Service Innovation Analytics: Towards Assessment and Monitoring of Innovation Capabilities in Service Firms

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Abstract

The importance of innovation for a company’s competitive advantage and survival in increasingly intense and changing markets is undisputed amongst scholars and managers. Realising service innovation holds particular challenges, and while the economic importance of service innovation has been recognised, understanding firms’ capabilities to do so has received too little attention. In order to enable firms to more systematically drive service innovation, this research in progress paper proposes a model for the analytical assessment and monitoring of service innovation capabilities. This assessment is based on the measurement of a company’s innovation-related assets, and the development of corresponding indicators. The authors build on previous work and models in the field of service innovation, and perform an exploratory study to add to the body of knowledge, as well as to support managers and executives in shaping innovation capability configurations for the strategic and operational development of their organisations.

1. Introduction

Historically speaking, life spans of companies have been comparably short, as identified by a number of empirical studies. Stubbart and Knight found that less than 0.1 per cent of firms reach age 40 [25], while O’Reilly et al. report that one third of Fortune 500 companies in 1970, i.e. highly successful market leaders, had disappeared in 1983 [21]. A recent example of a long-time market leader that eventually collapsed is Kodak. After having been unable to successfully commercialise on the digital camera – an invention that they had introduced – Kodak recently had to sell off its entire digital camera business and file for bankruptcy protection. However, there are some exceptions to these low average survival rates. Examples for companies that have been going for over a hundred years are IBM, 3M and Johnson & Johnson, which were founded in 1911, 1902, and 1887, respectively. A key commonality among these three firms is that today none of them offers the products and services they used to offer when they were founded, as analysed for IBM by Jetter et al. [13]. To realise these business transformations, companies are relying on continuous introduction of new products and services, or innovation. Consequently, innovation has been identified as a key factor for economic growth [17]. Modern organisations are, thus, increasingly trying to take a systematic and proactive approach to realising innovation, termed innovation management [29].

For service firms, innovation management poses particular challenges and requires distinct capabilities, due to their organisational set-up and the important role that co-creation of value plays [7]. Few service firms have been found to have established dedicated research and development units, as compared to other industries [26, 27]. Consequently, innovation decisions in these firms result in an allocation problem between daily business and organised innovation affecting the entire organisation [20]. With regards to co-creation of value, service firms are able to utilise their on-going relationships and customer intimacy to develop new services [4, 8].

Empirically, only a small percentage of service innovation has been found to be the result of strategically planned actions. Scholars of service science are advancing the field in order to enable firms to conduct more systematic service innovation [15]. In fact, even in mature industries, scholars have pointed out that while companies consider innovation to be one of the main drivers of competitive advantage, they are neglecting the assessment of their own capability to realise it [1]. For service organisations specifically, this gap between perceived importance of service innovation and the ability to carry out an assessment of service innovation capabilities may be augmented by a lack of tools and frameworks specific to service innovation [6].
The purpose of this research in progress paper is, thus, to extend on the existing body of knowledge on service innovation capabilities to develop a model for assessing and monitoring these capabilities. In doing so, the authors are combining an analytical approach to service innovation capabilities assessment with primary empirical data. This promises to capture the reality of service innovation challenges adequately, while leveraging the automation and intelligence potential of modern analytical methods in the fields of data mining and text mining. The development of the proposed Service Innovation (SI) Analytics model represents an important contribution to managerial practice, by providing an instrument for assessing and influencing innovation in service firms, while significantly contributing to the service innovation literature. In particular, the model entails the following benefits:

- Make sure organisations have the necessary capabilities to continuously realise innovation
- Offer an analytical approach to the assessment and monitoring of innovation capabilities
- Allow observing and reacting to changes in capability configurations over time
- Focus on developing the most critical capabilities
- Get impulses for restructuring the organisation if necessary
- Benchmark the organisation against peers, as well as departments internally

This paper is structured as follows. First, existing frameworks addressing innovation capabilities in organisations are presented and discussed. Having selected the framework of den Hertog et al. [9] as a basis for further development, the methodology and components for the development of the SI Analytics model are introduced and discussed. In the following, empirical results for the proposed model are presented. The results were obtained through expert interviews with managers in professional service organisations. The paper is concluded by a discussion of the insights the empirical results offer for the assessment and monitoring of service innovation capabilities, and by an outlook on further model development.

2. Related work

The goal of frameworks describing organisations’ capabilities is to explain sources of their competitive advantage [28]. Four frameworks that are particularly relevant to the assessment of service innovation capabilities proposed in the literature have been selected for discussion here. However, as illustrated in Table 1, none of them fulfil all of our criteria for effectively assessing and monitoring service innovation capabilities. Service innovation capabilities in this sense are understood as higher-level resources that improve the productivity of other resources and assets of the firm, specifically in facilitating the creation of new service offerings [5, 16]. The review is led by five criteria that capture the relevance of the frameworks to the challenges of service innovation and their usability for innovation managers and practitioners. The criteria are service and innovation specificity, operationalisation of the model, and assessment as well as monitoring of service innovation capabilities.

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The Capability Maturity Model Integration for Services (CMMI-SVC) [3] is an extension of the popular CMMI, rooted in software engineering. The underlying idea of CMMI is to collect best practices from a certain domain around a given set of process areas and to assess the maturity of the individual processes. The model, thus, offers a company the possibility to determine their status quo with regards to process implementation and to gain insights on best practices to follow to achieve a higher level of process maturity, making it strong in operationalisation and service innovation capabilities assessment and monitoring. CMMI-SVC represents a service-focused specialisation of a model that was originally designed for a different domain, making it somewhat service specific. With regards to innovation specificity, CMMI-SVC is the only framework that has not been designed exclusively for application in the innovation domain, but contains elements of new service and service system development. This means that although the framework overall promises good usability in the dimensions of operationalisation, service innovation capabilities assessment and monitoring, its relevance for innovation in service firms is limited.

The Innovation Capability Maturity Model (ICMM) of Essmann and du Preez [5] has been established using empirical data from companies in the engineering and manufacturing domain, extending the concept of maturity levels that CMMI introduced. This empirical basis means that although it has been
prototypically evaluated using a small number of service firm case studies, the framework cannot be held to be service specific. In methodological terms, ICMM builds on the established maturity level approach, which means that it also promises a decent level of operationalisation and assessment of innovation capabilities. However, in addition to not being service specific, the framework offers fewer possibilities for monitoring and benchmarking than the process areas of the CMMI-SVC, which are enriched with extensive industry best practices.

Müller-Prothmann and Stein's Integrated Innovation Maturity Model (I²MM) [18] aims to enable the assessment of innovation capabilities in organisations, and offers a questionnaire instrument to identify gaps between the status quo and target level of organisational capabilities in four process areas, of which ‘Innovation Management’ constitutes one. Methodologically, it takes a similar approach to ICMM, introducing a set of five capability maturity levels. The goal is to allow a company to identify its current level, as well as the gap to the aspired maturity level. Criticisms similar to those of the ICMM framework apply. The I²MM does not offer any service specificity and consequently has limited applicability to the innovation challenges of service firms. Furthermore, while it allows empirical operationalisation and assessment, it does not support monitoring of the development of innovation capability configurations.

Lastly, the dynamic capabilities framework of den Hertog et al. [9] is the only one of the frameworks that has been developed specifically for innovation in service firms. The authors have conducted an extensive literature review, as well as case studies with service organisations, in order to establish six service innovation capabilities as a key part of their framework. In its current state, the framework does not offer direct operationalisation, assessment or monitoring capabilities. To this end, the authors state to have “developed a conceptual framework” [9:505] that is yet to be validated. This supports the notion that the suggested importance of assessing an organisation’s service innovation capabilities is not yet enabled by suitable models that allow operationalisation, assessment, and monitoring. Due to its topical fit with the specific innovation challenges of service firms, the last framework promises to be a suitable basis for further development of the proposed SI Analytics model.

3. Model development

The SI Analytics model is composed of four layers, as shown in Figure 1. The top layer, which contains the innovation capabilities of the service organisation, is connected with service innovation capability indicators, which are captured in the second layer. Each capability is associated with an indicator that quantitatively captures the implementation of the innovation capability in the company.

The service innovation (SI) capability indicators in turn are connected to asset categories, which are composed of concrete assets in the organisation, making up the third and fourth layer. This representation of service innovation capabilities as being based on a firm’s assets allows us to move towards an analytical approach to assessment and monitoring of service innovation capabilities. This knowing-how research design aims to further our understanding of how capabilities for service innovation are created and developed over time. The model is built on empirical data and will help move towards a managerial tool for assessing and monitoring innovation capabilities in service firms, creating insight on how to allocated innovation and research funds down to the more tangible layer of firm-specific assets.
3.1 Service innovation capabilities

As shown in Figure 1, the top layer of the model captures the service innovation capabilities of a company. For the current working state of the model, we base our investigation on the six service innovation capabilities put forward by den Hertog et al., which are:

- Sensing user needs and technological options
- Conceptualising
- (Un-) Bundling
- (Co-) Producing and orchestrating
- Scaling and stretching
- Learning and adapting

In the following, these service innovation capabilities are briefly summarised, as presented by den Hertog et al. [9]. The first capability, *sensing user needs and technological options*, captures an organisation’s ability to look beyond its borders, and to recognise developments both in user needs and in technological developments that enable new service offerings. In order to do this well, a company will supposedly have implemented some kind of market intelligence function. Identifying clients’ needs, anticipating underlying and potential future demands, and scouting technological trends, are an integral competence of an innovative service firm, as supported by a survey of over one hundred service innovation managers in Germany that reports 55% of service innovations to be motivated by market pressures, i.e. competition or client demands [23].

The second capability, *conceptualising*, subsumes the mechanisms a service firm utilises to develop an initial new service idea into a new service offering that can subsequently be commercialised. This involves aspects like involving multi-disciplinary teams that can address heterogeneous challenges, and ensuring connections to existing strategies and portfolios.

*(Un-) Bundling* describes a service firm’s capacity to decompose existing services and resources and to arrange them in new service offerings. This relies to some extent on an integrated resource management that allows (re-) combination.

The fourth capability, *(Co-) Producing and orchestrating* supports the acquisition and development of new service ideas through engaging in open innovation. The importance of this capability is supported by Sundbo [26, 27], who points out that very few service firms have dedicated research and development units. Instead, innovation in services can be driven by basically every individual involved in or associated with an organisation’s service context. This means that the involvement of customers, business partners, suppliers, and further influencers becomes indispensable [12]. This incorporates building up networks to collaborate in, sharing information openly within them, seizing ideas and developing them further.

The *scaling and stretching* capability represents an organisation’s ability to deliver new services effectively and within the intended service levels. This is a particularly complex challenge for companies operating on a multinational scale, since they have to coordinate and standardise service delivery across a range of markets.

Lastly, the capability *learning and adapting*, ensures that meta-level insights and long-term benefits are derived from a service firm’s innovation projects. This capability captures means for keeping track both of failed and successful service innovation efforts. This includes deliberate reflection on the way service innovation is managed and organised, for example through project debriefing sessions. Learning and adapting is supported by knowledge management systems and requires a feedback loop into the organisation of future innovation projects.

3.2 Indicators

Layer two of the proposed *SI Analytics* model is made up of the indicators that enable the assessment and monitoring of the service innovation capabilities. The layer of indicators is conceptually separated from the layer of innovation capabilities, since the indicators constitute a quantitative, and therefore manageable, but not exhaustive representation of the innovation capabilities. The value of the indicators will be calculated as a weighted sum of the assessment of the n individual assets (a) related to the indicator, as shown here for an exemplary indicator m, with weights w:

\[
Ind_m = \sum_{i=1}^{n} w_i \cdot a_{im}
\]

3.3 Asset Categories and Assets

Moving on to the third and fourth layer, the service innovation capability indicators are connected to a set of asset categories, which are in turn composed of sets of assets. As suggested by the formula above, the individual assets, ‘a’, will be assessed on a numerical scale, and aggregated to determine the value of the associated indicators. In order to support the
assessment of and managerial insights derived from the assets, they are categorised according to a governance-oriented asset framework [31], which differentiates the following types:

- Human assets
- Financial assets
- Physical assets
- IP assets
- Information and IT assets
- Relationship assets

While, mathematically speaking, the asset layer could be directly connected to the indicator level, we consider the introduction of asset categories to be conceptually advantageous, since it provides managers with a more comprehensive and quicker overview on where to allocate innovation investments. In addition, the introduction of the asset category layer offers another important advantage. While the set of capabilities and asset categories can be hypothesized to be relatively stable – at least across a set of comparable service organisations – the set of assets through which these are implemented can hardly be expected to be stable. For example, in order to successfully perform open innovation, every service company could be expected to benefit from a channel that allows customers to introduce their ideas and to voice concerns, the concrete implementation of this channel might vary from such assets as innovation workshops with customers to semi-automated online platforms.

Having presented the SI Analytics model and its components, the following section elaborates on how some indicators pertaining to the second layer of the SI Analytics model have been identified by means of empirical research, thereby supporting the assessment and monitoring of two of the introduced service innovation capabilities, namely Sensing user needs and technological options, and (Co-) Producing and orchestrating.

4. Application and results

In order to explore the applicability of the SI Analytics model to the assessment and monitoring of service innovation capabilities, the authors interviewed five managers and executives from German professional services firms. Interviews were either conducted in person or over the telephone, with each interview lasting approximately 60 minutes. The experts were presented with the six demonstrator SI capabilities for the first layer of the model, including short textual descriptions. They were asked to “name assets that support or represent the individual SI capabilities in their organisation”, sequentially for each of the capabilities. The interviewees were also provided with the list of asset categories presented above, in order to ensure as much of an extensive and well-distributed collection of assets for the individual capabilities as possible. The assets reported in the interviews were directly transcribed by one of the authors.

To analyse the collected data, an iterative clustering approach was taken. In the first instance, responses – i.e. assets of similar meaning – were accumulated to open labels [24]. Subsequently, these were aggregated into eight asset categories of a broader nature. In a third step, it was examined how the assets named by the interviewees appeared measurable in a quantitative manner or not. This assignment of numerical scales to assets, and aggregation into quantitative indicators for the service innovation capabilities by the logic described above, shows the feasibility of the intended assessment of the service innovation capabilities.

For an initial empirical application and evaluation of the SI Analytics model, the authors focus on two of the six demonstrator elements in the capabilities layer of the model: Sensing user needs and technological options, and (Co-) Producing and orchestrating.

These two capabilities promise a particularly insightful basis for exploration. Firstly, they span divergent, i.e. idea-generating, and convergent, i.e. idea-selecting phases of service innovation processes [23]. The convergent phase of an innovation process deals with generating a broad variety of ideas for potential innovations. In the convergent phase, the initial ideas get elaborated, selected and eventually realised. While Sensing user needs and technological options relates directly to the first phase of the innovation process, the capability (Co-) Producing and orchestrating describes a distinct aspect of SI activities, i.e. the engagement and exchange with external parties, and applies to the divergent as well as the convergent phase. Secondly, the activities that the two capabilities support are being prominently discussed in the literature and amongst practitioners in recent years [4, 19, 22]. Examples for approaches to gain customer insight that have become popular amongst researchers and practitioners are for example von Hippel’s lead user concept [10, 11], and customer journeys [30].

The empirical results obtained for the two capabilities from the expert interviews are presented and discussed in the following. Beyond a bottom-up clustering of assets into categories, the authors also segmented the responses by asset types according to Weill and Ross [31]. For both service innovation capabilities analysed, the predominant asset types were:

- Information & IT assets with 24 out of 50 entries for Sensing user needs and technological options,
and 11 out of 34 entries for (Co-) Production and orchestrating.

- Relationship assets with 17 out of 50 entries for Sensing user needs and technological options, and 11 out of 34 entries for (Co-) Production and orchestrating.

This reflects the importance of soft aspects for successful service innovation, as reported in earlier work [6].

4.1 Sensing user needs and technological options

Moving towards a measurability of assets supporting this capability, and examining the potential for deriving an indicator, the authors analysed 50 asset aspects named by their interviewees. The responses led to 16 distinct assets, which could be consolidated into eight asset categories (plus “other”), as shown in Figure 2, which are described in more detail in turn below. The categories that contain the most replies are Customer insight (10 entries), Market analysis (10), and Network (10).

**Figure 2. Asset categories for capability “sensing user needs and technological options”**.

Customer insight comprises three aspects of similar importance: Direct customer insight, Internal third parties to gain customer insight, and Channels for gaining customer insight. In general, all of these relate to identifying demands, needs and issues of specific customers, rather than abstract customer segments. Their aim is to gain in-depth knowledge about the customers’ most pressing issues and underlying factors.

With regards to Direct customer insight, the interviewees named assets, which constitute mechanisms to interact with individual customers like:

- **Direct customer / consumer involvement**, Communities / platforms for mutual exchange with customers, or Insights into various customer functions. To measure those assets, a quantitative measure combined with a weighting based on a qualitative scoring promises to be fruitful. Here, the number of interactions that exceed a certain quality level could be counted. The quality level should be determined by previously defined criteria, such as interaction channels, time, and intensity. On an asset level, these measures need to be merged and normalised, i.e. they need to be prioritised, put into relation to the size of the organisation, and the number of innovation initiatives.

Apart from direct customer interaction, methods and processes to leverage existing intelligence from internal parties form the second asset, Internal third parties to gain customer insight. In this context the interviewed practitioners refer to Established debriefing mechanisms to harvest Knowledge from sales staff and any parties fulfilling an advisory role towards the customer, e.g. a consulting unit. Likewise, Channels for gaining customer insight represent a non-personal way, i.e. a potentially online analytical approach, to improve an organisation’s knowledge on a customer. As examples for the latter, Social Media analysis and Web 2.0 analysis are mentioned by the interviewees. Existence and usage intensity of debriefing processes, as well as analytical approaches are comparably simple to measure through availability, frequency and qualitative scoring. On an asset level, again, aggregation and harmonisation of these measures is required. Comparable aggregation methods are frequently used in business and social sciences, for example in the context of scorecards and management cockpits [2]. Hence, the critical task for an assessment of service innovation capabilities becomes measuring the underlying assets and deriving the indicators, rather than the more standardised task of aggregation at a higher level.

In contrast to Customer insight as a category dealing with specific customers, Market analysis takes a broader view at an organisation’s markets. The assets reported by the interviewees’ suggest two key areas of comparable importance: Market analysis – organisational setup and Market analysis – methods. Market analysis – organisational setup refers to an organisational representation of market analysis, i.e. Dedicated people/units covering tasks from analysis of customer segments to scouting of technological trends. In terms of defining measures, a three-step approach can be applied: Firstly, access to at least one unit as described above is measured – no matter if internal or external. Secondly, the scope covered by the units, e.g. in terms of customer segments, competition, or
technological drivers. Thirdly, the level of quality per scope element can be assessed.

Market analysis – methods relates to the existence of a set of market research approaches suitable for analysing market players and their behaviours, as well as technological trends. Interestingly, the interviewees predominantly mentioned non-traditional market analysis approaches such as Platforms for weak trend signals, Online monitoring of the organisation’s brand perception in the market and Technology scouting mechanisms. Although different from a content perspective, these assets are methodologically speaking of a similar kind as the debriefing processes and channels for customer insights mentioned above. Therefore, availability and quality of those methods can be evaluated by employing comparable measures.

The category ranking third, Network, addresses the availability of interconnections with other organisations and influencers. It divides into the assets Trusted customers & partners (4 entries) and further external Influencers (6).

The asset aspects relating to Influencers are to do with being in touch with a wider network of organisations and individuals, who potentially provide stimuli for innovations. With regards to Trusted customers & partners, the innovation managers emphasize the importance of trusted customer relationships – in particular on a personal level – allowing open exchange on touching issues. Both asset areas exhibit great similarity with the assets associated with Customer insight. In all cases, quantity and quality of interaction can be evaluated leveraging numerical scales. Therefore, analogue measures apply, i.e. measuring the number of exchanges and collaborations that satisfy certain standards in terms quality of the interaction. Hence, the approach outlined above can also be applied in this context.

4.2 (Co-) Producing and orchestrating

(Co-)Producing and orchestrating – as described in section 3 – is a capability that refers to the importance of leveraging open innovation in service firms. To examine the measurability of assets supporting this particular capability, the authors analysed 34 assets provided by the interviewed service innovation managers. These assets were clustered into eight categories, as depicted in Figure 3, naturally showing some overlap with the categories established in 4.1, since categories of assets will more often than not be relevant to a number of service innovation capabilities.

The leading two categories, accounting for over 50% of the answers (18 entries), are Operating model (12), and Network (6). Operating model, comprising the majority of answers, shows an almost equally strong emphasis on Strategy & governance (6) and on Rules & guidelines (5). Within the asset Strategy & governance, interviewees stress the importance of a strategy that incorporates and interconnects various digital and physical open innovation instruments. Examples of asset aspects reported by the practitioners are Interconnected digital and physical open innovation approaches, Different physical and virtual open innovation formats leveraged, e.g. clubs and open communities, and Governance established to integrate partners. Thus, these are supposed to ensure continued traffic in and systematic utilisation of open innovation channels. As the asset Strategy & governance suggests, the corresponding aspects are constituted by management concepts and processes. In terms of measurability, this suggests the creation of a checklist-style measurement instrument, perhaps enhanced by qualitative weights to represent the concepts’ levels of maturity. Similar to other assets in the previous section, weighted checklists provide a solid basis for deriving indicators for the associated capabilities.

![Figure 3. Results for capability “(co-) producing and orchestrating”.](image)

The asset Rules & guidelines on the other hand highlights the importance of non-disclosure agreements (NDAs), which account for five out of six of the aspects mentioned by the practitioners. From an assessment perspective, NDAs can be measured by their sheer existence and the coverage of open innovation channels by NDAs.

The remaining aspect Rules & guidelines for collaboration on platform and usage of results refers to aspects of open innovation going beyond the range of typical NDAs. This asset stresses the need of rules to clarify usage rights of innovations generated over company boundaries. Similar to NDAs, the existence of those rules, but also their scope offer themselves to measurement.
The category ranking second on the practitioners’ list is Network. Assets mentioned by the interviewees show a great degree of overlap with those mentioned in the previous section on Sensing user needs and technological options, in which Networks has already been analysed.

4.3 Outlook on Application Scenarios

With regards to our research objective of showing that service innovation capabilities can be assessed analytically by constructing measures for related assets and deriving indicators, it appears that most of the reported assets are quite suited to this approach. Many are quite tangible, materialising in procedures, methods, tools, and organisational designs. Therefore, they provide a solid basis for developing quantitative measures. Examples may range from mere counting to scale-based rankings. Measures and supporting methods have yet to be refined. Building on these measures for the individual innovation-related assets, indicators can be derived according to the logic presented above. Similar approaches have been successfully employed in the context of Balanced Scorecard [14] developments.

Taking the assessment of the capability of a professional service firm to conduct (Co-) Producing and orchestrating as an example, the model presented here could be implemented as sketched out in the following. Having conducted further empirical research, our model will provide a statement on which asset categories should typically support this innovation capability in the company. The organisation could then identify the relevant assets that constitute these asset categories in their context, ranging from the involvement in innovation-related networks and research-oriented institutions, to having established an online platform for customer ideas and suggestions for new service offerings. Following methodological approaches outlined above, the company could then quantitatively assess the individual assets using checklists and (weighted) scales. These numerical assessments, in turn, will then determine the indicator associated with the capability (Co-) Producing and orchestrating, which management can use to gain a quick picture of the implementation of open innovation approaches in the company. In order to improve the indicator’s value, and thereby the corresponding innovation capability, the managers could then drill down into the related asset categories and identify where their innovation investments promise to be most fruitful.

5. Conclusion

Building on existing research in the field of service innovation, in particular on the work of den Hertog et al. [9], this research in progress paper contributes to the service innovation body of knowledge by providing a new concept for thoroughly evaluating the service innovation capabilities of a company. In this paper, the SI Analytics model has been introduced as a basis for an analytical assessment and monitoring of said organisational capabilities. This model has been conceived upon the notion that specific assets held by an organisation contain evidence that it has established certain innovation capabilities. By measuring these assets, and assessing the derived innovation capability indicators, the organisation is given the means to assess their innovation capabilities. Since the application of the SI Analytics model relies on specific scales related to the assets of the organisation, rather than on subjective empirical data, a regular assessment of the capabilities becomes possible, thereby enabling the monitoring of service innovation capabilities.

The underlying idea of this model, namely the assessment of innovation capabilities through measuring the assets of a service firm, has been validated in section 4 through the analysis of six categories of organisational assets and the definition of eight indicators for assessing the service innovation capabilities Sensing user needs and technological options and (Co-) Producing and orchestrating. The development of these indicators is based upon a qualitative empirical study with five managers and executives from German professional business services firms. The authors show that measures can be assigned to service innovation related assets, and that higher-level indicators can be derived, indicating the feasibility of an analytical assessment of an organisation’s service innovation capabilities.

The proposed SI Analytics model opens opportunities for a wide range of research directions that the authors will follow up on. First, the current model does not provide a holistic perspective on service innovation capabilities and their corresponding indicators. While the current research builds upon an extensive literature analysis, the authors intend to complete the existing model by further refining the proposed set of service innovation capabilities, as well as by adding additional indicators for assessing these capabilities. Secondly, the authors intend to perform a large-scale empirical analysis in order to further develop the model and to validate its effectiveness in assessing the service innovation capabilities of organisations. Additionally, the authors aim to relate service innovation capability configurations with realised degrees of innovation and eventually with the
business success of the organisation. Finally, the authors intend to leverage business analytics methodologies, in particular data and text mining to analyse firms’ assets, thereby potentially enabling an automated and near real time assessment of service innovation capabilities. This technology will be embedded in a decision-support application, which can be used by managers and executives in order to shape the future strategic and operational development of their organisations.

6. References


