



Article

HR Practices for Supporting Interpersonal Trust and Its Consequences for Team Collaboration and Innovation

Helena Bulińska-Stangrecka ^{1,*}  and Anna Bagińska ² ¹ Faculty of Administration and Social Sciences, Warsaw University of Technology, 00-661 Warszawa, Poland² Faculty of Engineering Management, Bialystok University of Technology, 15-351 Bialystok, Poland

* Correspondence: h.bulinska-stangrecka@ans.pw.edu.pl; Tel.: +48-504-317-811

Received: 26 July 2019; Accepted: 12 August 2019; Published: 16 August 2019



Abstract: Innovation fosters sustainable management and allows managers to achieve a competitive advantage. Understanding the mechanisms that explain innovation's antecedents provides an important contribution to theory and practice. The purpose of this study was to assess the importance of human resources (HR) practices in developing trust-based cooperation, which facilitates organizational innovation. Using the foundation of the Shea and Guzzo model, the roles of HR mechanisms were investigated. This study analyzes how effective cooperation can increase innovation and how certain HR practices can help to nurture a trust-based work environment. The conceptual model was developed by drawing on social exchange theory (SET). An empirical analysis of the results of a survey conducted on telecommunications companies ($n = 175$) aimed to verify the conceptual model. Structural equation modeling was used to assess the data. The findings indicated that competency development opportunities, team interdependence, and group rewards were the most significant determinants of interpersonal trust. As a consequence, a trust-based team generates effective cooperation, and as a result organizational innovation is strengthened. This study was based on large-scale survey data and provides a comprehensive outlook on how to promote organizational innovation through HR practices. This is the first study linking HR practices with trust, collaboration, and innovation.

Keywords: interpersonal trust; HR practices; team cooperation; organizational innovation; effectiveness

1. Introduction

The contemporary economy is characterized by global competitiveness and rapid changes in the business environment [1–3]. In order to gain a competitive advantage, enterprises have to develop organizational innovation [4,5]. Innovation has been acknowledged as the driving force of economic growth by Schumpeter [6]. Current studies have concurred regarding this link and have indicated that innovation is the cornerstone of effective organization [7]. Hence, innovative organizations are more successful in comparison to those that are less innovative. Furthermore, the ability to create and implement inventive and fresh solutions helps to establish a good market position. Not only does innovation drive organizational performance [8], but it enables its sustainable development [9,10]. Therefore, the current focus of research is on understanding the mechanisms facilitating innovation. In summary, innovative organizations are more likely to succeed [4,11]. One of the main challenges for management is to facilitate innovation within an organization.

Innovation is a process of figuring out and implementing new concepts. It can be defined as an application of new solutions while dealing with professional tasks [12]. Rogers [13] stressed the “new” aspect, which can refer to ideas or practices. Barrett et al. [14] emphasized that innovation is an

implementation of a novel concept, which leads to increased organizational performance. Additionally, it has been acknowledged as a process that is oriented toward achieving work-related goals by applying new strategies [15]. In general, innovation is recognized as a new way of organizing activities within an enterprise [16]. It has been considered an activity [17], yet it is perceived rather as a cycle than as a linear process [18]. The conceptualization of innovation as a process is based on the assumption that even concerning a product, implementation is a process. Therefore, in this paper, we will focus on the procedural understatement of innovations.

There are many perspectives from which to analyze an organization's innovation: from adoption to innovation [19], unique characteristics of innovative employees [20], the diffusion of innovation [21], or the organizational approach [22]. From an organizational perspective, the main focus is on facilitating practices enhancing innovation [23]. Organizational innovation can be categorized using OECD categories: products, processes, marketing, practices, workplace organizations, and relations [24].

Research concerning the organizational perspective of innovation has indicated the importance of collaboration in developing novel concepts [25–29]. For instance, Reficco et al. [30] stated that the collaboration mechanism leads to innovation. Additionally, Aguilar-Zambrano and Trujillo [31] demonstrated that team cooperation increases creativity and brings about innovation. Based on this statement, this paper assumes that cooperation between employees' triggers originality and creativity within an organization.

Furthermore, the existing literature indicates that trust is a vital element of effective cooperation [32,33]. The research results imply that interpersonal trust improves cooperation in organizations [34]. In the same vein, this paper explores the complex relationship between trust, cooperation, and innovative outcomes.

The relationship between trust, cooperation, and innovation has not been sufficiently analyzed. The significance of this linkage has already been acknowledged [35]. Yet previous studies have concerned the role of trust and cooperation. The research gap refers to a lack of explanation on how human resources (HR) practices develop intrateam trust and in effect advanced cooperation that results in better innovation within an organization. It has been mentioned that in general, well-applied HR practices indeed directly support innovation [36]. We emphasize the role of certain HR practices in building trust, which strengthens collaboration and facilitates innovation. This paper aims to investigate these relationships and indicates which HR practices help to build cooperative teams based on trust characterized by innovative performance.

The purpose of this study was to assess the importance of HR practices in developing trust-based cooperation, which facilitates organizational innovations. On the foundation of the Shea and Guzzo model [37], the role of HR mechanisms was investigated. Drawing on Social Exchange Theory (SET), we contribute to the existing literature by providing a linkage between HR practices, trust, collaboration, and innovation. Additionally, we suggest how certain HR practices lead to growing trust and team collaboration, resulting in increased innovation.

This paper is laid out as follows: first, the theoretical framework is developed. The second part establishes the research models. Next, the methods and results are presented. Finally, the paper includes a discussion and conclusion.

2. Conceptual Framework/Theoretical Background and Hypothesis Development

2.1. HR Practices Strengthening Trust

HR practices refer to the activities oriented toward managing people in organizations [38]. They can be considered as instruments that help to influence employees' attitudes, perceptions, and behaviors to align them with organizational goals [39,40]. HR practices can be defined as a way to enhance performance [41]. Moreover, HR practices are recognized as a crucial source of sustainable competitive advantage [42–44]. Additionally, various studies have supported the linkage between HR practices and organizational performance [45–48].

There have been different conceptualizations of HR practices in the literature. For instance, Bamel [44] analyzed the role of flexible HR practices. Some scholars have indicated that the general nature of HR practices is connected to recruitment, management, and development [49–52]. Kwon, Bae, and Lawler [53] focused on the motivational aspects of HR practices. Lee and Chui [43] argued that HR practices include recruitment and selection as well as extensive training.

The classic Shea and Guzzo [37] model of team effectiveness provides a framework for the conceptualization of HR practices. The Shea and Guzzo model [37] encompass three main factors affecting employee effectiveness: outcome interdependence, task interdependence, and potency. Outcome interdependence refers to the shared responsibility of a team's performance. High interdependence boosts collaboration and workload sharing. The level of interdependence reflects the degree to which an employee's work results depend on other team members. In general, the more interdependent tasks foster collaboration and team effectiveness. Finally, potency describes the employees' conviction that they are able to achieve their goals. A collective belief in the team's abilities results in better team effectiveness [54].

On the foundation of the Shea and Guzzo model [37], we established the following trust-building HR practices:

- The first HR practice reflects an outcome of interdependence and is about team rewards;
- The second HR practice refers to an interdependent task and is illustrated by employees' dependence on each other to get things done, manifested by *workload sharing*;
- Finally, the last HR practice pertains to potency: a collective belief that employees can be effective, expressed by team assumptions regarding their capability to achieve goals based on perceived team *competency development*.

The HR practices used in the Shea and Guzzo model [37] highlight the importance of building interpersonal relationships in teams. Further, these HR practices encompass mechanisms nurturing team relationships [55]. As such, these can be implemented as a component of strategic HR management. These HR practices are instrumental in developing team spirit and overall team effectiveness.

The existing literature has focused on how HR practices enhance team effectiveness [56]. However, previous studies have indicated that the relationship between HR practices and effectiveness needs another, in-depth explanation, as trust has been shown to play an important role in enhancing effectiveness [57–60]. Hence, we concentrated on trust, which is perceived as an underlying mechanism of successful team management. Therefore, this study emphasizes the crucial role of trust in effective team management.

Furthermore, we used the Shea and Guzzo model [37] as a reference point to classify the three main practices strengthening team effectiveness by promoting intrateam trust. We assumed that the HR practices reflecting outcomes from interdependence, task interdependence, and potency would lead to increased trust and reliance between team members.

The notion of trust has been acknowledged to be the core facet of organization management [61]. Trust can be defined as a mutual, reciprocal relationship between two involved parties [62]. It involves individuals' perceptions of a relationship, which guide their attitudes and behaviors [63]. Trust can be described as an ongoing process, an interaction occurring between the trusting individual and the one being trusted [64]. Trust is viewed as a kind of a relationship between two involved parties [65].

In this study, we conceptualized the organizational perspective on trust. As such, trust was placed in the center of managerial discourse [66]. It was regarded as an important commodity that can support collaboration within organizations. There are three type of organizational trust [67]:

- The first one, concerning trust between two entities (organizations), is called *interorganizational trust*;
- The second one reflects the trust between employees and organizations, called *intra-organizational trust*;

- The third one encompasses the interpersonal relationship between the individuals within organizations, and it is referred to as *interpersonal trust*.

In this study, we focused on interpersonal trust, which was analyzed from the trustor perspective.

Trust plays a crucial role in shaping employee attitudes and behaviors. Numerous studies have confirmed the relationship between trust and effectiveness [61,68]. Trust is recognized as a necessary element of effective collaboration, which influences the managerial approach [69]. Moreover, it has been confirmed that trust enables effective team collaboration [70,71]. Therefore, we assumed that trust is an essential factor that binds team members together and thus facilitates team effectiveness. Furthermore, employees who work closely with each other, have a common fate, and believe in their abilities are more likely to trust each other.

SET provides an important conceptual framework linking HR practices and trust. SET assumes that social exchanges are motivated by prospective rewards and that particular actions are consciously undertaken with expectations of future, reciprocal efforts from an involved party [72]. In other words, the individual is motivated to behave in a certain way toward another person through a belief in the prospective return of a favor. SET assumes persistent social exchanges that drive human behavior in organizations [73]. It explains human attitudes in these types of dyadic incentivized relationships [74]. According to SET, employees are more likely to engage in effective collaboration if they perceive it as rewarding. Hence, assuming that team members are interdependent in terms of a task, are receiving collective rewards, and are perceiving the team as competent and able to achieve its task, they will be more likely to trust in others and consequently put greater effort into their work. On these grounds, we assumed that HR practices oriented toward strengthening team interdependence and efficacy facilitate interpersonal trust by specifying possible success. An intrateam mutual reliance can lead to the assumption of realistic future achievement. Additionally, it pays off to put a lot of effort into a team project, because the more achievable the common goal is, the greater the engagement of the team members is. In general, employees are more likely to support a winnable case. Using Emerson's discourse [75] pertaining to social exchange, it is worth the effort when the potential benefits outweigh the costs. Consequently, trust occurs as a result of team reliance and common destiny. Interpersonal trust is stronger when the team is competent and group rewards depend on collaborative effort. In the same vein, HR practices that foster an outcome of interdependence, task interdependence, and potency strengthen team reliance and ultimately lead to increased trust. Hence, we argue the following:

Hypothesis 1. *HR practices that provide group rewards and workload sharing and foster team competency development are positively related to interpersonal trust in organizations.*

2.2. Interpersonal Trust and Team Collaboration

The need for constantly improving results and alleviating performances caused the managerial shift that withdrew bureaucratic and inflexible management that inhibited creativity and work engagement [76–78]. Current HR initiatives aim to support collaboration and teamwork [79]. Collaboration is defined as a process focused on the collective efforts of employees united in pursuing a common goal [32,80,81]. Teamwork is described as an effective means to achieve better results and enhance team output [82–84]. It has been confirmed that knowledge sharing and collective decision-making boost team effectiveness and creativity [85]. Furthermore, increased knowledge absorption and enriched competencies allow team members to develop new ideas, facilitate out-of-the-box thinking, and increase effectiveness in comparison to those working individually in isolation [86]. Team collaboration takes place when there are internal relations tying employees together and when they are success-oriented [87,88]. The essential conditions of productive collaboration are supportive and integrating actions that not only enable task achievement but additionally strengthen interpersonal relationships within an organization [87]. In summary, team collaboration is a collective undertaking that allows for the effective achievement of organizational goals.

Trust is a crucial facet that enables a successful collaborative relationship. Moreover, trust as described in this context is a tendency toward positive expectations regarding the future actions of the other party [89,90], deepening in-team reliance. It has been argued that trust is a platform for successful and effective communication between team members [91]. In addition, it promotes an innovative climate within organizations [92]. Existing studies have confirmed links between trust and collaboration [32]. Oláh, Bai, Karmazin, Balogh, and Popp [93] argued that a higher level of trust implies better results and greater output. Numerous scholars have indicated an association between trust and high work engagement and job satisfaction in teams [57,94]. Furthermore, trust promotes psychological safety and confidence, which leads to openness, boosts communication, and encourages idea sharing [94]. Trust is an essential condition for effective collaboration [69,95]. In addition, it is a basic factor that helps to maintain the sustainable management of organizations [96–98]. Yet, the above-mentioned research focused on interorganizational trust, whereas this study highlights the importance of interpersonal trust and its consequences for teamwork. In conclusion, it has been confirmed that effective collaboration depends on trust. Further, interpersonal trust facilitates collective actions in teams and is a core factor that enables successful collaboration. Therefore, we assumed the following:

Hypothesis 2. *Interpersonal trust is positively related with team collaboration.*

2.3. The Links between Team Cooperation and Innovation

The increasing importance of innovation in organizational development and competitiveness results in the need to understand the mechanisms supporting innovation both inside and outside of an organization [99]. Implementation of a novel innovative solution requires employees' knowledge and ingenuity [100] as well as adequate management [101]. Numerous research works have acknowledged the value of successful collaboration in developing innovation [102–104]. In particular, HR practices supporting collaboration are vital means for a team's success [105,106].

Team collaboration can be depicted as a mechanism facilitating the sharing of ideas, knowledge, and resources, which in effect increases the success of innovative projects [107]. Additionally, existing studies have indicated that team innovation is reliant on creative employees [108]. Team members' drive and innovation are the core components of state-of-the-art solutions. Talent management and work autonomy are a crucial part of HR practices that foster innovation [109]. One main aspect refers to a good organizational climate that influences innovation [109,110]. High-performance work practices advance employees' creativity when the team is cohesive and collaboration goes well [40]. Additionally, group-oriented motivational systems can foster innovation [111].

The current research perspective on the linkage between team collaboration and innovation suggests that it is evolving. Scholars argue that collaboration and teamwork are a fundamental aspect of innovation [112]. It has been acknowledged that high collaboration is associated with a higher level of organizational innovation [104]. This is especially important in the hi-tech sector [113,114]. Hence, collaboration facilitates innovation in the technological industry [107] and fosters innovative products [115]. Numerous studies have analyzed collaboration in research and development (RD) teams [108,116]. The results indicated a positive relationship between teamwork and both process and product innovation. However, there has not been enough research studying the impact of employees (not from RD teams) on developing innovation. Yet, existing evidence suggests that team collaboration builds an environment that nurtures social interaction and facilitates team-created innovation. Thus, we hypothesized the following:

Hypothesis 3. *Team collaboration is positively linked to innovation.*

Last, we developed a research model that indicates the relationships between the constructs to be analyzed (see Figure 1).

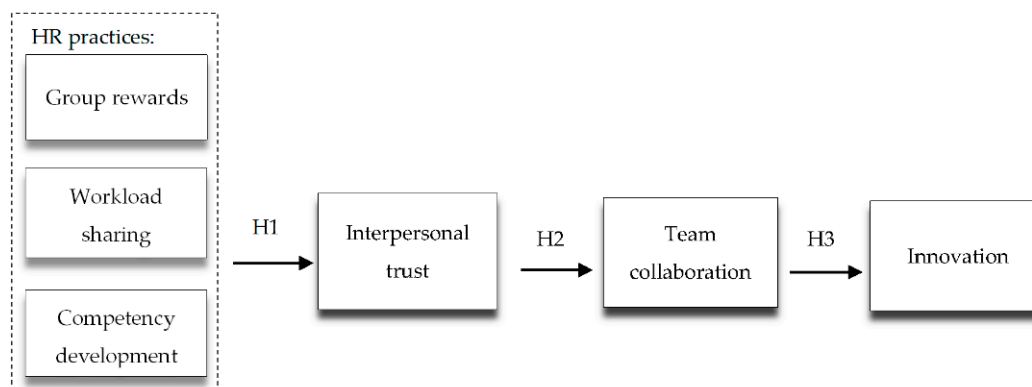


Figure 1. Research model.

3. Methodology

3.1. Data Collection

We used a survey to obtain the data and test the hypotheses. A random sample was drawn from the telecommunications industry in Poland. Our decision to use the telecommunications sector was based on the fact that the telecommunication sector is a very innovative one [117]. For instance, in Poland, the telecommunications sector has achieved the highest revenues from sales of new or significantly improved products, in comparison to service companies (from 18.1% of total turnover in 2012 to 23.9% in 2017) [118,119]. Many state-of-the-art solutions and modernized technologies are implemented in telecommunication, and hence it is an interesting sector in which to examine innovation mechanisms. We used the official register of telecommunications firms as a framing sample.

We gathered 175 questionnaires: 34.86% (61) of respondents were women, and 65.14% (114) identified as men. In addition, 77.14% (135) of respondents worked in a large organization with 251 or more employees, 13.14% (23) were from firms with 51–250 employees, and 7.43% (13) were from companies with 11–50 employees. Sixty percent (105) of respondents had professional experience of over 10 years, 13.71% (24) of participants' work experience was between 6 and 10 years, 22.86% (40) had 1–5 years of experience, and 3.43% (6) had less than one year of experience. The positions of the participants were as follows: 5.14% (9) held a director position, 67.43% (118) declared a specialist position, 3.43% (6) described themselves as experts, 1.71% (3) were analysts, 0.57% (1) had a job as an assistant, and 3.43% (6) identified as "other".

After gathering the data, we inputted them into Excel 2013 and analyzed them using Statistica 13.1 AMOS software.

3.2. Measurement

The questionnaire used a five-point Likert scale ranging from "1", meaning "strongly disagree", to "5", meaning "strongly agree". It has been established that the Likert scale can be applied in structural equation modeling (SEM) analysis [120]. Accordingly, we used the measures described below to assess the values of the research variables.

In order to analyze the HR practices, we used three statements: "group rewards are often used in our organizations", "we share our workload in our organization", and "competency development is supported in our organization".

The interpersonal trust variable was estimated using the instrument developed by Forret, Love, and Poon [121,122]. We asked whether participants trust their fellow employees. This was measured using three statements: "Employees in my organization can be relied upon to do their work," "Employees in my organization are trustworthy," and "I have confidence in my teammates."

Based on Bond-Barnard [32], a four-item team collaboration instrument was used. It involved four items: "Employees in my organization are committed to achieving team goals," "Employees in

my organization work together as a team to achieve a common goal,” “Employees in my organization coordinate team efforts to achieve a common goal,” and “The collaboration in my team is effective.”

To measure innovation, a four-item scale was adopted from the OECD [24] definitions of innovation dimensions: “There are new products implemented in my organization,” “There are new processes implemented in my organization,” “there are new workplace practices implemented in my organization,” and “my organization is innovative.”

3.3. Analysis

To verify the hypotheses, we decided to conduct SEM according to the procedures described by Heir et al. [120]. We calculated the model fit and estimated standard errors and total effects as well as other measurements using Statistica 13 software. We evaluated how well the SEM model fit based on a range of incremental fit indices involving chi-squared (χ^2) values, the root means square error of approximation (RMSEA), the comparative fit index (CFI), and the adjusted goodness-of-fit index (AGFI) [120].

4. Results

Descriptive statistics are presented in Table 1.

Demographic variables (gender, position, professional experience, and firm size) were not statistically related to the dependent variables and consequently were excluded from further analysis to avoid data misapprehension [123].

Table 1. Average values (M), standard deviations (SD), and correlations between variables.

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Gender	0.351	0.479	1.000																	
Size	3.649	0.720	0.208 *	1.000																
Experience	3.305	0.940	0.198 *	0.193 *	1.000															
Position	2.305	0.563	−0.184 *	−0.191 *	0.304 **	1.000														
h1	3.075	1.123	−0.124	−0.182 *	−0.093	0.110	1.000													
h2	2.494	1.126	−0.141	−0.184 *	−0.165 *	0.162 *	0.533 **	1.000												
h3	3.224	1.097	−0.239 *	−0.259 **	−0.263 **	0.123	0.643 **	0.537 **	1.000											
t1	4.034	0.736	−0.231 *	−0.173 **	−0.082	0.156 *	0.354 **	0.307 **	0.334 **	1.000										
t2	3.914	0.859	−0.137	−0.199 *	−0.032	0.126	0.312 **	0.289 **	0.303 **	0.653 **	1.000									
t3	4.017	0.658	−0.166 *	−0.146	−0.083	0.111	0.311 **	0.293 **	0.339 **	0.679 **	0.636 **	1.000								
c1	3.879	0.987	−0.130	−0.019	−0.029	0.025	0.290 **	0.200 **	0.356 **	0.411 **	0.404 **	0.368 **	1.000							
c2	3.822	1.019	−0.156 *	−0.046	−0.052	0.085	0.300 **	0.218 **	0.367 **	0.448 **	0.412 **	0.401 **	0.904 **	1.000						
c3	3.994	0.909	−0.141	−0.100	−0.059	0.116	0.284 **	0.268 **	0.361 **	0.492 **	0.421 **	0.416 **	0.689 **	0.704 **	1.000					
c4	4.103	0.919	−0.109	−0.015	0.003	0.028	0.267 **	0.196 **	0.258 **	0.413 **	0.341 **	0.370 **	0.709 **	0.724 **	0.775 **	1.000				
i1	4.351	0.936	−0.069	0.072	0.029	0.016	0.266 **	0.076	0.272 **	0.276 **	0.117	0.197 **	0.371 **	0.320 **	0.396 **	0.388 **	1.000			
i2	3.931	1.012	−0.057	0.109	0.144	0.088	0.300 **	0.066	0.212 **	0.259 **	0.066	0.158 **	0.293 **	0.274 **	0.333 **	0.343 **	0.709 **	1.000		
i3	4.086	1.053	−0.026	0.200 *	0.306 **	0.150 *	0.220 **	0.071	0.148	0.294 **	0.168 **	0.190 **	0.283 **	0.252 **	0.399 **	0.391 **	0.708 **	0.706 **	1.000	
i4	3.718	1.018	−0.105	0.022	0.048	0.050	0.332 **	0.152 **	0.290 **	0.260 **	0.144	0.171 **	0.334 **	0.247 **	0.348 **	0.328 **	0.529 **	0.610 **	0.589 **	1.000

Notes: * $p < 0.05$, ** $p < 0.01$. Source: own elaboration.

4.1. Reliability and Validity Tests

First, we carried out an analysis to confirm the reliability and validity of the research model. To achieve this, we conducted an internal consistency (Cronbach's alpha α) analysis and a confirmatory factor analysis (CFA). All factor loadings in the research model were higher than 0.5, which suggests that all of the latent variables were represented by indicators (Table 2).

We also calculated the average variance extracted (AVE) and the composite reliability (CR) for all of the measures used in our study. Table 2 illustrates Cronbach's alpha, the AVE, and the CR of the research variables. All constructs were at an acceptable level, and the conducted calculations confirmed the measure's consistency as well as its reliability and validity [120,124].

Table 2. Results of the confirmatory factor analysis (CFA) and the internal reliability testing. AVE: average variance extracted; CR: composite reliability; HR: human resources.

Variable	Item	Mean	SD	Factor Loading	Cronbach's α	AVE	CR
HR practices	h1			0.801			
	h2	2.93	0.940	0.533	0.799	0.575	0.801
	h3			0.808			
Interpersonal trust	t1			0.845			
	t2	3.99	0.658	0.717	0.844	0.656	0.851
	t3			0.629			
Team collaboration	c1			0.932			
	c2	3.95	0.863	0.963	0.923	0.745	0.920
	c3			0.605			
	c4			0.609			
Innovation	i1			0.744			
	i2	4.02	0.857	0.816	0.876	0.646	0.879
	i3			0.777			
	i4			0.589			

Source: own elaboration.

Based on the conducted analysis, we concluded that the research model fit the data well and was thus suitable for testing the research hypotheses.

4.2. Structural Model

We performed SEM to verify the hypotheses. Table 3 illustrates the results of the assessment. It contains all of the hypothesized relationships described in the research model.

Table 3. Regression coefficients and statistics for the research model.

Hypothesis	B	T	p-Value	Remarks
H1: HR practices \rightarrow interpersonal trust	0.431	6.218	0.000	supported
H2: interpersonal trust \rightarrow team collaboration	0.898	5.007	0.000	supported
H3: team collaboration \rightarrow innovation	0.769	3.746	0.000	supported
$X^2 = 23.870$; degrees of freedom (df) = 22; $X^2/df = 1.085$; goodness-of-fit index (GFI) = 0.981; adjusted goodness-of-fit value (AGFI) = 0.911; root mean square error of approximation (RMSEA) = 0.000.				

Notes: β denotes standardized regression coefficients; T: a value of the T-statistic. Source: own elaboration.

The conducted analysis confirmed the effect of HR practices on interpersonal trust ($\beta = 0.431$, $p = 0.000$). This was compatible with the assumption regarding the influence that team reliability and potency have on interpersonal trust.

Furthermore, the SEM supported the H2 hypothesis, which assumed that interpersonal trust has an effect on team collaboration ($\beta = 0.898, p = 0.000$). This provided further confirmation regarding the importance of trust in fostering teamwork.

The H3 hypothesis was positively verified. It was shown that team collaboration positively impacts organizational innovation ($\beta = 0.769, p = 0.000$).

We assessed the measurement model fit by examining the chi-squared (χ^2) test, since it is regarded as a fundamental statistical measure in SEM [115]. The chi-squared value was 23.870. The next pieces of information we used to evaluate the goodness-of-fit (GOT) were degrees of freedom, which equaled 22. As a result, chi-squared divided by degrees of freedom (χ^2/df) was 1.085. The p -value was 0.354, which was above the recommended level of 0.05 [120]. The next measure we evaluated was the GOF index (GFI). In our model, this was equal to 0.981, which is considered to be an acceptable level [120,125]. The adjustment of the goodness-of-fit value (AGFI) was 0.911. Then we examined the root mean square error of approximation (RMSEA), which describes whether or not the model fits a population. In our research, the RMSEA was 0.000, which is considered a preferable fit.

The results indicated that the team is a source of innovation. The verification of the research model confirmed that HR practices oriented toward strengthening reliance and interdependence support interpersonal trust. Further, this suggests that team collaboration depends on the trust between team members. Finally, this indicates the importance of teamwork for effective innovation.

5. Discussion

The results of this study demonstrate the fundamental role of trust and the importance of HR practices in building innovation. These results suggest three paths that managers could consider in order to develop innovative potential.

First, one finding refers to the influence of HR practices in nurturing trust within teams. It emphasizes the value of strengthening team reliance and interdependence in order to nurture team potential. One way team trust can be increased is by providing interdependent tasks and by introducing workload sharing. Another option concerns the practice of offering group rewards and introducing collective responsibility. The more team members are aware of their interdependence, the more they are willing to share information and teach each other [126]. Lastly, trust can be facilitated by supporting team competency development as a way to increase team potency. This is in alignment with SET theory, which assumes that individuals are motivated by seeking possible gain and avoiding potential losses [74]. In the same vein, HR practices supporting team reliance and interdependence encourage a collective belief in collaborative effort and thus foster interpersonal trust. Using SET as a reference point, this provides an explanation about the mechanism of team efficacy as a trigger for interpersonal trust. Individuals are prone to trust colleagues who they perceive as being potentially able to successfully accomplish a task or contribute to the team effort. This corresponds broadly with Schorman, Mayer, and Davis's [127] model of trust, where benevolence, integrity, and ability are the antecedents of trust. Team members' willingness to trust each other will be influenced by their perception of their teammates' abilities. Summing up, our findings suggest a direct linkage between HR practices and interpersonal trust. The results of the hypothesis testing of the structural relationships between the variables are illustrated in Figure 2.

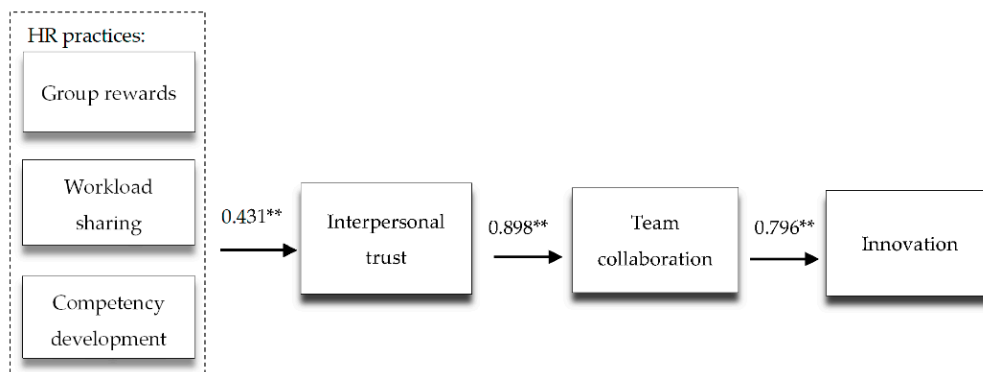


Figure 2. Research model and results of hypothesis testing. Notes: * $p < 0.05$, ** $p < 0.01$.

Second, our study acknowledges that trust is a vital factor that enables companies to build a successful collaborative team. Trust is a core component of effective collaboration. Our results confirm previous studies, which indicated that successful collaboration was based on trust [32]. Of course, collaboration is not determined exclusively by trust, but it is an important facet of successful teamwork.

Third, the organization must be able to maintain successful collaboration to remain innovative. Our results confirm that innovation is driven by humans. Effective collaboration creates a breeding environment for innovation. The ability to support collaboration helps to bridge the gap between innovation and employees. Therefore, this indicates how HR practices can build innovative potential. The current literature lacks an explanation of how HR practices affect innovation [113,128]. There is a need to understand how HR management can drive innovation in teams [55]. Our key findings address this issue and provide an explanation of how HR practices can lead to innovation. Our results confirm how HR activities can enhance innovation by promoting creative attitudes and behaviors in teams [84,115,129,130]. These findings attribute innovation potential to team trust and collaboration based on workload sharing, group rewards, and team competency development. The examination of the relationship between HR practices and innovation confirmed that interpersonal trust and team collaboration play a vital role in this process.

6. Conclusions

The current study introduces the link that bonds HR practices and innovation. This implies that the role of trust and collaboration is essential in managing innovation with a sustainable approach. Our study traces out the process of driving innovation through HR practices that facilitate trust and improve team collaboration.

The main contribution of this study is the identification of the relationship between HR practices, interpersonal trust, team collaboration, and innovation. Specifically, we provide new insights into these relationships by explaining how HR practices affect innovation. To the best of our knowledge, we are the first study of this kind to examine the linkage between the discussed variables. Our study explores the way HR practices oriented toward building team trust and strengthening collaboration can increase innovation. Moreover, we emphasize the role of interpersonal trust in developing team innovation. Additionally, we highlight which HR practices are crucial for facilitating innovation.

The link between HR and innovation has been suggested as an interesting area of research [55,131]. However, the role of team rewards, workload sharing, and competency development has not been examined as a trigger for interpersonal trust, which impacts team collaboration and as a result supports innovation. Our study confirms this linkage using empirical data. Therefore, our study provides an empirically based description of the pathways connecting HR practices and innovation with interpersonal trust and team collaboration.

We indicate how certain HR practices might enhance innovation through developing interpersonal trust and supporting team collaboration. In our study, we extended the previous Shea and Guzzo model [37] by examining its connection with interpersonal trust, team collaboration, and innovation.

We suggest how certain HR practices can bring about innovation. Our study highlights the foundation of developing innovative potential in organizations by transforming employees' behaviors into an expected innovative outcome.

To conclude, we have contributed by analyzing the underlying processes that facilitate innovation. By identifying this relationship, our study contributes to both practice and theory pertaining to HR and innovation.

The verified connection between HR practices built upon the Shea and Guzzo model [37] and interpersonal trust has theoretical implications. Further, it captures the role of HR management in increasing innovation and addresses the gap in the current literature [55,131]. By using SET as a framework to analyze the links between HR practices and collaboration-driven trust that induces innovation, we contribute to the existing theoretical literature. Additionally, we suggest how certain HR practices oriented toward nurturing interdependent mechanisms can be used as instruments to support trust, teamwork, and ultimately innovation. Since innovation is a key component of a sustainable approach to managing an organization, we put up an explanation of how to strengthen innovation and thus organizational sustainability.

The importance of HR activities in driving innovation has managerial implications. Moreover, the current data indicate the constant need for the implementation of state-of-the-art solutions and cost-cutting technologies due to dropping prices and decreasing service margins in the telecommunications sector [132,133]. Therefore, our study helps to indicate some practices worth exploring in pursuit of organizational innovation. We indicate the role of HR practices in building trust within a working team. Additionally, we suggest how trust-based collaboration can drive innovation. Finally, we highlight that employees are the cornerstones of innovation. By managing teams, managers can improve their innovative potential by increasing interdependence, reliance, and potency by developing team competency, providing group rewards, and establishing workload sharing practices. Moreover, managers need to be aware that a relevant trust-based and collaboration-oriented work environment influences team performance and affects organizational innovation.

This study is of great significance in comprehending the HR mechanisms that facilitate innovation. Previous studies on innovation have focused on strategic aspects, whereas our research highlights the importance of HR management in developing innovation. Therefore, this paper provides useful guidance for managers on how to support innovation through HR practices. Furthermore, this study contributes to theory by explaining how SET can be applied in understanding the phenomenon of innovation.

The limitations of this study refer to the fact that this research was carried out quantitatively. Further analysis could include a qualitative approach. Additionally, a prospective future study could evaluate the link between HR practices and innovation from a global perspective. Similarly, future studies may examine the impact of each of these HR practices based on the Shea and Guzzo model [37]. It may also be interesting to explore the phenomenon of innovation from an HR perspective using various mediating variables. Future studies could also analyze different factors contributing to the team spirit that affects innovation.

Author Contributions: The authors contributed equally to this work. All authors read and approved the final manuscript.

Funding: The research for this paper was conducted in the framework of project nos. S/WZ/2/2015 and 203689/E-365/S/2018 financed from the funds of the Ministry of Science and Higher Education of Poland.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Paulino, D.; Lopes, T.; dos Santos Vieira, T.N.; Queiroz Barbosa, A.C.; Parente, C. Management innovation and social innovation: Convergences and divergences. *Acad. Rev. Latinoam. Ad.* **2017**, *30*, 474–489. [[CrossRef](#)]

2. Muller, A.; Välikangas, L.; Merlyn, P. Metrics for innovation: Guidelines for developing a customized suite of innovation metrics. *Strategy Leadersh.* **2005**, *33*, 37–45. [[CrossRef](#)]
3. Chursin, A.; Makarov, Y. Theoretical Bases of Competitiveness Management. In *Management of Competitiveness*; Chursin, A., Makarov, Y., Eds.; Springer: Cham, Switzerland, 2015; pp. 83–131. ISBN 978-3-319-16243-0.
4. Peris-Ortiz, M.; Ferreira, J.; Merigó Lindahl, J. Knowledge, innovation, and sustainable development in organization: A dynamic capability perspective. In *Knowledge, Innovation and Sustainable Development in Organizations*; Peris-Ortiz, M., Ferreira, J., Merigó Lindahl, J., Eds.; Springer: Cham, Switzerland, 2019; pp. 1–10. ISBN 978-3-319-74880-1.
5. Stewart, I.; Fenn, P. Strategy: The motivation for innovation. *Constr. Innov.* **2006**, *6*, 173–185. [[CrossRef](#)]
6. Schumpeter, J. *The Theory of Economic Development*; Harvard University Press: Cambridge, MA, USA, 1934.
7. Abeyratne, R. Achieving Competitive Advantage through Connectivity and Innovation: An Application in Airline Hubbing. In *Competition and Investment in Air Transport*; Abeyratne, R., Ed.; Springer: Cham, Switzerland, 2016; pp. 131–144. ISBN 978-3-319-24371-9.
8. Walcher, F.; Wöhr, U. Measuring Innovation Performance. In *Valuing Corporate Innovation. Management for Professionals*; Friedl, G., Kayser, H., Eds.; Springer: Cham, Switzerland, 2018; pp. 71–110. ISBN 978-3-319-64863-7.
9. Bocken, N.; Ritala, P.; Albareda, L.; Verbarg, R. Introduction: Innovation for Sustainability. In *Innovation for Sustainability*; Bocken, N., Ritala, P., Albareda, L., Verbarg, R., Eds.; Palgrave Macmillan: Cham, Switzerland, 2019; pp. 1–16. ISBN 978-3-319-97384-5.
10. Korzeb, Z.; Samaniego-Medina, R. Sustainability Performance. A Comparative Analysis in the Polish Banking Sector. *Sustainability* **2019**, *11*, 653. [[CrossRef](#)]
11. Von Stamm, B. Leadership for innovation: What you can do to create a culture conducive to innovation. *Strateg. Dir.* **2009**, *25*, 13–15. [[CrossRef](#)]
12. Coakes, E.; Smith, P. Developing communities of innovation by identifying innovation champions. *Learn. Organ.* **2007**, *14*, 74–85. [[CrossRef](#)]
13. Rogers, E.M. *Diffusion of Innovations*, 5th ed.; Free Press: New York, NY, USA, 2003; ISBN 13.
14. Sexton, M.; Barrett, P.S.; Miozzo, M.; Wharton, A.; Leho, E. Innovation in small construction firms: Is it just a frame of mind? In *Proceedings of the 17th Annual ARCOM Conference, Salford, UK, 5–7 September 2001*; Akintoye, A., Ed.; University of Salford: Salford, UK, 2001; Volume 1, pp. 527–536.
15. Bulińska-Stangrecka, H. The role of leadership in developing innovative potential. *IJEBMR* **2018**, *2*, 270–289.
16. Smith, R. Work(er)-driven innovation. *J. Workplace Learn.* **2017**, *29*, 110–123. [[CrossRef](#)]
17. Pan, W. Strategies for managing innovation in UK housebuilding. *Eng. Constr. Archit. Manag.* **2010**, *17*, 78–88. [[CrossRef](#)]
18. Sacramento, C.A.; Chang, M.-W.S.; West, M.A. Team Innovation through Collaboration. In *Innovation through Collaboration*; Advances in Interdisciplinary Studies of Work Teams; Beyerlein, M.M., Beyerlein, S.T., Kennedy, F.A., Eds.; Emerald Group Publishing Limited: Bingley, UK, 2006; Volume 12, pp. 81–112. ISBN 978-0-76231-331-0.
19. Frambach, R.T.; Schillewaert, N. Organizational innovaton adoption: A multi-level framework of determinants and opportunities for future research. *J. Bus. Res.* **2002**, *55*, 163–176. [[CrossRef](#)]
20. Wang, J.; Hooi, R. The moderation effect of workplace experience on innovation motivation: A study of STEM faculty in Singapore. *Technol. Anal. Strateg. Manag.* **2019**, *31*, 862–874. [[CrossRef](#)]
21. Greenhalgh, T.; Robert, G.; Macfarlane, F.; Bate, P.; Kyriakidou, O. Diffusion of innovations in service organizations: Systematic review and recommendations. *Milbank Q.* **2004**, *82*, 581–629. [[CrossRef](#)] [[PubMed](#)]
22. Ketelhöhn, N.; Ogliastri, E. Introduction: Innovation in Latin America. *Acad. Rev. Latinoam. Ad.* **2013**, *26*, 12–32. [[CrossRef](#)]
23. Hellström, T.; Hellström, C. Time and Innovation in Independent Technological Ventures. *Hum. Relat.* **2002**, *55*, 407–426. [[CrossRef](#)]
24. Oslo Manual. *Guidelines for Collecting and Interpreting Innovation Data*, 3rd ed.; OECD/Eurostat Publishing: Paris, France, 2005; ISBN 92-64-01308-3.
25. Ryzhkova, N. Does online collaboration with customers drive innovation performance? *J. Serv. Theory Pract.* **2015**, *25*, 327–347. [[CrossRef](#)]
26. Mäkimattila, M.; Junell, T.; Rantala, T. Developing collaboration structures for university-industry interaction and innovations. *Eur. J. Innov. Manag.* **2015**, *18*, 451–470. [[CrossRef](#)]

27. Rusanen, H.; Aino Halinen, A.; Jaakkola, E. Accessing resources for service innovation – the critical role of network relationships. *J. Serv. Manag.* **2014**, *25*, 2–29. [\[CrossRef\]](#)
28. Ashok, M.; Narula, R.; Martinez-Noya, A. How do collaboration and investments in knowledge management affect process innovation in services? *J. Knowl. Manag.* **2016**, *20*, 1004–1024. [\[CrossRef\]](#)
29. Chen, K.; Zhang, Y.; Fu, X. International research collaboration: An emerging domain of innovation studies? *Res Policy* **2019**, *48*, 149–168. [\[CrossRef\]](#)
30. Reficco, E.; Gutiérrez, R.; Jaén, M.H.; Auletta, N. Collaboration mechanisms for sustainable innovation. *J. Clean. Prod.* **2018**, *203*, 1170–1186. [\[CrossRef\]](#)
31. Aguilar-Zambrano, J.J.; Trujillo, M.J. Factors influencing interaction of creative teams in generation of ideas of new products: An approach from collaborative scripts. In Proceedings of the PICMET 2018—Portland International Conference on Management of Engineering and Technology: Managing Technological Entrepreneurship: The Engine for Economic Growth, Honolulu, HI, USA, 19–23 August 2018; Available online: <https://ieeexplore.ieee.org/document/8481929> (accessed on 5 July 2019).
32. Bond-Barnard, T.J.; Fletcher, L.; Steyn, H. Linking trust and collaboration in project teams to project management success. *Int. J. Manag. Proj. Bus.* **2018**, *11*, 432–457. [\[CrossRef\]](#)
33. Morita, P.P.; Burns, C.M. Trust tokens in team development. *Team Perform. Manag.* **2014**, *20*, 39–64. [\[CrossRef\]](#)
34. David, K.; Golan, C. The mediating effect of interpersonal trust on virtual team’s collaboration. *Int. J. Knowl. Manag.* **2017**, *13*, 20–37. [\[CrossRef\]](#)
35. Hardwick, J.; Anderson, A.R.; Cruickshank, D. Trust formation processes in innovative collaborations: Networking as knowledge building practice. *Eur. J. Innov. Manag.* **2013**, *16*, 4–21. [\[CrossRef\]](#)
36. Li, R.; Du, Y.-F.; Tang, H.-J.; Boadu, F.; Xue, M. MNEs’ Subsidiary HRM Practices and Firm Innovative Performance: A Tacit Knowledge Approach. *Sustainability* **2019**, *11*, 1388. [\[CrossRef\]](#)
37. Shea, G.P.; Guzzo, R.A. Groups as human resources. In *Research in Personnel and Human Resources Management*; Rowland, K.M., Ferris, G.R., Eds.; JAI Press: Greenwich, CT, USA, 1987; Volume 5, pp. 323–356.
38. Dechawatanapaisal, D. Examining the relationships between HR practices, organizational job embeddedness, job satisfaction, and quit intention: Evidence from Thai accountants. *Asia Pac. J. Bus. Admin.* **2018**, *10*, 130–148. [\[CrossRef\]](#)
39. Kehoe, R.R.; Wright, P.M. The impact of high performance human resource practices on employees’ attitudes and behaviors. *J. Manag.* **2013**, *39*, 366–391. [\[CrossRef\]](#)
40. Chen, C.; Huang, J. Strategic human resource practices and innovation performance—The mediating role of knowledge management capacity. *J. Bus. Res.* **2009**, *62*, 104–114. [\[CrossRef\]](#)
41. Cuéllar-Molina, D.; García-Cabrera, A.M.; de la Cruz Déniz-Déniz, M. Emotional intelligence of the HR decision-maker and high-performance HR practices in SMEs. *Eur. J. Manag. Bus. Econ.* **2019**, *28*, 52–89. [\[CrossRef\]](#)
42. Doherty, L.; Norton, A. Making and measuring “good” HR practice in an SME: The case of a Yorkshire bakery. *Empl. Relat.* **2014**, *36*, 128–147. [\[CrossRef\]](#)
43. Lee, H.; Chui, J. The mediating effect of interactional justice on human resource practices and organizational support in a healthcare organization. *J. Org. Eff. People Perform.* **2019**, *6*, 129–144. [\[CrossRef\]](#)
44. Bamel, U.K.; Stokes, P. Flexible HR practice. *Glob. J. Flex. Syst. Manag.* **2016**, *17*. [\[CrossRef\]](#)
45. Al Damoe, F.; Hamid, K.; Sharif, M. The mediating effect of organizational climate on the relationship between HRM practices and HR outcomes in the Libyan public sector. *J. Manag. Dev.* **2017**, *36*, 626–643. [\[CrossRef\]](#)
46. Rhee, J.; Zhao, X.; Kim, C. Effects of HRM Practices on Chinese firms’ organizational performance: The moderating effect of CEO Support. *Asian Soc. Sci. J.* **2014**, *10*, 210–221. [\[CrossRef\]](#)
47. Subramaniam, C.; Shamsudin, F.M.; Ibrahim, H. Linking human resource practices and organizational performance evidence from small and medium organizations in Malaysia. *J. Pengur.* **2011**, *23*, 27–37.
48. Irwin, K.C.; Landay, K.M.; Aaron, J.R.; McDowell, W.C.; Marino, L.D.; Geho, P.R. Entrepreneurial orientation (EO) and human resources outsourcing (HRO): A “HERO” combination for SME performance. *J. Bus. Res.* **2018**, *90*, 134–140. [\[CrossRef\]](#)
49. Dastmalchian, A.; Steinke, C. *High-Performance HR Practices in Healthcare in Canada*; Qudrat-Ullah, H., Tsisis, P., Eds.; Innovative Healthcare Systems for the 21st Century. Understanding Complex Systems; Springer: Cham, Switzerland, 2017; pp. 299–331. ISBN 978-3-319-55773-1.

50. Coder, L.; Peake, W.; Spiller, M. Do High Performance Work Systems Pay for Small Firms? An Intellectual Capital Building Perspective. *J. Small Bus. Strategy* **2017**, *27*, 13–35.
51. Bendickson, J.; Muldoon, J.; Liguori, E.; Midgett, C. High Performance Work Systems: A Necessity for Startups. *J. Small Bus. Strategy* **2017**, *27*, 1–12.
52. McDowell, W.C.; Peake, W.O.; Coder, L.; Harris, M.L. Building small firm performance through intellectual capital development: Exploring innovation as the “black box”. *J. Bus. Res.* **2018**, *88*, 321–327. [[CrossRef](#)]
53. Kwon, K.; Bae, J.; Lawler, J.J. High Commitment HR Practices and Top Performers. *J. Manag. Int. Rev.* **2010**, *50*, 55–80. [[CrossRef](#)]
54. Jex, S.M.; Britt, T.W. *Organizational Psychology. A Scientist-Practitioner Approach*, 3rd ed.; Wiley & Sons, Inc.: Hoboken, NJ, USA, 2014; ISBN 978-1-118-72407-1.
55. Lee, H.W.; Pak, J.; Kim, S.; Li, L.-Z. Effects of Human Resource Management Systems on Employee Proactivity and Group Innovation. *J. Manag.* **2019**, *45*. [[CrossRef](#)]
56. Nguyen, D.; Teo, S. HR orientations and HR department effectiveness in Vietnam. *Pers. Rev.* **2018**, *47*, 1043–1061. [[CrossRef](#)]
57. Costa, A.C. Work team trust and effectiveness. *J. Pers. Rev.* **2003**, *32*, 605–622. [[CrossRef](#)]
58. Newman, A.; Cooper, B.; Holland, P.; Miao, Q.; Teicher, J. How do industrial relations climate and union instrumentality enhance employee performance? The mediating effects of perceived job security and trust in management. *Hum. Resour. Manag.* **2019**, *58*, 35–44. [[CrossRef](#)]
59. Yuan, Y.; Feng, B.; Lai, F.; Collins, B.J. The role of trust, commitment, and learning orientation on logistic service effectiveness. *J. Bus. Res.* **2018**, *93*, 37–50. [[CrossRef](#)]
60. Alsharo, G. Virtual team effectiveness: The role of knowledge sharing and trust. *Inform. Manag.* **2017**, *54*, 479–490. [[CrossRef](#)]
61. DeOrtentiis, P.S.; Summers, J.K.; Ammeter, A.P.; Douglas, C.; Ferris, G.R. Cohesion and satisfaction as mediators of the team trust—Team effectiveness relationship: An interdependence theory perspective. *Career Develop. Intern.* **2013**, *18*, 521–543. [[CrossRef](#)]
62. Gambetta, D. Can We Trust. In *Trust: Making and Breaking Cooperative Relations*; Gambetta, D., Ed.; Department of Sociology, University of Oxford: Oxford, UK, 2000; Chapter 13; pp. 213–237. Available online: <http://www.sociology.ox.ac.uk/papers/gambetta213-237.pdf> (accessed on 30 June 2019).
63. Bulińska-Stangrecka, H.; Bagieńska, A. Investigating the Links of Interpersonal Trust in Telecommunications Companies. *Sustainability* **2018**, *10*, 2555. [[CrossRef](#)]
64. Mayer, R.C.; Davis, J.H.; Schoorman, F.D. An integrative model of organizational trust. *Acad. Manag. Rev.* **1995**, *20*, 709–734. [[CrossRef](#)]
65. Rompf, S.A. The Concept of Trust. In *Trust and Rationality. An Integrative Framework for Trust Research*; Springer: Wiesbaden, Germany, 2015; pp. 29–78. ISBN 978-3-658-07327-5.
66. De Biasi, K. Understanding Trust. In *Solving the Change Paradox by Means of Trust*; Springer Gabler: Wiesbaden, Germany, 2019; pp. 77–93. ISBN 978-3-658-23912-1.
67. Stranes, B.; Truhon, S.; McCarthy, V. Organizational Trust: Employee-Employer Relationships. A Primer on Organizational Trust. 2015. Available online: <https://asq.org/hdl/2010/06/a-primer-on-organizational-trust.pdf> (accessed on 18 July 2019).
68. Pangil, F.; Chan, J.M. The mediating effect of knowledge sharing on the relationship between trust and virtual team effectiveness. *J. Knowl. Manag.* **2014**, *18*, 92–106. [[CrossRef](#)]
69. Radomska, J.; Wołczek, P.; Sołoducho-Pelc, L.; Silva, S. The Impact of Trust on the Approach to Management—A Case Study of Creative Industries. *Sustainability* **2019**, *11*, 816. [[CrossRef](#)]
70. Paula, I.; Campos, E.; Pagani, R.; Guarnieri, P.; Kaviani, M. Are collaboration and trust sources for innovation in the reverse logistics? Insights from a systematic literature review. *Supply Chain Manag. Intern. J.* **2019**. [[CrossRef](#)]
71. Darabi, F.; Clark, M. Developing business school/SMEs collaboration: The role of trust. *Intern. J. Entrep. Behav. Res.* **2012**, *18*, 477–493. [[CrossRef](#)]
72. Blau, P.M. *Exchange and Power in Social Life*; John Wiley & Sons: New York, NY, USA, 1964.
73. Cook, K.S.; Cheshire, C.; Rice, E.R.W.; Nakagawa, S. Social Exchange Theory. In *Handbook of Social Psychology. Handbooks of Sociology and Social Research*; DeLamater, J., Ward, A., Eds.; Springer: Dordrecht, The Netherlands, 2013; ISBN 978-94-007-6771-3.
74. Homans, G.C. Social behavior as exchange. *Am. J. Sociol.* **1958**, *63*, 597–606. [[CrossRef](#)]

75. Emerson, R.M. Social exchange theory. *Annu. Rev. Sociol.* **1976**, *2*, 335–362. [CrossRef]
76. Walton, R. From control to commitment in the workplace. *Harv. Bus. Rev.* **1985**, 77–84.
77. Jiang, J.; Wang, S.; Zhao, S. Does HRM facilitate employee creativity and organizational innovation? A study of Chinese firms. *Intern. J. Hum. Resour. Manag.* **2012**, *23*, 4025–4047. [CrossRef]
78. Lorincová, S.; Štarchoň, P.; Weberová, D.; Hitka, M.; Lipoldová, M. Employee Motivation as a Tool to Achieve Sustainability of Business Processes. *Sustainability* **2019**, *11*, 3509. [CrossRef]
79. Ingham, J.; Ulrich, D. Building better HR departments. *Strateg. HR Rev.* **2016**, *15*, 129–136. [CrossRef]
80. Bedwell, W.L.; Wildman, J.L.; DiazGranados, D.; Salazar, M.; Kramer, W.S.; Salas, E. Collaboration at work: An integrative multilevel conceptualization. *Hum. Resour. Manag. Rev.* **2012**, *22*, 128–145. [CrossRef]
81. Heavey, C.; Murphy, E. A proposed cooperation framework for organisations and their leaders. *Manag. Decis.* **2012**, *50*, 993–1000. [CrossRef]
82. Erdem, F.; Ozen, J.; Atsan, N. The relationship between trust and team performance. *Work Study* **2003**, *52*, 337–340. [CrossRef]
83. Naquin, C.; Tynan, R. The team halo effect: Why teams are not blamed for their failures. *J. Appl. Psychol.* **2003**, *88*, 332–340. [CrossRef] [PubMed]
84. Pitafi, A.H.; Kanwal, S.; Ali, A.; Khan, A.N.; Ameen, M.W. Moderating roles of IT competency and work cooperation on employee work performance in an ESM environment. *Technol. Soc.* **2018**, *55*, 199–208. [CrossRef]
85. Laursen, K.; Foss, N.J. New human resource management practices, complementarities and the impact on innovation performance. *Camb. J. Econ.* **2003**, *27*, 243–263. [CrossRef]
86. Langfred, C.W. The downside of self-management: A longitudinal study of the effects of conflict on trust, autonomy, and task interdependence in self-managing teams. *Acad. Manag. J.* **2007**, *50*, 885–900. [CrossRef]
87. Tjosvold, D.; West, M.A.; Smith, K.G. Teamwork and Cooperation Fundamentals of Organizational Effectiveness. In *International Handbook of Organizational Teamwork and Cooperative Working*; West, M.A., Tjosvold, D., Smith, K.G., Eds.; JohnWiley & Sons: Chichester, UK, 2003; pp. 3–8. ISBN 0-471-48539-X.
88. Wolfe, M.T.; Shepherd, D.A. Bouncing Back” from a Loss: Entrepreneurial Orientation, Emotions, and Failure Narratives. *Entrep. Theory Pract.* **2015**, *39*, 675–700. [CrossRef]
89. McAllister, D. Affect- and cognition-based trust as foundation for interpersonal cooperation in organizations. *Acad. Manag. J.* **1995**, *38*, 24–59. [CrossRef]
90. Brattström, A.; Bachmann, R. Cooperation and coordination: The role of trust in inter-organizational relationships. In *The Routledge Companion to Trust*; Searle, R.H., Nienaber, A.M.I., Sitkin, S.B., Eds.; Routledge: London, UK, 2018; pp. 129–142.
91. Colquitt, J.A.; Scott, B.A.; LePine, J.A. Trust, trustworthiness, and trust propensity: A meta-analytic test of their unique relationships with risk taking and job performance. *J. Appl. Psychol.* **2007**, *92*, 909–927. [CrossRef] [PubMed]
92. Yu, M.-C.; Mai, Q.; Tsai, S.-B.; Dai, Y. An Empirical Study on the Organizational Trust, Employee-Organization Relationship and Innovative Behavior from the Integrated Perspective of Social Exchange and Organizational Sustainability. *Sustainability* **2018**, *10*, 864. [CrossRef]
93. Oláh, J.; Bai, A.; Karmazin, G.; Balogh, P.; Popp, J. The Role Played by Trust and Its Effect on the Competiveness of Logistics Service Providers in Hungary. *Sustainability* **2017**, *9*, 2303. [CrossRef]
94. Shaghali, R.; Hussin, S.; Siraj, S.; Naimie, Z.; Assadzadeh, F.; Moayed, F. Value creation through trust, decision making and teamwork in educational environment. *Proc. Soc. Behav. Sci.* **2010**, *2*, 255–259. [CrossRef]
95. Szaruga, E.; Skapska, E.; Załoga, E.; Matwiejczuk, W. Trust and Distress Prediction in Modal Shift Potential of Long-Distance Road Freight in Containers: Modeling Approach in Transport Services for Sustainability. *Sustainability* **2018**, *10*, 2370. [CrossRef]
96. Ejdyś, J. Zaufanie do Technologii w e-Adminstracji. [Trust to Technology in an e-Administration], BUT, Białystok, Poland. 2018. Available online: <https://depot.ceon.pl/bitstream/handle/123456789/16069/Zaufanie%20do%20technologii%20w%20e-administracji.pdf> (accessed on 05 March 2019).
97. Pieperhoff, M. The Explanatory Power of Reciprocal Behavior for the Inter-Organizational Exchange Context. *Sustainability* **2018**, *10*, 1850. [CrossRef]
98. Malik, A.; Akhtar, M.N.; Talat, U.; Chang, K. Transformational Changes and Sustainability: From the Perspective of Identity, Trust, Commitment, and Withdrawal. *Sustainability* **2019**, *11*, 3159. [CrossRef]

99. Drucker, P.F. *Innovation and Entrepreneurship: Practice and Principles*; Pan Books: London, UK, 1986; ISBN 9780330294652.
100. Fagerberg, J. Innovation a guide to the literature. In *The Oxford Handbook of Innovation*; Fagerberg, J., Mowery, D.C., Nelson, R.R., Eds.; Oxford University Press: Oxford, UK, 2006; ISBN 9780199286805.
101. Mauri-Castello, J.; Alonso-Gonzalez, A.; Peris-Ortiz, M. Applied Innovation Methodology: A Proposal for a Dynamic Sustainable Environment for the Generation of Innovation and Knowledge Management Practices in SMEs. In *Knowledge, Innovation and Sustainable Development in Organizations*; Peris-Ortiz, M., Ferreira, J., Merigó Lindahl, J., Eds.; Springer: Cham, Switzerland, 2019; pp. 61–71. ISBN 978-3-319-74880-1.
102. Taggar, S. Individual creativity and group ability to utilize individual creative resources: A multilevel model. *Acad. Manag. J.* **2002**, *45*, 315–331. [[CrossRef](#)]
103. West, M.; Hirst, G.; Richter, A.W.; Shipton, H. Twelve steps to heaven: Successfully managing change through developing innovative teams. *Eur. J. Work Organ. Psychol.* **2004**, *13*, 269–299. [[CrossRef](#)]
104. Fay, D.; Shipton, H.; West, M.A.; Patterson, M. Teamwork and organizational innovation: The moderating role of the HRM context. *Creat. Innov. Manag.* **2015**, *24*, 261–277. [[CrossRef](#)]
105. Jørgensen, E.; Becker, K. The role of HRM in facilitating team ambidexterity. *Hum. Resour. Manag. J.* **2017**, *27*, 264–280. [[CrossRef](#)]
106. Lin, C.-H.; Sanders, K. HRM and innovation: A multi-level organisational learning perspective. *Hum. Resour. Manag. J.* **2017**, *27*, 300–317. [[CrossRef](#)]
107. Hoegl, M.; Gemuenden, H.G. Teamwork Quality and the Success of Innovative Projects: A Theoretical Concept and Empirical Evidence. *Organ. Sci.* **2001**, *12*. [[CrossRef](#)]
108. Miron-Spektor, E.; Erez, M.; Naveh, E. The effect of conformist and attentive-to detail members on team innovation: Reconciling the innovation paradox. *Acad. Manag. J.* **2011**, *54*, 740–760. [[CrossRef](#)]
109. Cho, H.; Lee, P.; Shin, C.H. Becoming a Sustainable Organization: Focusing on Process, Administrative Innovation and Human Resource Practices. *Sustainability* **2019**, *11*, 3554. [[CrossRef](#)]
110. Krot, K.; Lewicka, D. *Zaufanie w Organizacji Innowacyjnej*; Beck: Warszawa, Poland, 2016; ISBN 978-83-255-6924-2.
111. Yanadori, Y.; Cui, V. Creating incentives for innovation? The relationship between pay dispersion in R&D groups and firm innovation performance. *Strat. Manag. J.* **2013**, *34*, 1502–1511. [[CrossRef](#)]
112. West, M.A.; Hirst, G. Cooperation and teamwork for innovation. In *International Handbook of Organizational Teamwork and Cooperative Working*; West, M.A., Tjosvold, D., Smith, K.G., Eds.; JohnWiley & Sons: Chichester, UK, 2003; pp. 297–320. ISBN 0-471-48539-X.
113. Seeck, H.; Diehl, M.-R. A literature review on HRM and innovation: Taking stock and future directions. *Int. J. Hum. Resour. Manag.* **2017**, *28*, 913–944. [[CrossRef](#)]
114. Perdomo-Ortiz, J.; González-Benito, J.; Galende, J. An analysis of the relationship between total quality management-based human resource management practices and innovation. *Int. J. Hum. Resour. Manag.* **2009**, *20*, 1191–1218. [[CrossRef](#)]
115. Shipton, H.; West, M.A.; Dawson, J.; Birdi, K.; Patterson, M. HRM as a predictor of innovation. *Hum. Resour. Manag. J.* **2006**, *16*, 3–27. [[CrossRef](#)]
116. Haneda, S.; Ito, K. Organizational and human resource management and innovation: Which management practices are linked to product and/or process innovation? *Res. Policy* **2018**, *47*, 194–208. [[CrossRef](#)]
117. Innovation in the Telecoms Word. Available online: <https://telecomworld.itu.int/blog/innovation-in-the-telecoms-world/> (accessed on 10 May 2019).
118. Dzida, L.; Masłowska, A.; Orzechowska, U.; Piotrowska, J.; Rozkrut, D.; Wegner, M. *Działalność Innowacyjna Przedsiębiorstw w Latach 2010–2012 [Innovative Activity of Enterprises in the Years 2010–2012]*; Warszawa, Poland, 2013; ISSN 2083-2672. Available online: <https://stat.gov.pl/obszary-tematyczne/nauka-i-technika-spolnoczenstwo-informacyjne/nauka-i-technika/dzialalnosc-innowacyjna-przedsiębiorstw-w-latach-2010-2012,2,6.html> (accessed on 12 June 2019).
119. Dmitrowicz-Życka, K.; Konarska-Michalczyk, E.; Malesza, A.; Orczykowska, M.; Orzechowska, U. *Działalność Innowacyjna Przedsiębiorstw w Latach 2015–2017 [Innovative Activity of Enterprises in the Years 2015–2017]*; Warszawa, Szczecin, Poland, 2018; ISSN 2083-2672. Available online: <https://stat.gov.pl/obszary-tematyczne/nauka-i-technika-spolnoczenstwo-informacyjne/nauka-i-technika/dzialalnosc-innowacyjna-przedsiębiorstw-w-latach-2015-2017,2,16.html> (accessed on 12 June 2019).
120. Hair, J.; Black, W.; Babin, B.; Anderson, R. *Multivariate Data Analysis*, 7th ed.; Pearson Education Limited: London, UK, 2014; ISBN 1-292-02190-X.

121. Forret, M.; Love, M.S. Employee justice perceptions and coworker relationships. *Leadersh. Organ. Dev. J.* **2008**, *29*, 248–260. [[CrossRef](#)]
122. Poon, J.M.L. Effects of benevolence, integrity, and ability on trust-in-supervisor. *Empl. Relat.* **2013**, *35*, 396–407. [[CrossRef](#)]
123. Spector, P.E.; Brannick, M.T. Methodological Urban Legends: The Misuse of Statistical Control Variables. *Organ. Res. Methods* **2011**, *14*, 287–305. [[CrossRef](#)]
124. Raykov, T. Estimation of composite reliability for congeneric measures. *Appl. Psychol. Meas.* **1997**, *21*, 173–184. [[CrossRef](#)]
125. Hoelter, J.W. The Analysis of Covariance Structures: Goodness-of-Fit Indices. *Sociol. Methods Res.* **1983**, *11*, 325–344. [[CrossRef](#)]
126. De Dreu, C.K.W. Cooperative Outcome Interdependence, Task Reflexivity, and Team Effectiveness: A Motivated Information Processing Perspective. *J. Appl. Psychol.* **2007**, *92*, 628–638. [[CrossRef](#)] [[PubMed](#)]
127. Schorman, F.D.; Mayer, R.C.; Davis, J.H. An integrative model of organizational trust: Past, present, and future. *Acad. Manag. Rev.* **2007**, *32*, 344–354. [[CrossRef](#)]
128. Chowhan, J. Unpacking the black box: Understanding the relationship between strategy, HRM practices, innovation and organizational performance. *Hum. Resour. Manag. J.* **2016**, *26*, 112–133. [[CrossRef](#)]
129. Zhou, Y.; Hong, Y.; Liu, J. Internal commitment or external collaboration? The impact of human resource management systems on firm innovation and performance. *Hum. Resour. Manag.* **2013**, *52*, 263–288. [[CrossRef](#)]
130. Kessler, I.; Heron, P.; Spilsbury, K. Human resource management innovation in health care: The institutionalisation of new support roles. *Hum. Resour. Manag. J.* **2017**, *27*, 228–245. [[CrossRef](#)]
131. Waheed, A.; Miao, X.; Waheed, S.; Ahmad, N.; Majeed, A. How New HRM Practices, Organizational Innovation, and Innovative Climate Affect the Innovation Performance in the IT Industry: A Moderated-Mediation Analysis. *Sustainability* **2019**, *11*, 621. [[CrossRef](#)]
132. ICT Facts and Figures. 2017. Available online: <https://www.itu.int/en/ITU-D/Statistics/Documents/facts/ICTFactsFigures2017.pdf> (accessed on 15 May 2019).
133. Digital Transformation Initiative Telecommunications Industry, World Economic Forum. 2017. Available online: <http://reports.weforum.org/digital-transformation/wp-content/blogs.dir/94/mp/files/pages/files/dti-telecommunications-industry-white-paper.pdf> (accessed on 15 June 2019).



© 2019 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).