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## Strategic IS planning practise in Croatia Organizational and managerial challenges<sup>☆</sup>

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### Abstract

In recent years, the role of information technology has grown in importance. Thus, strategic IS planning is evolving into a key part of a company's strategic business plan. This paper presents the results of a survey on the strategic IS planning practices of Croatian companies. The results of the survey are compared with similar surveys in Slovenia and Singapore. In Croatia, companies' IT is still considered just a tool for automation of present business processes, completely neglecting the challenging role of IT as a competitive resource in the market place. The research findings indicate that the source of this problem comes from lack of knowledge and interest in IT from top management structures of Croatian corporations. Thus, significant efforts must be taken by management to develop a new hybrid manager profile. Certainly, this type of manager must get additional knowledge in strategic business planning and IT management.

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*Keywords:* Information technology; Strategic information system planning; Croatian company; Management; Hybrid manager

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## 1. Introduction

The use of information systems (IS) has changed over time from simple operational data processing to top management decision support and strategic planning. Technical innovations and the global market environment are the key factors resulting in reengineering of existing business processes. Thus, IS plays a very important role in how a company's adapts to this turbulent environment. IS can provide new forms of customer service, new distribution channels, and even redefine company procedures and boundaries. The logical progression from purely quantitative, operational applications to system designed for qualitative, strategic purposes reflects the increased sophistication of IS and growing reliance on these systems by management (Teo et al., 1997). IS becomes an extremely important asset that can strongly influence company market position, and which must be carefully monitored, controlled and planned. Improving the planning process for IS is one of the key concerns of corporate management.

In today's dynamic market environment, business success relies heavily on the effectiveness of strategic planning—strategic IS planning (SISP), which is the first stage of the IS planning model. Strategic IS planning includes several different types of activities and it refers to the process of identifying a portfolio of computer-based applications that assists an organization in executing its business plans and realising its business goals (Lederer and Salmela, 1996). The expected outcome of this process will be improved managerial understanding of strategic IS opportunities and decision making. Therefore, it is a comprehensive process in which management as well as most of the company's employees should be involved.

The perception of SISP has advanced significantly in the past decades. In the late 1970s, the primary objectives of SISP were improving communication with users, getting top management support and identifying various opportunities for IS improvement. In the 1980s, an additional aim became the development of an organization-wide architecture as well as the identification of strategic applications (Pun and Lee, 1998). In recent times, Lederer and Salmela (1996) have suggested seven constructs of SISP: (1) external environment, (2) internal environment, (3) planning resources, (4) planning process, (5) the information plan, (6) the implementation of the information plan and (7) the alignment of the information plan with the organization's business plan.

### 1.1. Strategic IS planning in Croatia

The current state of SISP in Croatia is not very promising. Croatia is advanced with regards to technology but not in using it strategically since little attention is paid to SISP. "Croatia is, in IT terms, one of the pioneers in the region (Srica and Spremic, 2000) characterized by the widespread use of IT, a significant Central-European IT trade fair, a developed telecommunications infrastructure, a fair-quality school system and a significant reputation in the profession, both on a national and international level. There is a private IT sector with approximately 1700 firms in Croatia, many of which are quite capable of rapidly deploying new technologies and expertise. Approximately 64,000 economic

facilities in the Republic of Croatia utilize IT in their operations, and there are over 10,000 functioning workstations in the state administration. While approximately US\$1 billion have been invested in the procurement of IT equipment and its use, Croatia is still lagging far behind developed countries and even some neighbouring countries” (Srica and Spremic, 2000).

Members of The Working Group of the President of Croatia: e-Croatia (Srica and Spremic, 2000) also found that “the IT gap with the world has widened over the course of the last decade. The outflow of IT experts into foreign countries has grown intolerably high. The previous decades saw no proposed strategic documents, nor an adopted regulation, which would set up standards in the field. Chaos and mere survival are the main features of the current situation in Croatian IT. While the developed countries are taking giant strides forward, Croatia is walking in place.”

In Croatia, which is a transitional country, there is a significant lack of empirical research in the area of SISP. For a relatively long period of time, from 1945 through 1990, the Republic of Croatia belonged to the socialistic, e.g., strictly planned economy, where planning was the basis for practically any company and government activity. Every company had to develop a plan, based on the government-accepted plan of country development. One of the most important political issues was the process of government and company plan development. For this purpose, a special government institution was founded. Since plans were prepared and developed under strictly political premises, planning was generally accepted as a key difference between socialistic (east, planned) and capitalistic (west, market-driven) models of economy. Thus, the process of planning was strictly connected with this socialistic political system.

The process of political differentiation had consequences in implementing some elements of a market economy. It was based on workers ‘self-management’ model within the government’s strictly controlled market. Nevertheless, even in this model, with some elements of the market the plan development process remains a key political issue.

The consequence is that Croatia even now, more than ten years after implementation of a market economy, the term “plan,” “planning” and “strategic planning” is strongly connected with former political issues. The very same reaction reflects on IT strategic planning issues as well. Nonetheless, new conditions require new “structure mentis.” At least on the strategic management level, alternative opinions must be developed instead of previously dominated and politically driven “wished” opinion.

For a long period of time in Croatian companies the term ‘strategic planning’ as well as ‘planning’ had only formal meaning. In Croatian companies, the strategic issues were treated occasionally, not systematically and, due to very dynamic environment changes, there was no possibility for systematic and continuous research into that area. As a result, the underlying motivation for this study is the importance of SISP coupled with what appears to be a lack of strategic planning in Croatia. There are three major objectives of this study:

1. to describe existing SISP practices in Croatia and to compare them with similar studies (Slovenian, Singaporean),
2. to identify factors that are related to corporate adoption of SISP processes in Croatia and

3. to provide a framework for organizational change in Croatian companies and proper treatment of IT in business sectors.

### *1.2. Overview of prior research*

There have been several research studies in the area of strategic IS planning (SISP) practise to date. McLean and Soden (1977) conducted one of the first surveys on the matter with a limited population of only 20 top IS executives, while Conrath et al. (1992) using a similar methodology surveyed 138 Canadian companies. In both studies, IS planning was identified as a very important activity. A number of other studies (Burn, 1991; Premkumar and King, 1994; Wynekoop and Russo, 1995; Pun and Lee, 1998) have focused on identifying SISP methodologies and/or the improvement of management and software development processes. With the existence of these methodologies, there were a small number of studies (Pavri and Ang, 1995; King and Teo, 2000) that tried to evaluate and test them in real enterprises. There has not been prior research related to SISP in Croatia, however, nor on the related management and organizational challenges of SISP. Prior research on top management activities in Croatian companies (Sikavica, 1999; Srica and Spremic, 2000) suggests that the average top manager in Croatia spends 57% of his/her time on operational and routine decisions, 22% on tactical decisions and only 21% on strategic issues and long-term decisions. The latter reflects that strategy is last on top manager's priority list and, as a result, one might wonder who's taking care of companies' strategy? We may well expect reactive or even no relationships between macro-organizational variables, IT department issues and SISP business planning.

## **2. Methodology**

### *2.1. Survey instrument*

To address the study's objectives, a survey questionnaire was considered the most appropriate research methodology for this study. The study was conducted by IS researchers from the Department of Information Science and Business Computing of Graduate School of Economics and Business in Zagreb (Croatia) in 2000. The questionnaire was previously developed by Pavri and Ang (1995) and has been used in other studies (Teo et al., 1997; Spremic and Groznik, 2001). The questions as well as overall coverage of the questionnaire have been found to be an effective basis for investigating current SISP practises and, as such, was unchanged other than to be translated into the Croatian language. The same questionnaire was also used in Slovenia in 2000, as well as in Singapore in 1996. These results are used for comparative purposes.

The questionnaire consists of four parts: (1) general information about the company, (2) structure and current state of IS, (3) SISP practices and (4) business process reengineering practices and data warehouse issues. This paper focuses on the first three parts, covering strategic IS planning implementation, initiation of SISP processes,

company and IS department degree of maturity, and alignment of IS strategic plan with corporate plan.

The questionnaire was translated into the Croatian language and then pretested on postgraduate and doctoral students for content validity, comprehensiveness and readability. After the feedback from the pretesting had been obtained, the questionnaire was pilot tested with five senior IS executives.

## 2.2. Sample

The questionnaire was sent to 150 IS executives in Croatian companies selected from the Register of ‘400 Biggest’ Croatian companies which are most likely to represent the structure of Croatian economy. In that Register, companies focusing on various business activities were ranked according to their 1999 annual revenue. The survey was performed from April 2000 to November 2000 and was conducted by a professional market research agency (Puls, <http://www.puls.hr>) which also conducted verbal communication with IS executives. The survey resulted in 106 responses representing a strong response rate of 71%. Table 1 provides an overview of the responses.

Table 1 shows the structure of the surveyed organizations according to their economic activity (based on European Classification of Economic Activities—NACE Rev. 1) and total number of employees. Almost one-half of responding companies are included in only two industry types: trading (wholesale and retail trade at 30.2% and manufacturing at 17%) and are representative of the overall structure of the Croatian economy with trade being the prevailing economic activity rather than manufacturing. Furthermore, the majority of the surveyed companies are from Zagreb, which is the economic centre of Croatia and the broader region. The activities in the category “Miscellaneous” included various types of business such as transport, tourism, IT, telecommunications, finance, insurance, real estate and government.

Table 1  
Structure of surveyed Croatian organizations

	Number	%
<i>Structure by type of business</i>		
Wholesale and retail trade	32	30.2
Manufacturing	18	17.0
Construction	12	11.3
Agriculture, hunting and forestry	5	4.7
Miscellaneous	37	34.9
No response	2	1.9
<i>Structure by total number of employees</i>		
< 50	10	9.4
51–250	23	21.7
> 250	73	68.9

Some researchers (Harris and Katz, 1991) have used annual revenue as a measure of firm size, while others have used total number of employees (Raymond, 1990). In this study, both annual sales revenue and total number of employees were used, consistent with the Pavri and Ang study (1995). Moreover, it should be stressed that, by Croatian corporate law, a company is classified as large when the total number of employees exceeds 250 or annual revenue is over US\$4 million. About 68% of surveyed Croatian companies were large companies according to 1999 annual revenue and 69% had more than 250 employees. Almost one-half of Croatian companies were large companies according to both criteria: more than 250 employees and revenue over US\$4 million. As shown in Table 1, 33 organizations had less than 250 employees while their 1999 annual revenue structure was: 10 with 1999 annual revenue over US\$4 million, 5 with between US\$1 and US\$4 million, 5 with less than US\$1 million in annual revenue. Thirteen of the 33 organizations did not respond to the question regarding 1999 annual revenue.

### 3. Results and discussion

The first research question relates to SISP practices in Croatia and compares these findings with prior studies in Slovenia and Singapore. The analysis of the responded questionnaires shown in Fig. 1 reflects that only a moderate number (48.1%, or 51 out of 106) of Croatian organizations have implemented an IS strategic plan. This is in line with Slovenian study results (Spremic and Groznik, 2001) also performed in 2000 (44.6%, or 41 out of 92), but surprisingly low if compared with results of a Singaporean study in 1996. Pavri et al.’s study suggests that 71% of Singaporean organizations performed the IS planning process in 1996. Singaporean economy is certainly larger and more efficient than the transitional Croatian and Slovenian economies, but the comparison is especially worrying given the 4 years between the Croatian and Slovenian studies on the one hand and the Singaporean study on the other. The reason for this gap may be the economical and political background of Croatian organizations. Furthermore, this gap between Croatian and Singaporean results may also

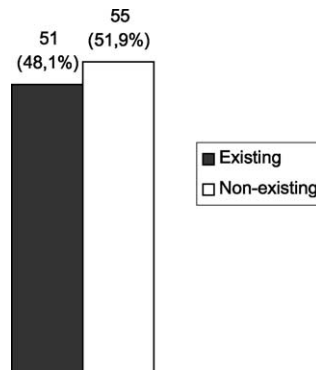


Fig. 1. IS strategic plan implementation in Croatian organizations.

be explained, at least in part, by the initiative and lead taken by the Singaporean Government in the SISP process. On the other hand, it is encouraging that in the majority of Croatian organizations (78.4%) the IS strategic plan developers demonstrate a high level of awareness of corporate objectives.

### *3.1. Company's size*

Table 2 presents a detailed analysis of chi-square tests between macro-organizational variables, IT department issues and SISP practise. As evident from Table 2, there is no significant relationship between SISP and company size variables (total number of employees with  $\chi^2=1,765$ ,  $df=2$ ,  $P<.414$ , and total annual revenue with  $\chi^2=1,593$ ,  $df=2$ ,  $P<.451$ ). These results are inconsistent with Pavri's and Ang's findings. Pavri et al. reported significant relationships between the companies that perform SISP practise and annual sales revenue as well as total number of employees ( $\chi^2=12,257$ ,  $df=3$  and  $P<.007$  in the case of annual sales revenue and  $\chi^2=9,315$ ,  $df=3$  and  $P<.025$  in the case of total number of employees). In Conrath et al. (1992), this relationship was not found to be significant when the size was measured only by revenue, but it was significant with respect to total number of employees.

From Croatian business perspectives, SISP practise is not dependent on company size and number of employees. This may indicate that even smaller companies, or companies with smaller number of employees do perform SISP. Thus, strategic planning is not an exclusive privilege of large companies.

It is evident, however, that the relationship between size of the firm and SISP planning should exist at least for technology and organisational reasons. Large firms usually have a significant number of different hardware and software products in use, purchased at different periods of their development cycles. It is evident that rather fast development of IT, and the company's organisational development and growth on the other side, necessitates changes in applications and use of IT technology. Thus, the pressure for IT change is based at a minimum on the necessity to leverage different IT technologies to a higher level. This inevitably requires IT managers and upper level company management structures to join together in the process of defining an IT strategic plan. The consequence for large companies, although not only for them, is that investing in IT is a never ending story, which must be carefully planned and supported by an effective strategic planning process.

For example, one large Croatian bank presently has multiple types of PC based computers and software, ranging from 386 platforms to newest Pentium based processors. The same situation is on the software side-ranging from UNIX, LINUX to Windows 98 and NT platforms. The problems appear not only related with service but to also be related with compatibility problems. However, leveraging of different technologies is not the only reason for planning IT changes. Very often company's growth requires not only changes in present business procedures and supportive computer applications, but also changes in business objectives and the overall strategic role of IT. For example, just implementation of ISO standards could necessitate significant changes in IT's overall role within a company.

Table 2  
Relationship between macro-organizational variables, IT department issues and SISP

	Sample size	Yes	No	Results of $\chi^2$ -test
<i>Total number of employees</i>	105			
< 50		2	3	$df=2$
51–250		11	18	$\chi^2=1,765$
>250		37	34	$P<.414$
<i>Annual revenue</i>	74			
< 1 million USD		3	5	$df=2$
1–4 million USD		3	8	$\chi^2=1,593$
>4 million USD		26	29	$P<.451$
<i>Physical organization structure</i>	103			$df=1$
Centralized		9	12	$\chi^2=0,147$
Decentralized		39	43	$P<.701$
<i>Operational organizational structure</i>	104			
Functional		32	36	$df=3$
Product		3	4	$\chi^2=0,7$
Matrix		13	11	$P<.873$
Combination		3	2	
<i>Type of business</i>	106			
Wholesale and retail trade		12	20	
Manufacturing		11	6	$df=4$
Construction		6	6	$\chi^2=3,525$
Agriculture, hunting and forestry		2	3	$P<.474$
Miscellaneous		20	20	
<i>Total IT budget</i>	87			
< 2%		22	34	$df=3$
2–5%		13	8	$\chi^2=4,069$
>5%		6	4	$P<.254$
<i>Number of IS employees</i>	87			
≤ 20		33	35	$df=1, \chi^2=1,273$
>21		12	7	$P<.259$
<i>ISO 9000 certificate</i>	96			
Have		18	9	$df=2$
In preparation		13	15	$\chi^2=5,026$
Not in plan		16	25	$P<.081$
<i>IT manager position</i>	84			
Member of top management		10	1	$df=3$
Indirectly subordinate to top management		32	22	$\chi^2=21,032$
Directly subordinate to top management		3	16	$P<.0002$
<i>IT department</i>	105			
Exist		37	30	$df=2$
Exist, but not as an organizational unit		8	11	$\chi^2=3,666$
Does not exist		6	13	$P<.160$

Missing observations are left out. That explains why the samples size for type of business is not 106. This is especially noticeable on annual revenue results, where only 74 out of 106 companies answered the question about annual revenue.



### 3.2. IT/IS issues

No significant relationships were found between SISP practise and:

total IT budget ( $\chi^2=4,069$ ,  $df=3$  and  $P<.254$ ),  
number of IS employees ( $\chi^2=1,273$ ,  $df=1$  and  $P<.259$ ) or  
existence of IT department ( $\chi^2=3,666$ ,  $df=2$  and  $P<.160$ ).

Some of these findings are contrary to Singaporean study results. Pavri and Ang reported that there was highly significant relationship between SISP and the pair 'total IS budget and number of IS employees' ( $\chi^2=12,753$ ,  $df=2$  and  $P<.002$  in the case of total IS budget and  $\chi^2=6,913$ ,  $df=1$  and  $P<.0009$  in the case of total number of IS employees). IT departments are generally human capital intensive with scarce resources and expertises. From a Croatian perspective, it is evident that there is a lack of employees in IT departments (almost 85% of companies has 20 or less than 20 IS employees). Quantity is not essential, but of the essential importance is the quality of employees in IT departments. In Croatian companies, there is an evident lack of qualified personnel and experts who continued their business careers in developed countries and international companies with a suitable IT infrastructure. Possible reasons may include companies inability to pay for individuals with such a high-level of knowledge, or companies' management does not find IT as a driver of growth and new opportunities and they undervalue the need for the specific knowledge and skills of IT experts. Similar perspectives may be constructed from total IS budget numbers where 65% of surveyed Croatian companies allocate less than 2% of annual budgets for IT activities. These results reflect the overall economic situation in Croatia, but they also imply that in Croatian organizations IT is a neglected resource. With such poor IT budgeting, one cannot expect major changes through IT activities.

There is no significant relationship between existence of IT department and SISP practise ( $\chi^2=3,666$ ,  $df=2$  and  $P<.016$ ). Regarding the population size (106 companies) and survey methodology (verbal communication with IS executives) a weak criteria of statistical significance at a .1 level is applied. There is not a significant relationship; the given relationship ( $P<.016$ ) is marginally significant and some indicators may warrant further comments. There is a relatively large number of companies that have IT departments, but do not perform SISP activities, which suggests that IT departments are focused on operational issues, rather than strategic ones. Moreover, some contradictions arise from the fact that there are several companies who do not have IT departments, but do perform SISP activities. This supports the thesis that strategic issues are treated occasionally, rather than systematically and methodologically.

### 3.3. Organization variables

No significant relationships were found between SISP practise and:

physical organizational structure (centralized or decentralized business operations;  $\chi^2=0,147$ ,  $df=3$  and  $P<.701$ ) or

operational organizational structure (whether the company is organized by functions or products or combinations of both. Also, the functional structure is the prevailing model of organizational structuring in Croatian companies;  $\chi^2 = 0,7$ ,  $df = 3$  and  $P < .873$ ).

On the other hand, there was a significant relationship between SISP and ISO 9000 certificate ( $\chi^2 = 5,026$ ,  $df = 2$  and  $P < .081$ ).

From the [Table 2](#) results, it can be observed that Croatian companies implement their businesses across multiple locations and organize it by functions rather than products, processes or a combination of both. Preferring functional organization can create barriers in applying projects with cross-functional dimensions, such as IT projects or IS planning projects. Furthermore, a strong relationship is observed between SISP practise and the position of IT manager in the organizational hierarchy ( $\chi^2 = 21,032$ ,  $df = 3$  and  $P < .0002$ ). This finding is indicative of another issue related to IT projects: management and organizational problems. Managers in the majority of Croatian companies are essentially specialists in their own functional areas as driven by the organization structure, while strategic IT benefits accrue more from process related and cross-functional organizations. Things are worse when IT is not an autonomous organizational department (i.e., it is under control of another department—most commonly under corporate finance in Croatian business organizations). In these circumstances, communication between the IT department and top management is not direct as middle or line management serve as the infomediary. So, one cannot expect that, for instance, the finance manager would likely be the initiator of corporate strategic IT thinking. The higher the position of IT manager in corporate management structure, the more critical strategic planning is perceived. IT is not the matter of concern for a single department, nor for a given individual in the company, but rather relates to the overall company structure and the people in every functional area.

In short, an organizational problem with a source coming from lack of knowledge and interest from top management structures can be observed. Major organizational changes are inevitable for Croatian companies to recognize IT as a strategic resource and position it accordingly in the organization structure.

The relationship between ISO 9000 certificate and SISP practices is also significant ( $\chi^2 = 5,026$ ,  $df = 2$  and  $P < .081$ ). This suggests that a focus on quality management may overcome the generally accepted role of IT as purely a support function. The overall influence of the ISO 9000 certification process appears to have a positive effect on management perspectives on IT's strategic role and the overall organizational structure. This relationship indicates one possible positive effect of a quality management focus on overall business practices.

### 3.4. Economic activity

No relationship was found between economic activity and the SISP ( $\chi^2 = 3,525$ ,  $df = 4$  and  $P < .474$ ), which is in line with Pavri and Ang results, but contrary to [McFarlan et al.'s \(1983\)](#) suggestion that SISP is more important for manufacturing and finance and insurance companies. Furthermore, the majority of Croatian organizations required a significant period

of time to develop a strategic IS plan (42.2% of respondents required more than 6 months to develop a strategic IS plan and 37.3% of respondents required from 3 to 6 months).

### 3.5. Alignment of IS strategic plan with corporate plan

The key factor for successful strategic IS planning is alignment of the corporate and strategic IS plan (Lederer and Sethi, 1996; Lederer and Salmela, 1996). Only the respondents that had a strategic IS plan (51 Croatian organizations) answered the remainder of the questionnaire. As shown in Fig. 2, by the IS executives opinions, organizations that perform SISP are not very aware (only 70.6%) of the importance of corporate and strategic IS plan alignment. This deviation can lead to automation of particular processes with very weak impact on companies' overall strategy. It should be pointed out that almost 30% of Croatian companies that perform IS planning (and all the others that do not perform any IS planning) utilize IT solely as an operational tool and are not aware of the potential strategic benefits of IT. Although the rate of organizations conducting strategic IS planning in Croatia (48.1%) is slightly higher than in Slovenia (44.6%), it is surprising that the corporate and strategic IS plans in Slovenian organizations are aligned at a much higher rate (87.8%).

### 3.6. Strategic IS planning methodologies and the initiation of SISP process

Results of the comparative study (Table 3) suggest that the top–down approach is more widely used in Croatian and Slovenian organizations than in Singaporean organizations. This suggests that the SISP process in Croatia and Slovenia, as countries with transitional economies, is still traditionally process oriented where management plays a firmly defined and very important role. A top–down approach is much better suited for companies with a classic functional organization structure, strictly defined responsibilities, weak market influence on business procedures, and it can be (in this case—Croatia and Slovenia) considered a problem with management in countries with transitional economies.

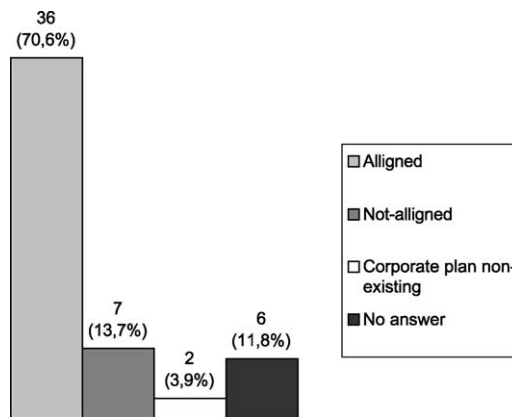


Fig. 2. Corporate and strategic IS plan alignment.

Table 3  
Comparison of strategic IS planning methodologies

Methodologies	Croatian study			Slovenian study			Singaporean study		
	Number	%	Rank	Number	%	Rank	Number	%	Rank
Bottom–up	5	9.8	3	5	12.2	3	2	2.9	4
Top–down	15	29.4	2	13	31.7	2	5	7.1	3
Combination of above	28	54.9	1	22	53.7	1	25	35.7	2
No answer	3	4.9	4	1	2.4	4	38	54.3	1
Total	51	100.0		41	100.0		70	100.0	

The results presented in Table 4 suggest that the main initiators of strategic IS planning in Croatian organizations are IS management (33.3%), top management (27.5%) and top management together with IS management. Surprisingly, line management do not initiate strategic IS planning which may be related to high rates of IT project failure as reported by the surveyed Croatian organizations (46.4%). It would be expected that better collaboration of top management and IS management would significantly add value to the strategic IS planning process.

Ideas and initiatives for IS development, once accepted by management, should be supported by the overall business structure. If these initiatives are driven by the IT function, they are likely to be underestimated even if accepted by management. The consequence of this may be that even good ideas and solutions may fail due to lack of support and commitment. One small Croatian bank developed a very interesting and advanced model of electronic banking, but due to lack of support in marketing and promotion for such a service, the proposed goal was only partially reached.

On the opposite side of the argument, when the initiative for new IS development comes from top management, it happens that the project task is more likely to be firmly defined. Thus, influence of IT department on the characteristics of the required IS becomes less of a focus. This limited influence is due to: (1) characteristics of new IS are firmly defined by management, (2) managerial structure is deep with a large number of instances, (3) managerial structure is strictly functional and thus (4) changes are too complicated to perform.

The result can be an unsatisfied solution, which will not be well accepted by customers and can cause further frustration in IT department. For instance, one large Croatian bank has a large IT department, and all initiatives for IT development and new service development is

Table 4  
Initiators of strategic IS planning process

Initiators	Responses	%
IS management	17	33.3
Top management	14	27.5
Top management together with IS management	12	23.5
Top, IS and line management	4	7.8
No answer	3	5.9
Line management	1	2.0
IS management together line management	0	0.00

driven from the management side. Due to a very deep functional organizational structure of departments, development of new customer service requires almost 800 employees to participate. As a result, the IT department only weakly influences the characteristics of the new service. The customer requirements and suggestions, even if they are good, are almost impossible to accept and add to the service. The consequence is that several versions of the same service exist simultaneously, which leaves both the IT staff and customers unsatisfied. It is also not easy to find an adequate version of the required service or to maintain all different versions of the same service. On this point, it is also interesting to compare the time necessary to evaluate and accept customer suggestions about service. In the previous example of the small bank, customer suggestions were accepted via e-mail. As a result, suggestions were processed, evaluated and service modified within just 3 days. In the case, of the large bank this process lasts for several months.

### *3.7. Contents of the IS strategic plan*

IS executives in Croatian organizations were also asked whether each of 14 items were included in their IS strategic plan, whether it was not included but should be, or they did not believe that a given item should be included in the strategic IS plan. Table 5 shows all the items ranked by their frequency. The five most frequently used items are:

- statement of objectives,
- projections of possible future IS environment,
- hardware plan (purchases of hardware for given period of time),
- projections of possible future user environment (should imply high user involvement in strategic IS process planning) and
- projections of possible future industry environment (technology, customer needs, suppliers preferences, competitors position—very difficult to value and monitor).

Pavri et al.'s first six items were: (1) projections of future IS environment, (2) hardware plan, (3) statement of objectives, (4) system development plan, (5) recommended implementation plan and (6) personnel plan.

Surprisingly, planning issues (human resources plan, financial plan, organizational plan) were very low priorities in SISP for the surveyed Croatian organizations. The three items that surveyed Croatian organizations commonly excluded from IS strategic plans were:

- education plan. Surprisingly, according to IT managers, surveyed organizations don't realize the importance of qualified IT personnel. It could be concluded that Croatian companies will soon be short of qualified resources, which would support strategic IT thinking;

- summary of strengths and weaknesses of the IS staff. This might imply a lack of specific knowledge and skills which participants did not want to include in the strategic IS plan; and
- definition and evaluation of alternate strategy. Lack of evaluation methods of IS strategic plan may imply poor decision processes.

Table 5  
Items included in strategic IS plan

Items	Included	Not, but should be	Don't believe should be included
Statement of objectives	47	2	0
Projection of possible future IS environment	45	3	1
Hardware plan	43	4	2
Projection of possible future user environment	42	6	1
Projection of possible future industry environment	38	9	1
Evaluation of past performances vs. plan by IS	36	11	2
System development plan	36	11	2
Personnel plan	35	13	1
Financial plan	34	14	1
Organization plan	33	15	0
Recommended implementation plan	33	11	3
Education plan	28	20	1
Summary of strengths and weaknesses of IS stuff	23	23	2
Alternate strategy definition/evaluation	16	21	10

### 3.8. Long-range business planning practices

One of the components of evaluating a company's degree of maturity is long-range business planning practices (Table 6). Only 54.9% of responding companies perform long-range business planning in either more tactical than strategic (19.6%) or clearly strategic nature (35.3%). This is a very modest number, considering that almost one half of responded companies do not practise long-range business planning process at all. As mentioned, in countries with transitional economies, e.g., former socialist economy practice and theory, planning was an obligation of practically every social and business subject. Success of the company was measured not on the market but in relation to the plan. Thus, modern planning

Table 6  
Long-range business planning process

Long range business planning	Responses	%
No formal long-range business plan	5	9.8
Mostly financial and headcount projections	15	29.4
More tactical than strategic	10	19.6
Clearly strategic in nature	18	35.3
No respond	3	5.9

procedures are hard to implement in these countries due to lack of real market planning knowledge and market experience.

#### **4. Discussion and conclusion**

In the pre e-commerce era, the potential use of IT as a competitive force in concurrent environments can differ between industries and companies, and can serve to raise different barriers to new entrants in a market, switching costs, product differentiation, access to distribution channels, improvement of price/performance relationship etc. The new business era inaugurates the information infrastructure (particularly the Internet) as a business backbone and a platform for conducting business transactions and other economic activities, making IT a key prerequisite for a successful business model. As a result, strategic planning of IT resources and proper management commitment are of the highest importance.

Concerning the proposed objectives of this study, it can be concluded as follows.

- From a Croatian business perspective, SISP does not depend on company size and number of employees, neither is it influenced by economic activity. There is no significant relationship between IT department issues, certain organizational variables (physical and operational organizational structure, total IT budget, number of IS employees, existence of IT department) and SISP. A significant relationship between ISO 9000 certification and SISP was found, as well as a relationship between an IT manager position and SISP.

- Croatian companies underestimate the necessity for IS strategic planning, given that a relatively moderate number (48%) of them perform strategic IS planning. This finding is in line with an earlier Slovenian study (44.6% in 2000), but inconsistent with a Singaporean study (71% in 1996). The reason for this gap may be the economical and political background of Croatian organizations, as well as Singaporean Government initiatives concerning SISP. Moreover, SISP practise is, by Croatian IS executive's opinion, not well enough aligned with corporate goals (only at the rate of 70.6%). Considering the relatively low level of IT investment (64.4% of companies allocate less than 2% of total annual revenue for IT), it can be concluded that Croatian companies are likely more focused on keeping present IS in working condition on the same level of technology and not on initiatives for improving or developing new IS. The overall results of this study suggest that SISP practise in Croatia is in sharp contrast with very dynamic changes in modern IT management theory and practise, particularly due to inadequate time spent on the planning process (42.2% of respondents required more than 6 months to develop SISP). The Croatian IS planning process is still internally focused which corresponds with industrial age market circumstances rather than digital age ones. IT appears to be a neglected resource in Croatian companies. Rather it is treated as an operational tool with very weak impact on companies' overall strategy.

- The main initiators of SISP are IS management (33.3%), top management (27.5%) and top management together with IS management. Surprisingly, line management does not initiate SISP which may contribute to the high rate of IT project failure in surveyed Croatian organizations (46.4%). It should be expected that better collaboration of top management and IS management could significantly add value to the strategic IS planning process, and lower

the rate of project failure. SISP processes in Croatia and Slovenia as transitional economies are still traditionally oriented due to companies' preferences for functional organization structures and strictly defined command-and-control hierarchies.

Therefore, several issues as a general framework for change in SISP practices in Croatian companies seem appropriate:

- implementation of strategic planning practises,
- alignment of business strategy and IS strategy,
- development of proactive approaches by top and line management,
- promotion of IT function to highest organizational level and
- promotion of IT management to the highest management level.

The lack of strategic planning practices represents a major obstacle for implementation of SISP practices in Croatian companies. Significant educational efforts related to strategic planning appear desirable for all levels of management.

The other key issue on which the framework for change should be based is related to the alignment of defined business strategies and IS strategies. This problem is well known from works of [King and Teo \(1999\)](#) who developed four different taxonomies of business and IS planning integration:

1. separate planning with administrative integration (coordination of schedules, budgets, etc);

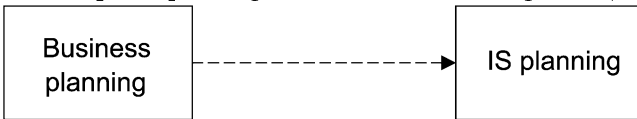


Figure 1. Administrative integration

2. one-way linked planning with sequential integration (business strategies drive SISP);



Figure 2. Sequential Integration

3. two-way linked planning with reciprocal integration (business strategies may drive SISP as well as be driven by it)

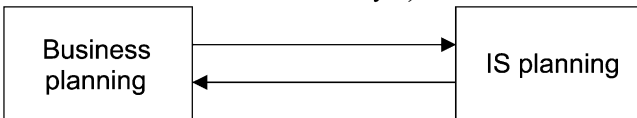


Figure 3. Reciprocal Integration

4. integrated planning with full integration (SISP is a part of BP process).

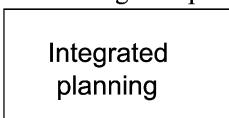
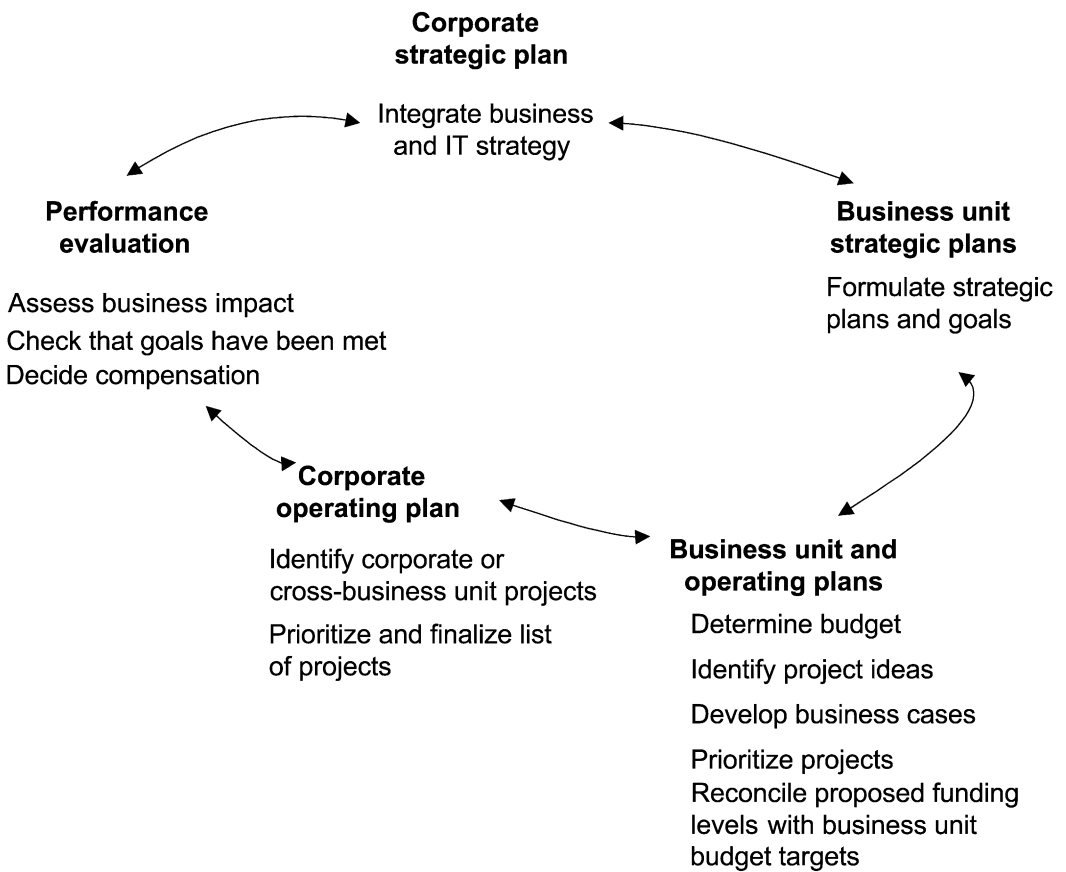


Figure 4. Full Integration



The present practices in Croatian companies generally shows a lack of cooperation and coordination of defined business strategies and IS strategies. Thus, in existing practices separate and reactive approaches (Figs. 1 and 2) are dominant. The proposed framework for organizational change and SISP stands for a proactive approach. The management process in Croatian companies must connect IS strategies and business strategies to gain a suitable business context as it is proposed below.



The figure demonstrates how to achieve full integration of business and IS planning, where the IT component is included in the business planning process for all organizational and planning levels. The banking sector survey (Strugar and Bosilj Vuksic, 2000) mentioned and discussed in detail in Section 3.6, shows a good example of prevailing sequential integration in Croatian companies.

The study of Croatian companies demonstrates the need for organizational changes. To improve SISP practice, IT manager's position should be promoted to the strategic decision level and IT departments should be in a position to perform cross-functional activities.

The results presented in this study overview IT manager's perceptions on SISP in Croatian companies. Particular organizational and managerial problems in conducting SISP in Croatian companies are identified and a solution proposed for developing a new hybrid manager profile. This type of manager will need additional knowledge in strategic business planning and IT management.

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