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Researchers' reflections on values, mechanisms, and dynamics of knowledge and information sharing in international academic projects

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Abstract

Introduction. Knowledge/information sharing is among the vital necessities of effective scholarly collaborations. This study investigates the role of knowledge/information sharing among project members in international academic projects through the lens of Structuration Theory.

Method. The study is based on semi-structured interviews with 28 academicians and researchers from India, Norway, Poland, and South Africa, who have been involved in international academic projects.

Analysis. The transcriptions were imported into F4Analyse software (version 3.4.5) and were coded.

Results. The study reveals three main themes: 1) the significance and value of sharing, 2) mechanisms and platforms for effective communication and sharing, and 3) interpersonal dynamics and challenges in sharing. Each theme highlights critical aspects of the dynamics in international academic collaborations.

Conclusions. The findings underscore the complexities and challenges in these collaborations, such as power dynamics, the potential risks of sharing, and the possibility for exploitation. The study concludes that the process of sharing transcends mere dissemination of information, being deeply rooted in mutual respect, acknowledgment of contributions, and openness. This study contributes to a deeper understanding of the dynamics of information sharing in international academic collaborations.

Introduction

Sustainable Development Goal 17 (SDG 17) emphasizes the importance of partnerships and collaboration for achieving sustainable development goals (United Nations, 2015). Effective information sharing is a critical component of such partnerships, fostering stronger collaboration and enhancing collective action capacities. Songate et al. (2023) highlight the need for intensive knowledge production and transfer in today's competitive global landscape. They stress the significance of information sharing in diversifying and integrating knowledge production actors, highlighting its role in social responsibility amid global disparities. They argue that international academic collaborations, by enabling cross-border knowledge transfer, spur creativity and global innovation. Furthermore, they propose that the internationalization of science enriches knowledge sharing, making it a key driver in advancing science and technology. However, Fosci et al. (2019) investigated the policies and practices of the European research funders on open science and underscored the importance of Incentivising researchers for open sharing of data and information.

Information sharing is a vital component of human activity and plays a crucial role in knowledge management and collaboration within organizations (Ahmad & Huvila, 2019; Ahmad & Karim, 2019; Savolainen, 2019; Widén & Hansen, 2012). Pham and Williamson (2018) explored the interconnectedness of information sharing and collaboration in academic and library staff settings within one Australian and one Vietnamese university. Their research employed an interpretive qualitative approach with data collected from 41 interviews, a focus group, a workshop, and numerous informal conversations with 58 participants. Their analysis revealed that while the Vietnamese university lacked the structural support for collaboration found in the Australian counterpart, this was compensated by the initiatives of the library staff, demonstrating the power of human agency. Trust and technology emerged as supportive elements in promoting effective collaboration and information sharing. The researchers concluded that successful collaboration relies on information sharing and vice versa. They underscored the role of supportive infrastructure, human agency, trust, and technology in fostering collaboration and information sharing.

Sharing information/knowledge can occur not only in organizations with formalized physical structures but also in temporary constructs established for a specific purpose, such as research teams undertaking international scientific collaborations or teams whose collaboration is based on joint works on projects. Information sharing is integral to effective collaboration, and its effectiveness is influenced by various factors, including organizational context and project characteristics (Ren et al, 2019). Effective knowledge sharing in multi-stakeholder collaborations hinges on several factors, including a common understanding and commitment to the project's goals, initial respect and trust among members, and the presence of strong, charismatic leaders (Molina & Yoong, 2003). Trust has been regarded as an important antecedent of information sharing, and any lack of trust can increase the likelihood of miscommunication and withholding of information, which in turn can affect the success of the project and the sustainability of the partnership (Yue et al, 2022). Besides, concerns about confidentiality and limited access to resources can hinder information sharing and could lead to an increased risk of errors and influence work quality (Auschra, 2019). Despite the recognized importance of information sharing, there is a gap in understanding how knowledge/information sharing among project members contributes to the success or failure of international academic projects. This gap is particularly evident in the context of temporary constructs such as research teams in international scientific collaborations. Therefore, our study aims to address this gap by exploring the following overarching questions:

- How can the process and models of knowledge/information sharing among project members influence the success or failure of international academic projects?

- What experiences or reflections can inform the selection of the most effective information sharing model?

To guide this exploration, the study will utilize Giddens' Theory of Structuration (Giddens, 1984). The theory provides a robust framework for studying information sharing among researchers by integrating the interplay of structure and agency. It explains how human behavior is shaped by both individual actions and the social structures that these actions produce and are constrained by. This duality of structure shows that social structures are both the medium and outcome of repeated practices. Researchers' information-sharing behaviours are influenced by institutional structures like academic norms, funding bodies, and policies, as well as individual actions such as data sharing and collaboration. Additionally, the theory addresses the impact of power relations and resource access on researchers' ability and willingness to share information, which is essential for identifying barriers and developing effective strategies.

The study will provide a deeper understanding of the role of information sharing in the success or failure of international academic projects and will potentially inform the development of more effective information sharing models for such collaborations, contributing to the successful realization of SDG 17.

Method

Our study is based on a research project conducted using semi-structured interviews (including 12 questions on international academic collaborations) with 28 academicians and researchers who had prior involvement in at least one international academic project. The participants were purposefully selected from four diverse countries: India, Norway, Poland, and South Africa. These countries span a broad spectrum of geographical regions, cultural contexts, and economic conditions, encompassing Eastern European, Nordic, African, and South Asian cultures. This rich cultural mix, combined with varying levels of English proficiency, amplifies the diversity of the sample. This comprehensive representation enables an in-depth exploration of academic collaborations in different contexts. The features of participants are drawn in Table 1.

Interviewee code	Discipline	Working place	Gender	Age	Academic Rank
Indian sample (8)					
IND-HUM1-Univ-F-P	HUM	Univ	F	51-60	P
IND-HUM2-Univ-M-A	HUM	Univ	M	61+	A
IND-MET1-RC-M-P	MET	RC	M	51-60	AP
IND-MET2-Univ-M-P	MET	Univ	F	61+	P
IND-NAS1-Univ-F-P	NAS	Univ	F	61+	P
IND-NAS2-Univ-M-P	NAS	Univ	M	51-60	P
IND-ET1-Univ-M-P	ET	Univ	M	51-60	P
IND-ET2-Univ-M-P	ET	Univ	M	51-60	P
Norwegian sample (8)					
NOR-HUM1-Univ-F-AP	HUM	Univ	F	41-50	AP
NOR-HUM2-Univ-M-P	HUM	Univ	M	61+	P
NOR-MET1-UnivCol-F-AP	MET	UnivCol	F	41-50	AP
NOR-MET2-Univ-M-AP	MET	Univ	M	41-50	AP

NOR-NAS1-UnivCol-M-P	NAS	UnivCol	M	51-60	P
NOR-NAS2-UnivCol-F-AP	NAS	UnivCol	F	41-50	AP
NOR-ET1-Univ-F-P	ET	Univ	F	51-60	P
NOR-ET2-UnivCol-M-ASP	ET	UnivCol	M	50-60	ASP
Polish sample (6)					
POL-HUM1-Univ-F-AP	HUM	Univ	F	41-50	AP
POL-HUM2-Univ-F-ASP	HUM	Univ	F	51-60	ASP
POL-NAS1-Univ-M-AP	NAS	Univ	M	51-60	AP
POL-NAS2-Univ-F-AP	NAS	Univ	F	41-50	AP
POL-ET1-Univ-M-ASP	ET	Univ	M	30-40	ASP
POL-ET2-Univ-M-P	ET	Univ	M	41-50	P
South African sample (6)					
SA-HUM1-UNIV-M-P	HUM	Univ	M	30-40	P
SA-HUM2-UNIV-M-P	HUM	Univ	M	51-60	P
SA-MET1 -UNIV-M-ASP	MET	Univ	M	30-40	ASP
SA-MET2-UNIV-F-P	MET	Univ	F	51-60	P
SA-NAS1-UNIV-F-ASP	NAS	Univ	F	30-40	ASP
SA-NAS2-UNIV-F-ASP	NAS	Univ	F	41-50	ASP

Note for table 1.
Disciplinary codes: HUM: Arts, humanities, and social sciences, MET: Medical and health sciences, NAS: Natural and agricultural sciences (NAS), and ET: Engineering and technology
Gender codes: F (female), M (Male)
Working place codes: Univ (University), UnivCol (University college), RC (Research institute/centre)
Academic rank codes: ASP (Assistant professor), AP (Associate professor), P (professor), A (Academic Advisor)

Table 1. The features of interviewed participants (n=28)

For this study, the data on questions regarding knowledge and information sharing during international academic collaborations were analysed. These questions were formulated as follows in the interviews:

> *how could the knowledge/information sharing among project members contribute to the success/failure of the international collaborative projects? Do you have any experience with/reflections on that? Which information sharing model could work better than others?*

The transcriptions were imported into F4Analyse software (version 3.4.5) and were coded. The draft of codes was extracted from the transcription by one author, and the co-authors critically assessed the extracted codes and emerged themes to check the relevance and precision of assigned codes and themes. The reliability and validity of the analyses were sought via three approaches mentioned by Merriam and Grenier (2019, p. 31): 1) triangulation (using multiple

sources of data, this is, cross-country data), 2) variations and diversity (via covering a diverse sample from various disciplines for greater applicability of the results in practice), and 3) deep and rich descriptions (i.e. providing enough description for contextualization of the study and transferability of the findings). The emergent themes/codes were discussed and decided by all authors.

Results

Three main themes emerged from our data that capture the essence of information sharing behavior among researchers in international academic collaborations. These themes, each associated with a set of codes, provide a comprehensive understanding of the dynamics at play in such collaborative environments.

The first theme, ***the significance and value of sharing***, underscores the importance and perceived value of information sharing in these collaborative settings. This theme encompasses codes such as the importance of sharing, valuing shared information and respecting experience/expertise, and willingness to share and trust. These codes collectively highlight the critical role of sharing in enhancing the overall productivity and success of international academic collaborations.

The second theme, ***mechanisms and platforms for effective communication and sharing***, pertains to the mediums and mechanisms through which information is shared. The emergence of codes like effective communications and forums, safe systems/platforms, physical meetings, and documented guidelines/organized information under this theme indicates the need for robust and secure platforms that facilitate efficient communication and sharing of information.

The third theme, ***interpersonal dynamics and challenges in sharing***, explores the interpersonal factors and potential hurdles in the information sharing process. The associated codes include collective action, power tensions, risks of sharing, and the leaders' role. These codes shed light on the complexities and conflicts that might arise in information sharing and underscore the need for effective leadership to navigate these challenges.

Theme 1. The significance and value of sharing

The first theme of the study is centred around the importance of sharing, valuing shared information, and the willingness to share and the role of trust in the information sharing process.

Importance of sharing

Researchers from all four countries have emphasized the benefits of sharing expertise and experiences. Such sharing can introduce new references, resources, and perspectives that might not have been considered otherwise, contributing to a project's success. However, inefficient knowledge exchange could potentially harm project implementation.

> *The benefits [of information sharing], obviously, is that you are sharing the expertise and the experiences of a wide variety of people that may differ and may be able to complement each other.* (SA-NAS2-UNIV-F-ASP).

> *By openly sharing knowledge, members bring in new references, resources, and perspectives that may not have been considered otherwise.* (IND-HUM1-Univ-F-P).

> *I actually think that we have quite good information sharing, and I think that it is important to be, positively inclined.* (NOR-MET1-Univ-F-AP).

> *As the exchange of knowledge and information is not efficient, it can harm the implementation of the project.* (POL-HUM2-Univ-F-ASP).

Valuing shared information, respecting experience or expertise

Our data reveals the importance of attentiveness to shared information and acknowledging each other's thoughts and input. Researchers from Norway and Poland emphasized the importance of valuing the contributions of more experienced team members. An Indian researcher highlighted the role of mutual respect in successful collaboration, and a Norwegian researcher suggested that credit/incentives could be given for sharing information or data.

> *… listening to the dialogue and being very attentive to the information shared is very important… when you work on things together, that you acknowledge each other and acknowledge each other's thoughts, ideas, and input, and not necessarily go directly in and criticize.* (NOR-MET1-Univ-F-AP).

> *If we say that with such a strictly project that, for example, we have to determine, I don't know, the structure of questionnaires, research questions, well, here people with more experience, well, they can certainly give a greater contribution.* (POL-HUM1-Univ-F-AP).

> *… mutual respect is equally important. While one may be ready and willing to share knowledge, it is vital that the other members value and respect the shared information, even if they hold differing opinions. Successful collaboration is not just about sharing but also about acknowledging and appreciating the contributions of others, fostering an environment of intellectual respect and openness.* (IND-HUM1-Univ-F-P).

> *… maybe one should have gotten a little credit [for sharing information/data] in a way.* (NOR-NAS2-UnivCol-F-AP)

Willingness to share and trust

Researchers from Norway, Poland, and India emphasized the importance of motivation and openness in the knowledge-sharing process. It was noted that the level of engagement in knowledge sharing can vary among individuals, ranging from full involvement to minimal participation. Effective collaboration was seen to hinge on the willingness of all members to share their knowledge.

> *People look at it [knowledge sharing] in a very different way, that some are all in, and that others are [at] a minimum [level]* (NOR-NAS2-UnivCol-F-AP).

> *As I said, this very motivation is basically everything, so openness is the most important thing, so it's better to communicate even this negative knowledge than to hide something and later have problems because of it*(POL-ET1-Univ-M-ASP).

> *Knowledge sharing is critical for the success of international academic projects. Effective collaboration depends on the willingness of all members to share their knowledge. My experience shows that projects with open knowledge sharing tend to succeed, while reluctance to share knowledge can hinder progress*(IND-HUM2-Univ-M-P).

Researchers from all four countries highlighted the role of trust in successful sharing. Trust among partners was seen as a critical factor that enables the willing sharing of resources without fears of exploitation. It was also noted that a lack of trust could lead to the independent evolution of projects, despite the existence of a collaborative relationship. Positive experiences involving respect for intellectual property and effective communication were seen as crucial to fostering trust and willingness to share.

> *Knowledge sharing it will lead to a synergistic success. but if there's no trust the two projects' collaborators they might have to actually evolve independently, even though they are using their relationship to grow certain parts* (SA-NAS1-UNIV-F-ASP).

> *… underlying factor for willingness is trust among collaborating partners. When trust is present, partners share resources more willingly without any fear of exploitation* (IND-NAS2-Univ-M-P).

> *I have had positive experiences with my collaborators, who have respected intellectual property and refrained from appropriating my ideas for their own publications* (IND-ET1-Univ-M-P).

> *... as well as trust, effective communication [is] crucial at every stage of projects undoubtedly*(POL-NAS1-Univ-M-AP).

Theme 2. Mechanisms and platforms for effective communication and sharing

The second theme sheds light on the different methods and platforms utilized for information sharing in international academic collaborations.

Physical meetings

Researchers from India, Norway, and Poland highlighted the value of face-to-face meetings for effective communication and understanding. Physical meetings were considered even more beneficial than digital ones, as they provided more context and facilitated better discussions.

> *Scheduling planned face-to-face meetings for information sharing tends to be even more beneficial. These physical meetings facilitate better communication and understanding, thereby contributing significantly to the success of international collaborations*(IND-MET1-RC-M-P).

> *Normally, we have a meeting among the collaborators per week/ month to share our experiences to improve the collaboration* (IND-MET2-Univ-M-P).

> *Physical meetings are much better than digital, because you lose a big part of the context or the information around the thing that is shared when we have digital meetings*(NOR-MET1-Univ-F-AP).

> *Well, and then we share knowledge and also gain knowledge from other areas and also discuss among ourselves. Yes, this is very important, and this is a bit lacking. And if we talk about international cooperation, which is done online, these meetings are dedicated to specific issues and it's more difficult to share this knowledge* (POL-HUM1-Univ-F-AP).

Effective communications and forums

Researchers from South Africa, Norway, and Poland emphasized the importance of open dialogue and organized events like seminars and webinars for knowledge sharing. Projects often involve members attending conferences together to absorb '*condensed doses of information*'. However, the need for effective communication was highlighted, specifically in interpreting data and understanding specific project details.

> *Initially when we started [our project] before COVID-19, we would rotate countries as partners and have mini conferences* (SA-HUM1-UNIV-M-P).

> *Knowledge sharing is very much important because if ever a certain member knows how things can be done, need to share with others so that they can have knowledge of that … it is so important that members of the project organize some webinars, seminars and share their expertise* (SA-MET2-UNIV-F-P).

> *And at some point, [as a project manager,] I get the manuscript describing the field work and I can read that they have been interviewing 400 people, for example, which is a huge amount of work compared to what I thought would be the design for that study. So, it's maybe in a sense it may indicate a lack of information or at least on the details to me. But then again, as a project leader, I don't need to know everything* (NOR-NAS1-Univ-M-P).

> *As well as trust, effective communication [is] crucial at every stage of projects undoubtedly… the exchange of [information about] what did you actually mean there when you wrote that particular passage or what does this data mean? or how to interpret the data in the context of your country? [are important]* (POL-NAS1-Univ-M-AP).

> *When it comes to sharing knowledge, well, certainly it's conferences, and that's why it's worth going to them to hear such condensed doses of information, and it's often the case that if we have a project, it's several members of a research project who go to a conference together* (POL-HUM1-Univ-F-AP).

The role of safe systems/platforms

Researchers from South Africa, India, and Poland suggested the use of secure online solutions like Google Drive or Dropbox for sharing information, however, they are lacking an integrated platform for information sharing. The importance of a centralized information sharing model, where all relevant data is accessible in one place, was also emphasized for maintaining clarity and coordination.

> *We just need to have an online platform, a secure space where you can share that [information that you would like to share with project members*] (SA-MET1-UNIV-M-ASP).

> *In my experience, a centralized information sharing model, where all relevant data is accessible in one place, tends to work better for maintaining clarity and coordination* (IND-ET2-Univ-M-P).

> *I've seen also some people create a Google Drive or a Dropbox where they drop everything that they think will be relevant to that project*(SA-NAS1-UNIV-F-ASP).

> *We don't have a platform; we use solutions all the time…it's just a difficulty that I haven't yet found how to solve because this information sometimes gets lost. We use all the tools, we have Google Docs, on which we do summaries, so that it is easier to get to it, but if these sources of information of those people who participate are so many, well, here obviously there is often a certain chaos of information* (POL-HUM1-Univ-F-AP).

Documented guidelines/organized information

Researchers from India, Poland, and South Africa pointed out the need for efficient organization of information and the necessity of having agreements or values governing the sharing of information. This ensures that shared ideas and information remain confidential among the project members.

> *From my experience, having a clearly written document or record combined with telephonic discussions or explanations can be very effective*(IND-MET1-RC-M-P).

> *There is supposed to be an exchange of knowledge and information, and it is supposed to be organized efficiently so that it works, as it should. This is the basis of the project* (POL-HUM2-Univ-F-ASP).

> *You need to have values to govern the sharing of that information* (SA-HUM1-UNIV-M-P).
>
> *Sharing [is always] very important, but we need to have an agreement that our idea [or shared information] must remain between us [the project members] (*SA-MET1-UNIV-M-ASP).

Theme 3. Interpersonal dynamics and challenges in sharing

Theme 3 highlights the complexities and challenges that arise in the interpersonal dynamics of academic collaborations, particularly in the context of sharing.

Collective 'action'

Researchers from Poland and South Africa emphasized the value of cooperative work and the exchange of knowledge and experiences. A researcher from South Africa preferred the term '*action*' as it implies active participation in the knowledge-sharing process.

> *I have already said - it depends a bit on how the project is conceived. I prefer projects where there is an obvious element of such cooperation and based on the exchange of knowledge, experiences, and also results, where these results are achieved together, jointly*(POL-ET2-Univ-M-P).
>
> *Consequently, I have an outsider's perspective on certain things, and they have an insider's [perspective], and together we create something interesting, right?* (POL-NAS2-Univ-F-AP).
>
> *I can't say, this [information sharing] one can work better than the other, but working together as a group, let me say, [collaborative] actions [are important] ... I prefer [the word] action because if I see you [are] doing, then it is so easy for me to do the same thing* (SA-MET2-UNIV-F-P).

Power tensions

Researchers mentioned the potential for unequal power dynamics within collaborations. Researchers from India, South Africa, and Poland discussed situations where collaborators could use shared ideas to their advantage, particularly if they have access to advanced technology or resources. There were also instances where partners might be interested in collaboration but not willing to invest substantial effort in sharing information effectively.

> *I am aware that there are instances where collaborators might leverage openness and shared ideas to their advantage, particularly when they have access to advanced instrumentation. In such cases, while the initial idea remains crucial, the superior technology at their disposal can accelerate implementation and lead to further recognition. Thus, while the integrity of collaborative exchanges is generally maintained, the availability of high-end equipment can significantly impact the pace and acknowledgment of the research outcomes* (IND-ET1-Univ-M-P).
>
> *Some people are selfish with their knowledge or with information, let's say tools. Some people want to always be the first to try a certain tool and when it works and all that. So, we just have to be open and honest about this process of information sharing* (SA-HUM1-UNIV-M-P).
>
> *There are situations in which partners seem to want to implement the project together, but they want to limit... or maybe I will answer the opposite, that they do not want to limit, but they do not want to invest too much effort in such an exchange* (POL-ET2-Univ-M-P).

> *I have the impression, however, that often Central and Eastern Europe, at least Poland, is treated as a place to obtain data, which will then be beautifully processed to publish a nice article, for example, already without the participation of Polish scientists or with a small participation of Polish scientists. And then I think that this is a failure of the project so that both sides should have something from this cooperation, because it is such, well, for me it is still a colonial approach* (POL-NAS2-Univ-F-AP).

Risks of sharing

Researchers from Norway and South Africa highlighted possible issues, such as the '*free rider problem*' where some partners could exploit the shared information for their own ends without active contributions in the same way. The importance of having values to govern the sharing of information was stressed to prevent such exploitations.

> *There you can get to be a bit so free rider problem, or a bit so command problem, that everyone wants everyone else to share, but one is not sure that everyone will share together* (NOR-NAS2-UnivCol-F-AP).

> *You need to have values to govern the sharing of that information… You can start collaboratively, but somewhere along the line, you will always have those who advance their selfish interests at the cost of the team… if you put it [your data/information] there, some people might exploit it for their own ends or selfish interests before they realize it. Already your data is published by somebody who's a partner coming from [another continent]* (SA-HUM1-UNIV-M-P).

> *I share my idea you take my idea you shot to another person who [is] not part of operation [i.e., project] (*SA-MET1-UNIV-M-ASP).

Leader's role

Researchers from Poland and Norway discussed the importance of a project leader's role in information sharing. Key responsibilities of a project leader include collecting, distributing, and organizing information. A good project leader needs to have not just management skills but also human skills like the ability to involve everyone in discussions and to ensure each person's opinion is heard.

> *One of the main tasks of such a [project] leader is to collect this information, because there is a certain chaos, and this is the difficulty. So, it must be a person who is responsible to collect it, distribute it and organize it* (POL-HUM1-Univ-F-AP).

> *Well, projects, it's kind of a matrix management. [It is successful] If you have a good project leader. [The project leader] has the ability to attract the smartest in the room…as a leader, is to dare to ask people for their opinion directly… I use myself as an example. If I'm an introverted person, I can sit back and listen to the discussion, because that's my mode. But a good project leader will not let me sit quietly all the time. So being a bit specific about everyone getting the opportunity to say something, I think that has to do with management skills… It can be management skills, but also human skills to do, I think. That you choose to ask for exactly the information each person may have. Dig an extra time [and ask]: Is there anyone who has experience with this or wants to do this* (NOR-MET2-Univ-M-AP).

Discussions

The findings from our study underscore the significance and value of knowledge and information sharing in the context of international academic collaborations. Participants (academicians and researchers) across all four countries of Norway, Poland, India, and South Africa highlighted the benefits of sharing expertise and experiences, implying that the dissemination of knowledge within

these collaborative frameworks contributes significantly to the success of a project. The participants highlight that the value of sharing is primarily derived from the infusion of new sources, resources, and perspectives that might not have been considered otherwise. However, they also mention that inefficient knowledge exchange could potentially harm project implementation, emphasizing the need for structured and efficient sharing mechanisms.

Our study revealed the importance of respecting and valuing shared information and the contributions of team members. Attentiveness to shared information and acknowledging each other's thoughts and ideas is reported by participants as a critical aspect of successful collaborations. A Norwegian participant mentioned the idea of giving credit/incentive for shared information or data, and this could be explored further in future research as it might incentivize more open sharing of knowledge/information/data in academic projects. Similar results have been reported in literature (see for example, Fosci et al., 2019) on the role of incentives and their alignments with the whole research system. This is a good ground for supporting initiatives such as the toolbox for recognition and rewards in academic careers developed by Universities Norway (UHR, 2021) in which open sharing of research data has been regarded as a positive criterion for promotions of researchers.

The willingness to share and trust stood out as a crucial determinant of effective knowledge sharing and collaboration. As emphasized by interviewed participants in this study, motivation and openness play a significant role in the knowledge-sharing process. The participants also highlighted trust among partners as a critical factor that enables the willing sharing of resources without fears of exploitation. A lack of trust could lead to the independent evolution of projects, despite the existence of a collaborative relationship. These findings suggest that to facilitate open and effective knowledge sharing among project members, fostering trust is very vital, and they are in accordance with previous findings of Yue et al. (2022), in which, the positive role of trust in sustainable performance, and the negative consequences of lack of trust and withholding information have been highlighted.

The participants also point out to different methods and platforms utilized for information sharing in international academic collaborations. Participants valued face-to-face meetings for effective communication and correct understanding of shared information, considering them even more beneficial than digital ones. The use of online solutions like Google Drive or Dropbox for sharing was also suggested, but the need for a more integrated platform for information sharing was highlighted, emphasizing the importance of a centralized information sharing model where all relevant data is accessible in one place.

The findings of this study exhibit the complexities and challenges that arise in the interpersonal dynamics of academic collaborations. Power tensions were noted, with participants discussing situations where collaborators could use shared ideas to their advantage, particularly if they have access to advanced technology or resources. The ´free rider problem´ where some partners could exploit the shared information for their own ends, was also mentioned by participants that underscores the need for values to govern the sharing of information. The participants emphasized the role of a project leader in collecting, distributing, and organizing information, the need for management skills, and human relations skills.

These findings are in line with findings of Pham and Williamson (2018) on the role of infrastructure, human agency, trust, and technology in information sharing in the organizational context, and the fruitfulness of Structuration Theory in understanding their connections. The Structuration Theory posits that social practices are continuously being made and remade through an ongoing interplay between structures and agency (Giddens, 1984, pp. 1-29). The importance of sharing, as highlighted in our findings, can be seen as an aspect of the structure in Structuration Theory. It's a social practice that has been established as beneficial and necessary in international academic

collaborations. This structure is upheld through the agency of individuals, in this case, researchers and academicians, who actively participate in sharing their expertise and experiences. The structure thus both constrains and enables the agency—it guides the researchers on how they should behave in collaboration (i.e., share knowledge, information, and data) but also provides them the opportunity to add new perspectives and resources to the project. Written agreements can be considered a type of structure that offers rules (the terms of the agreement) and resources (the information shared) for the individuals involved (researchers in international projects). While these agreements serve as a formal structure, they are not strictly inhibiting or confining. Instead, they facilitate information sharing by setting clear expectations, outlining roles, and creating a shared framework for collaboration.

The role of trust in international academic collaborations previously mentioned can also be examined through Structuration Theory. Trust could be viewed as a structural property of these collaborations, a norm that has been established as critical for the willing sharing of resources. Simultaneously, trust is also perpetuated and strengthened (or weakened) through the actions of the individuals involved in the collaboration. Positive experiences and mutual respect can foster trust, while instances of the ´free rider problem´ can erode it.

Our findings relating to the use of different methods and platforms for information sharing can be seen as the modality in the theory, which is the means through which the structure is translated into action. The choice of face-to-face meetings or online solutions like Google Drive or Dropbox are the modalities that the researchers employ to navigate the structure of academic collaborations.

Furthermore, the complexities and challenges highlighted in the findings, such as power dynamics and the risks of sharing, can be seen as the contradictions that could be extracted from the theory. Giddens (1984, p. 14) defines action as the capacity of individuals to intentionally impact their surroundings or alter existing situations. He posits that if an individual loses the ability to make a difference, it ceases to function as an agent:

> *action depends upon the capability of the individual to make a difference to a pre-existing state of affairs or course of events. An agent ceases to be such if he or she loses the capability to make a difference, that is, to exercise some sort of power* (Giddens, 1984, p. 14).

Conclusion

This study underlines the interconnectedness of sharing, trust, and the role of effective leadership in international academic collaborations. It reveals that the process of sharing is not just about disseminating information but is also deeply rooted in mutual respect, acknowledgment of contributions, and the willingness to be open. It also highlights the need for secure and efficient platforms for knowledge sharing and the importance of leaders who can effectively manage and facilitate the process. Besides, it shows the complexities and challenges inherent in these collaborations, such as power dynamics, the risks of sharing, and the potential for exploitation.

Researchers from India, Norway, Poland, and South Africa highlighted the critical role of trust in successful knowledge sharing, and the level of trust and willingness to share were relatively similar across cultures. Indian and South African researchers stressed the necessity of mutual respect and trust for open sharing, while Norwegian and Polish researchers noted that without sufficient trust, the collaborative efforts can break down, leading to parallel but uncoordinated efforts rather than cohesive joint projects. Furthermore, while Indian researchers prioritized mutual respect and acknowledgment, Norwegian researchers suggested incentives, and Polish researchers emphasized respecting contributions from experienced team members. Power dynamics were a concern in all countries, with Indian and South African researchers particularly noting the risk of

exploitation of shared ideas, highlighting the need for clear values and agreements. Additionally, the role of leadership was emphasized, with Polish and Norwegian researchers underscoring the need for project leaders to effectively manage information sharing, navigate power dynamics, and ensure equitable participation.

Future research could explore these dynamics further and work towards developing strategies and mechanisms to mitigate these challenges and enhance the effectiveness and impact of international academic collaborations.

This study provides valuable insights into knowledge and information sharing in international academic collaborations but has some limitations. The qualitative data was gathered through purposive sampling from a small number of researchers (who filled our inclusion criteria), which may introduce selection bias and not fully capture the diversity of experiences in international projects. This limitation should be considered when interpreting and applying the study's findings.

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