Upgrading and Power Relations in Global Value Chains: Case Study of an Offshoring Service Provider in the Software Industry

DOI: 10.1108/S1745-886220150000010018

Citation for published version (APA):

Published in:
The Future of Global Organizing

Citing this paper
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Upgrading and power relations in global value chains: Case study of an offshoring service provider in the software industry

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This is an Author’s Original Manuscript (AAM) of an article published by Emerald in “Book Series: Progress in International Business Research”. Please cite the published article:

(DOI: 10.1108/S1745-88622015000010018)
http://dx.doi.org/10.1108/S1745-88622015000010018

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ACKNOWLEDGEMENT

I would like thank Professor Rudolf Sinkovics to provide me with guidance and feedback.

His advice has been instrumental in the development of this paper.
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ABSTRACT

Purpose: The purpose of this research is to understand how power relations in GVCs shape the upgrading of offshoring service providers. More specifically, the paper addresses two questions 1) *How power asymmetry in GVC shapes the upgrading prospects for offshoring service providers (OSP)* 2) *How offshoring service providers manage the power asymmetry in GVC and upgrade to a more favourable position?*

Design/Approach: The context for this study is the software value chain. Drawing upon relational economic geography and global value chain literature, we build an analytical framework based on three conceptual building blocks: client power, upgrading, and upgrading practices. Based on the analytical framework and in-depth interviews, we design a case study of one OSP in the Pakistani software industry refer to as OSP#A

Findings: The findings reveal that GVCs exercise a high level of power on OSPs. This power is exercised through enforcing certain conditions to participate and coordinate in GVCs. However, it is found that OSP#A is not passive recipient of these demands, instead, it actively manages the power asymmetry through building practices to adapt and collaborate in GVCs and attain relational proximity.

Originality: The paper highlights the significance of upgrading practices and conceptualising upgrading as a process of improving relational power in GVCs by attaining relational proximity.

Keywords: Upgrading; global value chains; power; offshoring service providers
INTRODUCTION

Dicken (2011) argues that the functional integration of globally distributed activities differentiates the current era of globalization. The scale, depth, and breadth of global interactions have increased (Mudambi, 2013). New players have become active in the global economy (Elms & Low, 2013). Mudambi (2013) argues that the increasing dispersion of operations across firms and national boundaries is transforming the global economy from one dominated by “trade in goods” to “trade in activities”. This increasing interaction and interconnection between distant actors has led to the integration of geographically dispersed activities and disintegration of MNE’s value chain to distant locations (Buckley & Ghauri, 2004). This has given opportunities to many developing country firms to participate in dispersed global production networks/value chains as offshoring service providers (hereafter termed as OSP).

With the rise of the global value chain and the interconnected nature of the global economy, much inter-disciplinary research has shown interest in understanding the upgrading of domestic firms in global value chains (e.g. Fleury & Fleury, 2001; Rabellotti, 2004; Tokatli & Kizilgün, 2004). For example, Bazan and Navas-Alemán (2004) report the critical role played by the Brazilian suppliers in manufacturing of shoes for MNC value chains operating in US and Europe. Similarly, Tokatli (2007) describes the transformation of a Turkish supplier in a clothing value chain, from a clothing manufacturer for German MNC, to become an independent distributor of branded clothes.

Upgrading is generally described in the literature as a shift in supplier’s role in global value chains that increases the value-added of their sourcing activities. While IB research focuses on the ‘international operations’ of firms, the notion of upgrading differs from international operations in two ways. First, it takes a relationship perspective rather firm-centred perspective and considers the inter-dependence of GVCs and domestic firms (e.g.
Dolan & Tewari, 2001; Pickles, Smith, Bucek, Roukova, & Begg, 2006; Pietrobelli & Rabellotti, 2006; Schmitz, 2004; Tokatli, 2007). Secondly, it is a ‘role shifting’ process rather than an operation-centric process (see Bair & Gereffi, 2003; Fleury & Fleury, 2001). This role shifting process in the global value chain captures the significance of domestic firms in international business activities. It appropriately captures the spatial mobility of actors and explains why and how domestic firms from developing countries connect and play an important role in the global economy (see Yeung, 2009).

Within IB, a number of studies have focused on the emerging role of firms connected to global markets through participation in global value chains (R. R. Sinkovics, Yamin, Nadvi, & Zhang, 2014; Yamin & Sinkovics, 2015) including catch-up processes (Kumaraswamy, Mudambi, Saranga, & Tripathy, 2012), product and process upgrading (McDermott & Corredoir, 2009), functional upgrading (Jean, 2014), learning and capability formation (Liu & Zhang, 2014), and business models under constrained environment (N. Sinkovics, Sinkovics, & Yamin, 2014). This implies that the issues related to domestic firm upgrading in GVCs and its mechanisms are becoming increasingly important in international business research.

One important issue in understanding the upgrading of offshoring service providers (OSP) is the dynamism of power in global value chains. Understanding it requires conceptualising power as both structural and relational. While the structural perspective of power explains how intrinsic characteristics of specific actors gives them ‘power over’ other actors in GVCs, relational perspectives of power explains how power is mobilised and exercised in GVCs. This understanding of power is important to understand i) whether GVCs encourage or impede OSPs upgrading (Dolan & Humphrey, 2000) and ii) and the agency of OSPs to manage structural asymmetries enforced by powerful actors (Tokatli, 2007).
Despite the increasing importance of OSPs in the global economy, there is a dearth of research on understanding the power relations in GVCs and its implications for OSP upgrading (Smith, 2003). To this end, this paper aims to address two questions:

1. How power asymmetries in GVCs shape the upgrading prospects for offshoring service providers?

2. How offshoring service providers manage the power asymmetry in GVCs and upgrade to a more favourable position?

This paper brings insights from the global value chain (e.g. Gereffi, Humphrey, & Sturgeon, 2005; Humphrey & Schmitz, 2002; Ponte & Gibbon, 2005) and relational economic geography (e.g. Bathelt & Glückler, 2003; Dicken, Kelly, Olds, & Wai-Chung Yeung, 2001; Murphy, 2011; Yeung, 2005b) to highlight the significance of power relations and upgrading issues into the inter-disciplinary perspective of IB research (N. Sinkovics, Sinkovics, Hoque, & Czaban, 2015). Global value chain literature talks about the structural power of global buyers (also known as ‘lead firms’ or ‘chain drivers’) and the critical role they play in supporting and impeding OSP upgrading in GVCs (e.g. Bazan & Navas-Alemán, 2004; Ponte & Sturgeon, 2013). Despite the importance of global buyer’s structural power, research in relational economic geography highlight that it is equally important to understand the relational power in GVCs and the upgrading practices of OSPs. This notion of relational power and upgrading practices provides space to understand the agencies and strategies of OSPs in global value chains and their impact upon OSP upgrading (e.g. Tokatli, 2007; Tokatli & Kizilgün, 2004).

Drawing upon GVC and REG literature, we develop an analytical framework comprising of three conceptual building blocks: client power, OSP upgrading practices, and OSP upgrading. Based on the analytical framework and conceptual building blocks, we
present a case study of an OSP operating in the Pakistani software industry. The phenomenal growth (30%-40% per annum) of the industry and increasing evidence of high value-added offshoring services makes it a suitable context to address the research questions (Technomics, 2008).

The rest of the paper is structured in four subsequent sections. The second section briefly reviews the IB, GVC, and REG literature. The third section presents the analytical framework and research design of the study. In the fourth section, case study of OSP#A is presented. Finally, the fifth section summarise the main findings and implications of this study.

**THEORETICAL REVIEW**

Since its inception, the field of international business has mainly focused on explaining the nature, characteristics, and growth of multinational enterprises (MNEs). Traditional theories of IB have been developed with a special focus on large and powerful firms possessing resources of ‘operating’ in two or more countries. These theories consider MNEs as entities independent of their specific environment. There is a clear difference between what goes inside the firm and the environment it is exposed to (Forsgren, 2008). Firm-specific advantages are considered as an intra-organisational phenomenon with no explanation about the significance of external actors (Forsgren, 2008). Although stage theories of IB consider market knowledge explicitly in their analysis, Glückler (2006) argues that stage theories are focused too much on the intrinsic characteristics and strategies of actors going international. These strategies remain disconnected from the relational/network and institutional context of the internationalizing firm.

During the last two decades, IB literature has been increasingly taking an interconnected approach with a relatively more explicit view of the environment of firm
(Forsgren, 2008). The network view of MNE combines the insights of business network theory with a stage model of internationalisation focusing on the relationships as part of market knowledge. The market knowledge, according to the business network view, is the knowledge about the capabilities of business partners embedded in the foreign market. Along the same line, MNE spillovers and linkages literature looks into the positive and negative impact of MNEs operations on domestic firms through horizontal or vertical linkages.

However, the empirical research in the business network view is mostly focused on MNE subsidiaries and their network position within MNEs (e.g. Andersson & Forsgren, 1996; Mudambi & Navarra, 2004). There is not much information on the nature, characteristics or position of domestic firms in subsidiary networks (Meyer, 2004). Like the business network view, MNE spillovers research does not explain the qualitative processes through which MNEs impact and are impacted by the inter-firm relations in the host economy. Domestic firms are treated as passive beneficiaries of knowledge, learning or capabilities (Meyer, 2004).

Buciuni and Mola (2013) argue that IB literature explains little about how firms from developing countries establish access to the global economy and coordinate with international partners. The dynamics of such interactions and the way these interactions are governed are not understood (Buciuni & Mola, 2013). Khan, Lew, and Sinkovics (2015) argue that one area that needs better understanding in IB is how domestic small firms are influenced by the sourcing behaviour of their international partners.

Taking insights from the global value chain, relational economic geography and international business literature, in the following sections we briefly discuss the dynamics of power in GVCs and their implications for OSP upgrading (See Table 1).
Global value chain perspective

Gereffi and Fernandez-Stark (2011, p 4) define a value chain as ‘full range of activities that firms and workers perform to bring a product from its conception to end use and beyond. In the context of globalization, the activities that constitute a value chain have generally been carried out in inter-firm networks on a global scale’. The GVC approach provides an incomplete view of firms by focusing on a specific part of the chain (Gereffi, Humphrey, & Kaplinsky, 2001).
Table 1: Offshoring service providers: Comparison of IB, GVC, and REG

<table>
<thead>
<tr>
<th>Area of Study</th>
<th>Unit of Analysis</th>
<th>Key Contribution</th>
<th>Limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>GVC</td>
<td>Value-Chain</td>
<td>Contribution: Focus on value chain and governance explains the role of power asymmetry and how domestic firm can be supported and constrained through participation in GVCs.</td>
<td>Limitation: Domestic firm upgrading solely considered as determined the governance, power, and forms of coordination set by MNCs or large firms. Power relations of actors and the agency of domestic firms in not explained</td>
</tr>
<tr>
<td>REG</td>
<td>Interconnection of Firm, GVC, and Institution</td>
<td>Focuses on power relations and the ‘practices’ of domestic firms. The studies focus on 'how' domestic firms create fragility in structural power relations and upgrade to high value-added activities in GVCs.</td>
<td>Limitations: difficulty of operationalising GVC governance or supplier capability.</td>
</tr>
<tr>
<td>IB</td>
<td>Firm</td>
<td>Understanding the specific internal strategies, capabilities of firms from an international business perspective</td>
<td>Limitation: The inter-connected nature of OSPs and the power relations in GVCs can be further strengthened through insights from REG and GVC literature</td>
</tr>
</tbody>
</table>
GVC analysis has been used in wide research streams including international political economy and economic geography but it has made limited contribution yet to IB studies. One of the strengths of GVC is the consistency of empirical studies emerging since the 1990s across different countries on diverse sectors (Bair, 2005). There are two main conceptual contributions of GVC studies i.e. governance in GVCs and upgrading in GVCs. Below, I briefly describe the significance of these concepts in understanding the dynamisms and interconnection between actors in GVCs.

Governance is defined as a process through which “powerful actors in the chain set, measure, and enforce parameters under which others operate” (Ponte & Gibbon, 2005, p. 5). It is process of “exercising control through the specification of what product needs to be delivered, in what quantity and when, and how it should be produced, and at what price” (Humphrey & Schmitz, 2002, p. 6-7). Although the literature on governance of GVCs covers diverse issues, our focus in this study is on the use of power in GVC literature.

The GVC literature focuses on the role of powerful buyers also known as ‘lead firms’ or ‘chain drivers’. The empirical studies inform how large buyers from developed countries govern spatially distant firms from developing countries without directly owning them. These powerful buyers act as drivers of the supply chain controlling the flow of information, allocating resources, and placing certain restrictions and standards on less powerful actors. The identification of power asymmetry, drivenness and the way it is used is one of the fundamental aspects of GVC governance (e.g. Bazan & Navas-Alemán, 2004; Gereffi, 1994; Humphrey & Schmitz, 2002). Kaplinsky and Morris (2001, p. 29) argue that “Power asymmetry is central to value chain governance. That is, there are key actors in the chain who take responsibility for the inter-firm division of labour and for the capacities of particular participants to upgrade their activities”.
Lead firms have the power to control and direct the value chain because they set the strategies, select the suppliers, and take the financial responsibility of the whole supply chain. This power helps lead firms to pressurize the suppliers to lower their cost, coordinate the value chains, and implement specific standards (Gereffi et al., 2001). The majority of GVC literature focuses on the structural power of lead firms. This power in inter-firm relationships is a function of the firm’s position and centrality in the network. From this perspective, power is possessed by firms in global value chains as a result of their financial position, size, and control of strategic resources.

One of the fundamental questions that GVC scholars ask is how the governance of the global value chain impacts the developmental outcomes for developing country suppliers? One of the most important assumptions of GVC studies is that for development to take place in developing countries, domestic firms need to link their functional activities to most significant actors in the industry (Bair, 2005). Buciuni and Mola (2013) argue that GVC literature advances the international business literature by identifying the underpinnings through which small actors in international business access the world markets, understand how the interaction is governed and how these governance arrangements benefit domestic firms. To understand the developmental outcomes, GVC scholars introduced the notion of upgrading in global value chains.

Activities within GVCs can be either standardised or specialized. The standardised activities are low value-added as the resources required to do these activities are not knowledge-intensive (Kaplinsky & Morris, 2001). Barriers to entry in these activities are low creating tremendous competitive pressures (Bair & Gereffi, 2003). Specialized activities, in contrast to standardized ones, have the capacity to earn high profit margins (Gereffi, 1999). These activities require firms to acquire knowledge-intensive capabilities possessed by relatively few firms in the value chain (Mudambi, 2013).
Upgrading is traditionally described as a shift in a supplier’s role from standardised activities to more specialised activities in global value chains. Upgrading is considered one of the main routes to respond to the challenges of globalization and cope with global competition (Ponte & Ewert, 2009). Gereffi (1999, p. 39) defines upgrading as 'an organisational learning process to improve the functional position of firm or nations in international trade networks'. These improvements represent supplier shifts from a low value-added to a higher value-added role in supply chains (Bair & Gereffi, 2003). Fleury and Fleury (2001) argue that upgrading takes place when the firm has the discretionary power to use the new position in a sustainable manner. The challenge is not limited to access global value chains but to widen the gains acquired through participation (Dolan & Tewari, 2001).

Humphrey and Schmitz (2002, p. 1021) explain four different types of upgrading possibilities for domestic firms in global value chains. They are:

- Process upgrading refers to transforming inputs into output more efficiently by reorganising the production system or by introducing a new technology.

- Product upgrading refers to moving into more sophisticated product lines resulting in an increase of a product's unit value.

- Functional upgrading refers to acquiring new functional positions to increase the overall skill content of activities.

- Inter-chain upgrading refers to shift from low value-added GVCs to high value-added GVCs.

According to Gereffi (1999), the learning that occurs in the process is linked with a domestic firm’s linkages in global value chains. Integration into global value chains is a necessary condition for upgrading as these GVC linkages provide access to information about international markets and technological knowledge. Humphrey and Schmitz (2002) argue that
upgrading in global value chains is highly dependent upon the power asymmetries in GVCs. In power asymmetric GVCs, there is pressure on suppliers to improve quality and cost-effectiveness. This power is exercised through diverse coordination mechanisms. When a domestic firm participates in global value chains, the process of getting requirements from GVC buyers, the interaction process, the opportunities and challenges of learning from global buyers is fundamental to the evolution of upgrading.

Many empirical studies in GVC literature report that in power asymmetric GVCs, buyers may support supplier upgrading within the production sphere but they hinder upgrading beyond production as this may encroach on the core competencies of the lead firm (Bazan & Navas-Alemán, 2004; Humphrey & Schmitz, 2004; Rabellotti, 2004; Schmitz, 2004). For example, Bazan and Navas-Alemán (2004) report that in the footwear industry in Brazil, integration of suppliers in captive GVCs lead to over-dependency on the global buyers. This hampers suppliers’ ability to upgrade their position towards profitable niches of the footwear value chain including design and marketing. A similar type of conclusion is found in other global value chain studies (e.g. Humphrey & Schmitz, 2002; Rabellotti, 2004; Schmitz, 2004).

Global factory
The structural power of MNCs as described in the GVC literature has also been emphasized in the global factory agenda (Buckley, 2004, 2007, 2009a, 2009b, 2011; Buckley & Ghauri, 2004) more recently developed in international business. Buckley (2009a) argues that the MNE’s organisational structure is increasingly turning into a ‘global factory’ through fine-slicing and externalization of non-core activities to cost-efficient locations. Global factories control a significant amount of OSPs and their decision-making operating in developing countries. The distinctive capability of the global factory is its ability to intermediate between upstream suppliers to downstream retailers and this is unaccessible to less powerful firms.
This intermediation is related to the distinctive information capabilities. These capabilities give a global factory the purchasing and branding power to define value chain terms in their favour (Buckley, 2009a; Buckley & Ghauri, 2004) and constrain the ability of OSPs to upgrade (Buckley, 2009a).

According to the global factory view, globalization opportunities for developing country OSPs cannot automatically transform into distinctive capabilities of managing GVCs. The difficulty of mobilising entrepreneurship in developing economies augments OSPs developments. OSPs from developing economies are constrained to upgrade in global value chains due to the lack of entrepreneurial culture in their environment and flexibility to respond to the dynamic environment. Although OSPs may learn from MNEs in the short term, few of those firms are able to transform that learning into functional upgrading i.e. shift from production to design or branding activities.

However, Yamin (2011) argues that the global factory view overemphasizes the power of MNEs and undervalues the agency of suppliers. He argues that MNE can possibly be vulnerable or dependent upon their suppliers due to their embeddedness in those value chains. Furthermore, he argues that the global factory view like the majority of the IB literature is based on the pareto-efficiency view according to which it is impossible to make one individual/enterprise better-off without making others worse off. Drawing upon Levy (2008), Yamin (2011) suggests that international business literature should engage more with development literature as it seeks to address the questions of value creation, value capture, and value destruction both from the perspectives of MNEs and their suppliers. The majority of IB literature in contrast is designed for large MNEs and does not tell us much about the ‘agency of OSPs’ linked to international activities through a network or value chain.
**Relational economic geography perspective**

Studies focusing on the value chain relationship of global buyers and OSPs from the analytical lens of relational economic geography take a different perspective on power and upgrading of OSPs in comparison to GVC literature and IB approach. According to these studies, the underlying problem with the notion of upgrading is the exaggerated focus on the static movement of OSPs from manufacturing to design or branding without analysing ‘power relations’ of actors in GVCs (Tokatli, 2007, 2013). GVC studies mainly focus on the power of buyers that is considered as the fundamental driver through which buyers encourage OSPs to upgrade within the production sphere and constrain functional upgrading. However, the sources of this power, the manner in which buyers realize power have not been thoroughly examined. In fact what has been explored are the ways power asymmetries are reflected in price negotiations (e.g. Pickles et al., 2006; Tokatli, 2013).

The upgrading studies in GVC literature have a sharp focus on the causal power of GVC buyers and the same emphasis is not on the suppliers. Studies drawing on the relational view aim to understand how suppliers respond to power asymmetries, benefits from GVCs and realize their own strategic priorities (Tokatli, 2007; Tokatli & Kizilgün, 2004). According to this perspective, power is not just a possessed capacity as explained in resource dependency perspectives (Pfeffer & Salancik, 1978). The mere control of resources is a necessity but in itself is not enough to explain whether the resourceful actor will exercise the power successfully.

Dicken et al. (2001) argue that if value chains are seen purely from a structural perspective then it tells little about the qualitative nature of power between actors in value chains. They further explain that “in a global economy that is constituted by networks of flows, it is important for us to focus on the exercise of power by actors in networks, rather than just on the embeddedness of power in these networks” (Dicken et al., 2001, p. 93).
Similarly, Yeung (2005b) draws upon Allen (2003) to define power in networks “as the relational effects of the capacity to influence and the exercise of this capacity through actor-specific practice. It is thus defined in neither simply positional nor practical terms because it is encapsulated in both position and practice” (Yeung, 2005b, p. 45).

According to Yeung (2005b), tensions in relations give rise to emergent forms of power. Focusing on practice allows understanding of differential forms of actor-practices in power relations. It is thus important to analyse these tensions and how actors negotiate with each other. If relationality is seen as interconnections, interactions, and tensions, then each relation is greatly unsymmetrical and heterogeneous. To understand how power is released, one needs to understand its concrete forms and causal nature. This type of power is reflected in the empirical studies taking the analytical lens of relational economic geography (e.g. Hassler, 2003a; Hassler, 2003b; Smith, 2003; Tokatli, 2007; Tokatli & Kizilgün, 2004).

For example, Tokatli and Kizilgün (2004) and Tokatli (2007) discuss the transformation of Turkish clothing manufacturers into branded distributors of clothes. They report that the two main mechanisms of this transformation are ‘learning through unintentional leakages’ and ‘investments into niche areas’. Tokatli and Kizilgün (2004) argue that once a skill (whether intentionally or unintentionally) is transferred from a lead firm to a supplier, it resides with the supplier. The supplier then has the agency and autonomy to walk out of the relationship irrespective of the structural asymmetry in GVC relationships. They argue that although knowledge related to ‘branding’ and ‘design’ is protected by buyers, unintentional spill-overs can occur when buyers and suppliers are required to interact frequently due to the nature of tasks and requirements. Drawing upon the 10 year relationship of Hugo Boss (German retailer) and Sarar (Turkish clothing manufacturer), Tokatli (2007) reports that Sarar was not only able to learn latest technologies from Hugo Boss, the long-term relationships gave Sara the opportunity to build its internal capabilities.
Tokatli (2007) argues that relational power in the global value chains is dynamic. With time, suppliers can improve their capabilities in the global value chain and decrease their dependency. Tokatli (2007) adopts Allen (2003) conceptualization of power as relational, meaning that the power of one actor in the chain depends on the powerlessness of other actors. When weaker actors are engaged in the process of acquiring valuable capabilities, power relationships can change. The ‘dominant goals’ and strategic intent of suppliers play an important role in the dynamism of power. This is exemplified through a number of studies which show that irrespective of the dominance of lead firms, OSPs have some room to realize their agencies (Coe, Dicken, & Hess, 2008; Horner, 2013; Tokatli, 2007; Tokatli & Kizilgün, 2004).

To summarize, the relational view of economic geography acknowledges that OSPs learning is shaped by its context (Yeung, 2000). This learning is dynamic and is shaped by intra-firm and intra-chain factors (Kadarusman & Nadvi, 2012). The nature of GVC governance shapes the knowledge features and flows of learning (Gereffi et al., 2005). However, the relational view also acknowledges that firms in the value chain whether lead firm or suppliers have different strategic priorities, intentions, and dynamism (Dicken et al., 2001; Henderson, Dicken, Hess, Coe, & Yeung, 2002). These differences stem from the nature of ownership, path dependence, and managerial whims. This has implications on how they participate, exercise autonomy, and upgrade in value chains (see Yeung, 2005a).

RESEARCH DESIGN AND ANALYTICAL FRAMEWORK
In this section, we present the methodology to address the main research questions. In the following section, we further draw upon the global value chain and relational economic geography literature to develop the analytical framework for our case study. This is followed by discussion of research design and data analysis.
Analytical Framework

The analytical framework of this paper is based upon three conceptual building blocks: client power, upgrading, and upgrading practices. Drawing upon global value chain and relational economic geography literature, we argue that the client power shapes the upgrading practices of OSP but it does not determine them. OSPs upgrading is a product of OSP’s own strategic priorities and agendas along GVC requirements (See Fig 1). The rest of the sections briefly explain each conceptual building block.

Fig 1: Analytical framework

Client Power

Dicken et al. (2001) argue that power can be of two types: structural power and relational power. Structural power is possessed by lead firms whereas the relational power is mobilized through actions and practices of actors present in the relationships. Drawing upon both relational economic geography and GVC literature, this paper focuses on the way clients in software GVCs exercise power in interaction with their suppliers (processes of control, monitoring, tensions, negotiations etc). The analysis of client power and form of coordination conceptualized will help understand how GVCs shape the prospects for OSP upgrading.

Upgrading

As a relational construct, OSP upgrading is defined as a process of attaining favourable GVC position. This GVC position is underpinned by OSP’s practices to continuously build capabilities and capacity to exercise power. The two fundamental elements of upgrading according to the definition above are OSP power and OSP capabilities. Below, these two elements of upgrading are further explained.
**OSP capabilities**
This paper draws upon the work of Lema (2010, 2015) to understand the technological upgrading in the software industry as these papers explicitly look into the dynamics of the software industry from a GVC perspective. Lema (2015) differentiates between three types of technological capabilities: problem framing, problem solving, and routine capabilities (See Fig 2). Problem framing is the ability of OSP to engage in high-level requirement analysis. This includes joint-solving with customers, understanding the user needs, and aligning software functionality with user needs. Problem solving on the other hand is the bundling of both low-level requirement analysis and high-level production capabilities. Finally there are ‘Routine’ capabilities referring to coding, testing, and updating of software and OSP has no active role in design and architecture of software. This paper uses these three types of capabilities to understanding technological upgrading of OSPs.

**Fig 2: Software value chain drawn upon Lema (2010 and 2015)**

**OSP power**
In this paper, I take the understanding of OSP power from Allen (2003). From this perspective, power can be structural as well as relational. The power of OSPs is established in its existing position (structural) and capacity to exercise power (relational). The existing position of the OSPs reflects its ability to influence decision making in inter-
firm relationships as a result of its existing role in GVC and its existing asset position (Murphy, 2011). The capacity and willingness to exercise power relates to the cognitive aspects of OSPs and represents their sense of empowerment and control over structural and normative obstacles in inter-firm relations (Murphy, 2003, 2011).

In addition to these two types of power, there is a third conception of power. This third conception of power understands the origins of power through certain intra-firm practices and strategies (Hess, 2008). While the first two conceptions of power (structural and relational) explain how the power is released, it is the latter which explains how power originates (Yeung, 2005b). In this paper, I consider first two types of power (structural and relational) as an element of upgrading (along with capability dimension). Whereas, I take the third type of power as the ‘mechanism’ of upgrading through which OSPs meet GVC demands and shift to favourable positions. In the next section, I further elaborate on the ‘practices’ of upgrading as the mechanisms through which OSPs build these two elements (power and capabilities) of upgrading and move to favourable position in GVCs.

**Upgrading practices**

*Upgrading practices* refers to distinctive strategies that help OSPs meet GVC demands and increase OSPs capacity to take on more significant roles in GVCs (Murphy, 2003). The process of OSP meeting the demands of GVCs can be further divided into two stages: *participation in GVCs and management of GVCs*. OSPs participation in GVC depends on their capacity to exercise power, and capabilities to fulfil the requirements of GVCs (Coe, Hess, Yeung, Dicken, & Henderson, 2004). In this process, OSPs are conditioned by the entry criteria of GVCs to participate in GVCs (MacKinnon, 2012).

Managing GVCs requires building capabilities to fulfil the actual demands of GVCs and managing power asymmetric relations. In line with Murphy (2003), I argue that the
structural aspects of GVCs are ‘imposed’ and ‘infused’ on OSPs. However, OSPs are not passive recipients of these standards and normative expectations. Each OSP has heterogeneous capacity, capability, and willingness to ‘interpret’ and ‘innovate’. The way OSPs interpret and innovate is significantly shaped by their own path-dependent understanding of appropriate practices and their existing position in GVCs.

**Research design and data collection**

This study aims to address research questions through a case study method. According to Yin (2003), case study is a flexible research strategy and permits the researcher to maintain the complete characteristics of real-life events while exploring empirical events. In general, a case study is an observed inquiry which, according to (Yin, 2003) examines an existing phenomenon within its real-life context.

In this study, we focus on a single case study of a technology consulting OSP operating in Karachi, Pakistan. The trustworthiness of qualitative data was based on the trustworthiness criteria developed by Sinkovics et al (2008). This includes of assessment of the credibility, dependability, transferability, and conformability of the qualitative data throughout the research design: sampling, data collection, and data analysis process. The unit of analysis is based upon both an intra-firm and inter-firm level. Empirically this means that OSP’s upgrading process is analysed through an understanding of OSPs relationships with its foreign client and the internal strategies and decisions of OSPs. The unit of analysis to understand GVC relationship is limited to the linkage between an OSP and its direct client.

The main method of data collection was in-depth face to face interviews. The interview guideline was designed to explore the dimensions of analytical framework delineated in the previous section. This demonstrates the credibility criteria of trustworthiness as the interview questions were based on existing theoretical literature with the aim to extend those theoretical insights.
To evaluate *functional and conceptual equivalence*, company websites and sufficient literature on the software industry was understood to operationalize conceptual building blocks into suitable interview questions in the context of Pakistani software firms (Sinkovics et al, 2008). A laddering technique was adopted to conduct interviews (Baker, 2002). The interviews were transcribed and analysed on Nvivo using the template analysis technique.

The guidelines included scenario based project-specific questions. The researcher was inspired by the critical incident technique (CIT) in implementing this process (see Butterfield, Borgen, Amundson, & Maglio, 2005). Among these, the first set of questions were about ‘GVC governance’ including how OSPs selected their client, the types of offshoring clients, the role of a client in projects and the nature of client-OSP interaction. This was followed by questions related with supplier power and capability building. In order to understand capability building, questions were posed related with strategic initiatives, learning and development occurred in participation and interaction with clients. Finally, questions were posed regarding the capacity of OSP to exercise power in global value chains including ‘how your previous engagement with clients changed the way you interact with your clients now’? This question was very useful as it was broad but at the same time it captured the different types of upgrading components that occurred within participant firms.

A combined total of seven interviews were taken from the OSP and three of its clients. *Construct validity* was ensured through multiple data collections sources. Data collection included extensive research about the participant organisations, media news, LinkedIn profiles, online software platforms, YouTube or other videos, awards and recognition.

The qualitative data analysis was based on the template analysis technique (King, 2012). To organise and interpret the data, the researcher inputted all the information into Nvivo, a computer-assisted data analysis software (CASDAQ) (R. Sinkovics & Alfoldi,
A chain of evidence was established for each participant organisation. All the documents related to the participant organisation including transcripts, recorded interviews other sources of data relevant to participant organisations were stored in Nvivo (R. Sinkovics & Alfoldi, 2012).

Drawing upon R. R. Sinkovics, Penz, and Ghauri (2008) and Sinkovics and Alfoldi (2012), the codes were analysed following three coding processes that is 1) open coding, 2) axial coding, and 3) selecting coding. During the open and axial coding processes, new concepts were added to the template and sub-categories were introduced. In the selective coding process, all of the interviews were integrated with updated literature. The aim was to integrate all the conceptual elements and refine previous literature on offshoring service providers.

CASE STUDY FINDINGS

Background
OSP#A was founded in 2005 by a Pakistani entrepreneur. The company initially started off in the US offering web and enterprise development services to US start ups. Later on it expanded its operations in Pakistan as an offshoring development office for a US start up. During the initial few years, the company expanded its clientele base to other US based start ups and now it is catering to multinational enterprises as well. The company has its office in Karachi and now it has grown around 200 people. Below we present the upgrading process of OSP#A that describes how the company moved from working with small-size and small-scale projects to building relational proximity with large-size companies and large-scale projects. The findings have been summarised in Table 2.
Table 2: Power Relations and Upgrading

<table>
<thead>
<tr>
<th>Client Power</th>
<th>Practices to meet GVC demands</th>
<th>Shift in GVC position</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSP#A</td>
<td>Exercise of power/Terms of entry in GVCs in ‘participation stage’ of GVCs</td>
<td>Meeting client-driven enterprise entry criteria:</td>
</tr>
<tr>
<td></td>
<td>• Demanding OSP to demonstrate capability through recommendation of previous clients.</td>
<td>• Doing intensive research to develop proposal for selection in GVCs detailing full strategic plan on how potential client problem will be solved.</td>
</tr>
<tr>
<td></td>
<td>• Demanding OSP to demonstrate its capability through strong portfolio</td>
<td>• Demonstrating commitment made in proposal by offering a requirement discovery model. This is a process of building and demonstrating problem framing capabilities. OSP identifies the nature of problem and how that problem can be solved in the form of software solution.</td>
</tr>
<tr>
<td></td>
<td>• Evaluating OSP’s innovativeness and creativity through in-person meeting</td>
<td>• Focused on building strong relations with start-ups. Provided immense importance to the needs of small start-ups. The referrals of start-ups improved their reputation and connected them through first MNC client.</td>
</tr>
<tr>
<td></td>
<td>Exercise of power during ‘management stage’</td>
<td>• They have positioned themselves as a generalist technology consulting rather than development services. Target specific types of client that increase the</td>
</tr>
<tr>
<td></td>
<td>• Knowledge transfer through interactions and codification</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Demanding frequent communication and transparency demanding strong opinions on processes</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Providing feedback based on user experience and feedbacks based on continuous evaluation by final user</td>
<td></td>
</tr>
</tbody>
</table>
Managing client-driven enterprise GVC demands

- Adaptation strategy through learning, repeating, and applying technological and organisational capabilities. Adapting to client’s high involvement and fulfilling all requirements
- Collaboration strategy through Offering team-based model where the OSP team dedicatedly works for a specific customer and actively engage in discussion, brainstorming, and pitching ideas throughout the project.
Participation in GVCs

GVC Entry Criteria

Although, OSP#A was growing rapidly, it was not easy for the company to enter large-size GVCs. These GVCs are represented by long-term projects primarily focused towards business needs of the clients. The financial size of the client range from small to large but the financial size of the project is usually large in these GVCs. The GVCs consist of highly complex projects requiring high-level of technical capabilities and experience (See Table 2).

Large-size GVCs select the OSP based on their credibility and reputation in the global market. This credibility relates to OSPs historical background that is used as a proxy for OSP’s capabilities. One of the mechanisms through which clients assess OSP credibility is through demanding the testimonials or references of OSP’s existing or previous clients. This may also include directly reaching the previous clients. The large-scale GVCs are sensitive about the quality of actors providing the reference and the quality of those references.

OSP practices to participate in GVCs

This section briefly presents the practices of OSP#A in order to meet the entry criteria of participating into large-scale GVCs. OSP#A considered both software design and software development as part of their offshoring services projects. They give special attention on scrutinizing the type of customers whose goals match with a company’s mind set. During its initial phase as an offshoring company, OSP#A provided consultancy to start ups in California. The strategy to work on small but highly complex projects provided OSP#A with opportunities to continuously learn and develop their technological capabilities. This further positioned them as a consulting company rather a low-cost provider of coding services. Another important element of their strategy was their treatment towards start up clients (See Table 2).
The software houses do not give the importance required to be given to the customers and I think one reason this is the case is that we have a lot of experience working with start-ups. Even for smaller entrepreneurs we give them a lot of respect and time and give merit to their ideas (OSP#A)

As the above quote indicates, this attuned them with the ability to cater to needs of customers on a relational level. The implication of these strategies was that irrespective of the size of the project, the start-up clients were willing to refer OSP#A to other clients. One of the senior managers in OSP#A explained the dynamics of opinion convention in this manner:

The challenges for us were not around acquiring an international client. I think the issue was getting bigger clients. We had some names here and there and we worked for a lot of entrepreneurs and small companies who were building new products. But to get someone like XYZ was a big challenge. We had to prove that we can handle these big name projects. The large MNCs were interested in working with big vendors. For us to be able to pitch among these competitors was very hard. So our strategy was that in the first few years we did a lot of these smaller scale projects for small companies, start-ups, and entrepreneurs in California. So one or two of the companies we worked with actually became big companies because of this we got referrals and these referrals helped us expand into these big name companies (OSP#A).

As the above quote shows, the referee client grew from a small company to a large company while working with OSP#A. Therefore, it is understood that the historical relationship of OSP#A and its referees was seen critical in assessing the credibility of OSP#A to participate in large-scale enterprise GVCs. They went through a reputation building process in the early stages of GVCs. They start working with small start-ups in the first three to four years of their business. Based on successful partnership, they gradually build their portfolio and global reputation. Once they reach to a stage where the references of clients, client portfolio, and global reputation are of high standards, they started approaching MNCs.

Management of GVCs

Client Coordination

The management stage of GVCs involves the actual process through which international clients and OSP coordinate to initiate a problem and bring it to the completion phase. When the company acquired its first project with a large multinational enterprise, it was a different
experience for them as the challenges associated with governance and quality expectations were drastically different from their engagement with small start-ups. The governance structures were represented by high power asymmetry. They had high expectations on the quality of user experience and organisational processes. The client was closely involved throughout the lifecycle of the project. Client encouraged OSP to engage in pro-active planning, better processes and quality, working on documentation and building standards (See Table 2).

XYZ was very particular how he wanted things and how it was supposed to be designed. He was keen on presentation, even when we sent mark-ups, he will point out that these two paragraphs were not aligned, he was that into it. What we have seen with biggest customers, that they are very particular about fonts, colours, does it have consistent design theme, how it benefits to certain goals, whether primary goals have been achieved or not. The trust was very formal. He wanted things on a schedule and he wanted the minutes of the meeting. He wanted things formal. He wanted an updated project plan every Tuesday. So that he gets a full day review. The project plan, any mark ups, or any issue should have been communicated a day earlier before the actual conversation takes place on Wednesday. The meeting that was half to one hour was more effectively used. He did not wanted to waste time on wasteful things. If he sends a request or a question, he wanted an answer in 24 hours. If we did not follow up he got conscious. Even if we just had to say that we have received something, he wanted this.

The client plays a highly involved role in understanding the user as they are mostly the employees of the client company and can provide feedback to OSP through final user feedbacks. In large-scale GVCs, this is much easier for the client as the final users are either the employees of the company or an end-customer who is well connected with the client.

XYZ also had high expectations in terms of the user experience. What he wanted is how his users are going to be using this application in the best possible manner. These are the goals and he wants the users to achieve this goal as fast and as possible... everything that relates to user experience had to be approved from XYZ

OSP practices to manage GVCs

There were two key practices OSP#A used to meet the demands of GVC: adaptation and collaboration. Adaptation was in the form of perceiving the client expectations as opportunity to learn new organisational processes through investment in human resources and knowledge
development in line with the governance of GVCs. The interviewee reported that OSP#A acquired new organisational process capabilities because of their experience with their clients. The back and forth monitoring and reporting process between clients and OSPs was the main driver to learn new ways of efficiently organising the project. One of the senior managers expressed how he they internalized the learning (See Table 2)

Before, we used to develop the mark-ups and start the software development process side by side. In this project, the mark-ups drove the requirements. We could not get the mark-ups approved based on writing it out in the word document. We had to show all the screens, how it would go from point A to point B. Unless mark-ups were not approved, we were not allowed to start the services. Before this clientele project, we used to email the mark-ups. After this project we started selling the mark-ups. When we started using this strategy in every project we observed that we were in a position that our partner valued your suggestion (OSP#A).

Along with the adaptation strategy, OSP#A initiated a collaborative strategy as well.

Investment in the compliance of GVC expectations did not stop OSP#A to position itself as a technology consultant rather than traditional services company.

Our first sales pitch is that we won’t be working for you but we will partner you in your project as a team. The team in Pakistan is not just a bunch of people working for you and charge you but we will consult you how to figure out the problem and make it successful. We give you suggestion how you should run your business and how you should design your product and we understand that you do not know all the answers in the beginning, we are going to work with you to figure out those answers. We will work together how we can figure those answer more efficiently, effectively, economically and make it successful (OSP#A).

They did this through demonstrating problem framing activities in the form of product scoping services. Product scoping services are problem identification services targeted towards clients who have ideas for software development but do not know how to specify the problem related to the idea. The client is given the choice to either continue with the project once the problem related to the idea has been identified or look for other OSPs. This ability of OSP#A to identify the core features of the application gave some room for discussion, brainstorming, and collaboration with the client (See Table 2).

In the initial discussions, we found out that the client was not sure how to do this. So we proposed that we would do a requirements discovery project with you. We will work together
to figure out what is app going to be. We are going to do some brainstorming, we are going to do some wireframe, we could prototype, and you could show it to your peers and your stakeholders, get some feedback and then we will iterate again. Once we have a good idea of this is what you want, then we will go into the whole 6 months, 8 months, year long project. This is what we did with XYZ customer. Initially we made a small widget app and that is where it started and eventually it became a complete enterprise social network.

There was gradual rather than rapid transfer of responsibilities. OSP was gradually shifting its position within the project throughout the lifecycle of the project. The project went on for five years (2008-2013). This was a breakthrough for the company as it completely changed the type of GVC it is participating into and the way they deliver their services.

**Shift in GVC position**

As discussed in the analytical framework section, OSP upgrading is defined as *a process of attaining favourable GVC position. This GVC position is underpinned by OSP’s practices to continuously build capabilities and capacity to exercise power.* In line with the definition above, the empirical analysis demonstrates the importance of understanding upgrading through two elements of capabilities and power. If the results are solely based on the traditional understanding of functional upgrading or capability upgrading then OSP#A was already engaged in software development and design (problem-framing capabilities). However, once the power is taken into consideration, it is observed that irrespective of OSPs functional capabilities, it is the ability of OSPs to build relational proximity that provides them with a favourable position within existing GVCs, new types of GVCs, or their own GVCs (See Table 2).

In OSP#A’s case, it is their strategic priority to become a technology consultant company that helped them position as an important player in GVC. In order to participate, they had already built a certain level of reputation among start-up clients as a technology consultant. This helped them to create linkage with their first MNC client. While managing
the demands of large-scale GVC, OSP#A’s intentional practice to collaborate rather than just comply/adapt helped them create relational proximity rather than just provide development services. Relational proximity is defined as process in which agents are ‘bound by relations of common interest, purpose, or passion, and held together by routines and varying degrees of mutuality’ (Murphy, 2006, p. 430). This can also be considered a form of relational power where agents can create and exercise influence as a result of complementarity in the relationship.

After working with this MNC, OSP#A has been working with a diverse range of large-scale GVCs. OSP#A has created number of new divisions for product development specifically for mobile game and application development. This division has been actively focusing on building products for offshoring clients and for final consumers as well. They have recently started working with a large gaming company in Europe to develop and market mobile games using the same principles of product scoping and software development. Through these multiple practices, OSP#A has not only been successfully manage the demands of large-scale GVCs but it has also diversified itself to other markets.

**Discussion and Conclusion**

We integrate insights from relational economic geography (e.g. Yeung, 2005a; Yeung, 2005b, 2007) and global value chains (e.g. Gereffi et al., 2005; Morrison, Pietrobelli, & Rabellotti, 2008; Ponte, 2009) to understand how power relations in GVCs shape OSP upgrading. The case study presented delineates two major findings. First, it indicates the importance of power relations in GVCs. Our findings highlight that in order to understand the impact of participation and coordination in global value chains, it is important to understand both the power of international client and the agency of OSPs. In this manner, our study concurs with Tokatli and Kizilgün (2004) and Tokatli (2007) showing that power in GVCs is
relational and OSPs have the autonomy to effectively respond to the pressure exercise by the international client.

Our second major finding relates to the upgrading of OSP in GVC. This study provides a relational perspective of a firm’s success in accessing and coordinating global markets through the notion of upgrading. Upgrading has been traditionally used to explain shifts in a domestic firm’s functional capabilities (Tokatli & Kizilgün, 2004). In this study, it is found that upgrading is not limited to shift to highly value-added functions of the chain. Instead, it is a process of attaining relational proximity in GVCs through which OSP is able to exercise greater power in GVCs vis-à-vis its previous position.

Additionally, the findings reveal that an OSP’s entry into GVCs is dependent upon their existing or previous client’s recommendation. In this manner, client act as a reputation makers and a powerful actor who can significantly shape the entry of OSPs in GVCs. Along the same line, this research emphasized the power of final users/consumers of software applications. User feedbacks significantly shape the relational proximity between OSP and GVCs and the overall success of the relationship.

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