Chapter 5
Knowledge Sharing and Creativity: Individual and Organizational Perspective

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Abstract The flow of knowledge between employees contributes to the knowledge development which in turn influences individual and organizational creativity. However, knowledge sharing by employees is not a simplistic and homogeneous behaviour. Basing on the literature review in the area of intraorganizational knowledge sharing and creativity, the author aims to explain the relation between giving knowledge and individual (giver) creativity and organizational creativity. The knowledge sharing is analysed from the knowledge giver perspective. Author has distinguished two forms of knowledge giving—proactive and reactive—that are situation depended. This conceptual article indicates that proactive and reactive knowledge sharing relates differently with creativity and that sharing knowledge with others is not always positive to the giver's creativity, while it is influential for organizational creativity. The theoretical deliberations are summarized in nine propositions. They indicate that managers need to take into account the likelihood of individual creativity loss as a cost of reactive knowledge sharing; otherwise, the quality of sharing could be harmed by knowledge manipulation by the sharer, with a negative influence on organizational creativity.

Keywords Proactive and reactive knowledge sharing · Individual creativity · Organizational creativity

5.1 Introduction

The capability of developing and implementing innovation is a major source of competitive advantage. Innovations are the effect of both incremental modifications and also completely novel and original approaches to the problems resulting from creativity. The concept of individual, group and organizational creativity has become an important and popular research subject. Scholars in different fields are trying to

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answer the question of enhancing and stimulating individual, group and organizational creativity.

Creativity in organizations is a multilevel concept which includes individual, group and organizational levels [1], and it is assumed that lower-level creativity (i.e. individual creativity) influences that in the upper levels (i.e. group and organizational) [2, p. 295]. To this end, the individual level was chosen as the key point of this analysis with some respect to the organizational level.

One of the important antecedents of individual creativity is knowledge dissemination among individuals [3], mainly in the form of direct interactions [4 pp. 125–130]. The behaviours of knowledge seeking, receiving and assimilating contribute to creative behaviours of employees. Though the relations between knowledge transfer (receiving knowledge) and creativity or innovation have been studied and indicate a positive connection [5, 6], the relations between giving knowledge and creativity or innovation have also been analysed but to a lesser extent, with the results not being consistent [7–10].

This article argues that the perspective of knowledge giving (supplying) should not be underestimated, because, in order to obtain and absorb knowledge by one individual, the other one has to supply it while assuring a proper quality of transfer. Having in mind, on the one hand, the importance of creativity (on the individual level), and on the other hand, the individual costs of sharing (giving) knowledge [11], the question is about the relationship between giving knowledge and the creativity of the giver. Moreover, the perceived individual outcomes of the behaviour will influence the future attitudes and behaviour of an individual [12]. This would mean that if sharing knowledge harms individual creativity, it is more likely that an individual will be more hostile to sharing in the future, so managerial intervention will be necessary to prevent that opportunistic behaviour. The author also argues that knowledge sharing behaviour takes place through different mechanisms [13] like giving knowledge in reply to an inquiry or giving knowledge resulting from the sole knowledge owner initiative. This implies the question, whether the form of knowledge sharing behaviours relates to different consequences regarding the individual creativity of the giver and organizational creativity.

The main purpose of this conceptual article is to explain the relations between giving knowledge by an individual to others and his/her individual creativity, as well as the creativity at the organizational level. The deliberations are conducted from the knowledge supplier perspective, taking into account the two forms of knowledge sharing behaviour—reactive and proactive—identified using the criteria of the individual that initiates the knowledge sharing interaction. By differentiating individual and organizational creativity, the author aims to show that sharing knowledge has different outcomes at individual and organizational levels, which indicates the necessity for managerial interventions.

Drawing on the literature on knowledge behaviours of individuals and individual, team and organizational creativity, the author aims to contribute to better understanding of the phenomenon of knowledge sharing behaviours of individuals and the possible barriers of sharing that result from the perceived consequences of sharing on the individual performance of knowledge givers.

5.2 Method

The conceptual propositions presented in the article have been drawn on the literature from the growing field of knowledge sharing by individuals in organizations and individual, team and organizational creativity.

The initial review of the literature started with the examination of a concept of knowledge sharing by analysing literature available in the electronic databases (basic search knowledge sharing) and was narrowed to the knowledge sharing by individuals in organizations that consequently let to such constructs as knowledge transfer, knowledge collecting, knowledge donating, knowledge sharing intention, knowledge sharing behaviour, knowledge hiding, knowledge hoarding, knowledge manipulation. One of the conclusions on this stage was that knowledge sharing is a complex behaviour, and on this level of field development, there is need to separate the knowledge donor's perspective from the broader perspective of the participant in the process of sharing (giver and receiver together). This part of the study has led to the concentration on the sharing from the knowledge donor's perspective and analysing the situational influence on the giver's behaviour.

The second group of literature considered creativity of individuals, teams and organizations and relation with the knowledge sharing. In this part of the literature review and analysis, the main emphasis was placed on the field and experimental studies that examined the knowledge sharing and creativity/innovation relations. What the author was looking for were any inconsistencies in the relations or counter-intuitive results. The effects of analysis and synthesis are collected in the propositions in the article. The article includes, due to the limited space, only some main works found in the field that were the building blocks of the deliberations presented.

5.3 Knowledge Sharing by Individuals

Knowledge sharing is a social interaction that takes place between two or more persons during which knowledge is transmitted by one and subsequently received and absorbed by the other(s) through a variety of information transmission methods [14, p. 873]. It is worth mentioning that face-to-face contact and communication enable the richest information transfer, while electronic or paper messages make the poorest transfer (phone communication is in between) [15, p. 124]. Additionally, face-to-face interactions are particularly important when it comes to tacit knowledge sharing. Knowledge sharing success takes place when shared "packages of knowledge" are received and internalized by the recipient. The results of sharing should be noticed in changes in the recipient's cognition and behaviour.

In the situation of sharing, especially tacit knowledge, positive effects of sharing for the knowledge giver can also occur. During the process of communicating knowledge, in the mind of the donor knowledge re-creation may emerge. Sharing involves self-observation, reflection, analysis of one's activities, thinking patterns

and suggested solutions, in order to prepare the knowledge package for the recipient [16, pp. 373–374].

There is a complementary condition of successful knowledge sharing (internalizing and recreating knowledge)—that is the individual's interest in the knowledge domain. The interest influences individual motivations to participate in the sharing process and determines knowledge development. This interest in the knowledge domain depends on the level of possessed knowledge (expertise), past experience and the tasks in hand [4, pp. 213–223].

In the process of sharing, the knowledge giver plays an important role, as without that participation there is no sharing. Besides personal factors (personality traits, intrinsic motivation), the decision of the knowledge giver to share the knowledge depends on the perceived costs and benefits of sharing. From this, knowledge sharing is a situational and episodic behaviour, stimulated by the interaction between the giver and the recipient [17, p. 278] and other organizational conditions. Sharing knowledge then is not a simple homogeneous (of one form) behaviour and in various situations (of interaction) may have a different course with distinct factors conditioning it.

Applying the interactionist perspective, according to which "the behaviour of an organism at any point in time is a complex interaction of the situation and the nature of the organism" [12, pp. 279–280], the author proposes to distinguish two forms of knowledge sharing behaviour, by specifying the situation of deciding about sharing or not. There are two situations: (1) the knowledge sharer is provoked (solicited, induced, inquired) to give knowledge; (2) the knowledge sharer gives knowledge voluntary, spontaneously. In the former situation there is a reactive (directed) knowledge sharing and in the latter there is a proactive (unrestrained) knowledge sharing [18, 19]. Each of these two situations influences the course of sharing and causes different outcomes (for the giver and recipient) because of the differences (between giver and recipient) between interest in the process of sharing and in the domain of the shared knowledge.

Reactive (directed) knowledge sharing is transferring knowledge to a recipient as a result of some form of inquiry and can involve passing information, sharing experiences, giving instruction or expertise, showing specific solutions or way of action, or helping the recipient in the current task [17, 19, 20]. The knowledge recipient defines the knowledge package needed; when it is needed; and how it should be transmitted. The knowledge donor needs to decide (sometimes immediately) how to respond to the inquiry (if at all)—timing, the scope of knowledge, language and form of transfer. Reactive knowledge sharing is hard to plan for a knowledge donor, as the person would not know when somebody is going to ask for knowledge and with what expectations (considering the time of response). In this situation, the potential knowledge sharer, when deciding about sharing or not, needs to have regard to the social consequences of the behaviour chosen (giving knowledge—full, partial, manipulation; not giving knowledge—hiding knowledge, refusal). Moreover, that knowledge request could be within their expertise domain but not in the domain of their current interest.

Proactive (unrestrained) knowledge sharing is initiated and directed by the knowledge donor. In this situation, the initial scope of the knowledge, aim, time and way

of sharing can be planned by the knowledge donor. The shared knowledge could involve insights, ideas, opinions, concepts and skills or expertise that the knowledge donor is willing to externalise and to voluntarily share from the observed needs of the other individuals. In this case, when the initiative of sharing is on the donor side, the sharing is more favourable for the sharer. The transfer will concern the knowledge domain within the interest of the knowledge donor, the timing will be more appropriate (not interrupting any important activities), and the knowledge receiver will be suitably selected (within the interest of the sharer).

5.4 Individual and Organizational Creativity

Creativity is a process that leads to the production of an original (novel—different from what has been done before) and useful (appropriate to the problem or opportunity presented) product (idea, product, process or solution) [21, 22, pp. 17–19]. Woodman and Schoenfeldt [12] state that creativity is the complex product of an individual's behaviour in a given situation that is characterized in terms of contextual (e.g. physical environment, task and time constraints) and social (e.g. social facilitation, norms, social rewards) influences, which either facilitate or inhibit the creative accomplishment of that individual. This perspective points out that creativity is not only an individual dependent behaviour, but it is also influenced by various antecedent conditions. Creative behaviours of employees are not only assigned to the engineers or R&D employees. The creativity can occur at almost every position in the organization, because it is the behaviour that leads to developing a new and applicable way of solving a problem, realizing the task, etc. There are areas in organizations where creativity is more expected and desirable; nevertheless, it may occur everywhere.

Amabile [23], in her componential theory of individual creativity, has also identified situational conditions (social environment) that influence creativity [23, pp. 9–10]. That external component of creativity can influence each of the three intra-individual components of creativity, namely (1) domain-relevant knowledge and skills (expertise), (2) creative thinking skills, and (3) intrinsic task motivation. Her theory suggests that creativity will be greater, the higher the level of each of the three intra-individual components [21, pp. 42–46], and none of the intra-individual components can be completely absent if creativity is to result.

Woodman et al. [2, p. 301] claim that knowledge plays a crucial role in individual creativity, as new solutions are "little more than a new combination" of what was already known or experienced by the individual and stored in the memory. Perry-Smith [3, p. 86] states that when an individual has more domain-relevant knowledge, the incidence of creative performance is higher. Also, with expertise, knowledge increases the likelihood that the potential solution is validated as useful. In this line, Gilson et al. [5] analysed that the explicit knowledge possessed by individuals positively influences their creativity, and knowledge sharing positively moderates the relation between team tenure diversity and the individual knowledge of the peers.

Similar conclusions can be drawn from Dong et al. [24], as they found the positive relation between the individual skills' development and creativity that is moderated by the knowledge sharing in the team. Here, the sharing knowledge compensated low level of individuals' skill development in the team. This means that knowledge sharing enables access to the diversified knowledge of team members and by this improves individual creativity [25]. The relation between knowledge giving and creativity at the individual level was studied in only few works, among which is the article of Park et al. [9]. They have found that knowledge giving does not directly influence individual donator's creativity, but it is related indirectly by knowledge creation. This implies a question when knowledge sharing contributes to creating knowledge and when it does not.

According to Bratnicka [1, p. 34], organizational creativity is the ability of organizations to generate new and useful ideas. And referring to the individual creativity concept, organizational creativity is a function of the creativity of individuals and groups and contextual influences (also those that come from the external environment) [2, p. 308]. Organizational creativity is not just a simple aggregate of the creativity of individuals and groups, as between them there is a continuous interaction where the creative behaviour of individuals contributes to the creative behaviour of groups and the creative performance of the organization. From the other side, the organization creates the context and social conditions of the individuals' behaviour.

From the perspective of creating new knowledge in organizations, Nonaka stated the importance of frequent communication, dialogue, tacit and explicit knowledge transfer, as important conditions of producing novel and useful products [26]. Woodman et al. [2, p. 314] also claim that information flow and open communication channels are important for organizational creativity.

In empirical research, Darroch [27] (studying Australian companies) found at the organizational level that processes of knowledge dissemination are connected with innovation (with innovation the successful implementation of organizational creative products). Similarly, in analysing Taiwanese organizations, Lin [8] concluded that employees' willingness to donate and collect knowledge positively influences innovation capability. In Italian companies, Giustiniano et al. [6] found a relation between collecting knowledge by individuals and organizational creativity. On the opposite side, Fong et al. [28] found that knowledge hiding influences negatively team creativity as it weakens team absorptive capacity. Kamaşak and Bulutlar [7] analysed knowledge flow at the individual level and group exploratory and exploitative innovation and found that knowledge collecting is important for every kind of group innovation, while knowledge donating—only for exploitative purposes. This study revealed differences between donating and collecting knowledge in relation to group creativity.

Considering the above-listed arguments, it can be stated that access to knowledge in an organization, gaining and learning from others positively influences individual creativity when looking from the perspective of receiving (absorbing) knowledge [29]. However, it is not so obvious when looking from the knowledge giver side (see in example [9, 30]). In the following section, author is taking an attempt to explain why the relation knowledge donating individual creativity is not clear.

5.5 Sharing Knowledge and Creativity—Perspective of the Knowledge Giver

Knowledge sharing is connected with the social dilemma, where individual rationality (trying to maximize the individual payoff) leads to collective irrationality. Cabrera and Cabrera describe that an individual when contributing knowledge to others in the organization bears the individual costs of sharing (time, disturbance at work, losing exclusive information advantage) while the benefits are rather collective (positive image, better team performance) [31, pp. 692–694] or even individual but postponed in time (possibility of gaining compensation in the form of knowledge from others—reciprocity).

Research on individual creativity has revealed that exposing individuals to receiving and absorbing knowledge, within the domain that the individual is working in, influences his/her creativity [3, p. 86], because it improves the understanding of that knowledge domain and facilitates creating new approaches for solving problems and doing tasks. It is assumed that searching for knowledge, support or help and receiving it is related to creativity, as it facilitates the production of novel ideas (with new, different perspectives of the issue at hand) and fosters evaluation of their appropriateness. As it comes to the relation between giving knowledge and creativity, the influence is not clear-cut.

In the subsequent sections, the relation between reactive and proactive knowledge sharing and creativity at the individual and organizational levels will be analysed as it is presented in Fig. 5.1.

The analysis is conducted with the perspective of three situational factors related to sharing knowledge: (1) the opportunities of sharing (time pressure); (2) the scope of knowledge and level of interest; (3) the insistence on giving knowledge to somebody (not hiding).

5.5.1 Reactive Knowledge Sharing and Individual Creativity

Reactive knowledge sharing is strongly directed towards the needs of the knowledge recipient. In reactive knowledge sharing, the knowledge recipient (who is asking

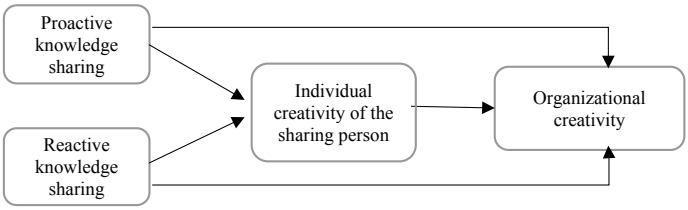

Fig. 5.1 Framework of the conceptualized knowledge sharing and creativity relations

for knowledge) initiates the episode of sharing and determines (or suggests) the time, place and way of the sharing interaction. Addressing the knowledge inquiry, especially in the form of face-to-face interaction, causes disturbance for the potential knowledge sharer. It can derail the task activities, creative cognition processes or solving problem processes. For the potential knowledge donor it is perceived as the cost of interaction, because probably it will be hard to resume work or thinking processes from the point that it was dropped. Frequent interruptions cause deconcentration, absent-mindedness and frustration, which is stronger if the person has something important and meaningful to do. It is worth noticing that transferring knowledge itself also costs the time and attention of the knowledge giver. All of those factors determine the perceived time pressure as a stressor and will possibly cause the individual to feel as if on a treadmill [31, p. 56]. Consequently, the likelihood of creative thinking (developing novel ideas) decreases [31]. Mueller and Kamdar [20] observed that helping others (investing time and attention) in solving their creative problems is negatively related with the individual creativity of the helpers (while looking for help and receiving is related positively).

In reactive knowledge sharing, the package of knowledge to be shared is defined by the interest of the recipient. In a situation where inquiries and requests for information and expertise come from the outside the department or workgroup, the content of the sharing might not be connected with the knowledge domain that the knowledge donor is working within. This causes a low interest in the donor for developing and improving this part of knowledge. Therefore, there is little likelihood of knowledge re-creation (in the mind of the donor) during externalization and transfer [16, p. 374]. In this circumstance, sharing would not develop the knowledge base nor facilitate the creativity of the sharer. The necessity of switching from one task (knowledge) to another can decrease the other components of individual creativity (motivation or creativity-relevant processes).

The above-mentioned consequences will be minimized if the reactive knowledge sharing takes place within the workgroup, where the individuals work on the same or a similar issue. Sharing knowledge, expertise and insights within the same scope of interest would be beneficial for sharers and recipients, as their individual knowledge could grow.

The last aspect analysed here is the insistence to respond to knowledge inquiries. In reactive knowledge sharing, a person addresses an inquiry to the individual that in their perception possesses the needed knowledge or, at least, knows how to find it. This circumstance put the potential knowledge donor in a difficult situation. Deciding not to share knowledge would probably be perceived negatively—as hiding knowledge. On the other hand, deciding to give knowledge brings all the costs mentioned before. One of the consequences of not giving knowledge (or hiding it) could be explained by the theory of social exchange and the reciprocity phenomenon.

In the study by Černe et al. [32], different forms of knowledge hiding by the potential knowledge sharer related negatively to the individual creativity of the (not) giver. This was explained by the emerging reciprocal distrust loop between the individuals in that potential sharing interaction. If a person is asking for knowledge needed in creative work and is not receiving it and additionally perceives that the

other individual is hiding that knowledge and is unwilling to help, a distrust between those individuals will emerge and cause reciprocal knowledge hiding [32, p. 174]. Therefore, the constricted access (in the future) to the knowledge held by others is the cost of knowledge hiding and will negativity influence that individual's creativity [32, pp. 181–182]. Similarly, Rhee and Choi [10] found negative consequences of not giving knowledge. Interestingly, they found that knowledge manipulation has positive relations with individual creativity. A knowledge giver manipulates the knowledge during transfer and shares the necessary minimum in order to fulfil the reciprocity need and maintain the status of an expert (while not spending too much time, effort and not revealing too much) [10, pp. 825–827].

The author has developed the following propositions:

Proposition 1 *Reactive knowledge sharing negatively influences the individual creativity of the giver as it disturbs the creative process, produces time pressure, and only incidentally contributes to the individual's knowledge development.*

Proposition 2 *The relation between reactive knowledge sharing and creativity of the knowledge giver will be more negative if the giver works under high time pressure and there is a greater misalignment in the knowledge domain interests between the giver and the recipient.*

Proposition 3 *In a reactive knowledge sharing situation, the time pressure and misalignment in the knowledge domain interests between the giver and recipient, and the high expectation of reciprocity prompts the knowledge giver to manipulate the knowledge while sharing in order to preserve individual creativity.*

5.5.2 Reactive Knowledge Sharing and Organizational Creativity

In analysing relations between knowledge sharing and organizational creativity, we also need to regard the effects on the knowledge recipient. On a higher organizational level, the results of successful reactive knowledge sharing are important. For the knowledge recipient, knowledge gained from the expert (giver) enables explaining and learning the rules, mechanisms and processes connected with the specific task that the recipient is currently working on, where knowledge expertise is broadened or deepened, and consequently, the creative ability increases. Ruscio and Amabile found that obtaining heuristic instructions (instruction emphasizing conceptual understanding) is connected with producing novel solutions. But it is worth mentioning that getting very specific algorithmic instructions (showing step-by-step how to do the task, solve the problem) can cause a functional fixation effect that may hinder the ability to develop novel solutions [33, pp. 261–264]. Moreover, receiving a response to the inquiry (for information, instruction or help) may positively influence the motivation to solve the creative problem.

Some studies on the relations between obtaining knowledge by employees (as a result of reactive knowledge sharing) and organizational creativity support this line of thinking [6, 8]. These positive relations could also be explained by the quality of knowledge sharing in the perception of the recipient. The quality of knowledge sharing was operationalized by Lee as timeliness, reliability, completeness, accurateness, understandability and relevance to the topic [34, p. 13]. The reactive knowledge sharing (not manipulating) meets those quality requirements because here the recipient is the person that articulates the knowledge needs. The reactive knowledge sharing may influence the creativity of the recipient or recipients and through this—of the organization. It is worth to mention that the opportunistic behaviour of the knowledge giver, like knowledge manipulation, reduces the positive effects of reactive knowledge sharing on organizational creativity, as it may impair the quality of sharing.

Proposition 4 *Reactive knowledge sharing is positively related to organizational creativity by enabling knowledge recipients to obtain good quality knowledge and to produce novel and applicable ideas.*

Proposition 5 *The knowledge manipulation in reactive knowledge sharing decreases the benefits of sharing to knowledge recipient's creativity and organizational creativity.*

5.5.3 Proactive Knowledge Sharing and Individual Creativity

Proactive knowledge sharing has a different nature than a reactive one. It is based, to a greater extent, on the willingness of the knowledge giver, and is more prosocial behaviour. In this form of sharing, a positive aspect is that the knowledge giver does not feel an immediate pressure to share (there is no request for knowledge). The sharing takes place because the knowledge sharer feels like doing this, wants to do this and has the opportunity to do this [19]. But it also makes proactive knowledge sharing harder to facilitate and enhance.

The social and contextual conditions determine proactive knowledge sharing (time availability; recipient characteristic; the way of sharing) [17]. In the situation of time pressure (little available time), the knowledge sharer has the freedom (is not under social pressure) of deciding whether to share or not. The donor can concentrate more on their own benefits of sharing, like receiving feedback on the ideas they share, the entrenchment of the ideas (the understanding) by externalizing it. When time is a constraint during creative work, an individual will decide to share proactively only if it is relevant, valuable and does not disturb the thinking process [31, p. 59].

In proactive knowledge sharing, the giver is selecting the recipient, taking into account the expected benefits related to the individual's knowledge development or receiving some feedback. Zhang and Jiang found that proactive knowledge sharers look at the professional competence of the recipients and their personal relations with them [17, pp. 286–287]. The greater an expert the recipient is, the more willingly

the giver will be to share their knowledge because they assume that it would be more fruitful. For example, as a result of voicing ideas about work or the organization, the knowledge sharer may receive some tips considering the novelty or usefulness of the presented idea [31, p. 59], even just in observing the reaction of the knowledge recipients.

The next issue is the interest of the knowledge donor in the package of knowledge that is shared. In proactive knowledge sharing, the giver decides about the content of sharing, which is consistent with their contemporary task (work) interest. Even in the case of helping others, selling ideas to others or just giving information, the giver is willing to initiate the sharing interaction because they are interested in the subject and it could help to extend his/her expertise.

Proposition 6 *Proactive knowledge sharing is positively related with the individual creativity of the knowledge giver because it increases their individual creativity and the benefits connected with knowledge development and limits sharing costs by adjusting the time, recipient and knowledge scope to the giver's needs and situation.*

Proposition 7 *In the situation of proactive knowledge sharing, when the perceived benefits connected with creativity do not exceed the costs of sharing, the potential knowledge giver will choose not to share.*

5.5.4 Proactive Knowledge Sharing and Organizational Capability

While reactive knowledge sharing is useful for the individual creativity of the recipient, proactive knowledge sharing may also (or in the first place) facilitate collective creativity. In proactive sharing, the reason for sharing is not only to fill the knowledge gap, but also to broaden the perspective of the recipient (voicing ideas, selling tips). An individual passing on his/her ideas, explaining them, showing examples not only gives information to the recipient, but also extends and enriches the language, or shows a different point of view. It brings the development of common (mutual) knowledge between the individuals that participate in such an interaction [4].

In the short term, knowledge recipients might not be interested in obtaining knowledge (not needed at that present time), especially if they face contextual constraints to their creativity (like time pressure). But exposing them to new (for them) knowledge may help in the future to cross the knowledge boundaries that exist between specialized domains. Carlile writes about syntactic, semantic and pragmatic boundaries and indicates that those boundaries may become barriers to innovation [35]. Creating common knowledge (between specific knowledge domains) may help in overcoming this problem by developing a common lexicon, common meaning for identifying novel ideas and common interest for making a trade-off and implementing novelty at the organizational level.

Only two studies were found that analysed the relationship between proactive knowledge sharing and the creativity of the organization. While Lin [8] found a positive relationship at the organizational level, Kamaşak and Bulutlar [7] studied sharing within and outside the department and observed that proactive sharing to employees outside the department had no significant relation to innovation, but proactive sharing within the department had a positive impact on innovation.

Proposition 8 *Proactive knowledge sharing is positively related to organizational creativity by broadening the knowledge of the recipients and developing common knowledge at the organizational level in the long term.*

Proposition 9 *Proactive knowledge sharing positively influences organizational creativity by facilitating the creative performance of the knowledge giver.*

5.6 Conclusions and Implications

In the presented conceptualization of the knowledge sharing antecedents of creativity, knowledge giving by employees can bring both positive and negative effects in terms of their individual creativity. This could explain why Rhee and Choi found no significant relationship between sharing and creativity [10]. The author proposes that relations between knowledge sharing and creativity are not isomorphic among the organizational levels (individual versus organizational)—to the advantage of the organization. An organization (as a complex system) benefits from any form of knowledge sharing, while for individuals, reactive knowledge sharing can limit their creativity and move them towards opportunistic behaviours (like knowledge manipulation). This could be harmful to highly knowledgeable and creative individuals to whom other employees turn to get knowledge, information or help. If they are not protected by the organization against numerous requests for sharing, their creativity (and satisfaction) will decrease, or they will learn how to protect themselves by sharing only small packages of knowledge. Both situations will negatively impact organizational creativity in the long term.

Although the presented conceptualization of the relation between knowledge sharing and creativity is based on several empirical studies, there is considerable need of multilevel and longitudinal studies to capture the long-term individual and organizational creative consequences of behaviours connected to sharing knowledge. The developed propositions could become the starting point for developing testable hypotheses. Moreover, there also is a problem with the causality as the creativity could be both antecedent and an outcome of the sharing knowledge—the individual creativity can build the individual self-efficacy, an important antecedent of giving knowledge. The suggested long-term, repetitive studies could help to capture it.

There are several organizational factors that were not taken into consideration when analysing knowledge giving and creativity relation. First is the team and organizational culture the knowledge giver works in and the balance between an orientation towards goals' fulfilment and learning. It seems to be needed to take into

consideration how culture moderates the possible individual and organizational creative outcomes of giving. Secondly, the proposed conceptualization does not indicate the attitude and behaviour of the knowledge receiver, which also could moderate the relation. The reaction of the knowledge receivers to the knowledge they are exposed to influences the re-creation of knowledge on the side of the knowledge giver and the future willingness to share knowledge again [36]. These limitations of the presented conceptualization could also be ideas for future research.

There are some managerial implications that derive from the propositions. Managers need to understand and acknowledge the social dilemmas the individuals have considering sharing knowledge (especially in the reactive form) and the importance of sharing in terms of creativity and innovation. Building the culture "if you do not know, ask and you will get an answer" creates pressure for individuals, especially those who have strong individual expectations towards their creativity that could lead to individual strain hindering creativity and their productivity [37]. Therefore, managers should concentrate on the social and contextual conditions of sharing and creativity. Those conditions should aim at decreasing the costs of sharing and emphasizing the benefits (both individual and collective). The supervisors' support seems to play an important role here [6, p. 1480].

In the case of widely observed high working demands (time pressure and multitasking), one of the propositions to protect creativity while sustaining good quality sharing is introducing protection of the individual and/or group creativity time, especially in those areas where creativity is desirable. Perlow [38] and Amabile et al. [31] suggest introducing an organizational norm of "uninterrupted quiet time" when specified hours are booked for creative work. This could create the opportunity for knowledgeable experts to completely engage in the creative work without regular and frustrating interruptions and during the "not protected hours" to share their valuable expertise.

Another idea of decreasing the costs of sharing is designing workplace architecture. Allen suggests that the workplace architecture and physical location of employees influence the likelihood of chance encounters, which mainly facilitate proactive knowledge sharing [39]. Coradi et al. [40] found that co-locating individuals facilitates face-to-face communication and decreases the knowledge barriers between those employees (syntactic, semantic and pragmatic). Consequently, this broadens the knowledge domain of the recipient's and donor's common interest [40, 41].

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