IT Alignment in Temporary Organizations: Examining the 2016 Olympics

Full Paper

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Abstract

Temporary organizations (TOs) are organizational forms characterized by finite-life duration, largely emergent and non-routine tasks, and heterogeneity of team members. These unique characteristics lead to distinctive information processing requirements. Alignment between such information processing requirements and the supporting IT poses unique challenges. This paper explores these challenges in a specific temporary organization: the 2016 Olympic Games Organizing Committee. Through an immersive longitudinal case study, based on participant observation, interviews, and internal documents, our analysis indicates that TOs have distinct types of operational processes in different phases of work and multiple types of IT are needed to achieve IT alignment in support of these processes.

Keywords

IT alignment; Temporary Organizations; 2016 Olympic Games.

Introduction

Temporary Organizations (TOs) are time-limited organizational forms designed around a shared objective (Lundin and Söderholm, 1995; Söderlund, 2004). These organizations have high levels of complexity in time and scope and thus there is growing interest in understanding their processes. TOs include organizational entities such as project ventures, movie sets, and task forces (Bakker, 2010). They have three key characteristics – limited duration, novel tasks, and heterogeneity of team members. These create high levels of uncertainty and interdependence with respect to their particular information processing requirements. Moreover, temporal variations in their processes entail unpredictable variations in uncertainty and interdependence. Alignment between such information processing requirements and the supporting Information Technology (IT) poses unique challenges. Although these challenges are very important because they can influence TOs success, they have not been addressed in the IT alignment literature. Thus, the objective of the paper is to investigate the following research question: How does IT alignment take place in temporary organizations?

We define IT alignment as the fit between an organization’s IT and its operational processes (Karpovsky and Galliers, 2015). We take the view that such ‘alignment is not an event but a process of continuous adaptation and change’ (Henderson and Venkatraman, 1999, p. 473). Much of the IT alignment literature examines contexts where there are established, structured, and largely stable organizations and the role of IT is mainly to facilitate planning, control, coordination, and integration within and among firms (e.g., Chan et al., 1997; Henderson and Venkatraman, 1993; Saeed et al, 2011; Subramani, 2004). However, increasingly, business agility depends on the ability to flexibly and quickly respond to emergent environmental situations (Collins et al., 2010; Tanriverdi et al. 2010). The literature on IT alignment has
largely addressed static alignment at the level of IS and business strategies, for example, between IS strategy and business strategy (e.g., Chan et al., 1997; Sabherwal and Kirs, 1994). However, recent studies on IT-business alignment recognize the need for IT alignment at the process level (e.g. Tallon, 2008; Tallon, 2012). Moreover, there is growing recognition of the need to consider the potentially dynamic nature of IT alignment (e.g., McLeod and Doolin, 2012; Tarafdar and Ragu-Nathan, 2009; Vessey and Ward, 2013), that can change over time to fit changing organizational contingencies. Yet, and relevant to our research objective, the literature has not examined process-level IT alignment in temporary contexts. This issue matters because TOs increasingly rely on technology to accomplish their time-constrained activities (e.g. in the case of emergency response). We believe that the study of IT alignment in the context of operational processes in TOs can contribute both to the literature on TOs by exploring particular challenges involved in IT alignment in these contexts and to the IS research and practice, by introducing the theoretical component of ‘temporariness’ into consideration. Temporariness in the study of IT alignment matters because it influences the way processes and IT are aligned. Especially in the context of rapid pace changes that organizations in general are facing, the understanding of IT alignment in TOs (where temporariness is more evident) can help explain the influence of temporariness in IT alignment more broadly.

In this study, we investigated a particular TO (the 2016 Olympic Games Organizing Committee) through immersive, real-time, longitudinal, and qualitative fieldwork. This provided complete contextual embeddedness. Overall, the Olympics can be considered as a social non-profit enterprise since “the goal of the Olympic Movement is to contribute to building a peaceful and better world by educating youth through sport practiced without discrimination of any kind, in a spirit of friendship, solidarity and fair play” (IOC, 2017). Specifically, we explored how the Committee used IT to achieve alignment at the level of its operational processes, across various phases of its work that presented rapidly changing and varying information processing requirements. We start by covering literature on information processing requirements in TOs and IT alignment. Then, we present the description of the study’s methods, followed by the presentation and analysis of its findings. We conclude by discussing the theoretical implications and limitations of this work.

**Literature Review**

**Information processing in temporary organizations**

Two characteristics influence information processing: uncertainty and equivocality (Daft and Lengel, 1986). Uncertainty refers to the absence of sufficient information to execute a specific task and equivocality refers to the presence of ambiguous information leading to its multiple and conflicting interpretations. Operational processes in TOs are characterized by high levels of both uncertainty and equivocality; these bring about unique information processing challenges. To frame these challenges theoretically, we use the four central concepts of the Theory of Temporary Organization (Lundin and Söderholm, 1995): time, task, team, and transition.

Firstly, time is related to temporariness. The time duration of a TO can vary throughout a continuum from short to long duration (Bakker, 2010), which might influence the need, applicability, and amount of investments in IT. Further, operations of TOs rely on both temporary as well as enduring processes. These have important parallels with Burns and Stalker’s (1965) bureaucratic and organic processes. As such, there is the challenge that IT needs to support and be aligned with the two types of processes.

Secondly, since TOs generally deal with novel and varied tasks in dynamic environments, high levels of uncertainty are usually present. This increases both the importance and challenges of information processing in temporary settings (Daft and Macintosh, 1981; Thompson, 1967; Tushman and Nadler, 1978). In general, complex, non-routine tasks require more information processing than simple, routine tasks (Daft and Macintosh, 1981; Daft and Lengel, 1986; Perrow, 1967). However, TOs do not always have the time, the mechanisms, and the systems in place to process information.

Thirdly, the aspect of team is associated with the fact that any TO is designed by people, who work together interdependently (Goodman and Goodman, 1976). The team is formed around an operational task as members are brought together around this task, in both planned and emergent ways (Lundin and Söderholm, 1995). The heterogeneity of team members increases the information processing challenges,
especially in terms of accuracy and quality of information. Often, it is not accurate because multiple people collect and process information differently and in a decentralized way.

Finally, TOs have different phases of work (e.g., mitigation, preparedness, response, and rehabilitation in humanitarian operations (Kovács and Spens, 2007; Van Wassenhove, 2006) and conception, planning, development, and evaluation in projects (Maylor, 2010; Meredith and Mantel, 2008)). The transition aspect refers to changes between such phases (Lundin and Söderholm, 1995). From the point of view of information processing, each phase may have different information processing requirements.

The above-identified challenges (presence of both temporary and enduring processes; high uncertainty due to novel tasks; heterogeneity of team members working interdependently; and changing information processing requirements depending on the phase of work) make the alignment of IT with operational processes in TOs an interesting research problem. Overall, IT needs to support operational processes that are varied, temporary and dynamic – this is due to the inherent nature of TOs. The next section presents literature on IT alignment.

**IT alignment**

IT alignment is traditionally defined as the strategic fit between Information Systems strategy and business strategy (Henderson and Venkatraman, 1993). However, this study considers IT alignment as the fit between IT and operational (micro) processes (Karpovsky and Galliers, 2015), where continuous adaptation and change are always in place (Henderson and Venkatraman, 1999). Chan and Reich (2007, p. 306) emphasize that “IT alignment is a management concern primarily because of its potential impact on firm performance”. Traditional approaches on IT alignment (e.g., Chan et al., 1997; Henderson and Venkatraman, 1993; Sabherwal and Kirs, 1994) view it as static rather than dynamic. Thus, it has limitations when considering the context of TOs.

Subsequent literature (e.g., McLeod and Doolin, 2012; Tarafdar and Ragu-Nathan, 2009; Vessey and Ward, 2013) highlighted the complex and multi-layered nature of IT-business alignment concept. Studies also analyzed IT alignment as shifting from the firm level to the operational process level (Tallon, 2008). “Since processes are often linked to create a complex chain of activities, the absence or presence of alignment in any process could have implications for business performance elsewhere in the value chain” (Tallon, 2012, p. 9). Evaluating IT alignment at the process level involves the assessment of whether the IT alignment is consistent with the organizational goals. Recent studies have started to focus on a more co-evolutionary and adaptive approach to IT alignment, one that considers the organization’s “complex adaptive IS adapts to remain in alignment with the constantly-changing (that is, evolving) organization’s goals” (Vessey and Ward, 2013, p. 283). This approach links bottom-up emergent processes that foster adaptability with top-down formal processes. Such an approach is more appropriate when considering IT alignment in TOs. We draw from this approach to examine alignment between IT and operational processes in TOs.

The above literature reveals two important aspects. Firstly, the IS field has not researched the specific challenges faced by TOs and has not taken into account the aspect of ‘temporariness’. In temporary contexts, the fit between the organization’s goals and IT is important for achieving expected performance outcomes. However, given the complexity involved (e.g. multiple and diverse agents, novel tasks, and limited duration), this fit can become very challenging and needs to evolve, intertwined with the organization’s needs. This has not been tackled in the IT alignment literature. Secondly, the views of IT alignment as static (supporting bureaucratic/enduring processes and contexts) and dynamic (supporting organic/temporary processes and contexts) have been the two primary approaches. However, TOs have both enduring and temporary processes, which indicates a need to theoretically re-consider IT alignment in them.

**Methodology**

This is a case study (Swanson and Beath, 1988) based on qualitative analysis, longitudinal fieldwork and participant observation. It is longitudinal because we have investigated the 2016 Olympic Games Organizing Committee (OGOC) across four different Olympic phases: planning, ‘venueization’, operation, and dissolution, where we could assess changes in operational processes and IT used over time (Ployhart
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and Vandenberg, 2010). OGOC is an exemplar case of TO deployed especially to organize the 2016 Summer Games that was then disbanded. In order to make the study manageable, we explored one operational area of the Committee: the transport operation. This involved the transport of multiple clients such as athletes, media, and dignitaries. This operation was selected primarily because of its importance and centrality to the Olympic Games, its dynamic and complex nature, and its connectivity with other organizations.

The first author volunteered at the Olympics and conducted the fieldwork. In total, 28 people from different departments and hierarchy levels were interviewed, corresponding to 25.5 hours of recording altogether. Since we have ensured anonymity to the interviewees, we use pseudonyms when referring to specific quotes. The questions during the interviews focused on the identification of the main challenges involved in the transport operation, on the identification of types of IT used (e.g. systems, applications, and tools), and on how these supported the Committee to achieve its objectives across the Olympic phases. Most of the interviews were carried out in person and a few by Skype, depending on the interviewees’ availability. All interviews were recorded and transcribed for further analysis. Participant observation consisted of working within the transport team in the biggest Olympic venue: Barra Olympic Park – where most of the competitions took place. This enabled an insider perspective and complete contextual embeddedness. Additional data consisted of collecting documents such as maps, operational plans, and IT systems description, which helped us to understand their applicability.

Data analysis followed Miles and colleagues’ (2014) recommendations on data coding and reduction in combination with temporal bracketing strategy (Langley, 1999). In the process, the empirical data and the literature were used in a complementary way. Briefly, the data analysis involved the codification of the interviews transcripts, documents, and field notes into four main codes: i) information processing challenges, ii) information processing capabilities, iii) mechanisms enabling alignment, and iv) supporting IT. The code ‘information processing challenges’ derived from the literature on TOs (e.g., Lundin and Söderholm, 1995) and denotes particular characteristics of these organizations that make information processing difficult. The code ‘information processing capabilities’ emerged from the data and refers to the nature of skills necessary for TOs to process information in temporary and rapidly changing settings. The code ‘mechanisms enabling alignment’ was based on the theoretical lens of IT alignment (e.g., Daft and Lengel, 1986; Thompson, 1967) and refers to the means/tools by which TOs process information. Finally, the code ‘supporting IT’ originated from the data and represents the actual examples of IT used in the Olympics to enable operational processes. Table 1 in the next section presents these codes and related sub-codes. In order to analyze how IT alignment was achieved in each Olympic phase, we used temporal bracketing strategy as it allows structuring of the description of events in successive time periods (Langley, 1999). Briefly, this strategy allowed us to break down multiple events and periods of interest (in our case, the Olympic phases) and analyze the above-identified codes in all of them, which enabled comparisons and the understanding of change processes over time.

Findings

In order to answer the question ‘How does IT alignment take place in temporary organizations?’, firstly, we briefly describe the operational processes for each Olympic phase and present the related information processing challenges. Secondly, we describe the information processing capabilities necessary. Thirdly, we describe the mechanisms that enabled alignment between information processing challenges and the required information processing capabilities, and how different IT applications enabled those mechanisms; i.e., how IT alignment took place. We conclude by discussing more broadly the implications of our findings to the understanding of IT alignment in temporary settings.

The Olympic phases and their information processing challenges

The 2016 Summer Olympic Games took place in Brazil from August 5th to August 21st, where around 11,300 athletes from 207 countries competed for 306 sets of medals. The organization of the Games are divided in four phases: planning, ‘venueization’, operation, and dissolution. Each of these phases are different in terms of the nature of their processes and the corresponding information processing challenges. To discuss them, we use the information processing challenges identified in the literature review (e.g., Bakker, 2010; Lundin and Söderholm, 1995):
1. Presence of both organic (temporary) and bureaucratic (enduring) processes.
2. High uncertainty due to novel tasks.
3. Heterogeneity of team members working interdependently.
4. Changing requirements in different phases of work.

Table 1 summarizes the key findings as we describe below.

<table>
<thead>
<tr>
<th>Olympic Phases</th>
<th>Information processing challenges</th>
<th>Required Information processing capabilities</th>
<th>Mechanisms enabling alignment between challenges and capabilities</th>
<th>Supporting IT applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planning</td>
<td>High levels of bureaucratic (enduring) processes and low levels of organic (temporary)</td>
<td>Accessibility and affordability</td>
<td>Group meetings, direct contact, reports, rules and regulations</td>
<td>E-mail, mobiles, navigation system, Excel, Google Earth, Waze</td>
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<td></td>
<td>High uncertainty due the unique nature of the tasks</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Venueization</td>
<td>Balance between enduring and temporary processes</td>
<td>Agility, accessibility, and affordability</td>
<td>Group meetings, integrators, plans, rules and regulations</td>
<td>OCS, radios, mobiles, WhatsApp, Messenger, Skype</td>
</tr>
<tr>
<td></td>
<td>High uncertainty due the unique nature of the tasks.</td>
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<td></td>
<td>Increasing heterogeneity of team members working interdependently in a decentralized way</td>
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<td></td>
</tr>
<tr>
<td>Operation</td>
<td>High levels of temporary processes and low levels of enduring processes</td>
<td>Agility, accessibility, simplicity, and affordability</td>
<td>Integrators, plans, rules and regulations, direct contact</td>
<td>OCS, TMS, TS, radios, mobiles, WhatsApp, Messenger, Excel</td>
</tr>
<tr>
<td></td>
<td>High uncertainty due the unique nature of the tasks and emergent demands</td>
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<td>High heterogeneity of team members working interdependently in a decentralized way</td>
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<td>Changing requirements</td>
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<td>Dissoion</td>
<td>High levels of enduring processes and low levels of temporary processes.</td>
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<td>OCS, mobiles, WhatsApp, Messenger</td>
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**Table 1: IT alignment per Olympic phase**

The **Planning phase** lasted from 2009 to 2016. Activities developed included planning (of routes, material, workforce, and infrastructure), procurement, rehearsal, and development of IT solutions. During this phase, the OGOC counted on a centralized management structure. All teams were based in the same location (a central office). The main processes developed were enduring (e.g., supplier development), but they also had some temporary ones (e.g., test-events). During this phase, OGOC’s staff faced high levels of uncertainty due to the unique nature of the event. Although some people had previous experience in mega events, for most of them it was the first time. Team members were homogeneous (mostly people from the OGOC) and the requirements (described in rules and procedures) were well known and did not change substantially. Primarily, information-processing challenges in this phase involved high uncertainty and presence of both temporary (low levels) as well as enduring processes (high levels).

The **venueization phase** was the preparation stage leading to the Games and started few months before the opening ceremony. During venueization, people were divided into 45 venues, depending on the physical location where they were to work. Plans made during the previous phase were activated, translating the unified and centralized structure of the OGOC into individual and decentralized operational units (venues). Activities involved logistics, assembly of structures, and training. In this
phase, there was a relative balance between enduring (centrally defined) and temporary processes that emerged to fulfill unexpected demands. Furthermore, there were increasing levels of heterogeneity of team members because public and private organizations joined the Committee to prepare the venues to operate. Uncertainty increased here as a result of modifications in some activities to accommodate new demands. The main information processing challenges were the development of both enduring and temporary processes, high uncertainty, and increasing heterogeneity of team members.

In the **Operation phase**, processes and activities planned in the previous stages were actually executed and put to work. These included, among others, fleet management, people management (especially task division and on-site training), and venue management. For some of the interviewees, this phase represented a relief; for others, a great achievement; for most of them chaos... One of the interviewees reported his experience in learning from the London Organizing Committee. He was told: “Be prepared for chaos! No matter how good your plan is, someone else's plan will not be that good and will impact on your good plan”. The high levels of uncertainty and heterogeneity of team members working interdependently in this phase can explain most of these feelings and perceptions. There were thousands of people from different functional areas of the OGOC, from public and private organizations, and volunteers from all over the globe that needed to work synchronized in order to deliver different transport services for more than 50,000 people. Further, they were working in a decentralized manner in multiple operational venues. On the top of that, time pressure for solving problems and attending unforeseen demands was very high. This was the most challenging phase. All the information-processing challenges identified in the literature were present: development of both enduring (low levels) and temporary processes (high levels), high uncertainty, high heterogeneity of team members, and changing requirements.

Finally, the **Dissolution phase** refers to the ‘disassembly’ of the organizational structure (workforce, infrastructure, contracts, technology, and the organization as a whole). Activities of this phase included return of temporary structures and assets (e.g., garages, tents, security grids, vehicles, mobiles, and IT equipment) as well as conclusion of short-life contracts with people and companies. This phase lasted until the end of 2016, when the OGOC as a private organization came to an end; i.e. legal, material, and financial dissolution. The main challenge of this phase was the presence of temporary and enduring processes (predominantly).

We conclude this section by providing a quote to illustrate IT challenges in temporary settings. “Every system needs to be properly configured and parameterized for your needs in order to work well. We did not have enough time to do this and the requirements changed constantly. In some times, the system was running and at the same time, we were setting it up. It was like changing tires on a moving car.” (Margaret – Transport coordinator). We next describe the information processing capabilities required to meet these challenges.

**Information processing capabilities required**

Our data suggests that the information processing challenges brought about the need for specific information processing capabilities: agility, accessibility, simplicity, and affordability. Agility was necessary because the transport team operated under extreme time pressure (e.g., an athlete could miss a competition in case of delays). Therefore, processes needed to be agile requiring fast and assertive response in order to provide the necessary transport services. “The transport operation is one of the most technology-dependent areas of the Committee. It needs connectivity, telecom, systems, and IT in general mainly due to the dynamism involved. IT tools that enable rapid and accurate information-sharing are essential to support decision-making in real time” (Robert – IT manager).

Accessibility was important because it allowed many individuals to process data in remote and decentralized locations. The Committee’s staff, volunteers, and people from public and private organizations worked in 45 different Olympic venues. Therefore, accessible ways of processing information needed to be in place to enable their operations. “We needed a technological solution able to connect many people in different venues and on the streets. Staff and volunteers are usually on the ground, they do not have a computer to send an email, for example. Therefore, we configured a robust radio network that allowed people in diverse parts of the city responsible for different transport services to communicate with each other through different channels.” (Christine – Transport General Manager).
Simplicity was a key requirement for information processing because it enabled people from different organizations and backgrounds to process information. Given that time did not allow proper formal training in some cases, simple (familiar, easy to understand and use) mechanisms for information processing were essential. “IT solutions for temporary contexts should be as simple as possible, especially the ones used directly in the operation. We need to take into account that diverse people are operating on the ground; while some are familiar with technology, others are not. Therefore, the solutions have to be simple. We can create the most sophisticated and powerful tools. But, in the end, the user is the one who decides whether to use it or not. If a person thinks a system is not useful or very difficult to understand, he/she is not going to use it!” (David – Transport Manager).

Finally, affordability was perceived during the whole process (from planning to dissolution). Since the OGOC had limited resources, their operations were supported mostly by developed in house, cheap, and even free IT solutions. More generally, in temporary settings it is seldom worth spending too much money on expensive and robust technological solutions that will only be used once or few times. The general approach of IT use was to look for available/free tools and solutions. In the cases where these did not exist or did not meet the Committee’s needs, they developed or outsourced the simplest solution available. “It does not make sense to spend a lot of money to develop a technological solution to use only for the organization of the Games. We use the tools that are available; we do not want to remake the wheel” (Carl – Procurement Senior Manager).

These information-processing capabilities were developed through the application of IT to support specific organizational mechanisms. We describe these in the next section.

**Mechanisms enabling alignment and supporting IT**

We found several examples of different types of IT applications used to support the mechanisms enabling alignment, which are described in the Table 1. We explore some of these examples below.

In the Planning phase, rules and regulations and group meetings were the main organizational mechanisms enabling alignment. Most of the processes developed in this phase were bureaucratic (enduring) and based on the International Olympic Committee (IOC) guidelines and on meetings with the clients in order to understand their needs. IT supporting included an outsourced navigation system. Through this system, the transport team could analyze the city map of Rio de Janeiro and the Olympic route network. Based on this information, they could plan all the routes, local garages, parking spaces, load zones, and the Olympic lanes (which could be exclusive, preferential, or shared) considering the clients’ requirements and the IOC’s rules.

The Venueization phase was primarily characterized by the decentralization of operations and the balance between enduring and temporary processes. In order to achieve alignment, the OGOC used the mechanisms group meetings, integrators, plans, and rules and regulations. Many types of IT (e.g., WhatsApp, Messenger, and Skype) emerged on the ground as complements to formal systems to face the challenges of this phase. For instance, WhatsApp helped the integrators coordinate activities between different teams in multiple venues because it allowed real time information-sharing, what helped OGOC’s staff make decisions promptly. Additionally, many meetings that were conducted in person before, in this phase were conducted via Skype. It is worth highlighting that many other IT solutions available in the public domain were used by the OGOC (e.g. Google Earth, Waze, Moovit, and Excel) to support organizational mechanisms in different phases. To explain this usage, some interviewees referred to the outburst of new technological solutions we have witnessed in the last years. “The availability of many open and free platforms and technological tools facilitated the planning and the execution of the transport operation in Brazil. In London 2012, for example, some of these tools were not available”. (Mark – Transport General Manager).

During Operation, many organizational mechanisms were used: integrators, plans, rules and regulations, and direct contact. In this phase, multiple teams needed to work collaboratively to deliver multiple operations. Temporary processes were predominant here. As a result, many solutions emerged from people on the ground. IT supporting included Operation Control System (OCS), Transport Management System (TMS), Tracking System (TS), radios, mobiles, WhatsApp, Messenger, and Excel. Here, we explore three of these solutions. First, TMS was a system of fleet management developed in house, which allocated resources (vehicles and drivers) to certain services and clients. Additionally, it
controlled the service and estimated when the car would be available again. It supported especially the mechanisms plans, and rules and regulations. Through this system, managers could check if the pre-established service level agreements (e.g., in terms of frequency and time that the client could wait) would be achieved. Second, TS was an outsourced system that allowed tracking, control, and management of contingencies. This system monitored 7,000 pre-defined Olympic routes and could localize where each vehicle of the fleet was in real time. The driver could reach any of these routes through a GPS. This system also offered different functions for managers. For example, if there was an accident and an avenue needed to be blocked, they were able to know it in advance and could direct the drivers to take alternative routes. Additionally, through alerts (green, yellow, and red) it was possible to let the client know if his/her car was on time or delayed. This, in turn, facilitated decision-making (e.g., they could send another vehicle in case of delays). This system supported especially the organizational mechanisms plans, and rules and regulations. It helped the transport team to deliver the transport services according to specific premises defined by the IOC.

Third, OCS was a developed in house system used by the members of the transport team to report situations affecting the operations in real time. This system is particularly interesting because it illustrates how different types of IT can be combined in order to support temporary and rapid changing processes. Many of the interviewees compared OCS to Facebook, taking into account its features, interface, and similar rationale. For example, there was a protest against the government that blocked some streets. They needed that this information reached more than ten people in multiple venues at the same time. Thus, they ‘posted’ the issue on the system and ‘tagged’ all these people, who received notifications. After seeing this notification, the responsible could add information about what should be done or simply say that the problem had been solved. This system was a rich repository of data; it allowed staff to gather all the information about issues affecting transport during the Games. Since the access to this system was limited, local teams in the venues created WhatsApp groups for the volunteers and staff who did not have access so that they could share information. A person in the office in charge of monitoring this WhatsApp group would add the situations to the system. This combination of different types of IT is interesting because it facilitated the development of temporary processes by multiple people working in a decentralized way, preserving aspects such as security and traceability. This solution supported the mechanisms plans, rules and regulations, integrators, and direct contact (if we take into consideration online communication). Its contribution was threefold: first, it communicated the issues affecting the transport operation; second, it coordinated the flux of actions to solve a specific problem; third, it was a daily briefing and a rich source of information for future reports and knowledge generation.

The Dissolution processes were mostly enduring and had been previously defined in the planning phase. As such, the main mechanisms enabling alignment were plans, and rules and regulations. The IT used included the OCS system, mobile phones, WhatsApp, and Messenger. Their use supporting organizational mechanisms were similar to the previous phases. It is worth highlighting that many departments in the Committee broadly used social media platforms (WhatsApp and Facebook Messenger) to facilitate information sharing, integration, and decision-making on the ground during the Games. Managers strongly encouraged the use of available and free IT solutions. They were valuable alternatives because they facilitated all the necessary information-processing capabilities identified: agility, accessibility, simplicity, and affordability. In the next section, we discuss concluding remarks.

Contributions and Conclusion

We set out to examine how IT alignment takes place in TOs. For this, we have identified information processing challenges, required information processing capabilities, mechanisms enabling alignment, and supporting IT applications present in the temporary context under analysis. In studying the 2016 Olympic Games Organizing Committee as an exemplar TO, we contribute to the IT alignment literature in the following ways.

Firstly, we have evidenced that each phase of work had distinct information processing challenges, requirements, mechanisms, and supporting IT. In the process, we identified the information processes capabilities in the context of TOs: agility, accessibility, simplicity, and affordability. Information processing requirements change over time because of changing operational processes. To support these processes, different types of IT are used. Our analysis indicates that IT alignment in our specific temporary context took place through the combination of different types of IT necessary to support
distinct types of processes (bureaucratic and organic) in various phases of work. This is a contribution to the IT alignment literature which does not examine IT alignment in TOs.

Secondly, IT alignment in TOs happens at two levels: i) between operational process and application and ii) along time. In the first place, there is the need to align enduring (bureaucratic) processes and supporting IT as well as temporary (organic) processes and corresponding IT. In the second, IT alignment also needs to be achieved along time. Since the relative incidence, importance, and proportion of temporary vs. enduring processes changes over time through the different phases, the relative importance and availability of corresponding IT applications should also change. The traditional views of alignment as static and as dynamic alone are not sufficient to explain this. This two-level articulation is a new theoretical contribution. It considers both static and dynamic views as complementary. This means that in addition to the first level of alignment between the operational processes and IT, IT alignment in TOs needs to consider a second level of IT alignment, which is the adaptive and relative alignment between static and dynamic IT alignment over time. This is an exciting and new perspective to explore. More broadly, we claim that IT alignment in TOs has an adaptive nature.

Finally, we showed that available and free types of IT (such as instant messaging) can be beneficial, given the distinctive information challenges and corresponding information processing capabilities required in TOs. These types of IT are usually treated as workarounds in the IS literature (Alter, 2014) and their value is acknowledged mainly in terms of communication quality (Davison et al, 2013; Ou et al, 2016; Wong et al, 2016). Their use is considered subversive and worth restricting (Davison et al., 2013). Contrary to this, we found actually the opposite in the TO in study. We showed that the use of these types of IT was encouraged due to the recognition that it could help organizations achieve IT alignment in dynamic and temporary settings. To conclude, we emphasize the importance of an adaptive perspective to analyze IT alignment in TOs that considers explicitly their nature over time. We recognize that these findings are limited to the context in analysis. Further research could explore IT alignment in other temporary contexts in order to test if our results can be extrapolated.

References