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A FRAMEWORK FOR STRATEGIC POSITIONING IN IT MANAGEMENT

Benjamin Müller, Frederik Ahlemann, Gerold Riempp

Abstract
Today IT executives need to define their IT strategy and align it with the overall corporate strategy. However, research offers them little advice with respect to determining the strategic position of their IT departments as a basis for strategic planning.

Based on a review of concepts from general management, this paper proposes a framework for strategic positioning in IT management. The authors analyzed the general management literature. Additionally they observed three companies’ approaches to strategic positioning as a basis to building and refining their framework.

The results suggest that strategic positioning is both a necessary and valuable task for IT managers. This strategic positioning should be based on a frame of reference that structures and integrates elements of benchmarking, competitive, and contextual analysis.

1. Introduction
Contemporary CIOs face significant challenges such as the availability of new IS architectures (i.e., SOA) and their impact [13], an ongoing trend towards outsourcing [5], and the separation of demand and supply [17]. This forces IT departments to focus on servicing business units and to adopt market-oriented structures of sourcing and delivery [50]. A central challenge in this new environment is the alignment between IT and business [28]. Therefore, IT departments today are strongly involved in the planning and execution of their companies’ business strategy [33, 37, 47].

While strategic planning covers the question of “where do we want to be”, translating these strategic goals into action programs for the IT department requires them to also know where they are today (current position). While IT benchmarking can help [48], it seems insufficient to resolve the issue of positioning because it normally does not capture the strategic context of a company. Since strategic positioning is not new, we transfer concepts from general management into IT management (ITM). This has the potential of increasing the alignment, since IT and business are now talking the same “strategic language”. This research effort will lead to understanding the process and benefits of positioning IT departments strategically within corporations and beyond. In this paper, as a first step towards an understanding of strategic positioning in ITM (SPITM), we analyze SPITM’s fundamental elements and their relations. This serves as a basis for deriving a framework for SPITM and an according assessment. We have chosen this approach to allow both science and practice to reuse the model-inherent knowledge of such a framework [18, 40].

Following Gregor [19], we thus provide a theory for analyzing the phenomenon of SPITM.

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The next section introduces a review of the literature dealing with strategic positioning, both in general management and ITM. After deducing a set of typical elements that are used for strategic positioning in general management, we test this set by means of case study research in three SPITM cases. The results are used for the construction of our final framework. The paper concludes by discussing future research opportunities and its limitations.

2. Foundations
In their effort to position themselves strategically, IT departments are confronted with the same competitive forces that drive businesses in general. In general management, methods of formal planning for the purpose of strategic positioning (SP) are well established [e.g. 4]. We propose the transfer of elements of such SP methods to ITM. Based on a review of literature, this chapter will briefly highlight these elements and show how they constitute SPITM.

2.1. Frame of Reference
Hopfenbeck describes the entire approach of strategic management as a frame of reference itself [22]. In this capacity, it is described as supporting executives in the identification of challenges as well as in the formulation of appropriate responses. Based on this, the approach to structure general management has already been established in the literature [9, 39]. The rationale for the use of frames of reference (FoR) in this domain is their ability to explicate decision-makers’ shared perception of the relevant fields of action and decision-making [38].

Various authors have proposed FoRs for ITM. Earl [16] separates ITM into information technology, information systems, and information management, while others look at ITM as a departmental strategy [8] or differentiate between offerings and resources needed for their production [31]. A comprehensive approach is done by Riempp et al. [38], who integrate the current state-of-the-art research with their own empirical work. They extend the above arguments by highlighting the importance of an FoR to make ITM both measurable and comparable.

To summarize, there are three main arguments for using an FoR in the context of SPITM: (1) the ability to structure ITM to ensure completeness and shared perception, (2) making the underlying activities both measurable and comparable by capturing their contents and relations, and (3) the need for a reference point to integrate SP activities, especially the processes and results, with ITM.

2.2. Benchmarking
To assess the strategic position of an IT department, data needs to be gathered about its structure and its environment. Mintzberg and Lampel [29] describe this as the positioning school, rooted in the works of authors like Hatten and Schendel [20] and “popularized” by Porter [34]. Market forces influencing an enterprise [35] and their influence on strategy formulation [14] need to be considered. While these competitive forces drive businesses, they are also a source of information.

In this context, benchmarking [36] is a technique that is in use for almost 70 years. A vast body of knowledge has evolved around benchmarking [12, 6, 1, 44].

Today, benchmarking is also used in ITM [21] and has established itself in this domain [2]. So far, it has mainly focused on products and services – mainly based on cost and other quantitative measures – and has only shifted towards processes in recent years. Benchmarking for strategy has not yet been fully embraced within IT [11]. However, recent efforts point in this direction [32].

We suggest that SP in ITM needs to capture both qualitative and quantitative external information. Based on benchmarking’s potential to generate rich sets of such data, also in strategic settings, it is the tool of choice in this context. However, a strategic approach to external benchmarking requires sufficient internal anchorage in order to fully support SP. For this purpose, internal data, both quantitative and qualitative, needs to be captured and structured using the same FoR in order to be comparable to the external data from the peer group.
2.3. Competitive Analysis

However, the interpretation of benchmarking data needs additional background. One source for this is the analysis of the environment of a company or, as in our case, the IT department. Since the work of Porter [35], the concept of competitive analysis has been widely accepted [22, 42], particularly in the context of strategy development [7, 10]. The concept of competitiveness is broadened by Wöhe and Döring [49], who point out that customers and suppliers also need to be taken into account, along with a company’s regulatory environment. Many authors have shown how IT and IS affect the competitive environment of companies [e.g. 8], but contemporary IT departments themselves require competitive analysis to account for their own drivers of competitive pressure. Zarnekow et al. [50] suggest that the modern value chain of IT departments is heavily reliant on suppliers. In this context, suppliers can become competitors, attracting demand from customers. This is especially true when an internal IT department starts to make its products and services available beyond the organization. Such an offering also calls for an analysis of customers in order to tailor products to their needs and changing requirements.

To ensure that these perspectives are adequately taken into account in the strategic planning process of an IT department, they need to be integrated into an assessment of the strategic position.

2.4. Contextual Analysis

While the external perspective constitutes an important set of information, general management has realized that external opportunities and threats need to be considered as well. Some authors include core competencies [49]. This concept, known as SWOT analysis and is mainly attributed to the work of Andrews [3], aims at a fit between the internal and external factors as a requirement for strategy formulation [29]. This perspective is widely accepted in the literature [22, 42].

Transferring this concept to ITM, the sections above already introduced the external perspective. To complete the set of relevant information, internal factors need to be taken into account. Building on general management, positioning in ITM has to take into account the profile of the IT department. Exemplary aspects are the role of the IT department in the company (e.g. minimize cost), its strengths and weaknesses (e.g. competent people), and the alignment with corporate strategy [47]. The importance of these aspects for SPITM is based on the need to interpret the data generated through benchmarking and the knowledge of the competitive environment on the basis of current capabilities and aims. The ability to correctly relate all this information to each other, in turn, is realized by employing a common FoR.

3. Methodology

To analyze SPITM, we first reviewed the literature, following a concept-centric approach [45], which focused on established SP concepts in general management that are relevant to positioning an IT department. We then conducted three case studies to gain insights into which of the concepts in the literature are applied in SPITM practice. We also gathered the case participants’ input on the relevance and viability of the various concepts and studied their contribution to the overall SP process. The reason for choosing a case study approach is its ability to capture rich details, even in such complex domains as IT management and IT assessment [27].

In the cases, variation has been emphasized over replication to ensure the capture of different settings in which to observe the SP process. If any of the concepts identified during our literature review were used in practice, we documented their use. If an element was not used, we analyzed alternative approaches. At the end of each case, we conducted a workshop with IT managers in order to gain deeper insight into the reasons for the presence or absence of certain concepts. All materials were documented2) and analysis of the qualitative data was conducted following Schmidt

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2 Details about the cases and their analysis are available from the authors on request.
Based thereon, we developed a SPITM framework that aggregates the concepts found in literature and practice. This framework not only lists the patterns, but also looks at the relations between them. Such an approach of classifying specific characteristics by summarizing commonalities found in discrete observations is in line with our aim of constructing a theory for analyzing the phenomenon of SPITM [19].

4. Field Work
In our case studies, we partnered with IT departments (ITD) that had expressed interest in SP. These companies either had contact to us via a benchmarking study we conducted in the past or joint project work. The sample thus represents a convenience sample. We participated in the ITDs’ strategic planning efforts and observed their SP activities. The following sections briefly introduce the host companies and highlight our main findings.

4.1. Case Studies
Our first case study was the ITD of a large real estate company that is part of a large European trust and has also started serving external customers. The CIO and his directors for projects and operations faced the need to demonstrate IT’s contribution to the company’s goal achievement. In the assessment of the ITD’s strategic position, we observed an initial approach to SP that was based solely on benchmarking. At a later stage, they realized that additional information was needed to correctly interpret the data from benchmarking. This led to the adoption of an FoR and the introduction of elements of competitive analysis. At this stage, the approach did not yet include contextual factors; the need to do so was uncovered by the analysis of the data (e.g. the analysis of the IT project management processes). While the benchmark and competitive analysis revealed that the company was in an unfavorable position, the project success rate outperformed that of peers. Accounting for the capabilities of the experienced project managers, which had not been taken into account because they were not being documented, explained this contradiction. The project allowed the ITD to position itself differently and integrate these results into its strategic planning.

Our second case study was the ITD of an international bank with offices in several countries. It is owned by a large automobile manufacturer. In a project to redefine the strategy of the whole bank, the ITD also went through the process of developing its new strategy. The bank chose balanced scorecards and strategy maps as tools for the strategy development and implementation. In the first phase of the overall project, the ITD sought to assess its current strategic position in the form of workshops with discussions among IT managers, guided by external consultants. Since the results remained too vague, the next step was the use of an FoR introduced by the consultants as well as the consideration of existing benchmarking data, both of which brought more objectivity and result orientation into the SP process. The contextual perspective emerged in the subsequent exchange with the project teams of other departments and the CEO’s office. As a result of this phase, the ITD clarified its current strategic position and formulated the desired future characteristics of its position in the bank. This was a direct input for the next phase of the project.

We conducted our third case study in the ITD of an Austrian utility company. We observed an assessment and SP through conversations with project team members and analysis of project documentation. The assessment and positioning was a component of a project aiming at reorganizing the ITD. This was made necessary through internal requirements (based on an employee survey) as well as external pressure based on perceived high costs. The latter led the ITD to the adoption of an FoR for a service-oriented organization. The analysis of the status quo was conducted as part of a benchmarking initiative. Besides gathering data in the structures imposed by the FoR, the derivation of target values to achieve a competitive cost level was a motivation for pursuing a benchmarking approach. This introduced elements of a competitive analysis. The contextual element was integrated via document analysis and interviews. The project
was successfully concluded and the new ITD organizational structure of the ITD implemented. Results of the SP proved to be valuable in attaining buy-in from the business units of the company.

4.2. Interpretation of Case Studies
When integrating the empirical observations and comparing them to the relevant general management literature, the following conclusions can be drawn towards a framework for SPITM:

- All the cases relied on a FoR to structure and integrate their activities. It was also used to assign responsibilities and to check for completeness. This is in line with the literature (section 2.1.).
- Benchmarking initiatives were part of all three cases. While one project (case 1) started off with benchmarking results, the others integrated benchmarking in later phases. Regardless of this, all the executives involved regarded comparable data as an essential aspect for SP.
- All cases paid particular attention to external factors to account for their role in SP.
- While one case (case 1) initially excluded a contextual analysis, the need to interpret the data and information generated in the positioning project proved the importance of these considerations. The other projects included capabilities among other factors.

The elements derived from the literature review proved suitable to capture the strategic position of an ITD. We neither observed additional behavior that could not be described by means of the elements introduced in chapter 2, nor did we experience a case in which an element was systematically excluded from SP. Even though some elements were initially not considered (cases 1 and 2), the need to reintegrate them at a later point in the project illustrated their importance.

5. Framework for Strategic Positioning in IT Management
Building on these findings, our proposed framework consists of five elements, as outlined in figure 1. The elements correspond to the patterns we have identified in our preceding literature review and empirical observations. The subsequent discussion presents each framework element by defining it, explaining its relationships to other elements, and relating it to the cases introduced above.

5.1. The suggested Framework
The basis for SPITM is the usage of a FoR. It facilitates structuring all other elements, ensuring that data and information from these separate views on an ITD’s strategic position can be integrated. It is also needed to ensure the ability to conduct an SP in a distributed manner, i.e. to assign aspects to different roles and reintegrate them later. The core element for the SP is benchmarking. It is an established approach for generating data needed for comparison. For interpretation, the benchmarking needs to be extended by contextual and competitive analysis. These will help to correctly interpret the benchmarking. They are also partially dependent on benchmarking as a source of data. Aggregating all the information will ultimately constitute the strategic position of an ITD.

![Figure 1. Framework for strategic positioning in IT management](image)

While the structure of our framework is derived from the literature and the cases discussed above, the general structure of the approach can also be linked to general management. The strategic issue
analysis [23] aims at identifying, analyzing, and resolving strategic issues by methods centered around the classical SWOT elements. La Roche [26] proposes a flow chart that illustrates how competitive and contextual factors help establish strategic positioning. This position is the basis for the development of strategic alternatives and strategic decisions. Based on our analysis, positioning in ITDs is currently approached with a similar logic, despite the existence of other approaches in general management [26]. While scarce, there are also examples in IS literature. Kovacevic and Majluf [25] suggest a six-staged approach to ITM. They point to firm strategy, external analysis, and internal scrutiny as the basis for formulation and assessment of IT/IS strategy. However, they do not specify a data source for the planning approach and do account less for contextual factors.

To further illustrate our framework, the following sections will elaborate on its elements and their interrelations, discuss exemplary approaches present in theory or practice, and establish quality criteria. Each section concludes by relating the element to observations we made during our cases.

5.2. Frame of Reference (FoR)

Much work has been done in the field of providing a structure to the processes of ITM. However, most of this work focuses on the process of strategic planning, not on the general structure and contents of IT/IS strategy itself [43]. However, in the context of SP, this structure is needed as a core element of positioning efforts for reasons of inter-temporal and inter-subject comparability. SP can only provide insights into the current state and the changes of an ITD if it is based on a stable structure across entities and time. To date the work on such a general structure of ITM has been limited (section 2.1.). Moreover, reviewing the literature has shown that most of the approaches currently used to structure ITM are based on theoretical reasoning. Only Riempp et al. [38] tested their suggested FoR by means of three design science evaluation cycles.

Based on the analysis of this element in the literature as well as from interviews and observations made during our case studies, we are suggesting a set of quality criteria for an FoR: (1) adequacy to and coverage of the realm of ITM, (2) reflection of real-world organizational structures as well as established disciplines and roles, (3) completeness of elements and ease of use to facilitate communication, (4) depiction of relevant fields of action and decision-making and their interrelation, (5) reflection of the market-oriented transition of IT departments, (6) acceptance by IT managers, (7) suitability to assess and compare ITM across several companies, and (8) suitability to assess and compare ITM across several time periods.

Looking at the cases, we acknowledge that an academic framework is not the only one that can be used. As long as they fulfill the quality criteria suggested above, other approaches can also be used.

5.3. Benchmarking

Drew [15] divides a benchmarking initiative into five phases. The first, the definition of what needs to be benchmarked in the context of SPITM is outlined by the FoR. It serves as a general guideline for the identification of required units of analysis and can be used to structure the competitive analysis. For each element of the FoR, relative key performance indicators (KPIs) and metrics are defined and applied for the own organization and those of the peer group. Useful qualitative information may be collected to support this benchmarking process, too.

According to our research, benchmarking can be successfully implemented provided the following have been done: (1) meaningful metrics have been defined for all elements of the FoR, (2) the FoR and the metrics are accepted by the IT executives as well as the peer group, and (3) the benchmarking is properly implemented, in the sense that a peer group of comparable organizations has been found and that it consists of a sufficiently large number of participants.

The analysis and interpretation of the data, Drew’s forth phase, is one of the most important steps. Our cases have shown that even though the immediate comparison of external and internal KPIs based on benchmarking may appear promising, their assessment does not allow for final
conclusions about the general performance of an ITD; this is only possible when the findings are interpreted in the light of additional contextual information, which helps explain why specific KPIs are what they are. This is why our framework includes an external and internal view.

5.4. Competitive Analysis
Many ITDs and their business counterparts coordinate the delivery of IT through market-like interfaces. Thus, contractual arrangements reach the same level of detail, controlling mechanisms are comparable to those used for external service providers, and service prices need to be competitive. Since the business gains transparency about service scope, quality, and prices, an ITD needs to differentiate itself from external providers (e.g. providing better IT support due to higher process competence). Neither service quality nor service prices can be judged on their own. In order to come up with a valid assessment of an ITD’s performance, an external perspective is necessary. A possible way to integrate a competitive perspective into SP is a SWOT analysis. This needs to consider the opportunities and threats, along with the general factors determining the competitive environment. These include e.g. an analysis of the portfolio of products and services compared to competitors’ portfolios and customer needs or the price and quality levels of products and services. The literature suggests limiting such an analysis to ten factors [22].

To reduce the extent and the complexity of a competitive analysis, the selection of appropriate aspects to consider should be guided by the following criteria: (1) does the analysis cover all relevant aspects derived from current IT strategy, (2) can the required information be captured at a sufficiently reliable level, (3) which additional information is needed to interpret external, relative measures, (4) are legal requirements and regulations taken into account, (5) what are sources of change in the relevant environment, and (6) are the sources of information and data accessible. Looking at our cases, a major factor requiring elements of competitive analysis in SPITM is product and service costs. Even in companies in which IT is regarded as strategically important (e.g. case 2), the ITD needed to demonstrate competitive cost structures to justify internal production.

5.5. Contextual Analysis
The investigation of relevant contextual factors requires extensive data gathering mainly targeting the ITD’s strengths and weaknesses. This will mostly involve document analysis and interviews. Documents of relevance are e.g. strategy documents or enterprise architecture models. Interviews may grasp factors that are not codified, e.g. cultural factors or plans that have not been documented. The aim of this analysis is to look at factors that help understanding how the ITD fits to its internal context. These factors may differ in nature and are strongly company-specific. However, during our research, we encountered a number of factor groups that appear to play an important role when analyzing an ITD’s position: (1) **Strategic factors** include information about past and present IT strategies or strategic planning and steering processes at the levels of the department and the organization. (2) **Financial factors** cover budgeting and investment decisions and information concerning decision-making and approval processes. (3) **Regulatory factors** play an increasingly important role. As a part of the contextual analysis, this aspect focuses on what operational implications regulations have for the organization. (4) **Human resources factors** influence the sphere for strategic action, e.g. when qualification levels of the workforce directly impacts the type of technologies that may be applied in the organization, or when competencies of the people working in an ITD are a central determinant for its success. Finally, (5) **transitional factors** are relevant for understanding an ITD’s strategic position. Ongoing business transformations, reorganization initiatives, or mergers and acquisitions may significantly impact all levels of the IT value chain – processes, applications and infrastructure. This element of SP is also structured using the same FoR. It serves as a general guideline for data gathering and analysis, assuring completeness and coherence.
From our research (e.g. case 1), we conclude that an adequate inside view has been constructed when all significant findings from the outside view can be explained using contextual factors and a consensus has been established that the contextual factors properly explain the ITD’s position.

5.6. Strategic Positioning (SP)
When benchmarking, competitive analysis, and contextual analysis are at hand, the final step towards SP is the reintegration of the data and information generated towards a comprehensive and consistent profile of an ITD – its strategic position. While not being defined explicitly in general management literature, our literature study and empirical work produced a set of relevant aspects that an SP should cover. These are depicted in table 2 along with some examples.

Table 2. Exemplary aspects of the strategic position of IT departments

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Examples</th>
<th>Derived from elements</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Role</td>
<td>cost minimizer, business enabler, innovator</td>
<td>contextual analysis</td>
<td>1, 2, 3</td>
</tr>
<tr>
<td>Governance</td>
<td>business monarchy, IT monarchy, federal, … (e.g. following Weill and Ross [46])</td>
<td>contextual analysis, competitive analysis, benchmarking</td>
<td>1, 2, 3</td>
</tr>
<tr>
<td>Organization</td>
<td>central, local, within business units, shared services; also cost vs. profit center</td>
<td>benchmarking, contextual analysis</td>
<td>2, 3</td>
</tr>
<tr>
<td>Budgeting process</td>
<td>top-down, bottom-up, joint, …</td>
<td>contextual analysis</td>
<td>1, 2, 3</td>
</tr>
<tr>
<td>Budget allocation</td>
<td>with business units, ITD, split budgets, …</td>
<td>contextual analysis</td>
<td>2, 3</td>
</tr>
<tr>
<td>Competitors or market structure</td>
<td>department exclusively serving the company, own company also serving third parties, …</td>
<td>contextual analysis, competitive analysis</td>
<td>1, 3</td>
</tr>
<tr>
<td>Processes</td>
<td>highly standardized and codified, artesian, …</td>
<td>benchmarking, contextual analysis</td>
<td>1, 3</td>
</tr>
<tr>
<td>Supply strategy</td>
<td>strong outsourcing, selective outsourcing, …</td>
<td>benchmarking, contextual analysis</td>
<td>1</td>
</tr>
</tbody>
</table>

SP will have to take into account the ITD’s role. Many decisions in ITM need to be framed with respect to the ITD’s perceived or intended role. If, as in case 1, the department wants to position itself as a business enabler, the KPIs related to cost have a different meaning compared to the role of a cost minimizer. Similar logic applies to the governance aspects of an organization. These examples, along with the aspects presented in table 2, illustrate the interdependency of the aspects of SPITM, and illustrate the need for a multifaceted approach to SPITM, as introduced above.

The contribution of benchmarking as well as the contextual and competitive analyses is integrated along the lines defined by the underlying FoR. Particularly the contrasting of the results of the benchmarking with the additional information gathered in the competitive and contextual analysis is a core activity in this step. Looking at established approaches for strategy development and formulation [22, 23, 26, 30], the strategic planning process can use the results from SP as a starting point for the development of an IT strategy and the derivation of action.

With respect to our cases, all the companies used the result of the SP as a basis to formulate some kind of action program. While two companies (cases 1 and 2) decided to use the positioning project as a basis for strategic planning as a whole, the third company used the SP to conduct several important projects that supported their current IT strategy. In all cases, feedback from IT staff indicates that SP helped them in three ways: (1) being more conscious of their own position, (2) being able to improve alignment with the business units serviced, and (3) being able to ensure that operations, projects, and management decisions within IT actually fit the current IT strategy.

6. Limitations, Future Research, and Summary
To correctly interpret the results of our work, some limitations need to be taken into account. Firstly, the use of case study research requires the presence of the researcher in the field. Consequently, the researcher might influence the behavior of the subject s/he wants to observe. We tried to take the necessary precautions [24] to minimize the adverse impact of this limitation. Secondly, for reasons of feasibility we had to constrain our research to a convenience sample.
Whilst acknowledging the higher generalizability of results based on theoretical sampling, we feel that accessibility of the companies that allowed us access to their confidential planning process outweighed this limitation. Thirdly, additional research has to be carried investigating what aspects need to be considered within the elements of the model introduced in this paper.

While our work provides insights into SPITM, we also see opportunities for further research. One is the analysis of profiles that ITDs exhibit when being positioned according to the framework. Particular emphasis should be placed on the investigation of archetypal strategic positions, e.g. cost minimize vs. business enabler. This has the potential to integrate with the research on alignment [47]. Another area of research is the development of a method for SPITM. The research we have presented has introduced a framework of elements that such a method would need to cover.

These opportunities can use our work as a point of departure. In structuring the elements needed to analyze the current strategic position of an ITD, we contribute to the understanding of this domain and the development of methods that are applicable in practice. The ability to conduct a proper positioning of an ITD is an integral part of integrating the processes and practices of ITM with general management. With this ability, ITDs will be able to improve their alignment with corporate strategy and hence further increase their value contribution to the business.

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