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WHY FIRMS SEEK ISO 20000 CERTIFICATION - A STUDY OF ISO 20000 ADOPTION

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Abstract

Since the end of 2005, the ISO 20000 international standard for IT service management has been in existence, offering a normative management and organization concept for aligning the performance of IT services, and enabling companies to certify their compliance according this standard by third parties. There is a great interest in the standard, and the forecasts for the adoption and dissemination of the standard are, to a large extent, very positive. In contrast, some critical voices cast doubts upon the wisdom of normative management and organization concepts, and upon the possibility to verify or measure the conformity with public standards.

Therefore it is our aim to study the current dissemination of the standard ISO 20000, and to examine the behaviour of companies adopting it. Till now there are no significant findings for questions like: Why do companies seek to conform to ISO 20000 and what benefits do they experience? Our results show that certified companies are motivated internally (process and quality improvements) and externally (marketing advantages) and do experience significant benefits. There are some significant differences between small and large companies certified as well as between internally and externally motivated companies.

Keywords: IT service management, ISO 20000, ITIL, certification

1 Introduction

The ISO 20000 international standard for IT service management exists since the end of 2005, offering a normative concept for aligning the performance provided by IT services, and enabling companies to certify their compliance with this standard. There is a great interest in the standard, adoption has reached global proportions (Cater-Steel et al. 2009). The forecasts for the adoption and dissemination of the standard are, to a large extent, very positive. For example, Gartner makes a prognosis in 2007 (Caldwell et al. 2007) that within a period of time of 5 to 10 years ISO 20000 will be widespread accepted. Other forecasts see growing interest (O'Neill and Harris 2006 p. 13) and exponential growth (Galup et al. 2009 p. 126) for the adoption of ISO 20000. In contrast, critical voices cast doubts upon the wisdom of normative management and organization concepts, and upon the possibility to verify or measure the conformity with public standards (Kieser et al. 2002, Siponen and Willison 2009). Therefore it is our aim to study the current dissemination of the standard IS 20000, and to examine the behavior of companies adopting it. Till now there are no significant findings for questions like: Why do companies seek to conform to ISO 20000 and what benefits do they experience?

Seeking certification according ISO 20000 is to be viewed in the context of a most current trend of "industrialization" of information technology and its usage, according to which the principles of industrial production should be applied to the provisioning of IT services. Seeking certification according to international standards like ISO 20000 should increase substantially the stability, reliability and security of IT services, in particular through the effects of standardization. Additionally, for IT providers the competitive environment is becoming more difficult, for example demand for rather complex IT services increases, and market concentration grows with higher shares held by large IT providers. Hence, it is to be investigated whether, and how, companies can gain competitive advantages through a certification according to ISO 20000.

2 Research approach

2.1 Genesis and Dissemination of ISO 20000

In 2000, British standard BS 15000 was issued by the British Standards Institution (BSI), the national standardization authority, as quality management system for IT services. Many authors from Information Technology Infrastructure Library (ITIL) were involved with BS 15000, where ITIL is known as the de-facto standard for the alignment of all tasks of IT Service Management. The common authorship results in extensive overlapping and only rudimental differences of BS 15000 and ITIL. Companies could be officially certified for complying with the requirements and guidelines of BS 15000. The standard gained a great response. Hence, in 2004, BSI initiated the approval of the national standard BS 15000 as an international standard according to ISO. In the end, ISO issued the ISO 20000 on 2005-12-15. With this, IT service management has a standard with worldwide and official acknowledgement, according to which companies can have their compliance officially certified.

Simultaneously, the ISO 20000 is based on the ISO 9000 series of standards, adopting the fundamentals and principles of quality management. Many important definitions of ISO 20000 are sourced directly from ISO 9000 (ISO 20000-1 2011 pp. 3-7), and with the new 2011 version even stronger efforts are being made to base on ISO 9000 (ISO 20000-1 2011 p. v). The standard substantiates the generic processes stipulated in ISO 9000 which are specific to IT service management, thus illustrating a further development of ISO 9000 specifically for IT service management (Bon 2009, Clifford 2008).

There are no official figures for the dissemination of the ISO 20000 standard. Generally, ISO (International Standard Organization) does not keep record of the organizations certified according to one of its standards. For very widespread standards, surveys are carried out by ISO in cooperation with market research institutes, for example for the ISO 9000, 14000 and 27000 standards. For ISO 20000, there is no such information available. APMG is considered to be the leading institution issuing ISO 20000 certifications, the company took over the certifying activities from itSMF at the beginning of

2011. APMG maintains a record of organizations certified by APMG or by Registered Certification Bodies (RCBs) accredited by APMG. Figure 1 is based on information from APMG as of 2011-05-01. However, the APMG figures have to be modified slightly: since the entries are made on a voluntary basis upon application of the organizations, the list is not complete or definitive. Moreover, maintenance of the list is incomplete, since, on the cut-off date, companies are listed which are not certified (any longer), or do not exist (any more).

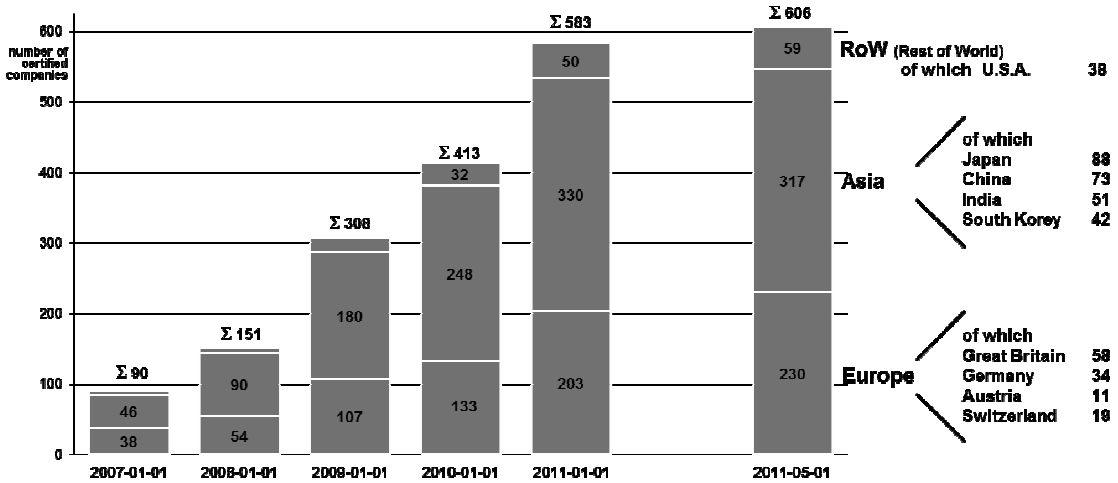

Figure 1 Dissemination of ISO 20000: Certified Companies according to APMG (www.apmg-international.com as of 2011-06-01

Additionally, the names of all certified companies in the German-speaking countries (Germany, Austria, Switzerland and Liechtenstein) were elicited from the Web. After this it is to be assumed that on 2011-05-01 a total of 78 companies in the German-speaking are certified according to ISO 20000.

2.2 Content of ISO 20000

The standard is codified in both of these documents:

ISO 20000-1 Information technology – Service Management – Part 1: Specification
ISO 20000-2 Information technology – Service Management – Part 2: Code of Practice

The first document specifies the minimum requirements which are to be fulfilled for a certification; the second document contains guidelines and recommendations. There are additional books providing assistance from BSI. The revision of Part 1 in 2011 has led to a more detailed specification of the standard. Similar to the ISO 9000 and ISO 27000 standards, a higher level Service Management System (SMS) is now described in ISO 20000 which encompasses all „service management policies, objectives, plans, processes, documentation and resources required for the design, transition, delivery and improvement of services and to fulfill the requirements“ (ISO 20000-1 2011). The management processes ensure a strategic orientation of IT services, particularly in alignment with the objectives of the (internal and external) customers. For continuous improvement the standard references directly to the Plan-Do-Check-Act cycle (PDCA) by Deming used in classical quality management.

2.3 Literature review

So far, there are no sound studies on the certification of firms according to ISO 20000. All publications available are amendments, guidelines, or reports which describe concrete implementations of ISO 20000 and must be classified as case studies. These publications are meaningful and helpful to support operational practice in concrete situations; however, they can only assert their claim and allege knowledge about the goals of a certification and its chances - without giving any evidence.

Similarly a need for research on ISO 20000 can be deduced from investigations about ISO 9000. First published in the year 1987, the ISO 9000 standard series was, actually, originally orientated towards manufacturing companies (Calisir 2007 p. 580, Anderson et al. 1999 p. 32). Almost simultaneously with the publication of a new version of ISO 9000 in the year 2000, whose orientation was considerably broader than for manufacturing companies, the interest of service providers in a certification according to ISO 9000 grew, while also interest among scientists grew - in studies about service companies seeking certification (see Table 1). As a part of these studies, sector-specific analyses, too, are demanded for service companies (Psomas et al. 2010 p. 454, Singh et al. 2006 p. 140, Lin and Jang 2008 p. 617). An immediate reaction to these concerns are studies of the ISO 20000 standard, since its contents are based very closely on ISO 9000 and it is sector-specific for IT service provider.

Because ISO 20000 can be viewed as specific form - concretization and specialization - of ISO 9000 methods of empirical research can be transferred from ISO 9000 to IT service management. This is why some of the analytical approaches which generated valuable results for ISO 9000 can be used for analyses of ISO 20000. First scientific investigations of issues of certification according to ISO 9000 appeared around 1995 (Corbett 2006 p. 331, Lee et al. 2009 p. 648). Since then, a great number of studies have been published, mostly based on surveys. The majority of surveys referred to the aims and motives of certification, benefits perceived, correlations between motives and benefits, problems during implementation of ISO 20000, and the effects of certification on business success. Table 1 summarizes the results of a detailed analysis of studies on the certification of service companies according to ISO 9000. It is remarkable that most of the studies address targets and motives of the companies seeking certification according to ISO 9000. Thus, differentiating between internal and external motives is supposed to allow better understanding of benefits to be attained, problems during implementation of ISO 20000, and also of satisfaction with the certification.

Study	Context, method	Topic reg. ISO 20000	Results
Zaramdini 2007	209 small to medium-sized manufact. and service companies in UAE	Motives (internal vs. external) and benefits (internal vs. external) of a certification according to ISO 9000	Differentiating internal and external motives and benefits; ranking of motives/benefits by importance; factors for motives and benefits
Buttle 1997	1.220 manufact. and service companies in UK	Motives, benefits and satisfaction during certification according to ISO 9000	Ranking of motives and benefits by importance; factors analysis for motives
Calisir 2007	86 service companies in Turkey	expected/perceived benefits, problems, satisfaction with ISO 9000	Overall very satisfied with certification; problem influence satisfaction negatively
Caro and Garcia 2009	204 customers of insurances in Spain	Perceived quality, satisfaction and company's image reg. certification	Certification influences perception of quality, satisfaction and company's image
Psomas et al. 2010	93 small to medium-sized service companies in Greece	Attributes of a certification according to ISO 9000	Ranking of attributes by importance (success factors); factor analysis for success factors
Feng et al. 2008	613 manufact. and ser-vice companies in Australia and New Zealand	Implementation approaches and benefits	Relation between intensity of implementation approaches and benefits is evident; benefits are greater at larger companies
Lee et al. 2009	45 service companies in China	Implementation approaches differentiated by specific QM principles; benefits	more rigorous implementation of QM principles results in greater benefits
Singh et al. 2006	309 manufact. and service companies in Australia	Motives, problems/benefits, resources and management practices during certification; comparing manufact. and service companies	Differences between manufacturing and service companies reg. motives, problems, benefits and management practices
Jones et al. 1997	272 manufact. and ser-vice companies in Australia	Internal vs. external motives and benefits of a certification according to ISO 9000	Classification into internally vs. externally motivated companies; internally motivated companies perceive greater benefits
Gotzamani and Tsiotras 2002	84 manufact. and service companies in Greece	Motives, benefits (differentiated by TQM categories) during certification according to ISO 9000	Ranking of motives and benefits by importance; 3 factors of motives; 4 factors of benefits; relation between motives and benefits
Williams 2004	80 manufact. and service companies in USA	Motives and benefits	Ranking motives and benefits by importance; relation between motives and benefits
Jang and Lin 2008; Lin and Jang 2008	441 manufact. and service companies in Taiwan	Internal vs. external motives and benefits; different implementation approaches	Relation between internal motives and the intensity of the implementation
Terziovski et al. 2003	426 manufact. and service companies in Australia and New Zealand	Motives (internal vs. external), quality culture, benefits	Factors of internal/external motives/benefits; relation between quality culture and motives/benefits

Table 1 Empirical research on certification of service companies according ISO 9000

The structural model of studies on ISO 9000 can be adopted to ISO 20000, assuming causal effects of motives, procedures and problems before and during certification upon benefits perceived after certification. Studying ISO 20000 the operationalization of constructs was to be developed new, even if partially following the analyzed studies on ISO 9000. Accordingly, during constructing of the questionnaire all questions, hints, and measurement scales were worked out for this survey.

2.4 Motives for a certification

Studies on certifications according to international standards like ISO 9000 and ISO 27000 generally address the core issue of which benefits can experienced from a certification (see Table 1). Since all analyses show that benefits experienced are different, this raises a further question: what causes the companies' different experiences? Different motives which make companies seeking certification are perceived as a possible cause for different experiences – the correlation between motives and benefits is generally accepted (Gotzamani and Tsiotras 2002 p. 164ff, Williams 2004 pp. 77 and 82, Zaramdini 2007 p. 473, Sampaio et al. 2009 p, 46. Caro and Garcia 2009 p, 145, Jang and Lin 2008 pp, 195-196).

Another question is, whether firms actively seek certification because of improvements in quality and customer satisfaction, or whether they are pushed into certification by customers or competitors, or, indeed in the worst case, whether they only want to use positive external effects for marketing purposes, thus building up a facade of compliance with the standard (Gotzamani and Tsiotras 2002 p. 151). Strongly worded: Do firms want to improve quality management or "impression management" with the certification (Kieser et al. 2002 p. 416)? Therefore the studies on ISO 9000 classified motives into internal and external ones (see Table 1). Striving for process orientation, for increased quality, and for heightened transparency and stability of processes are classified as internal motives; striving for competitive advantage or fulfilling customers' requirements, and using the certificate in marketing as a signal of trustworthiness are seen as external motives. Studies are made of „…the relationship between a firm's initial motivation for seeking certification … and its perception of the benefits it has received" (Jones et al. 1997; Zaramdini 2007, Llopis and Tari 2003, Sampaio et al. 2009).

Thereby, it is assumed that firms seeking certification primarily for internal motives pay particular attention during implementation of ISO 20000, and show great care in the pursuance of these internal motives; as a result, they subsequently perceive the respective internal benefits more strongly, and evaluate them more positively – and vice versa. Various studies on ISO 9000 confirm this assumption (Jones et al. 1997, Zaramdini 2007, Gotzamani and Tsiotras 2002). Some studies also point out that internally motivated firms experience higher benefits overall (Terziovski et al. 2003, Sampaio et al. 2009, Jones et al. 1997, Jang and Lin 2008, Gotzamani and Tsiotras 2002).

3 Empirical Study

3.1 Data collection

To address the research questions, a survey was administered in the spring of 2011 with ISO 20000 certified companies based in the German-speaking countries (Germany, Austria, Switzerland and Liechtenstein). The questionnaire was used to collect companies' motives and benefits concerning their certification. In doing so, five-point rating scales were used to record the answers, which were anchored with (1) "very high" or "very big" to (5) "very low" or "very little". Interval measuring can be assumed for this level of measurement (Bortz and Döring 2006 pp. 176-182).

A thorough literature review was conducted, including articles on ISO 20000 and ISO 9000. The results were used to construct a questionnaire, which was tested and piloted. A pre-test was performed with 3 experts from certified companies. Preparing the survey, the names of all 78 companies in the German-speaking countries were traced by searches to find contact persons responsible for the certification. Those were contacted by phone and invited to participate in the survey, giving the assurance of anonymity of all data. Following this, the questionnaire was sent via e-mail in an electronic version. The respondents had the choice to fill in the electronic or a paper version of the questionnaire, and to send it back via e-mail or through the post. Invitations to participate were repeated by mail and phone if no reply was registered after 3 weeks. In total, 55 answers were received, of which 2 were incomplete, could not be evaluated, and had to be eliminated. This results in 53 valid questionnaires for evaluation. The relatively high response rate of 68% can be explained – at least partly – by the extensive research to find contact persons and by contacting them personally by phone to invite them to partici-

pate. However, the high response rate can also be seen as a signal that the approach of the study appeared interesting to the companies. The data collected show no indication of any distortion or systematic errors; so that it can be assumed that the participating companies represent sufficiently well all certified companies in the German-speaking area. Though the relatively high response rate, the absolute number of valid questionnaire limits the use of more ambitious statistical methods. Formulating and testing hypotheses regarding ISO 20000 is not very sophisticated yet, so that methods of exploratory data analysis (Bortz and Döring 2006 pp. 371-380) are predominantly used.

Responding companies show different sizes; Figure 2 shows size according to the number of IT employees. The categories shown facilitate comparisons between small and large companies, and help to separate outliers caused by very small or large companies. The period of time since first certification is between 3 months and more than 5 years (as of 2011-05-01). The scope of the certification is very broad: 29 of the companies have certified all of their activities and 17 all those activities listed in the service catalogue. Single activities, e.g. providing integration or consulting services were excluded from the certification by 7 companies.

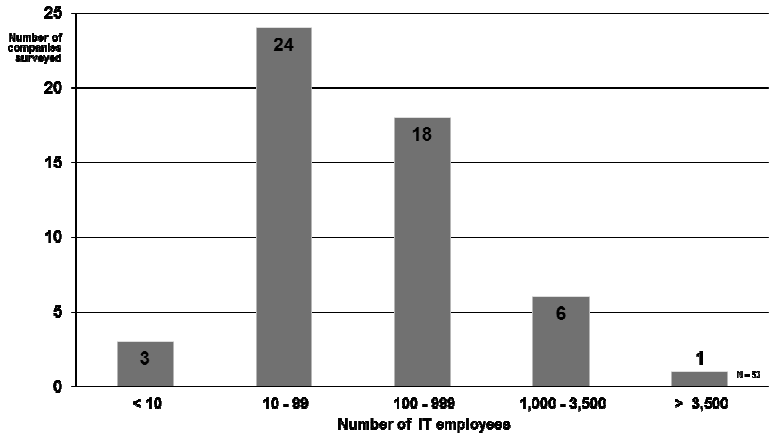

Figure 2 Size of companies by number of IT-employees

3.2 Motives to seek certification

To answer the research questions the companies were offered a series of possible motives in the questionnaire to assess the importance of each motive in the decision seeking for certification. The most important motives are illustrated in Figure 3; all average values are significantly different from the middle of the measuring scale (t-test, confidence interval < 0.05), which means that the importance of the corresponding motives are significantly higher than for medium importance. Data analysis shows that external motives with regard to the company's market environment (customers, competitors), and the companies' image were seen as most important in the decision seeking for certification. However, as well as this, a significantly high level of importance was ascribed to a whole range of internal motives aiming to optimize internal procedures and functions.

	type internal/external	all companies average
customer orientation	e	1.7
customer/user satisfaction	e	1.8
competitive advantage	e	1.9
marketing: trust and reputation	e	2.0
standardization: uniformity and consistency of IT procedures	i	2.1
transparency and traceability of IT procedures	i	2.2
process-orientation	i	2.2
stability and reliability of IT procedures	i	2.2
clarity of tasks, roles, responsibilities	i	2.2
quality awareness of staff	i	2.3
reduction of errors, incidents, deviations	i	2.3
ability to react on errors, incidents, deviations	i	2.4
efficiency of IT procedures	i	2.4
continuous improvement of all IT procedures	i	2.4
planning and controlling Service Management	i	2.5
stability and reliability of services	i	2.5

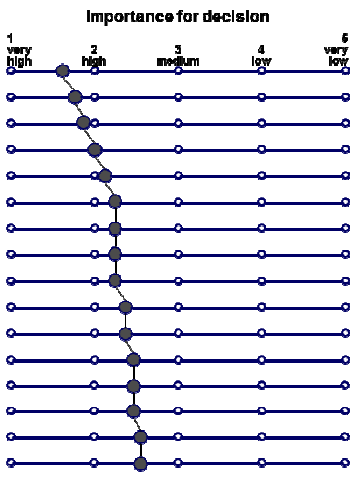

Figure 3 Important motives for certification

A detailed analysis shows that larger companies rank internal motives higher in importance than smaller one; this resemble the results of others (Magd 2008 p. 183) for manufacturing companies seeking certification according ISO 9000. This is to be assigned to the fact that at larger companies, due to the greater complexity, features like uniformity, consistency, transparency and traceability of all procedures are more important than in smaller ones.

Figure 4 shows the most important internal motives, differentiated by company size, where “large” means 100 to 3.500 IT employees and “small” means 10 to 99 IT employees, eliminating several outliers as too small or too big. Most of the differences between big and small companies are statistically significant (t-test, confidence interval < 0.05).

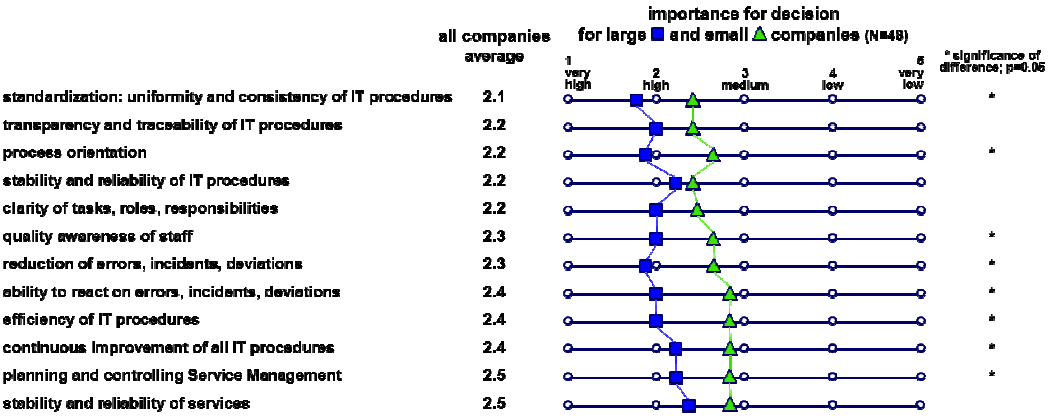

Figure 4 Internal motives and their importance for large and small companies

An exploratory factor analysis of the seven external motives shows that four factors can explain 80.2% of the variance (Table 2). The reliability of the reflective measurement appears to be given, because the factors have sufficient internal consistency, evidenced by the values of Cronbach’s Alpha. For Cronbach’s Alpha, a limit value of >= 0.7 is generally required, and for exploratory studies >= 0.6 (Gerpott and Paukert 2011 p. 62, Straub et al. 2004pp. 401 and 411). Since relatively few items per factor were used, a slight shortfall below the threshold seems to be acceptable. The considerable factor loadings show convergence and discriminance validity (Homburg and Giering 1996 p. 8).

Factor	Items	Average	Std. dev.	Loading (>0.4)	Cronbach	Factor value
Customer orientation	Customer focus	1.7	0.7	0.881	0.590	1.7
	Customer satisfaction	1.8	0.9	0.800		
Competitive advantage	Position in competition (competitive advantage)	1.9	1.2	0.962	./.	1.9
Marketing effects	Marketing: trust and reputation	2.0	1.0	0.912	./.	2.0
External pressure	Fulfilling requirements (e.g. in tender processes)	2.6	1.2	0.870	0.728	3.0
	Wishes of pressure of customers	2.9	1.5	0.757		
	Leveling out competitive environment	3.2	1.3	0.789		
	Principal component analysis with Varimax Rotation KMO test for suitability of sample = 0.547 Significance in Bartlett-test for sphericity: p=0.000 Variance explained: 80.2%					

Table 2 Factory analysis of external motives

Accordingly, the external motives can be summarized with the four bundles of motives named in Table 2, with some justifiable losses. Aligning all their efforts towards the benefits of their customers appears to be the strongest external motive. Furthermore, important external motives are competitive advantages, as well as the chance to use the certificate in marketing. Currently requirements for certification articulated by customers - e.g. in tendering and contracting - have lesser importance. This can be read as a sign that only a relatively small numbers of customers ask for the quite new ISO 20000 standard.

3.3 Benefits perceived by certification

Companies were offered benefits which can be achieved by implementing ISO 20000. For this, the extent of the respective benefits and improvements was to be assessed by the participants. The most important benefits perceived are illustrated in Figure 5; all of the average values displayed are significantly different from the middle of the measuring scale (t-test, confidence interval < 0.05), which means that the extents of the corresponding benefits are significantly higher than for a medium extent.

Improvements regarding the quality of process documentation are rated highest. These results are similar to studies of certifications according to ISO 9000, and confirm that improvements in documentation are perceived particularly strong at service companies (Singh et al. 2006 p. 137). Overall, greater improvements are perceived regarding internal benefits, since these head the list of important benefits; this result contradicts several studies on ISO 9000 (e.g. Zaramdini 2007 p. 487). For this reason, there is no agreement with the perception that certifications according ISO 20000 are more strongly external orientated (Johannsen and Goeken 2011 p. 235). The weaker perception of external benefits could lie in the fact that the relatively new ISO 20000 standard is not yet known to many stakeholders in the market, or only attracts little attention, which means that it cannot (yet) cause large external benefits. A more detailed analysis shows no relations between benefits and context variables like company size, company structure or period of time since certification.

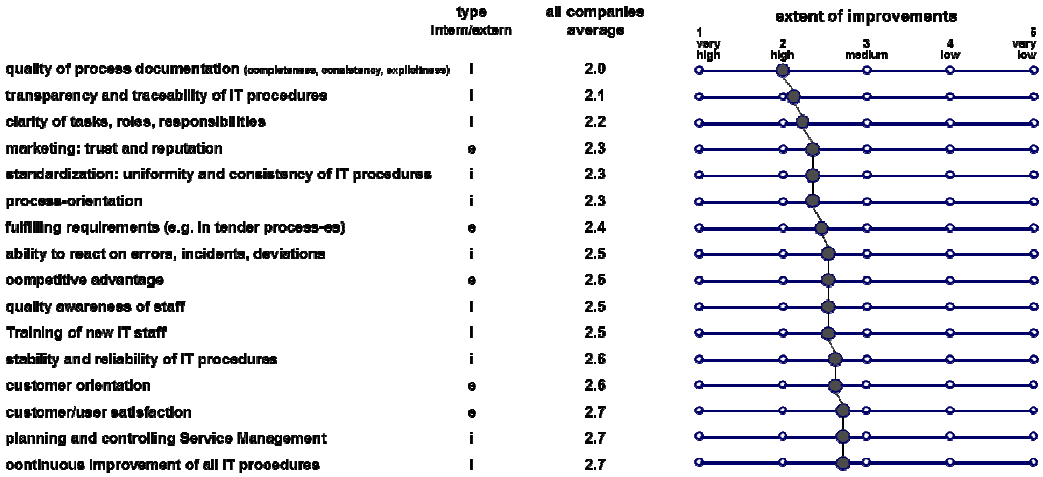

Figure 5 Important benefits through implementing ISO 20000

3.4 Relations between motives and benefits

The formulations used for the motives (Figure 3) and benefits (Figure 5) are designed identically in order to allow comparisons of the answers given to corresponding items (Zaramdini 2007 p. 482). Naturally, significant improvements are expected for high-level motives which played a large role in the decision to have a certification. In this sense, motives are to be interpreted as expected benefits and are to be compared with benefits perceived after certification (Zaramdini 2007 p. 482). For instance, improving customer orientation is rated as most important motive for certification, with an average of 1.7 (see Table 3). In contrast, the perceived improvement in customer orientation at 2.6 is lower. Therefore, in comparison, when talking about customer orientation it is a negative surprise (Zaramdini 2007 p. 482), since only a rather mediocre improvement was reached regarding a high rated motive. Conversely, a positive surprise can be spoken about when significant improvements are perceived for motives actually rated lower. For instance, improving the quality of process documentation is rated by the respondents with medium importance, with an average value of 2.6. In contrast, the improvements perceived in the quality of process documentation is rated with a value of 2.0 and perceived as the largest improvements of all items. Thus, in comparison, when talking about the quality of process documentation it can be said that it is a positive surprise, since the biggest improvements are perceived

regarding to a motive which was rated as of lower importance. Correspondingly, in Table 3 those values for motives and benefits are shown where the average values deviated strongly from each other.

Benefits and motives	Motive (avg.)	Benefit (avg.)	Surprise: Diff. between motives and benefits (only sign. values, t-Test, p< 0.05)
Customer orientation	1.7	2.6	↘
Competitive Advantage	1.9	2.5	↘
Marketing: Trust and reputation	2.0	2.4	↘
Stability and reliability of IT procedures	2.2	2.6	↘
Reduction of errors, incidents, deviations	2.3	3.0	↘
Quality awareness of staff	2.3	2.5	↘
Efficiency of IT procedures	2.4	3.1	↘
Continuous improvements of all IT procedures	2.4	2.7	↘
Quality of process documentation (completeness, consistency, explicitness)	2.6	2.0	↗
Training of new IT staff	3.1	2.5	↗

Table 3 Comparison of motives and corresponding benefits

Negative surprises are to be seen more than positive ones. These are the areas in which the companies had placed higher expectations in improvements. These evaluations are to be considered as relative measurements, and to be adjusted in so far as that for all features listed, improvements on average could be established at least to a medium extent. The two positive surprises to be noted address the quality of process documentation and the training of new IT staff on the job; for these features, the companies did not have such high expectations as compared to the benefits they perceived after certification. The negative surprises are also to be seen as sign that the assessments of the benefits are pretty realistic. The expectations of benefits have been dampened slightly by experience, but a medium amount of improvements and great satisfaction overall are still to be registered.

3.5 Internal and external motives and benefits

Addressing the question of whether internally motivated companies perceive benefits differently from externally motivated companies, a corresponding classification of the companies is necessary. In this study, the motives listed in Figure 3 shall be used for classifying internally motivated, externally motivated or mixed-motivated. In the list of motives sorted by importance, the first four motives are external, and the next four are internal ones. Using these eight motives, companies, whose average assessment of the importance of the four external motives is significantly higher (> 0.25) than the average assessment of the internal motives, are perceived as predominantly externally motivated, whereas companies, whose average assessment of the importance of the four external motives is significantly lower (> 0.25) than the average assessment of the internal motives, are perceived as predominantly internally motivated. Where there is only a slight (<= 0.25) variance in the average assessments, the companies are classified as mixed-motivated. This classification resulted in 22 externally motivated, 8 internally motivated, and 23 mixed-motivated companies. The classification rule used is based on a study of certification according to ISO 9000 (Jones et al. 1997), and the resulting division of the companies into internal, external and mixed as seen here corresponds to that, too. With this classification, the proposition is confirmed (Figure 6): companies which are internally motivated (marked by circles) experience improvements concerning internal dimensions to a higher degree than externally motivated companies (marked by triangles); externally motivated companies experience improvements concerning external dimensions to a higher degree than internally motivated companies.

The proposition that internally motivated companies are more satisfied with certification (Cf. Jones et al. 1997 p. 658, Llopis and Tari 2003 p. 317, Feng et al. 2008 p. 24) is confirmed prima facie, but the values are not significant, so that it cannot be ruled out that the differences are caused by coincidence.

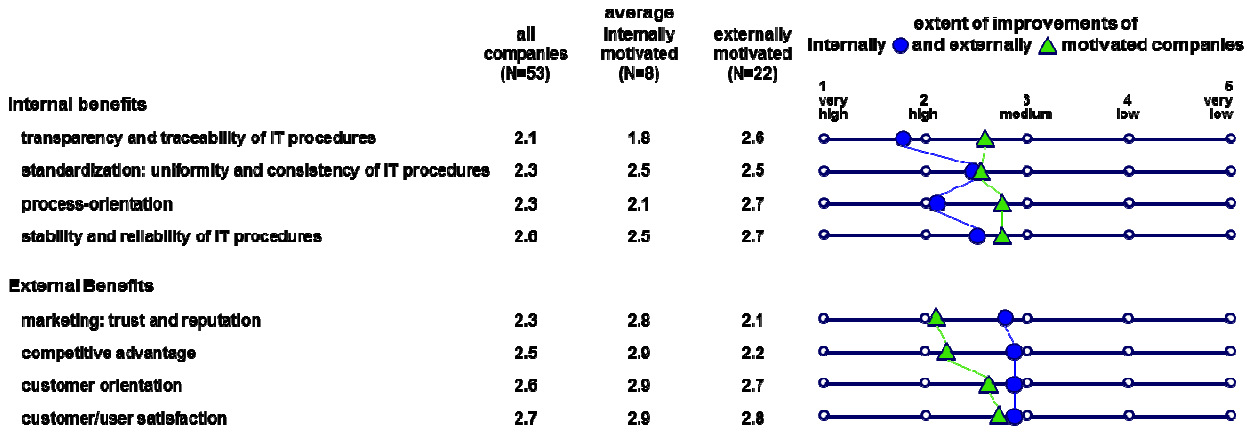

Figure 6 Benefits perceived by internally and externally motivated companies

3.6 Satisfaction with certification

The participating companies overall are highly satisfied after implementation of ISO 20000: roughly one-third of the companies are very satisfied, 94% are very satisfied or satisfied; only three companies assess their experiences to be lesser. Thus, on average, on a 5-point scale from "1 … very satisfaction" to "5 … very dissatisfied", a value of 1.8 was reached. Considering the time and effort necessary for the implementation of ISO 20000, the companies' assessment was positive, but somewhat critical: 66% of the participating companies evaluate the cost-benefit ratio as very positive or positive. For only 8% of the companies, the cost-benefit ratio was negative or even very negative, i.e. they do not regard their investment in ISO 20000 as efficient.

4 Discussion and Conclusions

This study has led to several valuable answers to the research questions, even although they are to be regarded as preliminary due to the early phase of research about ISO 20000. Through the high response rate of the empirical study, conclusions can be drawn about all companies certified according to ISO 20000 in the German-speaking world. At least for companies from Western Europe and North America can be assumed to have similar motives to seek certification. Companies of really different size find a certification worthwile (Figure 2), even if it's for quite different reasons.

What motives make companies seek for a certification according ISO 20000, and what benefits do they experience? To measure the motives, a suitable operational method could be found which can provide significant values for most of the important motives (Figure 3). It is well-established from studies about ISO 9000 that a differentiation between internal and external motives can be quite revealing. This differentiation also makes sense for certification according to ISO 20000, since it uncovers differences in benefits experienced (Figure 6). For benefits experienced, significant values could be assembled (Figure 5), according to which certified companies experience a whole raft of highly evaluated benefits. Measurements of satisfaction show very positive values. However, the comparison of expectations (before) and experiences (after) shows a certain deflation (Table 3), since for several important expectations only medium improvements were experienced.

At present, external benefits are not being experienced strongly. This can be a sign that the relatively new ISO 20000 standard is not yet known to many market actors, or attracts little attention, and thus cannot (yet) cause any big external benefits. To this end, a change can be expected when large companies or public authorities declare a certification to be a prerequisite in tendering procedures. But so far there have only been weak signals on this (NN 2010, NN 2008, Moser 2008 pp. 369-370).

Until today, there is no sound scientific survey into the adoption and dissemination of the ISO 20000 standard, therefore this initial study can offer some useful hints and cues to further research. As appropriate for the early stage of research, it was deemed necessary to prepare the formulation of hypotheses and operationalization of theoretical constructs. By using studies on ISO 9000, a series of insights and methods could be adapted so that the formulation of hypotheses and testing now appears to be possible. A more comprehensive random sample would help then, especially for the important hypothesis that predominantly internally motivated companies would have more benefits from the certification. Indeed, this is confirmed prima facie by the results of the survey, but the values did not show statistical significance. A more comprehensive study would offer the advantage to examine the influence of national or cultural differences in the adoption and dissemination of ISO 20000.

Several factors speak for the increasing adoption and dissemination of the ISO 20000 standard in the near future. Since the standard is strongly based on ISO 9000, as well as on the ITIL framework, a part of the high profile and reputation of these will be transferred to ISO 20000. The high response rate to the survey can be seen as a sign of interest. The current discussions about IT governance and IT compliance shall drive the dissemination of ISO 20000 further, since it opens up the possibility for IT service providers to prove their conformity with this internationally recognized organizational standard. As ISO 20000 becomes increasingly well-known, there will be marketing effects that can be achieved; this, in turn, will result in more IT service providers seeking certification according to ISO 20000.

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