



Innovative employee behaviour

The moderating effects of mental involvement and job satisfaction on contextual variables

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Abstract

Purpose – Organizational performance is positively affected by employees' innovative behaviour, but recent studies indicate that innovative work behaviour may have negative performance consequences. Negative tensions may arise due to employees' different views on innovation, and efficiency may be reduced because of high job autonomy in innovative job settings. This study aims to examine how job satisfaction and mental involvement via moderation effects increase the effectiveness of innovative work behaviour.

Design/methodology/approach – A theoretical model was developed and tested on panel sample data representing 294 employees in a Danish financial company. The response rate on the survey was 93 per cent. The data was analysed via confirmatory factor analysis and hierarchical regression models.

Findings – This study shows that job satisfaction and innovative work behaviour can be aligned in environments characterized by innovation trust. Further mental involvement is identified as a component increasing innovative work behaviour in situations without the opportunity for monitoring.

Practical implications – From a managerial perspective: the alignment of job satisfaction and innovative behaviour is central, as this joint optimization affects organizational performance positively.

Originality/value – This study reports one of a very limited number of studies focusing on the negative effects of innovative work behaviour. This study demonstrates that innovation trust aligns job satisfaction and innovative work behaviour, and further that mental involvement increases the efficiency of job autonomy.

Keywords Innovative work behaviour, Innovation management, Job satisfaction, Mental involvement and innovation trust, Denmark

Paper type Research paper

1. Introduction

Innovation can be seen as an overall organizational learning orientation in which success is achieved by paying less attention to specific innovation projects and paying more attention to a general innovation orientation that produces innovative capabilities (Siguaw *et al.*, 2006). Scholars agree that organizational innovativeness is a key to competitive advantages and strategic renewal (Zhang and Bartol, 2010). In this respect employees are important for organizational innovative capabilities as they are responsible for developing, reacting to and modifying ideas (Scott and Bruce, 1994), also known as innovative work behaviour (IWB). In the eyes of many employees IWB is seen as an extraordinary and risky behavioural effort (Lee, 2008). In order to become innovative, organizations must manage and foster an inner environment that supports the innovative behavioural traits among employees (Dobni, 2010; Alpkan *et al.*, 2010). In this article the inner environment is composed of job autonomy and innovation trust. Job autonomy provides employees with the necessary decision latitude and empowerment for being innovative (Hennessey and Amabile, 2010; Shalley *et al.*, 2000). At the same time, job autonomy increases the possibility of sub-optimal behaviour



because of monitoring difficulties (Langfred, 2004). Innovation trust is important as this reduces the perceived riskiness and negative reactions caused by IWB (Unsworth and Clegg, 2010). An inner environment characterized by innovation trust will allow employees to more freely introduce new ideas, knowing that their co-workers will respond positively to this.

Scholars have called for more research investigating contextual variables for IWB (Shih and Susanto, 2011; Janssen, 2003). This paper investigates two such variables by addressing the question: how does job satisfaction and mental involvement moderate the inner environment supporting IWB?

The context of this study is the financial sector as this sector is forced to become more responsive to innovative demands, because technological advancements have caused an increasing digitalization in the financial sector. Traditionally, the banking sector has been characterized by a close relationship between the financial advisor and the client. This relationship is changing because of the increased use of, for example, e-banking and smart phone apps, which are both examples of the increased demand for innovation in the banking sector (Vermeulen and Dankbaar, 2002). The innovation pressure in the financial sector also arises because of increased competition and downsizing tendencies in the banking sector. Employees in the financial sector therefore have to develop new routines and respond to new demands to ensure organizational effectiveness and competitiveness.

The contribution of the paper falls in two parts; first it addresses central aspects of dealing with the negative effects of IWB. Employees with a high degree of job satisfaction engaged in an environment characterized by innovation trust will demonstrate higher levels of IWB. Innovation trust allows employees to cope with the negative effects of innovation. In this respect, this paper addresses the concerns of increased turnover intentions and conflicts with co-workers, thus questioning the benefits of IWB (Shih and Susanto, 2011). From a managerial perspective it is important to create an environment characterized by innovation trust as this can help to align IWB and job satisfaction. Thus, under the right conditions, IWB can benefit both innovation and job satisfaction. The second contribution is found in relation to the effectiveness of job autonomy. Mental involvement is found to be a positive moderator for the relationship between job autonomy and IWB. Employees who are mentally involved in their jobs will be more effective and focused when they have the freedom to innovate. By looking at mental involvement, we can clarify under which constellations job autonomy promotes high performance and in which situations autonomy is less effective. Such insights have been identified as central for job performance in situations with low opportunity for monitoring employees (Langfred, 2004; Janssen, 2003). Managers should understand the relationship between mental involvement and job autonomy as drivers of innovative work performance. Managers can apply this insight in the recruitment process of new employees, as mental involvement ensures higher efficiency in situations with high job autonomy.

The data are collected through a survey among employees in a pension, banking and insurance company in the Danish financial sector. It forms part of a larger employee satisfaction survey performed by Ennova A/S. The sample consists of 294 usable responses, which gives a response rate of 93 per cent.

The paper is organized as follows: first, the theoretical background will be outlined and the conceptual framework developed. Second, the methodological considerations and choices will be addressed. Then the results will be presented and the hypothesis examined. This will be followed by a discussion and conclusion.

2. Theory and conceptual model

The influence of job autonomy and innovation trust on IWB

Employees have an immanent innovation potential because of a need to be creative (Dobni, 2010; Hennessey and Amabile, 2010). IWB is defined as the intentional generation, promotion and realization of new ideas within a work role, a work group or an organization (Scott and Bruce, 1994; Janssen, 2003) and is thus closely related to creativity. From an organizational perspective, it is demonstrated that IWB among employees ensures effective processes (Janssen, 2001) and organizational performance is affected positively by IWB (Janssen, 2001). IWB is therefore characterized as an asset which enables organizations to succeed in dynamic business environments (Yuan and Woodman, 2010). Scholars have given specific attention to IWB as a central topic in innovation research (Ong *et al.*, 2003; Gumusluoglu and Ilsev, 2009; Miron *et al.*, 2004; Yuan and Woodman, 2010; Amabile *et al.*, 1996; Clegg *et al.*, 2002; Lee, 2008), as IWB is focused on innovative improvements inside the current work group or organization. Researchers have taken two different views on IWB: the job characteristic and organizational practices (Dorenbosch *et al.*, 2005). The job design perspective sees IWB as an outcome of job design interventions, while the organizational practice perspective sees IWB as a practise that promotes the opportunity and motivation to show IWB. The perspective of IWB taken in this paper is the one of job design and we analyse in particular how job autonomy and innovation trust facilitate IWB. We extend this view by including moderating effects of individual characteristics of perceived mental involvement and job satisfaction.

Job autonomy provides employees with the essential freedom and empowerment to be innovative (Alpkan *et al.*, 2010; Sundbo, 2001). Perceived job autonomy adds a feeling of empowerment to employees, thus creating the intrinsic motivational state needed for creative tasks and IWB (Hennessey and Amabile, 2010; Shalley *et al.*, 2000). Job autonomy gives employees the necessary freedom to explore new opportunities and to manoeuvre so as to be innovative and job autonomy is prerequisite for generating ideas for innovation. Managers therefore have to ensure that employees have the necessary degree of autonomy for innovation to emerge (Lee, 2008). A job design with no autonomy will thus hinder the employees in being innovative as this gives no room for trying new things out. In accordance with previous findings (Janssen and Van Yperen, 2004) it is therefore expected that:

H1. Job autonomy affects IWB positively.

Innovation trust is a positive view and acceptance of innovation. Colleagues have to accept IWB as a valuable organizational behaviour that will benefit the overall organization. If this acceptance is lacking, innovation can cause organizational inertia due to dysfunctional work related conflicts (Tierney, 1997; Cheng *et al.*, 2010; Shih and Susanto, 2011). These conflicts originate from internal tensions between employees with a high level of IWB and their co-workers with a low level of IWB, as innovation induces uncertainty among employees. Innovative employees pursue their individual needs for creative stimulation by being innovative (Shalley *et al.*, 2000), but on the other hand, less innovative employees may feel their job threatened because of more effective processes developed by colleagues (Cheng *et al.*, 2010). This uncertainty emerges because innovative activities challenge the status quo and often result in layoffs. Therefore employees have different attitudes towards innovation (Shih and Susanto, 2011; Janssen, 2003). Innovative employees are attractive for the job market and do not

fear their job security because of their high attractiveness and they believe that a new job is easy to find if necessary. On the other hand, employees who are not innovative regard innovation as a threat (Martin *et al.*, 1981; Shih and Susanto, 2011), and new innovative initiatives introduced by colleagues are perceived to decrease their own job security. These internal dynamics of innovation are found to be particularly present for process innovations (Cheng *et al.*, 2010), which can be found in the financial sector.

An environment characterized by innovation trust will allow employees to introduce new ideas knowing that co-workers will respond positively. The logic of focusing on innovation trust is that it will facilitate an open-minded atmosphere in which employees are confident when bringing suggestions and input into discussion (Chandler *et al.*, 2000; Clegg *et al.*, 2002). For an innovative environment it is central to ensure a free flow of information and knowledge (Janssen, 2004; Dombrowski *et al.*, 2007). Hence innovation trust is hypothesized to affect IWB positively:

H2. Innovation trust affects IWB positively.

The moderating role of mental involvement and job satisfaction

Mental involvement forms part of the psychological empowerment that includes four components; meaning, competencies, self-determination and impact (Spreitzer, 1995). The component of particular interest and importance in this study is meaning. Meaning is proposed to be of vital importance in order for employees to undertake innovative tasks. The understanding of meaning is founded in the literature of involvement. According to this research, involvement is formed by two aspects; personal relevance and significance (Leippe and Elkin, 1987). Involvement is characterized by a cognitive assessment of importance and the opposite of involvement is alienation (Kanungo, 1979). It means that individuals will be involved in a given task if this is considered to be of personal significance. The understanding of involvement used in this article is characterized as mental involvement which can be defined as the extent to which the individual has a predisposition to be engaged in job tasks including innovation processes because of a high sense of meaning.

Employees' level of mental involvement in their job will affect their job attitude, and their willingness to undertake the risks associated with being innovative (Yuan and Woodman, 2010). Mental involvement is hypothesized to have a moderating role on the effectiveness of job autonomy and innovation trust. Employees who are mentally preoccupied with their job will be more focused when using their time thinking radically out of the box aiming for innovative improvements. Mental involvement will intensify employees' work focus, which is particularly important in a situation of job autonomy without the opportunity for monitoring employees (Langfred, 2004). With regard to innovation trust, mental involvement will also add a higher searching intensity in situations where colleague recognition of innovation is high. If employees find their job to be of significant personal importance and at the same time perceive a high appreciation of innovation in the organization, their IWB will increase. Hence it is expected that:

H3a. Mental involvement is a moderating variable which positively affects the relationship between job autonomy and IWB.

H3b. Mental involvement is a moderating variable which positively affects the relationship between innovation trust and IWB.

Job satisfaction is described as an internal state expressed by the affective and/or cognitive evaluation of job experience (Brief, 1998). Few studies have explored the relationship between employee job satisfaction and organizational innovation (Shipton *et al.*, 2006). The basic idea of job satisfaction is that satisfied employees have a higher intention to stay in the organization. The connection between job performance and job satisfaction has been questioned by researchers, but in a recent meta-analysis it was concluded that the mean true correlation between job satisfaction and job performance is moderate in magnitude and positive distinguishable from zero (Judge and Bono, 2001). This reasoning underpins many theories of performance leadership, reward and job design. In recent years job satisfaction has been a topic of major focus, and it has been referred to as the employee asset (Eskildsen *et al.*, 2004). Newer research indicates that job satisfaction and IWB are related as employees with a high level of IWB have an increased turnover intention (Shih and Susanto, 2011), and thus IWB and job satisfaction both affect turnover, but in reverse ways. It is demonstrated that creativity and job satisfaction are interconnected as job satisfaction has a significant positive influence on creativity and knowledge creation (Davis, 2009). In this study job satisfaction is introduced as a moderating variable in relation to the effectiveness of job autonomy and innovation trust on IWB.

Amabile *et al.* (1996) have shown the importance of job satisfaction for intrinsic motivation. Intrinsic motivation is in addition found to be significant for IWB (Zhang and Bartol, 2010; Grant and Berry, 2011). Thus job satisfaction is expected to be important for IWB as these are both related to intrinsic motivation. The causality of this relatedness induces difficulties as IWB and job satisfaction are both seen as work outcomes (Chen and Aryee, 2007). IWB and job satisfaction have thus been treated as separate objects for managerial optimization. Investigating the relatedness between job satisfaction and IWB is therefore seen as a central task which could help clarify optimal organizational functioning (Shipton *et al.*, 2006; Shih and Susanto, 2011) as IWB and job satisfaction are both important for organizational functioning. In doing this, it is paramount to distinguish between individual job satisfaction and co-worker satisfaction. At the group level IWB is found to be negatively related to co-worker satisfaction (Tierney, 1997; Janssen, 2003). This is because of the internal tensions of innovative and non-innovative employees. At the individual level employees' self-perceived job satisfaction will, as theory states, increase their intrinsic motivation and thus employees with a high level of job satisfaction will get more out of job autonomy and thus demonstrate a higher level of extra-role IWB effort (Lee, 2008). Job satisfaction will in this respect increase employees' job attention and performance in line with existing theory (Judge and Bono, 2001). This will also affect the effectiveness of job autonomy, and employees with a high level of job satisfaction will be more intrinsically motivated and thus more efficient when performing in autonomous situations. Thus it is hypothesized that:

H4a. Job satisfaction is a moderating variable which positively affects the relationship between job autonomy and IWB.

Job satisfaction is further central for the effect of innovation trust on IWB. Job satisfaction is described to be important for intrinsic motivation (Amabile *et al.*, 1996). When job satisfaction is high, intrinsic motivation will increase and an environment characterized by innovation trust will therefore give employees more incentives for being innovative. When job satisfaction is high, the effect of innovation trust on IWB

will be more significant, as high job satisfaction is also a proxy for the employee job match in relation to creative demand (Shalley *et al.*, 2000). Thus it is hypothesized that:

H4b. Job satisfaction is a moderating variable which positively affects the relationship between innovation trust and IWB.

Figure 1 presents the conceptual model developed in this paper. The model shows the hypothesis described above. The main argumentation of the model is that an inner innovation environment characterized by job autonomy and innovation trust will facilitate high innovative job performance among employees referred to as IWB. The effectiveness of this inner environment is moderated by two mental states of the employees' mental involvement and job satisfaction.

3. Methodology

Data and sample

Data are collected in a Danish financial company that supplies banking, insurance and pension products. The company has increased the different products offered to customers, and as many other financial companies it has tried to benefit from the customer relation to offer more than one financial product (e.g. pension, banking and insurance). Employees are invited to participate in the survey during the annual employee satisfaction polls. The survey is an integrated part of a larger employee satisfaction survey. The sample consists of all 318 employees in the company. In total, 294 questionnaires are useable. This yields a response rate of 93 per cent. The data are collected during a two-week period in autumn 2010. The respondents are contacted via e-mail and asked to fill out a web-based survey. Two reminders are sent to the respondents; the first is sent three days before closing the poll and the last is sent the day prior to closing the poll. The employees participating in the survey work within different functional areas such as finance, risk management and investment.

The data are tested in respect to cultural differences across the three main groups of the organization – the financial department, customer service and development. Culture is operationalized by two items measuring the focus on quality on the one hand and innovation on the other. "In my company we are not scared of mistakes which result from doing something new?" measures the innovation focus. "In my company we do not accept mistakes?" measures the quality component. This spectrum is argued to separate a culture focused on quality from a culture focused on innovation. Quality cultures see routines and standardizations as vital for ensuring a high quality. An innovative culture is one in which freedom and autonomy ensure its members the opportunity to be innovative (Miron *et al.*, 2004). Customer service is treated as a reference group. No significant cultural difference was found between the three groups. So, culture difference is not forcing the results (Table I).

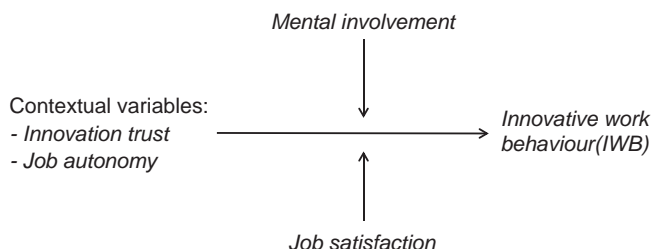


Figure 1.
Theoretical model

Consistency between self-reported and non-self-reported scales has been demonstrated in relation to innovative behaviour (Janssen and Van Yperen, 2004). Based on the annual satisfaction polls, an internal comparison of the answers year by year suggests that respondents in this sample are more varied and honest with their answers than in samples where annual satisfaction surveys have not been carried out. This is considered positive in relation to the self-reported setup.

Variable measurement

Most of the scales used in this study were developed based on earlier academic work. The questions were translated to Danish. The Danish questions were validated by two professionals in the field of survey analysis and one academic scholar. Further, the survey was pilot tested in a small Danish consultancy firm with approximately 40 employees. The pilot test induced some modifications to the survey. The questionnaire is available in the Appendix. This construction has been used in academic work before (Eskildsen *et al.*, 2004). For job satisfaction the appendix gives only the contents of the questions. All questions are answered by giving a number on a Likert agreement scale (1 = fully disagree, 10 = fully agree), except for job satisfaction which uses a bad/good scale (1 = very bad, 10 = very good).

Innovative behaviour was measured by four questions. The scale is based on the work of Janssen (2000) and Scott and Bruce (1994). Items reflecting innovative behaviour are: "I create new ideas for improvements", "I often search out new working methods, techniques, or instruments", "My ideas generate original solutions to problems" and "I work actively to test new ideas". Items reflecting the realization of ideas into useful applications did not match the environment of financial employees. These questions were hard to relate to daily practices for employees. They demonstrated inappropriate fit to the context and were deleted. The internal consistencies of the new scale were good by an α coefficient at 0.883.

Mental involvement is inspired by research on psychological empowerment (Spreitzer, 1995). The central elements in this construction are personal relevance and significance of involvement (Kanungo, 1979). Items reflecting mental involvement are inspired by Spreitzer (1995): "The work that I perform is very important to me personally", "My work is an important part of my life" and "My work brings meaning into my life". The scale shows appropriate internal consistency and no items were excluded from the scale with an α coefficient at 0.879.

The focus as regards innovation trust was on the safety climate in the working environment. The construction was measured via four questions which were inspired by the work of Clegg *et al.* (2002): "I am sure that my ideas will be taken seriously by my colleagues", "I am sure that my colleagues will listen to my ideas", "I feel respected by my colleagues" and "I know that I will benefit from a good idea even though I have

	Innovation culture		Quality culture	
	Standard β	Significance	Standard β	Significance
Financial	0.046	0.471	-0.032	0.615
Development	0.078	0.221	0.079	0.216

Table I.
Control regression

presented it to my colleagues first". No items were removed from the scale, which shows appropriate internal consistency at α 0.909.

Satisfaction was measured using three items. The contents of these variables are "overall satisfaction", "ideal workplace" and "recommend the company". This construction shows appropriate internal consistency, and no items were deleted with an α coefficient at 0.881.

4. Analysis and results

The analysis was performed as a combination of a confirmatory factor analysis (CFA) and a hierarchical regression analysis including moderating effects (Baron and Kenny, 1986). A CFA analysis was conducted in order to test for discriminate validity. The respective fit measures in relation to the CFA analysis are (CFI 0.955; RMSEA 0.074). These measures show a good discriminate validity (Tabachnick and Fidell, 2007). The variance inflation factor also confirms that multicollinearity was not a problem (interval 1.02-2.35). The internal consistency of the scales was measured by Chronbach's α statistics showing an appropriate internal consistency (0.879-0.909) (Table II).

As expected the results presented in Table III show that the inner environment of innovation has an effect on IWB. Further, the mental states included in this study also have a significant impact on the effectiveness of the inner environment. In the following section the results of Table III will be presented.

Control effects

Research produces mixed results in relation to tenure. Job tenure, as years in the current job, has been found to be negatively related to innovative behaviour (Pieterse *et al.*, 2010). Tenure in general is found not to be of importance (Janssen, 2000; Miron *et al.*, 2004). This study uses job tenure and finds a negative effect, which is congruent with the results of similar studies. We find that age is not related to innovative behaviour. This is also in line with previous findings (Janssen, 2000, 2003). Gender does not affect IWB.

The inner environment supporting IWB

Job autonomy is a fundamental part of an innovative environment (Janssen and Van Yperen, 2004). Autonomy provides employees with the freedom necessary to explore new opportunities. As hypothesized, job autonomy has a positive effect ($\beta = 0.394$) on IWB. This effect is in line with theory (Janssen and Van Yperen, 2004; Alpkam *et al.*, 2010), and thus *H1* is confirmed. Innovation trust contributes to an environmental

	1	2	3	4	5	6	7
1. Satisfaction							
2. Mental involvement	0.550						
3. Job autonomy	0.521	0.484					
4. Innovative behaviour	0.279	0.237	0.483				
5. Innovation trust	0.435	0.320	0.486	0.409			
6. Age	0.072	0.073	-0.051	-0.032	0.011		
7. Tenure	0.012	0.010	-0.005	-0.109	-0.025	0.501	
8. Gender (1 = female)	-0.033	-0.097	0.042	-0.005	-0.044	-0.047	-0.022

Table II.
Correlations

Table III.
Regression results^a:
dependent variable
innovative work
behaviour (IWB)

	Model 1		Model 2		Model 3	
	Standard β	t-value	Standard β	t-value	Standard β	t-value
(Constant)		0.695		0.783		0.442
Age	0.030	0.438	0.051	0.867	0.037	0.646
Tenure	-0.124	-1.833	-0.127	-2.185	-0.114	-1.997
Gender (1 = female)	-0.004	-0.077	-0.013	-0.259	-0.009	-0.187
Job satisfaction (JS)		0.939	-0.014	-0.209	-0.036	-0.542
Mental involvement (MI)		0.488	-0.021	-0.341	0.029	0.459
Job autonomy (JA)		0.662	0.394	6.017	0.383	5.414
Innovation trust (IT)		0.068	0.226	3.818	0.298	4.630
JS \times IT		0.488			0.215	3.026
JS \times JA		0.662			-0.103	-1.441
MI \times IT		0.068			-0.096	-1.351
MI \times JA		0.939			0.166	2.226
Adjusted R^2		0.002				0.298*

Notes: ^aSignificance: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

readiness for innovative initiatives. Trust makes employees confident when bringing suggestions and input (Chandler *et al.*, 2000). As hypothesized innovation trust has a positive effect ($\beta = 0.383$) on IWB. *H2* is supported.

Mental states moderating the effects of the inner environment

Mental involvement is hypothesized to moderate the relation between job autonomy and IWB. Employees with a high level of mental involvement in their jobs are better able to make use of the freedom awarded by job autonomy. They attempt to improve their work processes so as to increase their work output, leading to innovation. Employees with lower mental involvement may not be equally able to use the freedom awarded by job autonomy. Mental involvement moderates the relationship between job autonomy and IWB positively ($\beta = 0.166$). Thus *H3a* is accepted. The result shows that employees who are mentally involved in their jobs will benefit more from having job autonomy, and mental involvement helps solve the monitoring problem of high job autonomy (Langfred, 2004). These employees will be better at identifying new opportunities and solutions. Consequently, they use job autonomy more efficiently, which has a positive effect on innovative performance.

Mental involvement is further hypothesized to moderate the relation between innovation trust and IWB. Mental involvement does not moderate this relation and thus *H3b* is rejected. This means that employees with a high level of mental involvement in their jobs will not be restricted by organizational readiness for innovation in their behaviour. This implies that the internal drive caused by mental involvement is not affected by the environmental readiness for innovation.

Job satisfaction was hypothesized to have a moderating effect on the connection between job autonomy and IWB. Yet, no significant direct effect is found, and *H4a* is rejected. Job satisfaction does not increase the effect of job autonomy on IWB. It means that employees' job satisfaction does not affect their engagement when generating innovative improvements of their jobs. Furthermore, job satisfaction is not significantly related directly to IWB, and the positive connection between job satisfaction and creativity (Davis, 2009) is not found in this study. This shows that employees with a high level of job satisfaction will not have a strong incentive to generate new solutions for their jobs. The positive relation of job satisfaction to organizational performance probably goes through higher loyalty of these employees and intentions to stay in the job (Eskildsen *et al.*, 2004), and not via a direct effect on innovative job performance. This is confirmed by this sample, as employees with a high level of job satisfaction have a significant, stronger intention to stay in the company for more than two years (*t*-value 11.218). The positive effect of innovative performance on organizational performance on the other hand is related to improvements of effectiveness and not via high loyalty. Employees with a high level of IWB are dynamic employees who want to make changes and improvements. They do not act like this from an intention to stay in their jobs, but rather from a desire to change the organization. Job satisfaction is further hypothesized to interact positively with innovation trust. *H4b* is accepted with a significant effect ($\beta = 0.215$). Employees with a high level of job satisfaction combined with high innovation trust will add more innovative ideas to the organization. This result further makes employees with a high level of job satisfaction afraid of introducing innovative ideas in environments not characterized by innovation trust because of dysfunctional work related conflicts caused by innovative improvement. These employees value their job satisfaction more than their drive for introducing new ideas. In this respect innovation trust is found to

align job satisfaction and IWB. These moderating effects will be in focus in the discussion.

5. Discussion and conclusion

IWB is argued to be central for innovation to emerge in the financial sector. The study further extends the research stream on IWB by focusing on two central negative aspects of IWB. The first problem is a decrease in efficiency because of monitoring problems induced by a high degree of autonomy. The second problem arises because of the negative consequences of IWB induced by a high level of IWB among employees.

The influence of job autonomy and innovation trust on IWB

First, this study shows that job autonomy positively affects IWB. As regards financial employees, job autonomy increases their ability to generate new ideas. This is in alignment with previous findings (Lee, 2008; Janssen and Van Yperen, 2004) and underlines the effect of job autonomy. Managers' ability to provide autonomy in the workplace is significant for the IWB of employees in the financial sector as well as in other sectors.

Innovation trust is identified as central for creating a supportive inner environment for innovation. Innovation trust helps the company overcome the different thresholds posed by innovative and non-innovative employees, respectively. An environment characterized by innovation trust therefore facilitates a wish among employees to contribute with new insights. They know that this will not induce dysfunctional work related conflicts. In the financial context of this paper, the positive effect of innovation trust can be due to a high number of process innovations, which in general have negative implications for the work environment. It will be interesting to address the effect of innovation trust in environments characterized by different types of innovations (e.g. product, service, business model) and to clarify to what extent the effect of innovation trust is valid across different sectors. The results of this study underline that innovation trust has an effect on IWB, and from a theoretical point of view this effect should be most significant for process innovations. It will further be important to analyse whether innovation trust can lower the stress level that employees perceive because of innovation, as innovation increases stress (Cowan *et al.*, 2011).

The moderating role of mental involvement and job satisfaction

Job satisfaction positively moderates the relation between innovation trust and IWB. Employees with a high level of job satisfaction situated in environments characterized by innovation trust will bring more innovative performance, as they know their environment will respond positively to these innovative initiatives. Previous studies have found a negative effect of overall satisfaction on IWB (Shih and Susanto, 2011). In this study it is demonstrated that when correcting for the level of innovation trust, job satisfaction has a positive effect on IWB. Innovation trust can therefore be a key component in turning dysfunctional environments into well-functioning innovative environments, as well-functioning innovative environments have to entail that employees can generate innovative improvements while maintaining high job satisfaction. The moderation effect is illustrated in Figure 2.

Dysfunctional conflicts are in particular found to be related to process optimization innovations (Shih and Susanto, 2011). The problems concerning this type of innovations are that they do not expand the area of business, and thus typically create value via layoffs. The financial sector context of this study brings more process

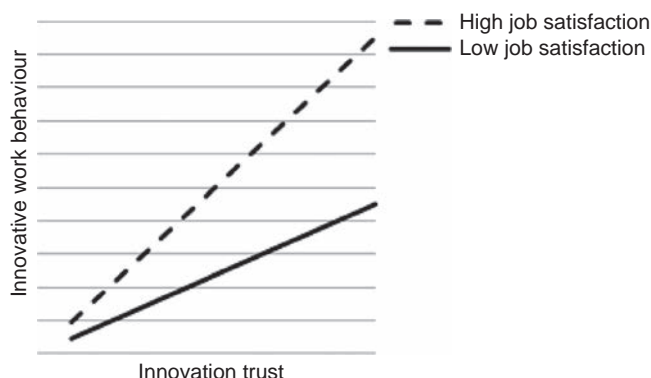


Figure 2.
Moderating effects
of job satisfaction

innovations than supply innovations (e.g. product innovations), which is why this sector is particularly predisposed for the negative effects of innovation. The problem concerning the negative effects of innovation is illustrated by the fact that process innovations are negatively related to job satisfaction among co-workers (Cheng *et al.*, 2010). As Figure 2 shows, job satisfaction gives a boost to innovative performance in environments characterized by innovation trust. In this respect innovation trust is significant as it transforms innovative environments into functional and dynamic environments where employees can freely bring new ideas into play without the fear of co-workers' negative reactions. Furthermore, innovation trust aligns employee satisfaction and IWB. In this study of financial employees, this finding is interesting. In the context of economic crises, this finding seems to be valid for other sectors as well because many innovative improvements in periods of downsizing are administrative and process related; a factor which should be clarified through additional research.

In the process of ensuring high IWB among employees, management has to ensure organizational structures that reduce the perceived risk of IWB and thus increase the attractiveness of IWB in the eyes of employees. The presented findings suggest that managers should focus their attention on creating internal acceptance of innovative initiatives. The recognition among peers can reduce the perceived risk and create a state of psychological empowerment among employees (Burroughs *et al.*, 2011; Zhang and Bartol, 2010). Managers therefore have to highlight employees who put an effort into being innovative and publicly recognize their efforts. In particular, it is essential to communicate this in organizations whose primary focus on newness is achieved via process and administrative innovation. To obtain innovation trust, managers have to focus on job security for all organizational members and create a shared understanding that innovation is desirable and the only way for organizational progression and survival. Ensuring employees' job security may seem to conflict with the objectives of process and administrative innovation. Yet, without employees' internal drive for innovation, it will be difficult to obtain innovative improvements. This will further result in a situation with low job satisfaction and low IWB. For this reason it might be more desirable to find new ways for layoffs; for example redeployment or natural wastage.

The second finding is that mental involvement has a moderating effect on job autonomy. Mentally involved individuals are more innovative when they are given autonomous work tasks. Employees with a high level of mental involvement convert job autonomy into IWB more effectively than workers with a low level of mental

involvement as seen in Figure 2. Organizations use many resources on attempts to create conditions in which employees have the space to be innovative, for example through job autonomy. These organizations in particular should consider the degree of mental involvement among employees, as this can boost the effect of job autonomy. Mental involvement is not a necessary condition for job autonomy, but the combination of job autonomy and mental involvement significantly increases innovative performance. In organizations where job autonomy is part of the general work conditions, managers should pay attention to the recruitment of employees with a high degree of mental involvement, as the organization will benefit more from these employees in situations with no opportunities for monitoring (Figure 3).

The moderating effect of mental involvement is in alignment with previous findings showing that job involvement positively moderates the negative innovative outcome in relation to co-workers (Janssen, 2003). The effect of mental involvement is therefore considered not to be specific for this sample, and it is expected that the same results will emerge in different sectors. From a managerial perspective, it can be hard to increase the level of mental involvement among employees, as this is the importance of the job task in the eyes of the employee. Regardless of this managers can focus on communicating how the task performed contributes to organizational objectives and thus creates organizational value. The primary contribution of this result lies in the recruitment process of new employees, where the importance of mental involvement can be actively used to get an idea of employees' innovative potential.

This research gives some directions for future research. It is reported that the fit between personal creativity and job requirements is central. If the fit is optimal, then it will result in increased satisfaction and decreased intention to leave (Shalley *et al.*, 2000). This study adds knowledge by focusing on the effects on innovation trust. In this respect it is interesting to analyse how the person and job fit in relation to creativity is moderated by innovation trust. Is innovation trust an underlying condition for the creation of satisfied workers and effective environments for innovation? Further analyses should be carried out in other sectors as regards the importance of mental involvement, as the choice of using the financial sector seems to be the biggest limitation of this study.

In conclusion, job satisfaction and mental involvement have positive moderating effects on the inner environment affecting IWB. Innovation trust is found to be a contextual variable of importance as it turns dysfunctional innovative environments into dynamic and functional innovative environments. Job satisfaction positively moderates the relation between innovation trust and IWB implying that highly satisfied workers will produce more ideas facing an environment accepting innovative ideas. Mental involvement is found to be a component of importance as it moderates

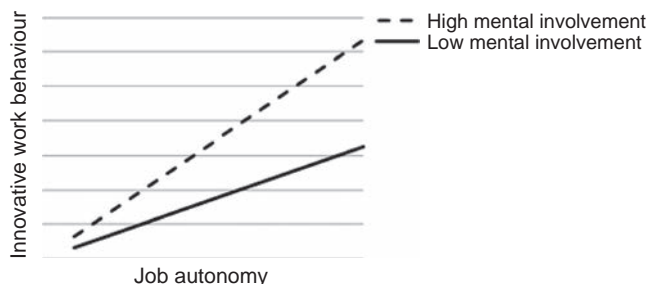


Figure 3.
Moderating effects of
mental involvement

the effect of job autonomy on IWB and thus increases the innovative job performance. This induces that mentally involved individuals are more effective in their use of time for innovation. From a managerial point of view this study highlights the importance of creating an organization ready for innovation on all levels. Managers need to deal actively with the different perspectives on innovative ideas as these are seen by their employees, and create conditions in which no employee feels that innovation is a threat.

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(The Appendix follows overleaf.)

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Manifest variable	Mean	SD	Chronbach α
<i>Innovation trust</i>			0.916
I am sure that my ideas will be taken seriously by my colleagues	7.44	1.8	
I am sure that my colleagues will listen to my ideas	7.60	1.7	
I feel respected by my colleagues	7.72	2.0	
I know that I will benefit from a good idea even though I have presented it to my colleagues first	7.09	2.2	
<i>Job autonomy</i>			0.832
I have the freedom to try out new ways of doing things	6.94	2.3	
My supervisor encourages me to think creatively	7.24	2.1	
I have the opportunity to discuss new ideas with my colleagues from other departments	7.65	2.2	
<i>Mental involvement</i>			0.881
The work that I perform is very important to me personally	7.82	2.1	
My work is an important part of my life	8.00	1.9	
My work bring meaning into my life	7.26	2.2	
<i>Innovative work behavior (IWB)</i>			0.883
I create new ideas for improvements	7.32	1.6	
I often search out new working methods, techniques or instruments	6.65	1.9	
My ideas generate original solutions to problems	7.18	1.8	
I work actively to test new ideas	7.28	1.7	
<i>Job satisfaction Ennova A/S ©</i>			0.881
“overall satisfaction”	7.39	2.0	
“ideal workplace”	7.03	2.0	
“recommend the company”	7.59	2.3	
<i>Culture</i>			
In my department we are not scared to commit mistakes because of doing new things	6.89	2.4	
In my department we do not tolerate mistakes	3.89	3.1	

Table AI.

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