“Knowledge management in the environment of cross-functional team coopetition: A systematic literature review”

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KNOWLEDGE MANAGEMENT IN THE ENVIRONMENT OF CROSS-FUNCTIONAL TEAM COOPETITION: A SYSTEMATIC LITERATURE REVIEW

Abstract

Knowledge is crucial, but a transient resource that decides over the success or failure of business operations. Consequently, companies aim for the most profitable method to achieve high gains and conservation of knowledge, while excluding rivals to maintain the position of economic advantage as long as possible. To maximize the efforts of knowledge generation, new concepts of organizational processes were established in recent years. To provide a conceptual foundation and identify promising niches for future studies in the important field of team coopetition, existing literature on the factors of cross-functional team coopetition was reviewed, concluding in a systematic review. For this purpose, leading peer-reviewed journals from 2010 to 2021 offered 25 articles that fall within its established search inclusion criteria. Adding to the change of stakeholder project management, the shift from traditional, cooperative-led organizational approaches towards coopetition between two or multiple rivals can lead to promising results. However, it was indicated that this concept often fails due to misleading coordination in a coopetitive tension. Current studies extracted their results from applied team management mostly on short-term organizational, financial, and technical benefits or drawbacks, excluding long-term innovation effects. Most studies were categorized into three outcomes contributing to knowledge management: performance, relationship, and innovation. As a result, it is pointed out that several factors derived from the literature significantly influence the outcomes.

Keywords cooperation, competition, performance, relationship, innovation

JEL Classification D21, D23, L25, O31

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INTRODUCTION

Accelerating change in industrial norms, trends, and consumerism provoked a rapid change of needs and wishes of customers. Consequently, the time for adapting and adopting to the ever-changing internal and external environments drastically escalates the necessity for a quick and responsive organizational structure. Accumulated knowledge plays a key role; supported by the norms, rules, stakeholders, and resources of the company, its presence determines the success ratio of target-orientated management techniques. Due to the modern era of immediate and lossless infrastructure, both human-orientated knowledge (retrieved from communication between individuals), as well as technical knowledge (cloud services and applications) need to be harmonized and up to date (Plangger et al., 2020). However, "the competition never sleeps" and with the rising need for quick and decisive action taking, traditional management practices are no longer applied. An insufficient knowledge database over market niches and thereby market needs results in the loss of potential resource management, a decrease of process efficiency, worsening of customer relations, or potentially in the total loss of commercial viability in the worst scenario.

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To equip businesses with the best possible toolkit, one key aspect of successful business management is the accumulation and distribution of both implicit and explicit knowledge that can be fostered through diversified team-based structures and collaborative working (Galpin et al., 2007). On the one hand, this approach allows the exchange of product-related implicit knowledge, meshing the current level of technology, competencies, and methodology among the team members. Furthermore, itemized knowledge, embodied through the (mostly) written documentations of processes of different departments highlights advantages and insufficiencies, allowing the members to concentrate on the actual knowledge exchange rather than methodical or organizational cornerstones of said project. On the other hand, valuable and hard-to-obtain experiences from experts and management, often locked in informal networks and processes, can be retrieved and manifested through norms, culture, and values, shared by the whole value chain.

In recent years, a new technique of collaboration came into existence. Cooperation of individuals inside a specific organizational structure is deemed more successful than traditional department-based tactics. This method implies coordinating and working together with departments, following rival goals in the same enterprise, resulting in so-called coopetition, setting aside differences, and working together in cross-sectional teams. It seems logical first, as companies should try to combine and apply their expertise as much as possible, including, but not limited to, different strategies concerning technologies, customer groups, supply chains, and the internal interpretation of corporate identity. The effects of these projects between multiple departments are not widely prominent in modern business management studies, further limited to mostly short-term gains rather than long-term and industry-transforming innovation effects.

1. LITERATURE REVIEW

One way to bind organization units together for collaborative working and providing competence gains is by creating cross-functional teams (Mohamed et al., 2004). A cross-functional team is a group of members with different expertise (Ghobadi & D'Ambra, 2013) working together towards a common goal, expecting to be more creative, innovative (Sethi et al., 2001), and successful (Ernst et al., 2010). Cooperative behavior strengthens the focus of cross-functional coordination (Griffin & Hauser, 1992), meanwhile, the group-orientated behavior can provide incentives to share knowledge and nurture productive interactions (Tsai, 2002). Still, on the other hand, the risk of conflict between cross-functional teams can also be higher (Levina, 2005; Tortoriello & Krackhardt, 2010). Rivalry can emerge when functional areas are competing with each other, which can reduce performance (Ghobadi & D'Ambra, 2012b; Luo et al., 2006). As a result, tensions occur among employees. This effect escalates with increasing numbers of partners and interfering responsibilities (Gnyawali & Park, 2011; Raza-Ullah et al., 2014). These cross-functional teams can take place in different dimensions, in the following the bottom to top concepts are identified and presented.

Traditional concepts of teamwork aimed to combine multiple stakeholders of a company to create groups of so-called task forces to enable a combined approach to solve issues inside the company. It was purposefully limited to "in-house productions", resulting in cooperation between either a very limited internal board of diverse, cross-functional individuals, to keep results and competencies for the sole benefit of a company. Rivaling mentality, however, can already take place in intra-firm levels, as competing for monetary goals, targets, or management expectations cannot be realized for every department simultaneously. The paper highlights the significant effects of competing and cooperating team member mentality, showing effects in both situations.

From a knowledge perspective, this approach provides the ability to cross traditional boundaries quite easily, as companies can finally source from all existing knowledge streams inside the company and go so far as including public research with untapped marketable knowledge. Realizing that with time new technological possibilities arise, all de-

partments of industrial companies must overcome challenges that are not tailored specifically to a responsible fraction inside the corporate environment. As a result, the concept of "coopetition" was created, where rivaling departments with different sets of goals set aside their competition for some time to overcome their shared challenges. Despite immediate rivalry, collaboration can co-exist with cooperation (Le Roy & Czakon, 2016). After all, the main driver of companies is to seek for an increase of their competitive advantages, to become better in the market, explore each other's know-how for private gains and control of their knowledge (Hamel et al., 1989), forbearing internal rivalries, if necessary (Le Roy & Czakon, 2016).

In 1997, the concept of coopetition in entrepreneurial circumstances was adapted, based on the so-called game theory (Brandenburger & Nalebuff, 1997). Main suggestions included that rivalizing factions should not compete, but rather cooperate and provide shared concepts and solutions to gain market advantages. Among the pioneers of the coopetition strategy were also Lado et al. (1997), and Bengtsson and Kock (1999), identifying the greatest potential of performance improvements neither in pure cooperation nor pure competition, but in coopetition. While discussing the concept of coopetition, it is crucial to include the level and dimension of cooperation inside the enterprise. This observation can be categorized by indicating the amount of knowledge exchange and sharing of business practices (Bendig et al., 2018; Dorn et al., 2016; Le Roy & Czakon, 2016; Luo et al., 2006). While mostly the focus concentrates on the enterprise level, the scope was extended even further by describing the network level, hereby including a higher-level structure, including entrepreneurial efforts of coopetition within and inbetween networks, ecosystems, etc. (Dorn et al., 2016; Lascaux, 2020).

However, creating benefits from collaboration with an internal rivalizing factions by sharing knowledge also enables the danger of extracting internal and (until now) classified knowledge, resulting in exposing the weaknesses or former advantages to the foe (Sanou et al., 2016). Eventually, this situation leads to a paradox; exposing knowledge is the purpose of coopetition, limiting it also limits the potential results and knowledge for all involved parties, while at the same time intellectual capital wants to be held back as much as possible (Bonel & Rocco, 2007). Consequently, Luo et al. (2006) outlined the cross-functional coopetition and called it the double-edged sword of cooperative and competitive behaviors. Discovering that both behaviors have positive effects on knowledge transfer and performance in the marketing, the deliberately transparent behavior in semi-hostile environments makes it unclear what potentials were missed due to limited knowledge sharing.

Collaboration between two or more different departments also results in a higher danger of intellectual and thereby personal discourse. Employees inside the same company might not identify themselves as a shared entity, both because of their origins as well as their upcoming rivalry after the coopetition-based project. Implicit knowledge might be held back purposefully, as social knowledge, originating from team spirit and corporate identity is no longer present among all members. This development might intensify into a possible "us-against-them" mentality, as two functional groups from department A and department B need to cooperate and adapt to the other (Ambrose et al., 2018). Employee rewards and recognition might increase the constructive attitude of non-executives, however different personalities, being inside the same or in different teams, react differently to internal competition, seeing it either as encouragement or exploitation (Naidoo & Sutherland, 2016). Moreover, shared resource pools, different goals, and backgrounds of the team members can also lead to tensions, resulting in lower team performance (Pee et al., 2010). Employees need to create a common identity in coopetitive activities to overcome the risks, underlining the significance of cooperative leadership (Gnyawali & Park, 2011; Raza-Ullah et al., 2014).

The paper concentrates on generating insights into the benefits regarding knowledge management in the environment of cross-functional team coopetition. It elaborates on the specifics of coopetition, highlighting the differences of coopetition inside and between teams in intra-firm environments, comparing them to current industry-standard cooperative approaches inside the limits of enterprises. These insights are categorized into three groups, sorted by the time necessary for the successful measurement of these factors. Therefore,

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the following research question was raised:

How does cross-functional teamwork between and inside two or more rivaling departments influence the accumulation and manifestation of implicit knowledge?

Due to this wide range of aspects that have different influences on coopetition, this study lacks a clear synthesis of the previous findings. To reflect the current state, the literature analysis examines factors and aspects that contribute to cross-functional team coopetition during the last 11 years.

Several systematic literature reviews were conducted on the topic of coopetition. Applying three academic databases and the top 10 journals, Dorn et al. (2016) analyzed articles related to coopetition using the keywords *"co-opetition, co-operation, competition"*. In total, after filtering out, 169 articles were found applicable. The literature was grouped, subsequently divided into different phases, as the initial phase, the managing phase, and the evaluation phase, but also different levels, such as network level, inter-firm level, and intra-firm level (Dorn et al., 2016). Simultaneously, Bengtsson and Raza-Ullah (2016) published a systematic literature review, achieving similar results when classifying the relevant articles into intra-firm, network, dyadic and triadic levels. Remarkably, only 5% of the relevant literature is on the intra-firm level. Moreover, the outcome of the different literature was categorized in innovation, knowledge, performance, and relationship. Based on Bengtsson and Raza-Ullah (2016), the methodology follows these categories to classify the articles. Bouncken et al. (2015) identified 82 articles by using the keywords *"co-op* and coop*"* in different literature databases. They also give insights into potential dimensions for future coopetition studies, ranging from a micro level (individual) to a macro level (inter-firm, network).

The systematic review is based on the PRISMA concept (Moher et al., 2009). In a first step, the literature is extracted from Emerald and Elsevier literature databases. In the context of the study, the following search terms were applied for the evaluation of the databases to texts, titles, abstract and author-supplied keywords: *"cross-functional coopetition, interdepartmental coopetition, inter-disciplinary coopetition"*. These search terms were entered in each database. These generic words were chosen as the terminology and findings from studies are rarely in coopetition studies, often finding their way on other theories (Dorn et al., 2016). Focusing on the generic team level, these keywords were deemed as the most reasonable. It should be noted that there is a vast range of articles to be considered applicable; thus, some limitations should be applied to narrow the search. Primarily, only English-language publications that are frequently cited were taken into account for their high traceability and quality (Lukassen & Wallenburg, 2010). The automatic database search is limited to the literature published from 2010 to 2021. Next, the evaluated literature publications were limited to the following areas:

1) the literature must deal with coopetition of cross-functional teams;

2) focus on the industry sector; and

3) discuss success practices, factors, and aspects.

Table 1. Review protocol

Source: Authors' elaboration.

Research question	How does cross-functional teamwork between and inside two or more rivaling departments influence the accumulation and manifestation of implicit knowledge?
Information sources	Emerald, Elsevier, Google Scholar, JSTOR, SpringerLink, Web of Science
Filter criteria	***Publication date:*** 2010–2021 ***Language:*** Only English-language publications
Search strategy	***Selection process:*** Only articles, which deal with success practices, factors of cross-functional teams focusing on the industrial sector
Data synthesis	***Qualitative synthesis:*** Articles are briefly presented with a focus on success factors and practices. These aspects are grouped to answer the research question

In the first procedure, the search terms described in Table 1 are entered crosswise. The combinatory are repeated for all databases. The automatic database search yielded 2,597 hits. After filtering by years of publication, publication date, type of publication, language, and searching only in title, abstract, or keywords specified, the database search yielded 528 hits for the literature databases (Table 2).

As all databases included redundant journals, 29

Table 2. Filter criteria

Source: Authors' elaboration.

Database	Total results	Period 2010–2021	Only peer-reviewed article	Results after filtering
Google Scholar	1,960	1,590	–	100
JSTOR	192	119	112	112
Web of science	40	38	38	38
Elsevier	188	161	138	138
Emerald	148	130	123	123
Springer link	69	67	17	17
Total	2,597	2,105	428	528

articles were removed due to this phenomenon. The remaining 499 hits were evaluated based on the titles and the abstract in terms of whether they could contribute to answering the research question. Here, a subjective evaluation is decisive for further filtering. The scrutinized findings were considered as not relevant when articles did not deal with the coopetition of cross-functional teams. Firstly, articles were excluded, when they were not addressing both coopetition and competition as main concepts, e.g. Ali Köseoglu et al. (2016), Rafi-Ul-Shan et al. (2018), and Zhao and Peng (2018). Secondly, some articles dealt with a too limited scope of inter-department workgroups instead of cross-functional teams, e.g. Anand et al. (2021), Burström (2012), Chai et al. (2019), Hani and Dagnino (2020), and Soppe et al. (2014). Thirdly, particular articles were removed, if coopetition was only used as a catchword, but the article did not relate coopetition to business or management (Holgersson et al., 2018; Zuccalà & Verga, 2017). After reviewing the titles, 246 hits remained, and 173 articles were further removed after the screening of the abstract. Lastly, the remaining 73 publications were screened in their entirety. During the search of current publications, a series of studies discussing coopetition as a general characteristic in industrial companies were identified but evaluated as lacking the specification of applied methods, procedures, etc. Consequently, these studies were rejected. In total, 21 of the 73 publications were relevant for the systematic review. From the screening, the references of the relevant studies were also checked, which led to further publications that were also rel-

Source: Authors' elaboration.

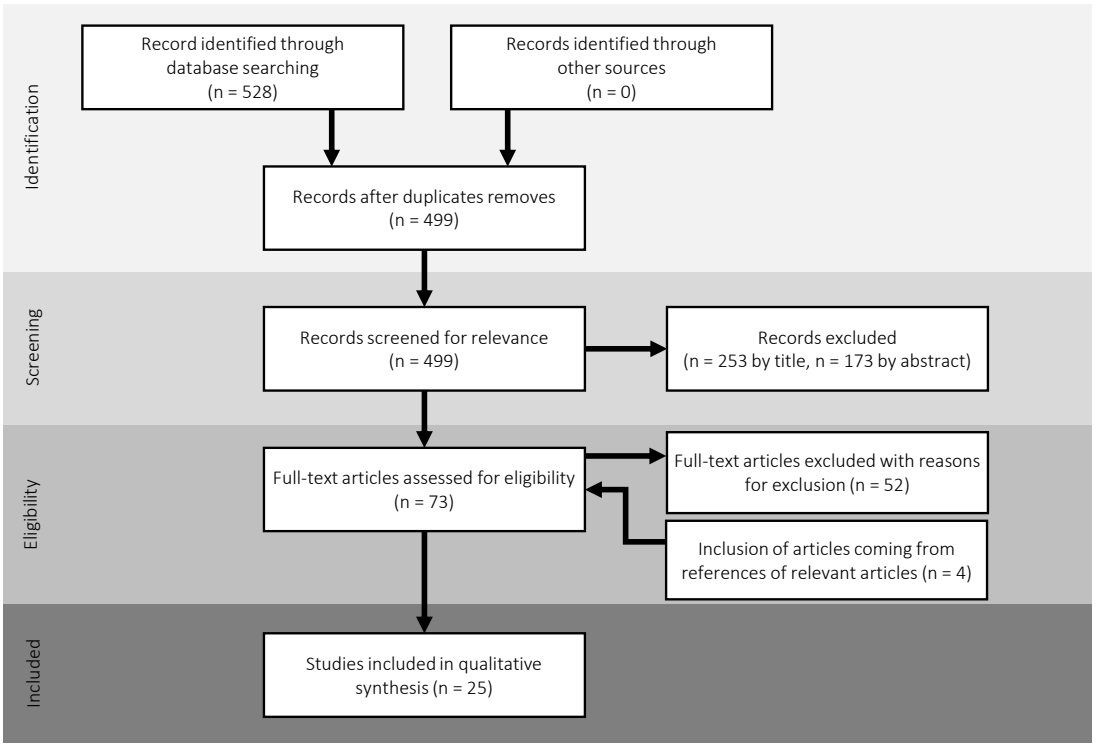

Figure 1. Screening process based on the PRISMA model

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evant. Thus, 4 additional articles were included in the review (Figure 1).

Based on the sourced literature, publications have dealt with knowledge sharing and the influence of cooperation (Chiambaretto et al., 2019; Ghobadi & D'Ambra, 2012a, 2012b, 2013; Lin et al., 2010; Nguyen et al., 2018; Nguyen, 2020; Zhang & Guo, 2019). Direct cooperation expresses itself by expanded communication, advancing relationships, and team-focused task orientation. These processes correlate positively with knowledge-sharing behaviors (Ghobadi & D'Ambra, 2012a; Lin et al., 2010).

Coopetition between two departments, however, leads to additional challenges, as formerly rivaled parties interact with each other, often in a converging way. This effect can take place inside the newly founded task forces or in between two teams, as they both try to reach their goals. As resources are limited and management set clear goals, the perception of competition leading to a negative influence on knowledge sharing is predominant (Chiambaretto et al., 2019; Ghobadi & D'Ambra, 2012a). Differing interest is featured as the most prominent issue as competition for scarce material resources contributes to team members working together cooperatively, while the competition of intangible resources reverses the mechanic and eventually leads to a more competitive team communication and task orientation (Ghobadi & D'Ambra, 2012a). Indicating the missing connection between team members, Ghobadi and D'Ambra (2013) argued that various interdependencies among team members help bolster the interactivity and dismantle the competitive mindset, thereby allowing the accumulation and acquisition of strategic knowledge.

Besides the simple exchange of knowledge through sharing between multiple parties, adapted leadership is also a relevant factor that influences the interplay of cross-functional teams (Strese et al., 2016a). Elements from both supportive and participative leadership allow the necessary emotional and respectful environment for productive efforts on the one hand while allowing all team members equally get involved in decision-making instances to promote the feeling of responsible acting rather than simple task-completing. As a result, redundancies are cut down while shared standards and methods can be established (Chiambaretto et al., 2019). Differing factors like diversity, gender, task activity, education, and knowledge basis positively influence interpersonal exchange (Liu et al., 2020). Missing out these principles of human interaction can lead to devastating side-effects, as especially more experienced team members can slow up or even block the team-based work concept, due to not receiving the professional respect of their overall career path and thereby accumulating a vast knowledge portfolio.

With the limit to just a few hierarchical levels and thereby less communicative boundaries between team members, the power distance between superiors and team members can be reduced, effectively increasing performance and avoiding unclear goals or tasks (Schneider & Engelen, 2015). For successful teamwork, however, the full use of knowledge diversity is required. This factor is intensified by the adjusted leadership method, further enhancing performance within cross-functional teams (Zhang & Guo, 2019). Each team member must understand the importance of knowledge heterogeneity and how to access specialized knowledge within different team members to prevent knowledge asymmetry. Knowledge heterogeneity indicates how well common knowledge is distributed among the team. Imbalance in these relationships threatens the team climate, as common approaches cannot be executed in a coordinated space. A harmful climate also prohibits the use of cross-functional knowledge and technologies developed by other business units, as personal hostility blocks the knowledge transfer (Chiambaretto et al., 2019). So-called knowledge brokers can help by driving knowledge sharing within a firm. Chiambaretto et al. (2019) further expanded the topic through qualitative analysis and found that knowledge brokers can create knowledge-sharing benefits between companies, within a company, and for a project team. To ensure their success, they must manage internal coopetitive tensions. This can be achieved through the protection of the competitive advantage of entities by reducing the cost of sharing by standardizing innovative solutions and increasing awareness and trust in innovative solutions by centralizing knowledge sharing. Facilitating the interpersonal relationship between the teams allows the buildup of constructive criticism and a polite and productive tone, allowing better understanding and problem-solving

in upcoming critical situations. Getting departments to open up their competitive advantages is a tough challenge, as no corporate representative willingly gives up their department dominance. Invested resources, time, and foremost the taken risk to reach specific knowledge is seen as too valuable to be shared that easily. Still, there are mechanisms to postpone the release of such knowledge in coopetitive situations. The introduction of the so-called lagging processes allows a defined time frame, where pioneers of innovative knowledge can capitalize on their ideas, while still allowing project partners to catch up on these ideas after a certain time and gain advantages for their department as well (Albort-Morant et al., 2018).

However, these processes only touch subsurface and clearly noticeable knowledge developments, often blanking out the necessary steps for implicit knowledge generation. Regular meetings and social networks, built upon regular interactions and trust, further strengthen the togetherness among the team (Seran et al., 2016). Thereby, diverse origins of the team composition can be respected and valued without someone feeling left out. Thus, the relationship within and between the team members, supported by the local organizational structure itself, results in a major benefit on direct productivity. An et al. (2020) argued that organizational identification of teams can have a critical impact on inter- as well as intra-team productivity. Through a shared organizational behavior, proposed and followed up by a top-to-bottom approach, methodical and thereby time and resource-intensive processes not directly connected to the group's mission can be dealt with in a short time frame.

Adding to the explicit organizational structure, human relations are the key factors for a professional and productive relationship in diverse teams of coopetition. Different coordination styles such as decentralization, formalization, informal networking, and lateral relation often lead to unconsciously generated knowledge, indispensable for cross-functional knowledge sharing (Nguyen, 2020). Further social interaction and making all team members familiar with a combined, individually tailored norms and vision perspectives inside coopetitive environments allow the growth of trust and social capital (Baruch & Lin, 2012). The existence of the latter is crucial to achieving higher team performance and thereby in the founding of team-exclusive competencies. Additionally, the factor of a shared cultural understanding delivers a significant contribution to efficient knowledge management. Group identity, development, and error management culture correlate positively with cross-functional coopetition (Knein et al., 2020). Lastly, job rotation and joint rewards are also significant drivers to increase performance within a coopetitive environment, with smaller companies benefiting more, as their human resources are limited and thereby rely on the individual know-how of each team member (Thongpapanl et al., 2018).

Achieving direct results and thereby boosting productivity and efficiency correlate directly with the financial goals and most often shareholder interests of an enterprise, measurable from an external view. Organizational and human relations concerning effects reflect the internal, daily business practice, which needs weeks to months to successfully establish itself and represent the social component. The third missing key component is institutional and thereby upcoming business decisions shaping innovation perspectives. Innovation management defines itself through the combination of multiple effects and cannot be broken down into objective or direct necessities. Instead, coordinated and long-term efforts need to be concentrated to reach innovative results. Due to the prolonged input and the high risk of potential mismanagement, most businesses rely on incremental innovation, as achievements of the recent past can be maintained, and investments can be kept in check. However, radical innovations are those, which propose the highest return on investment, as they not just disrupt the current status quo, but also create new markets, customer interest, and thereby growth. Coopetition proposes the highest potential for these radical innovations (Chen et al., 2020; Chen et al., 2021; Strese et al., 2016b). In this context, innovations are addressed through the introduction of a new product, a new market, but also service innovations, such as new service concepts, new customer interactions, and many more (Chen et al., 2021). Through the experience of multiple departments present in these cross-functional teams, different first results of both radical and incremental ideas can be combined, thereby lowering the financial and entrepreneurial risk of spe-

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cific technological concepts, as unsolved questions of one party can be complemented by the other, synthesizing the knowledge (Chen et al., 2020). At a first glance, these effects seem to be exclusively applying to corporate and thereby financial-related businesses. Still, this phenomenon is not unique; non-profit organizations can profit from these methods as well. Although the motivation to cooperate and compete in profit organizations is characterized by monetary aspects and non-profit organizations tend to follow idealistic goals, ideas alone are not sufficient for successful knowledge exchange. NPOs might show a reduced hostile attitude towards competition, while for-profit companies are willing to trigger such an effect. Aspects like funding or planning of expenses still propose a threat, when not addressed cooperatively (Moczulska et al., 2019).

Table 3 shows the qualitative synthesis of the identified literature. The articles are classified and presented in three knowledge management influencing outcomes: performance, relationship, and innovation. It should be noted that when classifying the outcome, these factors often overlap. Therefore, after subjective review, the classification was assessed according to the most obvious outcome.

2. DISCUSSION

25 relevant publications for cross-functional coopetition were categorized into groups by their content. It becomes clear that coopetition of cross-functional teams leads to changes in various knowledge-related outcomes. These outcomes were sub-classified ultimately into the effects on the research areas of performance management, relationship management, and innovation.

Based on the results, knowledge was evaluated as a crucial resource, a deciding factor of successful strategic competitiveness. However, the facilitation of knowledge sharing alone can be seen as insufficient. Through the change and adoption of new processes, notable *performance* developments can be achieved inside the company boundaries (Yang, 2010), resulting in the direct reduction of sharing costs as processes become more streamlined and allowing operational benefits. These costs are quantifiable as neglecting the performance results in increased project lengths, the failure to meet internal goals or even destructive behavior of team members through the unforgiving strict rule of superiors. Coordinated efforts and a common understanding of knowledge practices are the foundation for basic cooperation, as without it a team-based approach would be impossible. This effect, often captioned as process management, has been valued by entrepreneurs of all scales alike (Reich et al., 2014), as it allows slow and incremental changes over a predefined time frame while conserving past investments. Results, often labeled quick wins or gains, further increase the danger of a limited focus on already existing products and services and thereby delaying radical approaches (Kemp, 2010).

Reaching a step further is a deeply integrated *relationship* between individual members as well as all teams inside the company. Communication and social interactions are deemed as the key factor here, especially through previously untapped channels, mostly creating deeply connecting informal networks. As a result, a buildup in trust and respect together is essential as only a shared conversation allows the diffusion of a shared vision and mission, decentralizing the work environment and making constant control and supervision needless. Supported by a unique organizational and cultural learning structure, companies can make sure that organizational cohesion is maintained while ensuring the cross-functional team is sticking to the predefined goals and profit from other organizational entities inside the same company ecosystem. Furthermore, a respective tone and individual focus can be achieved, allowing further advancements in interhuman relationships. This process, however, needs an undefined amount of time, as individual team members have individual approaches and social mindsets. Furthermore, pure diversity and understanding between team members alone do not improve performance (Urionabarrenetxea et al., 2021). High competence of the team leader and prior experience among team members are significantly influencing the success of any team project. This makes a long-term and repeated cross-functional team practice irreplaceable, as through the agglomeration of previous short-term successes strategic benefits can be achieved. Consequently, individually tailored teams need personalized organiza-

Table 3. Summary of most relevant social aspects from the literature review

Source: Authors' elaboration.

Knowledge management					
Outcome	**Relevant factor**	**Classification**	**Gain**	**Literature**	**Journal**
Performance-related outcome	Interdependence of cross-functional teams	Knowledge leadership	Reduction of sharing costs	Ghobadi and D'Ambra (2013) Zhang and Guo (2019) Strese et al. (2016a)	Information Processing and Management Information & Management Industrial Marketing Management
	Task orientation and clarification		Coordination through the creation of standards	Ghobadi and D'Ambra (2012a) Ghobadi and D'Ambra (2012b)	Journal of Knowledge Management Journal of Systems & Software
	Power distance	Power-sharing	Fair and equal consideration of knowledge	Schneider and Engelen (2015) Bendig et al. (2018)	Journal of World Business Industrial Marketing Management
	Job rotation		Diversification of knowledge	Thongpapanl et al. (2018)	Entrepreneurial Behavior & Research
	Joint reward				
Relationship related outcome	Communication and social interactions	Informal networking and psychological incentives	Knowledge brokers	Ghobadi and D'Ambra (2012b) Nguyen et al. (2018) Baruch and Lin (2012) Chiambaretto et al. (2019) Albort-Morant et al. (2018), Liu et al. (2020)	Journal of Systems & Software Industrial Marketing Management Technological Forecasting and Social Change Review of Managerial Science Journal of Knowledge Management
	Shared vision and mission	Decentralization	Coordination	Lin et al. (2010) Nguyen (2020)	Computers in Human Behaviour Journal of Intelligence Studies in Business
	Trust and respectful tone	Lateral relations	Distributed responsibilities	Lin et al. (2010) Nguyen et al. (2018) Seran et al. (2016)	Computers in Human Behaviour; Industrial Marketing Management
	Organizational and cultural learning	Promotion of organizational cohesion and efficiency	Social cohesion	Naidoo and Sutherland (2016) Strese et al. (2016b)	South African Journal of Business Management; Industrial Marketing Management
		Shared organizational identity		An et al. (2020)	Industrial Marketing Management
		Respect and support of individualism		Knein et al. (2020)	Journal of International Management
Innovation	Combination of upper mentioned factors and methods through a prolonged time		Radical, mainly product, innovation resulting in diversification and growth	Chen et al. (2020) Chen et al. (2021)	Journal of Business & Industrial Marketing

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Source: Authors' elaboration.

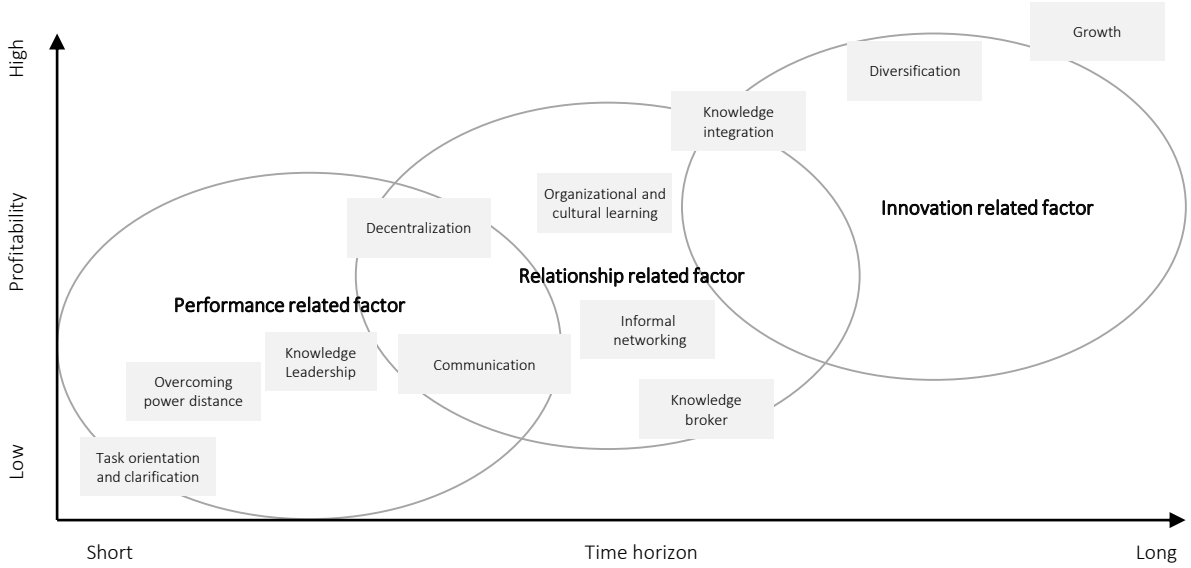

Figure 2. Classified factors assigned to the dimension "Profitability" and "Time horizon"

tion and communication patterns and not generically applied methods focusing on pure performance (Barendsen et al., 2021). As a result, individual management practices can be less and less directly definable as each enterprise needs its own and distinct knowledge management strategy to reach the goal of long-term profitability.

Resulting from the short- and mid- to long-term profitability influencing concepts, the missing *innovation* focus in the use of cross-functional team structures was highlighted, visualized in the summary of the analyzed study shown in Appendix A. Long-term investment, embodying innovation, is often unflavored due to the high-risk, high-reward concept. However, issues of global scale, most prominently the necessity of greening on an industry-wide level, make a shift towards better strategies essential (Ha et al., 2016), penalizing lock-in effects and the refusal of questioning the status quo. Therefore, innovation can be seen as a direct consequence of knowledge management (Mardani et al., 2018), fostered using cross-functional team coopetition. To refer to the research question at hand, it is evident that the use of coopetition in internal and external scenarios during teamwork, results in short-, mid- and long-term effects, shaping the future development of practicing companies on a methodological and interdisciplinary level. Thus, each factor from the literature review was extracted, arranged, and categorized by the effects of profitability and the necessary time horizon to effectively develop them. Notably, the more time progresses, provided that the previous factors are given, step for step unregulated, and thereby competitiveness increasing innovativeness can be achieved (Moradi et al., 2021).

CONCLUSION

The purpose of the systematic review was pursued by clustering the results of the current study. The background and origins of team-based work approaches and the extraction of short-, mid- and long-term goals influencing the effect on knowledge generation were prioritized. Thus, the results of the study showed that most status-quo findings were deemed short-sighted. Besides the superficial and directly monetizable aspects, most implicit knowledge is generated through periodic human relationships. Contrary to the rise in need of radical innovation, prominently pushed by the change in ecological perception of customers, many enterprises favor slower and limited innovation concepts. Hence, they feel insecure about taking huge risks, resulting in potentially devastating financial consequences.

Coopetition can help stabilize the uncertain strategies, as experts of each department can set aside differences to master challenges, which touch the company as a whole.

The paper is characterized by the following limitations. While incorporating all available studies was a top priority, the risk of missing out single insights can be present as only six major databases were considered. Furthermore, only coopetition among cross-functional teams was examined. Influence of external factors, like shareholder activities and differing interests between hierarchical levels were not considered.

Further studies should focus on the boundaries and possible negative side-effects of coopetition. The danger of relying exclusively on coopetitive projects in all areas of expertise might culminate in the creation of monopolistic concepts, where key personalities might purposefully reject other concepts than the status quo for personal or enterprise-internal political gain. All participants of innovation (enterprises and their direct stakeholders, institutions, the public society, and independent research facilities) must be included in the innovation process one way or the other, as otherwise lock-in effects and inefficient market structures can occur.

AUTHOR CONTRIBUTIONS

Conceptualization: Anh Don Ton.
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Investigation: Anh Don Ton, Laszlo Hammerl.
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Project administration: Anh Don Ton.
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APPENDIX A

Table A1. Outcome matrix on different levels

Source: Authors' elaboration.

Articles	Impacts on knowledge generation					
	Performance related		Relationship related		Innovation related	
	I-T	W-T	I-T	W-T	I-T	W-T
Lin et al. (2010)	–	x	–	–	–	–
Ghobadi and D'Ambra (2012a)	x	x	x	x	–	–
Baruch and Lin (2012)	–	x	–	–	–	–
Ghobadi and D'Ambra (2012b)	x	x	x	x	–	–
Ghobadi and D'Ambra (2013)	x	x	x	x	–	–
Schneider and Engelen (2015)	x	–	–	–	–	–
Raza-Ullah et al. (2014)	–	–	x	x	–	–
Strese et al. (2016a)	x	–	–	–	–	–
Seran et al. (2016)	x	x	–	–	–	–
Strese et al. (2016b)	–	x	–	x	–	–
Nguyen et al. (2018)	x	–	–	–	x	–
Raza-Ullah (2020)	x	x	x	x	–	–
Chiambaretto et al. (2019)	–	–	–	–	x	–
Bendig et al. (2018)	x	x	–	–	–	–
Thongpapanl et al. (2018)	x	x	–	–	–	–
Zhang and Guo (2019)	–	x	–	–	–	–
Knein et al. (2020)	–	–	x	x	–	–
An et al. (2020)	x	x	x	x	–	–
Chen et al. (2021)	–	–	–	–	x	–
Chen et al. (2020)	–	–	x	–	x	–
Nguyen (2020)	–	–	–	–	–	–
Moczulska et al. (2019)	–	–	–	–	–	–
Liu et al. (2020)	–	x	–	–	–	–
Albort-Morant et al. (2018)	x	x	–	–	–	–
Naidoo and Sutherland (2016)	x	x	–	–	x	x

Note: W-T means within-team; I-T means inter-team.

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