Transforming a Multi-sourcing Arrangement into a Digital Ecosystem: A Mini-Review

Albert Plugge*

Department of Entrepreneurship, Governance & Stewardship, Nyenrode Business University, Straatweg 25, 3621 BG, Netherlands

Abstract

During the last decade, the scope of IT outsourcing arrangements evolved from a dyadic client vendor relationship to a multi-sourcing environment characterized by sourcing inter-dependent services from multiple vendors. This study addresses the journey of a large client firm in the retail sector who experienced that managing a multi-sourcing arrangement differs significantly from managing bilateral (i.e. dyadic) relationships. The journey describes various obstacles that the retailer faced in managing an IT multi-sourcing arrangement, their improvement initiatives, and subsequently a strategic transformation towards a digital ecosystem.

Keywords

IT multi-sourcing • Digital ecosystem • Strategic transformation • Inter organizational structure

Introduction

IT outsourcing arrangements have transformed from single client-vendor relationships towards an environment that includes multiple vendors providing inter-dependent services [1,2]. The shift from single sourcing towards multi-sourcing arrangements offers clients benefits such as higher quality of services, by being able to select the best vendors, having access to external capabilities and skills, and mitigating the risks of vendor lock-in. Literature shows that clients that engage in collaborative arrangements invest in time, commitment and trust-building to create and capture common value, by interacting with multi-sourcing participants [3]. As such, in multi-sourcing arrangements parties are required to cooperate due to inter-dependencies between outsourced services [4]. There are, however, a number of issues that may restrict value creation in a multi-sourcing environment (e.g. unwillingness among parties to share their skills, technology and risks).

For firms that are used to single IT outsourcing arrangements adapting to an IT multi-sourcing arrangement is difficult due to the need to adapt to changing circumstances. They called for more research into the outcomes of IT multi-sourcing, arguing that "multi-sourcing is emerging as an important inter-organizational, collaborative form of value creation", and that "little is known about the underlying theory and management principles that can make or break these arrangements" [1]. Hence, we reviewed a European retailer to identify how they deal with various obstacles in which adaptability was found to be an important issue [5]. This review describes the transformation of their IT multi-sourcing arrangement into a digital ecosystem. Based on their multi-sourcing strategy the retailer decided to outsource various IT services separately to three vendors over a period of three years. Important IT services correspond to IT infrastructure, end-user-computing and service desk.

***Address for Correspondence:** Albert Plugge, Department of Entrepreneurship, Governance & Stewardship, Nyenrode Business University, Straatweg 25, 3621 BG, Netherlands; E-mail: a.plugge@nyenrode.nl*

Multi-Sourcing Obstacles

The first obstacle relates to the inter-organizational structure of the arrangement that comprises both the retailer and its three vendors. Since the three vendors are selected and subsequently contracted, the retailer did not set up a strategic plan how to manage the interplay between them. The retailer noticed that inter-dependency agreements between the three vendors to deal with changes are lacking that resulted in a "blame-game" between the vendors. The second obstacle addresses the contracts between the retailer and three vendors. Due to the lack of inter-organizational agreements between retailer and vendors, and between the vendors, the retailer spends a lot of time on detailed technical specifications when it comes to IT infrastructure and applications, and their financial implications. Due to the dominance of technology and financials, supporting agreements are ignored.

Relationship aspects are considered by the retailer as the third obstacle. The retailer paid little attention to considerations of investing in strategic and tactical relationships with the vendors. Due to the lack of supporting agreements (e.g. architecture, portfolio management, service integration, governance) the vendors started to debate numerous issues, which resulted in complaints and miscommunications. The fourth obstacle corresponds to the degree of collaboration. Importantly, the dyadic contracts between the retailer and each of its vendors did not include formal collaborative agreements and plans. As the retailer tried to squeeze the vendors from a financial perspective, the degree of confrontation between the vendors increased significantly.

Transformation phase

After the initiation of the multi-sourcing arrangement, which is characterized as a tension intensive period, the retailer decided to change their strategy. The objective of the strategic change is to adapt the dyadic relationships into a network environment by improving two aspects: The inter-organizational structure and the corresponding governance. As existing contracts with the three vendors are still in place the retailer decided not to adapt the contract details to avoid fierce commercial discussions.

The first improvement is based on the retailer's decision to manage the multi-sourcing arrangement as a whole, instead of focusing on dyadic relationships. The goal is to get the basics straight before even discussing topics like innovation. Importantly, the vendors are involved in discussing this approach to create a buy-in. An important consequence is to decrease the level of competition between the vendors and to establish clear entry and exit rules for (future) vendors, sub-contractors, and technology partners (e.g. Oracle, Microsoft). Moreover, agreements are made to create an inter-organizational architecture to set clear boundaries regarding the scope of services (e.g. IT infrastructure, cloud applications, devices) for each vendor.

Second, attention is paid to establishing a sound governance structure. While the obstacles showed an absence of basic governance conditions, the second period started with the implementation of basic meeting structures, at both tactical and operational levels, and involved representatives of the retailer and all vendors. Regular meetings are put in place to discuss service portfolio, management (finance, service performance), progress of IT projects and changes, and service delivery (incidents and problems). This approach resulted in a better understanding of the inter-dependencies between the parties, mutual responsibilities, and how information and knowledge could be shared.

Previously, the lack of formal inter-organizational and governance agreements resulted in the retailer blaming the vendors. A constant delay in the provisioning of IT services and projects caused financial penalties, while the retailer's displeasure about the quality of services gradually raised the discussion to terminate the contracts. To create a mind shift the vendors started a collaboration initiative to align their tasks. The vendors started monthly collaboration sessions to discuss how the service provisioning to the retailer could be improved. The retailer's strategic change and the vendor's collaboration initiative to focus on the multi-sourcing arrangement as a whole evolved by means of the introduction of multi-sourcing governance framework (Figure 1).

Developing a digital ecosystem

As the IT multi-sourcing arrangement became stable over the years the retailer noticed two important trends. First, customers need to be informed about product information (e.g. discounts, sustainability) increased as they require information on a 'real time' basis. Second, new technological solutions were introduced to support retailers supply chain, such as, logistic replenishment options, automated decision-making and track-and trace solutions based on IoT sensors. Taking these developments into account the

retailer developed a digital strategy to drive innovation [6]. Consequently, the IT multi-sourcing arrangement transformed step by step into a digital ecosystem to create common value for all parties. This ecosystem consists of various types of vendors, both large and small vendors, and range from global IT service providers to niche technology vendors. In particular, five key principles were used to design and implement the digital ecosystem, namely: openness, inter-operability, digital elasticity (e. scale up and down), clear entry and exit rules and governance structures within the ecosystem [7]. The digital ecosystem is formed by the original IT vendors that created the foundation of a digital platform [8]. New IT vendors can tap into this platform and contribute to the ecosystem as a whole by adding their products and services.

By using the ecosystem metaphor the retailer introduced various roles that are defined as keystone, dominator and niche player [9,10]. The retailer fulfils the role of the keystone player which purpose is to create a balance in the ecosystem and ensure that partners receive their fair share of created value. By contrast, one of the first three vendors was selected to act as a dominator to control the ecosystem as a whole and focus on capturing a part of the common value for them. Next, smaller vendors, which provide IoT solutions in the retail stores, distribution centres, and point of sales terminals, are considered to act as niche players as they have specialized capabilities that differentiate them from other parties in the ecosystem.

The broad and in-depth expertise of multiple large and small vendors enable new retail concepts by using big data, predictive analysis and consumer profiling. In addition, the retailer is exploring the avenue of strengthening vendor relationships that are based on a high degree of collaboration and a focus on a "what's in it for all of us, jointly" mind-set (i.e. vested outsourcing) [11]. This approach contributes to establish a digital ecosystem which is adaptive in nature to support customers' need.
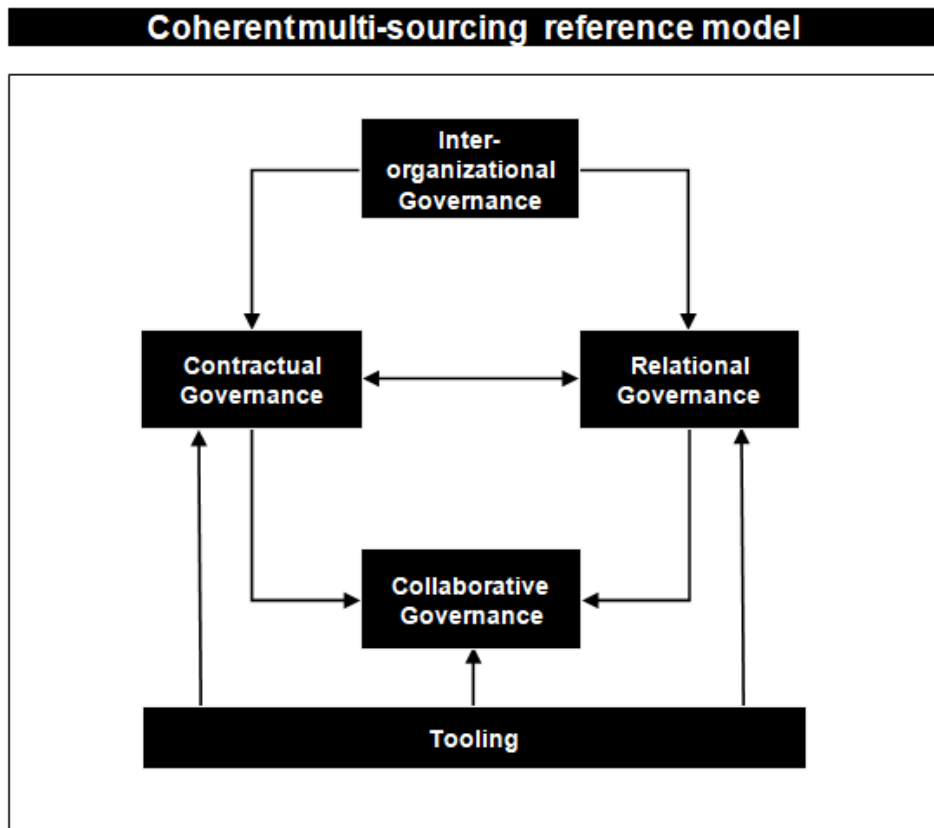

Figure 1. Multi-sourcing governance framework.

Discussion and Conclusion

The aim of our review has been to focus on how a firm adapts their IT multi-sourcing arrangement and transform into a digital ecosystem. We observed various obstacles at the start of the arrangement and identified improvements that were executed during the transformation phase. Driven by a digital strategy to drive innovation the retailer developed a digital ecosystem in which multiple IT vendors

Collaborate in fulfilling customers' need. We suggest that, to overcome challenges to the robustness of a digital ecosystem, firms create a coherent inter organizational structure. Based on that structure, firms can attract dissimilar vendors and gain to various types of external resources, which in turn will improve the value of the digital ecosystem for all parties. Our study contributes to Information Systems and literature in a number of ways. First, the multi-layered nature of IT multi-sourcing outcomes was made more explicit. An ecosystem based on a focal firm contracting vendors predominantly from a financial perspective, and with a strong focus on competition, in the long run is not sustainable. Our findings fit in with the dominant paradigm in IS literature, which focuses on a dyadic type of relationships and ignores the complexity and mutual dependencies within an IT multi-sourcing context. Future research may study the impact of changing roles of firms (client and IT vendors) on the digital ecosystem as a whole. Due to changing circumstances firms may find a new balance to govern the ecosystem.

Conflict of Interest

Author has declared that there is no conflict of interest to disclose.

References

1. Bapna, Ravi, Anitesh Barua, Deepa Mani and Amit Mehra. "Cooperation, Coordination, and Governance in Multisourcing: An Agenda for Analytical and Empirical Research." *Inf Syst Res* 21 (2010): 785-795.

2. Palvia, Prashant, Ruth C King, Weidong Xia and Shailendra Palvia. "Capability, Quality, and Performance of Offshore IS Vendors: A Theoretical Framework and Empirical Investigation." *Dec Sci* 41 (2010): 231-270.

3. Plugge, Albert and Harry Bouwman. "Tensions in Global IT Multi-sourcing Arrangements: Examining the Barriers to Attaining Common Value Creation." *J Glob Inf Tech Manag* 21 (2018): 262-281.

4. Wiener, Martin and Carol Saunders. "Force Coopetition in IT Multisourcing." *J Strat Inf Syst* 23 (2014): 210-225.

5. Plugge, Albert. "The Multi-Sourcing Journey of a European Retailer: A Roller Coaster Ride or Smooth Sailing?" *J Inf Tech Teach Cas* 10 (2020): 19-28.

6. Arenas, Laura and Anna María Gil-Lafuente. "Emerging Technologies, Innovation, and Volatility: A Mini-Review." *J Sens Netw Data Commun* 10 (2021): 134.

7. De Reuver, Mark and Harry Bouwman. "Governing Mobile Service Innovation in Converging Value Networks." *J Bus Res* 65 (2012): 347-354.

8. De Reuver, Mark, Carsten Sorensen and Rahul Basole. "The Digital Platform: A Research Agenda." *J Inf Tech* 33 (2018): 124-135.

9. Moore, James. The Death Of Competition: Leadership and Strategy in the Age of Business Eco-systems. London: Harper Collins, England, (1996).

10. Iansiti, Marco and Roy Levien. The Keystone Advantage: What the New Dynamics of Business Eco-Systems Mean for Strategy, Innovation and Sustainability. Boston: Harvard Business School Press, USA, (2004).

11. Vitasek, Kate and Karl Manrodt. "Vested Outsourcing: A Flexible Framework for Collaborative Outsourcing." *Strat Outs Int J* 5 (2012): 4-14.