The Impact of Digital Transformation on Sourcing Strategies in the Financial Services Sector: Evolution or Revolution?

Abstract

Digital transformation (DT) is a popular contemporary buzzword in the financial services industry. In order to remain competitive, banks constantly evaluate and adapt their digital strategies. One approach involves leveraging innovative digital technologies such as artificial intelligence, cloud technologies and blockchain. Simultaneously, banks have increased their outsourcing activities over the last decades. This study investigates the intersection of sourcing strategies and DT-induced change, presenting a literature-based sourcing strategy framework as the basis for a qualitative empirical study analyzing the impact of DT on the sourcing strategies in the FS sector in Germany.

Our results show that DT has significantly impacted sourcing strategies among FS providers. Specifically, the strategic motivation to outsource has shifted from cost reduction to innovation while offshoring activities have declined in importance. However, contractionary to our expectations, the research also shows that DT's effect on sourcing strategies has been more evolutionary than revolutionary.

Keywords

Digital Transformation, Sourcing Strategy, Outsourcing, Digitalization, Financial Services

Introduction

In times of disruptive innovation and digital innovation, even industry-leading companies can lose ground if they fail to anticipate discontinuities effectively (Christensen et al. 2015). Technological advances present new challenges and may even shift the equilibrium of forces in well-established industries (Holotiuk et al. 2017). Innovative digital technologies such as big data, cloud computing, social media, and mobile platforms are part of the so-called “digital transformation” (DT). These technological advances are forcing financial services (FS) providers to reconsider their business strategies. Many executives still remember the turn of the century, when banks and insurance companies massively underestimated the disruptive force the internet posed for their industry. According to a study by IDG, the digitization of business processes, cloud computing and security will have similar disruptive potential and importance for the CIO in the upcoming years (IDG 2017).

One well-established strategic measure to keep FS firms competitive is outsourcing (Gewald 2010). The market research firm ISG reports an unbroken outsourcing trend, with outsourcing contract volume breaking all records in 2017 and the FS sector remaining a front runner in the outsourcing service business (ISG 2018).

Given the critical role outsourcing plays for the FS sector (Gewald and Franke 2007), these companies are specifically motivated to review their sourcing strategies to cope with the anticipated consequences of the digital transformation. This raises the question: “What impact does the digital transformation have on sourcing strategies in the financial sector?” In order to provide insights into this very
practically relevant question, we conducted a qualitative study with 17 experts from 10 major FS providers in Germany.

The paper is structured as follows: The first section presents the results of a thorough literature review to clarify the terminology and create a framework that maps the dimensions and elements of a comprehensive sourcing strategy. Subsequently, key findings from 17 semi-structured expert interviews are provided that identify the impact and dimensions of DT. Finally, the results of the expert interviews are applied to the framework to identify the impact of DT on the sourcing strategy of FS providers. Finally, key conclusions are drawn and the limitations of this research and suggested avenues of further research are discussed.

Theoretical Background, Literature Review and Development of Framework

Digital Transformation

“Digital transformation” (DT) is a popular current buzzword across many industries. Academic literature in the field of DT is constantly evolving and growing, and several definitions have been proposed. Gray and Rumpe (2017) split the term into two words and consolidate the definitions. The authors describe the word “digital” as an economic, social and industrial change through information technologies that intelligently process data in order to provide stakeholders with better knowledge. They define “transformation” as a process of continuous change in terms of business models, productive capabilities and other forms. Berghaus and Back (2016) define the term at the organizational and industrial levels, including process digitalization focusing on efficiency and the optimization of existing products through digital innovation. In this context, the term ‘digital technologies’ is also referred to as the trigger of organizational transformation. Heilig et al. (2017) associate DT with organizational changes triggered by new and enabling information technology (IT)/information systems (IS) solutions such as cloud computing and mobile computing.

In summary, academic literature describes DT as a process that uses digital technologies to optimize organizational structures and work processes. Following Fitzgerald et al. (2014) this study defines DT as the “use of new digital technologies, such as social media, mobile, analytics and embedded devices, to enable major business improvements, such as enhancing customer experience, streamlining operations and creating new business models”.

Sourcing Strategy Framework

To analyze how DT impacts sourcing strategy, a framework was developed which contains the dimensions and strategic elements of a sourcing strategy. The framework’s eight dimensions are based on the work of Leimeister (2010), which extends the work of Jouanne-Diedrich (2004; 2007; 2005). The content of the framework was expanded based on findings published since. As the purpose of the framework is to characterize essential strategic elements of outsourcing decisions, certain outsourcing options included in Leimeister’s framework were omitted, such as “IS Activity”, which reflects the operative processes of the IT department. Furthermore, some classifications and typologies of the dimensions and their elements were realigned for the sake of consistency. Figure 1 illustrates the dimensions and corresponding elements.
Impact of Digital Transformation on Sourcing Strategies

The dimension ‘Pricing Model’ reflects financial and contractual related dependencies between a client firm and the vendor. Sedar et al. (2014) mention four contractual models which can be applied to outsourcing: fixed price, time & material, source on demand, and joint venture. Furthermore, ownership in outsourcing transactions is considered as a strategic element. Although literature on this element is scarce, this topic is quite common and has a strategic relevance in practice. Following Lee and Kim (1999), ownership in IS outsourcing can be classified into two categories: asset outsourcing and service outsourcing. In the following the elements of the dimension “pricing model” are described in more detail:

- **Fixed price** – a lump sum payment for the completion of a service or a product, which was specified precisely in advance (Kalnins and Mayer 2004).
- **Time & material** – no predetermined total price settlement in advance. The provider is directed by the client to work on a particular task in exchange for a specified amount per hour or per day (Kalnins and Mayer 2004).
- **Source on demand** – a flexible sourcing arrangement, in which the client firm sources services when needed.
- **Joint venture** – occurs when two or more companies agree to merge a portion of their resources to create a common legal entity (Kogut 1988). This element refers to the contractual as well as the financial dependencies between client and vendor or two competitors.
- **Asset outsourcing** – outsourcing arrangement where customers’ assets such as hardware, software and people are transferred to the service provider.
- **Service outsourcing** – outsourcing arrangement without asset transfer. This category involves system integration and system management services.

A common consideration in a sourcing arrangement is the ‘Strategic Intention’. This dimension refers to the expected effect of a sourcing transaction. The IS outsourcing literature identifies several strategic intentions:

- **Cost leadership** – primarily a corporate strategy which can be achieved through cost reduction by outsourcing the production or certain services. The intention is based on the assumption that external providers are able to supply a product or a service with a higher operating efficiency (Bardhan et al. 2007)).
- **Competency-based differentiation** – based on the knowledge-based theory of the firm (Grant 1996), which underlines the importance of utilizing knowledge resources within and beyond organizational boundaries by leveraging external providers’ unique competencies and skills.
Thus, this strategic element is driven by the managerial decision to access specialized skills, technological resources or additional capacities which are not readily available inside the firm (Bardhan et al. (2007)).

- **Improve business performance and service delivery** - Hirschheim et al. (1996) emphasize the changing nature of the outsourcing landscape. In this context, the authors observe a new range of strategic intentions for outsourcing in which managers’ strategies become more diverse and varied. The strategic intentions range from the objective to improve the service delivery to the improvement of a firm’s business performance.

- **Innovation and competitive advantages** - Sedera et al. (2014) discuss the future implications on strategic firm IT assets of outsourcing to the Asia-Pacific region and identify a shift in strategic intentions from primarily cost-focused objectives to value-added propositions through innovation in strategies, business processes, technologies or software components.

Another fundamental strategic component of outsourcing is the ‘Sourcing Location’. Academic studies (Dutta et al. 2011; Lacity et al. 2009; Oshri et al. 2015; Ranganathan et al. 2007; Strong et al. 2014; Winkler et al. 2008) identify several factors influencing the selection of the right outsourcing location. This study adopts the common categorization of sourcing locations as strategic elements in this dimension:

- **Domestic** – the production or provision of a product or service is delivered by an external domestic provider.

- **Nearshore** – the production or provision of a product or service is outsourced to a low-wage country which is close in terms of distance, culture and legal system. Exemplary for a nearshore transaction is outsourcing from the Germany to the Czech Republic.

- **Offshore** – the production or provision of a product or service is outsourced to a low-wage country, which is far away in terms of distance and time-zones. Exemplary for an offshore transaction is outsourcing from Germany to India.

Outsourcing is an arrangement which is driven by a strategic intention to benefit. Nonetheless, the inter-organizational transaction can entail substantial risk, especially by shifting responsibilities from customer to vendor (Gewald and Helbig 2006). To mitigate possible risks, the ‘Governance’ is in charge to manage the relationship and responsibilities between the transacting parties. Hence, the selection of the right governance form is considered a strategic dimension. Lee et al. (2004) proposed three forms of IT outsourcing strategies in terms of governing the relationship and responsibilities between the outsourcer and the service provider:

- **Hierarchy** – financial relationship between customer and service provider based on brief interactions. Outsourcers pursuing this approach acquire resources externally and manage them internally. Hence, they have less access to cost efficiency than those that acquire both resources and the management of resources on the market. The advantage of a hierarchical over a market governance form are increased organizational routines and strategic competences (Penrose 1959). Furthermore, this strategy decreases dependency on external entities, safeguarding critical organizational resources and competencies (Pfeffer and Salancik 1978).

- **Market** – based on loosely coupled short-term relationships between transacting parties to minimize the risk of vendor opportunism (Baker 1990) by specifying the obligations of the outsourcer and the service provider. Also, in the market governance form, the service provider retains control over unspecified duties (Uzzi 1997). Relationships based on market forms aim for cost efficiency through competitive pricing (Baker 1990).

- **Hybrid** – based on close social relationships between the parties as the basis for exchanges among partners in stable networks (Uzzi 1997). In contrast to other governance forms, transacting entities in hybrid arrangements support each other and undertake joint problem solving. Due to the strength and stability of the relationship, long-term commitments and the lack of detailed specifications are common (Dwyer et al. 1987; Jarillo 1988).

Another important factor in every outsourcing decision is the ‘Scope’. Lacity and Willcocks (1998) measure sourcing scope in terms of the percentage of the IT budget allocated to outsourcing, identifying three basic forms:

- **Total outsourcing** – transferring significant IT assets, leases, staff, and management responsibilities to an external provider. Accordingly, the sourcing scope of total outsourcing is at least 80% of the IT budget.
• **Total insourcing** – retaining management and IT provision after evaluating the IT services market. The sourcing scope of total insourcing is no more than 20% of the IT budget. In this model, external resources are brought in to meet temporary resource needs, such as programmers for a certain phase of a new development project or management consultants to facilitate a strategic planning process. In these cases, the responsibility to deliver IT services is retained by the client firm and vendor resources are used to support internally managed teams.

• **Selective outsourcing** – the decision to source selected IT functions from single or multiple external providers. This sourcing scope of selective outsourcing ranges from 20% to 80% of the IT budget. Goldberg et al. (2017) identify the threshold for selective sourcing as between 20% and 50% of the IT budget, while Fitzgerald and Willcocks (1994) describe selective outsourcing as allocating 25% to 40% of the IT budget to external service provision.

Outsourcing arrangements differ in terms of the outsourced functions. Academic literature (Gewald and Hinz 2004; Lacity et al. 2009; Leimeister 2010) divides the functions into three areas, setting the parameters of the dimension **Sourcing Object**:

• **IT Infrastructure Outsourcing (ITO)** – outsourcing the management of hardware-oriented IT activities (Earl 1991) along four infrastructure layers: information technology components, human IT infrastructure, shared IT services, shared and standard IT applications (Nyrhinen and Dahlberg 2007).

• **Application Service Provision (ASP)** – managing and distributing application services to several entities hosted by the application service providers’ data center across a wide area network. In the ASP approach, the client organization “rents” the application services rather than “owning” the IT software (Bennett and Timbrell 2000).


An essential strategic aspect of every outsourcing arrangement is **Vendor Selection**, which includes two types of client-vendor relationships:

• **Single sourcing** – contracting a single vendor for one outsourcing arrangement.

• **Multi-sourcing** – contracting multiple vendors for one outsourcing arrangement.

In the context of time-related dependency, several authors (Hoecht and Trott 2006; Lee et al. 2003) describe the strategic importance of **Contract Duration** in which they mostly refer to two contract durations:

• **Short term** – outsourcing contracts with a duration of less than five years.

• **Long term** – outsourcing contracts with a duration of more than five years.
Methodology

In a qualitative study, 17 interviews were conducted with experts in 10 companies in the financial services sector. The experts were selected based on their knowledge about sourcing knowledge in the finance sector and on how significantly they were involved in sourcing decisions. Table 1 provides information about the companies and Table 2 provides basic demographic data about the experts interviewed.

<table>
<thead>
<tr>
<th>Code</th>
<th>Company</th>
<th>No. of employees</th>
<th>Outreach</th>
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<tbody>
<tr>
<td>A</td>
<td>IT service provider</td>
<td>~ 200.000</td>
<td>Global</td>
</tr>
<tr>
<td>B</td>
<td>Auditor and consultancy</td>
<td>~ 180.000</td>
<td>Global</td>
</tr>
<tr>
<td>C</td>
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<td>D</td>
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<td>E</td>
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<td>G</td>
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<td>I</td>
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<td>J</td>
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<td>Germany</td>
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</table>

Table 1: Company Demographics

<table>
<thead>
<tr>
<th>Expert</th>
<th>Role</th>
<th>Experience (years)</th>
<th>Company</th>
</tr>
</thead>
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<tr>
<td>E1</td>
<td>Business Development Manager</td>
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<td>A</td>
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<tr>
<td>E2</td>
<td>Partner and Executive Board Member</td>
<td>30</td>
<td>E</td>
</tr>
<tr>
<td>E3</td>
<td>Senior Manager</td>
<td>9</td>
<td>B</td>
</tr>
<tr>
<td>E4</td>
<td>Senior Manager</td>
<td>15</td>
<td>B</td>
</tr>
<tr>
<td>E5</td>
<td>Assistant Manager</td>
<td>4</td>
<td>B</td>
</tr>
<tr>
<td>E6</td>
<td>Assistant Manager</td>
<td>3</td>
<td>B</td>
</tr>
<tr>
<td>E7</td>
<td>Partner</td>
<td>15</td>
<td>B</td>
</tr>
<tr>
<td>E8</td>
<td>Partner</td>
<td>20</td>
<td>B</td>
</tr>
<tr>
<td>E9</td>
<td>Head of Bank Banking Sector DACH</td>
<td>13</td>
<td>D</td>
</tr>
<tr>
<td>E10</td>
<td>Divisional Board Member</td>
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<td>G</td>
</tr>
<tr>
<td>E11</td>
<td>Lead Sourcing Manager</td>
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<td>I</td>
</tr>
<tr>
<td>E12</td>
<td>IT Provider Manager</td>
<td>7</td>
<td>H</td>
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<tr>
<td>E13</td>
<td>Global Account Director</td>
<td>20</td>
<td>F</td>
</tr>
<tr>
<td>E14</td>
<td>IT Provider Manager</td>
<td>13</td>
<td>J</td>
</tr>
<tr>
<td>E15</td>
<td>Partner</td>
<td>15</td>
<td>C</td>
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<td>E16</td>
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</tr>
<tr>
<td>E17</td>
<td>Manager</td>
<td>6</td>
<td>C</td>
</tr>
</tbody>
</table>

Table 2: Interviewee Demographics

The framework presented above was used as an a priori model in the interviews to flexibly add or remove dimensions or elements mentioned by the interviewees. Based on the resulting framework, an interview guide was created containing 14 open questions classified into three categories: digital transformation, sourcing strategy and the impact of digital transformation on sourcing strategy.

The interviews lasted between 18 and 54 minutes and were conducted in German to rule out possible misunderstandings due to language. Eleven interviews took place face-to-face and six were conducted by phone. All interviews were recorded and transcribed.

The transcripts of the interviews were coded based on categories derived from the a priori framework. Additional categories were added as necessary. Two researchers did their coding independently of each other. Wherever differences in the results occurred these were discussed until a unanimous resolution was reached. As appropriate, additional researchers helped facilitating this discussion.

Results of the empirical investigation

In the course of the interviews, it became evident that the experts interviewed had different implicit or explicit definitions of digital transformation (DT). The dominant conception of DT is the efficient digitalization of processes, business models and IT landscapes. Many interviewees also mentioned the integration of customers into the process of product development by increasing customer centricity and individualizing processes or products.
The results of the interviews clearly show that sourcing strategy is affected by DT. The majority of the experts believe by Cloud services like infrastructure as a service or platform as a service will lead to new **pricing models**. The most affected elements are ‘time & material’ and ‘fixed price’ contracts, which will be replaced by ‘source on demand’. This change is motivated by the need to be more agile, more flexible, and especially by the need for freedom to turn services on and off dynamically as needed. Furthermore, ownership in outsourcing arrangements will be affected as increased use of Cloud services makes the need to transfer assets to the service provider obsolete.

Our results identify the **strategic intention** of sourcing strategy as one of the most important dimensions because it is derived from the business strategy and needs to be aligned with IT strategy. Over time, the ‘cost leadership’ strategy will become a lower priority, while the strategic relevance of ‘innovation’ will increase. This will be influenced by various factors, such as the increasing number of FinTechs, which offer individual bank value chain processes to customers in a more innovative form. This compels banks to focus on sourcing innovation to remain competitive in the future. Further impact is expected from outsourcing providers as they transform themselves in order to offer new services and products and even become competitors by offering services or products directly to bank customers. Finally, our results indicate that growth in new and increasingly complex technologies requiring special expert knowledge will also impact strategic intention.

According to our study, several factors significantly influence **sourcing location**. First, regulations such as data security regulations complicate offshoring. Furthermore, distance directly impacts corporate governance. Cultural and language differences can make managing providers more complex, especially in agile development, where small teams need to work closely together. The experts interviewed report a trend to shifting to nearshoring to reduce time differences, cultural difference, and physical distance to the service provider or the captive center. Lastly, standardization and automation also influence offshore transactions, since it will no longer be necessary to offshore activities automated in the future.

There was a wider range of opinions about **sourcing governance**. On the one hand, governance is seen as a dimension on which DT has the least impact because governance is driven by regulatory requirements and limited in scope. On the other hand, some experts expect governance to undergo major changes as DT changes leadership culture and the management style of StartUps, which favors flat over hierarchical organizational structures, grows in popularity. Such change is expected to affect mainly vendor management, as increased multi-sourcing makes it necessary to manage many companies (e.g. FinTechs or the usual service providers).

Likewise, the experts interviewed have various perspectives on **sourcing scope**. The majority of the experts believe that selective outsourcing will increase, driven by innovative trends entailing increasing complexity, greater flexibility and special knowledge. Another trend is towards total insourcing, which involves taking back and frequently automating previously outsourced processes.

Beyond outsourced functions, several experts expect **sourcing objects** to be aligned with cloud service objects as cloud service use continues to increase.

Our study reveals a major expected change in the **selection of vendors**. The majority of respondents expect an increase in the number of multi-sourcing transactions in the future and a decrease in the number of single sourcing transactions as selective outsourcing grows in popularity and as greater technical expertise is needed to manage higher complexity.

The dimension **contract duration** of sourcing transactions is directly linked to other dimensions, such as selective outsourcing and multi-sourcing. As smaller parts are outsourced to several suppliers, contract terms will be shortened. This is due to the increasing number of technological trends requiring a certain expertise and, above all, due to a higher flexibility. Cloud services also have a major influence on contract duration because ‘on demand’ services make long contract terms superfluous.

The influence of the DT is reflected in many elements of sourcing strategy. Figure 2 updates the framework presented in Figure 1, highlighting the elements expected to gain or lose importance in light of the digital transformation in the German financial service sector.
Impact of Digital Transformation on Sourcing Strategies

<table>
<thead>
<tr>
<th>Sourcing Strategy</th>
<th>Pricing Model</th>
<th>Strategic Intention</th>
<th>Sourcing Location</th>
<th>Sourcing Governance</th>
<th>Sourcing Scope</th>
<th>Sourcing Object</th>
<th>Number of Vendors</th>
<th>Contract Duration</th>
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<tr>
<td></td>
<td>Fixed Price</td>
<td>Cost Leadership</td>
<td>Domestic</td>
<td>Hierarchy</td>
<td>Total Outsourcing</td>
<td>IT Infrastructure Outsourcing (ITO)</td>
<td>Single Sourcing</td>
<td>Short Term</td>
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<td></td>
<td>Time &amp; Material</td>
<td>Competency-based Differentiation</td>
<td>Nearshore</td>
<td>Market</td>
<td>Total Inourcing</td>
<td>Application Service Provision (ASP)</td>
<td>Multi Sourcing</td>
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<td>Source on Demand</td>
<td>Improve Business Performance and improve Service Delivery</td>
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<td>Hybrid</td>
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<td>Business Process Outsourcing (BPO)</td>
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<td>Innovation and Competitive Advantages</td>
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<td>Asset Outsourcing</td>
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<td>Service Outsourcing</td>
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Figure 2. Impact of digital transformation on sourcing strategy

Limitations and Further Research

This research focuses exclusively on the financial services sector in Germany. The results may not be transferrable to other industries and countries. Furthermore, the framework only focused on broad elements of sourcing strategy. Future research may analyze specific topics in more depth. In response to stated expectations of fewer large and long-term outsourcing deals, further research could investigate the challenges outsourcing providers face with respect to increasing demand for short-term selective sourcing. Future research might also investigate how FinTechs and classical IT providers perceive each other and how their outsourcing solutions compare. Finally, DT is a process which is still ongoing. Future research may take the finings of this study and revisit in due time to provide longitudinal insights if and how certain positions change.

Conclusion

This study examines the influence of DT on sourcing strategy in the financial services sector. A qualitative analysis of expert interviews reveals major expected changes in sourcing strategy in response to changes induced by the digital transformation. The results underscore that not only singular elements are affected, but that change in one dimension also affects the other dimensions. This primarily applies to outsourcing scope, the number of suppliers, and contract terms. Innovation is forcing banks to pay attention to digital trends in order to remain competitive in the future. In summary, while digital transformation shows disruptive influence on individual elements, its overall effect is rather evolutionary than revolutionary. The impact of DT in the context of the overarching corporate sourcing strategy is an incremental change than a disruptive creation of something completely new.
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Twenty-fourth Americas Conference on Information Systems, New Orleans, 2018
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