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Strategic information systems planning: A case study from the financial services industry

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Abstract

Strategic Information Systems Planning (SISP) is an important topic for managers and researchers alike. However, there is evidence of a gap between SISP research and practice. Taking this situation as a motivation, we conducted an in depth case study on SISP to investigate this gap. The study was carried out in a German financial services company (FSC) over a period of five months in summer 2003. During this time, the enterprise situation and the information system (IS) practices situation of FSC were studied with respect to the SISP approach in place. Our findings confirm the hypothesis that practitioners largely ignore academic literature and do not use it in support of their SISP endeavours. This is all the more striking since FSC extensively used guidance from IS research in other fields such as systems analysis and software development. Our case study examines in detail two possible explanations for the gap: firstly a lacking transfer of academic knowledge to practice, and secondly deficiencies in the academic knowledge base itself. In fact, our observations highlight a disconnect between academic discussion and practical conduct. However, we found that the ignorance of academic literature on SISP is not primarily caused by a constrained knowledge transfer. In order to exclude communication barriers, we filtered the academic discussion according to the specific situation and the needs of FSC and translated it into practical recommendations. Nevertheless, the academic arguments we put forward hardly had any impact, either on IT managers' thinking or on SISP practice at FSC. Though academic literature was partly perceived as inspiring, it was not regarded as a touchstone for SISP practice. Academia, in the eyes of FSC's practitioners, ignores the "real problems" and thus is not accredited as a relevant source of advice. Moreover, in a final discussion with FSC's senior IT executives we got the impression that the professional identity of FSC's IT management – and more specifically the CIO's role – was different from interpretations

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prevalent in academia. The academic discussion assumes the CIO to be an initiator of organisational innovations and driver of business strategy on the board. In contrast, we found that FSC's CIO basically perceives her role as that of a service provider to business. While the different perceptions might be due to idiosyncrasies of FSC, related research provided additional empirical support for the conjecture of misleading academic assumptions about the role of IT management in practice.

1. Motivation for, and aim of the study

Strategic Information Systems Planning (SISP) is a concern of maximum relevance in practice. It is among the highest ranked issues on management agendas for many years (Luftman et al., 2006; Watson et al., 1997). Bigger enterprises which largely build their business on information technology (IT) usually have dedicated management positions for SISP with job titles such as ''Head of IT strategy'' or ''Director Strategic IT Management'' (Mocker and Teubner, 2006). The practical challenges of SISP also find their way into practitioner conferences and magazines, where they take even more room than in academic journals (Lee et al., 1999). But the topics discussed in the strategy tracks of those magazines do hardly correspond with those discussed in academic journals. These magazines label as ''strategic'' new and very popular topics such as ''security management'' or recent technologies such as ''RFID'', ''Service-Oriented Architecture'', and ''IP telephony''. One possible reason for regarding these topics as strategic is that they receive attention from (senior) IT management due to their popularity. Other topics such as ''IT infrastructure flexibility'', ''cost savings through IT'' and ''value from IT'' are presumably labelled strategic because they are perceived as having enterprise-wide relevance and business impact.

In line with its prominence in practice, SISP has also been a topic of wide research, even though it has not received the priority it has in practice (Lee et al., 1999). In academic research, SISP is generally defined as ''(...) an exercise or ongoing activity that enables organisations to develop priorities for information system (IS) development'' where ''applications are chosen for their alignment with business objectives or their capacity to create significant impact on the organisation's competitive positioning'' (Doherty et al., 1999, p. 263). It includes the alignment of IT/IS investments with business objectives, the exploitation of IT for competitive advantage, the development of technology policies and architectures as well as the elaboration of guidelines for the successful management of IS resources (Galliers, 1993). Key research areas that have been addressed so far are the impact of IT on competitive advantage and the process of conducting SISP.

The subject of IT and competitive advantage is rooted in the discussion on Strategic Information Systems of the 1980s (e.g. McFarlan, 1984; Ives and Learmonth, 1984). It capitalises on competitive theories from management studies. While early contributions mostly adopted a Market Based View (Porter and Millar, 1985; Bakos and Treacy, 1986), more current work recognises a Resource Based View as a more substantiate way to explain sustainable competitive advantage (Mata et al., 1995; Wade and Hulland, 2004; Piccoli and Ives, 2005).

A considerable amount of research has also been published on how to conduct SISP. Typical concerns are the organisation of the process, the procedures to carry out SISP and factors contributing to SISP success. Empirical differences in SISP have been described illustratively in terms of the ''approach'' taken. This concept comprises ''(...)

the interaction of method, process, and implementation, as well as the variety of activities and behaviours'' (Earl, 2003, p. 189). Hence the SISP approach is a very broad concept and includes the participants as well as the procedures and the techniques applied in the SISP process. The latest research on IT Governance extends the discussion of the roles and participants involved in IT/IS decision-making (Weill and Ross, 2004). There are also some surveys and case studies that give hints how to conduct SISP successfully (Lederer and Sethi, 1996). But these hints differ substantially in form and content. They cover a broad spectrum of problems, critical success factors or tasks to be included in SISP that have not yet been consolidated.

So far, research does not yield substantial foundation from which to derive well grounded procedures for conducting SISP. Therefore, most propositions for conducting SISP are based on common sense and some conceptual considerations. They are laid out in textbooks (e.g. Ward and Peppard, 2005; Martin et al., 2002; Heinrich, 2005) rather than research articles. Similar problems apply to the SISP techniques proposed by literature. Most of them stem from consultancy and have hardly been evaluated in practice (Flynn and Goleniewska, 1993, pp. 300). Hence, Conrath et al. (1992, pp. 366) hold that "(...) the field of planning has great many normative guides (...), these are based on common sense and historical perspective of what has and has not worked in the past, rather than theory''.

While the SISP process has received some attention in academic research, its result, information systems strategy (ISS), has been widely neglected so far (Teo and Ang, 2000). In a survey of 137 SISP-related articles published between 1991 and 2004, Brown (2004) identified that only one-fourth of all articles are concerned with ISS in one way or another. As a consequence, the concept of ISS is not yet clearly articulated and well reasoned. For example, Earl (1996, p. 491), whose proposal has perhaps received most attention of all (e.g. Galliers, 1991; Ward and Peppard, 2005, pp. 40; McNurlin and Sprague, 2006, pp. 134), admits that key aspects of his conceptual model of an ISS are still "conjectural''. But as long as the concept of information systems strategy – which is the output of SISP – is blurred, the discussion on the process of strategy formation must necessarily remain vague, too. Hence, Lederer and Salmela (1996, p. 237) characterised the state of research in SISP a decade ago as demonstrating an "absence of a theory of strategic information systems planning''. We uphold this critique for the reasons mentioned above and suggest that theoretical deficits may impede the use of academic literature in practice.

Notwithstanding research deficits, practitioners formulate information systems strategies – usually under the label "IT strategy''. But it might be misleading to believe that SISP practice corresponds with academic discussion. Empirical studies have revealed that SISP practice in the past neither reflected the thinking espoused by academic literature nor followed any rational or analytical process as recommended (Galliers, 1993). Our own experiences from discussions with IT managers and from teaching executive and post graduate courses on Strategic Information Management support this view. Moreover, we feel that practitioners are sceptical about the academic knowledge base and are reluctant to use it. We found that they would sooner rely on recommendations from peers as expressed in conferences or in practitioner magazines. External consultants also provide another undisputed source of advice (Ang and Teo, 1997).

A disconnect between SISP research and practice as indicated by the evidence provided above might not only be a problem for practitioners who lack academic guidance but also for researchers. The question of the practical relevance of Information Systems and

Management Research gives rise to ongoing discussions (Bensabat and Zmud, 1999; Schmalensee, 2006). There is broad consensus that Information Systems Research is an applied science. As such, it is not l'art pour l'art but is responsible for producing results that help to explain the organisational application of IT and is having an impact on changing it for the better. This is all the more true for a research domain such as SISP which has been one of the major concerns in practice – if not the most important one – for years. But research is not only in danger of investigating the wrong things. In addition, traditional research methods such as quantitative questionnaire research will not deliver valid results if respondents and researchers use terms differently and have distinct and incompatible problem perceptions. Thus, it is in both parties' interest to better understand the identified disconnect in order to overcome the boundaries between practice and academia.

Our research aimed at verifying the hypothesised disconnect between academic debate and SISP practice. First of all, our research goal was to check the initial hypothesis (H_0) proposing a gap between academic recommendations for SISP and actual practice. If the gap could be confirmed, we intended to uncover reasons for it. One explanation at hand is that of an obstructed knowledge transfer. The reason may be that practitioners are unaware of the academic discussion. Moreover, the discussion laid out in the literature may be difficult to assess or may confuse practitioners through an inconsistent use of terms. Practitioners may also find recommendations to be difficult to comprehend (i.e., no "cookbook recipes"). Therefore, we might hypothesise (H_1) that "communication barriers encumber the transfer of SISP knowledge from academia to practice".

H_1 would be a convenient explanation for IS researchers. However, we suspect that H_1 explains the major portion of the gap. Rather than in its accessibility and transfer we assume that reasons are to found in the academic contribution itself. Such reasons may include differences in the perception of SISP challenges as well as a lack of confidence in the academic knowledge base. This leads us to raise a further working hypothesis (H_2) that "deficits in the academic knowledge base diminish its acceptance in practice".

The following sections present our research approach and the resulting findings. Section 2 sets out in more detail the research objectives and the approach chosen to address them. Section 3 then introduces the reader to the case. Section 3.1 deals with the enterprise's overall business and SISP context, i.e. those aspects and conditions that are necessary to understand and interpret the SISP process in our case. Section 3.1 thus sets the scene for Section 3.2 where we describe the SISP practices in place. We reflect on these practices in the light of the current academic literature in Section 4. Here, we also discuss differences between the practices found at the case company and propositions from the literature. This section builds on arguments that we have exchanged in a final workshop with the IT director, the CIO and two further IT managers. The arguments highlight areas of concern and suspected shortcomings in SISP practice that rarely get publicised (Ang and Teo, 1997, p. 167). The discussion of the usefulness of recommendations from literature might also be seen as subjective case-based evaluation of current academic wisdom. Section 5 summarises our experience from the case study – and particularly from the discussion with the FSC IT management – and draws conclusions from it.

2. Research design

Previous empirical research on SISP can be classified into standardised surveys, case studies (single and multiple), action research, experiments (field and laboratory) and inter-

views. Although questionnaire-based research has dominated so far (see Brown, 2004), it is often criticised as being inappropriate in the current stage of SISP research where neither the problem nor the concepts of ISS and SISP have been elaborated satisfactorily. For this reason a number of authors (e.g. Smits et al., 2003; Walsham and Waema, 1994; Earl, 2003) argue that an analysis of SISP should not be based on the use of standardised, quantitative-based research alone. Brown (2004, p. 27) recommends that "given the lack of theory (...), it may be appropriate for more theory-generating research to be conducted, employing qualitative techniques such as (...) action research". These recommendations are all the more valid with respect to the specific objectives of our research which is concerned with substantiating and possibly explaining the hypothesized gap between SISP research and practice.

SISP practice is a multi-faceted, subjective and often implicit phenomenon that requires immersion in a real world situation in order to capture it adequately. More particularly with respect to our research objectives, communication barriers to knowledge transfer (H_0) can hardly be identified through standardized questionnaire research. Nor is it possible to identify reasons for a lack of knowledge of academic literature (H_1, H_2) with the use of standardised instruments such as questionnaires. Identifying and clearing up such reasons requires asking a number of questions such as: Do practitioners take note of academic discussion? Is the discussion understandable? Can practitioners easily draw recommendations from the discussion and apply them in their specific context? Where and why do practitioners put into question recommendations from academia? Answers to these questions can only be found in close contact with practitioners learning about their understanding of SISP and their perceptions of the academic debate. And finally, an assessment of recommendations from literature – beyond the beliefs of practitioners – calls for involvement in a real world SISP process.

Taking these research challenges into account we conducted a case study choosing an action research-like approach with two distinct phases. The first phase aimed at getting acquainted with the case company and the managers participating in SISP. During this phase, we started from the viewpoint of an external observer with document analysis and interviews. This phase provided us with the necessary background and understanding of the SISP situation and challenges. Based on this understanding we entered a second phase of research, where we used the case company as a real world setting and testbed for evaluating recommendations from academic literature on procedures, roles, techniques, strategic intent etc. Since it was not our objective to validate specific recommendations from literature but to investigate reasons for the (hypothesised) lack of awareness of academic discussion, we included textbooks in favour of latest research contributions. Textbooks can be expected to represent something like the established body of knowledge in SISP which is taught and ready to be adopted in practice. Based on this body of knowledge we put forward an ISS ourselves and proposed new ways of conducting SISP in order to see whether the propositions from academia are valid and were accepted by practitioners. In this phase, we changed our role to that of "action researchers".

Kurt Lewin (1963, p. 280) characterises action research as comparative research into social action and research that leads to social action. It is thus an "applied science", "intended for use" and "aiming at knowledge for (successful) action" (Argyris et al., 1985, pp. 4). At the same time, action research was intended to contribute to a better theoretical understanding of group dynamics. The basic idea is that researchers, working together with practitioners, strive to make sense of a situation or problem and develop

new orientations for action in a group setting that enables face-to-face communication. Action research was deemed appropriate for the situation at hand, because it can be applied to complex research problems even if they are not fully understood theoretically. While in traditional research, data collection is intended to support or reject predefined hypotheses, data are gathered in a less structured way in action research. Here, data shall help to derive a common and in-depth interpretation of the situation and form a shared basis for discussion with the practitioners. For this reason, action research is highly valuable in an exploratory phase of theory building as is the case in SISP research. Action research also bears some risks that we have laid out in detail elsewhere (Frank et al., 1991).

It must be said, however, that our research approach differed from that proposed by Lewin (1963) in one important point. In our case, the researchers were not fully involved in the real world problem-solving process. They did not take part in the official SISP process but conducted a parallel "shadow" process off the record. In the end, both the SISP process, and the resulting ISS were compared with those in place. The differences were discussed with the practitioners. Our action research-like approach made great demands on the partner from practice since it requires much openness to providing in-depth insights into and access to the enterprise setting. On the other hand, our research promises relevant and problem-oriented findings. It might be for that reason that we had no problem to find an industry partner. We choose a company from the financial service sector since this business is highly information-intensive (see Section 3.1.1). In order to preserve confidentiality we have called this partner company the Financial Service Corporation (FSC).

We started our case study in summer 2003 and the project took five months over all. It was conducted by three researchers with the assistance of nine masters students in information systems. Based on the idea of a role-takeover, the number of students approximated the number of key SISP practitioners taking part in the project. Each student was assigned to at least one of the practitioners. It was the students' task to explore the SISP responsibilities assigned to the practitioners as deeply as possible. Six of the practitioners held management positions within the IT department, while the other four decided on the adoption and application of IT in the business units. The IT top managers, i.e. the CIO and the director of the IT department, participated only partly. In the beginning of the project, they gave an introduction to the enterprise set-up, business strategy and objectives of information processing. In the end, they took part in a final discussion on the project results.

In terms of the research methodology applied, Section 3 reports on the results from the first phase of our research comprising document analysis and introductory interviews. Section 4 reports on results from the second phase in which we conducted an SISP process ourselves based on recommendations from the academic literature. This section largely builds on the discussion with FSC's IT management.

3. Case study

When studying FSC, we followed a contingency approach as proposed by Lederer and Salmela (1996). The contingency approach assumes that there is not one best solution to SISP. Both, the SISP process as well as the resulting ISS must fit the specific situation of the enterprise. Ward and Peppard (2005, p. 136) argue for using this approach when they point out that it "is essential to assess the situation and the needs carefully (...). Each organisation merits a different approach, which will vary according to the current circum-

stances and the stimuli prompting the need for planning". Following the contingency approach, Section 3.1 presents FSC's business environment, the overall organisation and the IT function which together represent the context for SISP. Section 3.2 then goes into the SISP process itself and its outcome, the ISS.

3.1. The financial service corporation

The factors that influence this enterprise can be organised into three categories: factors that are external to the enterprise, factors that are internal to the enterprise but outside the scope of SISP and stimulating factors that motivate SISP and give it an immediate bias (Lederer and Salmela, 1996; Ward and Peppard, 2005). These factors are discussed in the following three sections.

3.1.1. External context: industry factors
The industry of an enterprise can be understood as a group of companies providing their customers with similar and partly substitutive services and products. It has been pointed out that different industries call for different information processing capabilities (McFarlan, 1984; Earl, 1989). For instance, Porter and Millar (1985) propose a grid to classify enterprises according to the information intensity of the value chain and of the products or services provided. The grid suggests that the higher the information intensity of an industry the more important is information processing to business success and the more dependent are the enterprises within the industry on IT. High information intensity thus calls for extensive SISP (Sambamurthy et al., 1993, p. 25; Tukana and Weber, 1996).

FSC is a major player within a specific segment of the German financial services industry. Financial services are a highly information-intensive business. FSC does not sell physical, but intangible financial products requiring a high amount of paperwork (contract documents, settlements, status statements). Hence, the business processes include information-intensive activities such as customer counselling, document production and data processing.

The financial services market in Germany is governed by three trends. The first is *market saturation*. With a stagnation of demand, the markets have become more and more customer dominated. While customer loyalty has been relatively high in the past, customers now become increasingly sensitive to price and quality. As such, many customers have no objection to switch suppliers in exchange for better products and services. Another trend is *globalisation* which is largely enabled by deregulation of the local financial markets and the establishment of a common European market. Globalisation is more a threat than an opportunity to FSC, which is bound regionally and builds on the local presence of its sales organisation. *Increased competition*, the last trend, is partly a result of market saturation, customer domination, and globalisation. A further important factor stimulating competition is suppliers diversifying from other lines of the financial service market into new market segments. It becomes more and more common to offer customers full service packages combining insurance and banking services, a strategy called "Allfinanz".

FSC's management recognises the challenging overall industry context but regards the company to be "in a good competitive position". Management justifies this belief by pointing out three major assets that helped to keep the corporation's position as market leader in the past: a leading cost structure, a superior sales organisation, and an experienced management that has established a sophisticated planning and control system.

The company had a contract volume of €52 billion serving two million customers in 2003. This volume made FSC the market leader with about 40% of market share in its regionally bound – but nevertheless substantial – market segment. Other regional markets are served by partner companies.

3.1.2. Internal business context

The internal business context comprises factors that are specific to the organization. It has been shown that the resource situation has a significant influence on SISP since it ties up scarce human resources such as IT/IS specialists, key users, top management, and IS management (Premkumar and King, 1994). Likewise, the organisational size and structure may influence SISP. Other internal context factors are the perception of IT and the formal position of the senior IT/IS executives or the maturity and formality of the business planning and control system to which SISP is necessarily linked (Cragg, 2002).

3.1.2.1. Enterprise organisation. FSC is a medium sized enterprise with 900 employees of which 750 work at the head office while the remaining 150 employees work at a branch office. These 900 employees are complemented by a sales organisation of 1600 independent sales representatives. Furthermore, FSC cooperates with partner corporations in the regional market that work in different segments of the financial service industry. FSC is basically organised into functional departments, among them marketing, sales, product management, human resources and organisation, accounting, and information technology. The functional departments are combined paired into four business units each of them headed by a member of the Executive Board (Fig. 1). Accordingly, "IT" together with "Accounting/Controlling" is subsumed under the roof of "Business Unit 4" responsible for "Accountancy and Information Technology". The IT department on the second management level reports to the director of "Business Unit 4" who represents IT/IS issues on the board level.

3.1.2.2. Organisation of the information systems function. FSC's IS function comprises about 100 people who are responsible for the following tasks (number of internal employees in brackets).

- First Level Support (30).
- Second Level Support for applications (25).
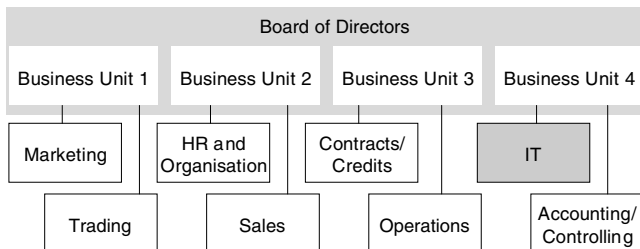- Business Systems Architects (10).

Fig. 1. FSC's organisational structure.

- Systems Analysis and Development (20).
- IT Management and Administration (15).

The internal workforce for Systems Analysis and Design is temporarily augmented by external consultants up to twice its normal capacity. Most people in charge of the IS function are located in the IT department (see Fig. 2) with two exceptions. The business systems architects are located in the functional departments and the IT controllers are in the majority located in the department for ''Accounting/Controlling''.

Since the IS function accounts for more than 10% of all personnel, IT/IS is a substantial cost factor for FSC. Hardware and software comprise more than 50% of the enterprise's fixed assets, while 25% of the administrative costs are assigned to IT/IS-related services.

3.1.2.3. Business planning and control system and values.   Business planning focuses on budgeting and financial planning. FSC uses a formal planning system which is based on the balanced scorecard. The scorecard is used to translate the organisation's strategic vision and goals into controllable metrics for each business unit. The scorecard is complemented by a elaborate control system which is used to monitor goal attainment and cost development.

The strong emphasis on financial planning and quantitative controlling is inextricably embedded in the management philosophy. In the first instance, FSC's management is in charge of goal setting and controlling the attainment of these goals. The planning and control focus is on quantitative objectives at the expense of soft facts and measures. More specifically, the strategic actions to be taken in order to attain the objectives are largely neglected. The (formal) business strategy thus remains somewhat partial.

Within this tradition of thinking, the IT department is highly regarded for its contribution to cost reduction. Massive investments in IS/IT with a focus on automation of mass data processing and business process optimisation have decisively added to FSC's leading cost position in the past. Further contribution expected from IT is support of management with current information in order to improve its planning and control capabilities.
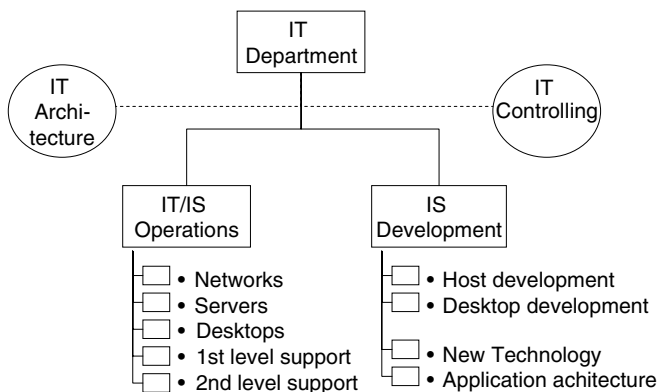

Fig. 2. Organisation of the IT department.

3.1.3. Stimuli

The planning or revision of an IS strategy might be triggered by specific events that can affect the planning objectives and processes (Ward and Peppard, 2005, pp. 141). Exceptional stimuli may result from competitive threats imposed by the IT environment, internal business initiatives such as organisational redesign, or business strategy changes. There have been two specific initiatives at FSC that have given SISP a specific bias in recent years. One was a software development joint venture and the other an outsourcing initiative. However, at the time of our study the process was not triggered by any specific initiative but carried out in conjunction with the periodical business planning process already mentioned.

3.2. Strategic information systems planning at the financial service corporation

Somewhat surprisingly, neither the term ''strategic information systems planning'' nor the term ''information systems strategy'' were well known, commonly used or even homogeneously understood at FSC. The same is true for related terms that are often used synonymously such as ''strategic information planning'', ''strategic IT planning'' or ''IT strategy'' (Gottschalk, 1999; Lederer and Salmela, 1996; Earl, 1989). When asked for their ISS, the FSC managers gave us insight into the plans for the IT department in a document named ''IT departmental conception''. We refer to this plan when we discuss FSC's information systems strategy and the corresponding strategy-making process in the following sections.

3.2.1. Information systems strategy

The ''IT departmental conception'' is a one year plan for the IT department. It is a document of less than 20 pages that starts with a chapter titled ''general information on the IT department''. This chapter briefly introduces the duties of the IT department, sets out the most important current challenges for the department and gives an overview of the major projects and activities to be carried out during the planning period. The second chapter is the main part of the document. It is subdivided into four sections that correspond to the four dimensions of a balanced scorecard: ''customer'', ''process'', ''employee'', and ''finance''. Each dimension is tackled in a section of 2–5 pages which sets out the objectives in the respective dimension and then introduces the corresponding projects and accompanying activities to be undertaken to attain these objectives.

Fig. 3 exhibits FSC's business and IT departmental objectives, arranged in the four dimensions of a balanced scorecard. FSC's business vision focuses on market leadership and improved profitability through cost leadership. The business objectives derived top-down from this vision are set out in the grey shaded part of Fig. 3. In the customer perspective, for example, they include attracting new customers, especially young people with a potentially long customer life cycle, and improving customer retention in order to increase both volume and profitability. The white box in Fig. 3 depicts the IT objectives.

The IT objectives in the customer and the process dimension have an enterprise-wide scope, i.e. they relate to the end customers and business processes of the enterprise. These objectives include improving customer service and satisfaction (at the point of sale) and increasing efficiency in the back office processes by means of IT/IS. In contrast, the objectives in the employee and finance perspective are departmental ones, i.e. they focus on the reduction of IT departmental cost and the training of (only those) employees of the IT
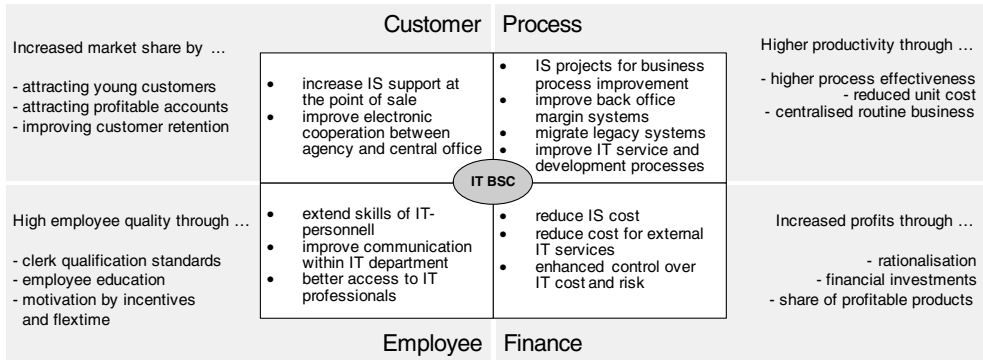
Fig. 3. Business objectives and IT balanced scorecard.

department. An enterprise-wide perspective in contrast would have addressed the questions "How do the projected applications contribute to the financial results of the company by reducing cost or increasing revenue in other business units?" and "What are the IT-related training needs throughout the enterprise", respectively. This shift in perspective has an effect on the projects included in the "IT departmental conception". Noteworthy, all these projects either relate to the process or the customer dimension of the balanced scorecard.

The IT/IS projects for the planning horizon are attached as a list in an appendix to the strategy document. The majority of projects address specific needs of the business units while some others reflect legal, organisational or technical necessities. Projects of the latter kind are designated "reengineering project" or "maintenance project", respectively. Most of the projects are not projects in their own right but rather projected work packages that are to be handled within the planning horizon. These work package projects are part of larger IS initiatives that are often called IS programmes in IS literature (e.g. Boddy et al., 2005). Though not made explicit in the IT departmental conception, there are two programmes under way at FSC. The most important one is concerned with developing a new back-office system. It has been in operation for a couple of years now. Two more projects contribute to a smaller programme focusing on the point of sale. They are concerned with automating sales procedures and facilitating data transfer between the sales-representatives and partners on the one hand and the back office on the other.

3.2.2. Strategic information systems planning

SISP at FSC is conducted in cooperation with different groups. It is initiated by top management who are concerned with overall business planning. The board of directors ("Top Management" in Fig. 4) sets out the business vision called "business policy guidelines" and the objectives in each of the four dimensions of the balanced scorecard. The board then proposes preliminary budgets for each main department. It furthermore stipulates the rough course of action to be taken and identifies key strategic business projects. Neither the strategic actions nor measures to be employed are outlined in detail. They are rather stated as proposals which are only loosely associated with the goal statements (e.g. "check tools regarding personnel development", "exploit potentials for reducing personnel cost" or "increase profitability of customer relationships").
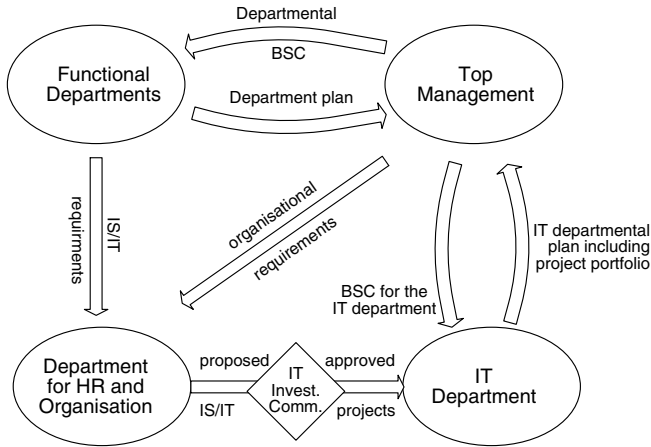
Fig. 4. Process and participants in SISP.

Whenever a first version of the overall business plan has been established, it is handed over to the functional departments for further specification. The functional departments break down the objectives and suggest projects and activities to meet them. They write tentative business cases for larger projects, estimate costs and match them with the (preliminary) budgets. The budgets may then be expanded by top management in the light of these more detailed plans.

The IT department is fully integrated into this iterative top down planning process and treated similarly to all other departments. The difference lies in the fact that the IT department provides cross-functional IS/IT services to all other functional departments. For this reason, the latter participate as internal customers in the SISP process. During departmental planning the functional departments define their IS/IT requirements and come up with project proposals – as they do for the non-IT related projects. Small projects of local interest may be initiated autonomously by the functional departments. In this case, they are charged to the functional budgets. Nevertheless, the majority of projects are imposed on the IT department and its budget (Fig. 4).

However, the functional departments do not directly impose their IS/IT requirements on the IT department. The process is mediated by the department for Human Resources and Organisation which collects, integrates and consolidates IT/IS requirements and project proposals from the other departments. It also roughly checks the business cases, estimates organisational and economic impacts of projects, and identifies interrelations. These activities are preparatory for the final decision on which projects shall be initiated. Project approval in the first place depends on the available budget and is under the responsibility of an IT investment committee (rhombus in Fig. 4). This committee includes representatives from all functional departments, the department for "Human Resources and Organisation", and the IT department (see second level in Fig. 1). The filtered and consolidated list of approved IS/IT project proposals is then passed on to the IT department which elaborates a detailed functional plan under the given budget restrictions. This plan, called "IT departmental conception", is finally submitted back to the top management as are the functional plans of the other departments.

4. Discussion

The previous section presented the current context of SISP at FSC. According to our research aims, we will now discuss how the current practice deviates from research propositions. By challenging the current SISP practice at FSC with concepts, findings and recommendations from literature we raised a couple of critical issues. The problems we identified and the recommendations we derived from academic literature led to a revealing discussion with FSC's senior IT managers which we present below. The discussion first dwells on the ISS and then challenges the SISP approach in place (analogical to Section 3.2). Moreover, for clarity, we organised the discussion around the major deviations we found. For each of these, we set out the *status quo* found at FSC, then we present *propositions* from academia and underpinning arguments. Finally, we present the *comments* of practitioners regarding their standpoint towards the recommendations and the underpinning arguments from literature. A more detailed account of the discussion that also includes the use of methods and techniques employed at FSC can be found in Teubner and Mocker (2005).

4.1. Information systems strategy

4.1.1. Departmental scope

As the designation "IT departmental conception" already indicates, the ISS at FSC is basically a departmental strategy, i.e. a plan for the IT-department. Though this concept of an ISS is mentioned in academic literature as well (Smits et al., 1993; Boddy et al., 2005, p. 91), the notion of an ISS as an enterprise-wide strategy comprising a broad range of IT/IS concerns that arise in strategy-making is much more prominent (e.g. Galliers, 1993; Earl, 1996).

As a departmental strategy FSC's ISS includes only those IS/IT projects that are under the direct responsibility of the IT department. Other projects that are developed and budgeted by the functional departments are not considered in the document. As a consequence, we expected problems to exist in building an integrated, enterprise-wide application system landscape. Two IT managers confirmed this concern. Though all the systems that had been developed and were being run by the IT department were properly documented in a development repository, the managers complained of a missing overall view of the systems deployed at FSC. The reason is that the systems developed by the functional departments were not included in the repository. As a consequence, data and functions of the systems within the scope of the IT department were mutually well integrated, while they were scarcely linked to the systems in the realm of the functional units.

4.1.2. Short-term project focus

The regular planning horizon of the projects listed in the IT departmental conception was one year. Only some more complex projects lasted into another year. The projects in the departmental conception originate from the IS-requests by the functional departments and reflect to a large extent their short term needs. In contrast, literature suggests ISS should be a long term plan. While there is consensus that a number of projects are at the heart of an ISS, academic literature also demands that projects are related to each other and to overall IS/IT objectives. Academic literature has shown that many of the most critical IS planning concerns arise at the program and portfolio, rather than the

project, level. Program plans are discussed as a means to control strategic dependencies among projects so that a number of projects jointly contribute to the accomplishment of high-level strategic objectives. Moreover, architecture plans are regarded as the appropriate means for addressing problems resulting from isolated application systems planning, such as inconsistent data, heterogeneity or uncoordinated development processes (Hamilton, 1999). The value of architecture has been demonstrated on the technical infrastructure level, as well. For example, Weill and Broadbent (1998, p. 86) found that successful enterprises succeed in building a ''strategic IT platform (. . .) that not only responds to immediate needs but also provides escalating benefits over the long term''.

FSC's IT management did not see a strong need for including build-out plans into their ISS. In their eyes, such plans were solely of partial interest and could be provided by external consultants if needed. For example, they presented us a plan that lays out the architecture of the complex back-office solution, which was the groundwork for projecting back-office applications for years. This architecture plan, however, was neither included nor attached to the ISS. Similarly, FSC had no technology plan at hand that defines technology standards or when to fade out outdated technologies and when to introduce new ones. When making the latter point, the problems were widely acknowledged. The reason was that an independent management consultancy had previously identified problems such as undesired technological heterogeneity and incompatibilities.

4.1.3. Poor competitive ambition

When discussing the concrete *contents of the strategy* – which are confidential and adaptable, of course – we can reconstruct the fundamental orientation of the ISS. For this purpose, we refer to the concept of generic strategy types. This concept is well established for business strategies (Miles and Snow, 1978) and has also been applied to IT (Camillus and Lederer, 1983). We follow a proposition from Szyperski (1981; alike Pfeiffer 1990) who demarcates four generic ISS types based on the general outlook of management on investing in IT. These types are the momentum, aggressive, moderate development, and defensive strategies.

The FSC strategy can be classified as a momentum strategy. FSC is basically satisfied with its existing IS/IT infrastructure. Changing business objectives or emerging technological opportunities may give rise to new applications but, in principle, FSC follows a wait-and-see-policy. In contrast, academic discussion focuses on the use of IT for competitive advantage (see Section 1). While FSC's IT management acknowledged the important role of IT in competition it was fully content with FSC's current information processing capabilities. The technologies employed at FSC were up to date but more industry standard than innovative. The existing IS were only changed when the requirements from the functional departments changed or if existing systems were outstripped by new technologies. The present ISS aimed at rationalisation in order to support cost leadership. The focus was on automating back office systems. As far as front office systems were concerned, the focus of IT applications was on automating sales procedures and facilitating data transfer between the sales-representatives, partners, and the back office.

We found much support for following a more ambitious strategy in terms of competitive impact. Hence, we proposed for discussion the aggressive strategy type and the moderate development strategy type. The aggressive strategy type is characterised by an active search for new IT opportunities and an early and consequent exploitation. The moderate development strategy points in the same direction but is more selective and business-needs

oriented in exploiting the potential of IT. We proposed the latter orientation to FSC and gave empirical support for its effectiveness in FSC's situation. For example, van Nievelt and Willcocks (1999) compute a positive correlation between overhead IT spending (which is defined as spending in the non-operation segments of an organisation, where future business is developed) and success for companies in a strong competitive position. Interestingly, the authors illustrate their findings with a case study from the financial services industry. But opening up new business opportunities through the use of IT was not FSC's strategy. In contrast, FSC aimed at reducing the IT (overhead) costs.

FSC's IT management did not see this point, arguing with the size of the development projects conducted. High investment volumes and great risks taken in these projects were pinpointed to substantiate the venture aspects of the current strategy, but investment volumes and risk do not necessarily indicate a strong impact of IT on business. Furthermore, even more importantly, the application of IT to business follows well-established patterns of automation and cost reduction. While this is in line with the productivity aim (Fig. 3), the aim of retaining market leadership via market share growth might be better achieved through a more aggressive ISS. For example, bolder investments into customer-focused front office systems could help to attract new customers as well as to improve customer retention.

4.2. Strategic information systems planning

4.2.1. Bureaucratic planning approach

SISP at FSC can be roughly characterised in terms of one of the "approaches" proposed by Earl (see Section 1). In his work, Earl (1993, 2003) identifies five approaches labelled "Business-Led", "Method-Driven", "Administrative", "Technological", and "Organisational". SISP at FSC can be characterised as being administrative:

- The *emphasis* of the Administrative Approach is on a reasonable allocation of financial resources and typically "attached to the firm's normal financial planning [...] routine" (Earl, 1993, p. 9). Hence, it is heavily *based on* financial planning and capital budgeting procedures. Applications are not developed before they are on the financial plans.
- *Priority setting* and investment approval at FSC are administered by an IT investment committee. This is in line with the Administrative Approach where "a planning, investment or steering committee makes all decisions". "Typically, IS proposals were submitted by business units or departments to committees which examined project viability, common system possibilities, and resource consequences" (Earl, 1993, p. 9). Decision criteria used at FSC were in the first place functional requirements and budget margins. Potential impacts on the business were judged intuitively rather than analysed systematically. Priority setting *ends up* in a list of approved IS/IT projects.
- The *nature* of the Administrative Approach is basically bottom-up. It is true that the IS/IT investments follows the strategic objectives and rough guidelines that are imposed top down by the board. Nevertheless, the project ideas are generated bottom-up by the functional departments.
- From a *methodological* point of view, the Administrative Approach is characterised by the use of business methods rather than IT/IS specific methods for strategic planning. In the case of FSC, the methods in place were the balanced scorecard combined with budgeting and financial planning techniques while IS/IT specific methods were not used. They were even largely unknown.

Strengths of the Administrative Approach are that it effectively makes SISP happen and that everybody knows what to do and when to do it. In line with this, we found a well-organised and highly standardised SISP process at FSC. Responsibilities on different management levels and in different functional units were clear cut. Well established coordination mechanisms were carried out with much routine and made SISP run smoothly. The process also fitted into the management philosophy as well as the financial planning and quantitative control system. Once projects found their way into the investment plan through this process they were eventually implemented.

On the downside, Earl (1993, p. 9) points out that the Administrative Approach is bureaucratic and non-strategic: ''ideas for radical change were not identified, strategic thinking was absent, inertia and 'business as usual' dominated, and enterprise-level applications remained in the background''. Moreover, with its focus on (cutting) budgets, this approach is in danger of constraining IT resources without considering negative business impacts. We basically supported this criticism in the case of FSC. But in the eyes of the practitioners, the benefits of high standardisation and technocratic rigour in SISP outweighed negative effects of the Administrative Approach. More specifically, they pointed out that the focus on budgets and financial figures is in line and hence easy to integrate with overall business planning. This argument gave rise to a more detailed discussion on the integration of business panning and SISP at FSC.

4.2.2. Control-centred SISP

Academic literature suggests SISP is a process of its own which is different from the business planning process in nature. As a consequence, SISP and strategic business planning require explicit co-ordination. This need for co-ordination has been a matter of an extensive discussion on ''Strategic Alignment'' (Henderson and Venkatraman, 1993).

In contrast, the practitioners' at FSC perceive SISP as an integral part of strategic business planning. SISP in its current form is fully captured by the overall control system based on the balanced scorecard which is used to strictly monitor goal attainment and cost development. At first glance, a full integration of SISP might be seen as an advantage, since it does not demand any additional ''Strategic Alignment''. But the strong business, and more specifically control, orientation is achieved at the expense of technical planning issues such as building a strategic infrastructure, enterprise-wide data modelling, or technology and application integration. In other words, the control focus neglects the engineering-like nature of SISP. It is at this point, where the technological approach clearly outstrips the administrative one (Earl, 1993, p. 14).

4.2.3. Feudalistic governance structure

The one-sided use of business methods at the expense of IS/IT oriented methods is closely related to FSC's IT governance structure. IT governance can be defined as the decision rights and accountability framework that encourages behaviour in the use of IT (Weill and Ross, 2004; Peterson, 2004; Sambamurthy and Zmud, 1999). Weill and Ross (2004) distinguish six governance archetypes depending on the representatives involved in IT/IS decision making: business monarchy, federalism, feudalism, IT monarchy, IT duopoly, and anarchy. Using their terms, the governance structure at FSC can be well characterised as *feudal federalism*. The basic idea of federal structures is analogous to that of a central state and regional governments working together: Both, representatives from

top-management and the business groups balance enterprise-wide and local interests. The federal structure may also include IT executives as additional participants, but it is definitely business-dominated here. The feudal governance structure is dominated by business unit leaders and key process owners. Feudalism means that these representatives make separate decisions for their units neither aligning them with the overall business plans nor with overall IT/IS standards.

From a formal point of view, the IT governance structure found at FSC might be characterised as federal, since the business unit leaders mutually decide on project proposals; the IT department is also included, but as only one department among many others. Top management is not always included, but there is at least some coordination from the top through the overall business plans that stipulate a rough vision and the budget for IT. Furthermore, the coordinating role of the "Human Resources and Organisation" department provides some conceptual integration of the projects (see Fig. 4). But factual decision making also has two major feudalistic traits: Firstly, the projects proposed are in fact not critically reviewed and compared to each other. Instead, the project proposals from one department are generally mutually passed through by the "colleagues" of the other functional departments. Secondly, board members are generally not included.

The business-dominated and partly decentralised governance structure found at FSC might be advantageous in situations of strong business growth. According to Weill and Ross (2004, pp. 141), it allows functional departments to quickly expand their activities without being restricted by rigid standards for IT/IS applications and time consuming assessment processes. However, for an enterprise that operates in a stagnating market and strives for cost leadership, the disadvantages prevail: when the IT department is in an executing and fulfilling role, its influence on the definition of projects and thus on bringing in promising technologies to transform business is limited. The same holds true for the enforcement of standards to ensure compatibility and architectural integrity. Architectural integrity requires coordinating the demands of the project portfolio and balancing them with the cost efficiency and reliability of enterprise wide services used by multiple applications. Weill and Ross (2004, p. 42) furthermore found that successful enterprises sacrifice business requirements and functionality to sustain architectural integrity. In the case of FSC, the IT department was not in the position of enforcing enterprise wide architectural standards. This resulted in the use of different technologies that were costly to support.

A management consultancy which had identified architectural shortcomings earlier had proposed to set up an "architectural office" as an organisational solution. The office was being set up while we conducted our study and our arguments supported this measure. However, while the consultancy constricted the architectural office's responsibility to information technology issues, we saw significant architectural problems on the IS level, too. For example, the IT department set up standards and guidelines for applications systems and their development which, while they were diligently observed by the members of the IT department, were unknown or ignored in the projects conducted by the functional departments in their own responsibility. This resulted in data redundancy, inconsistencies and interface incompatibilities between the applications. In addition, the technical security of these systems was out of the control of the IT department and their existence was also sometimes unknown to them. For these reasons, we criticised the "architectural office" solution proposed by the management consultancy for its organisational position within the IT department (see Fig. 2).

Extending this critique, we also put forward the "feudalistic" IT governance structure argument and called for more influence from IT in business decision making. We carefully advocated IT managers going beyond their role as heads of a functional department and acting more as top executives that actively participate in strategic management (Stephens et al., 1992). In so doing, we implicitly challenged the current role of IT management and the CIO's role in particular. The position of the CIO is noteworthy in this context. He is director for "Accountancy and Information Technology" on the board. On the one hand, the fact that IT is represented on the board highlights its great importance for the enterprise. On the other hand, the denomination "IT and Accountancy" indicates a historical evolution out of the accounting department and a tradition as a mere support function for efficient mass data processing. The latter interpretation was much reflected in IT management's professional identity. IT was seen as a service provider to the enterprise. Hence, FSC's IT managers saw theirs responsibility more in providing cost effective IT services to the enterprise rather than in strengthening FSC's competitive position. The most recent best practice models and standards support this attitude much better than academic literature. For example, the Information Technology Infrastructure Library (BSI, 1998) fosters a service oriented mindset, but this may be achieved perhaps only at the expense of the role of IT management as an enabler of innovations and a driver of business strategy.

5. Summary and conclusions

Our case study basically confirms a gap between SISP literature and practice as we have initially hypothesised in H_0. Neither the term SISP nor similar terms were commonly used at FSC. And the "IT departmental conception" lacked a lot of the characteristics ascribed to an ISS in literature. At its core, it is a departmental plan similar to those of other functional departments. Strategic IS topics that are the focus of academic discussion such as planning for competitive advantage or balancing the overall IT/IS project portfolio were not considered in the departmental conception.

Moreover, our case supports the hypothesis that academic literature on SISP is only poorly perceived in practice. While practitioners at FSC have many academic sources (textbooks, guides, tools) for systems analysis and software development at their disposal, they do not use similar guidance for SISP. We have confirmed a lack of familiarity with academic literature on a broader empirical basis in a related study (Mocker and Teubner, 2006). This study, which was based on in-depth interviews with 12 practitioners who held dedicated positions in SISP, found that 10 of them did not use any academic literature on SISP. Only two of them had at least one popular textbook on SISP at hand while none had consulted research literature beyond this. This observation might be explained by communication barriers in the transfer of knowledge from academia to practice as initially hypothesised in H_1. However, our research precluded communication barriers by translating the academic discussion directly into practical recommendations. Moreover, when doing this, we took account of FSC's external and internal context of as well as its specific IS situation in order to ensure that the recommendations put to discussion are relevant and applicable. Even then, FSC's IT managers were sceptical about the recommendations as well as the underpinning arguments drawn from literature. Thus, our research gives support for H_2 explaining a major portion of the gap with research deficiencies, at least in the eyes of practitioners.

In our case, the practitioners did not noticeably object to, or argue against the recommendations and supporting reasoning put forward, but they were sceptical about the relevance of the academic discussion. While they felt that the academic discussion was partly inspiring, they did not accept it as an ultimate touchstone for assessing practice. The academic literature obviously failed to meet the responsibilities and the challenges practitioners face. The issues raised there were perceived as not dwelling on the "real problems" and being moot. The most striking difference is that the academic discussion focuses on the competitive impact of IT while the central concern of practitioners was in delivering friction-free and cost-effective IT services to business. The perception of IT being a service provider to the business is much more in line with the philosophy of current best practice standards such as ITIL or with Carr's (2003) provocative contention that "IT does not matter" than with the assumptions underlying SISP research. Hence, external consultants or best practice standards were much more recognised as a touchstone for SISP practice.

The gap between SISP practice and research we uncovered in our case study may partly be due to particularities of FSC. For example, we found that the prevailing management values and the logic of the predominant control system were opposed to some of the more technical recommendations from literature which were consequently denied as being "not applicable here". However, these experiences might also give rise to the conjecture that the assumptions underlying SISP research are not fully realistic in the sense that they are not compatible with the challenges seen in practice or, more generally speaking, the factual role of the CIO. Subsequent research supports this claim on a broader empirical basis showing that the strategic concerns as well as the notion of an ISS differ significantly in academia and practice (Mocker and Teubner, 2006). As a consequence, it will be important for future research in SISP to understand in more detail where the interpretations practitioners do hold come from - e.g. from personal biography, local context, company history or technological trajectories in their organisations.

Finally, with respect to the research methodology, it can be said that the dual research approach we applied proved to be effective. On the one hand, the concept of a role-take-over allowed us to gain a better understanding of the practitioners' views on SISP. We were able to discuss their specific concerns in SISP, their personal interpretation of the situation and their perception of problems in a very informed way. On the other hand, we had the opportunity to carry out an SISP process that was guided by research recommendations but still fully realistic and embedded in a specific enterprise situation. Because of the strong problem-orientation of our approach, the practitioners were very motivated to actively discuss their perceptions and decisions with us. The project was fully supported by the CIO and the director of the IT department who personally took part in the final discussion on the results of the case study.

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