). In addition, BPS eliminates the barriers between functions because the new standardized process serves “as a template for all instances of the process throughout the organization” (Tregear 2010, p. 308). So, the new standard process hinders the employees to carry out their tasks in relative isolation. As a consequence, employees have to expand their scope of attention and process more information (Dean and Snell 1991) to assure the quality of the process (Schäfermeyer et al. 2012) which increases perceived process complexity.

**Proposition 2:** Employees who perceive the new (standard) process and the corresponding workflow as more complex will be more likely to show inertia towards BPS.
As mentioned above, business process standardization leads to various changes which make employees’ work rigid (Volkoff et al. 2007). In accordance to enterprise systems implementation which goes often along with standardized processes (Volkoff et al. 2007), BPS restricts the way employees perform their tasks. Rigidity leads employees to work around or to alter their processes (Boudreau and Robey 2005; Robey et al. 2002). So, Bala and Venkatesh (2013) define process rigidity as “the degree to which an employee believes that elements of his or her work processes (i.e., activities, information and resource requirements) cannot be modified or circumvented during the course of executing the work processes” (Bala and Venkatesh 2013, p. 1120). BPS restricts the way employees performing their tasks because its objective is to serve as a template (Tregear 2010) and thus to reduce variations. Therefore, we assume:

**Proposition 3:** Employees who perceive the new (standard) process and the corresponding workflow as more rigid will be more likely to show inertia towards BPS.

In the context of BPS, changed processes are often perceived to be more radical. According to Green et al. (Green et al. 1995), radicalness is defined as the degree of newness, lack of expertise, or departure from existing knowledge and practices. As stated above, process standardization induces several changes which leads to a feeling of performing “a new set of tasks that require new information and resources” (Bala and Venkatesh 2013, p. 1121). In accordance, Bala and Venkatesh define perceived process radicalness as “the extent to which an employee believes that there is a certain degree of newness in the elements of his or her work processes (i.e., activities, information and resource requirements)” (Bala and Venkatesh 2013, p. 1121). Employees develop this perception for two reasons (Volkoff et al. 2007): substitution (i.e., no longer performing a process that was used before or executing a completely new process) and alteration (i.e., performing an old process in a new way) (Bala and Venkatesh 2013). We assume that process standardization – such as an enterprise systems implementation (Boudreau and Robey 2005; Volkoff et al. 2007) – disrupts employees’ routines and habits which makes their work environment unstable and ambiguous. But employees are not willing to change their working habits and try to routinize or simplify their work which leads to inertia (Petty and Cacioppo 1981; Ronis et al. 1989). When employees realize that their tasks and their workflows to be performed are very different from what they did before the process was standardized, they might feel losing control over their job. So, they may lose their sense of mastery over the process because it seems radically new to the employees. According to self-efficacy theory, if individuals lose their sense of mastery over a domain, they tend to believe that they cannot achieve a desired performance level due to perceived lack of control (Bala and Venkatesh 2013; Bandura 1997). In the course of process standardization the routinized and known workflows are altered which increase employees’ perception of a lack of structure to performing their tasks (Bala and Venkatesh 2013). Therefore, we posit:

**Proposition 4:** Employees who perceive the new (standard) process and the corresponding workflow as more radical will be more likely to show inertia towards BPS.
First empirical evidence

To gain first empirical insights and indications for the significance of our model, we conducted a case study and collected interview-based data during a process standardization initiative within a multinational enterprise. Case studies are suitable in situations in which investigators only have limited control over events and boundaries of a phenomenon (e.g., the successful roll-out of a process standardization initiative). In addition, case studies are applicable if the phenomenon and its context are unclear or closely related (e.g., business processes in one organization and between different organizations) (Yin 2002). Process standardization and its various implications on organizations and employees meet these criteria.

We had the opportunity to observe the roll-out of a process standardization initiative over several months at a globally operating German firm providing technical maintenance services. Here, we could accompany the standardization of four different processes across sites in different countries. The process standardization initiative’s success in the different processes varied. Some processes could be standardized successfully, while in other cases standardization failed or could only be achieved in parts of the business process. Sometimes, different cultural backgrounds made it hard to communicate between the headquarter and the sites, or lacking top management support decreased employees’ motivation. However, one aspect was mentioned by all interviewees reporting about difficulties during process standardization: the unwillingness of employees’ to switch from the old process to the new standardized one.

We conducted seven semi-structured interviews with project participants from different hierarchy levels (i.e., process owners, process experts or senior managers) being involved in the standardization initiative. All interviews took place in person and were held by two researchers. The used interview guideline consisted of four sections. In the first section, the structure and the objective of the interview were explained. The second section focused especially on the process performance of the developed standard process. In the third section, the applicability and effectiveness of the used procedure to achieve a standardized process were evaluated in detail. The fourth section focused on additional factors relevant for successfully implement BPS. All interviews were digitally recorded, transcribed, and coded. Exemplary quotes on inertia determinants are presented in Table 1.
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<th>Process characteristics</th>
<th>Exemplary quotes</th>
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<tr>
<td>1. Perceived process complexity</td>
<td>1.1 “The single sites are very different. The new standardized process was too complex for them [the sites]. They [the sites] had easier processes before which they kept executing [instead of adopting the new standards]” (process owner, headquarter).</td>
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<td>2. Perceived process rigidity</td>
<td>2.1 “If we have to apply the new standard for one customer only than it is twice the work” (process expert, local site).</td>
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<td>2.2 “There were easier ways to execute the process“ (process owner, local site).</td>
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<td>2.3 “There were always the same answers by the sides. For instance, they stated that for their [local] business, the processes have to be different. They [the processes] have to be executed differently. The sites argued that they have other requirements than the headquarter has. One example mentioned by them was the quicker execution of their processes” (process owner, headquarter).</td>
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<td>2.4 “We allowed for ‘local specifics’ in the process definition, which have been used to a certain, but limited, extent. Otherwise, successful standardization would have been much more difficult. Forcing people does simply not work.” (process owner, headquarter).</td>
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<td>3. Perceived process radicalness</td>
<td>3.1 “The sites were quite conservative in terms of the standardization initiative. The employees did not know exactly what standardization means for their single jobs and they were afraid of losing their jobs.” (process expert, headquarter).</td>
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<td></td>
<td>3.2 “We explained the different benefits of standardization to the sites but they did not accept them. The typical answer was: Yes, that could perfectly suit for you. But we have our own processes and we won’t change them […] because they are too different from our existing ones.” (process expert, headquarter).</td>
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Table 1. Exemplary quotes

The interview results support our research model. The findings show that changed process characteristics, i.e. changes in perceived process complexity, process rigidity, and process radicalness cause inertia. In addition, the results indicate that especially the altered workflow and the corresponding changed procedures and practices – induced by BPS – lead to individual inertia.

Further, the interview results indicate that BPS comprises – in contrast to enterprise system implementations – a wider variety of changes. Besides workflow change, also task change and governance change influence employees’ perception of BPS initiatives.

We expected that employees, trying to orient themselves with the new process, find their previous and stable routines obsolete. In addition, we assumed that this feeling of obsolescence would be triggered by new software and hardware. But, our results could not confirm the importance of technology components on perceived process complexity – though, one of the observed BPS initiatives comprises a radical change in technology, i.e. the implementation of a new document management system. This finding confirms results from enterprise systems implementation research by Bala and Venkatesh (2013). Their results show that technological complexity (i.e., “the extent to which an employee perceives an ES to be relatively difficult to understand and use” (Bala and Venkatesh 2013, p. 1118)) has no significant effect on post-implementation perceived process complexity.

Next steps

Currently, our model is still of a conceptual nature and has so far only been examined by a few interviews. To refine our model, we will first proceed with qualitative research and conduct expert interviews. We will also explore whether there are further aspects which potentially influence inertia and consequently
employees’ acceptance of BPS initiatives. After refining our model, we will conduct a small-scale survey within a single partner organization in order to develop and to refine our measurement instrument. This controlled setting will allow us to develop survey scales without confounding the results by contingencies and contextual factors. Afterwards, we will conduct a survey-based study. Therefore, we plan to survey employees from a multi-national company, which is currently in the preparations of a huge standardization initiative, at multiple points in time. To measure our model’s dependent variable (i.e. BPS acceptance), we will analyze employees’ attitude towards BPS. We will use the framework by Bovey and Hede (2001) and extend it by items which have been derived via a literature review and a card-sorting approach. In addition, we will accompany this project by observing the resulting organizational change over time and by interviewing employees of different hierarchy levels about their perceptions, experiences, and attitudes during the initiative.

The standardization initiative in the multi-national company has the objective to standardize various management processes. For instance, the management of logistic processes (i.e. shipping of replacement parts) is intended to be standardized. In the course of this initiative, there will be various changes induced by BPS. Due to new designed and standardized management processes, involved employees have to consider and follow new policies and practices (workflow change). In addition, new roles will be assigned to the involved employees, which consequently leads to new responsibilities (working condition change) and altered tasks respectively altered scope of tasks (task change). In the course of reorganization of roles and responsibilities, there might also be changes in governance (governance change). These various changes induced by BPS give us the opportunity to validate our model comprehensively and to get deep insights in the interplay between inertia and BPS acceptance. Here, it has to be considered that our model solely focuses on the impact of changes in process characteristics on inertia. In cases that involve very comprehensive change initiatives which do not only change the process itself but also responsibilities etc., there will naturally also be other factors influencing employees’ attitude towards process standardization, such as political reasons1. Our empirical study needs to control for several of these confounding factors.

**Conclusion**

In this research-in-progress paper, we have developed a model which explains the role of inertia in the context of business process standardization acceptance by employees.

The theoretical contribution of our work lies in combining the process characteristics, as conceptualized by Bala and Venkatesh (2013), and inertia. In addition, we transferred this combination to the context of process standardization. Moreover, we added important arguments to the relatively new research field of understanding the determinants of individual process standardization acceptance. Especially, we assume that business process standardization is different to enterprise systems implementation. During enterprise systems implementation, mostly technology characteristics such as perceived technology complexity are altered. By contrast, BPS comprises often – beyond technology change - a wider variety of changes such as workflow change, task change, and governance change. Our interviews provided first indications about the relative effects of BPS induced changes: workflow change has the most important influence on individual inertia.

Summarizing, our model explains the relationship between inertia and BPS acceptance by employees. By focusing our research on the interplay between inertia and BPS acceptance, we provide further explanations – e.g., complementary to meaningfulness of work as proposed by Kettenbohrer et al. (2015) – for understanding employees’ acceptance of process standardization initiatives. Knowing the determinants for successful BPS implementation helps practitioners to derive adjustable screws to achieve the BPS-related benefits (e.g., realizing cost synergies, ensuring quality or increasing operational performance). By knowing that inertia plays an important role in the context of BPS acceptance, management actions have to address that. So, dedicated management actions could be providing habit disruption strategies, training for employees, or involving employees in the definition of the standard process.

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


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