IT Barometer 2011

Research on the Significance of IT for Finnish Companies from IT and Business Management Perspectives

31.10.2011

Contents

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1. Introduction

Published by the Finnish Information Processing Association, the yearly IT Barometer charts the importance of IT to Finnish organizations. In the IT Barometer, we study Finnish IT and business management's views on how IT is utilized in their organizations, how IT produces value for their business, and what factors and competences are seen to contribute to future success.

This is the fourth IT Barometer and during these four years, we have seen dramatic changes in IT and the role of IT in Finnish companies. During these four years, we have gone through one downturn and we are now potentially entering another. During 2009, 2010 and 2011, we have monitored the effect that the general economic trend has on IT and perceptions on IT. During these four years, we also have seen the rise of consumerization, including social media services and a new class of smart phones and tablet computers. IT has also undergone a process of consumerization – new services and devices now first come to consumer markets and move from there to corporate use – oftentimes after years of delay.

IT Barometer 2011 was conducted in a vastly different business environment than the last year's research. At the time of the previous IT Barometer, Finland's economy had shrunk considerably and Finland was just exiting the downturn. When we gathered the data for this year's IT Barometer in April-May 2011 the situation was very different then as Finland was going through a period of growth and recovery. There are no guarantees that this positive trend will continue and as the euro crisis deepens, it is looking more and more likely that Finland will enter a period of slow growth or even recession. The direction for next year is still covered in clouds and estimates on GDP growth vary significantly. If our economy enters a new recession, the three latest IT Barometers offer a unique set of data on how macroeconomic shifts affect IT and how organizations invest in IT during downturn. There is much to learn from that history.

In the IT Barometer, we have always included specific sections on current trends in IT. In this year's IT Barometer, we continued with all the previous themes, including social media, IT Governance and outsourcing. By repeating the same questions each year, we can look at trends and changes. This also makes the IT Barometer more important each year as we begin to see changes in trends as well.

In this year's research, we included two new topics that have been widely covered in the media: **Cloud services** and **Consumerization** of IT. In this year's report, we included questions regarding specific vendors for the first time.

- **Consumerization** refers to the development where employees are using the same services, applications and devices for work that they use outside work – even to the degree that they want to bring their own devices to work, devices that they may feel superior to those available at work. Consumerization also refers to the process that new IT innovations are often made on the consumer side and come to business use later. Consumerization has been a widely discussed topic that includes both high hopes and fears on subjects such as information security and losing focus at work.

- Likewise, **Cloud services** have been the topic of wide discussion in the media. The concept is still being formulated and companies understand the word cloud differently. As an overall concept, cloud services include services, computing capacity and storage space which can be acquired as a service from the internet or other computing networks. Additionally, cloud services also refer to applications, which are delivered as a service (SaaS and other aaS abbreviations), even though they might not fully fulfill the criteria that the application would be spread out in a cloud of servers. In addition to these, cloud services are a collection of hopes, ideas and concepts and time will tell whether these hopes will be realized.

This report covers the main results from the IT Barometer research. Because the dataset we gathered in the survey is very extensive, we can pick new topics to cover in future research reports. These findings will be reported in separate research reports.

1.1   Data collection

Respondents for the IT Barometer were selected from the 1000 largest Finnish companies. The companies were selected both based on revenue and average employee count. From these companies, we selected persons, who work in top management or IT management.

To collect the data, we sent out an email to these respondents. The email introduced the research project and included a link to an online survey. The data was collected in April-May 2011.

Finnish Information Processing Association, research director Tomi Dahlberg from the University of Jyväskylä's faculty of information sciences and the communications agency Aleksin Kaiku jointly planned the research and created the research questions. Aleksin Kaiku handled the online survey and created the research report together with Tomi Dahlberg.

There were 240 respondents in this year's IT Barometer. The respondents came from business and IT management in large and medium sized organizations in Finland. The pie graph below shows the share of IT and business management among the respondents. The ratio has been very similar in previous year's IT Barometers.

Respondent position

n = 240
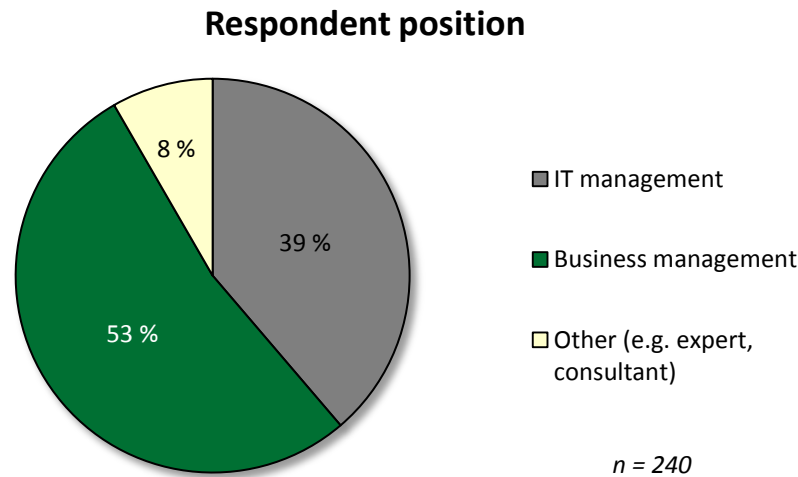
Altogether 240 respondents from 1000 largest companies. 93 from IT management / CIO, 127 from business / general management, and 20 from other positions (incl. expert/consultant)

1.2   Remarks on research data and validity

The dataset for IT Barometer 2011 differed slightly from previous years' datasets, which were based on a company database from Fonecta. In this year's IT Barometer, we supplemented this database with Aleksin Kaiku's database. We picked respondents who belonged to business / top management from the latter database. This difference between datasets slightly lowers the comparability between different IT Barometers.

The main difference comes from how the new respondents were selected – in previous IT Barometers, the respondents were selected from organizations, which employed at least 500 people. In this year's IT Barometer, we also included companies which belong to the list of 1000 largest Finnish companies in terms

of revenue (over 30 million euro). Due to this change, the average size of companies participating in the IT Barometer was slightly lower. We have analyzed the effect company size has question by question and we have made remarks on those questions, where company size has a statistically significant effect on the results.

To ensure the reliability and validity of the survey results, we accepted a maximum of two answers from one company – one from IT and one from business. If there were more than two answers, we combined the additional answers by averaging the result from each question. There are altogether 10 combined answers in the dataset. There are very slight differences between dataset with combined and without combined answers, but no significant differences. Due to the lack of significant differences and small number of combined answers, we did not include additional analysis on each question of the effect of this.

Company sizes and employee counts were checked from Fonecta and Kauppalehti databases. We corrected the current company size details to 16 answers. Additionally, we removed 5 answers from the dataset because the respondent company did not meet our criteria of having either over 500 employees or belonging to the list of 1000 largest companies. We removed 3 answers that came from the same company and one answer that came from the same respondent. We kept three answers which did not meet the criteria due to the fact that the company belongs to a larger group which has common IT functions (i.e. independent bank branches). We also made some corrections to answers in questions where the respondents had to give a numerical estimate, for example 3-4 was corrected to 3,5.

We would like to remind the readers, that the IT Barometer measures the respondents' view at the time of surveying. When estimating the validity and reliability of IT Barometer's results and conclusions, it is important to also note that these views are personal and may not accurately describe the situation in their companies. Bearing in mind the above mentioned, we consider the research data and conclusions drawn from the data reliable.

1.3   Summary

- **The attitudes towards IT and IT investments have become noticeably more positive**. We conducted the IT barometer 2009 when Finland was entering an economic downturn (data collected. 12/2008-1/2009) and respondents were at that time looking to cut IT costs and concentrate on IT projects that would create new revenue for the organizations. The IT barometer 2010 was conducted when Finland was still in the downturn (data collected 3-4/2010), and we then saw mostly the cost cuttings realized, but the revenue generating IT projects were being postponed. Even projects that require little investment, such as training users, were being postponed in the name of saving costs. The cuts and cost pressures are likely to be main reasons for the general drop in satisfaction with IT. Now that the economic situation has been better, it seems that IT has fared quite well through the challenging times and we see that organizations are looking at IT in a more favorable light. In fact, the school grade given to how well IT is utilized in organizations reached the highest value so far and leapfrogged by a whole grade to 7,8.

- As the economic situation got better from 2010 to 2011, **companies also experienced less problems with IT projects: with less cost pressures**, the IT projects stayed generally on schedule and budget better than last year. There seems to be a correlation between IT project success and how much the organization is looking to cut costs and postpone investments. Organizations looking to cut costs and postpone investments also experience most cost overruns and delays.

- **IT recession is over… or more precisely, it was over in spring 2011.** Compared to last year's situation, Finnish organizations are far less likely to postpone IT projects and cut costs. In the previous IT Barometer 2010, 53 percent of companies said that they are looking to postpone IT

projects, but this year, only 20 percent of the respondents said that they are looking to postpone IT projects. According to the respondents, Finnish companies are now focusing on training and improving the overall IT architecture – initiatives that were largely left undone during the downturn. If the Finnish economy is plunged into another downturn during 2011, we expect to see investments scheduled for 2012 postponed further. Combined with projects that were postponed during the 2008-2009 downturn, this would create a huge backlog for the whole IT market.

- **IT Index**, which is an index figure created to measure the importance of IT to Finnish companies **reached the pre-downturn levels** in this year's IT Barometer (2011: 99, 2008: 100). The value if the IT index dipped in last year's research. The main difference in this year's values was that IT provided significantly higher revenue boost and cost savings than in last year's research. On the other hand, the respondent's estimates on the share of IT costs of the total revenue of the company dropped significantly. One explanation for this might be the cuts and postponements made during the downturn. Another explanation might come from organizations being more aware of their IT costs. Additionally, the average size of the companies that participated in IT Barometer this year was slightly smaller than in last year's research and there were fewer IT-intensive organizations among the respondents.

- **The IT Index seems to be following macro-economic trends with a slight delay**. The index correlates strongly with GDP changes in Finland. This means that the views on IT and benefits of IT are highly susceptible to changes in the business climate and that IT in Finnish companies is directed more based on the company's economic outlook rather than through future looking investments that aim for growth and performance.

- **IT budgets experienced pressures and suffered cuts through the downturn**. In last year's IT Barometer, we anticipated that projects would be postponed and costs would be cut and this seems to have happened because we see a significant decline of IT costs share of total revenue. This also means that there will be pressures to increase the IT budget in the future. In 2009, there were just slightly more companies that believed that their IT budgets would grow (32 % vs. 26 %), the ratio had changed dramatically so that there were 41 percent of the companies that said that their IT budgets would grow, compared to the 13 percent who said that their IT budgets would shrink. In the light of this result, we anticipate that IT budgets will grow in the near future. However, it is also important to note that the uncertain economic situation might suddenly change this and put IT investments on hold again.

- **The companies in Finland managed to grow revenue by 6,3 percent on average through IT enabled innovations and process improvement.** As in previous IT Barometers, the figure is significantly higher than the share of IT costs of company revenue (3-4%) or GDP growth (3,6 % in 2010). This result reflects how the respondents have a strong faith in the Benefits of utilizing IT in business. When we looked into what kind of companies enjoyed the most IT enabled growth, we found out that common characteristics of these companies are focus on planning, emphasis on developing the IT function, and measuring and follow up of IT.

- **The willingness to outsource has stayed at the same level as last year, turning a downward trend**. In the previous IT Barometers, we have noticed a downward trend in the willingness of companies to outsource their IT. This year the percentage of companies that said that their goal is to outsource much of their IT slightly grew. Judging from the survey results, it seems that outsourcing plans are connected with the overall economic situation: during a downturn companies are more prone to do IT projects with internal resources. The potential cost savings that outsourcing could provide are spread out on a longer time and companies do not see outsourcing as a quick remedy to cutting IT costs.

- **Social media is becoming a part of everyday business**. Social media has been a widely discussed topic and according to our finding, it has come to Finnish companies to stay. According to the respondents, social media is not merely something that only concerns marketing and communications, but today it is becoming a channel that other functions utilize as well, for example 20 percent of Finnish companies utilize social media in customer service. The figure has risen significantly from a similar study conducted two years ago (11 % -> 20 %).

- **Companies are addressing social media with a more planned approach.** In the research, we found out that the number of organizations that have social media strategy in place has doubled from the last IT Barometer (16 % -> 33 %). However, the majority of these are limiting rather than empowering, i.e. they aim to limit how employees engage in social media. Only 22 percent of the companies encourage employees to actively take part in social media.

- **The sun is shining on cloud services.** Even though the respondents were very skeptical on the promised about the benefits of cloud services, they still strongly feel that the percentage of cloud services from their IT will grow dramatically – on average, the **companies are expecting the share of cloud services to triple in three years** (6% -> 19 %). However, **the respondents remain skeptical about cloud services** overall – only 16 percent of the companies surveyed believe that cloud services are mature enough to handle business critical IT applications. Business management feels noticeably more positive towards cloud services than IT management.

- **Consumerization is reality in many of the Finnish companies, but leadership and governance are sorely lacking behind.** According to the survey, 39 percent of Finnish companies allow users to use their own devices and services at work and half of the companies say that they aim to widely allow users to use their own devices and services. At the same time, the organizations that systematically approach consumerization and its effects are rather few. Security and increased support needs are seen as the largest threats in consumerization.

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2. Key figures in IT Barometer and the IT index

One of the key goals for the IT Barometer is to give an overview on the importance of IT to Finnish companies. To give an overview, we have created an index figure from the results. The IT Index gives an overview on how important IT is perceived to be in an organization. The index and its components allow us to compare the situation from year to year. We set the index base value 100 in 2008.

IT Index 2011	2011	2010	2009	2008
IT costs as percentage of revenue currently	3,35 %	4,47 %	4,46 %	4,45 %
IT costs as percentage of revenue three years from now	3,83 %	4,94 %	4,49 %	4,84 %
The influence of IT enabled innovations on revenue as percentage of revenue	6,34 %	3,66 %	8,19 %	4,27 %
The cost saving influence of IT on costs as percentage of total costs	5,28 %	4,28 %	7,57 %	4,54 %
Organization that consider finding suitable IT personnel difficult	39 %	44 %	47 %	52 %
Organizations, where IT produced additional value by enabling new innovations and process improvement	76 %	81 %	81 %	78 %
Organizations, Where IT is developed strategically	69 %	63 %	77 %	68 %
IT Index	**99**	**95**	**123**	**100**

In this year's IT Barometer, we saw the IT Index return to 2008 levels following the large dip during the aftermath of the 2009 downturn. The IT Index reflects companies' attitudes towards IT in a rapidly changing economic climate – in a tight economic situation, companies postponed IT investments and lower IT-budgets. Companies had placed high hopes towards IT before the downturn, but in the crossfire of budget pressures, many of these expectations were not met. Additionally, a part of the respondents' felt that IT was too cumbersome in meeting the challenges posed by the downward economic environment. Therefore, we did not see full recovery to pre downturn levels in this year's IT Barometer.

Relationship between IT Index and Finland's GDP Growth
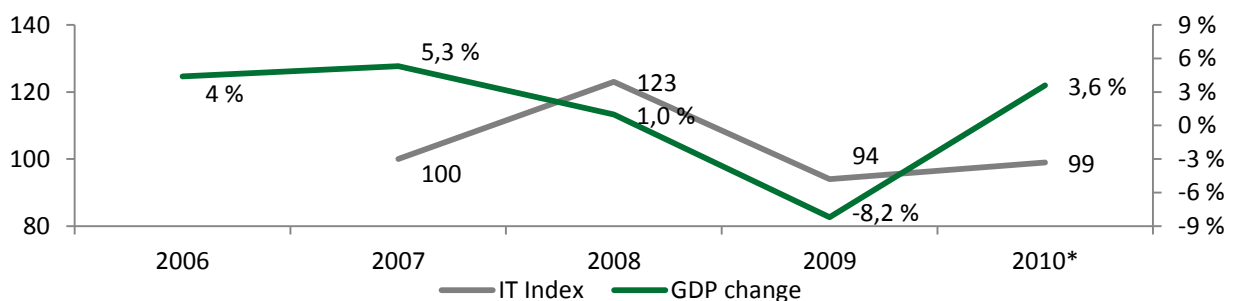
Development of the IT Index and Finland's GDP. We have offset the IT Index by one year to reflect the situation in the previous year (IT Index 2008 in 2007). GDP Source: Finnish National Bureau of Statistics.

The IT Index and GDP growth seem to behave in similar fashion so that the IT Index follows macroeconomic changes with a slight delay. This may be a telltale sign about how IT investments are led more based on cost pressures and the economic cycle rather than as a long perspective investment to improve productivity and generate growth. This seems to be happening despite the fact that in each of the IT Barometers we have conducted, the respondents have estimated that IT is able to generate far GDP growth

surpassing revenue growth. This conclusion is supported by Matti Pohjola's 2008 research for Teknologiateollisuus ry, which concludes that most of the benefits from IT actually come from simply using more IT rather than transforming the business with the help of IT. We conclude that that the main driver for if and when IT investments are done is the availability of funding in companies rather than a sound and strategic decision on what investments bring value to the business and how the business benefits of current IT investments could be maximized. IT investments and projects are easy to postpone when a company is suffering from a poor financial situation, but it is important to think whether this is the right strategy for overall company success. We want to stress this conclusion if Finland is driven into another economic downturn.

One factor that contributed to the lower IT Index value this year was the significantly lower share of IT costs from total company revenues. In the previous IT Barometers, the respondents stated that they expected IT costs to grow, even in a downturn economy, but it seems that IT budgets suffered cuts in many organizations. It is possible that the four factors mentioned in the summary (lower IT costs, better awareness on real IT costs, smaller average respondent company size, and fewer IT intensive organizations) explain the rather large difference in this year's IT Barometer. On the other hand, at the time of surveying, the respondents were expecting a rapid increase in IT budgets within the next three years. Nevertheless, when comparing results from previous IT Barometers the question immediately arises that did companies really cut IT budgets so dramatically (20-30 %) in downturn that their share of total revenues dropped significantly or do companies now understand IT better or is it little bit of both.

The respondents saw strong connection between IT and company growth. The respondents saw that new innovations and practices created 6,3 percent new revenue on the average. The availability of suitable new IT-personnel affects the IT-index and in this year's IT Barometer, finding suitable IT-talent was seen slightly easier than in previous barometers.

When we looked at how the IT-index is dependent on other IT Barometer variables, we found that company size or respondent position do not influence the IT-index. Therefore, organization size cannot be attributed for respondents' attitudes or their views. On the other hand, the respondents' industry does mildly correlate with the IT-index. The strongest correlation with the IT index we found was with how the companies actually measure IT. Companies, which place high value on IT as indicated by a high IT Index score also measure the effects IT has on their business. The IT Index also correlates with overall satisfaction with IT. The school grade given to IT and the IT Index exhibit strong positive correlation.

Outsourcing also seems to be linked with the IT Index value in two ways:

(1) organizations, which place high importance for IT for the business perspective aim to keep a larger share of IT in-house and

(2) organizations, which have a lower belief in the value that IT brings are more likely to outsource IT functions. However, we must stress that the correlation with outsourcing is not particularly strong.

3. The impact of IT on business

3.1 The share of IT cost of company revenue

IT costs as percentage of company revenue
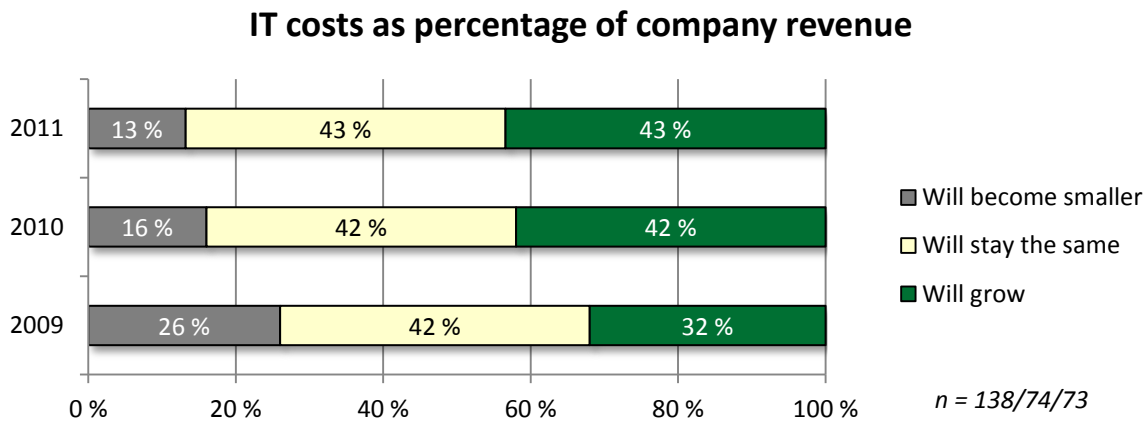
Respondents' views on how IT costs in relation to overall company revenue will develop in the next three years

When we looked at how the respondents' expected IT budgets to develop in the near future, we found out that the share of companies that are expecting the proportion of IT costs of total company revenue to grow has risen compared to previous years. Almost half of the companies (43 %) expect the share of IT costs from company revenue to grow within the next three years, when in the beginning of the downturn (IT barometer 2009 data was collected at the end of 2008) 32 percent of companies were expecting the share of IT costs to grow. The most significant change happened in IT Barometer 2010 (data collected early 2010) when companies were just coming out of the downturn .The same development continued this year. As we previously stated, when the answers from the yearly IT barometers are compared, the question inevitably rises: have postponed IT investments and cost cuttings created a backlog of IT projects that will materialize when the economic situation gets better and companies see growth on the horizon, resulting in rapidly increasing cost levels in the near future. Additionally, it is important to assess what happens if Finland enters another period of recession and the country recovers without Finnish companies having been able to clear the backlog created in downturn. We need to stress that readers should keep in mind that the data for this research report was collected in April-May 2011 and the economic outlook has significantly worsened from that time.

When we asked the respondents how large a share are IT costs of the revenue currently, we see a dramatically different estimation than in previous IT Barometers as the table on page 8 indicates. In 2011 the share of IT costs dropped down to 3,35 percent of company revenue. The figure is by far the smallest we've seen so far and it was almost one fourth lower than in the previous IT Barometer. In the previous IT Barometers, the figure has remained fairly steady at roughly 4,45 percent.

On pages 6 and 9, we have analyzed reasons for this change and we would like to remind the readers that like all survey based research, the figure is based on respondents' views, not actual financial data from the companies.

When we looked at how the IT cost/company revenue ratio is connected to other variables, we found a few interesting correlations: (1) business management perceives IT costs higher than IT management (2) the ratio varies according to company size and industry: IT costs are somewhat higher in larger organizations and self-evidently, in IT-intensive industries such as finance. Companies with fewer than 500 employees also believed that IT costs would grow slower than larger companies.

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3.2   The impact of IT on revenue growth and productivity

IT's impact on business
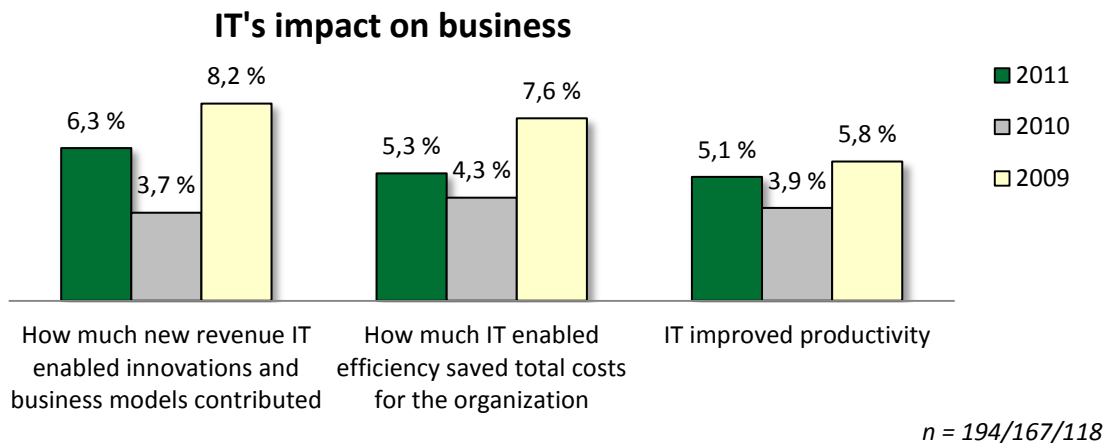
Respondents' views in IT's impact on business

According to our research, IT investments are clearly linked with the revenue gains, cost savings and productivity growth that IT produces. When we compare this year's results on how IT has impacted organizations financial performance to previous IT Barometers, we can clearly see that we are returning to 2008-2009 levels from the large drop that occurred during the downturn. The downturn significantly lowered estimates on how IT enabled innovations and process improvements affected revenue. As the GDP in Finland grew in 2010, the estimates on how impacted companies revenues also climbed. However, we have not yet reached pre-downturn levels.

According to the respondents, the companies in Finland managed to gain an average of 6,3 % additional revenue from IT enabled innovations and process improvement. This figure is significantly higher than GDP growth (3,1 %). We have received similar results in all IT Barometers we have conducted so far – the additional revenue IT brings to organizations significantly surpasses GDP growth. The largest difference came in 2010 IT Barometer, when companies estimated that IT enabled innovation and process improvement brought in additional 3,7 percent revenue, when GDP in fact shrunk by 8 percent. The same result also applies to productivity growth and cost savings (please see graph above).

The IT enabled growth is linked to several variables in our research. We grouped the most important positively correlating variables into three groups: planned approach to IT, systematically developing IT and measuring IT.

1. Planned approach to IT	Correlation
We aim to use IT for generating new business	**0,33**
We have a clear strategy for web based business	**0,21**
We have a clear strategy for utilizing social media	**0,25**
We have a clear strategy to manage effects of consumerization	**0,25**

According to our research, the companies who succeeded in growing revenue with IT enabled innovations and business models differ from the rest of the companies by having a planned approach: the organizations plan to use IT to generate new business and the organizations have a plan in place for all major developments such as social media, consumerization and web based business models.

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2. Systematically developing IT	Correlation
We systematically develop IT competences and IT management competences	**0,22**
In our organization, IT and business management participate in managing IT together with a clear definition of roles	**0,24**
IT is managed and developed as a strategic resource	**0,28**

Likewise, the variables related to developing IT correlate positively with the revenue gains IT can produce. From the IT management perspective, this result was both expected and very important. According to the data in IT Barometer, systematically developing and managing IT is positively connected with IT enabled growth.

| 3. Measuring IT	Correlation
We know IT's impact on our business through reliable measurements	**0,27**
We know the added value of IT enabled innovations and process improvement through reliable measurements	**0,29**

The same conclusion can be made about measuring the impact of IT. Organizations that know how IT impacts their business are more likely to see the revenue gains realized through IT.

3.3   IT related factors that impact success of organization

In the IT barometer, we wanted to find out what effects of IT the Finnish companies regards important for their organization's success. We asked the respondents to estimate from a list of nine predefined alternatives. We have repeated this question since the very first IT Barometer, but in order to make the diagram more legible, we left out the year 2008.

How important for your organization's success do you consider the following factors?

n=121/167/240

■ 2011 ■ 2010 □ 2009
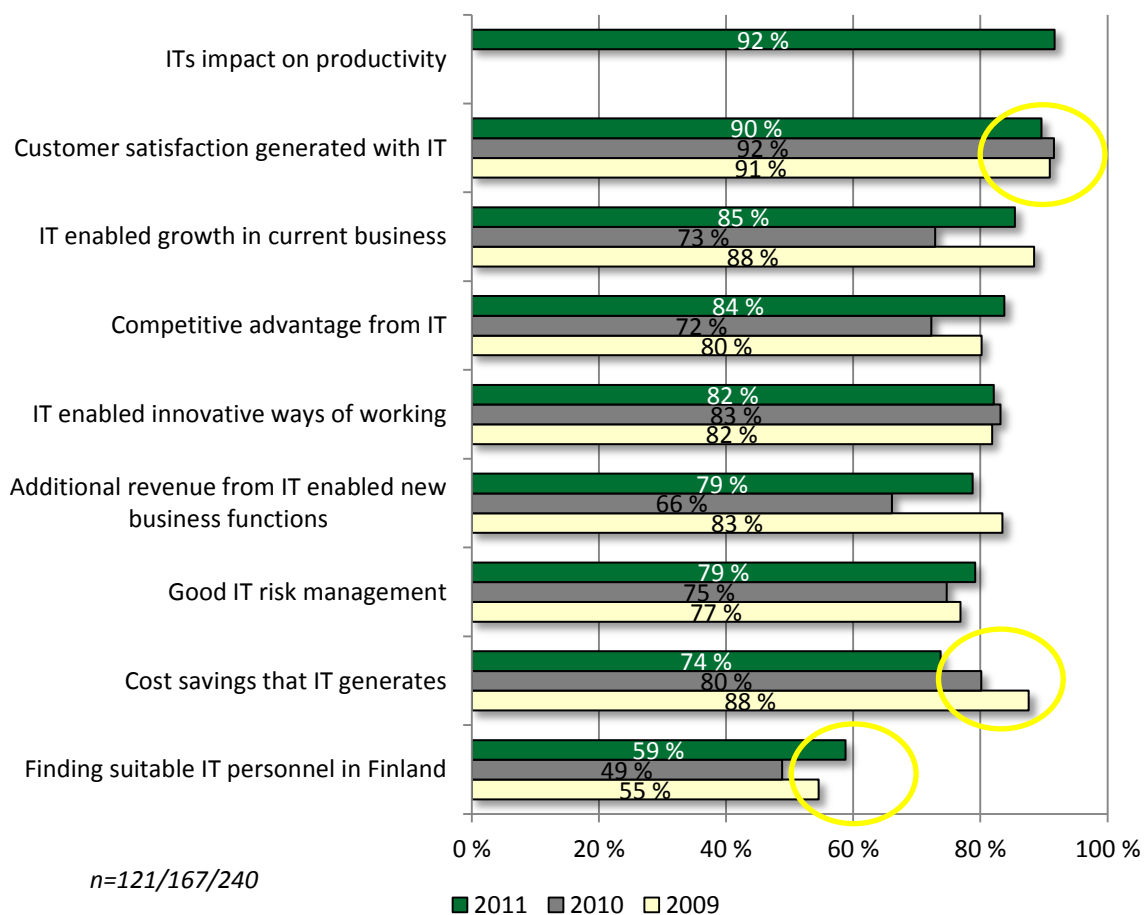
Share of respondents who regard the effect important to their organization's success

From the results, we can say that the economic downturn impacted last year's results, significantly lowering estimates all-around with the exceptions of customer satisfaction and new innovative ways of working. One conclusion we drew from the last year's IT Barometer is that the downturn forced companies to shift their attention to customers and customer satisfaction was seen as the number one competitive advantage that IT could bring. This theme was echoed throughout last year IT Barometer.

This year, the views had almost returned to pre-downturn levels. In this year's IT Barometer, the most important effect that IT could have for the organization's success was IT's effect on productivity, which was introduced as a new choice this year. IT's effect on customer satisfaction remained as one of the most
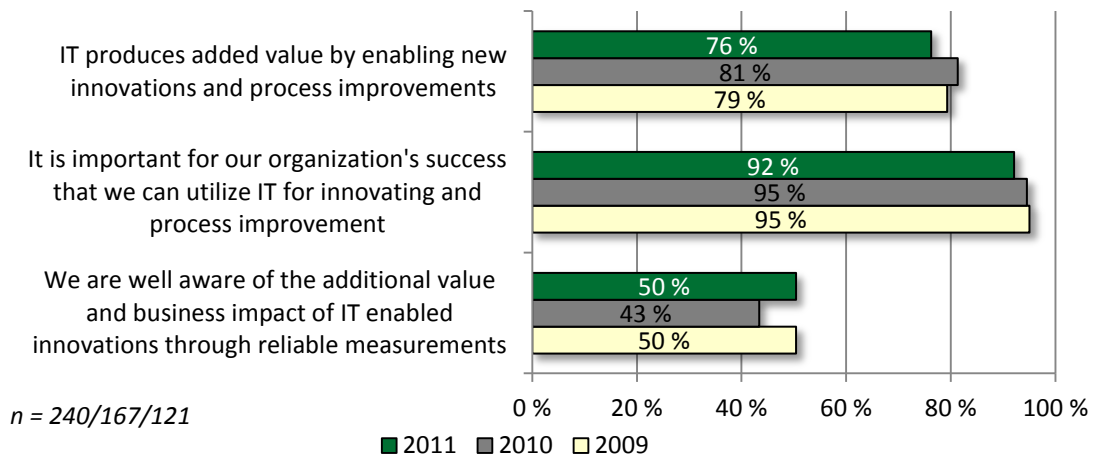
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important effects and the respondents' considered it the second most important aspect. Other effects that were deemed highly important for organization's success were IT's enabled growth in current business, the competitive advantage that can be gained through IT, and new innovative ways of working that IT enables.

One important observation that we noticed is that the importance of cost savings has gradually declined year after year. One possible explanation for this is that the focus has shifted or is shifting from costs to productivity. Another thing to note is that finding the right personnel has become more important than before the downturn. In this year's IT Barometer, 59 percent of the respondents regarded finding suitable IT personnel as important to their organizations success.

4. Organizations' capability to utilize IT

4.1 Capability to innovate and generate value for business through IT

IT as engine for innovation and process improvement

Statement	2011	2010	2009
IT produces added value by enabling new innovations and process improvements	76 %	81 %	79 %
It is important for our organization's success that we can utilize IT for innovating and process improvement	92 %	95 %	95 %
We are well aware of the additional value and business impact of IT enabled innovations through reliable measurements	50 %	43 %	50 %

n = 240/167/121

■ 2011 ■ 2010 □ 2009

Respondents' view on the added value that IT generates, share of respondents who agree with the statement

We have looked into IT-competences in the IT Barometer and how these competences affect business. We have grouped the IT competences in three groups: competence to innovate new value for business, competence to strategically lead IT and competence to effectively procure IT.

When we look at how IT produces value with new innovations and process improvement, views have somewhat changed from last year. Respondents now see that the IT competences have fallen in their organizations from preceding years IT barometers. Fewer respondents see that IT provides the organization value through new innovations and improved processes. One reason for the change might be found in IT-budgets that were cut during the downturn and especially the effect that the cost savings have had on people's attitudes and viewpoints.

5. Applying IT and success of IT projects

5.1   School grade for IT

What school grade from 4-10 would you give your organization for utilizing IT?

School grade given to the ability to utilize IT
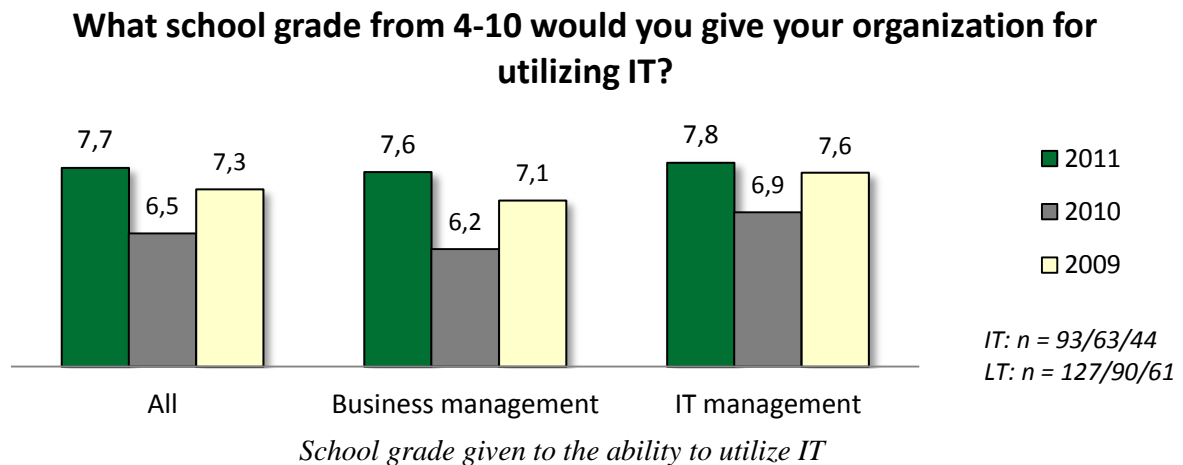
We asked the respondents to give a school grade between 4 and 10 (Finnish school grades where 4 is fail, 5-6 adequate, 7-8 satisfactory and 9-10 excellent) about how well their organization can utilize IT. In this year's IT Barometer, we saw a dramatic rise with the grade being over a full step higher than last year (7,7 vs. 6,5). In fact, the grade was the highest given in IT Barometer so far. It seems that this year, the respondents are markedly more satisfied with IT than previously. The rise in the school grade seems fairly logical when we take into account the findings reported elsewhere in this document: IT enabled innovations provided significant revenue growth and IT projects were more successful than in previous years. Especially respondents from business management, who have been alarmingly critical in previous IT Barometers, viewed IT in a significantly more positive light. The grade given by business management rose from adequate to satisfactory and was now very close to the grade given by IT management. On important observation was that there were very few number fours (fails) given this year, in strong contrast to last year.

We also looked into what variables were connected with the school grade given. As the table below shows, many variables were connected with the school grade. As a summary, we can conclude that positive school grades for IT correlate positively with the perceived benefits that IT provides (such as revenue growth or process improvement), how IT projects succeed in the company and how well the leadership of IT functions in the company. One the other hand, low school grades for IT correlate with postponed projects and budget cuts. All in all, these results were expected and very positive for IT in general.

School grade for utilization of IT	Correlation
We aim to postpone IT investments	**-0,19**
We aim to boost the productivity of IT by cutting IT costs	**-0,13**
How much (as a percentage of revenue) did IT enabled innovations and process improvements increase your organization's revenue	**0,29**
Our organizations management and IT management participate in managing IT according to clearly defined roles	**0,36**
It projects stay on budget	**0,39**
We systematically develop the IT competences needed in our business	**0,41**
IT is managed and developed strategically	**0,45**
IT brings added value by enabling new innovations and process improvements	**0,48**

Based on these, and other recurring observations from IT Barometer data, we conclude that.

1. IT and top management participation in managing IT with clearly defined roles, setting targets and measuring the success of IT, and managing IT as a strategic whole are clearly connected with achieving results with IT. When it is managed properly and management participates in developing IT, the whole organization succeeds in reaping benefits from IT.

2. Budget cuts and postponing IT projects correlate negatively with IT benefits. Organizations that do not invest in IT usually see fewer benefits.

5.2   The success of IT projects

IT project success

n = 240/167/121   ■ 2011 ■ 2010 □ 2009
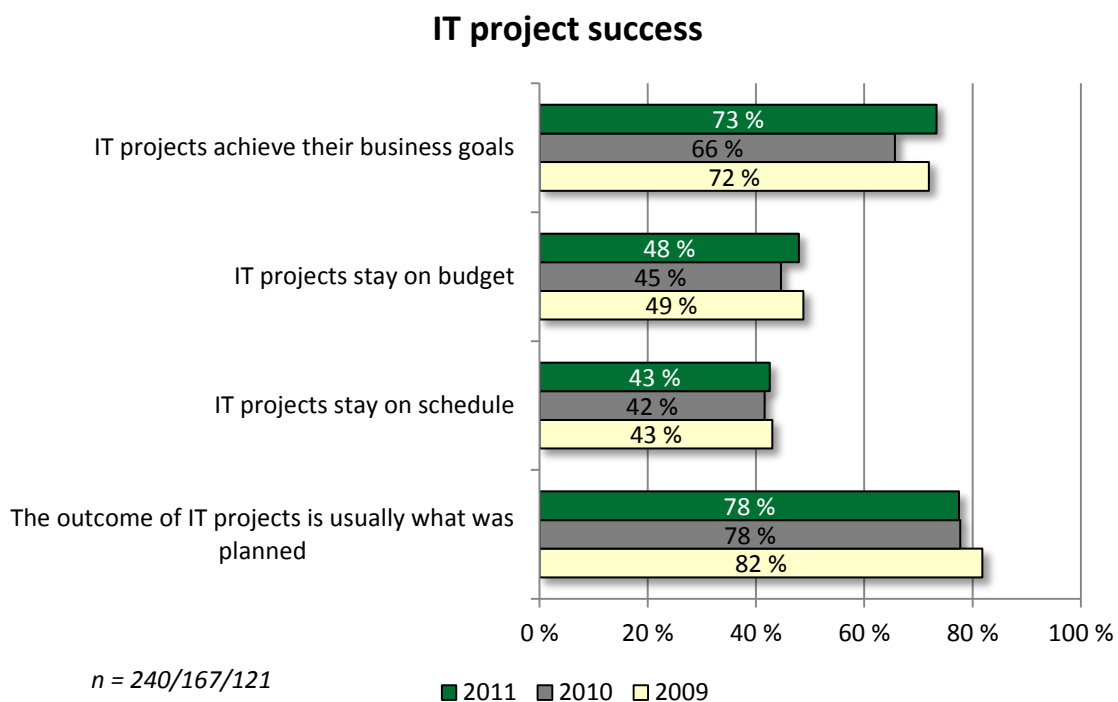
Share of respondents, who agree with statements concerning the success of IT projects

IT projects are often criticized for cost overruns and delays. In every IT barometer we have done so far, the results have been quite similar and we have to conclude generally the criticism unfortunately does hold some merit and a large part of IT projects actually go over budget or do not meet the original timetable. According to our research, 40 percent of IT projects stay roughly on budget and schedule and one third of the projects also meet the goals set for the project in addition to these. However, we were glad to see that IT project success had generally improved this year. Even though projects were somewhat more successful, the success rate has to be considered fairly low. It is also interesting to note that even if projects generally do not meet budgets or timetable, almost 80 percent of respondents see that the outcome of the projects is what was planned for originally. This might be a sign that delays and cost overruns have become so commonplace that they've lost their significance and the majority of projects are seen to be successful regardless of the cost overruns and delays.

These results are in line with previously reported findings: budget cuts and postponing IT projects seem to negatively impact IT project success. Systematically developing IT competences and clear definition of roles between IT and business management contribute positively to project success. The largest single contributing
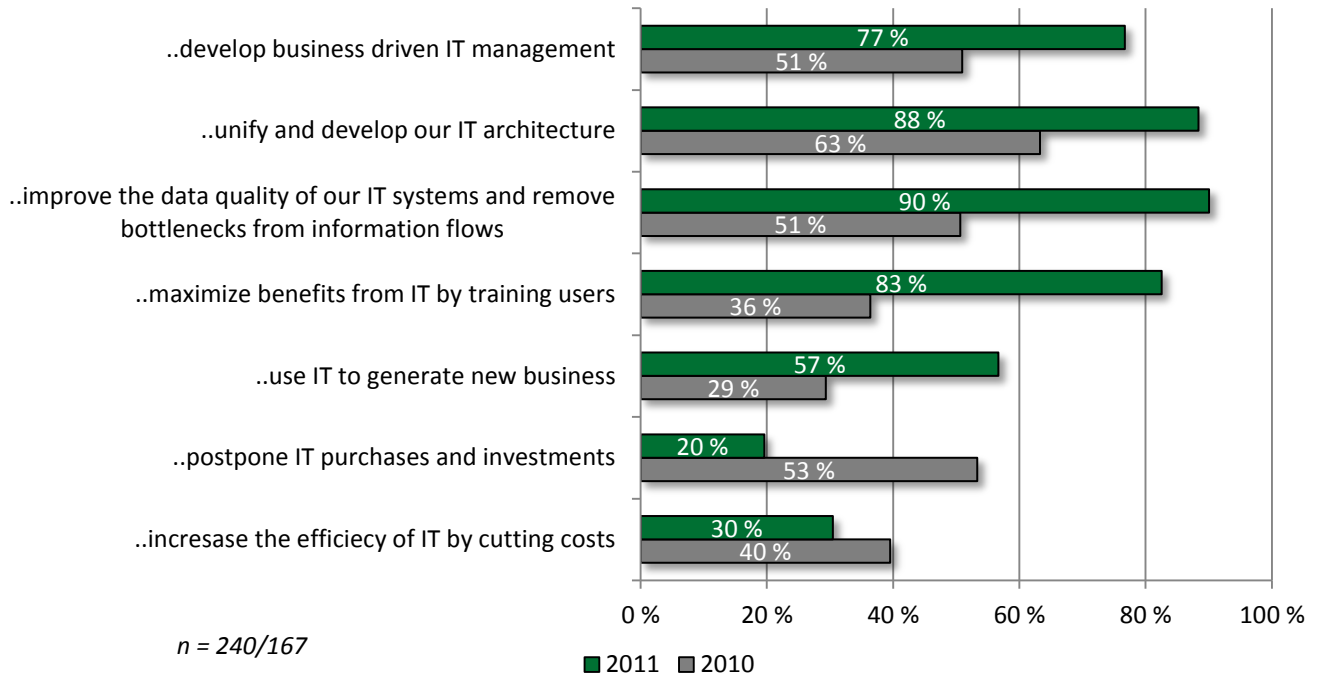
factor seems to be collaboration with partners, providers and other stakeholders. This rice the question whether organizations are investing enough to improve collaboration and making sure that collaboration with all stakeholders works smoothly.

We also looked at how meeting timetables and budgets correlated with other variables in the research. The results are listed in the table below, and further underlining the statistical significance of these results is the fact that all IT project success meters correlate with the same variables. The results are in line with previously reported findings. IT project success meters correlate negatively with postponed projects and IT budget cuts. Likewise, developing IT competences and clear roles for all involved in IT projects, correlates positively with project success. The largest single contributing factor seems to be collaboration with all parties involved in IT projects. Therefore, it is important to ask the question whether IT budgets also include enough emphasis on improving collaboration with partners, suppliers, internal target groups and is collaboration something that companies are actively trying to improve.

	IT projects stay on schedule	IT projects stay with budgets
We aim to improve IT efficiency by cutting costs	-0,14	-0,20
We aim to postpone IT investments	-0,18	-0,22
We are systematically developing IT competences and IT leadership competences needed in our business	0,34	0,28
We handle IT services and information management with continuously improved processes that our stakeholders have agreed to and are familiar with	0,36	0,40

6. The impact of overall business climate on IT

**The impact of the economic situation on IT utilization
2011 vs. 2010. "In the curret economic climate, we aim to..."**

..develop business driven IT management	77 % / 51 %
..unify and develop our IT architecture	88 % / 63 %
..improve the data quality of our IT systems and remove bottlenecks from information flows	90 % / 51 %
..maximize benefits from IT by training users	83 % / 36 %
..use IT to generate new business	57 % / 29 %
..postpone IT purchases and investments	20 % / 53 %
..incresase the efficiecy of IT by cutting costs	30 % / 40 %

n = 240/167

■ 2011 ■ 2010

Share of respondents who agree with the statement

The economic downturn, which happened in Finland mainly during 2009, caused some significant changes to the way IT was utilized, where companies made their IT investments and what development projects they carried out. As the bar graph above shows, coming out of the downturn caused the pendulum to swing the other way during late spring 2011. Whereas in last year's IT Barometer, respondents widely saw IT projects being postponed, this year they saw that their organizations are heavily focusing on IT again. At the end of 2009 over half of the respondents (53 %) estimated that IT investments are being postponed in their organization, the figure had shrunk to merely 20 percent of the companies. It is important to note that the data of IT barometer 2011 was collected in April-May 2011 and the Euro crisis and darkening economic outlook may cause another significant change to the IT investment environment.

The respondents also saw that they are investing in IT training and developing the skills of their staff. In the previous year's IT Barometer, the situation was very different: companies were not training their employees because they were focusing on cost-cutting and postponing all investments, including training. One thing the organizations failed to take into account was that users could have been trained during the downturn without significant external resources or investments. Additionally, the downturn would've presented an excellent opportunity to improve internal processes and thus achieving lasting cost savings through more efficient IT operations. If the Finnish economy sinks into another downturn, these are options that every company should consider.

The answers we received seem to drive us to the conclusion that IT investments are mainly dictated by the current business outlook rather than long term strategy and plans. IT investments are made when there is money for it, not when it would be worthwhile. Due to the long term effects of IT projects, investments should be planned on long time perspective and IT can be a valuable tool for companies in creating new business even in times of recession.

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7. IT Outsourcing

In previous IT Barometers, we have noticed a clear downward trend in companies' willingness to outsource IT. In 2008, 46 percent of companies at least partly agreed with the statement that their goal was to outsource as much IT as possible; this figure had dropped to 35 percent in 2010.

STATEMENT: Our organization's goal is to outsource IT as much as possible
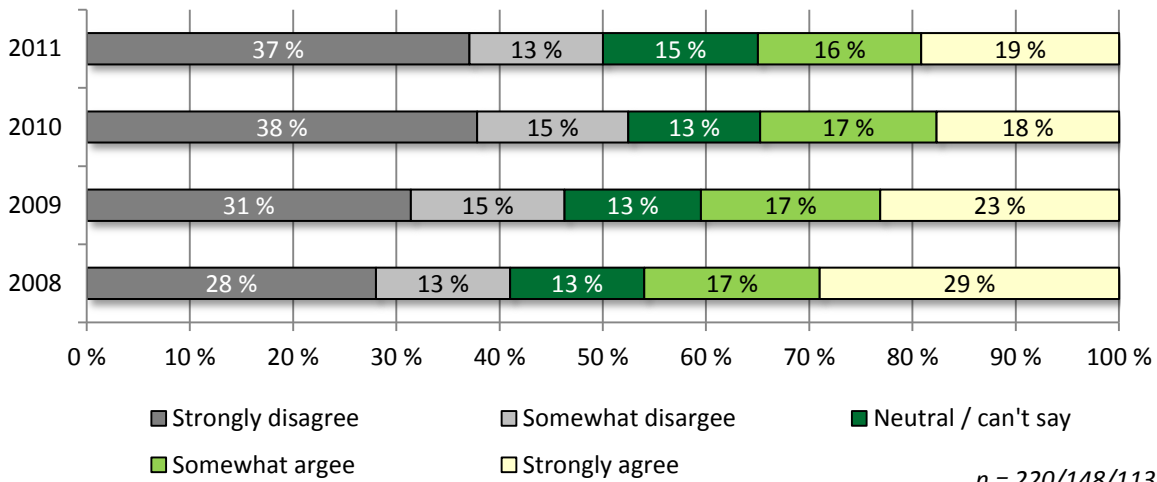

Respondents' views on organization's outsourcing goals

It seems that this downward trend has now stopped, an even turned around slightly. In this year's IT Barometer, 35 percent of the respondents at least partly agreed with the statement that the goal of their organization was to outsource as much IT as possible. We found no correlation with background variables company size or industry. Because companies on average have outsourced roughly 30 percent of their IT according to the respondents, in light of the fact that 35 percent are looking to outsource IT. It should be noted that the statement we used in the questionnaire "our goal is to outsource IT as much as possible" might leave out some projects.

We also compared the difference between organizations we classified as heavy outsourcers and selective outsourcers. Heavy outsourcers are companies who outsource more than 50 percent of their IT and selective outsourcers are organizations, who outsource a maximum of 15 percent of their IT. We did not find statistically significant difference in satisfaction with IT, but there seemed to be a correlation with the outsourcing strategy and success of IT projects. Heavy outsourcers experienced less project delays and felt that IT projects met their goals better than selective outsourcers.

IT project success according to outsourcing strategy

n = 44/127
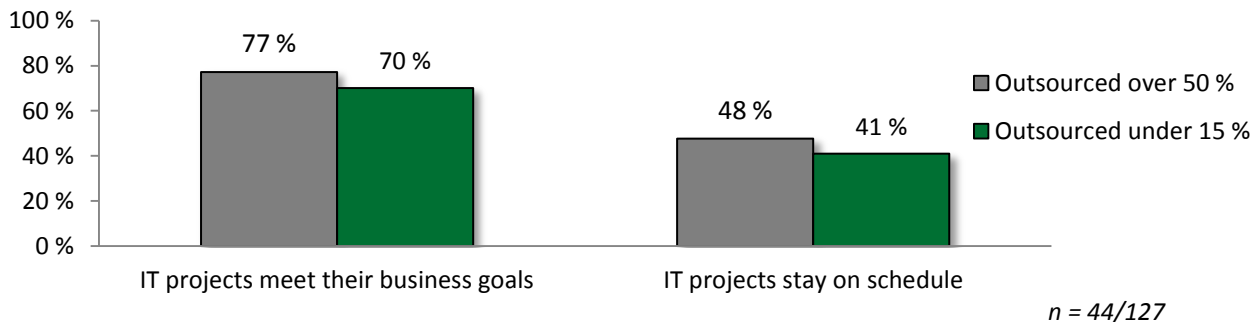
Respondents' views on IT project success, heavy outsourcers compared to selective outsourcers, percentage of respondents who agree with the statement

When we looked at how heavy outsourcers and selective outsourcers differ in terms of how IT contributes to their organizations financial performance with new innovations and process improvement, we made an interesting observation. Selective outsourcers estimated that IT enabled significantly higher revenue growth than heavy outsourcers (6,36 % compared to 4,27 %). Additionally, this difference seems rather high when you take into account the fact that there was no difference between the groups' views on how important they judged IT enabled innovations and process improvements for the organization's success.

How much did IT enabled innovations and new business models grow your organization's revenue last year?

n = 44/127
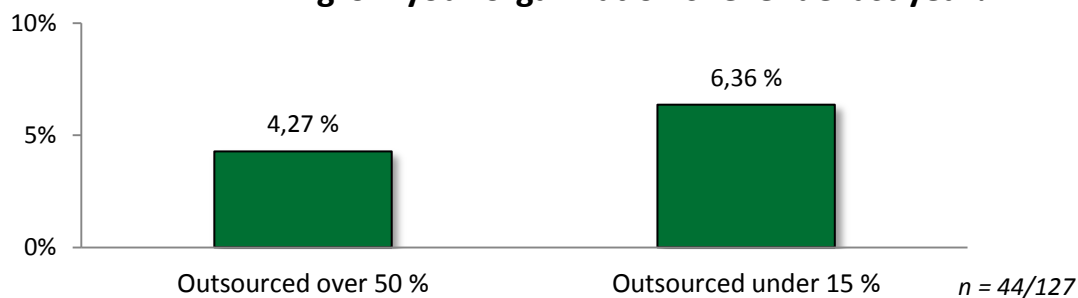
Respondents' views on how the new IT enabled innovations and new business models impact their business, difference between heavy outsourcers and selective outsourcers

The cloud services are closely related to outsourcing and therefore it is a natural consequence that the level of outsourcing is positively related to the willingness to use cloud services. According to the respondents of heavy outsourcers, 21% of them aim for maximum use of cloud services whereby the corresponding percentage by the selective outsourcers was only 14%.

Additionally the economic situation has an impact on the outsourcing strategy in many ways. The heavily outsourcing organizations tend to be less prone to postpone their projects and less likely to invest in IT efficiency, training of the users and development of IT based business management.

7.1 IT Outsourcing providers

In this year's IT Barometer we also included questions on outsourcing providers for the first time. We asked the respondents which two companies they considered most potential outsourcing partner for their organization with an open question. We received mentions for 79 different companies altogether from 156 respondents. The most mentioned outsourcing partner was Tieto. Over a fourth of all companies mentioned Tieto as one of their top two potential outsourcing partners. The next most popular in our research were Fujitsu and Logica. The top seven was rounded out with IBM, Sonera, Elisa and Atea. The bar graph below shows the companies receiving most votes.

Tieto	27 %
Fujitsu	22 %
Logica	20 %
IBM	14 %
Sonera	7 %
Atea	6 %
Elisa	5 %
Appelsiini	4 %
Isoworks	4 %
Enfo	4 %
SAP	3 %
Siemens	3 %
Microsoft	3 %
Javerdel	3 %
DNA	3 %
Capgemini	3 %
Protie	3 %
Anvia	2 %
Accenture	2 %

n = 156
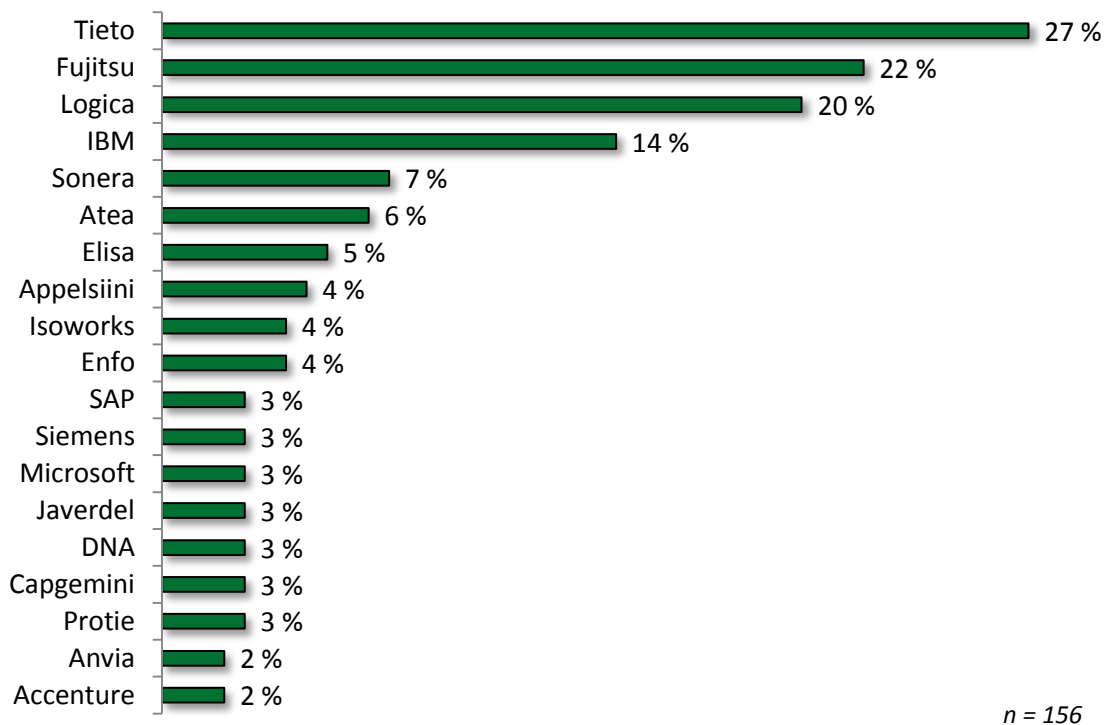
Replies to the question:"Name the two most potential outsourcing partners for your organization?"

One significant observation from the data is that the rise of telecom companies as viable IT outsourcing partners for companies. TeliaSonera (or Sonera in Finland) inched its way among the top five providers and Elisa got the seventh position. DNA and companies in the Finnet camp received mentions as well. This is an interesting development because telecom operators and IT services providers are often cooperating on customer projects and outsourcing setups with clearly defined roles. The borders between these roles might become blurred in the future and we might see telecom companies and IT service providers competing for the same customers in the future. As we expected, telecom operators received most of their votes from smaller organizations, but somewhat surprisingly, the operators seemed to be more popular among IT management.

The largest difference between those who consider IT service providers and those whose who consider operators as their most potential outsourcing partners comes from cloud services. Those who mention telecom companies as their most potential outsourcing partners are more likely to regard cloud services as highly important to their organizations. Over 50 percent of these respondents estimated, that their organizations are looking to move as much as possible of their IT to Cloud services. Another interesting

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thing to note is that the companies, who regarded telecom operators as their most potential outsourcing partners are also more likely to see smart devices as a part of their organization's IT infrastructure.

8. Social media and web based business

8.1   Social media in business use

We have followed how organization utilize social media since IT Barometer 2009. In this year's IT Barometer, we decided to take an in-depth look into the subject. We asked the respondents where in the organization they are utilizing social media. As expected, the results showed that social media is most heavily used in marketing communications. Almost half of the respondents said that their organization is using social media in marketing communications.

Our organization utilizes social media in…

Customer service	21 %
HR	20 %
Procurement	6 %
Supply chain management	4 %
Product development	18 %
Sales	16 %
Marketing	45 %
Communications	47 %

n = 235
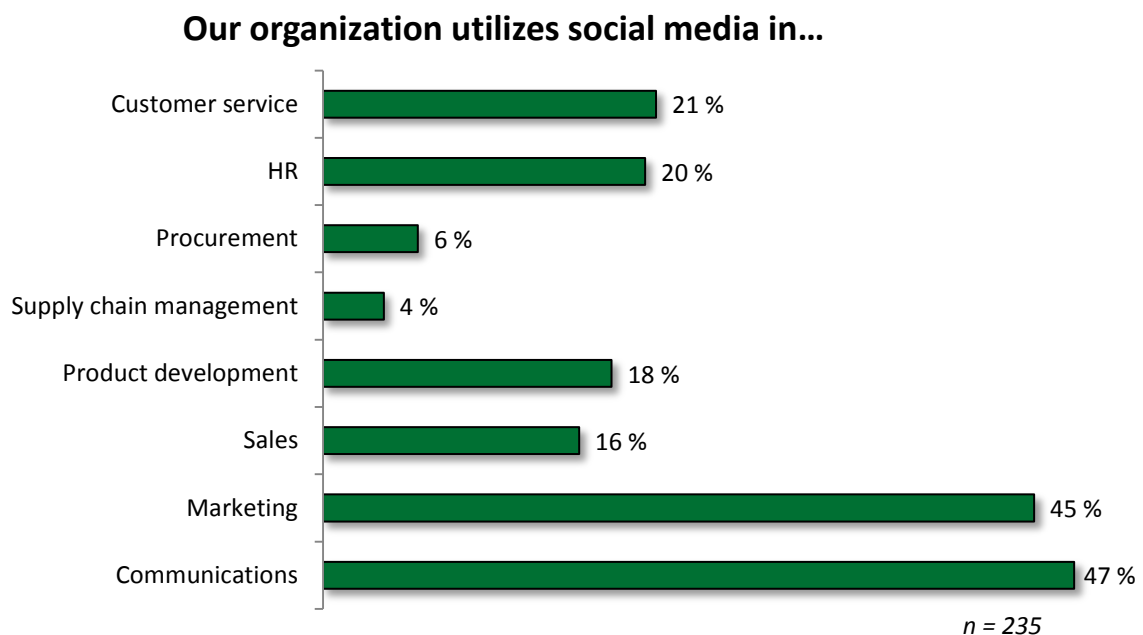
Respondents' views on where their organization utilizes social media

Social media is not nearly as popular in other company functions, but they are catching up fast. For example, 21 percent of the surveyed companies use social media for customer service and 16 percent of the companies utilize social media for sales. These figures have grown rapidly from previous research – for instance in 2009, the corresponding figure for customers service was 11 percent according to the study "Social Media in Sales and Customer Service".

If social media in sales and customer service is burgeoning, companies very seldom use social media to support supply chain management or procurement. Only 6 percent of the surveyed companies use social media in procurement functions.

We found a slight correlation with organization size and how social media is used. According to our research, larger companies use social media in a wider range of functions that smaller companies. It is important to note that the figures are averages and hide a wide range of different approaches - some industries and companies are very advances in terms of using social media to support their business.

It also seems that there is a connection with how an organization uses social media and how much it emphasizes IT. Respondents, who thought that IT innovations are important to their success, where IT is treated as a strategic resource and competitive advantage, are more likely to utilize social media widely.

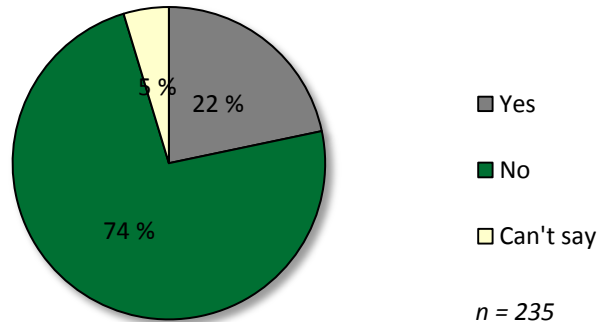## 8.2   Social media strategy and use

In IT Barometers 2009 and 2010 roughly the same amount of companies (16 %) had created a social media strategy. In this year's IT Barometer, the figure had grown dramatically and today, one third of Finnish companies have a social media strategy on place, as the bar graph below shows. This figure is a clear indication on how social media is becoming more widely used in Finnish companies.

STATEMENT: Our organization has a clear strategy for utilizing social media

Year	No	Can't say	Yes
2011	60 %	6 %	34 %
2010	71 %	13 %	16 %
2009	70 %	14 %	16 %

n = 235/164/119
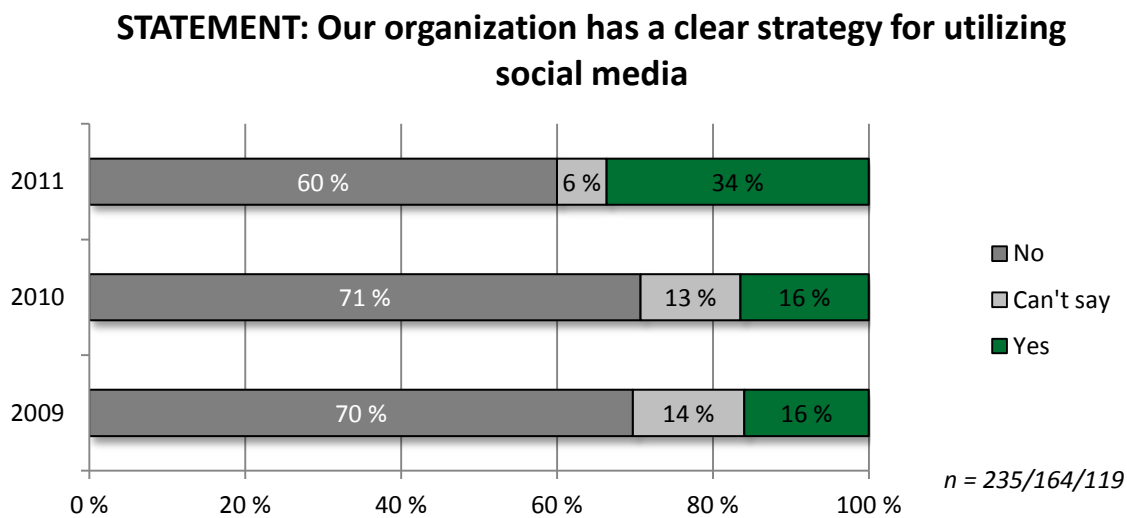
Respondents' views on whether their organization has a social media strategy in place

According to our research, companies who have a social media strategy also tend to have a strategy for utilizing web based business and a strategy to manage the effects or consumerization. Social media strategies are often part of a larger strategy such as a marketing strategy. According to our research, creating social media strategies often require contributions from different units in an organization, mainly due to the fact that social media touches almost all parts of an organization. It is interesting to note that we found a strong correlation from an organization having a social media strategy and IT enabled revenue growth: if a respondent estimated that IT is providing a large boost in revenues, they were also more likely to have a social media strategy in place.

Does your organization encourage employees to actively participate in social media discussion?


Yes

No

Can't say

n = 235

Respondents' views in whether their organization is encouraging employees to actively participate in social media

One interesting observation we found was that many of the social media strategies that companies have are restricting strategies as the pie chart above demonstrates. According to the respondents, more and more companies have decided not to encourage employees to actively participate in social media. One explanation to this phenomenon could be that companies fear that services like Facebook take a piece of employees working time. According to the research, limiting strategies are more common in smaller organizations. It is also important to note that even if companies are not encouraging users to participate in social media, their attitudes are slowly changing because limiting the use of social media services has proved difficult.

9. Cloud Services

9.1 Share of cloud services currently and in the future

Share CURRENTLY

Share in THREE YEARS

6 %

94 %

19 %

81 %

■ Cloud services

■ Other IT

n = 130
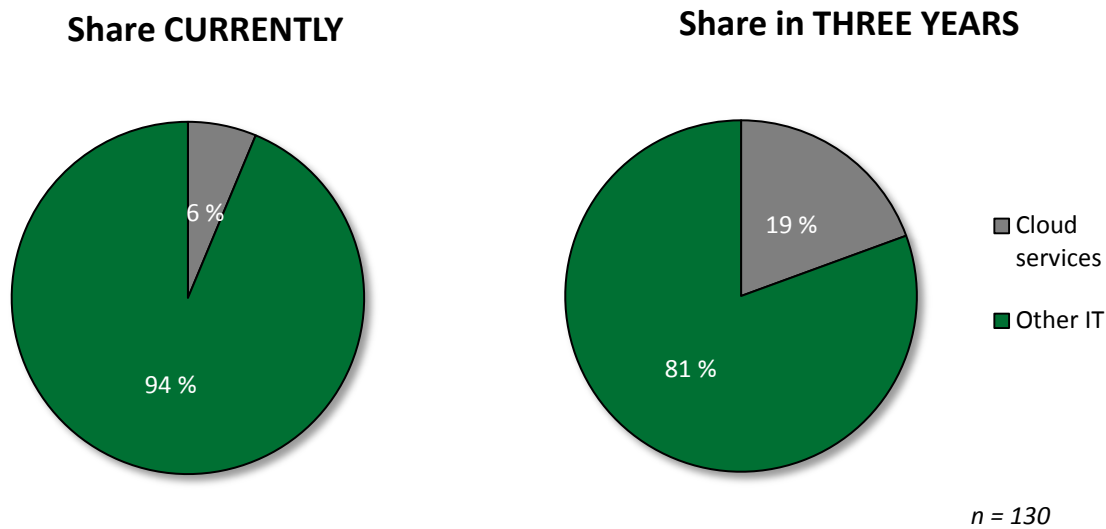
Respondents' estimate on what percentage of their IT-infrastructure operates in cloud services currently and three years from now.

Cloud services have been one of the hottest topics in IT – even to the degree that some view it as mostly hype. We wanted to find out if there's really fire where there is smoke and how Finnish companies really view cloud services.
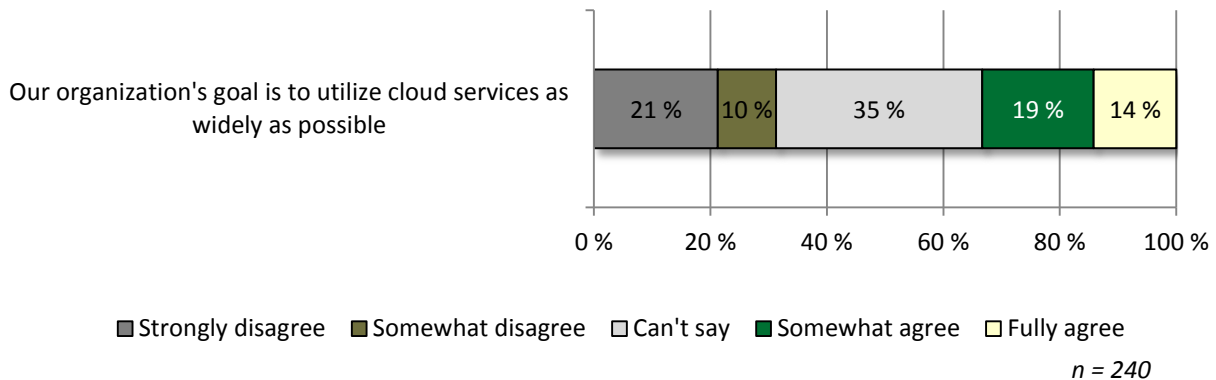
We asked the respondents to estimate, what share of their IT infrastructure is currently running on cloud services and how this share will change in the next three years. The results were stunning and clearly indicate that Finnish companies believe that cloud services will gain in popularity in the near future. On the average, Finnish companies estimated that the proportion of Cloud services will grow threefold in the next three years, from 6 percent to 19 percent.

The growth estimates are in line with international estimates, including estimates from Gartner and IDC (for example IDC has estimated that the market for public cloud services will grow from 16 billion USD to 55,5 billion USD from 2009 to 2014. However, we would like to remind that these results represent the views of respondents and actual market development can differ from the figures materially. However, views and expectations have the tendency to become reality and the views we found in IT Barometer give strong evidence in support of cloud services.

One observation we found from the data was that the respondents do not know cloud services well. A third of the respondent could not give an estimate in the share of cloud services in their organization. Especially business management had poor knowledge about cloud services. However, business management feels more positive towards cloud services in general than IT management. Company size somewhat influences the

willingness to adopt cloud services in a company – larger companies seem to be more willing to utilize cloud services than smaller ones.
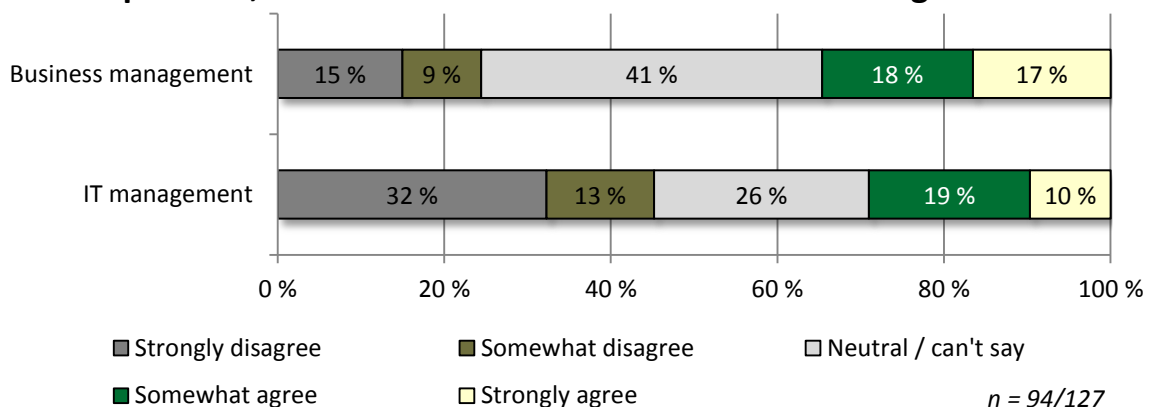
Plans to utilize cloud services

Our organization's goal is to utilize cloud services as widely as possible

21 %	10 %	35 %	19 %	14 %

■ Strongly disagree ■ Somewhat disagree □ Can't say ■ Somewhat agree □ Fully agree

n = 240

Respondents' views on their plans to utilize cloud services

A third of the respondents estimated that their organization aims to adopt cloud services widely. One third of the respondents say exactly the opposite: they do not plan to adopt cloud services in their companies. When interpreting the answers, it is important to bear in mind the large percentage of "neutral / can't say" answers, which gives a clear indication that a significant part of the respondents do not know cloud services well enough to give an educated estimation on them.

CLAIM: We intend to utilize cloud servcices as widely as possible, difference between business and IT management

Business management

15 %	9 %	41 %	18 %	17 %

IT management

32 %	13 %	26 %	19 %	10 %

■ Strongly disagree ■ Somewhat disagree □ Neutral / can't say
■ Somewhat agree □ Strongly agree

n = 94/127

IT and business management's views on plans to use cloud services

Business managers had a more positive view on cloud services than IT managers. One reason for this might be how the services have been communicated to the market – the cloud service message has concentrated on promises and benefits of cloud services, but left out some of the more tangible side. It is also possible that IT management has a more realistic, experience based view on cloud services. Noticeably, 41 percent of business management's answers were in the neutral / can't say category.

In the IT Barometer, we wanted to find out what kind of companies are most likely to adopt cloud services in the future and how other variables are connected to cloud services. We found out that company size does not significantly affect cloud service plans. The most important factors were:

1. Outsourcing. The companies that have heavily outsourced their IT are also more likely to turn to cloud services. Also companies who are looking to outsource more are looking to utilize cloud services.

How large part of your IT will run on cloud services in three years' time?	Correlation
How large part of your IT is outsourced?	**0,12**
Our organizations goal is to outsource IT as widely as possible	**0,41**

2. Doubts and fears about cloud services. Organizations, which are not looking to utilize cloud services have more fears on cloud services than other companies. They often regard cloud services as hype and see that cloud services include promises that cannot be fulfilled. These respondents see especially Security, Reliability and difficulty of moving to cloud services as the biggest obstacles.

How large a percentage if your IT is operating in cloud services three years from now?	Correlation
Cloud services include too much hype, unfulfilled promises and shortcomings	**-0,37**
Obstacle for cloud services – information security	**-0,19**
Obstacle for cloud services – reliability	**-0,17**
Obstacle for cloud services – difficulty of moving to Cloud services	**-0,17**

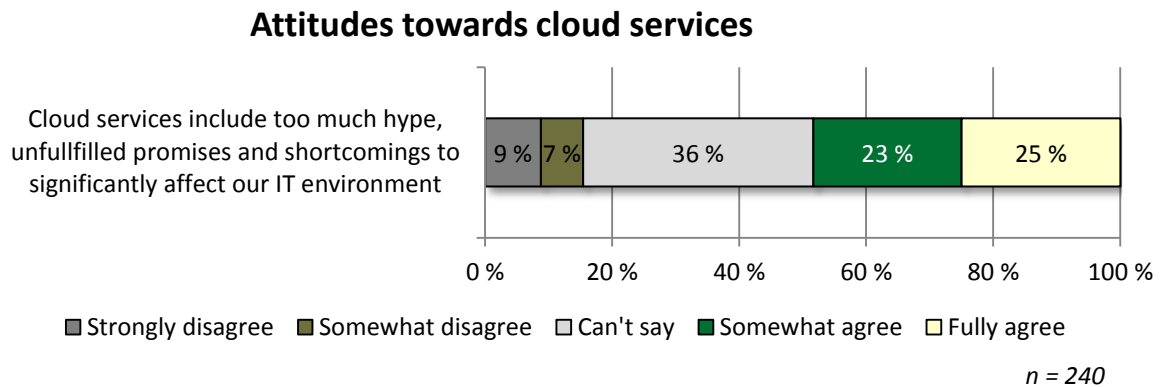### Cloud service plans and adoption according to outsourcing strategy
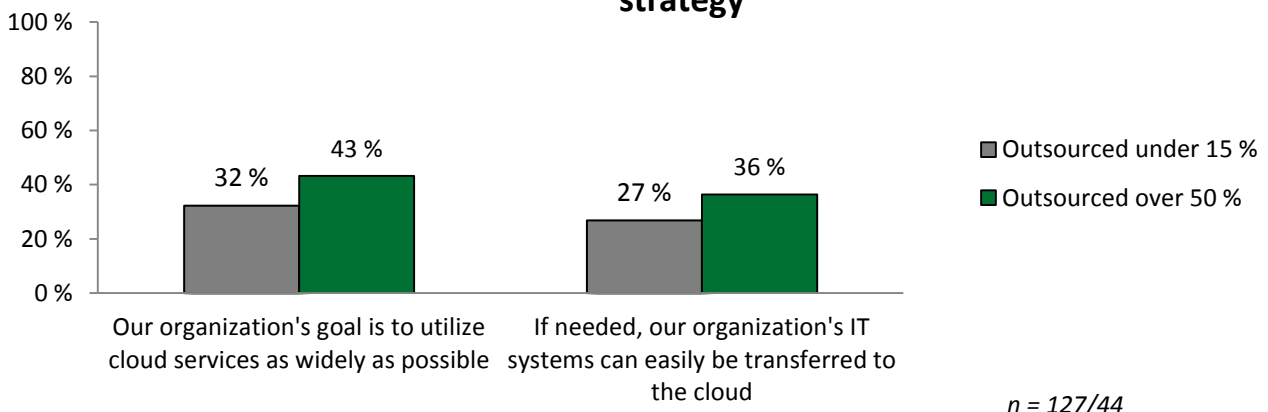
Share of respondents who agree with the statement

Outsourcing strategy and outsourcing goals seem to be connected with plans to use cloud services. Companies who have outsourced more than 50 percent of their IT are more likely to adopt cloud services. 43 percent of the heavy outsourcers state that their goal is to use cloud services as much as possible while that figure is 32 percent among the selective outsourcers (companies who outsource less than 15 percent of their IT).

It is also interesting to note that it seems that the level of outsourcing affects the process of moving to cloud services. Heavy outsourcers find it easier to move to cloud services. 36 percent of heavy outsourcers felt that it would be easy to move current applications and systems to Cloud services while the corresponding figure among the selective outsourcers was 27 percent.

9.2 Attitudes towards cloud services

Attitudes towards cloud services

Cloud services include too much hype, unfullfilled promises and shortcomings to significantly affect our IT environment

| 9 % | 7 % | 36 % | 23 % | 25 % |

0 % — 20 % — 40 % — 60 % — 80 % — 100 %

■ Strongly disagree ■ Somewhat disagree ☐ Can't say ■ Somewhat agree ☐ Fully agree
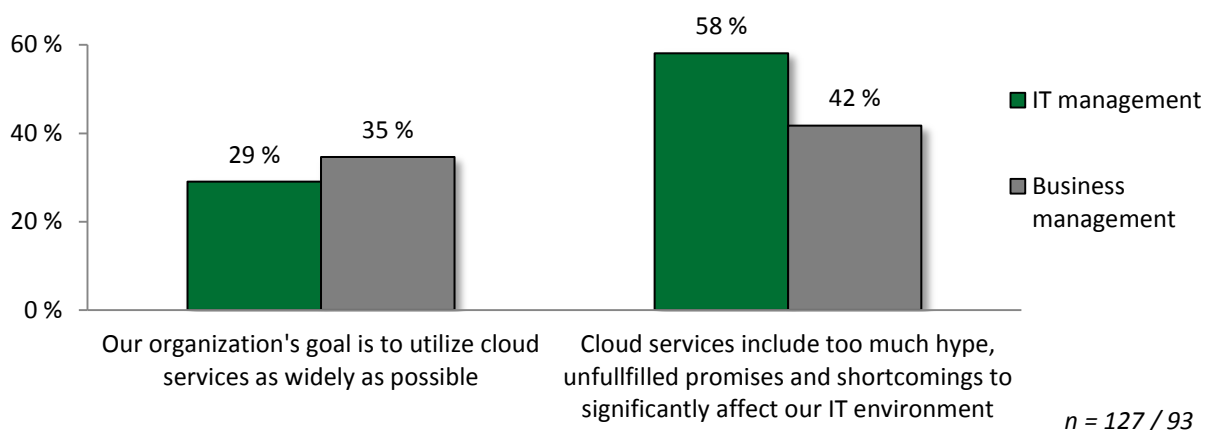
n = 240

Respondents' attitudes towards cloud services

Even though the respondents see that cloud services will grow rapidly, the general attitude towards cloud service is fairly skeptical, even negative. This negative sentiment might reflect the disappointment with promises made about Cloud services.

Almost half of respondents feel that cloud services include too much hype and unfulfilled promises and shortcomings to have a significant effect on their IT. Alarmingly, only one in six companies disagrees with the sentence. It is important to note that seeing cloud services as hype and using cloud services have a strong negative correlation: the companies that are using cloud services today do not believe the Cloud services are all hype. We also found out that an organization's size does not affect their attitudes on cloud services.

IT and business management attitudes towards cloud services

Our organization's goal is to utilize cloud services as widely as possible: IT management 29 %, Business management 35 %

Cloud services include too much hype, unfullfilled promises and shortcomings to significantly affect our IT environment: IT management 58 %, Business management 42 %

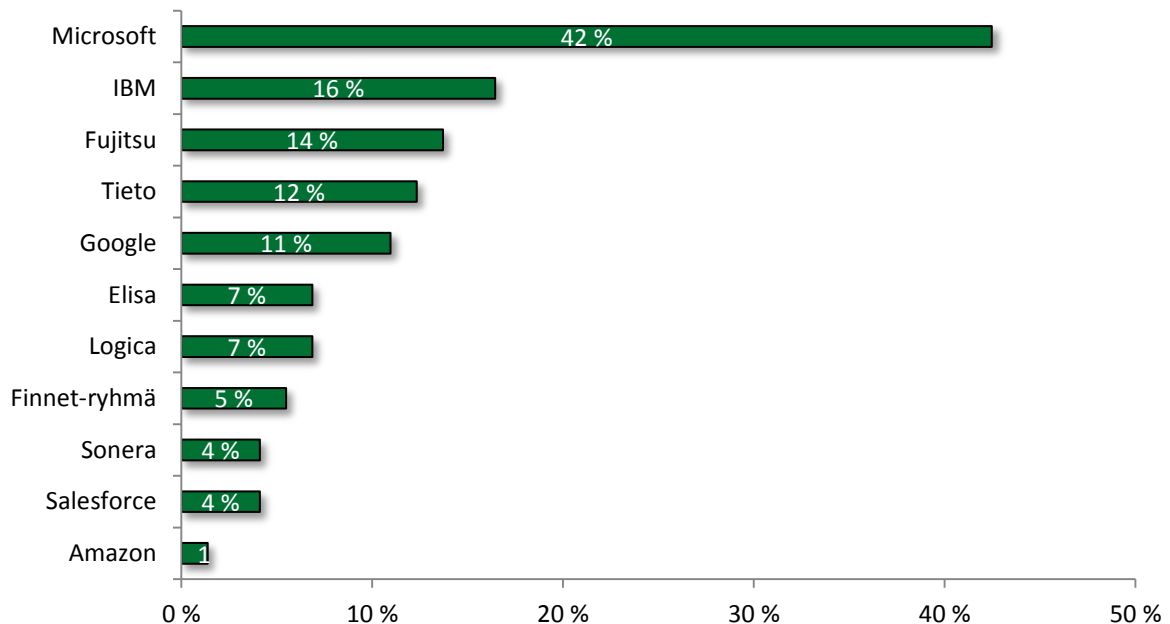■ IT management ■ Business management

n = 127 / 93

IT and business management views on cloud services. Share of respondents who agree with the statement.

As we previously noted, IT and business management have different views on cloud services. It seems that the way cloud services have been marketed appeals more to business management and they do not see cloud services as unfulfilled promises nearly as often as IT management does. It might be that some in business management see cloud services as a way of bypassing the IT function when creating new applications. Despite the difference in opinions, IT and business management share the same opinion on cloud service growth.

9.3 Cloud service providers

Name the two most potential cloud service providers for your organisation

Provider	Percentage
Microsoft	42 %
IBM	16 %
Fujitsu	14 %
Tieto	12 %
Google	11 %
Elisa	7 %
Logica	7 %
Finnet-ryhmä	5 %
Sonera	4 %
Salesforce	4 %
Amazon	1

n = 84, 168 answers

Respondents' views on the two most significant cloud service providers to their organization. Percentage of companies that mentioned the vendor.
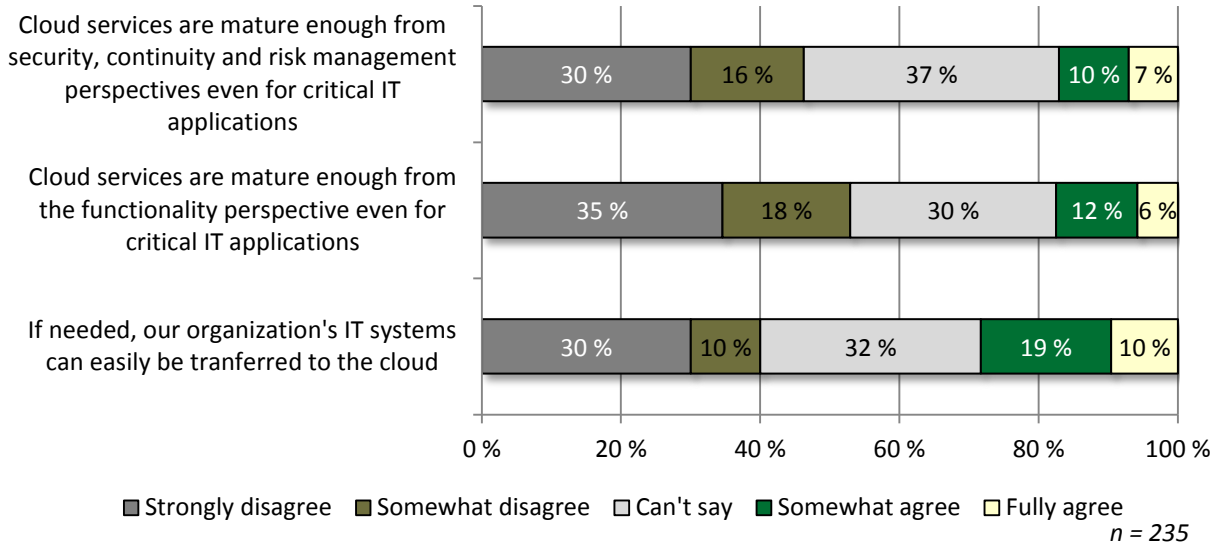
We asked the respondents to name two cloud services providers that would be most potential for their organizations. We saw many different companies mentioned and it is clear that the respondents view cloud services differently. Some of the respondents might see cloud services as computing capacity bought on a cloud model whereas some of the respondents see cloud services more as applications provided on a service model (akin to SaaS).

It seems that at least in companies' perceptions, Microsoft dominates the cloud service field, even though it is more of an application and technology provides, not really a capacity service provider. From capacity providers, IBM has the number one image position in Finland, but Fujitsu and Tieto follow closely behind. One interesting thing to note is that carriers gathered fairly many answers from the respondents, with Elisa having the number one image position among the carriers. Google received 8 mentions in the research and Amazon received one single mention, even though Amazon cloud services have been widely discussed in the media.

One thing to note is that the mentions were spread out over 40 different providers and among those receiving mentions were Atea, Capgemini, Cresscom and Siemens, but several large IT service providers such as HP and Accenture did not receive any mentions.
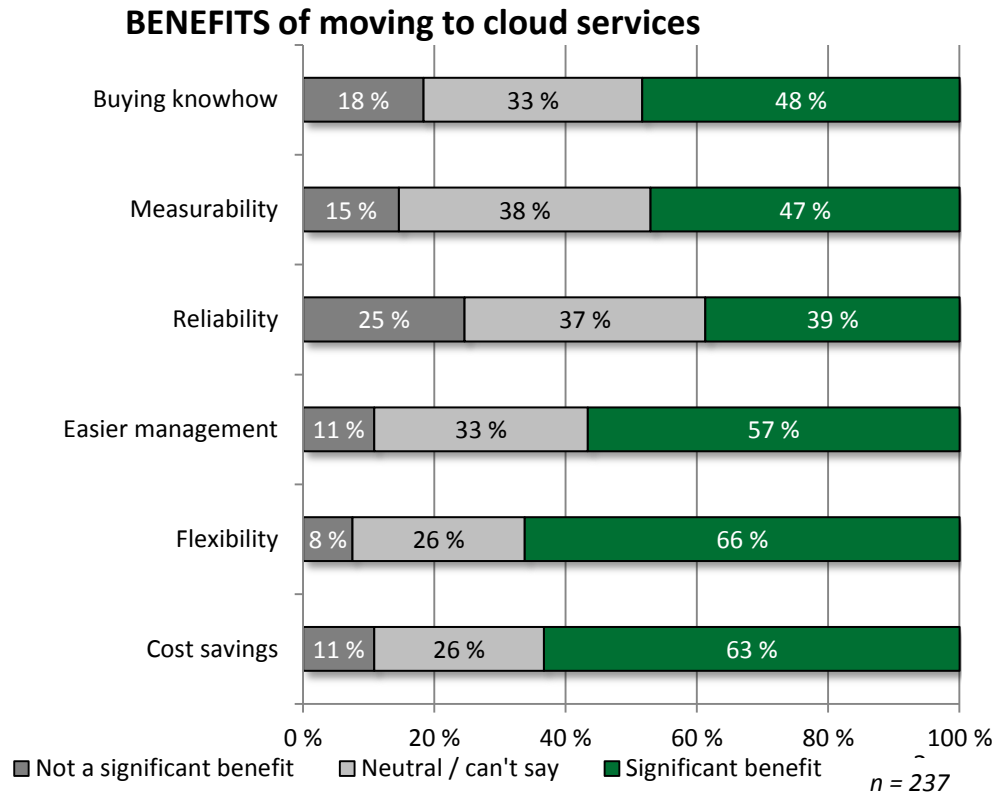
9.4 Cloud service maturity

Maturity of cloud services

Cloud services are mature enough from security, continuity and risk management perspectives even for critical IT applications
- 30 % | 16 % | 37 % | 10 % | 7 %

Cloud services are mature enough from the functionality perspective even for critical IT applications
- 35 % | 18 % | 30 % | 12 % | 6 %

If needed, our organization's IT systems can easily be tranferred to the cloud
- 30 % | 10 % | 32 % | 19 % | 10 %

0 % 20 % 40 % 60 % 80 % 100 %

■ Strongly disagree ■ Somewhat disagree □ Can't say ■ Somewhat agree □ Fully agree

n = 235

Respondents' views on cloud service maturity

Cloud services have generated huge market and media interest, and we've seen large promises made on the services in the public eye. How can these promises be redeemed and do the Finnish companies feel that Cloud services are mature enough? The research gives quite a clear picture: half of Finnish companies (49 %) surveyed at least partly agree that Cloud services include too much hype, unfulfilled promises or deficiencies and we see one reason being that the market has not matured yet. Only 18 percent of the respondents said that Cloud services are mature enough to handle even critical company applications. The figure is very low, but we expect this figure to significantly rise in the future and consequently, more companies will adopt cloud services. One third of the respondents said that their goal is to widely move to cloud services.
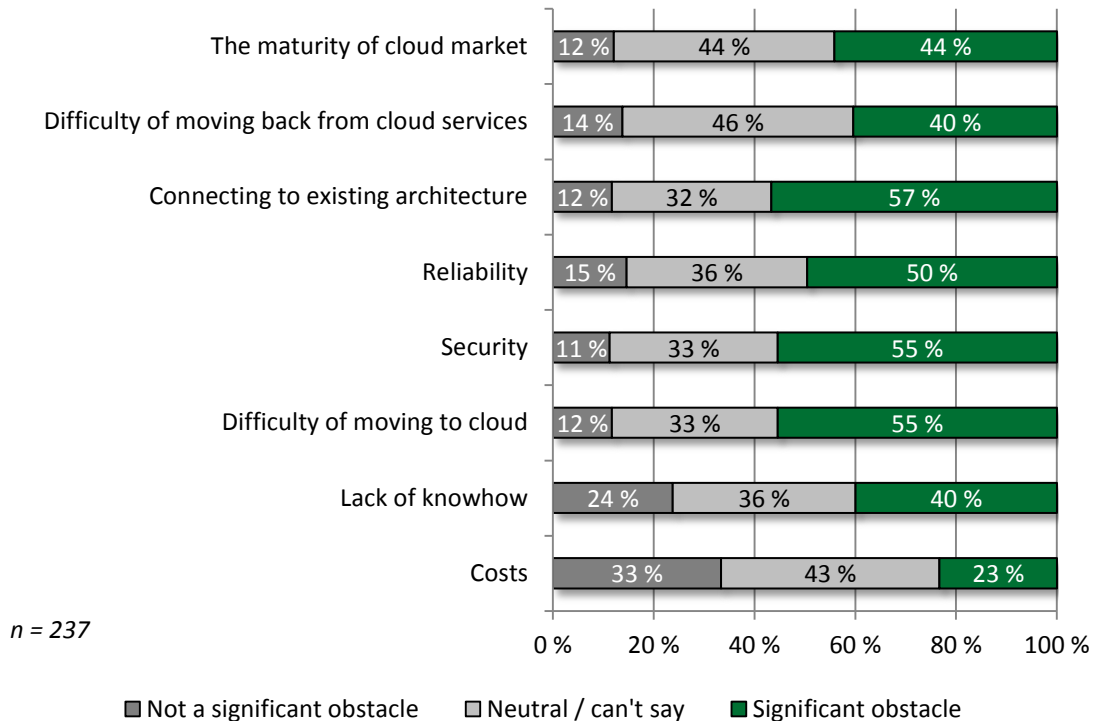
9.5 Benefits of cloud

BENEFITS of moving to cloud services

Category	Not a significant benefit	Neutral / can't say	Significant benefit
Buying knowhow	18 %	33 %	48 %
Measurability	15 %	38 %	47 %
Reliability	25 %	37 %	39 %
Easier management	11 %	33 %	57 %
Flexibility	8 %	26 %	66 %
Cost savings	11 %	26 %	63 %

n = 237

Respondents views on the benefits of moving to cloud services

We also looked into what factors the respondents see as the major benefits of cloud services and why they are thinking of investing in them. In our research, the biggest single benefit from cloud services turned out to be flexibility and cost savings. Two thirds of the respondents (66 %) said that they regard flexibility as a major benefit for cloud services and almost as many (63 %) listed cost savings as an important benefit. Reversely, reliability is not seen as major benefit of cloud services – only 39 percent of the respondents see it as a significant benefit. Roughly half of the respondents see measurability, the ability to acquire skills that the company does not have, and easier management as major benefits of cloud services.

9.6 Obstacles for moving to cloud services

OBSTACLES of moving to cloud services

Obstacle	Not a significant obstacle	Neutral / can't say	Significant obstacle
The maturity of cloud market	12 %	44 %	44 %
Difficulty of moving back from cloud services	14 %	46 %	40 %
Connecting to existing architecture	12 %	32 %	57 %
Reliability	15 %	36 %	50 %
Security	11 %	33 %	55 %
Difficulty of moving to cloud	12 %	33 %	55 %
Lack of knowhow	24 %	36 %	40 %
Costs	33 %	43 %	23 %

n = 237

■ Not a significant obstacle   ■ Neutral / can't say   ■ Significant obstacle

Share of respondents who view the obstacle as significant to their organization

We also looked into the obstacles that companies see in cloud services. What are the things that the Finnish organizations see as the biggest problems in cloud services? The research revealed that the largest obstacles facing cloud services are connecting cloud services to current IT infrastructure, information security and the difficulty of moving to cloud services from current systems. More than 50 percent of the companies viewed these as significant challenges. Surprisingly, costs were not seen as a major obstacle.

10. Consumerization

Organizations' stance towards employees using their own services and devices at work
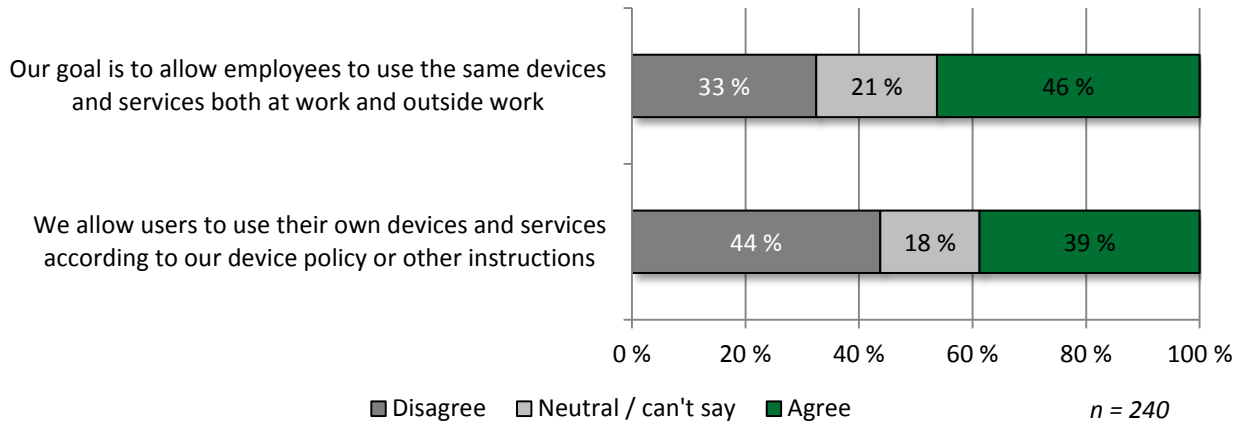
Respondent's views on allowing employees to use their own devices and services at work in their organization

IT consumerization refers to the trend that many of the new IT innovations and devices are developed first to the consumer market and find their way to enterprise use only in a later time. Due to this trend, consumerization is also used to refer to the development that people are more and more starting to use the same devices, application and services at work and outside work. For example, some people prefer to use their own laptop computer for work. The most common explanation for this trend is that people generally feel that the devices and services they use outside work are more suited to them or provide more advanced functionality than those that the employer offers and therefore wish to use the same devices, application and services both at work and outside work.

According to our research, companies in Finland are generally ill prepared for consumerization. We found that in only 16 percent of the companies surveyed, users own devices and services were part of the company's IT architecture. Additionally, only one fourth of the companies had a concrete plan to address consumerization.

This number is surprisingly low when we consider that 39 percent of the companies surveyed said that their company's goal is to widely allow employees to use their own devices and services at work – even though that there might not be a concrete plan in place.

As a summary on consumerization, we conclude that Finnish companies approach the new trend from the hardware or device side. The rapidly changing It landscape has caught many companies unaware and there are just a selected few Finnish companies who have had the time to thoroughly plan how to take advantage and manage the change that consumerization brings.

## Do companies approach consumerization systematically?
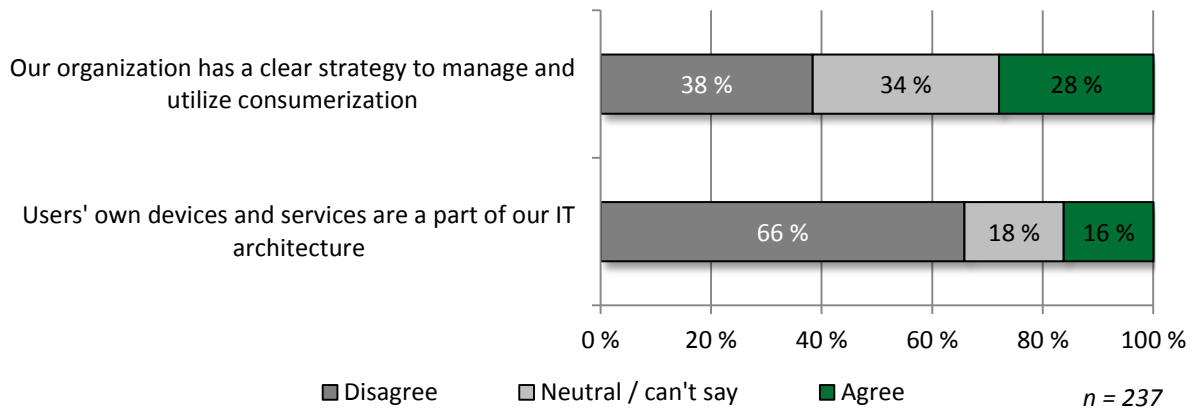
Respondents' views on how systematically their organization faces consumerization

Even though consumerization is recognized a major phenomenon, only a small minority of companies have a clear strategy or plan to manage and take advantage of the effects or consumerization. Only 28 percent of IT Barometer's respondents said that their organization has a clear strategy to manage consumerization. We consider this figure to be very low considering the substantial opportunities and risks that come with consumerization. Only 16 percent of the companies surveyed said that users' own devices and services are a part of the company's IT architecture.

10.1 Using own devices and services for work

## Does your organization allow the following smart devices and associated services at work?
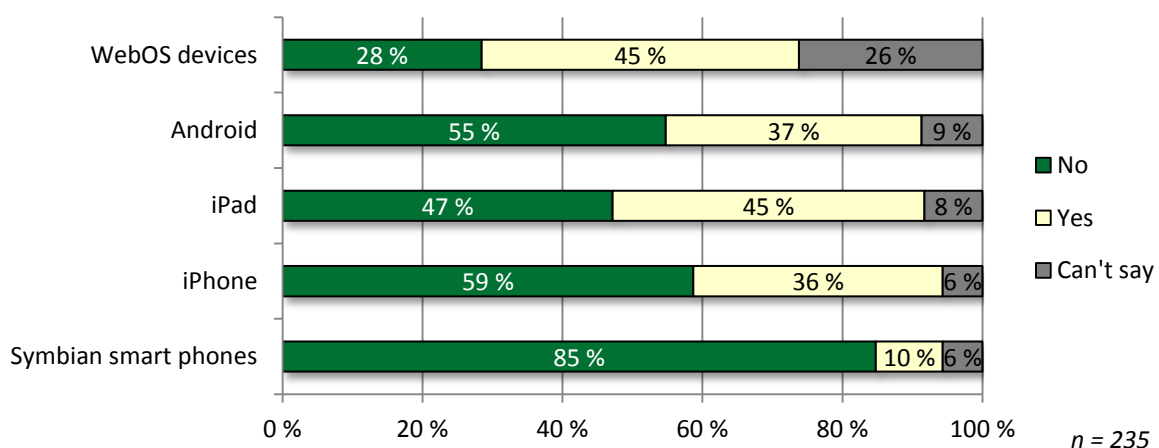
Respondents' views on what devices are allowed at their organizations

We also asked the respondents, what smart devices were allowed to be used for work at their organizations. The main reasons not to allow smart devices seem to be concerns for security and extra work supporting new devices causes. From the responses we received, it seems that smart devices have been adopted quite widely in Finnish companies. The majority of organizations allow some kind of smart device, but the popularity of different platforms seems to vary widely. Almost all of the Finnish organizations (85%) allow Symbian

devices, while iPhone and Android are allowed in little over a half of the organizations (Android 55%, iPhone 59%).

It is interesting to note that the fairly recently launched iPad is allowed in almost half of the organizations (47 %). WebOS devices are allowed in one of four organizations, but the large share of "can't say " answers can be interpreted to mean that Finnish organizations do not know the Web OS environment that well.

Does your organization allow the following services and applications at work?
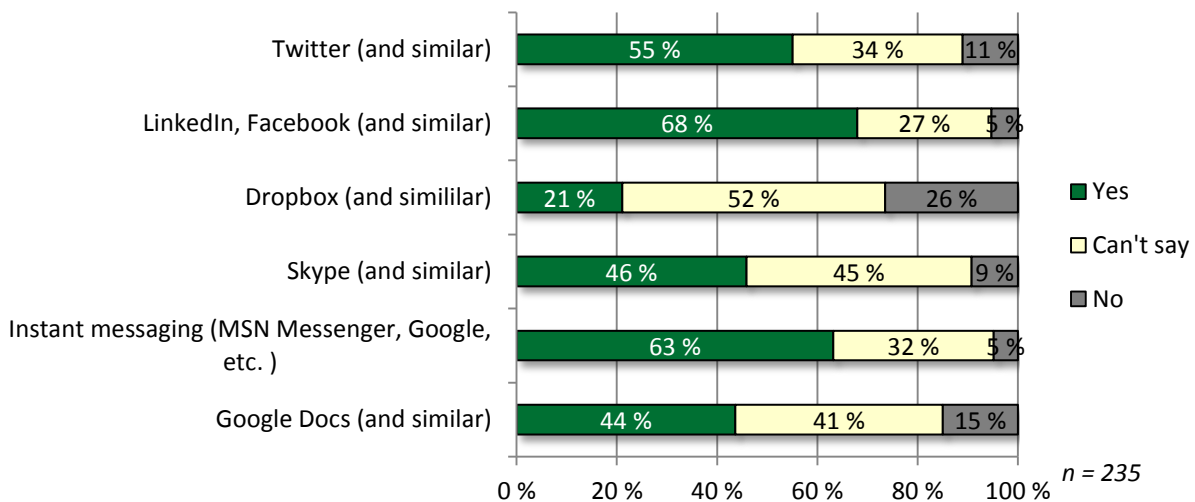
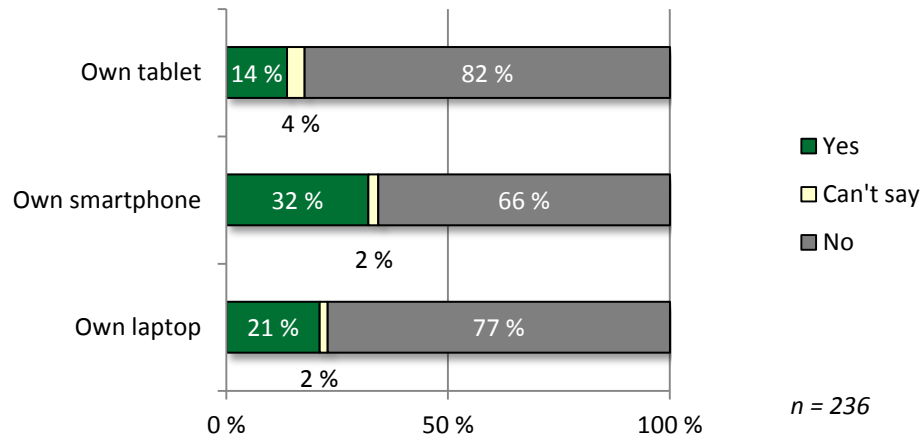*Respondents' views on what consumer services are allowed in their organizations*

In this year's IT Barometer, we also researched what consumer services were allowed in Finnish organizations. The most popular social networks such as Facebook and LinkedIn are allowed in the majority of organizations (68 %). The figure varies according to what industry the organization operates in. Twitter, which is not nearly as popular in Finland as Facebook and LinkedIn, is allowed in over half of the organizations surveyed (55 %).

Almost half of the organizations allow Internet calls through Skype, and what surprised us somewhat, almost two thirds of the organizations surveyed allow some form of instant messaging applications. One reason for this relatively high figure might be that many companies are using instant messaging as a part of their standard desktop software package.

Google Docs and similar applications were allowed in 44 percent of the companies. File exchange service Dropbox seems to be seldom allowed in Finnish organizations and it is explicitly forbidden in over half of Finnish companies. Dropbox seems to be fairly little known in Finnish organizations as one of four respondents stated that they could not say what the situation with Dropbox was in their organization.

10.2 Support for different devices

**Does your organization support the following devices?**

Respondents' views on what devices are supported in their organization

According to our research, Finnish organizations seldom support users own devices One third of the companies support users own smart phones (32 %) and one fifth of the organizations support users own laptops (21 %). Only 14 percent or the organizations support users' own tablets. We looked at what kind of companies support these devices and found that especially organizations that are looking to use IT as a competitive advantage support users own devices. Outsourcing is also a major factor – organizations that have outsourced a large part of their IT seem to be far more reluctant to support employees' own devices.

10.3 Opportunities and benefits of consumerization

Reasons to allow own devices and services at work
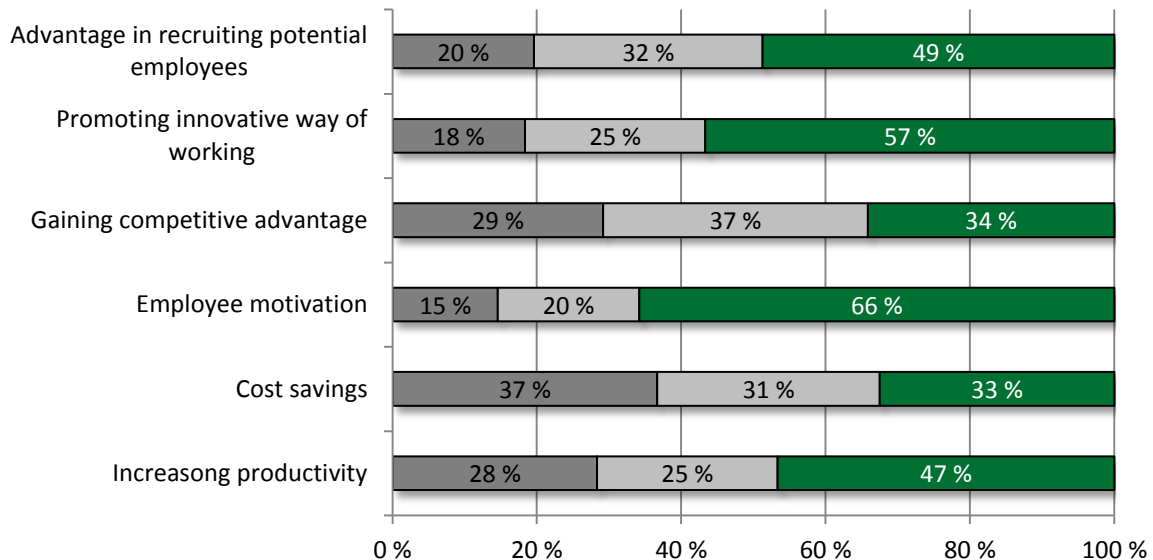
Respondents' views on reasons to allow own devices and services at work

Consumerization requires new capabilities, investments and ways of working – and with proper management, can bring in many benefits to an organization. What benefits do Finnish organizations perceive to be important to their business? In the IT Barometer, we asked what are the most important reasons and benefits for allowing own services and devices at work. As a summary, we can conclude that the most important reasons seem to be involved with keeping employee efficient and motivated and installing new ways of working. Hard economic reasons or competitive advantage are seldom seen as a reason to allow own devices and services.

Organizations see employee motivation and innovative ways of working as the most important reasons for allowing employees to use the same devices and services at work and outside work. Additionally, 49 percent of companies see embracing consumerization to be an effective way of competing on the recruiting market. Especially the companies who view IT as a competitive advantage find this to be an important reason. Cost saving are not seen as a major reason and only one third of the companies view this as a major reason. The figures are similar for seeing consumerization as a competitive advantage.

It seems that company size does not affect how they embrace consumerization, but the organization's industry does matter. We found several interesting correlations in the data, including the observation that companies that focus on work motivation and innovative ways of working seem to forget risk management.

It is important to note that there were many "can't say" answers in the data, which underlines that companies have not really given serious thought to consumerization and are quite ill prepared for the effects of consumerization.

Business and IT management have somewhat different views on the benefits of consumerization. Only one of four from IT management sees embracing consumerization as a way of achieving competitive advantage whereas the corresponding figure with business management is 40 percent. Both groups view employee motivation as an important reason – two thirds of both groups agree that it is a major benefit.

10.4 Threats and reasons not to allow own devices and services for work

Reasons NOT to allow own devices and services at work
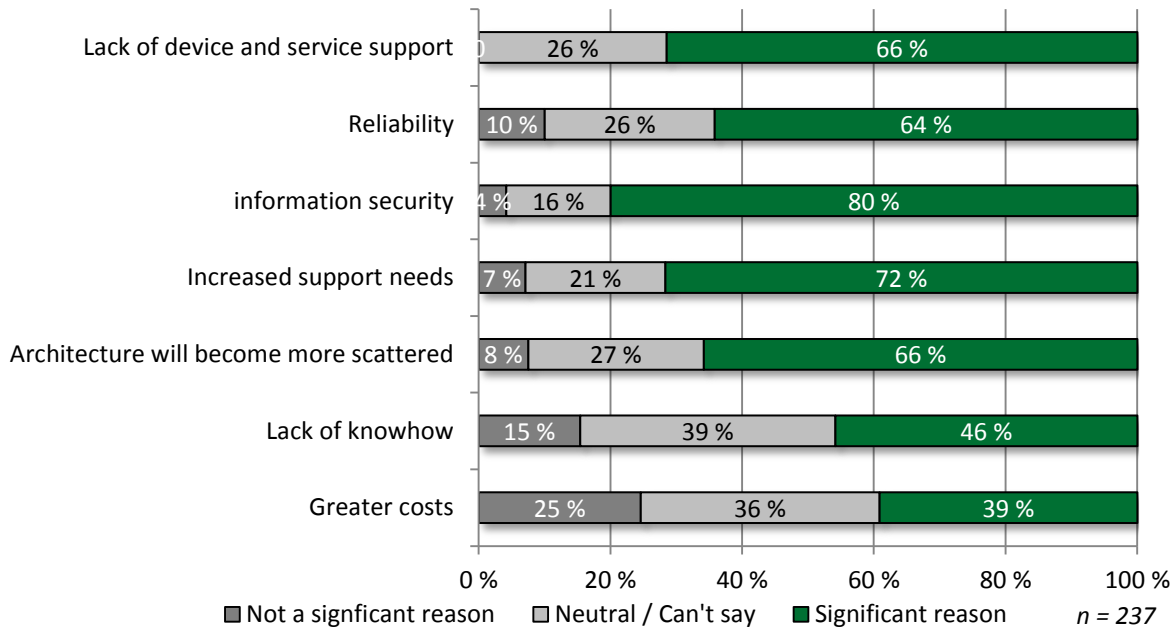
Respondents' views on not allowing employees to use their own devices and services at work

We also looked into the most important obstacles and threats for allowing employees to use the same services and devises at work and outside work. We presented the respondents with seven alternatives and asked them whether they see it as a reason to deny using the same devices and services at work and outside work. Our research shows that a typical Finnish organization sees many threats and obstacles, typically four of the abovementioned reasons.

The biggest obstacles are related to fears on information security. This has been a widely discussed topic in the Finnish media and 80 percent of the companies perceived it as a major reason to deny using the same devices and services at work and outside work. The second important reason is related to extra work that supporting these devices and services causes. Surprisingly, organizations did not see costs as a major obstacle, but it is important to note that even though organizations perceive other obstacles to be more important, still 49 percent of companies see costs as an issue.

When we looked at how IT and business management's views differed regarding reasons to deny using own devices and services, we noticed that IT-management sees more obstacles than business management. Reliability is the only obstacle where the two groups are on the same level, but IT management more perceives all the other reasons to be major obstacles. We can speculate that this discrepancy comes from the fact that IT management tends to be closer to actual reality of consumerization than business management.

In both of the groups, information security was most often perceived as an important obstacle: Almost 90 percent (88 %) of IT management considered it a threat. Additionally, IT management see the increased support needs as a major reason not to allow own devices and services. IT management is also more worried about lack of know-how regarding consumerization and over half (56 %) of the surveyed mentioned it as an issue while one third (38 %) of business management considered it a problem. Costs were the least of worries in both groups.