Intra-organisational Dynamics as the 'Dark Side' of Inter-Organizational Relationships: Evidence from a Longitudinal Investigation into a University-Industry Collaboration

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Abstract. Our study contributes to the emerging research on the dark side of interorganisational relationships by focusing on intra-organisational dynamics within partner organisations. In particular, we explored and unbundled the structural and relational complexities that underpin intra-organisational dynamics. We adopted a longitudinal case study design to explore the processes underpinning the evolution of a university-industry collaboration that had lasted for 18 years. This relationship had been initially formed between a UK university and a major pharmaceutical company early 1991 to develop a new drug for the treatment of malaria in sub-Saharan Africa, and had evolved into a tripartite partnership following the entry of a global health organization. The relationship was then terminated in 2008. Our novel and rich research context provides a case background appropriate to investigate intra-organizational dynamics, a neglected dimension in research on the dark side of university-industry collaborations.

Keywords: University-Industry Collaboration; Partnership Evolution, Intra-organizational Dynamics; Drug Development Partnerships; Longitudinal Processual Research; Qualitative Case Study

1. Introduction

Research on the dark side of inter-organizational relationships (henceforth IORs) has generated significant interest over the last decade (Anderson and Jap, 2005; Mooi and Frambach, 2012; Abosag, Yen and Barnes, 2016). The term *dark side* broadly refers to any negative dimensions associated with business-to-business (B2B) relationships; as such, it often highlights any challenges, problems, and other issues that create tensions and instability in a relationship. Oliveira and Lumineau (2019) conceptualized the dark side of IORs "*as a set of generally damaging aspects of IORs, which could be voluntary or involuntary and are generally driven by competence and integrity issues*" (2019, p.232). Abosag *et al.* (2016) attributed the existence of a dark side in B2B relationships to structural issues such as "*size difference or imbalance of power; processes within business relationships, including creativity issues, capability development, changes in market dynamics; and output on terms of performance, competitiveness and satisfaction*" (2016, p.5). Most systematic reviews of inter-organisational relationships have concluded that they are highly unstable for numerous reasons (see Das and Teng, 2000; de Rond and Bouchikhi, 2004; Pereira, Temouri, Patnaik and Mellahi, 2020) and are thus prone to high rates of termination (Dacin, Oliver and Roy, 2007; Dyer, Kale and Singh, 2001; Sadowski and Duysters, 2008).

Despite notable developments in our understanding of the dark side in IORs, distinct research gaps remain. Overall, the dark side of IORs is often only explored at the interorganizational level. For example, the extant literature suggests that partners could anticipate and mitigate some of the issues pertaining to the dark side of IORs during the initial stages of their relationship by either drafting detailed contracts or selecting compatible partners (see e.g. Wuyts and Geyskens, 2005; Dong, Ma and Zhou, 2017). In this regard, two key issues emerge. Firstly, this perspective argues that intra-organisational dynamics within partner

organisations do not pose any serious challenge to IORs—i.e., that, when organizations decide to enter into partnerships, those organizational members and influential groups that are not directly involved in the design and operation of IORs do not create hindrances. The second issue pertains to neglecting the process evolution in explaining and theorizing about the dark side of IORs (see, e.g., Brattström, Faems and Mähring, 2019; Patnaik, Pereira, Temouri, Malik and Roohanifar, 2020). Consequently, less emphasis is often placed on the structural and relational contexts in which the dark side emerges and manifests itself, specifically as IORs evolve over time (Fang, Chang and Peng, 2011).

In our study, we aimed to address these two gaps. Therefore, the purpose of this paper is to present our systematic exploration of the role played by intra-organizational dynamics within partner firms as a hitherto neglected force affecting IORs. More specifically, the focus of our study was on identifying, exploring, and unbundling the structural and relational aspects that underpin the complexities found within partner firms. We argued that the internal dynamics found within partner organisations are a potential source of the dark side of IORs. Within this context, we formulated our overarching research question: "*Do intraorganizational dynamics in university-industry collaboration contexts affect the functioning and development of IORs?"* We further investigated two more specific and relevant research questions—i.e.: (a) "*How did our sample IOR evolve over time?*" and (b) "*How did the intraorganizational dynamics among the partner organizations influence the trajectory of the evolution of our sample university-industry IOR?*" To answer these questions, we selected a university-industry collaboration that had been established in order to develop a drug for the treatment of malaria in sub-Saharan Africa.

Over the last few decades, collaborations between universities and industry sectors have significantly increased (see, e.g., Rajalo and Vadi, 2017) and have attracted the attention of scholars from different disciplines (see Perkmann and Walsh, 2007). The initial studies

focussed on such relationships concentrated on conceptual aspects, including the form and scope of university-industry collaborations, the motivation and formation of these arrangements, and the identification of their critical success factors. This included the study of the underpinnings of relationship between universities (as public funded entities that predominantly engage in exploration and knowledge) and business organizations (which are central to the commercialization or exploitation of knowledge) (see AL-Tabbaa and Ankrah, 2016). These developments notwithstanding, a critical review of the university-industry collaboration literature highlights that most studies were focussed on the institutional conditions that favour the formation of such relationships or paid attention to the activities or motives of individual scientists in pursuing university-industry collaborations (for a detailed critical review, see Nsanzumuhire and Groot, 2020). Longitudinal studies aimed at specifically exploring the dynamic evolution of university-industry collaborations are scarce in this nascent body of literature. Thus, our paper contributes to the emerging research on the dark side of IORs and to the literature on university-industry collaborations.

The remainder of this paper unfolds as follows. The next section provides a critical overview of the literature on the dark side of IORs. The manifestations of the dark side are then linked to some of the key issues explored in the literature on the tensions and instability found in IORs. The unique research setting of a university-industry collaboration is then presented and the approach we adopted to collect and analyse our rich data is delineated. Following this, our study's empirical findings are discussed. The paper concludes by outlining our study's contribution to theory and its implications for policy.

2. Literature review

2.1 The dark side of IORs

IORs are often characterised by dysfunctionality, tensions, and instability, causing high failure rates (Inkpen and Beamish, 1997; de Rond and Bouchikhi, 2004; Andersen and Jap, 2005). Despite their apparent lack of success, IORs, involve a key strategic mechanism aimed at attaining organizational growth and survival (Doz and Hamel, 1998; Barringer and Harrison, 2000). The substantial increase in collaborative activities observed over the last three decades points to the importance attributed to IORs in regard to the attainment of organizational goals (see Gomes *et al.*, 2016). Those scholars who explore the dark side of IORs take the view that a deeper exploration and better understanding of such aspects will eventually contribute to improve IOR success rates.

Broadly speaking, the term *dark side* is often used in relation to any negative facets associated with IORs; these include any 'challenges', problems', and 'tensions' that relate to the structural and governance issues resulting from the trust-control and risk dimensions underpinning IORs (see, e.g., Das and Teng, 2002; Poppo, Zhou and Li, 2016; Yang, Sheng, Wu, and Zhou, 2018; Pereira *et al.*, 2020). Abosag *et al.* (2016) suggested that the terms that are now commonly associated with the dark side of IORs—such as 'negative side', 'relationship burdens', 'relationship stress' and 'detrimental intentions'—emerged in the mid1990s related literature to describe some of the challenges associated with the functioning of such arrangements. In contrast, Andersen and Jap (2005) argued that IORs present a dark side even when they appear to be doing well. In fact, the authors asserted that those close relationships that seem to be thriving are often the most vulnerable to any destructive forces that may be quietly brewing beneath the surface. They assert, "close relationships that seem the most stable can also be the most vulnerable to decline and destruction" (Andersen and Jap,

2005: p.75). Thus, despite being neither always visible nor observable, the dark side of IORs nonetheless subtly undermines the overarching objectives of the relationship. Hence, it suggested that the dark side of IORs is omnipresent and that it is its *degree of darkness* that determines whether it is 'tolerable' or 'intolerable' (Abosag *et al.*, 2016).

Any tolerable dark side found in a relationship can usually be addressed by sharing more knowledge and information, enhancing inter-personal relationships, and adopting a flexible approach to adaptation, as the need arises (Murfield, Ueltschy and Esper, 2016; Jiang, Jiang, Ariño and Peng, 2017; Connelly *et al.*, 2018). Conversely, an intolerable dark side is characterized by a high level of uncertainty and feelings of unfairness and injustice (Huo, Wang and Yu, 2016; Trada and Goyal, 2017), which contribute to triggering persistent conflicts and cause the deterioration of quality and commitment in a relationship, thus creating the conditions for detrimental behaviours. Against this backdrop, Kingshott and Pecotich (2007) asserted that any violations of psychological contracts, which are perpetual in nature and include reciprocal obligations, erode trust between partners.

In their in-depth review of the literature on the dark side in IORs, Oliveira and Lumineau (2019), found that conflicts, any opportunistic behaviours of either partner, and any unethical practices pursued by them are the three manifestations of the dark side most widely covered in the extant literature. Within the broader literature on IORs, conflicts refer to any differences and disagreements that may arise between partners on issues such as the commitment and contributions mutually made or expected, the direction of the partnership, and any mutually accepted mechanisms aimed at sharing the benefits and proceedings stemming from the relationship (Das and Teng, 2000; de Rond and Bouchikhi, 2006; Salvato, Reuer and Battigalli, 2017). Severe conflicts between partners erode their mutual levels of trust and increase the possibility of them engaging in opportunistic and unethical practices (Das and

Teng, 2002; Caniëls and Gelderman, 2010; Liu, Liu and Li, 2014; Johnson and Lacoste, 2016; Latusek and Vlaar, 2019).

Using insights drawn from transaction cost economics, various scholars have explored partner opportunism as a distinctive facet of IORs (see Gulati and Singh, 1998; Reuer and Arino, 2002; Oxlay and Sampson, 2004; Ebers and Oerlemans, 2016). Williamson (1985) differentiated between blatant forms of opportunism—such as lying, stealing, and cheating—and recurrent ones, which involve subtle forms of deceitful behaviour and deliberate efforts to mislead, disguise, and/or confuse. Both these opportunistic behaviour dimensions are demonstrated in IORs (Oliveira and Lumineau, 2020). Luo (2006) also categorised opportunism into 'strong' (contractual norm violations) and 'weak' forms (relational norm violations) in the IOR context. He argued that the strong form of opportunism seems to be more easily observable than the weak one and that, although remediable, the former has more adverse effects than the latter. Any practices in which partners engage are defined as unethical when they are considered to be morally wrong or improper. Some of the most common instances of the unethical practices found in IORs include bestowing 'preferential treatment' on specific partners, disseminating incorrect information, unilaterally withdrawing from the relationship, and poaching partners' employees (Bakker, 2016; Nguyen and Cragg, 2002; Farrell, Hartline and McDaniel, 1998; Panico, 2017; de Rond, 2003; Amankwah-Amoah, 2020). Despite the presence of these aspects, few studies have been specifically focussed on exploring them and their implication on the development of IORs, even more so in the context of universityindustry collaborations.

2.2. Intra-organizational dynamics as a dark side

Leung and White (2006) were amongst the first to call for a systematic exploration of the *darker corners* of IORs. Conceptualizing IORs as a social phenomenon, they identified 11 sets of relationships that emerge at different levels (organizational, group, and individual) once an IOR

comes into existence (for a detailed list of salient relationships in and surrounding an IOR, see Leung and White, 2006: 202). We used the term 'intra-organizational dynamics' to highlight the inter-personal relationships that exist between individuals and groups directly involved in an IOR with individuals and groups both within the participating organizations and in others that may not be directly associated with the IOR itself. We argued that the 'intraorganizational dynamics' found among the respective partner organizations have the potential to create disruptions and lead to tensions in the IOR. The literature on organizational power and politics conceptualizes organizations as political systems that are rife with conflicts, particularly in regard to the control and allocation of resources (see Brass, 2017; Clegg and Drunkerley, 1980; Gargiulo, 1993). As Pettigrew (1973) noted in his seminal work titled 'Politics of Organizational Decision Making', the mere possession of resources does not grant any specific powers to various actors/individuals; rather, these have to be aware of their contextual significance to use power appropriately. Pettigrew (1973) also defined organizational politics as the process of mobilizing power and using it to exercise greater control over resources. Against this backdrop, some scholars have called for an exploration of perceptions of organizational politics aimed at capturing the 'subjective experience' of organizational members (Gandz and Murray, 1980; Ferris and Kacmar, 1992). The resulting studies have associated such perceptions with undesirable work outcomes and with the creation of conditions favourable to counterproductive work behaviours (Ferris, *et al.*, 1996; Meisler and Vigoda-Gadot, 2014). In turn, recent studies on counterproductive work behaviours have highlighted the destructive attempts made by organizational members to harm their colleagues or even the organization itself (for more insights, see Meisler, Drory and Vigoda-Gadot, 2019).

Although we found no systematic attempt to explore the implications of intraorganizational dynamics on the functioning and outcome of specific IORs, the initial studies on international joint ventures have hinted at the existence of friction between the

organisational members deputed to the joint venture and their colleagues in its parent organizations. For example, Bailey and Shenkar (1993) identified inter-group issues such as blocked promotions and split loyalties, complete or partial barriers hindering the flow of information from the parent organization to its own members in the joint venture, and limited delegation by the parent organization to its managers involved in the day-to-day operation of the joint venture. In their longitudinal study on a joint venture between a UK firm and an Italian company, Salk and Shenkar (2001) made similar observations. These initial studies notwithstanding, there is a paucity of research on the implications of intra-organizational dynamics on the functioning and evolution of IORs over time. Although, in recent years, university-industry collaborations have attracted the attention of various scholars—who have adopted different perspectives to generate insights into this phenomenon (see Rajalo and Vadi, 2017)—very little research has been specifically conducted on the evolution of these relationships over time.

3. Research design

Given that the overreaching focus of our research was to explore the implications of intraorganizational dynamics on the functioning and evolution of IORs, we selected the single case of a collaboration between a UK University and a large pharmaceutical company that had first been informally established in the early 1990s to develop an anti-malarial drug for sub-Saharan Africa. Subsequently, a division of the World Health Organization (WHO) had joined as a third partner and, later still, what was then the UK Government's Department of International Development (DFID) had joined as a dormant partner, transforming the collaboration into a Public Private Partnership (PPP).

We selected this case study as it would provide us with detailed information on the intra-organizational dark side at play in a collaboration (Yin, 2009). The selection of this specific unique case for our study was critical for two reasons. Our adoption of a longitudinal case study was also a response to the call made by Oliveira and Lumineau (2019), who suggested that qualitative in-depth case study research could provide a more nuanced understanding of the manifestations of the dark side in IORs. The nature of our case IOR, the diversity of its component organizations, the complex context of drug development for a neglected disease, and the long duration of the relationship, all combined, made our case study revelatory (Siggelkow, 2007; Yin, 2009).

3.1 Research setting, data sources, and analysis

Our research setting was thus a university-industry collaboration that had evolved into a fullfledged PPP between (i) a UK University (henceforth called UK Uni); (b) a UK based Pharmaceutical company (initially UK Pharma A; then, from 2000 onwards, UK Pharma AB following a merger); (c) the WHO-TDR (an arm of the World Health Organization); and (d) the UK Government's erstwhile Department of International Development (henceforth called the DFID). This IOR had been set up to develop a new anti-malarial drug (henceforth called CHALDAP), specifically intended for use in sub-Saharan Africa.

Initially, in the early 1990s, the partnership, informally initiated between scientists from the UK Uni and the Head of Research for Tropical Diseases of UK Pharma A. By mid-1990, this relationship had been formalised as a university-industry collaboration and, a few years later, it had been joined by the WHO-TDR and the DFID. This IOR had been terminated in 2008, approximately 18 years after its initial informal establishment. We carried out our

research in 2008 and 2009, almost immediately after the IOR had ended. We relied on multiple data sources, namely:

(a) Qualitative data generated from face to face semi-structured interviews conducted with key individuals who had been involved with the IOR all throughout its life span.

(b) Secondary sources, including IOR internal documents. Among these were the minutes of meetings held from 2001 till 2008, when the partnership had had to make significant strategic decisions in response to changes emanating from the internal dynamics between the two major partner organizations—i.e., UK Pharma AB and the WHO-TDR.

(c) Archival documentary sources, such as technical committee reports and white papers released by the WHO on anti-malarial drugs, journal and newspaper publications, and press releases specific to CHALDAP.

In total, we interviewed five key informants, four of whom had been associated with the IOR throughout its entire 18-year life span, while the fifth had only been associated with the IOR from 1995 until 2002. These interviews were conducted over three phases between September 2008, only a few months after the termination of the partnership, and October 2009 and totalled approximately 30 hours. In the first phase, we interviewed the UK Uni scientists—including the Head of the Product Development Team (henceforth called the PDT)—and collected and studied various reports and minutes of the PDT's meetings from 2001 to 2008. In Phase 2, we interviewed three senior members; one who had represented the WHO-TDR and two who had worked for UK Pharma AB. In Phase 3, we further interviewed the UK Uni scientists, the representative of the WHO-TDR, and a member of UK Pharma AB. To complement and corroborate the information gathered from the primary sources, we primarily used rich information drawn from archival documents. In this respect, the meeting minutes were immensely helpful in capturing the implications of the internal dynamics within the WHO-TDR for the development of the IOR.

As we collected the data, we also inductively analysed it in adherence to the guidelines set out for a naturalistic inquiry (Lincoln, 2007). Consistent with this approach, we first wrote the case history (Yin, 2003; Eisenhardt, 1989) and then identified 12 critical events that had taken place during the relationship's timeline (see Figure 1). By examining these key events (Isabella, 1990), we identified UK Pharma A (subsequently Pharma AB) and the WHO-TDR as the two major players in the partnership and turned our attention to the structural and relational dimensions found within these organizations in order to capture their intraorganizational dynamics and their implications on the development of the IOR. We thus further identified five events that were directly related to the intra-organizational dynamics found within either of these two major players.

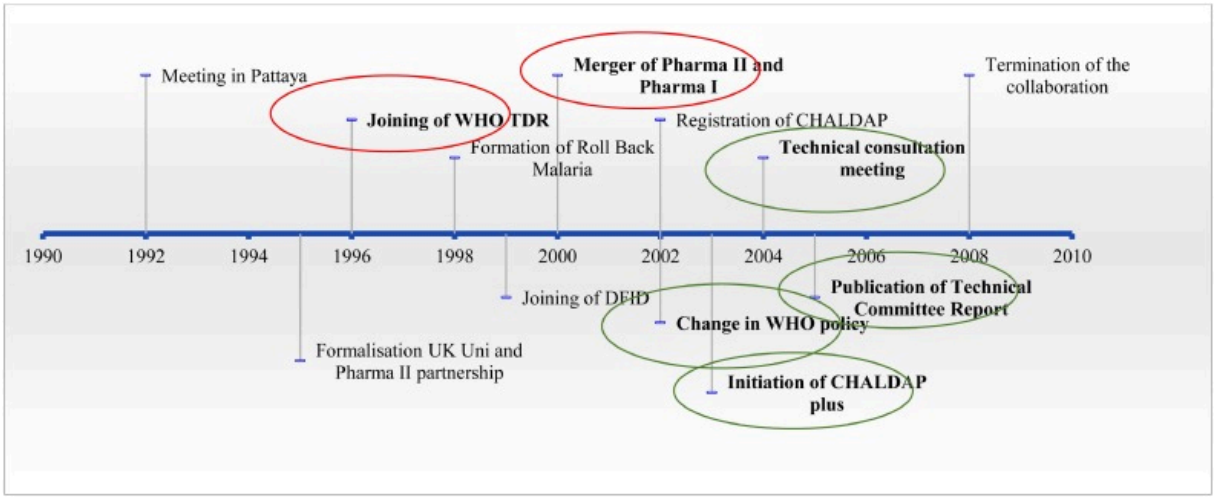

Fig. 1. Longitudinal timeline of twelve key events in the evolution of CHALDAP Collaboration (1992 – 2008). Events 3 and 6 – Intra-organizational dynamics within UK Pharma A/ AB. Events 8, 9, 10, 11 – Intra-organizational dynamics within WHO-TDR.

3.2 Research context – a brief overview of the IOR

As noted above, our research was focussed on a revelatory university-industry collaboration that had evolved into a PPP (a type of IOR). This collaboration had started when two

researchers from the UK Uni met with Dr JH, the Head of UK Pharma A's Tropical Disease unit in. During that period, UK Pharma A was one of the few companies to have some interest in developing and marketing drugs for neglected tropical diseases (for more details, see Trouiller et al., 2002). Based on very productive conversations held with Dr HJ, the scientists from the UK Uni had performed tests to gather evidence of the effectiveness of a new drug called CHALDAP for the treatment of uncomplicated malaria (for more information on malaria and its treatments, see Talapko et al., 2019).

By the mid-1990s, the results had shown that CHALDAP was more effective than other drugs in the treatment of uncomplicated malaria. Following these positive results, in 1996, UK Pharma A and the UK Uni had formalized a university-industry collaboration. Despite the formalization of the collaboration, Dr JH had struggled to convince his managers to allocate a budget for the development of CHALDAP and, as a result, he and the UK Uni scientists had decided to approach the WHO-TDR—which then had the mandate to invest in research aimed at defeating tropical diseases—and had convinced it to join the IOR as a third partner. Thus, in 1996-97, a dedicated product development team (PDT) for CHALDAP had been formed. Later, following the 1998 Birmingham (UK) G8 summit, the DFID had joined the partnership as its fourth partner. In essence, UK Pharma A and the WHO-TDR had then emerged as the key partners in the IOR.

By mid-2001, having completed the requisite clinical tests, the CHALDAP PDT had sought and obtained product approval and marketing licensing for the UK from the UK Medicine and Health Regulatory Authority (MHRA). The CHALDAP PDT had then applied for the registration of the drug with the respective Ministries of Health of numerous SubSaharan African countries. A CHALDAP course of treatment had been priced at US$ 29 cents for adults and US$ 18 cents for children; well below the US$ 1 that the WHO considers to be the threshold price for any anti-malarial drug to be affordable by the wider Sub-Saharan African population.

Interestingly, around 2002, when CHALDAP had been registered, the WHO, unknown to the IOR partners, had decided to review its global malaria policy and had recommended that all malaria treatment should involve a combinational therapy, preferably including an artemisinin derivative (Artemisinin Combinational Therapy – ACT). Equally noteworthy is the fact that, unknown to the CHALDAP PDT, another project team within the WHO-TDR was also developing an ACT-based drug. The CHALDAP PDT had held many discussions with members of the WHO and of Roll Back Malaria (RBM)—a new organization that had been carved out of the WHO with the specific mandate to coordinate global efforts to eradicate malaria—to ensure that CHALDAP would be considered as an option for the treatment of uncomplicated malaria in Sub-Saharan Africa. When those discussions had failed, the CHALDAP PDT had decided to convert CHALDAP into an ACT by adding an artemisinin derivative to it.

However, around 2004-05, concerns had been raised within the WHO and RBM in regard to safety issues relating to CHALDAP, particularly in respect to its usage in SubSaharan Africa due to a glucose-6-phosphate dehydrogenase (G6PD) deficiency widely considered to be prevalent in the region's population (see, e.g., Beutler *et al.*, 2007). RBM and the Essential Drugs and Medicines department (another WHO division) had convened a technical consultation team to assess the risks (and benefits) associated with CHALDAP. The team's report, which was published in September 2006, had concluded that, in the absence of solid information regarding its safety, CHALDAP would have to be withdrawn from the market. The CHALDAP PDT did not concur with these findings and had sought clarification from the WHO-TDR on whether or not the development of CHALDAP Plus (CHALDAP combined with ACT) should continue. The Phase III studies for CHALDAP had taken place in 2007 and had involved two clinical trials, both of which showed significant reductions in haemoglobin levels in patients with G6PD deficiency following the administration of CHALDAP Plus.

Consequently, on Feb 29, 2008, the CHALDAP PDT had decided to terminate the development of CHALDAP Plus, thus bringing to an end this unique 18-year old IOR.

4. Findings

Following Leung and White (2006), we argued that the evolution of an IOR is influenced by the intra-organizational dynamics that reflect the nature and strength of the inter-personal relationships found among the individuals and groups who are both directly and indirectly associated with it. In essence, we conceptualized organisations as 'political systems' wherein individuals and groups exist in a state of perpetual competition for the use and allocation of any limited organizational resources (Brass, 2017; Gargiulo, 1993). In regard to our research questions—which pertained to (a) how the IOR had evolved over time, which had resulted in delineation of its timeline (see Figure 1), and (b) how the intra-organizational dynamics within its partner organizations had influenced the trajectory of its evolution—we noted that the intraorganizational dynamics within UK Pharma A (subsequently Pharma AB) and the WHO-TDR had significantly shaped how our case IOR had evolved.

Of the 12 critical events that had taken place during the relationship's timeline, we now focus on the five that were directly related to the intra-organizational dynamics found within either of these two major players.

4.1 The intra-organizational dynamics within UK Pharma A and their implications for the IOR

4.1.1. The 1991-92 meetings held between UK Uni scientists and the Head of UK Pharma A's Tropical Disease Division (Event 1)

As we noted above, the collaboration between UK Uni and UK Pharma A had been initiated following a meeting between two UK Uni scientists—who had been researching the reasons for the late 1970s failure of an anti-malarial drug called Fansidar (pyrimethamine/sulfadoxine)—and Dr JH, the Head of UK Pharma A's Tropical Disease Division. In early 1990s, UK Pharma A was one of the very few pharmaceutical companies to be still involved, in some form, in the development and marketing of drugs for the treatment of neglected tropical diseases. Interestingly, although UK Pharma A's Tropical Disease Division was involved in development of new drugs for tropical diseases, it was not part of the Corporate R&D Division of the company; instead, it was located within the International Business Division, with a very small budget. The nature and features of our case universityindustry collaboration are akin to those delineated by Amabile et al. (2001) (see also Rajalo and Vadi, 2017).

4.1.2: The joining of WHO-TDR as the third partner in the IOR (Event 3)

During the early 1990s, UK Pharma A was one of only a few pharmaceutical companies involved in the development of new products for tropical neglected diseases (for details, see Trouiller *et al.*, 2002). However, Pharma A was not undertaking any 'research' activities; it was essentially developing new products. It is critical to reiterate that Pharma A's Tropical Diseases Division was not part of the company's mainstream R&D Division, but was located within the International Business Division and operated with a limited budget.

At the beginning of 1995, Pharma A and UK Uni had formalised their collaboration to the end of co-developing the CHALDAP anti-malaria drug. Despite the agreement, the company had not made any budgetary provision for the development of CHALDAP. Dr JH had unsuccessfully attempted to convince the Head of UK Pharma A's International Business Division to allocate a budget. He had instead been instructed to *"get a third partner ... because*

combinational drugs, which CHALDAP was designed as, were too risky to assess" (UK Uni Scientist 1). This unexpected decision had forced Dr JH to approach the WHO-TDR division, which focussed on R&D activities pertaining to tropical diseases.

4.1.3: The removal of Dr JH following the merger whereby UK Pharma A became UK Pharma AB (Event 5)

In January 2000, UK Pharma A had entered into a merger, becoming UK Pharma AB. The merger—which had initially been proposed in 1998 but had been postponed following disagreement between the CEOs regarding the structure and focus of the merged entity—had,, at least initially, created immense uncertainty for all the activities that were being undertaken by UK Pharma A's Tropical Disease Division, including the development of CHALDAP. These uncertainties had been compounded by UK Pharma A CEO's early retirement announcement. The representative of WHO-TDR aptly highlighted the role played by the CEOs in supporting product development programmes for tropical neglected diseases. He said…

> *"These projects existed and survived because of the interest of the top men towards these diseases … the blessings of the CEOs were critical for such programmes. When the man at the top says to his subordinates 'Make these collaborations work and do not tell me why they cannot work', then the subordinates tell their subordinates to make them work, and then they work … without the CEOs' blessings, such projects would have been doomed"* (WHO-TDR representative)

He further informed us that the merger had been a matter of great concern within the WHO-TDR because:

> *"At the WHO-TDR, we were genuinely concerned about the merger; we were really wondering about what would happen to the collaborations we had with both the [merging] companies in different therapeutic areas. Actually, I think it would be right to say that, combined, Pharma A and Pharma B accounted for about 70% of our alliances. It was a matter of concern for us*

in case the [merged] company would have decided it did not intend to go ahead on some of the projects…" (WHO-TDR representative)

The merger had had two critical implications for the CHALDAP collaboration. First, the CEO of the newly formed UK Pharma AB had decided that the company would continue pursuing all of its constituents' existing product development programmes pertaining to tropical neglected diseases and, second—and more importantly—he had decided that such programmes would be managed by UK Pharma AB's mainstream R&D Division. Notwithstanding these positive developments, the senior managers within UK Pharma AB had decided to remove Dr JH from the new set up, and had asked him to leave UK Pharma AB. It is critical to highlight here that, although the extant research on university-industry collaborations highlights the academic scientists' motivations to seek partnerships with companies (see for instance Lam, 2011; Perkman et al., 2021), those that induce the managers within those companies to facilitate such relationships are less understood.

4.2 Intra-organizational dynamics within the WHO-TDR and the WHO-CTD, and implications for the IOR

4.2.1. Changes in the WHO's global malaria policy (Event 8)

The identification and critical examination of the events that had underpinned the development of the IOR highlighted that, following the formation of the RBM initiative in 1998, the intraorganizational dynamics within the WHO-TDR, the second major partner in the IOR, had undergone drastic changes that had caused disruption and consternation, and had subsequently contributed in the dissolution of the IOR in 2008.

The WHO, along with three other major United Nations (UN) agencies—including the

World Bank (WB), the United Nations Development Programme (UNDP), and the United Nations International Children's Emergency Fund (UNICEF)—had come together on one platform to set up the RBM, which was considered the first major effort made to counter malaria in almost four decades, with the objective of reducing the world's malaria burden by half by 2010 (Narashiman and Attarn, 2003). To facilitate this ambitious objective, a separate organisation, the WHO Control of Tropical Disease (WHO-CTD) unit, was established. The WHO-TDR and WHO-CTD were considered *'sister organizations'* (WG, Representative WHO-TDR) aimed at complementing each other's efforts Whereas the focus of the WHOTDR was on translating research into products, that of the WHO-CTD was on coordinating and strengthening control activities in cooperation with the national authorities of member countries (see WHO, 1990).

The formulation of the WHO's new malaria policy, which had occurred almost immediately after CHALDAP had been registered as an option for the treatment of uncomplicated malaria, came as a blow to the team involved in the drug's development. The new policy stated that:

> *"The WHO, on the advice of international experts, recommends the introduction of combinations of drugs to replace single drugs (mono-therapy) in the treatment of malaria…IHO recommends, in particular, the use of drug combinations containing artemisinin compounds—artemisinin-based combination therapy – ACT for short"* (WHO, 2003)

Albeit being a combination drug, CHALDAP was not an artemisinin-based combination therapy (ACT); therefore, in the new context, it had become irrelevant for the treatment of malaria. The drive for ACT had come from another project team within the WHOTDR. In other words, the WHO-TDR had invested its resources in two potential solutions,

(a) CHALDAP and (b) an artemisinin-based therapy. According to the WHO-TDR representative in the CHALDAP partnership,

> *"For us in the WHO TDR, CHALDAP and ACT were complementary projects; both had started almost around the same time, the mid-1990s. We felt that it would always be good to have two strings instead of one, considering how rapidly the malarial parasite develops resistance to new drugs … The strategy that we were following during that time was very clear. In the bit of TDR that I was running, we were looking at CHALDAP as a way of tweaking the chemistry of two old but rarely used drugs, and the other team were looking at the alternative as a way of tweaking the old molecule by adding a component, these were entirely complementary approaches"* (WHO-TDR representative)

Although the project team involved in the development of CHALDAP had known about the trials being performed by the ACT team, their perception of those trials had been that they *"were not for registration purposes … we knew about that. They were not developing a new product; rather, testing a concept…"* (Scientist 3, UK Pharma AB). ACT had become the overarching approach for the treatment of malaria as a result of astute persuasion by the ACT project team, which had also succeeded in convincing their colleagues in the WHO-CTD that ACT was perhaps the most effective approach to eradicate malaria and would thus have fulfilled the objectives set out in forming the RBM initiative. The complexities relating to this internal dynamic within the WHO were highlighted by the WHO-TDR representative:

> *"…the push for ACT was not coming from the TDR, which was sort of the research end; the bit where they were talking about ACT was in the implementation area … the CTD area … that was surprising … but that was how the ACT policy shaped up … RBM, which, by then, had become the voice of the WHO on malaria, wanted one single message for the world. That is why they opted for a single message for controlling malaria—Artemisinin-Based Combination Therapy … one could call it a bold decision, but it was also a controversial one*

because it was like suggesting they had found the ultimate solution for malaria…" (WHOTDR representative).

At one level, the above quotation captures the complexities within the WHO-TDR in relation to the competition between the two project teams. At another level, however, it highlights the capacity of those who had been involved in the development of an ACT-based product (academic scientists as well as managers belonging to the WHO-TDR), in convincing their colleagues in the WHO-CDT and RBM that ACT would represent the best option to eradicate malaria.

4.2.2. The WHO's Technical Committee meeting (Event 10)

On July 1-2 2004—almost 12 months after the project team involved in the development of CHALDAP had decided to convert it into an ACT called CHALDAP Plus—the WHO/RBM had convened a technical committee consultation meeting with the WHO's Essential Drugs and Medicines (EDM) department in order to assess the risks and benefits linked to the use of CHALDAP in Africa. This had been done because CHALDAP had already been registered in many Sub-Saharan African countries and was available in private pharmacies at a much cheaper price (less than US$1) than its nearest competitor. The view within the CHALDAP project team was that that meeting had been organized to pressure them to withdraw their drug from the market.

The project team had met on July 8, 2004 to discuss this development. One of the specific agenda items of that meeting had been to seek clarity from the representatives of all the partner organizations on whether the CHALDAP Plus programme should be pursued further. The minutes of this meeting (MoM) highlight that the partners:

"…UNANIMOUSLY AGREED that more data are needed on this drug combination and that we will now proceed to Phase III of CHALDAP. Plus … IT WAS UNANIMOUSLY agreed that

the evaluation of the CHALDAP plus project should proceed in spite of external pressures and that team members were committed to take the Project to regulatory approval and beyond, provided the data, as it emerged, justified this course of action" (MoM, 08.07.04)

The MoM specifically mentions the support of the WHO and of the WHO-TDR to the continued development of CHALDAP Plus. The MoM states:

"…JL, speaking on behalf not just of TDR, but of the entire WHO, wishes to convey the interest of WHO to the continued development of CHALDAP plus. All interested groups in the WHO (including RBM) see CHALDAP and as a potentially valuable addition to the armory of antimalarial drugs (ACT in particular) if safety and efficacy is demonstrated. TDR is fully behind the continued development of CHALDAP plus" (MoM, 08.07.04)

The support from the WHO and WHO-TDR to continue pursuing the CHALDAP plus project highlights a contradiction, as the WHO's technical committee had raised safety issues regarding use of CHALDAP. The representative of the WHO-TDR in the CHALDAP development team asserted that:

"The support of the WHO-TDR, at that stage, was contradictory; in fact, we did tell them, at that time, that, if it was a matter of a safety issue due to the presence of Dapsone … then you should not have been supporting CHALDAP Plus because it was inconceivable that CHALDAP Plus would be any safer than CHALDAP … they never responded to our observations about their continuing support … because they had no evidence to show that CHALDAP was unsafe in the first place … so what does that really say … they were really against those who were developing any products other than ACTs…" (WHO-TDR representative)

We found that the WHO-TDR had the responsibility to undertake Phase IV studies of CHALDAP, which it had not undertaken by then. In these circumstances, the view within CHALDAP development team was:

> *"The idea was to kill the* [CHALDAP] *project. Moreover, how do you kill a project? The easiest way to kill it is if you do not have the money. You use that as an excuse. But, in this instance, the money was there … they just did not do the necessary studies because if they had actually done this study as we had planned and if it had come out clean, then he would have lost his argument for focussing only on the ACTs…"* (Scientist 2 CHALDAP PDT)

The internal politics and opposition within the WHO and the WHO-TDR to CHALDAP and to those involved in its development presented a difficult situation to the scientists from the UK Uni:

> *"The politics in the WHO, the WHO-CTD, the RBM were immense. They did not want to know about CHALDAP as it was then, and they wanted to kill it because it was unsafe. But, at that time, they did not know that ... there was no evidence ... they just made it up ... it was an extremely difficult situation for all involved…"* (Scientist 1 Chair of CHALDAP PDT).

Other members of the CHALDAP PDT expressed similar views. For instance, the WHO-TDR representative specifically highlighted that:

> *"People were extremely concerned about the politics that were going on … we were always thinking about how we could reasonably counter these accusations without painting ourselves with the same brush as those who were orchestrating it …" (WHO-TDR representative)*

The above quotation, in essence, highlights the immense pressure to which those involved in the development of CHALDAP had found themselves subjected. One of our respondents' prevailing views was that, within the WHO and WHO-TDR, the involvement of Pharma AB in CHALDAP's development was seen with suspicion, and that this also explained the confrontational behaviours of members of the WHO, the RBM, and the WHO-TDR towards the CHALDAP development team. The CHALDAP partnership was subsequently terminated in 2008, when the initial results of the Phase IV trials, which had ultimately been conducted by the WHO-TDR in 2007, had shown that CHALDAP and CHALDAP Plus had

adverse effects on patients with low G6PD levels.

5. Discussion and conclusion

Our overarching research objective was to explore and explain how the intra-organizational dynamics found within partner organizations constitute a dark side of IORs. We noted that the literature on the dark side of IORs had hitherto overlooked this aspect and had extensively focused on the nature and processes associated with relationship conflicts, opportunism and uncertainty, and issues underpinning trust and control (Oliveira and Lumineau, 2019; Yang *et al*., 2018; Kingshott and Pecotich 2007; Johnson and Lacoste, 2016; Anderson and Jap, 2005). Clearly, our findings contribute to addressing this important gap in the literature. Below, we discuss some of the salient aspects pertaining to the structural and relational dimensions that underpin intra-organizational dynamics as a 'dark side' of an IOR.

Our findings support the view that a dark side is a distinctive feature of an IOR that does not necessarily cease to exist with time (Hakansson and Snehota, 1998; Grayson and Ambler, 1999). Abosag et al. (2016) classified two broad dark side categories: a 'tolerable dark side' and an 'intolerable dark side'. In our research, we identified 12 key events that underpinned the development of our case IOR and, in that context, we further identified five events that were directly related to the intra-organizational dynamics found within either of the two major partners—namely UK Pharma A (subsequently UK Pharma AB) and the WHOTDR. We categorized the intra-organizational dynamics within UK Pharma A (then AB) as an instance of a 'tolerable dark side', whereas we characterised the complexities relating to the dynamics found within the WHO-TDR as an instance of an 'intolerable dark side'. We discuss these distinctions in the following section.

5.1 The dynamics found within UK Pharma A (AB) as a form of tolerable dark side

It has been argued that a tolerable dark side is characterized, among other aspects, by low uncertainty underpinned by conflicts in routines and tensions. However, the management of these aspects in a relationship could require greater awareness, the sharing of information, and flexibility in adaptation by the partners (Hakansson and Snehota, 1995). The first evidence of an intra-organizational dark side in our case IOR emerged within a year from the formalization of the collaboration between the UK Uni and UK Pharma A. The company's Tropical Disease Division was located within the International Business Division and had a small budget. This structural arrangement highlights the lack of importance attributed to the development of drugs for the treatment of tropical diseases during that period (Trouiller, 2002; Patnaik *et al.*, 2020). Consequently, the inter-personal relationship between Dr JH, the Head of the Tropical Disease Division, and his line manager, the Head of the International Business Division, was critical to make our case university-industry collaboration work. In this context, the asymmetrical nature of relationship between the two divisions assumes significance, wherein the existence of Dr JH's unit depended on the goodwill and largesse of the International Business Division (see, e.g., Patnaik, 2011; Leung and White, 2006). The decision by the latter's head not to make any budget available for the development of CHALDAP highlights his lack of trust in Dr JH's judgement about the future of combinational drugs. The inter-personal relationship between Dr JH and his manager also underpinned the decisions that were made to remove him and to place the Tropical Disease Division within the mainstream R&D division after the merger that had brought into being the UK Pharma AB company. Two interesting insights emanate from these two decisions. First, intra-organizational dynamics, as a dark side, reflected both the structural arrangement and the inter-personal relationship between Dr JH and his line manager. Second,

the challenges raised by these decisions were manageable and, despite causing concerns and delays, had not resulted in the termination of our case IOR (Achrol and Stern, 1988; Jehn and Mannix, 2001; Abosag *et al.*, 2016).

5.2 The dynamics within the WHO-TDR as a form of intolerable dark side

The intra-organizational dynamics within the WHO-TDR were more complex due to the nature of the WHO and to the arrangement between the WHO-TDR and WHO-CTD. The establishment of the RBM organization to bring greater focus on the efforts being made to develop solutions for malaria had been critical; however, it did create significant uncertainty for our case IOR. The change of WHO's global malaria policy (see event 8), which had occurred immediately after the registration of CHALDAP for marketing, highlights the intolerable nature of the dark side that had stemmed from developments within the partner organization. The policy change, in essence, highlights the persuasive capacity of the other research team that was working on ACTs within the WHO TDR. Subsequent events, such as the convening of the WHO's technical committee meeting in order to evaluate the usage of CHALDAP and the subsequent leakage of the report by one of the members of the committee to a major newspaper, highlight the detrimental aspect of this dark side, which had resulted in reduced cooperation and performance (Skarmeas, 2006; Finch, Zhang and Geiger, 2013). This intolerable dark side also throws light on the hostility, distortion, distrust, and withholding of information that took place to the detriment of the overall relationship (Selnes and Sallis, 2003; Anderson and Jap, 2005; Abosag et al., 2016). The intra-organizational dynamics more specially highlight the conflicts and political behaviour of the ACT research group in convincing its colleagues in the WHO-CTD that ACTs were the only way to eradicate malaria, thus rendering drugs such as CHALDAP irrelevant. In contrast to the intra-organizational

dynamics found within UK Pharma A (AB), those observed within the WHO/WHO-TDR were the result of competition, conflict, and the resulting tension between the WHO's CHALDAP product development and ACT research teams. Actors within the WHO had perceived the involvement of UK Pharma A (AB) in the CHALDAP project as detrimental to achieving the eradication of malaria, as the presence of a representative of the corporate sector would be seen as a sign of the existence of 'profit making motives'. As a result, the individual scientists involved in the CHALDAP collaboration had faced hostility from those who were pursuing and supporting the development of ACT based anti-malarial drugs (see Patnaik, 2011). These unmanageable manifestations of the dark side had contributed to the termination of the IOR.

5.3 Contributions

Our unique and revelatory case study—which had initially started in early 1990s as a university-industry collaboration and had subsequently evolved into a full-fledged PPP—provided us with insights critical to the identification and analysis of the 'dark side' of IORs. As a result, our study makes four critical contributions. First, it provides detailed evidence of how the intra-organizational dynamics found within partner organizations in IORs can potentially represent a dark side of the relationship. Based on the underlying assumption that the intra-organisational dynamics found within partner organisations do not pose any serious challenge to IORs, the extant literature on the dark side of IORs has often focussed only on the inter-organizational level (Wuyts and Geyskens, 2005; Dong, Ma and Zhou, 2017). Clearly, our research has brought to the fore the centrality of intra-organizational dynamics as a potential IOR dark side source. In our analysis, we have demonstrated that, whereas the intraorganizational dynamics found within UK Pharma A (AB) had constituted a 'tolerable dark side'—in the sense that, with changes and adaptation, the partnership had made progress—

those found within the WHO-TDR had represented an 'intolerable dark side' that had led to significant uncertainty and consternation amongst the partners. The scientists directly involved in the development of CHALDAP had faced immense opposition from those involved in the development of ACTs. Thus, we highlight how the nature and course of an IOR may be affected by the intra-organizational dynamics linked to the relationships between individuals and groups/units either directly or indirectly involved in it.

The second contribution made by our study is to the nascent literature on universityindustry collaboration. Although this phenomenon has attracted the attention of numerous scholars, most of the research has hitherto focussed on "*processes at individual and institutional levels*" (Nsanzumuhire and Groot, 2020: p.1; see also Orazbayeva *et al.*, 2019). However, little longitudinal research has been conducted on the evolution of universityindustry collaborations and, as a result, some of the critical aspects that underpin the formation, evolution, and management of such collaborations have remained unexplored. Our study contributes to closing this research gap. In the process, it highlights how the informal relationships established between academic scientists and organisational managers create conditions conducive to the formalization of partnerships at the institutional level. Of the three concepts introduced by Lam (2011) to investigate the motivations of academic scientists, the intrinsic satisfaction ('puzzle') of the UK Uni's scientists stood out in our study. At the same time, our research also highlights how such collaborations actually exist within the portfolio of projects being undertaken by industry partners and the budgetary and managerial challenges that such projects may face due to the internal dynamics found within such partners.

The vast majority of the studies conducted on the dark side of IORs borrowed insights from the marketing and supply chain literature, and explored the phenomenon by means of a quantitative analysis. In most instances, transaction cost economics represented the theoretical perspective most commonly taken to explore conflicts and opportunism—the two dark side

manifestations that have attracted the most attention among researchers. By contrast, our analysis was based on the organization behaviour literature; by adopting a longitudinal qualitative research design and paying attention to the structural and relational dimensions underpinning the intra-organizational dynamics found within partner organisations, we discerned the power and politics—as distinctive features of any organization—that come into play as an IOR evolves over time. By adopting this theoretical perspective to consider a drug development programme organized as a 'new product development project', we uncovered the perpetual nature of the tension and conflict that exist between project teams (groups) for legitimization and, hence, access to resources (Suchman, 1995; Mulec and Roth, 2005). The CHALDAP collaboration had morphed from a university-industry collaboration to a PPP, a type of IOR that seems to have hitherto been largely ignored in the literature on the dark side of IORs. Drug development partnerships are particularly complex because they evolve over time in conjunction with the progressive results of the developmental activities (Patnaik, 2011; Pereira *et al*., 2020). Therefore, such contexts involve the presence of multiple 'dark corners', rather than of simple dyadic relationships; the structural and relational dimensions that underpin these 'dark corners' potentially generate tolerable and/or intolerable dark sides of IORs.

In terms of its managerial implications, our study argues that intra-organizational dynamics are linked to a powerful IOR dark side. Managers engaged in IORs should thus invest time and resources in order to enhance the quality of the relationships formed with those actors that, despite not being directly involved in the IOR, could play potentially influential roles because of their positions. Therefore, managers should anticipate and manage any internal power and political dynamics occurring within their own organizations with the same care they dedicate to the relationships established with their partner organizations.

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