

Ferry Koster

## 20 Organizational Innovativeness Through Inter-Organizational Ties

**Abstract:** In order to be innovative, organizations can benefit from having inter-organizational relations. Through these external relations, organizations get access to valuable resources and they have the possibility to learn from other organizations. At the same time, these ties need to be managed to overcome cooperation problems. Prior studies revealed that inter-organizational relations can contribute to an organization's innovativeness in terms of developing new products and services. This chapter addresses three questions that received little attention to date, namely (1) Does collaborating with other organizations on human resource management (HRM) issues contribute to organizational innovation?; (2) Which of these external ties in the HRM domain matter most for organizational innovation?; and (3) Does the quality of these ties explain organizational innovation?

This chapter aims to shed light on these three questions by analyzing data gathered among 732 private firms from the Netherlands. The analyses show that inter-organizational collaborations in the human resource domain contribute to the innovativeness of organizations (both in terms of innovation performance and innovative human resource management). Furthermore, not all HR collaborations contribute to organizational innovation; organizations having ties with business partners and universities and knowledge centers report the highest levels of innovativeness. And, finally, organizational innovation is higher among organizations that indicate that their HR collaborations contribute to the goals of the organization.

### 20.1 Introduction

It is widely acknowledged that organizations depend on their environment to produce goods and services (Scott and Davis 2007). This general notion is central to theories as diverse as contingency theory, transaction cost economics, and network theories of inter-organizational relations. These theories focus on the question how organizational structures, strategies, and outcomes are affected by characteristics of the environment in which these organizations operate. This means that they belong to the branch of theories that regard organizations as open systems, as opposed to closed system approaches which do not take the organizational environment into account (Scott and Davis 2007). These open system theories dominate the field of organization studies. The dominance of this view is also illustrated by Baum and Rowley (2002: 3) when they state that: "Although historically, rational, natural and open systems definitions have been

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Ferry Koster, Department of Public Administration and Sociology, Erasmus University Rotterdam

associated with distinct research programs, each with its own conceptual frameworks, guiding assumptions, and empirical approaches, contemporary perspectives built on these foundations invariably take an open systems view, and combine it with either a rational or a natural systems orientation". In other words, all modern theories of organizations belong to the open systems perspective (Scott and Davis 2007).

Network theories focus on a specific part of organizational environments, namely the relationships that organizations have with other actors (organizations, government bodies, customers, and so forth). Research in this field generated insights concerning the conditions under which these relationships are established and how they are sustained (Gulati and Gargiulo 1999; Rooks et al. 2000). Furthermore, research lead to in-depth knowledge of configurations of inter-organizational relations (Pittaway et al. 2004), while other research focused on understanding the structure of inter-organizational networks and aimed at investigating how these ties affect organizational outputs such as financial and innovation performance (e.g. Ahuja 2000; Oerlemans, Meeus, and Boekema 1998; Schilling and Phelps 2007).

Nevertheless, several issues received little attention to date, while the literature suggests that they may matter to understand organizational innovativeness. First, while there is plenty of research concerning how network structures and network positions affect organizational innovation and several studies show that access to external resources explains the degree of organizational innovativeness (Faems, Van Looy, and Debackere 2005), far less is known about *which* actors matter most for the innovation performance of organizations. This calls for research focused on the type of actors with which organizations interact and whether this relates to their innovativeness. In addition to that, research focuses on collaborations between organizations on issues such as product development and production of good and services, but not on collaborations in the domain of human resource management. This latter type of collaboration gained attention with the growing interest in organizational eco-systems (Von Krogh and Geilinger 2014), but how this relates to organizational innovation is unknown. Hence, more should be known about whether *human resource collaboration* matters for organizational innovation. Thirdly, most innovation research focuses on a specific kind of innovation, namely improvements regarding the production of new goods and services (Pouwels and Koster 2017). Some studies also investigate changes in organizational structures and processes, which are also part of the innovation performance of organizations (Maine, Lubik and Garnsey 2012). But, the impact of inter-organizational relations on the *innovativeness of the human resource management* of organizations has not been investigated to date. Instead, explanations of innovative human resource management focused mainly on intra-organizational characteristics and overlooked inter-organizational relations. At the same time, a large body of the human resource management literature argues that external fit – the alignment of human resource practices to the organizational environment – is an essential part of the effective management of people (e.g. Ulrich and Dulebohn 2015). What is more, most of these studies focus on best practices that

are supposed to contribute to a higher performance of organizations (Huselid 1995), whereas innovation of human resource practices is a matter of adoption. Hence, the theoretical notion of fit has a strong foothold in this literature, but is not often empirically investigated. This calls for research connecting the innovativeness of human resource practices of organizations to their external ties.

Based on these observations concerning the current state of research, this study has the following aims, namely (1) to assess whether human resource collaboration matters for organizational innovativeness in general; and (2) to investigate which of these inter-organizational ties matter most for organizational innovativeness. In this study, the focus is on organizational innovativeness in the broad sense, meaning that both the innovation performance as well as innovations in the human resource practices that organizations apply are investigated. Data from a recently conducted survey among 732 organizations in the Netherlands are analyzed to generate insights about the role of resources for innovation performance and innovative human resource management.

## 20.2 Two types of innovation

Innovation refers both to “creating new things” and “doing things differently” (Maine, Lubik, and Garnsey 2012). While the first conception of innovation received much attention in the literature, the second approach to innovation is far less investigated. As a result, much is known about the creation of novel outcomes by organizations. However, there are good reasons to assume that innovation reflects a broader strategy of organizations that also includes exploring new markets, renewing organizational processes, and so forth (Crossan and Apaydin 2010; Pouwels and Koster 2017). While innovation research emphasizes that organizations can improve organizational processes in different domains, this literature remains largely separated from the literature on innovativeness with regard to functional fields, in particular with regard to the introduction of new ways of managing employees. In other words, innovation studies and human resource studies have not informed each other. Reviewing the literature on innovative human resource management (HRM), Koster (2019) shows that there are at least three different approaches to innovative HRM, namely studies examining the innovativeness of human resource practices and policies, HRM innovativeness in response to external developments, and studies linking HRM policies and practices to the innovation performance of organizations. Following this threefold distinction, the present study fits the second strand of the literature in which HRM innovativeness is linked to the external environment.

While several authors state that having ties with other organizations, granting access to their resources and knowledge, is a key ingredient for organizational innovation, research mostly focuses on intra-organizational explanations of innovativeness. In an

extensive overview of the literature, Crossan and Apaydin (2010) show that most research investigates the role of micro level factors such as individual creativity and team structures and organizational factors such as organizational structure, complexity, and slack. At the macro level, the focus is on industry structures and innovation systems (Crossan and Apaydin 2010). Hence, compared to other explanations of innovation, the number of studies investigating the impact of resources accessed through external networks – the meso level – remains a field to be developed. Based on the premise that organizational learning and information sharing are vital to knowledge economies (Adler 2001), such external ties can contribute to organizational innovation.

### 20.3 Sources contributing to innovation

There are contrasting predictions about the relationship between inter-organizational ties and organizational innovation. On the one hand, there are theories emphasizing the risks of cooperation. These risks result from a loss of control (Gnyawali and Park 2009), the occurrence of opportunistic behavior (Van Haverbeeke, Duysters, and Hagedoorn 2002), and difficulties relating to the transfer of knowledge between organizations (Lam 1997). Based on these risks of cooperation, it is argued that inter-organizational collaboration hinders organizational innovation. However, in a recent study, Pouwels and Koster (2017) show that these risks do not dominate inter-organizational collaborations aimed at creating innovations, as they find that the two are positively linked across a sample of European companies. Hence, their results empirically support theories emphasizing the benefits of cooperation. These theories emphasize the importance of having access to external sources contributing to organizational innovation (Nooteboom 1994), risk reducing strategies to enhance cooperation (Hagedoorn 2002), and the transfer of knowledge between organizations (Ahuja 2000). The kinds of collaboration investigated in the present study also reflect such contributions to organizational innovation.

One of the reasons for this finding lies in the management of these external collaborations. First, organizations that manage to create cooperative relations with others, for example because they interact repeatedly and have a sufficiently long shadow of the future to solve trust problems (Buskens and Raub 2002), may thus benefit in terms of organizational innovativeness. And, secondly, organizations may be less likely to stay in unproductive or risky collaborations. This is of course not to say that the collaborations are completely free from the risk of cooperation, but at least there seems to be some logic in the argument that they be disbanded as soon as these risks dominate the relation, unless they are forced to collaborate or if organizations their choice in collaboration partners is extremely limited, for example because there are no alternative partners. But again, especially in the latter case, organizations are likely to withdraw from these collaborations. If there is a lack of alternatives, this implies that they will not

collaborate with other organizations. This latter strategy – limiting the dependence on other organizations – can be means of dealing with this problem.

Organizations that manage to create collaborative ties with other organizations can benefit from the advantages that collaborating with others may have in terms of learning and resources being shared among these organizations. Having access to these resources and being able to learn from the experiences of other organizations in turn are condition for organizational innovation (Crossan and Apaydin 2010). Hence, it is expected that in general, collaborating with other organizations contributes to the innovativeness of organizations, as was found in earlier research for organizational collaboration in domains such as product development and marketing (Pouwels and Koster 2017). Here it is argued that the impact of external collaboration can be extended to collaboration on issues related to the human resource management of organization as it offers a means of solving challenges collectively. For example, an organization that needs to train workers may not have the means to do this individually, while it is possible to develop training programs in collaboration with others. Based on these considerations, the first hypothesis is formulated.

*Hypothesis 1: There is a positive relationship between organizational innovativeness and HR cooperation.*

This first hypothesis states that having ties with other organizations contributes to the innovativeness of organizations. It may, however, be the case that the contributions depend on the type of collaboration partner. Several mechanisms may be at work, depending on the kind of collaboration partner. Collaborating with peers and similar organizations may add less to the organization than ties with dissimilar organizations, because these actors possess little extra knowledge and information from which the organizations can benefit. However, collaborating with dissimilar organizations may be far riskier than having ties with similar organizations, for example because it is more difficult to estimate whether the other organization actually puts in the effort and resources as promised. Next to the argument that novelty of information and access to unique resources can contribute to organizational innovativeness, it can be argued that similar organizations are actually interesting cooperation partners. The argument is that even though both partners may have access to similar information, they can learn from each other's experiences much more easily than dissimilar organizations. It can be assumed that the issues that one organization within a sector or that produces particular goods or services will also be encountered by other organizations in that sector or that produces similar goods and services. As a result, there is added value in having ties with similar organizations. This means that ties with similar organizations are more easily managed, but add less new information and that organizations face more costs to manage ties with dissimilar organizations, while they may also lead to higher returns (Hoffmann and Schlosser 2001; Tansky and Heneman 2003; Van Gils and Zwart 2004). Since similarity is a matter of degree and the relative importance of novelty of the innovation and the costs of managing the external tie are difficult to estimate beforehand, it

is not evident which partner adds the most to the innovativeness of organizations. Hence, the following hypothesis is formulated.

*Hypothesis 2: The impact of HR cooperation on organizational innovativeness differs across HR cooperation partners.*

The previous hypotheses are based on the existence of a tie with the HR cooperation partners. This part of the analysis does not inform us about the quality of these relationships. While the second hypothesis is based on the assumption that the costs and benefits of ties with other organizations may vary, it does not yet test whether this is the case. More specifically, it is expected that both the costs and benefits of these ties increase if the partner organization is more dissimilar. The costs and benefits translate into the extent to which having a tie with other organizations contribute to the goals of the organizations, the extent to which these ties add value to the organization, the level of complexity associated with having these ties and the uncertainty involved (Bachmann 2003; Beugré and Acar 2008).

*Hypothesis 3: Organizational innovativeness is higher if the HR collaborations is viewed as more beneficial and lower if these collaborations are viewed as costly.*

## 20.4 Data and method

### 20.4.1 Data

Data from the Innovative HRM Survey (Koster et al. 2017) are analyzed to investigate the relationship between resources and organizational innovation. These data were collected among a random sample of Dutch firms using an online questionnaire. The survey includes several characteristics of organizations – such as the composition of the workforce and inter-organizational relations – as well as their level of innovativeness in different domains. The data were collected by Kantar Public using their panel with private organizations (NIPObase Business). This panel consists of 15,000 representatives (owners and human resource managers) from Dutch firms. From this panel, a random selection of 3,000 organizations was drawn. In total 752 firms responded (a response rate of 25 percent). Some variables are not available for all organizations. The final data set consists of 732 organizations. These organizations operate in different economic sectors and differ in size. The dataset includes a large number of small organizations. About 90 percent of the responses are from organizations with 1 to 9 employees and 6 percent of the organizations in the dataset have 10–50 employees. Hence, the dataset takes into account that most organizations in the Netherlands have less than 10 employees (about 96 percent according to Statistics Netherlands) and that about 3 percent of the organizations have 10–50 employees.

## 20.4.2 Measures

### 20.4.2.1 Dependent variables: Innovation performance and innovative HRM

#### Innovation performance

To get a broad measure of innovation performance (one that goes beyond single item measures of product and service innovation) it is asked whether the organization (1) Developed goods or services that are new for his organization (but already available on the market); (2) Introduced goods or services that were not on the market yet; (3) Strongly improved existing goods and services; (4) Introduced new ways of marketing goods and services; and (5) Introduced new organizational processes. Together, these items reflect several aspects of organizational innovation, which were already discussed by Schumpeter in 1934 who argued that organizational innovation involves the introduction of new goods and services, as well as finding new markets and the need to adapt organizational processes. This measure relies on earlier operationalizations, such as the Community Innovation Survey, with the specific aim to get an overall indication of a firm's innovativeness (Armbruster et al. 2008).

#### Innovative HRM

To assess the extent to which the organizations engage in innovative HRM, a scale was developed based on research on innovative HRM. Innovative HRM is measured with a scale consisting of four questions about whether the organization renewed their human resource function. The exact wording is: "Has your organization renewed . . . ." followed by four statements about the human resource functions, namely "hiring personnel", "outplacement of personnel", "internal mobility of personnel", and "workforce composition". Respondents were asked to indicate how much this applied to their organization on a 5-point scale (running from 1 = does not apply at all to 5 = applies completely). This measure captures the idea of organizational innovation to the domain of human resource management. It closely follows the approach of Agarwala (2003), but with an important difference. While in that study, managers were asked to rate the innovativeness of a list of human resource practices, the present study asks about renewal, which is more in line with studies of innovation performance (Koster and Benda 2020).

A principal component analysis was performed to investigate the structure of the two dependent variables. The results are reported in Table 20.1. We can conclude that the scales measuring innovation performance and innovative HRM indeed differ from each other. The items measuring innovative performance belong to one dimension and the items related to changes in human resource practices of organizations belong to a different dimension. Both scales are internally consistent: the Cronbach's alpha of innovation performance is 0.855 and the Cronbach's alpha of innovative HRM is 0.936.

**Table 20.1:** Principle component analysis of innovation performance and innovative HRM.

Item	1	2
<b>Innovation performance</b>		
Products and services: new for his organization	<b>0.780</b>	0.183
Strongly improved existing products and services	<b>0.776</b>	0.126
Products and services: new for the market	<b>0.775</b>	0.234
New ways of marketing products and services	<b>0.774</b>	0.259
Introducing new organizational processes	<b>0.734</b>	0.240
<b>Innovative human resource practices</b>		
Innovations in . . .		
. . . hiring personnel	0.224	<b>0.896</b>
. . . outflow of personnel	0.194	<b>0.885</b>
. . . workforce composition	0.265	<b>0.885</b>
. . . internal mobility of personnel	0.261	<b>0.881</b>
Eigen value	3.174	3.375
% explained variance	35.272	37.495
Cronbach's alpha	0.855	0.936

Notes: N = 732 organizations

Varimax rotation. Factor loadings > 0.30 in bold

Source: Innovative HRM Survey

#### 20.4.2.2 Independent variables: HR cooperation and HR cooperation partners

To measure whether organizations collaborate with other organizations, respondents were asked to indicate whether they collaborated with others on four issues related to the management of human resources (such as hiring personnel and the outflow of personnel). It was asked whether they collaborate with the following others: (1) Competitors; (2) Business association partners; (2) Competitors; (3) Suppliers; (4) Buyers; (5) Universities and knowledge centers; and (6) Public organizations. This variable has the value “0” if the answer is “no” and “1” if the organization did collaborate with that partner. As a result, information is available about a specific kind of inter-organizational tie (namely collaboration in the area of human resource management), instead of an overall indication of the ties with other organizations. The downside of having this very specific indicator is that it cannot be ruled out that the organizations collaborate on other issues.

Two independent variables are constructed using these measures. The variable *HR cooperation* is constructed by summing the responses to the six questions. This indicates the number of HR cooperation partners the organization has. The variable *HR cooperation partners* consists of the separate dummy variables.

*Tie quality* is measured by asking respondents to rate the ties with other organizations regarding the extent to which these ties contribute to the goals of the



organization, adds value, are complex, and how much uncertainty there is surrounding these ties. This resulted in four dummy variables indicating these aspects of the external ties.

### 20.4.2.3 Control variables

The following control variables are included in the analyses. *Organization size* is measured by asking respondents to indicate the number of employees that the organization has. Prior studies show that the relation between organization size and organizational innovation is curvilinear (an inverted U-shape) (Nitin and Gulati 1996; Heunk 1998; Koster 2018). In line with these prior studies, the *quadratic term of organization size* is also added to the models. *Sector* was measured by asking respondents in what economic sector the organization operated. The variable *permanent employees* was measured by asking respondents to indicate to what extent the organization consists of employees with a permanent contract (measured on a 5-point scale). The variable *highly educated* was measured with a 5-point scale indicating to what extent the organization employs highly educated employees. The variable *firm specific knowledge* was measured with a 5-point scale indicating to what extent firm specific knowledge and skills are important for organizational performance. Table 20.2 provides an overview of the variables included in the analyses.

**Table 20.2:** Descriptive statistics of the measured included in the analyses.

	Min/Max	Mean	Standard deviation	Percentage
Innovation performance	1/5	2.41	0.95	
Innovative HRM	1/5	1.80	0.91	
Organization size	1/5	1.17	0.58	
Organization size (categories)				
1–9	0/1			89.50
10–49	0/1			6.50
50–99	0/1			1.70
100–249	0/1			0.90
250 or more	0/1			0.90
Sector				
Industry and production	0/1			4.70
Construction	0/1			6.60
Retail – food	0/1			3.10
Retail – nonfood	0/1			13.20
Whole sale	0/1			7.40
Cars and repair	0/1			1.90
Catering	0/1			3.90

Table 20.2 (continued)

	Min/Max	Mean	Standard deviation	Percentage
Transport and communication	0/1			3.20
Business services	0/1			35.20
Other services	0/1			10.20
Information technology	0/1			8.50
Financial institutions	0/1			2.10
Permanent employees	1/5	2.99	1.69	
Higher educated	1/5	2.94	1.58	
Firm specific knowledge	1/5	3.68	1.35	
HR cooperation partners				
Competitors	0/1			11.8
Business association partners	0/1			18.6
Suppliers	0/1			11.7
Buyers	0/1			10.4
Universities and knowledge centers	0/1			10.4
Public organizations	0/1			7.8
Tie quality				
Goals	0/1			28.8
Added value	0/1			17.8
Complexity	0/1			15.7
Uncertainty	0/1			11.1

Notes: N = 732 organizations

Source: Innovative HRM Survey

### 20.4.3 Method

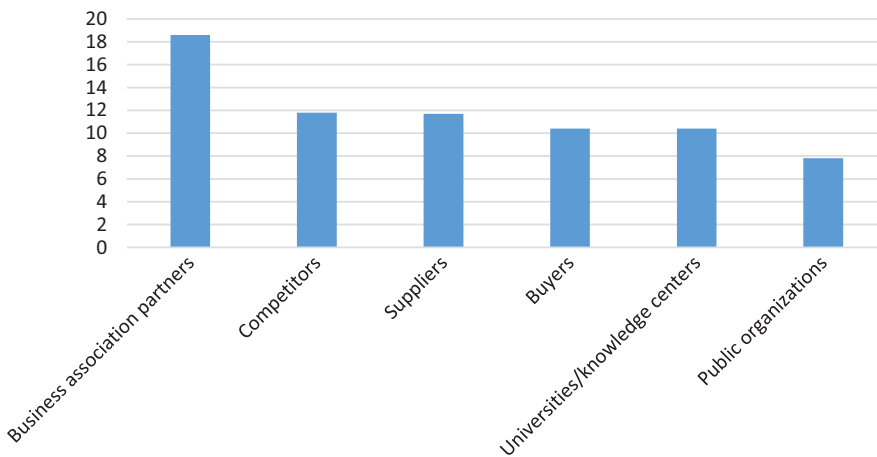
OLS regression analyses are performed with innovation performance and innovative HRM as the dependent variables. For these two dependent variables, three models are estimated. Each model includes the control variables and the variables measuring whether the organization collaborates with the different partners. In the first model, HR collaboration is added to the models. The second model includes the separate HR collaboration partners. And, in the final model, the quality of the ties with the HR partners is added.

## 20.5 Results

### 20.5.1 Descriptive results

Focusing on the variables of interest, Table 20.2 shows the following. First, on average, organizations have a higher score on innovation performance than on innovative

HRM. Secondly, looking at the HR cooperation partners of organizations, it turns out that organizations most often collaborate with organizations belonging to the same business association (18.6 percent of the organizations have such partners) and that public organization are less commonly chosen as HR cooperation partners (7.8 percent of organizations have these partners). This is also shown in Figure 20.1. Furthermore, it should be noted that the majority of organizations (64 percent) does not collaborate with one of these partners. That 36 percent of the organizations collaborates on HR issues can be considered low, compared to other kinds of collaboration. Data from the European Company Survey show that in the Netherlands, 68 percent of the organizations collaborate to design goods and services, 66 percent collaborates to produce goods and services, and 62 percent collaborates with other organizations to sell goods and services (Koster 2015). Most of the organizations that do have HR cooperation partners, only cooperate with one of these partners (17 percent). Of the 732 organizations investigated here, there are 5 that report that they collaborate with all 6 partners on HR issues.



**Figure 20.1:** HR cooperation partners (% of organizations).

Note: N = 732 organizations

Source: Innovative HRM Survey

## 20.5.2 Regression analysis

The results of the regression analyses are reported in Table 20.3 (innovation performance) and Table 20.4 (innovative HRM). While there are some notable differences between the models with regard to the control variables (for example, firm-specificity matter for innovation performance but not for innovative HRM), the patterns of the hypotheses are largely the same. Hypothesis 1 is supported: the more

**Table 20.3:** Regression analysis on innovation performance.

	(1)		(2)		(3)				
Intercept	0.52	*	0.21	0.58	**	0.22	0.51	*	0.22
Number of employees	0.77	**	0.23	0.71	**	0.24	0.81	**	0.24
Number of employees ^2	-0.12	**	0.05	-0.12	*	0.05	-0.12	**	0.05
Sector									
Industry and production	-0.05		0.17	-0.07		0.17	-0.07		0.17
Construction	-0.16		0.11	-0.16		0.11	-0.18		0.11
Retail – food	0.24		0.19	0.27		0.19	0.27		0.19
Retail – nonfood	-0.04		0.11	-0.04		0.11	-0.05		0.11
Wholesale	0.36	**	0.13	0.36	**	0.13	0.33	**	0.13
Cars and repair	-0.18		0.23	-0.21		0.24	-0.19		0.24
Catering	0.06		0.15	0.07		0.15	0.09		0.15
Transport and communication	-0.37	*	0.19	-0.36		0.19	-0.41	*	0.19
Other services	0.09		0.12	0.10		0.12	0.09		0.12
Information technology	0.10		0.13	0.10		0.13	0.08		0.14
Financial institutions	-0.16		0.22	-0.15		0.22	-0.10		0.23
Business services (reference)									
Permanent employees	0.05	*	0.02	0.05	*	0.02	0.04	*	0.02
Higher educated	0.06	**	0.02	0.06	*	0.02	0.07	**	0.02
Firm specific knowledge	0.20	***	0.02	0.20	***	0.02	0.20	***	0.02
HR cooperation	0.18	***	0.03						
HR cooperation partners									
Competitors				0.01		0.11			
Business association partners				0.29	**	0.09			
Suppliers				0.10		0.11			
Buyers				0.27	*	0.12			
Universities and knowledge centers				0.34	**	0.12			
Public organizations				0.06		0.13			
Tie quality									
Goals							0.23	*	0.10
Value							0.14		0.11
Complexity							0.06		0.13
Uncertainty							0.02		0.13
Adjusted R <sup>2</sup>	0.27	***		0.27	***		0.25	***	
R <sup>2</sup> change	0.29	***		0.29	***		0.27	***	

Notes: N = 732 organizations

\*p &lt; 0.05; \*\*p &lt; 0.01; \*\*\*p &lt; 0.001

Source: Innovative HRM Survey

an organization collaborates with other organizations in the HR domain, the more innovative the organization is. This holds for innovation performance and innovative HRM. As expected in hypothesis 2, some of the HR collaborations add more in terms of organizational innovation than others. More specifically, organization collaboration in the HR domain with business association partners, universities and

**Table 20.4:** Regression analysis on innovative HRM.

	(1)		(2)		(3)	
Intercept	-0.31	0.19	-0.24	0.19	-0.34	0.19
Number of employees	1.52 ***	0.20	1.45 ***	0.20	1.58 ***	0.21
Number of employees ^2	-0.22 ***	0.04	-0.21 ***	0.04	-0.22 ***	0.04
Sector						
Industry and production	0.07	0.15	0.06	0.15	0.07	0.15
Construction	0.11	0.09	0.13	0.09	0.08	0.10
Retail – food	0.38 *	0.17	0.42 *	0.17	0.42 *	0.17
Retail – nonfood	0.07	0.09	0.08	0.09	0.06	0.09
Wholesale	0.29 **	0.11	0.30 **	0.11	0.26 *	0.11
Cars and repair	0.84 ***	0.20	0.81 ***	0.20	0.81 ***	0.20
Catering	0.52 ***	0.13	0.54 ***	0.13	0.56 ***	0.14
Transport and communication	0.18	0.17	0.18	0.17	0.13	0.17
Other services	-0.08	0.11	-0.07	0.11	-0.08	0.11
Information technology	0.06	0.12	0.06	0.12	0.04	0.12
Financial institutions	0.16	0.20	0.16	0.20	0.22	0.20
Business services (reference)						
Permanent employees	0.13 ***	0.02	0.12 ***	0.02	0.12 ***	0.02
Higher educated	0.01	0.02	0.00	0.02	0.01	0.02
Firm specific knowledge	0.01	0.02	0.02	0.02	0.01	0.02
HR cooperation	0.19 ***	0.03				
HR cooperation partners						
Competitors			0.10	0.09		
Business association partners			0.32 ***	0.08		
Suppliers			0.06	0.10		
Buyers			0.23 *	0.11		
Universities and knowledge centers			0.48 ***	0.11		
Public organizations			-0.02	0.12		
Tie quality						
Goals					0.25 **	0.09
Value					0.15	0.10
Complexity					0.17	0.11
Uncertainty					-0.09	0.12
Adjusted R <sup>2</sup>	0.41 ***		0.41 ***		0.39 ***	
R <sup>2</sup> change	0.42 ***		0.43 ***		0.41 ***	

Notes: N = 732 organizations

\*p &lt; 0.05; \*\*p &lt; 0.01; \*\*\*p &lt; 0.001

Source: Innovative HRM Survey

knowledge centers, and to some extent those working with buyers report higher levels of innovation performance and innovative HRM. Having ties with competitors, suppliers, and public organization turn out not to matter for organizational innovation. Finally, with regard to the quality of the ties with these partners, only 1 aspects seems to matter, namely the extent to which these HR collaborations contribute to

organizational goals is positively related to organizational innovation. These models also show that costly collaborations (in the sense that they are viewed as complex or uncertain) do not undermine organizational innovativeness. Hence, hypothesis 3 is only partly supported.

## 20.6 Conclusions

The analyses presented here show that HR collaborations contribute to the innovativeness of organizations, both in terms of innovation performance and innovative HRM. Furthermore, the results show that the added value of having ties with collaboration partners in terms of organizational innovation differs. In particular, ties with business association partners and universities and knowledge centers contribute to organizational innovativeness. And, finally, the outcomes suggest that HR collaboration partners are relevant for organizational innovativeness if they contribute to the goals of the organization.

Whereas prior studies have focused on the link between inter-organizational relationships and innovation, this study provides several new insights, by extending the scope of the analysis. The insight that organizations collaborating with organizations that belong to the same business association and those collaborating with universities and knowledge centers are more innovative. Whereas previous studies have focused on network structures and diversity in resources, this suggests that it also matters with whom an organization collaborates and what the other side has to offer. It makes sense to make a distinction regarding the basis of the connection between the organizations. Whereas prior studies mainly focused on whether there are ties between organizations or use measures of technical dimensions of collaboration (e.g. whether organizations cooperate on issues such as design and product development), the present study focuses on collaboration on personnel-related issues. By having two indicators of organizational innovation, namely innovation performance and innovative HRM, it is possible to compare the outcomes for these indicators. Overall, the patterns are similar, but since the outcomes are somewhat more pronounced for innovative HRM, seems to suggest that innovations in one domain (in this case renewal of human resource management policies and practices) relate to external ties in the same domain (collaboration on human resource management related issues).

It turns out that ties with public organizations do not matter for organizations, but that collaborating with universities and knowledge centers is related to organizational innovation. As already noted, this may be explained by governance issues that seem to be more complicated if a private organization collaborates with public organizations than with universities and knowledge centers. In times in which there is debate about the added value of institutions such as universities and there is greater

emphasis on generating knowledge applicable knowledge, this outcome shows that these institutions perform this task quite well already.

Finally, this study sheds light on an issue that received little attention in the literature to date, namely HR collaboration. Some of the work that has been conducted in this area remained theoretical in nature and empirical tests are scarce (for example, a theoretical article by Gardner from 2005 on the topic of human resource alliances is still largely untested). With regard to the outcomes of such collaborations, even less is known. The analyses presented here make a case for further investigating the connection between collaborating on HR issues and organizational innovation.

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