

Article

# Social Facilitators of Specialist Knowledge Dispersion in the Digital Era

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**Abstract:** The digital revolution has triggered disproportions resulting from unequal access to knowledge and various related skills, because the constituting new civilization is based on specific, high-context, and personalized professional knowledge. In response to these dependencies, and in line with the sustainability paradigm, the issue of diffusion of knowledge, especially of the professional type, is of particular importance in eliminating the increasing digital inequalities. Therefore, the main challenge is to stimulate the free dispersion of intellectual workers' knowledge. Their openness and commitment, devoid of opportunistic and knowledge-flow restraining attitudes, are prerequisites for the development of a sustainable society (synonymous with Civilization 5.0 or Humanity 5.0). The article endeavors to verify trust as the leading factor of effective specialist knowledge exchange. Its purpose is to analyze and diagnose the components, enablers, and types of trust that affect the diffusion of specific forms of professional knowledge in different groups of organizational stakeholders treated as knowledge agents. Systematic scientific literature analysis, expert evaluation, and structured questionnaires were used to develop and verify the hypotheses. Direct semistructured individual interviews, focus-group online interviews, computer-assisted telephone interviews, and computer-assisted web interviews were also applied in the paper. The research results confirmed the assumption that reliability-based trust, built on competence-based trust and reinforced by benevolence-based trust, is the foundation of the exchange of professional knowledge. It also supported the hypotheses that this process depends on the group of knowledge agents, the dominant form of trust, as well as its enhancers and types of exchanged knowledge. Conducted explorations constitute a theoretical and practical contribution to the subject of professional knowledge exchange. They fill the research gap regarding vehicles of trust as a factor of specialist knowledge diffusion and provide general, practical guidelines in terms of shaping individual components of competence-, benevolence-, and reliability-based trust due to the type of transferred knowledge and the group of knowledge agents involved in its circulation.

**Keywords:** digital revolution; sustainable management; knowledge transfer; knowledge worker; trust; 5.0 society



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## 1. Introduction

The beginning of the new millennium became the focus of all changes initiated at the end of the last quarter of the 20th century. A new reality occurred, in which different standards of economic activity and different societal rules began to apply. The knowledge-based economy has entered the next phase of development. Evolution from learning economy [1], creative economy [2], and networked economy [3] to the sharing [4], smart [5], and programmable economy [6] has led to the emergence of the digital era of intelligence. Despite these significant changes, knowledge constantly holds the rank of the most valuable resource of contemporary activity [7,8]. It still invariably constitutes the advantage of specific civilizations, economies, enterprises, and employees [9–11]. Significantly, the natural environment of knowledge as a canvas for other intangible resources is the network [12].

It becomes a strategic resource only when it creates value; its multiplication, sharing, and use becomes a source of development. Therefore, it is still undoubtedly these days, as the dominant resource, the foundation of each of the stated subtypes of the knowledge-based economy.

By using intangible resources, people accumulate capital, create social and economic organizations, and catalyze the development of enterprises and entire economies. However, when financial capital and natural resources have become passive factors of production, development and rational use of human resources became the essence of the new reality [13]. Therefore, the basic challenges of the knowledge-based economy include the management of economic processes and effective management of human capital at all levels, forcing efficiency and stimulating evolution and innovation [14,15]. The fundamental characteristic of the new economic era is the prevalent investment in human capital and knowledge workers [16] and in its focal carriers: high technology, industry, knowledge-based services, and education. Consequently, the core of an innovative economy, as a knowledge-based sub-economy, is to stimulate all activities that foster the creation of new solutions applied in new products, technologies, and business processes. Usually, the new solutions stem from knowledge, talent, creativity, and other intangible resources, leading to long-term economic development and increased quality of life [17]. Knowledge has become not only an entry factor, but the main source of employment and wealth creation [18,19]. The knowledge-based economy therefore functions in a peculiar context defined by four mutually reinforcing constituents: the legal and financial environment, innovation systems (which determine the level of innovation in the economy, since they relate to the landscape of the research and development sector, and the number of scientific and technical publications or the number of patents), education and training systems, and information infrastructure [15]. Insufficient development of any of these dimensions significantly impacts growing economic inequalities and often irreversibly differentiates economies, regions, and communities, up to the point of their developmental exclusion.

The consequence of the current shift is the digital transformation. The evolution of economies ushered in a cybernetic, information-network-based space, in which the exchange of information and its processing becomes the basis of all human activity. Thus, a technologically networked information society emerges [20], founded on lifelong learning and creating knowledge, organized in a network [1,12]. Subsequently, the ongoing digital revolution creates a new civilization, known as “knowmad society” [21], based essentially on knowledge workers. The civilization has started to follow the idea of sharing within the framework of cooperation, interdependence, and shared responsibility. The main challenges of human and economic activity have thus become part of the knowledge-network-cooperation triad.

The constituting Society 5.0 is, *inter alia*, the response to the effort of eliminating unfavorable phenomena occurring in the information community. Defined by various synonymous terms, Civilization 5.0, or Humanity 5.0, is a successively emerging global formation. It is the next stage in the development of the population, resulting from and in the context of the ongoing digital revolution. It functions in the cyberspace integrated with the real world, which is based on technology, striving for the general welfare of the global community, intelligent manufacturing, and digital transformation dominated by informationalization. It comprises universal social media, democratized cultural participation, and education to increase information processing skills. Consequently, such a society technically processes more information and does so in a more sophisticated manner [22–24]. Its main development factor is “molecular knowledge” generated using digital learning devices, as well as the pursuit of global sustainable development, which may contribute to the elimination of aggression genes from the human species to strengthen genes conducive to socialization [15]. Hence, the challenge is to design such a lifestyle of Civilization 5.0, which would include ways of working, learning, creating, or cooperating, etc., which would lead to liberation from inequalities and disproportions (especially digital) that result from access to knowledge and various skills related to operating it [25]. The emphasis is

therefore shifting from the particularism of Humanity 4.0 to the joint creation and sharing of value by Humanity 5.0. Efforts shift mainly from the concentration of capital and skills in Society 4.0 to their decentralization in Society 5.0 and to inducing needs, expectations, and values relevant to civilization as a whole [26]. All these activities directly emanate the sustainability paradigm [27,28] and are based on the model of the knowledge-sharing human, who operates on abstracts and ideas, and uses mental models that require leveraging the new knowledge, as well as high agility and adaptability.

In this context, knowledge diffusion becomes of particular importance [29–31], since nowadays, the foundation for competitive advantage is the ability to manage knowledge resources [9,10,32,33], manifested in shaping the competitive position founded on knowledge and its resources [14,34]. This process has gained unique importance both in the global and social aspects. In the social dimension, it is a tool for reducing imbalances, inequalities, and disproportions, as well as an instrument of evolution toward Society 5.0. On the other hand, knowledge dispersion is a component of effective knowledge management in the internal and external relations of the organization. It conditions internal and external stakeholders' resources, skills, and the ability to seek and share knowledge as well as implement it in practice as an integral part of their everyday tasks and learning activities. In particular, it concerns the sharing of specialist knowledge resources, which are rare, usually personalized, tacit, and thus most valuable. These resources most often belong to knowledge workers (professionals, specialists).

Thereby, the role of knowledge is indisputable from the civilizational perspective: eliminating inequalities in the level of and access to knowledge and striving for social balance, which is the essence of Society 5.0. Furthermore, from the organizational and competitive perspective, its advantage is based on knowledge in the era of intelligence, in which the main challenge is the purposeful control of the circulation of the most valuable, i.e., strategic, knowledge. For these reasons, its dispersion should occur on a global scale (social aspect), mesoscale (in network-based cooperative structures characteristic of modern times), and microscale (within specific enterprises).

One of the essential factors impacting the effectiveness of the knowledge-exchange process is trust [35–38], which constitutes the context of knowledge transfer and has a complex and multifaceted nature. Its significance is of particular importance, especially in terms of controlling the flows of professional knowledge because intellectual workers create the inimitable capital of the organization. Since they possess the most valuable, highly contextual, personalized specialist knowledge, their status in enterprises is exceptional and favored [39]. This, in turn, has the result that companies, striving to build critical firm-level intellectual capital that is based on organizational knowledge [40], attempt to catalyze the knowledge management processes that lead to the transformation of the individual knowledge of specialists into an organizational one.

Hence, at the individual level and organizational level, most activities are efforts taken to inspire knowledge workers to exchange their valuable knowledge with other stakeholders voluntarily and trigger converting expert knowledge into mutual knowledge and thus converting individual knowledge into organizational knowledge. For this reason, enterprises also make special efforts to intercept the knowledge of professionals [41–43]. All these premises contribute to the conscious design of organizational knowledge circulation processes, which is not an easy task in practice, especially in the case of knowledge workers as the most important and volatile entities of this process. Therefore, the indicated dependencies prove the necessity to undertake practical exploration of the identified regularities [44], especially because empirical inferences dedicated to various problems of knowledge worker management are still not very popular and common [34]. Nevertheless, the discussion systematically accelerates in the literature on the subject.

This study aims to identify the components of trust as enablers of professional knowledge diffusion and to indicate what elements of trust stimulate the flow of specific types of knowledge between specified groups of knowledge agents. This paper's objective is to contribute toward a deeper understanding of the diffusion of specialist knowledge facilitators

practically and theoretically. First of all, this article fills the existing research gap identified in the literature regarding elements, enhancers, and types of trust as a factor of professional knowledge exchange. Secondly, it formulates practical guides for the formation of trust as a prerequisite for knowledge dispersion due to the type of knowledge exchanged, the group of knowledge agents involved in the circulation, and the identified trust vehicles (enhancers).

The organization of this paper is as follows: Section 2 is the synthesis of the subject literature, the result of which is the formulation of hypotheses, described together with the research procedure in Section 3. Subsequently, this is followed by Section 4 with the results and their discussion. Ultimately, Section 5 is devoted to presenting the conclusions as well as the limitations and directions of future research.

## 2. Literature Review

### 2.1. Knowledge Diffusion as a Process Involving Knowledge

The purpose of knowledge diffusion is the flow of knowledge between the source and recipient. In various studies, the terms knowledge circulation, exchange, transfer, diffusion, dispersion, and spreading have been used interchangeably, but currently, in the subject literature, it is a noticeable pending discussion on determining clear differences in the use of these notions. Generally, it is a process whereby a seeker accesses, learns, and deploys knowledge forwarded by the holder via activities or contacts [45]. It is aimed at providing the exact knowledge content, embedded in the adequate context [30,46,47]. Consequently, it endeavors toward the creation of new knowledge resulting from changes in the initial state of knowledge of its participants.

Knowledge diffusion is influenced by many factors, at both the individual and organizational level. For example, the ability to acquire and use the knowledge of participants involved in knowledge diffusion and the strength of the relationship in which they remain, technological prerequisites for the realization of this process, or managerial support with an appropriate incentive system, as well as organizational culture with cooperation, sharing, and participation as the leading values [42,48–53].

The process is composed by subprocesses, e.g., knowledge acquisition, disclosure, dissemination, and knowledge sharing [54]. Noticeably, knowledge sharing is considered a crucial constituent of knowledge diffusion [8,55,56], as it is an activity that to the greatest extent determines the transformation of individual knowledge into organizational knowledge [38] and therefore still nowadays remains a vast challenge among organizations.

### 2.2. The Role of Knowledge Workers in a Contemporary Organization

Most often, in the literature on the subject, Drucker is considered the precursor of the concept of the knowledge worker. Through his work, he used and popularized the idea of key intellectual employees as the most precious asset of modern enterprise. He first took up the considerations dedicated to new employees in his influential paper “Management and the Professional Employee” [57] and then developed the concept in subsequent works [41,58]. According to Lee and Lim [59], the knowledge worker possesses theoretical, factual, and practical knowledge, tends to generate, diffuse, and reuse all types of knowledge in his day-to-day work, and can deal with complex problems, to indicate, obtain, recall, and spread information to acquire and expand his knowledge. Thus, the creation, transfer, and practical use of knowledge are among the core tasks of professionals’ work. Indeed, their mission is to be innovative and to modify information into knowledge [60] or to create knowledge-based products (usually in the form of projects) [61]. Therefore, in their case, it is necessary to have a high level of professional knowledge, built on an advanced degree and extensive experience [62]. Hence, they are called “cognitive workers” [63] or “deep smarts” [43] and are included in the group based on formal higher education [44]. Cognitive workers profess continuous learning [64], and they use their knowledge as input to obtain a valuable and tradeable intellectual product output [44]. Consequently, their knowledge is impenetrable, distinctive, and nonsubstitutable, and most of their naturally

tacit skills are difficult to normalize [39]. Indeed, their work is expert [65] and is mostly unpredictable, multidisciplinary, creative, non-repetitive, and nonroutine [62,64,66–68]. Indisputably, they are the core of a contemporary enterprise's personnel [69–71], and they can occupy a variety of positions and functions in organizations. However, at the same time, they live an “informal way of life” and do not have to be strongly and unequivocally tied to a specific enterprise [61,62,65,68].

In the literature on the subject, there are many proposals to define knowledge workers and to capture the essence of their work. The discourse on this issue is still pending [39,72]. Literature offers three different points of view explaining what a knowledge worker is: the data-driven, job-content, and the conceptual approach [73]. It is also stated that they are a heterogeneous group [71]. For this reason, cognitive workers are multifariously classified. For instance, we can come across a typology in which three groups of experts have been distinguished: independent or organizational professions, and knowledge workers [39,74], whether to find a classification that indicates knowledge workers or data workers [59]. However, we can detect in the literature a common view that they create specific, variously named cohorts [75–77] of digital nomads [78].

Knowledge workers are the most valuable and at the same time the most peculiar component of a contemporary organization's human capital, and supporting their productivity is the main challenge for contemporary management [41,67,76,79]. Their behaviors and attitudes are specific; therefore, they should be managed in a unique and sophisticated manner [62,64], and it is worth investigating the fundamental aspects of their social and organizational activities. In return, effective and efficient actions taken by managers, correlated mainly with the knowledge management processes in the organization [70] and with the designing of the ideal knowledge environment that forms the preferred optimal comfort zone [39,44,60,79], should result in a strong individual job engagement of knowledge workers [71] and their high commitment in supporting an organization's long-term competitive advantage [76]. A manifestation of their pro-organizational attitude should be conscious and responsible participation in the process of knowledge dispersion.

### *2.3. Trust as an Enabler of Professional Knowledge Exchange*

The process of knowledge diffusion among professionals is unique because fundamentally their knowledge is specific and their activities and manners are exceptional. Commonly, knowledge workers tend to set up hermetic informal communities of practice and treat their valuable knowledge [8] as the base of power [79]. They are typically convinced that it is not natural to share knowledge voluntarily [80], and they are reluctant to spontaneously and willingly spread their knowledge [68]. Moreover, sometimes professionals take actions to control and limit the flow of knowledge, and they even intentionally hide or at least hoard or withhold it [80,81]. For this reason, in the case of knowledge workers, the biggest challenge of knowledge diffusion is its reciprocal circulation [53] between professionals and other external and internal organizational stakeholders.

Trust is the adhesive and catalyst of all relationships based on social exchange [82]. It significantly determinates the effectiveness of knowledge sharing at the individual level [83–85], stimulates the involvement of employees in working for common good [86], and leads to the decrease of opportunistic behavior [87,88]. Trust is also perceived as a catalyst when managing an uncertain, complex, risky, i.e., turbulent environment in the knowledge-based economy [38,89,90]. In that case, it is an integral element of an innovative economy [17,54,91]; in the structure of which, important factors are talent, tolerance, technology, and relations. Therefore, the conclusion is that cooperation, trust, and sharing knowledge create a system of connected vessels; each of these elements depends on the others and affects the level of other components [92]. Moreover, Ortiz, Donate, and Guadamillas [93] inferred that building trust is important to take full advantage of strong network links. Consequently, the high level of trust is conditioned by numerous professional relationships and cooperation networks, which enable breaking functional and hierarchical dependencies. This stimulates the permanent exchange of valuable ideas [94].

Trust also facilitates the forming of a knowledge-centered culture in an organization [37,95], because it contributes to the emergence of an informal code of interaction and common mental models inspiring employees to digital learning by systematic, deliberate negation of existing solutions and suggesting new ones [55,82,94], and eliminates employees' doubts related to the loss of position, status, and usefulness in connection with the unlimited transmission of their knowledge [68,96].

Thereby, in the new civilization of the digital era, the basis of which is formed by networked postindustrial societies, trust may be perceived as an emanation of social solidarity [97]. Therefore, in the case of knowledge workers, the contexts of trust and mutuality are the most important [36,98,99], because these components affect their active participation in the process of knowledge exchange. These elements strongly feature commitment, mutual care, interrelationship, and equality [48] and trigger a solid relationship between the organization and knowledge workers [68]. Then, they incline to spread their inimitable knowledge and incorporate this form of individual knowledge into an organizational one, manifesting an attitude of openness in terms of professional knowledge diffusion beyond one's hermetic community.

Trust was concisely defined in the subject literature as "willingness to rely on an exchange partner in whom one has confidence" [100]. According to the commonly known approach, trust is a psychological state based upon positive expectations of the intentions of the honorable behavior of another party reflecting the willingness to accept one's own vulnerability [90,101]. In the context of knowledge-exchange processes, trust can be understood as "the belief in and reliance on one party (i.e., a trustor) who is consistent, competent, honest, and willing to open when they desire to share knowledge" [11]. It can take the formula of trust at the individual level (interpersonal trust) or be considered in terms of an institutional/organizational level (impersonal trust) [38].

At an interpersonal level, trust can take two dimensions: affect-based or cognition-based [102]. Cognition-based trust has a rational foundation resulting from the belief in the partner's competence and professionalism. It is an emanation of the expectation that the partner is, and will act responsibly and reliably in the future [103]. Affect-based trust has an emotional background, depends on goodwill, and is shaped *ex ante* [104]. It is built on social connectedness, open communication, honesty, good intentions, positive past interactions, and perceptions of shared identities [105].

In the context of knowledge workers, trust is necessary for their involvement. It can shape their attitudes in the workplace and stimulate their productivity [36,68,106]. It is of exceptional importance in the affective dimension because it determines the openness of the relations of specialists, allowing them to freely share ideas, talk about the difficulties, and build social commitment. However, it also requires an informal network of connections—it is formed in exchange processes.

Trust in the perspective of cognitive workers can be analyzed in terms of a three-element model on which interpersonal trust is founded. These dimensions can be selected, such as benevolence-based trust, founded on mutual care and mutual interest in cocreating knowledge, and competence-based trust, based on reliability, trustworthiness, and integrity of a colleague [36,90].

To build benevolence-based trust, factors such as sensitivity and strong bonds are important, because they guarantee that the behavior of partners is free from opportunism and egocentrism and is focused on mutual kindness, support, and help [84,107–109]. The elements that contribute to competence-based trust are common language, joint vision, recurring patterns of interactions, and discretion [82], because this type of trust refers to the relationship in which an individual is convinced that the partner's knowledge is relevant, expert, and significant [38,105,107,108]. Noticeably, in some situations, both types of trust can be entirely autonomous, but usually, they reinforce each other. The third component of the model is reliability-related trust, which reflects the set of principles acceptable to the trustor and implies assumptions about the partner's truthfulness and keeping promises [38,107].

Research results available in the literature on the subject specify a specialist's predisposition as a trustworthy person in the process of knowledge exchange [99]. They point out that the previous behavior of the people involved in knowledge sharing, and of the group of their associates, directly impacts the level of communicative openness toward them. Moreover, the length of interactions positively impacts the scope of knowledge sharing, while the frequency of interactions does not affect the knowledge flow—the quality of interactions is dominant, as is the predictability of the specialist's behavior. The level of trust toward the knowledge-exchange process participant is lowered by superficial personal and professional interactions, as does cooperation in a single organizational space.

From the perspective of professional knowledge diffusion, all forms of trust seem to play an equally important role, because knowledge exchange among specialists is possible only when the recipient of the knowledge perceives the individual who is the source of knowledge as both benevolent and competent. This guarantees feedback, which motivates the professional to communicate openly.

### 3. Materials and Methods

The IT sector, dominated by services and based on information and knowledge, is recognized as an emanation of the knowledge-based economy [70,77,110]. In this sector, the main source of sustainable competitive advantage is the specialist knowledge of highly qualified experts (professionals) understood as knowledge workers [48,59,64,67,70,72]. Hence, its main attribute is the high demand for specialist employees whose knowledge is the foundation for both the competitiveness of both the individual and the organization for which the individual works. Consequently, the major challenge is effectively managing the diffusion of knowledge of key intellectual employees, leading to the expansion of highly contextual, unique, and personalized individual knowledge into organizational knowledge. For these reasons, empirical research was conducted to identify the impact of individual components that constitute the trust of professionals in the context of diffusion of their knowledge. Even more so, most of the findings concerning the components and vehicles of trust of knowledge workers are the outcomes of narrow-scope research [36,68,70,101,106,111]. The adopted perspective was that of the individual level of interpersonal trust of a knowledge worker as a knowledge agent.

The following hypotheses were formulated:

**Hypothesis 1.** *In the different groups of knowledge agents involved in the knowledge diffusion process, other components of trust are important.*

**Hypothesis 2.** *Trust has the greatest impact on the diffusion of knowledge between professionals.*

**Hypothesis 3.** *Among the two components of trust, i.e., relational capital and individual motivation, it is relational capital that determines the dispersion of expert knowledge to a greater extent.*

**Hypothesis 4.** *The main type of trust shaping the exchange of specialist knowledge is trust based on competencies.*

**Hypothesis 5.** *Particular components of trust affect the dispersion of specific types of knowledge to a varying extent.*

Thus, the presented theoretical assumptions implied specific questions and thus research tasks, i.e., to answer the following:

- what types of trust are the most important in the case of knowledge agents involved in professional knowledge diffusion,
- which vehicles of trust have the greatest impact on the circulation of certain types of knowledge,

- what components build trust in professional knowledge diffusion and the knowledge transfer between specialists and other employees and cooperators.

Triangulation was used to examine the formulated assumptions to find answers to the research questions posed. In these circumstances, quantitative research was required to verify the results of qualitative research to confirm the relationships between the data gained in both types of exploration [112,113]. Thus designed research procedure was in line with the recommendation of Tsai [48], who points out that knowledge management scientists combining quantitative and qualitative methodologies allows conducting in-depth and broad explorations in the knowledge-intensive context across different industries. The aim was to use the advantages of qualitative methods, supplemented by quantitative methods, to fully capture the peculiarities of the environment of key intellectual employees of the IT sector in Poland, with the intention of deriving theoretical scientific generalizations and practical guidelines for managers. This was possible only by focusing on one specific, deliberately selected group of respondents [114]. Therefore, in the quantitative research, the knowledge workers' perspective was used as the reference point.

A three-stage data collection research procedure was adopted (Figure 1): conceptualization, verification, and main research. Firstly, the direct semistructured individual interview was applied, with the interview scenario as the research tool. Secondly, focus-group online interviews (FGIO) were led. Five people participated in each focus on the respective dimension of knowledge diffusion (a. between professionals, b. between specialists and other employees, and c. between knowledge workers and external stakeholders). The purpose of the first two stages was to identify types, components, and vehicles of trust seen as the major enabler for dispersing specialists' knowledge. The starting point was the selection of types of professional knowledge treated as subject to circulation. The obtained results and conclusions drawn were the groundwork for the survey questionnaire. Finally, quantitative research was supported to test the research hypotheses. The computer-assisted telephone interview (CATI) and the computer-assisted web interview (CAWI) were applied. The study questionnaire included 33 questions and was built on a 7-point Likert scale. In spring 2020, 397 research inquiries were addressed to potential respondents. Finally, 105 fully completed surveys were gained. As a consequence, 437 diverse, single variables were obtained referring to the specificity, conditions, determinants, and routines of professional knowledge diffusion in the IT sector in Poland.

The characteristics and structure of the research sample are presented in Table 1. The respondents were undoubtedly professionals. All of them fit into the well-known in the subject literature Reed's typology of key intellectual workers [30,65]; according to that, we identify knowledge workers (e.g., IT specialists—in the case of respondents participating in the study: specialists) and organizational professionals (e.g., managers and administrators—in the case of the respondents: managers, directors and board members). Interviewed knowledge workers have higher education (93.3%) and a degree mainly in economics and administration (60%), IT (29.5%), and engineering (10.5%). They belong to three generations of employees—essentially, they are the representatives of the X generation (74.3%), Y (22.85%), and Z (2.85%). Most of them, with an average seniority of 17 years, hold a stable and established professional position in the organization (46.67% specialists, 23.81% managers, 19.05% directors, and 10.47% board members). They are generally hired under a permanent employment contract (77.1%).

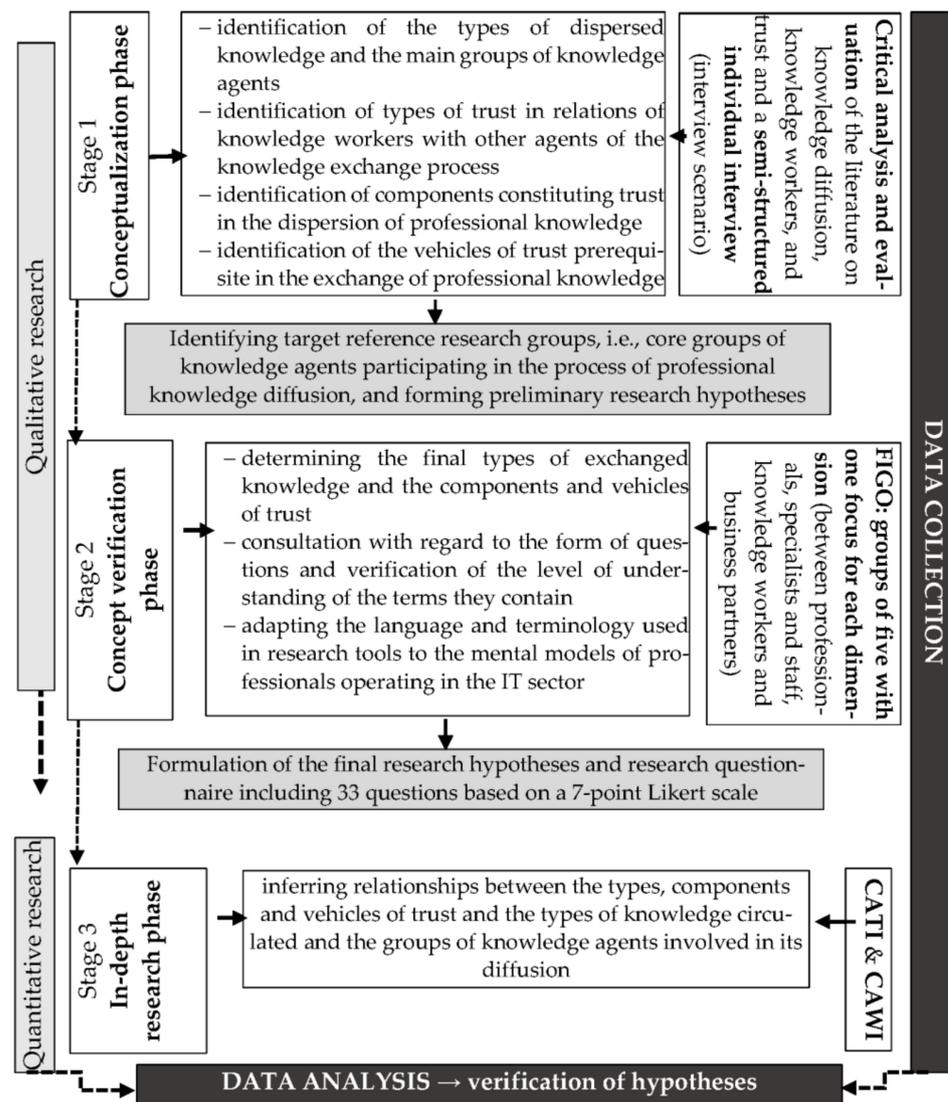


Figure 1. Research conceptualization (research procedure).

To inspect the relationship between the analyzed data, a nonparametric equivalent of the Pearson's linear correlation coefficient was used. Spearman's rank-order correlation coefficient ( $r_s$ ) was chosen, because it is suitable for variables measured on the ordinal scale. Spearman's rank-order correlation coefficient is calculated according to the formula [115]:

$$r_s = 1 - \frac{6 \sum_{i=1}^n d_i^2}{n(n^2 - 1)},$$

where  $d_i$  ( $i = 1, 2, \dots, n$ ) are rank differences  $x_i$  and  $y_i$ ;  $d_i = R(x_i) - R(y_i)$ .

To verify the hypothesis about the existence of relationships between the variables, a suitable test of significance for Spearman's rank-order correlation coefficient was applied. The null hypothesis assumes no relationship between the variables ( $H_0 : \rho_s = 0$ ). The alternative hypothesis, in turn, assumes the existence of a relationship between the studied variables  $s$  ( $H_1 : \rho_s \neq 0$ ). The test statistic is calculated according to the formula:

$$Z = r_s \sqrt{n - 1}$$

Rejection of the null hypothesis at the significance level of  $\alpha = 0.05$  allows the statement of the existence of significant relationships between the studied variables to be accepted.

**Table 1.** Respondent characteristics.

Demographic Characteristic	Frequency	(%)
Gender		
Female	18	17.14
Male	87	82.86
Age, date of birth, employee generation		
55–41; 1965–1979; X Generation	78	74.29
40–31; 1980–1989; Y Generation	24	22.85
30<; 1990–; Z Generation	3	2.86
Education/Qualification		
Secondary school	1	0.95
Bachelor's degree	6	5.71
Higher education/degree	98	93.34
Education profile		
Economics and administration	63	60.00
IT	31	29.52
Engineering	11	10.48
Years of experience		
3–5	4	3.81
6–10	12	11.43
11–15	13	12.38
16–20	48	45.71
21–25	26	24.76
26–30	2	1.91
Total number of jobs		
1–3	34	32.38
4–6	69	65.72
7–9	1	0.95
10>	1	0.95
Tenure in present organization		
<2 years	10	9.52
3–5 years	66	62.86
6–10 years	18	17.15
11–15 years	6	5.71
16–20 years	4	3.81
21–25 years	1	0.95
Job title/position titles		
Specialist	49	46.67
Manager	25	23.81
Director	20	19.05
Board member	11	10.47
Current form of employment		
Permanent employment contract	81	77.14
Managerial contract	12	11.43
Contract of commission	3	2.86
Self-employed	8	7.62
Fixed-term contract	1	0.95
Total	105	100

#### 4. Research Results

The obtained results enabled an empirical verification model of knowledge circulation among intellectual workers in the context of trust, especially in terms of groups of recipients of the exchanged knowledge, elements and vehicles of trust, and the types of circulated knowledge. The determinants included in the model are individual motivation (as a resultant of reputation and altruism) and relational capital (built through reciprocity and obligation), wherein reciprocity is treated as an attitude, demonstrated by the members of the community who mutually and disinterestedly help each other in their efforts, expecting reciprocity: favors, support, goodwill, and availability [116] (Table 2).

**Table 2.** The components of trust that are important in particular groups of knowledge agents participating in its diffusion.

Component of		Between Specialists	Professional and the Staff	Key Employees and Business Partners
Relational capital	average	77.87%	28.81%	64.28%
mutual trust and respect of community members	mutual commitment	95.29%	42.86%	82.86%
mutual support in achieving the goals		91.43%	30.48%	80.00%
reciprocity and citizenship behavior	reciprocity	90.48%	20.00%	63.81%
expectation of a returned favor		34.29%	21.90%	30.48%
Individual motivation	average	69.52%	30.00%	36.42%
satisfaction from helping others	altruism	30.48%	14.29%	20.95%
altruism based on building own knowledge resources		76.19%	19.05%	26.67%
individual needs of recognition, acceptance, and prestige	reputation	82.86%	60.00%	32.38%
building the prestige of one's group		88.57%	26.67%	65.71%

To expand the scope of exploration, efforts were made to identify the key type of trust in managing the knowledge transfer of intellectual employees in the IT sector. Therefore, an attempt was made to identify the components of competence-, benevolence-, and reliability-based trust, which are most important in the opinion of the surveyed professionals. In the case of competence-based trust, a common language, common goals and vision, discretion, and competences were identified as its carriers. Regarding benevolence-based trust, the following enhancers were distinguished: sensitivity-active listening, frequency of contacts, and quality of relationship between knowledge agents. When it comes to the reliability-related trust, its catalysts were: partner's credibility, way of imparting knowledge, showing interest to others, keeping promises, and responsibility (Table 3).

**Table 3.** Types of trust and their vehicles, which are important in the circulation of professional knowledge in various groups of knowledge-exchange agents.

Component of Trust	Type of Trust	Between Specialists	Professionals and the Staff	Key Employees and Business Partners	Average
common language	competence based trust	88.57%	30.48%	13.33%	44.12%
common goals and vision		93.33%	30.48%	20.95%	48.25%
discretion		86.67%	84.76%	82.86%	84.76%
competences: knowledge, skills, attributes, and attitudes		94.29%	87.62%	77.14%	86.35%
	average	90.71%	58.33%	48.57%	65.87%
sensitivity-active listening	benevolence based trust	91.43%	80.95%	74.29%	82.22%
frequency of contacts		29.52%	22.86%	10.48%	20.95%
quality of the relationship between the parties		52.38%	38.10%	33.33%	41.27%
	average	57.78%	47.30%	39.37%	48.15%
credibility of the partner	reliability related trust	97.14%	46.67%	37.14%	60.32%
way of imparting knowledge, showing interest to others		92.38%	71.43%	28.57%	64.13%
keeping promises, responsibility		97.14%	93.33%	84.76%	91.74%
	average	95.55%	70.48%	50.16%	72.06%

Next, relationships between the type of knowledge and the individual components of trust were sought. These elements were seen more in terms of vehicles, indicators, and external catalysts of trust than its genuine components. For this purpose, the types of knowledge were selected (know-how, know-who, know-what, know-why, know-when, know-where, tacit, explicit, personalized, and codified) [117–119]. The research was carried out in three dimensions related to the distinguished groups of knowledge agents. Therefore, the inferences were conducted among knowledge workers (Table 4), as well as between intellectual workers and other personnel of the organization for which the specialists perform (Table 5), and between professionals and business partners of cooperating organizations (Table 6).

**Table 4.** Spearman's rank correlation matrix for the variables of knowledge type and enhancers of trust in knowledge diffusion between specialists.

Component of Trust/Type of Knowledge	Type of Trust	Know-How	Know-Who	Know-What	Know-Why	Know-When	Know-Where	Personalized	Tacit	Explicit	Codified
common language	competence based trust	0.3696 *	0.4482 *	0.6432 *	0.4593 *	0.4539 *	0.5694 *	0.5138 *	0.3715 *	−0.0817	−0.2550 *
common goals and vision		0.3445 *	0.3096 *	0.4929 *	0.4160 *	0.3833 *	0.4806 *	0.4612 *	0.3574 *	−0.1849	−0.2661 *
discretion		0.4038 *	0.4839 *	0.6710 *	0.4455 *	0.4416 *	0.5593 *	0.4710 *	0.3562 *	−0.0883	−0.2692 *
competences: knowledge, skills, attributes, and attitudes		0.4125 *	0.4140 *	0.5140 *	0.4440 *	0.2887 *	0.4756 *	0.4125 *	0.4442 *	−0.1702	−0.3355 *
sensitivity-active listening	benevolence based trust	−0.0660	−0.1402	0.0620	−0.0291	0.4274 *	−0.1469	−0.0469	−0.1929 *	0.4916 *	0.4496 *
frequency of contacts		−0.6550 *	−0.7257 *	−0.6017 *	−0.4946 *	−0.0017	−0.6130 *	−0.4754 *	−0.5228 *	0.6598 *	0.7515 *
quality of the relationships between the parties		−0.5360 *	−0.5625 *	−0.4277 *	−0.4462 *	0.1746	−0.4520 *	−0.4056 *	−0.4503 *	0.6648 *	0.7244 *
credibility of the partner	reliability related trust	0.2524 *	0.2218 *	0.4704 *	0.3652 *	0.3368 *	0.4501 *	0.3883 *	0.3299 *	−0.0879	−0.1673
way of imparting knowledge, showing interest to others		0.3886 *	0.3952 *	0.5323 *	0.4812 *	0.2656 *	0.5834 *	0.4908 *	0.4690 *	−0.2162 *	−0.2805 *
keeping promises, responsibility		0.3595 *	0.3566 *	0.5211 *	0.4884 *	0.3474 *	0.5249 *	0.4310 *	0.4114 *	−0.0751	−0.1905

\*  $p < 0.05$ .

**Table 5.** Spearman's rank correlation matrix for the variables of knowledge type and the vehicles of trust in knowledge diffusion between professionals and personnel.

Element of Trust/Type of Knowledge	Type of Trust	Know-How	Know-Who	Know-What	Know-Why	Know-When	Know-Where	Personalized	Tacit	Explicit	Codified
common language	competence based trust	−0.3598 *	−0.4748 *	−0.3736 *	−0.3086 *	0.0378	−0.2328 *	−0.2389 *	−0.1894	0.3002 *	0.4365 *
common goals and vision		−0.2035 *	−0.3369 *	−0.2688 *	−0.0243	−0.0633	−0.0634	−0.0990	0.0097	0.0866	0.1044
discretion		0.4896 *	0.5307 *	0.5945 *	0.4827 *	0.4410 *	0.6896 *	0.5266 *	0.4247 *	−0.2304 *	−0.3463 *
competences: knowledge, skills, attributes, and attitudes	benevolence based trust	0.1530	0.1419	0.1495	0.2553 *	0.1108	0.2304 *	0.1154	0.0316	−0.2551 *	−0.2563 *
sensitivity-active listening		0.5043 *	0.5118 *	0.5605 *	0.5513 *	0.1826	0.6169 *	0.5404 *	0.5091 *	−0.4380 *	−0.5382 *
frequency of contacts		−0.5139 *	−0.6414 *	−0.6323 *	−0.4455 *	−0.1429	−0.5433 *	−0.5249 *	−0.3244 *	0.4954 *	0.6226 *
quality of the relationships between the parties	reliability related trust	−0.5384 *	−0.6151 *	−0.5263 *	−0.3436 *	−0.0304	−0.3799 *	−0.3673 *	−0.2644 *	0.5312 *	0.5706 *
credibility of the partner		−0.5239 *	−0.5622 *	−0.4570 *	−0.3354 *	−0.0748	−0.4882 *	−0.4654 *	−0.3155 *	0.5710 *	0.5952 *
way of imparting knowledge, showing interest to others	reliability related trust	−0.2033 *	−0.2596 *	−0.1543	−0.1057	−0.2936 *	−0.2477 *	−0.2644 *	−0.1529	0.0959	0.0780
keeping promises, responsibility		0.0397	0.0614	0.0318	−0.0285	−0.0634	0.0308	−0.1027	−0.0898	−0.0418	−0.0686

\*  $p < 0.05$ .

**Table 6.** Spearman's rank correlation matrix for the variables of the knowledge types and enhancers of trust in knowledge diffusion between specialists and partners.

Component of Trust/Type of Knowledge	Type of Trust	Know-How	Know-Who	Know-What	Know-Why	Know-When	Know-Where	Personalized	Tacit	Explicit	Codified
common language	competence based trust	−0.2092 *	−0.2907 *	−0.1441	−0.0118	0.1652	−0.0856	−0.1046	−0.0310	0.2779 *	0.3128 *
common goals and vision		−0.2706 *	−0.3757 *	−0.2195 *	−0.0769	0.0820	−0.1192	−0.0792	−0.0578	0.2758 *	0.3201 *
discretion		0.3929 *	0.3220 *	0.4041 *	0.3430 *	0.3265 *	0.4013 *	0.4153 *	0.4431 *	−0.2080 *	−0.3140 *
competences: knowledge, skills, attributes, and attitudes		0.5867 *	0.5335 *	0.5649 *	0.6012 *	0.2625 *	0.6145 *	0.5021 *	0.4433 *	−0.4134 *	−0.5039 *
sensitivity-active listening	benevolence based trust	0.0974	0.0377	0.1938 *	0.2669 *	0.2594 *	0.1783	0.2289 *	0.2500 *	0.0891	0.0205
frequency of contacts		−0.5546 *	−0.6579 *	−0.6110 *	−0.3457 *	−0.0538	−0.3829 *	−0.3965 *	−0.2271 *	0.4563 *	0.5312 *
quality of the relationships between the parties		−0.4333 *	−0.5628 *	−0.4651 *	−0.2789 *	0.0918	−0.2376 *	−0.2057 *	−0.0265	0.4523 *	0.4906 *
credibility of the partner	reliability related trust	−0.3787 *	−0.4708 *	−0.3626 *	−0.2038 *	0.1065	−0.3455 *	−0.2917 *	−0.2518 *	0.4171 *	0.4751 *
way of imparting knowledge, showing interest to others		0.1256	0.0831	0.2260 *	0.3319 *	0.0135	0.1991 *	0.2914 *	0.2637 *	−0.1994 *	−0.3084 *
keeping promises, responsibility		0.5326 *	0.4649 *	0.4824 *	0.3997 *	0.2305 *	0.5499 *	0.4030 *	0.3813 *	−0.3859 *	−0.5114 *

\*  $p < 0.05$ .

## 5. Discussion

Through their answers, the respondents proved that knowledge diffusion runs more smoothly within the groups of specialists (Table 2). This is where the strength of internal motivation (average: 69.52%) and relational capital (average: 77.87%) is much greater. What was inspiring was partial responses; it turned out that building the prestige of one's group is essential, both in the case of knowledge distribution among intellectual workers (88.57% of responses) and knowledge dispersion in contact with cooperators (65.71% of responses). On the other hand, what is relatively insignificant is the expectation of rematch and mutual favor (specialists—34.29%, personnel—21.9%) and the altruistic attitude, i.e., satisfaction with the fact that knowledge is useful (professionals—30.48%, other employees—14.29%). Specialists also do not rely on feedback (the belief that the more one gives, the more one receives, building one's knowledge resources) when exchanging knowledge both with the personnel of their organization (19.05%) and with external stakeholders (26.67% of responses). However, it is essential for them in the case of knowledge transfer among their own groups (76.19% of responses). This could mean that in knowledge transfer, professionals treat this process one-sidedly, noticing and allowing the principle of reciprocity only in contact with similar agents of knowledge. They remain oriented on the mutual knowledge diffusion only within their own hermetic groups, while in the transfer of knowledge to other groups, they focus on disclosing it, deriving satisfaction from the fact that their knowledge is useful, and building the prestige of their cohort. Relational capital is therefore more important in the circulation of knowledge among specialists (average: 77.87%) and between knowledge workers and cooperators (64.28%). On the other hand, in the knowledge transfer between professionals and personnel, individual motivation is more important (average: 30.00%), superseding relational capital (average: 28.81%).

The obtained results, presented in Table 3, can be reduced to the following generalizations:

- The results confirmed the strength of reliability-based trust and competences in relations based on knowledge transfer in each group of knowledge agents. The greatest importance in all categories of knowledge-exchange relationship between participants is trustworthiness—responsibility is a component of reliability-based trust,
- In the diffusion of professional knowledge, equally high results were attained for the credibility of the process partner (97.14%), which suggests that in these configurations, knowledge workers are focused on acquiring knowledge. This could prove the one-sidedness of knowledge dispersion processes in other systems; such interpretations are also confirmed by high indications for active listening (91.43%), knowledge transfer (92.38%), and common goals and vision (93.33%), proving the reciprocity of the knowledge-exchange processes,
- The quality of relations (52.38%) is essential in the circulation of knowledge between specialists, compared to other groups of knowledge agents. This is another proof that full knowledge diffusion occurs only in these groups; in other configurations, professionals focus only on spreading knowledge, i.e., the disclosure and dissemination subprocesses,
- For all groups of knowledge agents, discretion is important, and in the exchange of knowledge with cooperators (82.86%), even more important than competence (77.14%); in such systems, the confidentiality of relations is dominant,
- In all categories of knowledge agents, sensitivity is also important, and strong ties are not measured by the frequency of contacts. The responses prove the strength of the quality of the relationship rather than its frequency, especially in the era of remote work and virtualization of all contacts. Thus, similar findings made by Ensign and Hébert [87] based on empirical research were confirmed.

The study of the correlation between individual elements (i.e., vehicles, catalysts, and enhancers) of trust and the types of knowledge transferred confirmed the existence of only a few dependencies (Tables 4–6). Therefore, the paper omitted the discussion of the

entire data presented in the correlation matrix, focusing only on those relationships that are statistically significant ( $p < 0.05$ ).

In the exchange of professional knowledge (Table 4), a common language (0.5694) and showing interest in others (0.5834) stimulate the flow of know-where, which could suggest the relationship that benevolence-based trust contributes more to locating knowledge resources than strictly its diffusion. The frequency and quality of contacts affect the distribution of explicit and codified knowledge. Spearman's rank correlation coefficient for the frequency of contacts and explicit knowledge is 0.6598, and for codified knowledge, it is 0.7515. In turn, Spearman's rank correlation coefficient for the quality of contact and explicit knowledge is 0.6648, and for codified knowledge, it is 0.7244. Benevolence-based trust strengthens the diffusion of this type of knowledge, but it is easily accessible, low contextual, and, thus, the least valuable knowledge.

The strong negative correlation between the frequency of contacts and the quality of the relationship in the case of the key types of knowledge: know-how (respectively,  $-0.6550$ ;  $-0.5360$ ) and know-who ( $-0.7257$ ;  $-0.5625$ ) is noteworthy. Similar interrelationships were also found in the case of knowledge circulation between intellectual workers and personnel (know-how:  $-0.5546$ , know-who:  $-0.6579$ ). Such results can explain the actions and attitudes of professionals; in the case of valuable knowledge, they consciously apply the protection strategies, representing the belief that knowledge is power. The quality of relations and frequency of contacts strengthen their conservatism and caution as well as opportunistic behavior. Thus, the diffusion of the most valuable knowledge could be more effective in incidental, unplanned, and spontaneous contacts, when the professionals unknowingly apply no restrictive internal control mechanisms.

In the dispersion of knowledge between specialists and personnel (Table 5), the relationship between responsibility and competence in the case of know-how (respectively, 0.5326; 0.5867), know-who (0.4649; 0.5335), and know-where (0.5499; 0.6145) is important. Once again, this confirms the importance of reliability- and competence-based trust as foundations for knowledge exchange in this configuration of its agents.

In the context of professional knowledge transfer within relations with the organization's business partners (Table 6), high-correlation coefficients are found in the discretion of the know-who flow (0.5307), know-what (0.5945), know-where (0.6896), and tacit knowledge (0.5266). As a component of benevolence-based trust, active listening impacts the diffusion of know-who (0.5118), know-what (0.5605), know-why (0.53313), know-where (0.6169), and the most valuable forms of knowledge: tacit (0.5404) and personalized (0.5091). The quality of the relationship and credibility affect the diffusion of explicit (respectively, 0.5312; 0.5710) and codified (0.5706; 0.5952) knowledge. The frequency of contacts and the quality of the relationship negatively correlate with the exchange of know-how ( $-0.5139$ ;  $-0.5384$ ) and know-who ( $-0.6414$ ;  $-0.6151$ ), similarly to other knowledge agent systems.

To sum up, regardless of the group of knowledge agents participating in the knowledge exchange, the transfer stimulates the following components of trust (Table 3): keeping promises, responsibility (91.74% of responses), competence (86.35%), discretion (84.76%), sensitivity and active listening (82.22%), and the way of passing knowledge and showing interest to others (64.13%). The remaining components obtained from 10.48% to 46.67% of responses (average of indicators from 20.95% to 60.32%). The obtained results confirm the belief that reliability-based trust is the basis for the diffusion of professional knowledge (72.06%) and its foundation: competence-based trust (65.87%). It is only on these foundations that benevolence-based trust can develop as a function of relationships over time. As Holste and Fields [36] proved in their research, benevolence-based trust influences the willingness to share knowledge, and competence-based trust influences the willingness to use it. Reliability-related trust, in turn, is an enhancer of all subprocesses that constitute professional knowledge diffusion.

## 6. Conclusions

The study was aimed at determining whether trust is important in the exchange of knowledge of professionals. An attempt was made to analyze the individual components constituting trust in the diffusion of strategically valuable specialist knowledge from the perspective of the groups of knowledge agents involved in this process and the types of knowledge transferred.

It has been found that the diffusion of knowledge is smoother between professionals. Both the degree of individual motivation and relational capital are highest in the hermetic circle of specialists. Therefore, building the prestige of one's group is substantial in knowledge circulation among specialists and between intellectual workers and their business partners. A significant fact was also discovered that the closed, esoteric groups of intellectual workers are more cohesive and reach beyond their domestic organizations, expanding their circles to external stakeholders, i.e., business partners, creating a society-knowledge community of corporate nomads. What distinguishes the partners is mainly their affiliation with the "caste" of knowledge workers, i.e., professionals and experts. For this reason, rematch and mutual favor are vital only in the knowledge transfer between cognitive workers. Regardless of their domicile, interactions between specialists are mostly based on a knowledge-based trust identified by Lewicki et al. [103], i.e., a level of acquaintance so close that it allows predicting behavior. Comparatively, relational capital is more essential than individual motivation in the circulation of knowledge among specialists and between intellectual workers and their cooperators. The reverse is true for the diffusion of knowledge between professionals and personnel. Such observations contribute to the confirmation of H3.

In each of the identified types of relationships (with other specialists, personnel, and cooperators), the foundation for the exchange of professional knowledge is reliability-based trust, built on the competence-based trust, supported by benevolence-based trust. Obtained results correspond with those of other researchers. Namely, the conclusions of McAllister [102] and Holste and Fields [36] suggest that cognition-based trust preludes affect-based trust. On the other hand, the findings of Mohammed and Kamalanabhan [84] confirm the positive role of competence-based trust in tacit knowledge exchange, which is in line with this study.

The strength of the relationship between individual components that make up a specific type of trust differs in specific groups of knowledge agents. The strongest was observed in the diffusion of knowledge between professionals, and the weakest—in the exchange of knowledge between specialists and personnel. Thus, the research hypotheses H1, H2, and H4 were confirmed.

One trust enhancer that is worth emphasizing is discretion. Conducted research suggests that it is a fundamental trust vehicle in the dispersion of professional knowledge. It can be treated as an inherent catalyst of competence-based trust as a measure of professionalism, but at the same time, it is directly related to benevolence-based trust, because it is verified during long-term relationships and reliability-oriented trust. After all, discretion should be the foundational value for all parties involved.

In the transfer of knowledge between specialists and other employees of the organization, the dominant factor is the individual motivation of intellectuals. Therefore, the efforts of managers and their activities should first be aimed at stimulating this component of trust as a determinant of knowledge diffusion. At the same time, the exchange of professional knowledge with other employees is one of the most deficient dimensions of the transfer of specialist knowledge. It seems that the context for stimulating the diffusion of knowledge between professionals and personnel should be provided by a knowledge-orientated, trust-based organizational culture [68] built on the values of shared responsibility and cooperation [120]. This is suggested by research, which indicated low mutual support in achieving goals, which should be based on altruism and satisfaction from helping others. These behaviors should therefore be reinforced through an appropriate incentive system and the attitudes of managers as role models.

Similar indications are provided by the respondents in the case of common language and common goals and vision factors. Since they are not characteristic of the relations between professionals and personnel, there is no common sense of community, shared responsibility, and convergent mental models. Thus, these are the main managerial tasks in the area of stimulating the intraorganizational diffusion of the most valuable professional knowledge. It is then that reciprocity and building prestige of the group can appear.

The study of the correlation between individual components of trust and the types of knowledge exchanged confirmed the existence of only a few dependencies. Moreover, the analyses proved that some of the results cannot be generalized to include the entire population of IT knowledge workers in Poland and that they can only be interpreted in the context of the verified group of respondents. Thus, H5 was only partially confirmed.

Noteworthy is the identified dependence that benevolence-based trust strengthens the explicit and codified knowledge diffusion between professionals. This is in line with the research of Ko [111] on external consultants. Generally, the catalysts for the diffusion of specialist knowledge are trustworthiness, responsibility, competence, discretion, sensitivity, and active listening. It suggests that designing the diffusion of knowledge on the base of competence-based trust is insufficient. The emphasis should be shifted to research inference and practical development, especially in the case of the dispersion of specialist knowledge, primarily to the development of benevolence-based and reliability-orientated trust.

## 7. Limitations and Suggestions for Future Studies

The authors are fully aware of the limitations resulting from the present study. The presented research, due to its narrow character and limited scope, is also cultural, should be treated as pilot considerations, and should be seen as a contribution to the relevant multidimensional analyzes. Additionally, the lack of identified unambiguous, strong correlations between the explored variables forces supplementary, more in-depth inferences and presumably introduces other control variables. Neither does the research identify the directions of the studied dependencies, nor does it have the nature of comparative research, e.g., due to the sector of the economy, industry, nationality, age, gender, education level, and job title of respondent professionals. Nevertheless, one of these limitations is justified by the results presented in other papers [39,120], which demonstrate that IT knowledge worker's nationality and residence are inconsequential variables. Therefore, the above explorations have a universal and utilitarian dimension, providing general guidelines for building trust as the context for the dispersion of knowledge of intellectual workers in the IT sector. Thus, they constitute a theoretical and practical contribution to the subject of professional knowledge exchange. This is because they fill the research gaps identified in other studies. Namely, the literature emphasizes that only a few works explore data from knowledge workers and knowledge-intensive service sectors directly and largely [70]. In the presented research, however, the respondent group were professionals and knowledge workers in the IT sector, which is definitely a knowledge-intensive service sector. In addition, the literature highlights the lack of research on the role of interpersonal trust between external consultants and their partners [111]. This research indeed explored and covered the third dimension of knowledge diffusion between knowledge actors (i.e., in the relations of knowledge workers with business partners). In addition, the literature offers rare inferences on social enhancers of trust [84]. The vehicles of specific types of trust identified in the work can be treated as connected with unexamined social interaction ties positively related to knowledge-diffusion-oriented behavior of knowledge workers.

In particular, the findings are a source of guidelines in terms of shaping individual components of competence-, benevolence-, and reliability-based trust due to the type of knowledge exchanged and knowledge agents participating in its circulation.

Selecting the vehicles of each type of trust provides practical development guidelines, especially for managers, to stimulate growth of the desired form of trust (cognitive or affective, competence-based, benevolence-based, or reliability-oriented), with the selected

types of transferred knowledge and the anticipated dimension of the relations between knowledge agents and the adopted time perspective (short- or long-term) in mind.

It is also worth emphasizing that knowledge workers are corporate nomads and can be seen as the precursors of remote work. Their behavior can be a prediction model for the attitudes and styles of actions of employees who are new to remote work, forced by the COVID-19 pandemic. The experiences of the elites (key intellectual employees) can be the foundation for predicting the behavior of the masses (ordinary workers).

The above inferences outline further directions of research on the diffusion of knowledge of intellectual workers. First, this study is part of the interpersonal trust research trend dominating in the subject literature, taking as a reference point the individual dimension of trust [96]. Therefore, further explorations require the adoption of analyses from the perspective of impersonal trust [38], especially due to the network nature of interaction that dominates in the modern economy. In addition, empirical justification requires answering the question of how important it is to support managers in stimulating the diffusion of knowledge among intellectual workers, what activities are desired by the specific groups of knowledge agents involved in its circulation, which of them are already being implemented, and which should be undertaken. Thus, this direction of future empirical inference is part of the emerging research scope dedicated to the leadership of knowledge workers [121–123] and building managerial trust (i.e., supervisor and leader trust) [124].

The studies dedicated to the diffusion of tacit knowledge, intensely emphasized in the literature [91,125–127], seem to be of critical importance. This type of professional knowledge should therefore be the subject of particular in-depth exploration in the future.

Additionally, it is important to investigate which values and norms that constitute the knowledge-centered organizational culture influence the effectiveness of the exchange of precise types of knowledge in specific circles of knowledge agents. Moreover, the correlations of the system of values and attitudes that characterize professionals and the knowledge-oriented organizational culture merit deeper research inferences. It seems important to answer the research question of which of the basic assumptions, values, and norms constituting the knowledge-oriented organizational culture are shared by intellectual employees, business partners, network actors, and company personnel, and which should be developed and strengthened. All these challenges can also be inferred in the context of classic control variables, such as age, gender, seniority, and organizational position, as did Holste and Fields [36], Kianto et al. [70], and Mohammed and Kamalanabhan [84].

An inspiring direction of the research is also the exploration of the relationship between the individual motivation of knowledge workers and their active participation in knowledge diffusion. Since the conducted research has proven that the individual motivation of the knowledge worker is of key importance in the exchange of knowledge between professionals and personnel and this dimension is particularly important from an organizational point of view, it is worth making efforts to explore personal predispositions and to adjust hierarchical organizational dependencies in such a way to the maximum congruence of knowledge holders and knowledge recipients. Research verifying the impact of enhancers of a specific type of trust on knowledge workers' networking competence [128] and their predisposition to the roles of a broker and networker could also lead to valuable conclusions.

All future inferences should be carried out with the use of current research tools, and in particular, with the use of the SEM model, common in contemporary empirical studies in the investigated field [48,56,93,129], as it enables identification of the directions of the studied dependencies. It is also recommended to use social network analysis or fuzzy set qualitative comparative analysis (fsQCA).

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