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## Article

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# Competence Utilization for Innovation Capabilities – A Question of Trust?

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*The purpose of this paper is to show how trust as an organizational value contributes to employee competence utilization in the case of innovation capability. Thus, it is the objective of this paper to analyze the positive impacts, but also potential limits of trust in business management. The research paper uses two different quantitative empirical studies drawn from German and Austrian mid-sized companies to empirically test this interrelation. As a result, the paper determines particular aspects of trust such as accountability, shared norms and the ability to take responsibility to be interrelated with the usage of employee competences and underlines a positive connection between product innovation performance and trust. However, the trust concept needs enriching elements to be balanced towards a feeling of mutual reliance and support creativity instead; inclusions of bridging social capital, elements of distrust and a pioneering spirit are to be mentioned here.*

**Keywords:** Trust, employee competence utilization, innovation, creativity

**JEL Classification:** D23, D83, L22, L25, M11, M14, L20, O30, O31, O32, O34

## 1. Introduction

Scientists have elaborated on a wide range of ideas on innovations related to different influencing variables in companies (Medina et al., 2005). Still, innovation in itself is mostly unique, which is the reason why an entirely valid model for fruitful innovation has not yet appeared (Delbecq and Mills, 1985). To manage all the influencing factors, which, generally, can be classified into factors from the general environment, the competitive environment, and the company environment becomes increasingly important for managers. With limited budgets, the question arises where to focus on and how to enhance innovation capabilities without

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having above-average financial resources. And, even if financial resources are available, research shows that this alone does not make innovation an automatic outcome at all, either. Despite the importance generally attributed to soft organizational factors such as organizational values for innovation, empirical research remains somewhat limited. Particularly the interrelations of trust as an organizational value, and how it contributes to the utilization of employee competences with special regard to innovation has only received scarce treatment so far. Therefore, the research paper at hand makes a first approach to fill in this gap. **The major research question involved can be phrased as follows: How does trust as an organizational value contribute to employee competence utilization in the case of innovation capability?**

First, a theoretical framework of employee competence utilization, trust, and its impact on innovation is built. On the basis of two empirical studies in German and Austrian mid-sized companies, the positive impact of different aspects on particular innovation performance outcomes is determined. This leads to a discussion of the empirical results and an overall validation of the propositions that the authors put forth. Finally, the end of the paper shows limitations, conclusions and suggestions for further research.

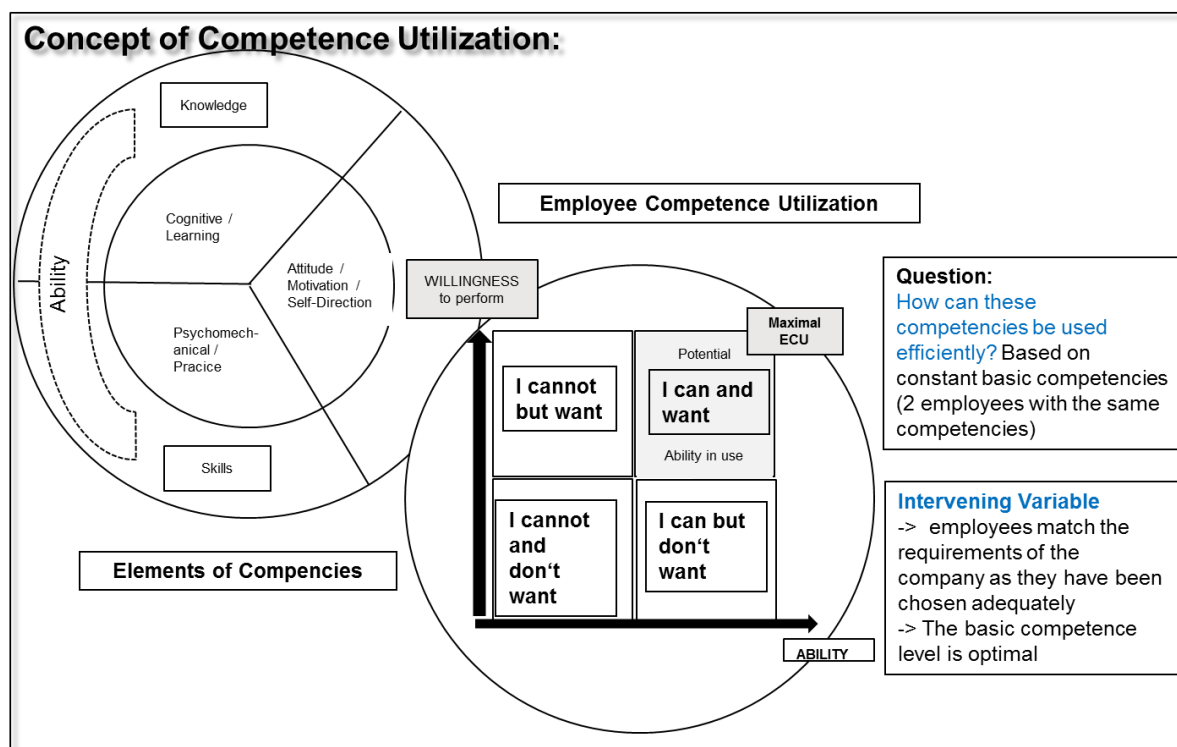
## **2. Literature Review: A Theoretical Framework of Trust, Employee Competence Utilization and Innovation**

### **2.1. The Capability to Develop Innovative Ideas as Part of a Universal Competence Portfolio**

In order to approach the aspect of competence utilization, the concept of competencies itself has to be understood first. With the historical development of the competence definition in mind, the discussion debate has moved from a purely individual perspective to one focused on social systems and organizations (Bolzern-Konrad, 2013). Furthermore, for both individual and organizational levels of competence, the research has moved from a more stability-oriented view to a dynamic view (Eberl, 2009). Especially in the frame of education science Weinert (2001) gives an important definition on competencies: “competencies are cognitive skills, either existing or learnable, along with motivational and social willingness and ability to solve these problems successfully and responsibly in various situations (HRK, 2012).” Reflecting on the individual competence understanding, and with this linking back also to the psychological and educational perspective, Eberl subsumes in another work, that the connecting bracket has to be seen in three basic bonding elements: the emphasis on practice, the self-organization-disposition thought and the relevance of learning. The emphasis on practice requires effective action that delivers positive, usable results. Further to this, if competencies cannot be demonstrated competence reduction is the result on a long-term perspective. The self-organization disposition is related to qualitative aspects like skills and knowledge as well as motivational skills such as motives, norms and attitudes. It also includes the element of self-directed solutions. The learning dimension covers the aspect of self-directed continuous extension of knowledge and ability (Eberl, 2009). These elements are comparable to the description of competencies by Erpenbeck and Rosenstiel (2007). Their understanding of competencies incorporates a meaningful and fruitful action in open, complex, sometimes even chaotic situations that allow self-organization under theoretical and actual insecurity through self-accounting rules, norms and values. According to their model, competencies include skills, knowledge and qualifications, but cannot be reduced to it. Competencies additionally need the capacity to act in open unsecure complex situations based on self-made rules, norms and values. Therefore competencies are dispositions of self-organized action, including informal and self-organized learning (Erpenbeck and Rosenstiel, 2007). The aspect of self-organized learning is directly linked to innovation capability.

The individual perspective can neither be seen as isolated, nor as organizational competencies, which should be seen separately from the organizational perspective. In this sense individual competences generate in its combination sustainable success for the company, with organizational competencies being a product of competent individuals in addition (Eberl, 2009). In her model of organizational competencies Eberl specifies organizational competencies towards three dimensions: the cognitive, the practical and the affective. The cognitive dimension refers to “sense models”. This dimension incorporates the organization’s “view on the world” and can be allocated in the field of organizational culture. The practical dimension refers to “patterns of action” and is defined through collective, complex schemes of action. The affective dimension refers to creativity and motivation in insecure environments (Eberl, 2009). The capability to develop innovative and creative ideas is thus a central part of the universal competence portfolio, based on self-organization and affective processes. Particularly the affective dimension also reflects the aspect of willingness; an essential aspect when touching on competence utilization. Competence-in-use is based on a sufficient level of ability, but necessarily needs the element of willingness as well. Referring to the situational leadership model of Hersey and Blanchard (1974), the maturity level of an employee equates to their development level. They further explain that the developmental level is the degree of competence and commitment a person has, to

perform a task without supervision. With competence referring to the aspect of general given ability, commitment refers to achievement-motivation and willingness (Hersey and Blanchard, 1974). Further to this, Schmitz (2005) introduces another illustration reflecting the concurrence of motivation and ability. Whereas ability and skills can be assessed mainly through employee selection and throughout the process of employee development, the element of willingness is essential in order to achieve the utilization of abilities and skills resulting in positive performance (Schmitz, 2005). Integrating these ideas towards the concept of “ability in use” the first author developed a model for employee competence utilization shown in figure 1 (Bolzern-Konrad, 2013).



**Figure 1.** The research concept of competence utilization

Source: Britta Bolzern-Konrad, based on Eberl (2009), Hersey and Blanchard (1974) and Schmitz (2005)

In order to make the capability of innovation to the subject matter the affective dimension of individual competencies moves to the focal point and will be reflected further to the universal competence concept shown here.

## 2.2. Trust as an Organizational Value Enhancing Innovation

An organizational value closely linked to innovation performance is trust. With a higher level of trust, employees might contribute to innovative ideas to a higher extent (Hosmer, 1995). Feeling trusted makes people brave enough to undertake a risky course of action, because they are confident that all persons involved will act competently and dutifully (Barber, 1983 in: Lewis and Weigert, 1985). Leaders are not only responsible for providing a safe environment where trust and candor are highly valued. They also have to show versatility and foster innovative ideas among their followers (Agin and Gibson, 2010). Taking this as a background, it comes as no surprise that numerous other authors state trust to be an innovation-supportive value. For Jassawalla and Sashittal (2002), all participants of an innovative organization are seen capable of being trusted in innovative companies. Additionally, they feel comfortable when they have to seek for clarifications and are willing to make themselves exposed to other members' criticism. On the contrary, for these authors less innovative organizations are full of distrust, lack of confidence in others, and paranoia (Jassawalla and Sashittal, 2002). Clegg et al. explicitly research implicating trust in the innovation process. The authors argue that if people trust that their ideas will be heard and taken seriously and that they will benefit themselves from idea suggestions they are more likely to participate in innovation processes (Clegg et al., 2002). Ellonen et al. (2008) critically emphasize that the role of trust in organizational innovativeness lacks empirical research. However, the authors assume that there is a clear interrelationship between high levels of trust and its impact on effectiveness, knowledge sharing and innovation (Ellonen et al., 2008). Even in the

1960s, Lorsch and Lawrence claim mutual trust and confidence to be decisive requirements for product development (Lorsch and Lawrence, 1965). More recent authors transfer that to an emotional context. For creative actions members of an organization must feel emotionally safe (Martins and Terblanche, 2003). Moreover, successful innovation can only arise when accompanied by a cultural setting that promises emotional safety when experimenting new ways of solving old problems (Eigenstetter and Löhr, 2008). Various authors also mention other related topics to trust such as friendship (Eigenstetter and Löhr, 2008), togetherness (Anonymous, 2010) or a sense of sharing (Ahmed, 1998) when it comes to the development of new concepts. In summary, trust must have a high impact on product innovations. Trust is mentioned unambiguously so frequently by different authors that it undoubtedly must play an essential role as an organizational value for product innovation.

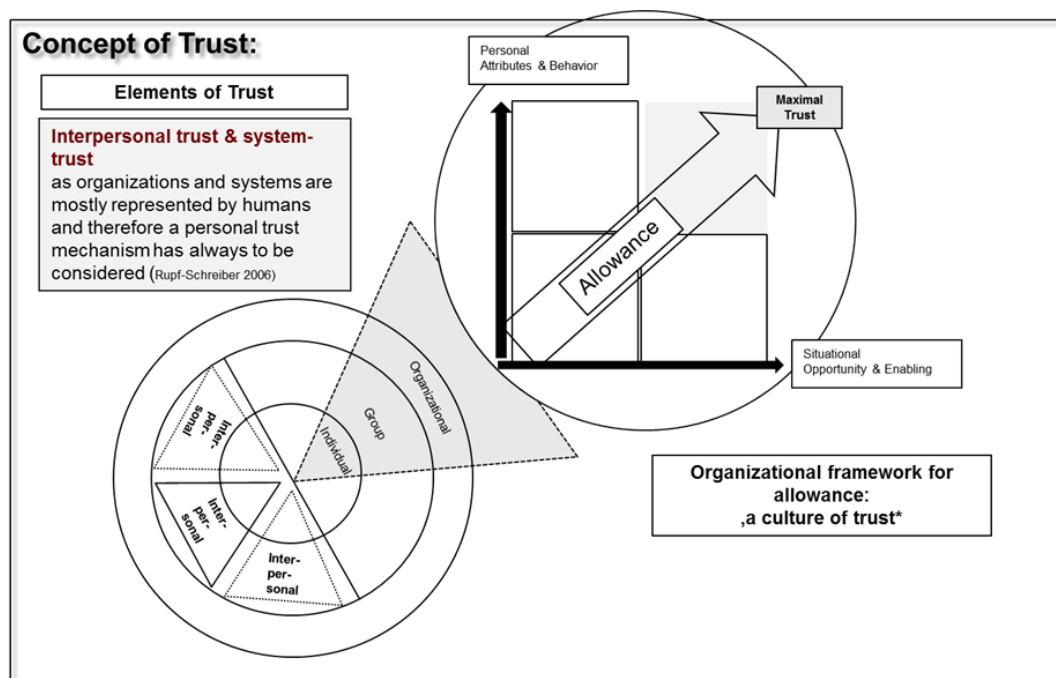
### **2.3. The Concept of Trust as Part of Social Capital**

Adler and Kwon state that there is a basic consensus that social capital derives from relationships (Adler and Kwon, 2002). Whereas the knots of a network structure constituted by individuals symbolize human capital, social capital is located in the relationships of this network. That is the complementary view Coleman has taken (Coleman, 1990). The premise behind social capital is rather simple and straightforward; social capital is an “investment in social relations with expected return” and therefore investing in relations leads to the opportunity to re-gain capital (Lin, 1999). The perspective on social capital moves from social disparity towards a new source for organizational advantage. This advantage is reflected in the utilization of unused potential (Moldaschl, 2009) in a sense that it gives actors the opportunity to use and activate resources otherwise not available or available at greater cost (Baumane and Sumilo, 2007). Further to this, core aspects of social capital can be identified independently of their theoretical background; these are the aspects of networks, trust and reciprocity (Putnam, 1995). The network notion is also pictured in the discussion about bonding and bridging social capital. Bonding social capital is positioned on the micro level based on the interrelation of individuals within a group strongly driven by trust and reciprocity. As Baumane and Sumilo underline, it is rooted in and developed within established homogeneous social system and is not shared between outsiders. As a result they come to the conclusion that bonding social capital is advantageous for preservation of existing resources. This further leads to the indication that the strong forms of bonding social capital might have negative impact on innovation and effectiveness of group work (Baumane and Sumilo, 2007). Also Steinfield et al. indicate that the bonding form of social capital functions strongly integrative as it is based on a high level of trust and reciprocity. Within an organization this concept may be associated with feelings of social and tangible support (Steinfield et al., 2009). At the same time reciprocity reduces by nature the degree of freedom (Hellmann, 2008), which supports its imaginable limiting effect on innovation and creativity mentioned before. In the words of Modaschl: ‘any relation does not only offer opportunities, but also binds’ (Moldaschl, 2009). Bridging social capital is defined as the crosslinking between networks, which opens the view to the macro perspective (Hellmann, 2008). It is based on relations between distant acquaintances connecting people from different social groups facilitating flows of information and influence. Therefore it is related to network ties between actors from otherwise disconnected groups, which is the reason that Steinfield et al. argue that these large networks are more likely to include ‘weak ties’ (Steinfield et al., 2009). As a consequence Baumane and Sumilo state that bridging social capital is more appropriate for search and acquisition of new resources (Baumane and Sumilo, 2009). Nevertheless it can be imagined, that both notions are relevant for organizations. As Steinfield et al. accentuate the concept of social capital has achieved extensive treatment in organizational literature, with both constructs of bonding and bridging social capital being relevant in organizations. They also stress that bonding social capital in an organization implies that there is trust and sense of obligation that encourages reciprocity, while bridging social capital is associated with the kind of weak ties that facilitate access to non-redundant or innovative information (Steinfield, 2009). To sum up, social capital is a resource that is inherent in relations and based on the assumption that the other person or institution justifies trust and in return probably acts reciprocal (Haug, 1997). Within this definition trust is seen as a basic element (Bolzern-Konrad, 2013).

Comprising different definitions, having further the trust quality levels in mind and finally not forgetting the social capital context, the following elements are evaluated to be decisive in an organizational environment: Trust derives from relationships and is defined as the willingness to be vulnerable in a complex uncertain situation dependent on another person. It is based on a positive expectation on mutuality and results in risk taking decision and action. Referring to the basic benefit of social capital this risk taking action implies the potential to utilize unused resources. Therefore the trust-based-action implies the potential to realize unused resources (Bolzern-Konrad and Sumilo, 2014b). Notably risk taking plays a central role in the concept. High-level trust is based on a risk assessment vindicated by experience derived from time invested in relationships

(Dietz and Hartog, 2006). Repeated behavior and shared values are not only an expression of individuals but they also contribute to the reputation of the organization as a whole; an additional aspect pictured in Luhmann's concept of system trust (Bohn, 2007). It also opens the way for trust correlates. This is because system-trust brings rational elements back into the picture. Luhmann does mention system-rationalization in this sense (Luhmann, 2014). In order to remain open to changes and renewable some systems need strong inclusions of distrust. In this way distrust is used to prevent a diffuse feeling of 'mutual reliance'. Luhmann further states, that on the one hand distrust can be an origin for inner organizational conflicts, especially if it is not specified and impersonal, but as regards to innovation for example distrust is seen as a necessary tool (Luhmann, 2014). This perspective has been taken also from other researchers. Lewicki et al. even propose a theoretical framework for understanding trust and distrust simultaneously within relationships. They state that trust and distrust both entail certain expectations; but whereas trust expectations anticipate beneficial conduct from others, distrust expectations anticipate injurious conduct. Although defining trust and distrust as being reciprocal, they view them as separate and distinct constructs (Lewicki and McAllister, 1998).

Trust can be conceptualized within organizations, between organizations and towards the organization. The individual in the organization develops trust towards individuals, groups, or organizations. At the same time organizations are mostly represented by humans. For this reason the argumentation is that both personal trust and organizational trust mechanisms are to be considered (Rupf-Schreiber, 2006). Following the analysis given before and based on a combined view of interpersonal and organizational trust perspectives the first author has developed the concept of trust shown in figure 2.

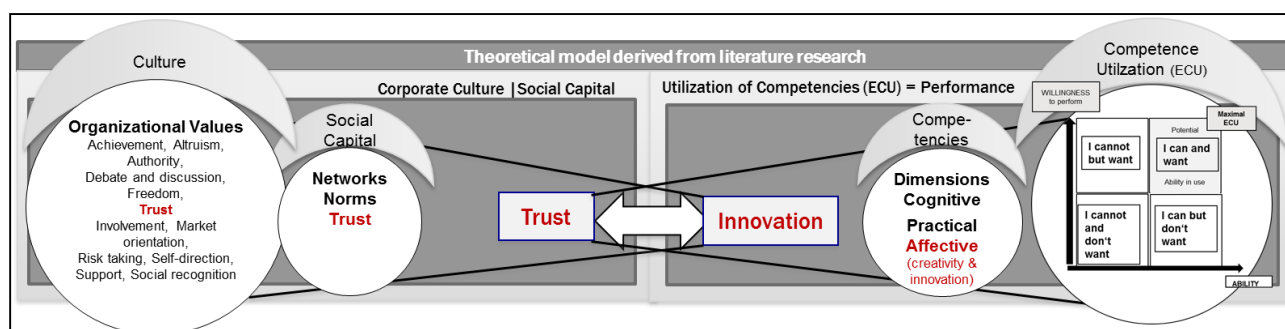


**Figure 2.** The research concept of trust

Source: Britta Bolzern-Konrad, based on Luhmann 2007 and Rupf-Schreiber 2006

### 3. Research Premises: Combined Illustration on Trust within the Field of Other Organizational Values and Innovation Capability within the Concept of Competencies

Based on this theoretical background, the authors developed the following combined illustration of both the concept of trust within other organizational values and innovation capability within the concept of competencies as shown in figure 3.



**Figure 3.** Model on the interrelations of trust and innovation as a dimension of employee competences  
 Source: Bolzern-Konrad and Egger, 2014

This model shows how all topics addressed above are interlinked. Innovation and creativity form a major component of employee competence utilization concepts, which in the end try to suggest possibilities how to make employees perform better. Organizational culture mostly comes down to values and trust is a major component here, which is repeatedly mentioned when it comes to innovations. For this reason, the authors see a very strong connection between both backgrounds that is further substantiated by the following findings.

Overall, the authors put forth the following two propositions:

1. **Trust as an organizational value positively impacts on employee competence utilization in general.**
2. **Trust positively affects innovation outcomes in business companies.**

Additionally, the authors phrase the following research question to their combined study: **When it comes to innovation capability, is endless trust the only organizational value of choice, or is there potential limits to its occurrence?**

#### 4. Research Methodology and Data

This paper shows two empirical studies that used various different research methods and instruments. Further, they used different samples to gain results from, which are explained in the following subchapters.

##### 4.1. Study 1: Trust and Employee Competence Utilization in German Mid-Sized Companies

The basic methodology of this research work follows a pragmatic approach. On the basis of two pre-studies the decision was made to base the pre-selection of companies for the main empirical study on a qualitative approach. Companies finally involved in the main study were well-defined and selected. A major criterion was the involvement in a particular business-excellence-circle. Branches were distributed in the fields of Medical, Fibers, Metal, Furniture, Telecommunication, Mechanical Engineering and Safety Systems (Bolzern-Konrad and Sumilo, 2014b). As a result a sample of 206 employees constituted the correlation analysis between the indicators of trust and the indicators of employee competence utilization. This number comprises of 20-50 employees from each of the six companies finally involved. A written online self-completion questionnaire was the preferable instrument of data collection. The questionnaire consisted of closed questions using 5-point Likert-scales. All data were analyzed with the statistical software of IBM SPSS 21. The survey took place between March 2014 and August 2014. For the research study the concept of trust builds the central point. The following variables were used for the execution of testing.

**Independent variable:** Trust is a latent variable. Measurable indicators were defined as: Fairness (TF), Clear Goals and Transparency (TC), Network Structure (TN) and Delegation level (TD).

**Dependent variables:** Employee Competence Utilization also is a latent variable. Measurable indicators were defined as: Retention (ER), Over obligatory Performance (EO), Productivity per employee (EP) and Satisfaction level (ES).

##### 4.2. Study 2: Trust and Product Innovation Performance in German and Austrian Mid-Sized Manufacturing Companies

The research design chosen for the second study presented here is a quantitative cross-sectional, correlational one with the organization as level of analysis. The original, main purpose of this study was to research the impact of different organizational values on product innovation outcomes. All sample companies had to accord with the industry sector of manufacturing companies, respondents had to be in management



positions with a task relevant to product development and innovation. To begin with, the standardized online questionnaire clarified the main terms of the research – organizational values and product innovation. In the following, the online questionnaire mainly consisted of closed questions using 5-point Likert-scales. All data were analyzed with the statistical software of IBM SPSS 21. The survey took place between February 25th, 2014 and April 25, 2014. On the whole, 81 respondents from different German and Austrian industrial companies took part in the survey. In general, these companies stated to be rather large (more than 250 employees), rather internationally active (at least all across Europe), and rather innovative compared to their industry competitors. All data were checked for normality with Kolmogorov-Smirnov-Tests and all significance levels lie below .05. Therefore, non-parametric tests are used for further analysis. The following variables were used for the execution of testing.

**Independent variables:** 12 organizational value themes, namely achievement, altruism, authority, debate and discussion, freedom, involvement, market orientation, risk taking, self-direction, social recognition, support, and trust. These value themes resulted from an intense content analysis of 40 previous studies regarding organizational values and innovation performance (for further details see Egger, 2014a). Generally, they were measured first in terms of how much they are important to product innovation, secondly, in terms of how much they are characteristic of the managers' organizations. The meaning of each value theme was explained in detail in accordance with other measurement instruments of values.

**Dependent variables:** 6 product innovation performance indicators, namely the number of new products introduced, the pioneer disposition to introduce new products, the clever response to new products introduced by competitors, financial efforts to develop new products, additional efforts to develop new products in terms of hours per person, teams, technology and training involved (in accordance with Naranjo-Valencia et al., 2011; Naranjo-Valencia et al., 2010), the speed of new product development (NPD) (in accordance with Prajogo and Ahmed, 2006). Here, enterprises had to evaluate their innovation performance against industry competitors in the past three years in order to limit industry effects.

## 5. Analysis and Results

The following section shows the results of each study. For both studies, correlations, coefficients of determination and in some cases regressions were calculated. The chapter also combines the results of both studies in the last section.

### 5.1. Study 1: Trust and Employee Competence Utilization in German Mid-Sized Companies

Being founded on a sample of 206 questionnaires the hypothesis “**the higher the level of (perceived) trust, the higher the level of employee competence utilization**” was not falsified. To explore the correlation between variables, Spearman's rho as the nonparametric measure of choice was assessed. As a result the dependence between trust and ECU is  $0.455 = r$ . As a second measure to assess the impact of trust on employee competence utilization, the coefficient of determination  $r^2$  was examined. As a result  $r^2$  is 0.202 with a significance level of 0.01 two sided. Accordingly, a positive connection between trust and employee competence utilization outcomes can be underlined in saying that trust has an impact of 20% on changes in employee competence utilization.

*Table 1. Correlation between Trust and Employee Competence Utilization (ECU)*

Correlation Trust/ECU Employee = 206	Correlation r (Trust/ECU)	Coefficient of Determination ( $r^2$ ) (Trust/ECU)
Spearman-Rho	0.455**	0.207**

\*\*, The correlation is on a level of 0.01 (2-sided) significant

Source: Survey results

This result is traceable with the theory background as well as with the specific organizational environment in mind. Even if a 100 percent trust level might be regarded as a desirable goal with respect to the resulting potential realization, it may neither be assumed nor should be sought. Not only that theoretical results have shown that trust never can be the only impact factor, results have also shown that elements of control and distrust should always be involved in order to avoid blind trust. Further to this strategic management is embedded in internal and external factors, influenced by macro- and microenvironment. Here to name the competitive environment, basic technological developments, new substitution products in the field on the macro level, and even more employees' qualification level, process technology, the organization's structure and systems in place on the micro level, are expected to significantly impact the “ability in use”. As



a consequence a level of 20 percent being the outcome of the empirical study might not be unrealistic in terms of relative influence weight. Overall, proposition 1 is highly substantiated with this finding. Moving one step further and deepen the level of analysis the different indicators for trust respective employee competence utilization have been analyzed as regards to their correlation.

**Table 2.** Coefficient of determination of all indicators for Trust and all indicator s for ECU based on the authors model on level 2

Coefficient of Determination ( $r^2$ ) based on Spearman-Rho Employees n=206	Overobligatory Performance (EO)	Satisfaction Level (ES)
Fairness (TF)	0.38**	0.58**
Clear Goals and Transparence (TC)	0.41**	0.47**
Network Structure (TN)	0.19**	0.29**
Delegation Level (TD)	0.33**	0.46**

\*\* The correlation is on a level of 0.01 (2-sided) significant

Source: Survey results study 1

As a result all elements of trust show a significant correlation to employee competence utilization. Though, fairness and clear goals show the highest results with regard to the correlation to employee competence utilization. Fairness even shows a correlation towards satisfaction of 58 percent. This might be explainable do to the fact that fairness also includes additional elements like failure culture and justice. Clear goals show a correlation towards over obligatory performance of 41 percent. Both results particularly catch to the eye towards the correlation of trust elements with over obligatory performance and satisfaction. These two elements of employee competence utilization incorporate essentially the aspects of commitment and engagement and meaningfulness, motivation and growth perspective. Having seen that especially fairness and clear goals correlate specifically high with over obligatory performance and satisfaction it is of interest to deepen the level of analyzes further.

**Table 3.** Coefficient of determination between specific indicators of Trust and specific indicators of Employee Competence Utilization (ECU) on level 3

Coefficient of Determination based on Spearman-Rho ( $r^2$ )	Commitment (EOC)	Engagement (EOE)	Intrinsic Motivation (ESI)	Growth Perspectives (ESG)
Accountability (TFA)	0.35**		0.42**	0.30**
Accepted Goals (TCA)		0.23**		0.36**
Shared Norms (TCS)	0.36**			
Communication (TNC)			0.34**	
Ability to take responsibility (TDA)			0.48**	

\*\* The correlation is on a level of 0.01 (2-sided) significant

Source: Survey results study 1

Summarizing on these results it can be stated that indicators such as accountability, shared norms, open communication, delegation and empowerment are strongly interrelated with the usage of employee competences. Particularly the accountability of the trustee as well as shared norms and accepted goals between trustor and trustee show the highest correlations with specific indicators in the employee competence utilization field. Here to be named commitment, intrinsic motivation and growth perspectives. But it has to be emphasized that especially the ability to take responsibility correlates significantly with 48 percent to the trustor's intrinsic motivation. Thus it can be assumed that a situational context that allows freedom in decision and action motivates employees intrinsically; the work content itself, as well as the takeover of responsibility are to be named as essential elements of the intrinsic motivation in this context. Commitment and motivation are thus very close, especially as motivation is seen as a factor of affective commitment being responsible for high retention of employees. Shared norms and accepted goals are also of high impact as regard to commitment (Morrow, 1993). Interpreting these results, shared goals obviously lead to focused behavior and an alignment of the individual goal plan with the company's expectations on the same; an effects that supports a strong feeling of satisfaction, incorporating the growth perspective in the scope of the author's model.

Putting the subject matter towards innovation results are interesting. Being part of the concept of competencies, innovation is especially exposed to creativity and knowledge.

## P2: The higher the level of trust, the higher the level of innovation

Approaching the capability of innovation within the concept of competencies trust had been analyzed against specific innovation. The analysis was based on the underlying Question: Would you say your company is innovative? Results are shown in table 4.

**Table 4.** Coefficient of determination between the indicators of Trust and Innovation

Trust Indicators	Innovation ( $r^2$ )
Fairness	0.20**
Clear Goals	0.26**
Network Structure	0.11**
Delegation level	0.12**
Accountability	0.21**
Shared norms	0.22**

\*\*, The correlation is on a level of 0.01 (2-sided) significant

Source: Survey results study 1

Touching on the special aspect of innovation, results allow the interpretation that, trust positively impacts innovation. The highest correlation level can be found between aspects of fairness, especially accountability of the trustee and clear goals, especially sharing of norms. As mentioned before, innovation captures a special attention within the competence concept used in the research study. Being part of the creative dimension and touching the knowledge content of competencies, innovation is supported by high levels of trust, as trust reduces insecurity and risk and thus provides an atmosphere supporting creativity. On the other hand, innovation needs specific forms of institutionalized distrust to function and avoid lock-in effects and the development of blind and non-reflected trust. This aspect might explain that factors referring to personal characteristics like the accountability of the trustee promote innovation (21%), whereas factors like strong internal bonding network ties show lower correlations (network structure,  $TN = 11\%$ ). The highest values of correlation towards innovation can be found in the element of shared norms; obviously a clear articulation and a common basis of norms and goals provides sufficient security to think and act innovative and at the same time still allows the orientation to partners outside the company triggered by bridging social capital. This fits to the finding in the theoretical part, that bridging social capital is reliant on certain independence with respect to internal networks in order to be free to go in contact to external partners. These findings are also underlined through the analysis of trust specific situations. These so called 'trust-vignettes' had been developed in the course of pre-studies and were evaluated in their correlation to competence utilization. Particularly the 'allowance of constructive and seriously taken criticism' explains 11 % of the changes in employee competence utilization; a situation that touches the aspect of fair treatment. Referring to the same topic, the 'way of dealing with failures' also takes an important role in terms of trust-specific situations (9%). Thus, proposition 2 must be seen as valid so far.

## 5.2. Study 2: Trust and Product Innovation Performance in German and Austrian Mid-Sized Manufacturing Companies

As outlined, this study researched the impact of organizational values on product innovations. The following part particularly looks into the interrelations of trust and product innovation performance. To explore the dependence between the variables, Spearman's rho as the nonparametric measure of choice was assessed. To use comparable measurement units, the following variables were used: managers' answers to the question on how much trust is characteristic of their organization and answers to the subjective self-evaluation of innovation performance. In fact, trust proves to have a positive correlation with the speed of new product development ( $r_s = 0.241$ ,  $p = 0.032$ ). Thus, trust explains some 5.8% ( $r_s^2 = 0.058$ ) of the variance here. This is comprehensible, since for very challenging schedules in new product development shortcuts need to be taken sometimes, which includes the acceptance of ambiguity and the general trust in oneself, the organization and in the expected outcome (a similar result was discussed in Bolzern-Konrad and Egger, 2014; Egger, 2014b).

As a second measure to assess the impact of trust on product innovations the coefficient of determination was examined. For this, a linear relationship between the independent variable of trust as a value theme and the dependent variables was assumed in order to calculate a regression analysis. For the research at hand, the parameter of relevance is the coefficient of determination, R Square ( $R^2$ ). Thus, to explore how much the value theme of trust explains the variance in innovation performance outcomes a linear regression for all subjective innovation criteria was run. Table 1 shows the adjusted coefficients of determination for the self-

evaluated performance indicators against competitors with the level of trust as a characteristic of the manufacturing companies involved.

**Table 5.** *Adjusted coefficients of determination for dependent variables*

<b>Innovation performance against competitors for...</b>	<b>Adjusted R<sup>2</sup></b>
Number of new products	0.044
Pioneer disposition of new products	0.003
Speed of new product development	0.042
a. Predictors: (Constant). Level of characteristic Trust	

Source: Survey results study 2

Accordingly, an impact of the trust value theme on product innovation is determined in this study. 4.4% of the variance in the number of new products and 0.3% of the variance in their pioneer disposition are explained by trust. Further, trust explains an interesting 4.2% of the variance in the performance indicator of speed in new product development. Clearly, the models are rather volatile when checking the standard error of the estimate (see Appendix for details), but, of course, it is clear that innovation outcomes do have many influencing factors relating not only to the soft factors within a company, but also to budgets, know-how, or even the macroeconomic and the competitive environment. Expecting really high coefficients of determination would not be very reasonable here. However, these coefficients of determination state the size of the positive impact that trust has on product innovation outcomes and show that the value theme is particularly relevant for the number of new products introduced to the market and the speed of new product development. Again, this strengthens the authors' second proposition.

To prevent several values from measuring a similar phenomenon in this study an iterative, rotated principal component analysis was performed with the full data set of independent variables (for detailed analysis compare Egger, 2014b). Managers had to rate how important they find each value theme for product innovation outcomes and it was assumed that there could be correlations between two or more of the independent variables. The analysis results in four major components that explain around 57% of the variance in values. Table 6 displays the results.

**Table 6.** *Rotated component matrix: Evaluated importance of values*

	<b>Component</b>			
	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Social recognition	0.789			
Self-direction	0.618		0.308	0.373
Altruism	0.597			
Trust	0.544			-0.303
Support	0.478	0.408		
Involvement		0.664		
Achievement		0.661	0.320	
Market orientation		0.637		0.483
Authority		0.564		
Risk taking			0.823	
Freedom	0.353		0.662	
Debate and Discussion				0.841
Cumulative total variance explained	17.66%	33.66%	45.95%	56.99%
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 7 iterations.				

Source: Survey results study 2

Obviously, in the first component, the value theme of trust is accompanied by several additional values such as social recognition, self-direction, altruism, and support. Reflecting the contents of these value themes, this component undoubtedly can be seen as the soft enablers of product innovation around trust and encouragement. The second component summarizes performance aspects necessary for innovation accompanied by involvement, while the third component highlights a risky, inventive pioneering spirit to be essential. Interestingly, trust shows a negative loading on the last component. Debate and discussion make up an entire single factor here. Accordingly, it must be admitted that managers find questioning, critical awareness and a variety of viewpoints fundamental. Since market orientation shows the second highest loading on this last component, it is assumed that managers find debates that are driven by market orientation most precious for product innovations. Apparently, too much trust would hinder fruitful and honest debates and discussions,

since it might make people too blind to challenge colleagues and leaders in order to ensure the best solution to a problem.

Thus, for successful product innovations, trust alone is not enough. Instead, there can even be situations where too much trust hinders it, which is the reason why it needs to be completed by additional value themes such as achievement and critical debates and discussions to enhance innovation capability. This gives a first indication for the additional research question that the authors phrased above.

### **5.3. Combined Results of the Two Empirical Studies**

As an intermediate conclusion, this section determined the following empirical results. In general, trust shows a positive impact on the utilization of employee competences. In both studies, different aspects of trust correlate positively with innovation outcome indicators. Further, it explains an interesting amount of the variance in innovation performance and thus, its positive connection can no longer be denied. However, both studies brought to light that other aspects are needed for innovations as well. The next section further discusses these insights.

## **6. Discussion and Conclusion**

It was the purpose of this paper to show how trust as an organizational value contributes to employee competence utilization in the case of innovation capability. In this paper, it was outlined, that a universal competence portfolio includes the capability to develop innovative ideas, for which in turn organizations need trust. Trust itself can be seen as embedded in the idea of social capital and surely is a multifaceted phenomenon in itself.

### **6.1. Theoretical Contribution**

With the intention to give answers to the propositions made upfront results are discussed and evaluated towards their implications and limitations.

#### **1. Trust as an Organizational Value Positively Impacts on Employee Competence Utilization In General**

Overall, it can be stated from this research paper that trust as an organizational value highly contributes to the utilization of employee competences, specifically when it comes to innovation capabilities. Thus, it is an aspect of major managerial importance. Trust within the concept of social capital is able to gain an effect that would not be possible based on pure control. This is possible because in a culture of trust we are able to accept risk. Furthermore and being related to the first study, the results particularly show a high correlation of trust towards over obligatory performance and satisfaction.

#### **2. Trust Positively Affects Innovation Outcomes in Business Companies**

Although the literature on success factors for innovation comes up with a very diversified number of organizational values, these ideas can be limited to four major aspects according to this study: trust and encouragement, intrinsically motivated performance, pioneering spirit, and market-driven debates and discussions. Even if this sounds contradictory at first sight, it perfectly accords with Khazanchi et al.'s findings on the impact of organizational values on process innovation revealing both, flexibility and control values (performance values), to be decisive, because control values enable flexibility values (Khazanchi et al., 2007), respectively performance and market orientation enable trust and pioneering spirit. Being related to the first study innovation captures a special attention within the competence model being part of the creative dimension. Results have shown that especially factors referring to personal characteristics like the trustee's accountability promote innovation whereas factors like strong network ties, especially internal bonding ties show lower correlations.

Regarding the additional research question **“When it comes to innovation capability, is endless trust the only organizational value of choice, or is there potential limits to its occurrence?”**, the authors argue the following:

It needs to be declared that trust shows an inconsistent picture: when it comes to debates and discussions, trust shows a negative relationship. One could even argue that sometimes in innovations, “distrust” is needed to push people to better performances and question the solutions that they have already found. In order to ensure diverse viewpoints, critically question the status quo and challenge easy explanations, too much trust and cosiness can be counterproductive. Instead, managers should never sacrifice the target of striving for peak performance and innovative solutions to a friendly, trustful atmosphere. In summary, the general recommendation for managers to “deal with the people as human beings, but with the problem on its merits (tough with the issue, but soft with employees)” (Fisher et al., 2011) must be underlined here. These results

reflect on the particular character of trust being analyzed in detail in the first study. The results of the first empirical study have shown, that a situation referring to seriously taken constructive criticism, as well as the aspect of failure handling show high correlations to employee competence utilization. Especially these two elements incorporate aspects of institutionalized distrust. Thus it can be assumed if distrust is institutionalized it might be even recognized as a trustful atmosphere. Especially innovation needs specific forms of institutionalized distrust in order to avoid lock-in effects and the development of blind and un-reflected trust. As a conclusion the authors see trust as a very complex phenomenon that has to be institutionally anchored, but also includes a healthy level of distrust in order to enable constructive criticism and critical awareness of many different viewpoints.

## **6.2. Managerial Implications**

This research points to various interesting implications for business managers. Firstly, the theoretical framework elaborated here, reminds us that trust as an organizational value and institutionally anchored not only is a complex phenomenon, but also shows various positive effects regarding employee performance and organizational outcomes. Therefore the positive impact of trust on employee competence utilization needs top management attention. The actual environment organizations live in however creates challenging requirements on the personal characteristics, relational abilities and contextual behaviors of managers which are important to establish frameworks that allow the realization of its employees' competencies and with this contribute to the success of the organization. Thus, it comes as a leadership challenge to set up companies accordingly. Secondly, although correlation does not necessarily prove a cause-effect-relationship, it provides strong evidence for it, which is substantiated by the theoretical background provided in this paper. Therefore, managers must realize that employees need appropriate organizational backgrounds that go far beyond financial resources in order to develop innovative ideas. Further, there is also the need to reconsider relationships with other stakeholders beyond company boundaries, such as suppliers, financial institutions, customers, or research laboratories. Again, using trust in bridging capital does support innovation performance. For this reason, treating suppliers as equal partners and working on trustful, long-lasting relationships with them rather than pushing them down in prices until they struggle for existence, for example, comes as a necessary success factor. On the other hand, managers must work on the right balance between trust, constructive distrust and performance aspects. Thus, business companies need to train managers much more in leadership capabilities. Further, top management has to ensure appropriate time frames, trainings on-the-job and even mentoring programs to ensure that leaders can actually work on the appropriate environment compiling trust as an organizational, institutionally anchored value.

## **6.3. Limitations of study / Future directions of research**

Regarding the methodology of the two empirical studies, it has to be stated here that both studies were approached in a cross-sectional research design. Developments and trends can therefore not be assessed. Moreover, both samples consisted of mid-sized companies in Germany and Austria with employee numbers mainly between 250 to around 2.000. This certainly limits the generalization of the results in terms of external validity to some extent. However, internal validity was accounted for since measurement instruments in both studies go in accordance with a lot of other empirical research. Still, for the second study amongst manufacturing companies, it has to be stated that the survey only investigated managers' perceptions. The employees' point of view was left out, although organizational values definitely are a topic relevant to all hierarchy levels. As with other empirical studies in the field, organizational values were measured here at one point in time while innovation performance was measured over a longer period of observation (namely 3 years). For the first study the correlation between trust and employee competence utilization is based on the perception of the employees. Also, in this study the measurement of trust and employee competence utilization is based on a snapshot evaluation, not taking time effects into account being involved in the development of trust. Data has been focused on a number of company cases from the business excellence environment being chosen based on a qualitative approach. However, results are relevant for medium sized manufacturing companies in Germany and Austria. They are of particular significance as they combine the managers' and employees' perspective to a comprehensive and holistic view.

As discussed, trust as an organizational value can come to its limits as well, particularly when it comes to innovation. For this reason, the authors suggest to investigate similar topics in other countries. With this, it would be possible to account for the influence of national culture. The authors assume that this does play a major role in value-backgrounds to innovation as well. Further to this, authors believe that more research is needed regarding the implementation of trust. According to the authors, there is a long way from knowing that something is important to actually putting it into practice. In the course of the first study recommendations for

strategic management are given in a balanced scorecards approach. Further practical recommendations for managers how to spread the ideas of this paper through whole organizations and use them to achieve competitive advantage and business excellence would be of high value.

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## Appendices

### Appendix I:

#### Model summaries for the Regression Analysis drawn from the company survey (study 2)

a. Dependent Variable: Inno performance against competitors: No of new products

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,236 <sup>a</sup>	,056	,044	1,140

a. Predictors: (Constant), Level of characteristic Trust

a. Dependent Variable: Inno performance against competitors: Pioneer disposition

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,125 <sup>a</sup>	,016	,003	1,066

a. Predictors: (Constant), Level of characteristic Trust

a. Dependent Variable: Inno performance against competitors: Speed of NPD

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,233 <sup>a</sup>	,054	,042	1,149

a. Predictors: (Constant), Level of characteristic Trust

