Institutional Prospects and Challenges to Transdisciplinary Approach in the Knowledge Production System of Vietnam: Reflections on a North-South Partnership Project

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▸ Doi, N. M. (2020). Institutional prospects and challenges to transdisciplinary approach in the knowledge production system of Vietnam: Reflections on a north-south partnership project. *Austrian Journal of South-East Asian Studies, 13*(2), 229-242.

Drawing on neo-institutionalism in policy studies, this paper aims to demonstrate that transdisciplinarity is a new logic that could challenge the existing institutional logic of the knowledge production system in Vietnam. This institutional interplay is examined by analyzing the institutional response, interactions, and choices of stakeholders participating in an EU Erasmus+ Capacity Building Project. The analysis shows that the transdisciplinarity concept can be used as a potential framework for the development path of the dominant logic characterized by the shift from a traditional statist to a market-oriented model for knowledge production. Nevertheless, there are challenges like power relations in the interplay processes among actors who try to reproduce existing institutional logic and those who support transdisciplinary logic, as well as regarding relevant decision-makers to make institutional choices. The discussion shows that when applying transdisciplinarity, one should consider the motivation and barriers regarding state control, transdisciplinary readiness, hybrid models, funding, and experience.

Keywords: Transdisciplinarity; Institutional Interplay; Knowledge Production System; Vietnam

www.seas.at doi 10.14764/10.ASEAS-0041

INTRODUCTION

Defining knowledge is an ongoing debate: it predates Plato's introduction of his well-known conceptualisation "justified true belief" and has given rise to various theories. It is an undeniable fact that knowledge has a strong influence on driving contemporary economic and social progress (UNESCO, 2014). Simply stated, the term *knowledge* relates to "facts, information, and skills acquired by a person through experience or education" and "the theoretical or practical understanding of a subject" (Lexico Dictionaries, 2020). Knowledge is generated by *knowledge production systems*, which can be seen as the wide, complex structure made of universities, public agencies, private bodies, international organizations, and civil society, which enables the determination, production, distribution, and evolution of all disciplines (King, Bjarnason, Edwards, Gibbons, & Ryan, 2003). As a subset of the social system, knowledge production systems are said to play an essential role in promoting public values, and reducing social inequality and

environmental degradation, as well as being an essential pillar in closing the development gap between North and South on a global level (World Bank, 1999).

While the Global North currently still dominates knowledge production, the countries of the Global South are trying to reinvent their knowledge production systems to not only meet the challenges of development, but also to participate in global knowledge production and thus change global knowledge asymmetries (Webster, 2016). Hence, they are seeking and applying new frameworks to foster knowledge production for local purposes in the South and balancing the global knowledge divide are some of the leading concerns in the recent North-South partnership on knowledge co-production. Such a new form has emerged in the debates on discipline and modes of knowledge production: *transdisciplinarity*. Embedded in the key attributes of Mode-2 knowledge production[1] (Gibbons & Nowotny, 2001), "transdisciplinarity concerns that which is at once between the disciplines, across the different disciplines, and beyond all disciplines. Its goal is the understanding of the present world, of which one of the imperatives is the unity of knowledge" (Nicolescu, 1997). Further, this paradigm focuses on equal partnerships between researchers and practitioners through constructive interplay and using the respective strong points of each other to produce knowledge with place-based and reality-oriented solutions (Steiner & Posch, 2006; see also Bärnthaler, 2020, this issue). However, this framework is a product of scholars of the Global North, where Mode-2 knowledge production has been relatively institutionalized. Therefore, the question must be asked, as will be done in this paper, whether there are typical challenges faced by applying transdisciplinarity in the Global South, in this case Vietnam, where the institutional logic of Mode-2 is not dominant, and transdisciplinarity has not yet become a buzzword.

After the *Doi Moi*[2], the national knowledge production system in Vietnam was also changed within the transformation from the statist (Soviet) model towards the model of the socialist-oriented market economy. The shift has generated a dynamic institutional environment with distinctive institutional characteristics. The current institutions tend to maintain the prominent role of the state in knowledge production systems through policies, laws, regulations, funding, and governing the relevant organizations. They, however, simultaneously support individuals or organizations engaging in system transformations by selectively testing, accepting, or promoting institutional reforms toward international standards (Minh & Hjotrsø, 2015). This implies that institutional innovations at the macro-level are embraced and legitimized by the state, which is, however, still practicing

1 In the mid-20th century, a new form of knowledge production began emerging. To distinguish this form from the traditional one, Gibbons et al. (1994) denominate the new mode of knowledge production as "Mode-2", and named the classical way "Mode-1". They argued that the two modes have contrasting characteristics as follows:

- Mode-1: Problems proposed and resolved by a specific community; disciplinary; homogeneity; hierarchical organisation; permanent; peer quality control; less socially accountable.
- Model-2: Problems proposed and resolved in the context of application; transdisciplinarity; heterogeneity; heterarchical organisation; transitory; quality control by diverse actors; more socially accountable and reflexive.

2 Đổi Mới is the name given to reforms policy in Vietnam in 1986 shifting from a centrally planned economy to a socialist-oriented market economy.

institutional control, at least as long as institutional response and interaction do not conflict with state objectives. This dominant logic is strictly controlled in international cooperation activities, especially in North-South partnership projects regarding politically sensitive topics. Because of the complex transition process toward market orientation, institutional change at the organizational level is characterized by internal contradictions. The tension between the tradition of strong mono-disciplines and 'global' pressure for interdisciplinary research leads to hybrid modes of knowledge production lacking academic freedom and knowledge fusion. The trend of organizational autonomy (mainly financial autonomy) directly affects scientific research resources and motivation. Especially in the social sciences, the scientific quality and practical applicability of many studies cannot be guaranteed (Bui, 2016). The institutional values affected by state control and traditional mono-disciplines, which still dominate, are responsible for actors' often narrow views, short-sightedness, and superficial thinking in research and teaching (Tuy, 2019). In short, the existing institutional logic of knowledge production in Vietnam is approaching isomorphism in the context of the globalisation of Mode-2 but still carries the legacy of Mode-1.

As one of the most radical and progressive approaches in Mode-2 knowledge production, transdisciplinarity marks a shift towards social problem solving by integrating different types of scientific and non-scientific knowledge. Such ambitious collaboration reflects the need for relevant institutional logic to support in-depth participation and knowledge integration. Transdisciplinarity logic at the individual level relates to the involved actors' abilities, such as a shared understanding of different types of integrative research, collaborative skills, and a sociable attitude to form transdisciplinary teams. At the meso-level, organizations search for regulations and processes for transdisciplinary, collaborative learning, and studying processes. Capacity building, projects and programs, and funding schemes are priorities for institutional development to further and implement transdisciplinarity. Finally, governance at the system level needs to focus on socially robust knowledge development, and policies should develop collaborative governance processes.

Given the characteristics described, when transdisciplinarity is applied in Vietnam, its institutional logic can generate tensions with the existing system. Thus, this concern prompts the main objective of this article, which is to analyze the institutional logic interplay between transdisciplinarity as a framework of knowledge production requiring a new institutional logic and the dominant logic of Vietnam's knowledge production system. Furthermore, I will discuss the institutional prospects and challenges of this new framework in the context of knowledge co-production in North-South partnerships. I first describe the neo-institutionalist perspective in policy studies, which provides an analytical framework to investigate the relationship between these two systems. After that, I provide details of my case study and qualitative methodology. Next, I present the research results, showing the institutional response, interaction, and choice among relevant actors, organizations, and systems; then analyzing their power relations. Lastly, I will discuss institutional prospects as well as challenges of transdisciplinarity in the context of Vietnam and more generally in the Global South.

ANALYTICAL FRAMEWORK

In a knowledge production system, institutional interplays – as in the North-South partnership project – are common occurrences that can generate encounters between different forms of logic. These intersections can drive change in specific ways, including conflicts and clashes. Therefore, understanding institutional interactions is critical to know how to identify, manage, and exploit tensions to achieve institutional goals. The neo-institutionalism perspective in policy studies, which focuses on institutional isomorphism and institutional logic change, can help (DiMaggio & Powell, 1983; Friedland & Alford, 1991; Meyer & Rowan, 1977; van Vught, 1996).

When a new logic is embedded into an existing institutional logic, it gives rise to responses within multiple levels of institutional structure. Here, this research focuses on three levels of responses, including the individual, organizational, and system level. At an individual level, institutional change depends on cognition and beliefs (North, 1990). It occurs when the ideas or knowledge of one actor or organization influence the perceptions, preferences, and behaviors of another, primarily at an individual level (DiMaggio & Powell, 1983; Meyer & Rowan, 1977). This cognitive response is considered the first phase of the inter-institutional learning process. In a North-South partnership project focusing on knowledge production, the participants constantly update, give feedback, acquire, and adopt new information. This process then shapes or changes their perceptions, preferences, and behaviors. Institutional response at an organizational level refers to specific rules, norms, and decisions, as well as strategies that organizations adopt to react when faced with an intersecting logic (Oliver, 1991; Pache & Santos, 2010; Underdal, 2004). The system level refers to coherent bundles among relevant systems (political, financial, systems, research, legal, business systems, etc.). Institutional response at this level relates to law and policy that typically regulates macro situations and relationships in knowledge production (Linder & Peters, 1990; van Vught, 1996).

The existence of tensions between the new and existing institutional logic can activate interaction and change among individuals and organizations in the areas of structure, process, and governance. For example, consider two ways of fostering institutional interaction in a knowledge production system through a North-South partnership project. One way is for members of one organization to agree upon a relevant obligation for the project from the other organization's perspective through a partnership commitment regarding preferences for the desired changes. The other way refers explicitly to the bottom-up approach to devise a solution to challenges an organisation faces, such as capacity building, policy consultation, and co-creation (Oberthür & Gehring, 2006). In both cases, the values generated can be accepted or refused though the institutional choice process.

The interactions within the encounter between existing and new logics can generate and be divided into two main institutional choices: *change* or *resistance* (Zietsma & Lawrence, 2010, p. 190). This process reflects power relations among individuals and organizations through their level of impact on choosing the dominant logic. Concerning such relationships within power and institutions, Lawrence (2008) introduced a model of institutional politics to understand the interaction characterized by power relations among agents in the process of institutional transformation.

First, institutional control describes the impact of the dominant institutional logic on individual and organizational actors. Second, the institutional agency is the work that individual and collective actors perform to create, transform, and disrupt institutions. Finally, institutional resistance is the work of decision-making actors to impose limits on both institutional agency and institutional control. This model shows that more powerful actors have advantages such as ideology, authority, legitimacy, and resources to foster their logic in negotiations among actors. Moreover, power relations also reveal the capacity of actors to react and act to frame and serve their interests (Fligstein, 1997; DiMaggio & Powell, 1983; Scott et al., 2000).

Based on this process, I developed an analytical framework to address the concerns of institutional interplay in a knowledge production system. Accordingly, the framework requires proof of institutional responses at different levels, which leads to interaction among actors, and then can later be a fundamental driving force of institutional choice (Gehring & Oberthür, 2004; Seo & Creed, 2002). This framework may also be used to explain power relations within the institutional interplay process.

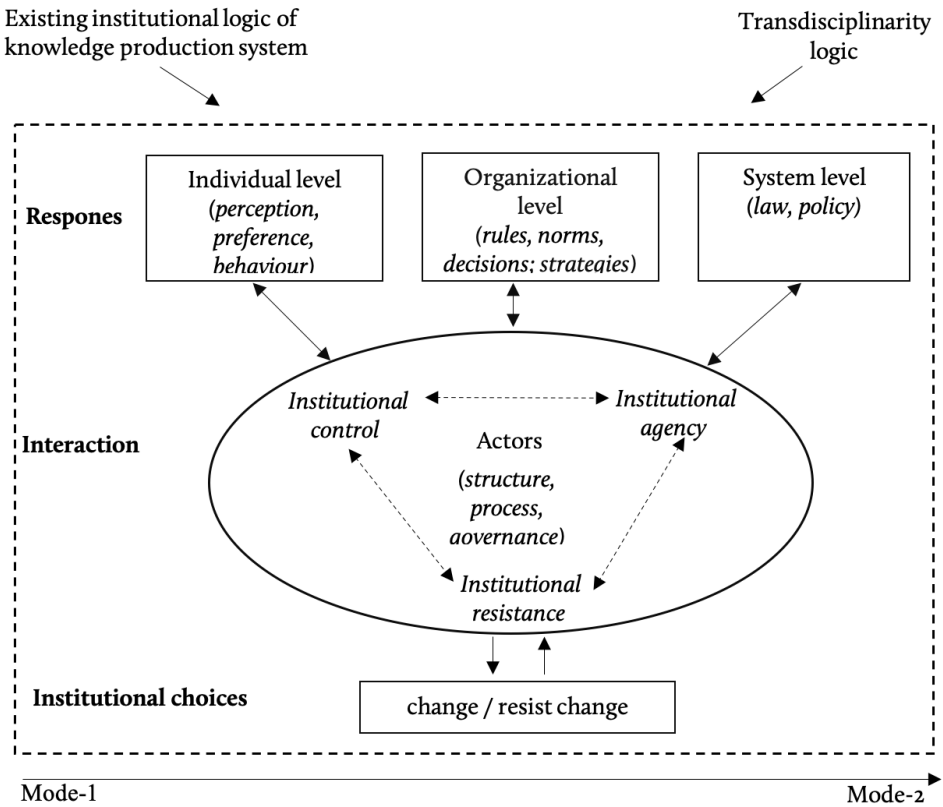

Figure 1. Analytical framework for studying institutional logic interplay between existing institutional logic and new logic (Own elaboration).

CASE AND METHODS

The study is based on the examination of the reflections of the KNOTS project (*Fostering Multi-Lateral Knowledge Networks of Transdisciplinary Studies to Tackle Global Challenges*) (see Dannecker, 2020, this issue). From the idea of training and applying transdisciplinarity, the KNOTS project represented an encounter between transdisciplinarity and existing institutional logic of knowledge production in Vietnam. Accordingly, the dominant institutional logic is affected by the pressures of transdisciplinarity as a new logic. More precisely, this interplay relates to institutional responses, interactions, and choices among actors from three partners in the project, including one university and two research institutes, as well as related agencies (e.g., Ministry of Education and Training, local government). Thus, applying the analytical framework of analysis to this case helps to identify institutional tensions and challenges among various stakeholders in the project, and reveals power relations within the process.

In the following, a qualitative method was chosen to collect empirical data to analyze the institutional interplays among stakeholders through KNOTS. The focus will be on the reflection of my Vietnamese colleagues participating in the project, and my observations as a project trainee in the first year. The data is based on participant observation and semi-structured interviews with 27 Vietnamese participants in different roles (Table 1), as well as on the literature produced in the frame of the project. Data analysis was guided by conceptual themes of the existing institutional logic of the knowledge production in Vietnam and transdisciplinarity logic. All transcripts were coded under three themes: institutional response, institutional interaction, and institutional choices. When all the texts had been coded, the actors identified under the first two themes were further grouped into institutional control, institutional agency, and institutional resistance.

Roles in the project	Leader [L]	Project staff [S]	Trainer [Tr]	Trainee in project [Te1]	Trainee after project [Te2]
(a) academic actors					
MOET [A]	01	-	-	-	-
Institute 1 [B]	01	01	01	02	00
Institute 2 [C]	01	01	01	02	01
University 1 [D]	01	01	02	05	03
(b) non-academic actors					
Public sector [E]	-	-	-	02	-
Private actor [F]	-	-	-	01	-

Table 1. List of interviews conducted with Vietnamese colleagues related to the project. The anonymized code for quotes is composed by their organizations and roles in the project.

INSTITUTIONAL RESPONSE CAUSED BY INSTITUTIONAL PRESSURE OF TRANSDISCIPLINARITY

The analysis of the interviews revealed that for all Vietnamese participants transdisciplinarity is more than a new research methodology. They all stated that through the different KNOTS activities, their awareness of academic and practical knowledge integration, equal participation between different actors, as well as the knowledge production issues Vietnam is facing, increased. Before participation, most of them were not experts in participatory studies and tended to focus on mono-disciplinary studies. Through the interdisciplinary and transdisciplinary experiences in the project, they changed in their problem-solving approach toward a multi-dimensional and practice-based approach. They stated further that transdisciplinary negotiations, which stress and internalize practical knowledge from many different stakeholders, are essential not only for the development of communities but can also amplify their insights by increasing "up to date" knowledge and skills. Nevertheless, the level of the perception of transdisciplinarity is different for each person because of their experiences through KNOTS. The more advanced participation in the project (staff, trainers, and trainees who joined more than one summer school and field trip), the more improved their degree of understanding and ability to share the meaning of transdisciplinarity across divergent perspectives.

One insight into the different perceptions of transdisciplinarity of participants regarding their point of view is that transdisciplinarity can play an important role in reducing knowledge inequality between North and South. The staff and trainers agreed that this framework could provide a new scheme of knowledge production, which can boost the balance of global knowledge. Instead of applying dominant theories of scholars from the Global North, they see in the framework an opportunity to contribute their knowledge, debate, and verify transdisciplinarity based on their practice and experiences as scholars from the Global South. However, most graduate trainees said that "I usually stayed quiet during group discussions because I am not fluent in the English language and feel reluctant to argue with professors and dignitary" (Te1D4). Furthermore, they agreed that they were passive in group discussions with professors and students from Europe and Thailand because of the limitations of their theoretical background, research methods, and foreign language ability (Dannecker, 2020; Seemann & Antweiler, 2020, this issue). They also believed that unless they could build their extensive capacity, it would be impossible to contribute their knowledge equitably to transdisciplinary discussions and research with the partners from the Global North. Hence, this shows that the level of perception change is shaped by an individual's current cognitive load capacity.

The noteworthy point is that, after the project, participants in Vietnam, especially young scholars, stated that they were still not ready to apply transdisciplinarity in research because they need at least a decade to gain more comprehensive transdisciplinary abilities such as relevant knowledge, skills, and attitudes. In other words, there is a lack of "transdisciplinary readiness" in the sense that they lack experience and that inter- and transdisciplinary knowledge has not generated in Vietnam so far. The most challenging point in transdisciplinary research is, from their point of view, to deal with complex relationships and networks involving academic actors as well as

non-academic stakeholders. To manage this collaboration, researchers need decades of experience and more professional skills. Furthermore, transdisciplinary researchers face resource problems, as funding in Vietnam comes along with complex rules, procedures, and short time frames. As one project staff said: "In Vietnam, applying this approach takes too much time and effort for administrative procedures, is concerned about sensitive political topics and involves foreign participation" (SC1). In other words, the current policies and management activities for scientific research in Vietnam are not supportive to an interdisciplinary approach. "At this moment, applying transdisciplinarity can bring a lot of risks to my new project because there is no precedent and relevant regulations" (TrD2). Consequently, young participants prefer alternatives based on their relative utility rather than doing transdisciplinary research at this time.

While the participants changed their perceptions of transdisciplinarity through the projects, the responses of three relevant representatives of the organizations participating in the project were indifferent. There was no clear reaction in terms of strategies, structures, or resources at the organizational level during the KNOTS project. Only one out of three organizations showed a specific interest in the transdisciplinary framework, by proposing, for example, the application of transdisciplinary framework through the design of a subject in a bachelor program because of the multidisciplinary nature of the social sciences. During the project, the response at the system level was also negligible. The governing bodies (at the head of the research and education system) of these three organizations simply played their roles as licensors. A ministerial-level leader, who was in charge of the project and used to be the leader of a participating organization at the beginning, appreciated the benefits of transdisciplinarity but did not direct any specific activities that would suggest spreading this framework in the knowledge production system after the project. He explained, "the idea of interdisciplinary is very good, but to do so, we need time and route" (LA1).

INSTITUTIONAL INTERSECTION BASED ON QUALITY OF INSTITUTIONAL RESPONSES

In Vietnam, there are five main types of stakeholders involved in the knowledge production system: the state; society; international agencies; the market; and research institutions, which includes educational organizations. The dominant logic through all levels is the state's perspective, which is policy driven and implemented through funding. This has resulted in inequality and deficiencies in knowledge production through "low quality and political priorities" (Minh & Hjotrsø, 2015) concerning research and projects. Among stakeholders, a process toward Mode-2 knowledge production is emerging, and the state is generating initiatives to slowly socialize knowledge production toward enhancing the autonomy of public sectors and the privatization of research and education fields. Therefore, the state accepted KNOTS as a part of the integration process to promote the quality of research and education, capacity building, and governance practices. Applying transdisciplinarity is quite challenging in such a structure. The project participants, accordingly, played an important role in the interaction among different types in all institutional logic.

They showed that a strong institutional response to transdisciplinarity had challenged the traditional perspectives of others, especially on participatory research through training, conferences, media, and their networks. However, these meager efforts involving a single project cannot change cognitive and institutional structures, which are strongly influenced by the dominant institutional logic that still dominates concerning state control and fragmentation of knowledge.

Based on the relevance of transdisciplinarity in the process of research and learning through the project, there are two main types of stakeholder interactions. One is open to change, and the other is conservative. The participants and faculties, which many KNOTS project members joined, were in favor of a policy of supporting transdisciplinarity in teaching and research, despite, as the empirical data shows, being doubtful about implementation capacity. However, the majority of their colleagues from other faculties were more conservative because they were afraid that this new framework was too strict and the requirements were too ambitious. In training sessions at the organizational level, there were controversial discussions over this approach. Some researchers feared that this approach is a "utopian" framework because it might become a new bureaucratic process rather than an effective framework in the context of Vietnam. It was also expressed by a lecturer who has extensive experience in participatory research: "Who will guarantee the quality of participation from non-academic actors in transdisciplinary research? While many kinds of participant research, funded by the government, are reflected that is insufficient in-depth participant and only as a formality" (TrC1). Expressing the same point of view, the trainees referred to the experiences that, during their previous research, they had observed during field visits in which state-actor stakeholders (considered as the key actors in their research problems) tended toward formalism in cooperation rather than sharing knowledge and practical experience.

The institutional interaction at the system level clarifies the contrast between these two kinds of logic. The existing, institutional logic provides meaning mainly to the knowledge production systems in the public sphere. It lacks "rules of game" for participation and collaboration from other systems, such as the private and international sphere, which is crucial for transdisciplinary logic. While the project participants who are at the "grassroots level" of the academic research system in Vietnam have responded positively to transdisciplinarity, other systems are ambivalent. Although "wicked problems" require a broader holistic approach, in Vietnam, they are in fact "controlled" by the state. The participants of KNOTS reflected thus that local government actors were skeptical about their roles in a transdisciplinary research because it often involved solving their own mistakes or shortcomings. Additionally, there is a lack of space for civil society and private sector actors. They still have not a good position to collaborate with the state in tackling wicked problems. A lecturer who has extensive experience in participatory research also expressed that: "A comprehensive participation of all parties in the spirit of this approach is difficult to implement in Vietnam because it is difficult to find a neutral voice with the state" (Te2D1). Thus, there is a governance challenge relating to the passive, institutional interaction of the system level regarding the complex top-down power structure between the political system in Vietnam, rather than collaborative governance.

INSTITUTIONAL CHOICE AS A RESULT OF ASYMMETRIES IN POWER AND INTEREST CONFLICT

The internal components of a knowledge production system can create the institutional responses at various levels according to the autonomy and ability of actors to accept or resist transdisciplinarity logic, as well as to frame and serve their interests. This process can be examined through power relations regarding institutional control, institutional agency, and institutional resistance.

Institutional changes toward Mode-2 knowledge production in Vietnam are explicitly promoted for both ideological and more pragmatic reasons by different actors. In the project, Vietnamese participants, as well as institutional agencies, took advantage of the project to influence others regarding transdisciplinarity. In other words, institutional agencies fostering transdisciplinarity are comprised of individuals and organizations such as leaders of faculties, departments, universities, institutions, ministries, and local governments, even professors, researchers, or staff, who have enough power and influence to decide to use transdisciplinarity as a framework for their organizations, projects, research, and teaching activities. During the project, the institutional interaction produced "individual and collective change" (Emirbayer & Mische, 1998, p. 1011) in perception for relevant actors regarding a transdisciplinary approach. However, these agencies and actors lack capacities, as well as autonomy, to change institutional logic and habits or to pursue prospects in this framework. Additionally, the goal of the project focused explicitly on building and developing capacities in research on and teaching of transdisciplinarity only for academic actors, instead of building up comprehensive capacity for both academic and non-academic actors who also influence the implementation and the success of "transdisciplinary readiness". When this capacity is not sufficient to produce quality responses through research products, the agencies applying this framework cannot expect support from others who follow the traditional logic, and instead face strong resistance.

Institutional control is found in the responses and interactions of existing institutions to transdisciplinarity as a new logic. This relationship is characterized by the state's dominance in laws, policies, and state funding in the field of knowledge production. Although participants changed considerably concerning transdisciplinary awareness, as the interviews revealed, their behavior is still influenced by the state research systems and traditional practices. Analysis of the reaction process and interaction of KNOTS participants shows that institutional control still strongly dominates the knowledge production system in Vietnam. This institutional control is embedded in the political and cultural environment characterized by the transition from a subsidized, centralized model to a market-oriented model. Such an environment does not yet allow a dynamic civil society and diversity of relevant actors when it comes to solving complex, practical problems. This fact does not favor a transdisciplinary approach because the centralisation of state power in a complex hybrid model limits the freedom of dialogue, as well as autonomy, in the process of participation of relevant individuals and organizations, which is an important dimension in transdisciplinary research.

Under the pressure of the encounter between institutional agencies who support transdisciplinary logic and institutional controls that want to defend the prevailing

institutional logic, leaders of universities, institutions, and the government must make their decision. The practices of these decision makers are based on two main institutional choices: reproduction of or change to existing institutional logic. However, because the KNOTS was only a trigger event for transdisciplinary logic, there is no decision yet regarding the institutional choice. The knowledge production system is still organized by the dominant institutional logic, even though two or more institutional logics may exist at the same time. In the institutional pressure environment generated by KNOTS, decision makers face contradictions caused by tensions between different groups or actors. They minimize conflict and clashes through transitional solutions such as experiments and pilots.

DISCUSSION ON PROSPECTS AND CHALLENGES OF APPLYING TRANSDISCIPLINARITY LOGIC IN VIETNAM

Through KNOTS, the transdisciplinary approach and its logics created a drive to change, but also put pressure on the dominant logic of the knowledge production system in Vietnam. Examining the institutional interplay between two kinds of logic is very important in assessing the potential and challenges of institutionalizing this approach by its rules and norms in the context of Vietnam.

The first issue is the existing asymmetrical power relations that favor the interests of the state in the knowledge production system of Vietnam. State control has kept the institutional autonomy of academia somewhat limited. Also, its existing hegemony in civil society can lead to politicization and failures of transdisciplinarity by a lack of research motivation, the domination of public bodies, and insufficient in-depth participation in different phases. In the face of this ideological problem, the transdisciplinary approach in Vietnam can be implemented slowly through certain topics that can be recognized by the state. Moreover, this approach should implement international collaboration, such as North-South partnership projects that can increase the tension on institutional control and promote more progressive institutional targets towards Mode-2 knowledge production.

The second issue is the capacity of actors and organizations to reach "transdisciplinary readiness". The reflection from KNOTS shows that the capacity gap among actors is one of the significant challenges to transdisciplinary knowledge production. The capacities needed a general knowledge of research issues, research methods, collaborative ability, and the issue of language competence. Also, efforts must be made to improve regular and cumulative knowledge acquisition of stakeholders, not only in the academic sector but also in the practical area. Accumulating human resource capacity for scientific research requires a high application of innovation and internationalization in higher education related to the desired training programs and methods.

Third, the lack of institutional background to the diffusion of Mode-2 knowledge production is often brought up as a crucial barrier to institutionalize transdisciplinarity logic. A transdisciplinary approach is not easily implemented within an institutional environment characterized by the shift from traditional statist to a market-oriented model for knowledge production. There will be institutional decoupling when applying transdisciplinarity in such a system. On the one hand, the decoupling

effect can motivate and help to standardize slowly the process of applying a transdisciplinary approach. On the other hand, if the decoupling is not well controlled, it will lead to the appearance that this framework is being used as a fashionable concept to acquire financial and publishing benefits rather than focusing on its real values. The consequences of this ethical breach will lead to another challenge for the development of the knowledge production system: hybrid models that are not radical enough.

The last issue is related to financial resources and experience in transdisciplinary projects. The story of KNOTS shows that institutional agencies cannot interact intensively when there is currently no quality cross-industry project in Vietnam. This might be convincing evidence that, when a lack of funding, specifically for transdisciplinary projects, occurs, the system cannot be penetrated. In the immediate future, therefore, there should be investments in pilot projects applying transdisciplinarity to motivate researchers, and then the replication of successful models. Furthermore, the sources of funding should be diversified and minimize one-sided funding that can lead to unbalanced problem ownership.

CONCLUSION

Based on a neo-institutionalism perspective for understanding the interplay between different institutional logics, this paper demonstrated that transdisciplinarity as a new logic through the KNOTS project could challenge the dominant logic of the knowledge production system in Vietnam, and, at a certain level, it is also a promising framework for research, teaching, and further North-South partnership projects in the Vietnamese context. As the results present, while the existing institutional logic in knowledge production is characterized by a shift from the traditional statist to a market-oriented model, transdisciplinarity is, to a certain extent, consistent with the development path of the dominant logic toward decentralization and Mode-2 knowledge aiming to promote social progress. However, there is still a gap regarding capacity, resources, and the issues of power relations hindering the adoption of this new logic of transdisciplinarity. From the findings, this paper discusses some problems that need to be kept in mind when promoting transdisciplinarity logic in knowledge co-production in Vietnam.

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