WHITE PAPER

Mobility: A new room or a whole new house

NNIT
Conscience driven. Value adding

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AUTHOR:
KATIE GOVE
MANAGING DIRECTOR, TRELLIS
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Preface

MAY 2012

In reading through the results of this study of mobility, we at NNIT are struck by several thoughts. It's clear that the participants of this study are convinced of the potential of mobility and mobile technology, not just to contribute to the growth of their organizations but also to directly and positively impact profit and productivity. In addition, it's abundantly clear that organizations have identified several primary goals to be achieved in mobility, for instance, to enable access to data and applications as a way of increasing agility and enabling a valuable new mode of interaction with key stakeholders, namely customers, clients and employees.

Some of the data as well as the qualitative input from interviews show that the participants of the study see many commonalities between the new era of mobility and the era of the internet which started to really gain ground in the mid-90s. Comparisons are almost unavoidable. References to data security, network security, device management and integration echo with our acquired knowledge and experiences from the past 17 or so years. Several have commented that what we're experiencing is evolution and not revolution.

There is a bit of truth to this. However, mobility is not just "the same procedure as last year." There is a critical and unavoidable difference between mobility circa 2012 and the internet journey that we have all been on over the past almost two decades. That difference is speed.

The rate of change and the increasing pace is remarkable. It won't take us 5 years to leapfrog from our initial forays into mobility to transformative process changes. Just as critical, the market won't wait for those who hesitate.

The picture painted by the results of the mobility study shows an enormous wellspring of expectation. Legacy systems will be integrated. Workflow will move to accommodate mobile platforms. The office no longer depends upon a physical desk nor a pc. Business processes will be specifically developed around mobility and through a perhaps more stringent value assessment than web apps have been subjected to due to the space and functionality demands of smaller devices. Work-life convergence shreds traditional boundaries and descriptions for both our jobs and also our access to services as consumers and citizens.

These changes will present both opportunities and challenges. Clearly, those who will most successfully meet these challenges will be those who can proceed quickly and efficiently through the work ahead. This means identifying strategic ambition and developing a roadmap to successfully address the demands and gaps.

The results of this study show that the majority of the participants, across industries, believe that their organizations are not necessarily as well prepared as they should be to meet the challenges of mobility, let alone to tackle this at an increasing pace. This is a critical concern. The study points to weaknesses in mobility strategy formulation, the apparent distance between business strategy and mobility initiatives, and the lack of collaborative, cross-functional involvement in developing mobility strategy and initiatives. On top of that, the number one concern of study participants is security. Nothing else comes close. With that in mind, it's thought provoking that 86% of the participants of the study say that they do not believe that their organization has completely understood the consequences that the coming changes in mobility will have for the organization's IT architecture and backbone.

Ratcheting up this already significant challenge is that there is a pronounced trend towards decentralization in both budgets and decision-making within mobility. This means that the organization and the IT backbone are forced into a position where independent and somewhat unfiltered needs have to be accommodated to some degree and those that can't be are consigned to a collection of wasted man-hours and investment. Avoiding this situation means that organizations must corral and direct decisions and initiatives, along with setting appropriate standards that help to produce value, not just activity. This is a significant demand and requires deliberate effort to get the IT backbone in place in addition to optimizing data centers and applications in order to serve the needs of organizations successfully doing business in the era of mobility.

NNIT can play a key role for organizations addressing these challenges. Our value proposition in mobility comprehensively covers both infrastructure design founded upon a secure and integrated back end along with top-notch advisory that works from the principle that success in mobility means successful organizational change management.

We look forward to being able to apply our core competencies in helping our clients deliver on the visions, ambitions, and necessities of mobility.

Karsten Fogh Ho-Lanng
Corporate Vice President, NNIT A/S

About this study

This study was commissioned by NNIT A/S and executed by Trellis. NNIT A/S is one of Denmark's leading consultancies in IT development, implementation and operations. For over a decade, NNIT has applied the latest advances in technology to make software development, business processes and communication significantly more effective. Trellis is one of Northern Europe's top consulting companies in knowledge-intensive outsourcing, typically in R&D, product development and integrated development environments. Trellis' service portfolio enables companies to understand, master and control their external value chain thereby increasing value and satisfaction.

The purpose of this study was to gain a better understanding of the use and promise of mobility among organizations in Denmark. Our interest was most predominantly on expectations; alignment between technology and business; technical and organizational readiness; and the perception of the opportunities and challenges presented by mobility.

There are 119 participants in the study. Among the participants are both NNIT customers as well as non-customers. The study includes respondents from both IT and the lines of business.

The companies and organizations in our study are larger organizations operating in four critical industry sectors: life sciences, financial, public and enterprise. The companies and public sector organizations included in this study are among those that are well known in both the Danish and the international markets.

119 participants:
- 87 decision makers
- CEOs
- CFOs
- CIOs
- Function heads
- Department heads

Of the participants in this study, 87 are decision makers and 33 are non-decision makers. The participants of this study who fall into the decision maker category are CEOs, CIOs, CFOs, as well as function and department heads. In every case, they have both budgetary and resource responsibility.

Industries:
• Life science
• Public sector
• Enterprise
• Finance

All 119 participants completed a survey of 50 questions. We then conducted detailed interviews with selected participants that represented a specific profile category among the decision makers. Among the interview subjects are a CIO from the financial sector, a CFO of a large municipality, a head of production from the pharmaceuticals manufacturing industry, a CEO from an international enterprise, an HR head from the life science industry, several function heads from the enterprise sector and a CIO from a large municipality.

Organizational representation:
• Line of business
• IT

The results of the study present a detailed and nuanced picture of the current mobility landscape in Denmark as well as the foundations upon which the future of organizational mobility will be built. We are convinced that our market can learn a lot from the collected input of our participants. It is our hope that organizations will be able to use these findings to improve the ways in which they strategize, plan, implement and manage their endeavors in mobility so that they are more able to derive value from them. ■

The big picture

We have entered a new era of technology that is bringing about startling changes to the ways in which we live and work. Mobile devices, coupled with greatly expanded access to data and networks have enabled both private consumers and professionals to alter the way in which they manage their lives and accomplish their work. Trains, airports, school rooms, hospitals and coffee shops, for instance, have become connected and with that, have enabled us to be connected in situations where it previously would have been unthinkable.

Added to this fundamental change is a visible and increasing pace of change that sends us hurtling faster and faster by technical milestones. It took 20 years from the invention of the first mobile phone to the first SMS; yet only 15 months from the end of 2009 to the beginning of 2011 for a 400-fold increase in web traffic by mobile devices in the UK.

This study takes a look at the macro context and the micro focus of the participants. To summarize some of the broad trends seen in the data from the research, there are generally positive responses about the opportunities and promises of mobility. However, moving away from the theoretical and into the realm of reality and implementation, there is a more negative view.

Participants are generally positive about the opportunities and promises of mobility

There is clearly a strong belief in the promise of mobility. There is comprehensive recognition that mobility is not only an important development but also a transformative development both on personal and business levels. Yet there is an almost unified chorus of negativity among the respondents regarding their own organizations' abilities to implement mobility on both technical and organizational levels, thereby delivering on the promises of mobility.

Clear chorus of negativity regarding their own organizations' abilities to implement mobility

In the abstract, the possibilities are endless. The study's participants enthused about the potential of mobility. However, actually implementing mobility and mobile solutions, as one of our CIO interview subjects noted, means the business

needs to “make choices about value for customers and value for the employees” and then apply them in collaboration with the IT organization. He commented that in principle, IT can make “anything” possible but it’s got to be the business guiding and filtering those choices. This means that the true challenge of mobility will be less about the technology and more about the way in which organizations decide to do something with it; and along with that, the degree to which the organizations are able to interpret business visions and needs for the mobile arena.

The true challenge of mobility is interpreting and implementing business needs

The mindset that appears regarding mobility is that organizations see it as something that they will append to their existing infrastructure. They don’t see mobility as a step onto another platform. That is, organizations approach mobility as if they are adding a room onto their house rather than building a whole new house. We believe that this mindset also explains some of the persistent distance to Cloud technologies, which the participants in our study tend to see as a whole new platform. Mobility addresses their desire to access their data in a way that suits them while Cloud seems to require them to move their data completely out of their “house” and into a whole new one; therefore seemingly out of their control. ■

Mobility is a hot topic

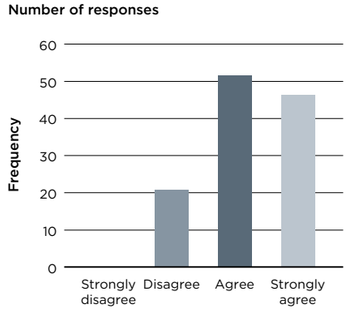
One thing that is clear among the participants of the study is that mobility is a hot topic. When asked if mobility and mobile technology will contribute to the growth of their organization, an utterly convincing 82% respond either “agree” or “strongly agree”. There isn’t a single respondent in the study who strongly disagrees with this question.

Looking more closely at the data, one can see an interesting split between how decision-makers and non-decision-makers feel about mobility. The decision-makers in the study, that is, CIOs, CEOs, department heads and function heads are noticeably more in agreement that mobility will contribute to the growth of their businesses. In fact, the numbers grow from the category “agree” to “strongly agree”. Among non-decision makers however, there is a marked softening from “agree” to “strongly agree”.

82% “agree” or “strongly agree” that mobility will contribute to the growth of their business

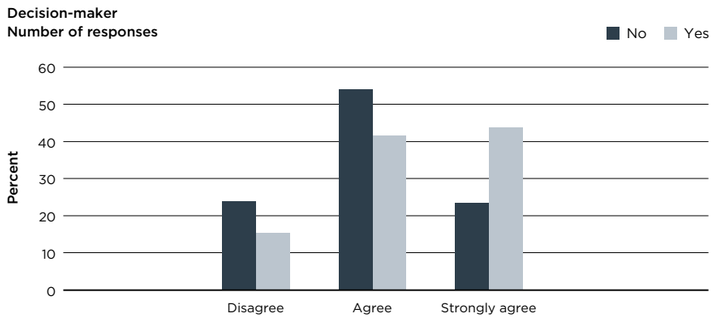
Among the industries, it’s clear that the finance industry is more convinced of mobility’s ability to contribute to the growth of the business than any of the other three. Among the industries, life science is the most cautious when considering how mobility could contribute to the growth of the business. Looking at the differences between the IT and line of business participants, reveals an interesting nuance: the IT respondents are more likely to “agree” or “strongly agree” with the idea that mobility and mobile technology will contribute to the growth of their business than the line of business respondents.

Figure 1: Mobility and mobile technology will contribute to the growth of our business.



Mean = 3.21
Std. Dev. = 0.723
N = 119

Figure 2: Mobility and mobile technology will contribute to the growth of our business.



There is a similar difference between decision makers and non-decision makers regarding priorities for 2012. Although there is a noticeable softening in both categories as to whether mobility is one of their organization's top two priorities in 2012, it's clear that decision makers believe that it is one of the top two priorities while non-decision makers do not.

While more respondents "agree" with this statement, most respondents cluster on either side of neutral (either "agree" or "disagree") rather than squarely in the top in "strongly agree". This softening of opinion when it comes to implementation and action is something that is seen across the whole study. In principle and at the abstract levels, attitudes about mobility are impressively high. However, when it comes to specific plans and actual experience, opinions become less rosy. It's not sour; but it's significantly less positive and certainly worth noting.

Among the industries, again, the finance industry shows its belief in the power of mobility. They rank the highest in agreement that mobility is one of their top two priorities for 2012.

Those organizations that "strongly agree" that mobility is one of their top two priorities for 2012, say that their plans in mobility are driven by the needs of the lines of businesses as well as by needs of business partners and suppliers. They also tend to state that they are highly likely to involve partners and suppliers in delivering their ambitions in mobility.

However, there is a clear difference in priority of mobility between the line of business and IT respondents in the study. The IT respondents are much more likely to say that mobility is one of the top two priorities for 2012 while the line of business participants are considerably less inclined to agree with this statement. ■

Figure 3: Mobility is one of our top two priorities in 2012.

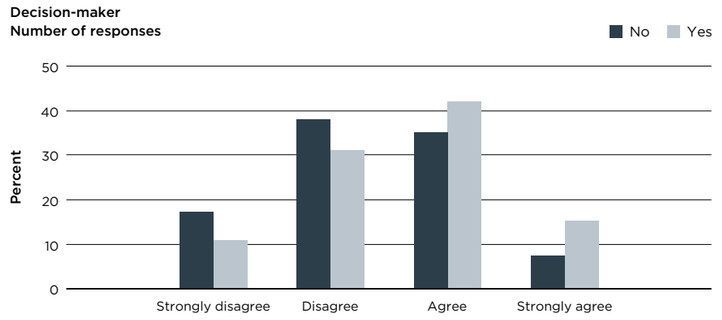
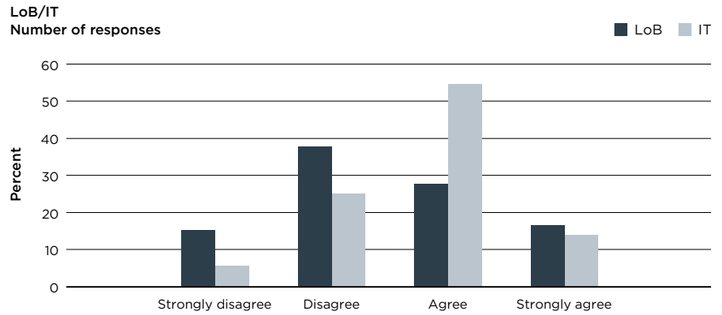
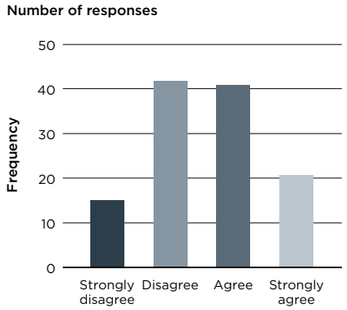


Figure 4: Mobility is one of our top two priorities in 2012.



Mobility strategy and the alignment to the business

Figure 5: Our organization has a comprehensive mobile strategy that addresses use of devices, data security and IT architecture issues.



Mean = 2.57
Std. Dev. = 0.926
N = 119

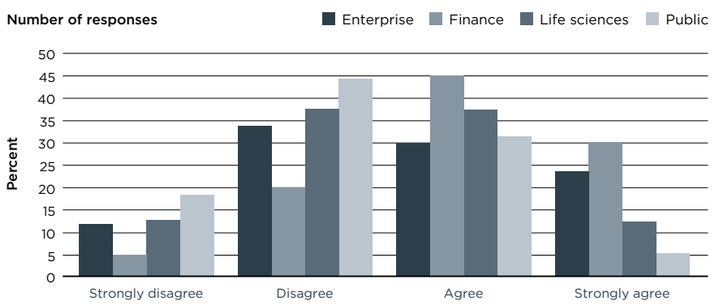
Although there is a notable minority that strongly agrees that their organizations have comprehensive mobile strategies that includes the use of devices, data security and IT architecture, there is a considerably larger cluster of responses that reply neutrally or negatively.

Among the line of business participants, the data shows that they are most likely to choose a "disagree" response although overall, they have a generally more positive take on the question of comprehensiveness. Among the IT participants, there is a significant minority who chose "strongly disagree", a pattern that distinguishes their responses from the line of business responses.

When asked if both the lines of business and IT participated in making this mobile strategy, participants most commonly reply in the negative. Among the decision makers in the study, this trend is slightly more pronounced. The line of business participants echo this negative response, while the IT participants were in fair agreement that the strategy had been cooperatively developed.

Looking more closely at the numbers by breaking them down according to industry, there are some clearer patterns. Primarily, that the finance sector trends more positively, while enterprise and the public sector trend more negatively. Life science shows a fairly even distribution among its respondents across both negative and positive indicators.

Figure 6: Our organization has a comprehensive mobile strategy that addresses use of devices, data security and IT architecture issues.



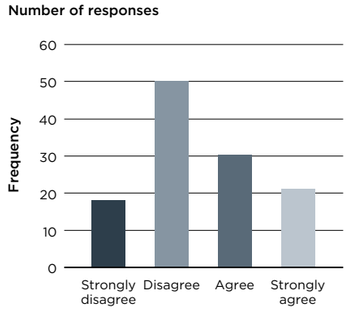
This is a critical line of inquiry. While there is a consistent minority that says that they have excellent cohesion between IT and the lines of business when it comes to mobility, most of the participants in the study say that their activities and investments in mobility don't show good alignment between mobility and business strategy; and again, there is a trend towards more negative responses among decision makers and the line of business participants.

The minority that has a comprehensive mobility strategy that has been developed by both IT and the business shows a significant correlation to a high degree of alignment between IT and the business. This minority, which is overly represented by participants in the financial industry and under represented by participants in the public sector, also shows a significant correlation to being driven by the needs of customers and the business and most importantly, that the organization is prepared to meet the challenges of mobility.

What this means is that companies that collaborate across functions to develop a mobility strategy are also the companies that include the broadest scope of stakeholders in their thinking. As opposed to the majority of the organizations in the study that have a mobility strategy that reflects one perspective, this small group has a mobility strategy that was developed as a collaborative effort and incorporates the needs of employees, lines of business, clients and partners. Interestingly, this group also ranks highest when asked if their organization is prepared to meet the challenges of mobility.

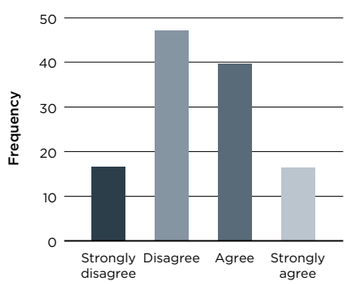
The results of the study show that the needs of the customers and clients are the primary driver of the organizations' plans within mobility. Coming in at a close second are the needs of the lines of business. So while the needs are clearly manifesting themselves from the business side of things, the participants are showing weak support for their organizations' abilities to align the activities and investments in mobility with the needs of the business.

Figure 7: Our mobile strategy has been developed by both the business and the IT disciplines at our organization.



Mean = 2.45
Std. Dev. = 0.954
N = 119

Figure 8: Our activities and investments in mobility show good alignment between business strategy and mobile technology.



Mean = 2.47
Std. Dev. = 0.891
N = 119

Under cross analysis, an interesting and clear pattern linked to which group's needs drive the mobility initiatives begins to appear: namely that the strongest predictor of a collaborative mobility strategy and a high ranking in preparedness for tackling the challenges presented by mobility was that the needs of the lines of business were those that drove the mobility initiatives.

Figure: "Our mobility initiatives are driven by the needs of these stakeholders:"

Population	1st Rank	2nd Rank
Overall	Customers	LoB managers
IT	Employees	Customers
LoB	Customers	LoB managers
Life sciences	LoB managers	Top leadership
Public	Customers	Employees
Finance	Customers	LoB managers
Enterprise	LoB managers	Employees
Decision-maker	Customers	LoB managers
Non decision-maker	Customers	Top leadership

The needs driver is a critical indicator of relevance and success as the study participants overwhelmingly tell us that mobility creates a valuable new model for interaction with their stakeholders, namely clients, partners and employees. In addition, roughly half of the participants say that they expect mobility to contribute to an increase in profits. Yet, interestingly, more respondents disagree with the statement that mobility will profoundly change their organization.

Those organizations that see mobility as something that is tied to globalization, for example producing and/or selling in new markets, tend to say that mobility can contribute to an increase in profits. These organizations are more likely to be in the financial or enterprise sectors. The data also shows that those companies that believe that mobility can contribute to an increase in profits believe that mobility can create and support stronger relationships with customers and clients.

Paradoxically however, the industry that most believes that mobility creates a valuable new model for interaction with their stakeholders is life sciences. Life science participants more consistently agree with this statement than even the finance industry which otherwise distinguishes itself as the most engaged industry. The strong correlation that therefore should be found with the firmly held belief in a new model of interaction doesn't exist for the life science industry as it does for instance, with the finance industry. In the life science industry, there is only soft belief that mobility will increase profits coupled with marginal recognition that mobility will contribute to any plans for globalization. The pattern seems broken for the life science industry. In fact, when asked if mobility and mobile technology will enable them to be much better able to serve customers/clients/employees than existing technologies, life sciences is the most doubtful industry.

Those who seem to "get" that mobility is a hot topic tend to be in the finance, decision makers and IT sub-groups; although there are underlying positive patterns among the line of business non-decision makers in the life science sector. ■

Life science is the industry that most believes that mobility creates a valuable new model for interaction with their stakeholders... a bit of a paradox for an industry otherwise seemingly cautious about mobility.

Decision making and budgets

Figure 9: At your organization, who is the primary decision maker regarding how money is invested/spent within mobility:

- IT including the CIO
- Business executives including the CEO
- Finance/Purchasing
- Department heads
- Marketing and Sales
- Other
- Don't know

Other than IT, who has budgeted spending on mobile solutions?

- Marketing
- Product development
- Other
- Sales
- HR
- Unknown

So who makes decisions about mobility at Danish organizations?

According to the respondents of this study, budgeting and decision making for mobility typically falls to the CEO (50%) or the CIO (25%). However, there is a pattern among one of the sub-groups that deserves note: the line of business participants are more likely to say that the CEO makes the decisions in mobility and the IT participants are more likely to say that the CIO makes the decisions.

There are also notable differences among the industries in the study in that the primary decision maker most likely is the CEO in the financial sector, enterprise and the public sector but that pattern doesn't hold true for life sciences. In life sciences, the most likely decision maker is the CIO.

While it is a strength that the business is leveraging technology, organizations need to use caution as the business moves into decision-making in technology. This note of caution and the need for a collaborative strategy and decision-making environment for IT becomes even more apparent as organizations are starting to see ever growing budgetary allotments for mobility in departments that are not IT.

When asked which other departments in their organization have money allocated to mobility in their budgets, more participants choose "unknown", followed closely by "other". Of the "known" departments with budgeted spending on mobility, product development and marketing are the most common among the companies in the study, less so HR and sales.

Among the line of business participants, the answer they are most likely to choose is similarly, "unknown", followed in number by "sales". Among the IT participants, the most common response is "other".

Participants were asked if they believed that more departments at their organization would have money in their individual budgets allocated to mobility in three years. 24% say no while 42% say yes. Non-decision makers are more likely to agree with that this dis-aggregation of mobility spending than decision makers are. Participants from the lines of business are more likely than not to agree that more departments would be allocating money for mobility initiatives from their budgets in three years. However, interestingly, the IT participants are more likely to disagree.

Respondents are more likely to say that mobility spending will increase and spread throughout the organization in the coming years

Bucking that trend from the IT participants, one of the CIO interview subjects said that he could definitely see decentralized mobility budgeting coming. He said that for instance, the marketing and communications folks at his organization want to communicate with customers via mobile applications. Because they believe that mobile apps require a smaller (and shorter) effort and because the price tag seems lower, they don't want to be part of a 12-month development cycle, which is what it would take if they did it internally. Because the barriers to entry for a mobile app are often lower than other kinds of IT based initiatives, these departments will often make money available in their budgets and will initiate development, typically with vendors or suppliers. The question isn't if his IT organization will "handle" it but how.

Echoing insights from the interviews, many of the study's participants believe that mobility and mobile technology is just in its infancy and that it is impossible to see where we will be even over a mid-length horizon. With that in mind, 34% say they didn't know if more departments would budget for mobility initiatives in the future. ■

Leveraging mobility

Figure 10: The single thing my organization could do to obtain more value in mobility would be:

- Develop mobile strategy
- Partner with a qualified supplier
- Leverage cloud technology
- Improve internal capabilities
- Bring top mangement into mobile forum
- Other

Within the next 12-18 months, we will develop mobile applications for:

- Emplyees
- Potential customers
- Customers
- Investors
- Suppliers
- Regulatory authorities
- Will not develop mobile strategy within 18 months

The participants of this study are quite aware that harvesting the fruits of mobility will require lots of hard work by their organizations. Respondents first and foremost say that the single thing their organization could do to obtain more value in mobility is to develop a mobile strategy.

There is a solid degree of awareness that organizations need to cultivate and develop internal capabilities in order to leverage mobility. This includes bringing in top leadership into the mobility forum.

More likely than not, companies will increase their spending on mobility in 2012, 55% say that they will increase spending on the mobility frontend, for example, apps, and an almost identical amount, 56% say that they will increase spending on the mobility backend, for example, legacy system integration.

The study participants say that their short- term mobile application focus is first on customer and secondly on employee apps. And although building apps for potential customers garners a sizable response, it is edged out by organizations that say that they will not be building mobile applications at all in the next 12-18 months.

The line of business and IT breakdown shows similar responses by both groups but also that the line of business respondents put more emphasis on potential customers and less on employees. Perhaps it's also worth noting that not a single IT respondent chose "investors" as an app development focus area.

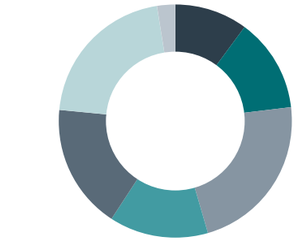
Discussions with several interview subjects provided substantial insight to the situation. Primarily, that those participants who indicated that they won't be developing mobile applications in the next 12-18 months might not be showing dis-interest in mobility but rather a logical stabilizing pause to reflect on the utility and value of mobile applications.

Our financial industry CIO commented that their industry was experiencing a bit of a slow down after an initial spurt to build an app presence. He said that initially, it was critical just to have something out there. Now they have reached a point where they find they have to ask themselves AND their customers specifically what kind of mobile services they might want. The paradigm of mobility is forcing them to prioritize development and access in a way that they hadn't necessarily encountered with web-based banking and financial applications. This shows a certain maturity that should be encouraging for the market and for actually uncovering the true value of mobility. ■

The paradigm of mobility is forcing companies to prioritize development and access in a way that they hadn't necessarily encountered with web-based applications.

Mobility's Value

Figure 11: We define value in mobility as:

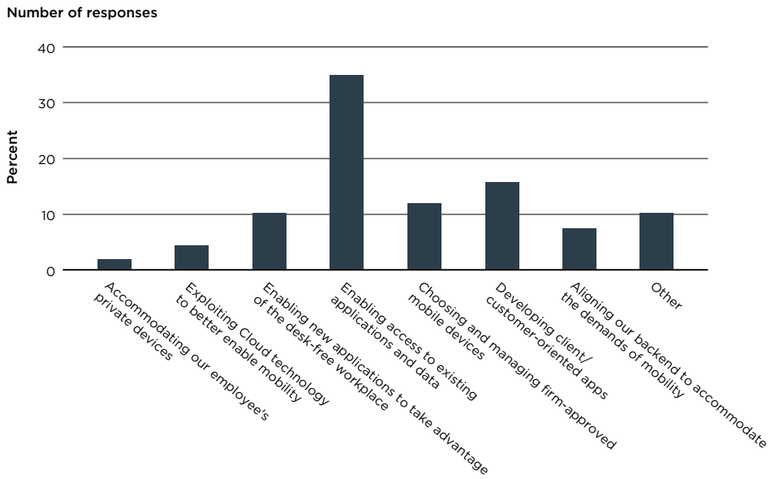


Mobility's value to organizations is not a uniform concept. With no single overwhelming definition of value, there are instead a cluster of flash points that are valuable to organizations. Among these are employee productivity (22%) and customer satisfaction (21%). Closely behind comes increased access to data and applications (17%).

Among decision makers, the number one value in mobility is increasing employee productivity; the number two is increasing customer satisfaction. Although both those items rank highly with non-decision makers; they come in at number two and number three respectively. The number one definition of value in mobility for non-decision makers is increased access to data and applications. This is an interesting subtlety. Decision makers want employees to be more productive; and employees are clearly pointing out how this can be achieved.

Under cross-analysis, the data shows that the way that companies define value also tells us something about how they operate in the mobility sphere. For instance, those companies that define value as either increased customer satisfaction or increased employee productivity, are much more likely to say that the single most important thing that they could do to increase value in mobility would be to create a mobile strategy. This correlation doesn't exist, or only moderately exists with the other value definitions.

Figure 12: The number one motivation driving mobility in 2012 at our organization is:



Two sides of the same coin: Decision makers define value in mobility as increased employee productivity. Employees define value in mobility as increased access to data and applications.

The number one motivation driving organizations' efforts in mobility is enabling access to existing applications. It's not a close contest. The second highest ranked motivation, developing client/customer apps, garners about half the votes that access does.

There is modest recognition of mobility's ability to increase profit, an opinion that was stronger but not overwhelmingly so, among decision makers and among IT participants. However, there is much more recognition of mobility's ability to increase productivity.

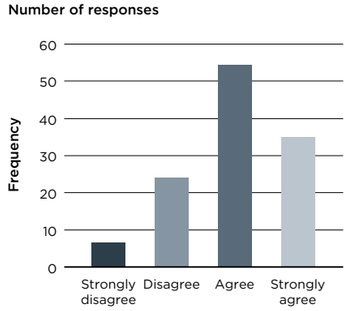
The interviews with study participants make this point quite clear. Again and again, participants emphasize work- related benefits of mobility and the impact on productivity. Examples range from the straightforward to the more complex, e.g. sales folks who are able to order and process in addition to being able to demonstrate and explain along with building inspectors submitting reports and photos from the field for compliance work.

The default requirement of being able to be on-line 24-7 is an unequivocal condition for mobility. It is also one that the participants in the study say they have had for some time now at least with regards to communications if not with data and processes.

The issue with mobility is access to backend systems and data with devices other than a company-issued PC or laptop. The holy grail is access to work processes, for example, ERP systems from the field.

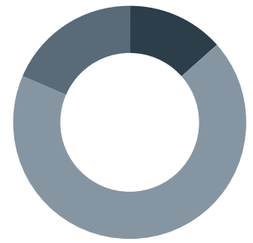
Organizations overwhelmingly feel that they will be much better able to serve their customers, clients and/or employees by supporting mobile applications and access than they are currently able to do with existing technologies. This is a ringing endorsement of the potential that mobility presents.

Figure 13: We see mobility as a way of increasing productivity.



Mean = 2.99
Std. Dev. = 0.839
N = 119

Figure 14: We will be much better able to serve our customers/clients/employees by supporting mobile applications and access than we currently do with existing technologies.



It is worth noting that although the support for mobile applications and apps to support customers, clients and employees is positive among most of the study participants, the data again shows that the decision makers in the study are more positive about this potential than the non- decision makers are.

This sentiment is reinforced when the respondents are asked which area of the organization would be able to deliver the greatest value via mobility.

The most valuable areas in which to implement mobile solutions are quite convincingly production and sales. Both line of business and IT choose production as the number one area to implement mobile solutions; but while IT chooses this convincingly, line of business is almost evenly split with sales.

Additional analysis of the responses in this category shows that the second most valuable areas in which to implement mobile solutions are logistic and marketing.

There is an interesting split between the decision makers and the non-decision makers in that decision makers vote more frequently for production while non- decision makers vote more frequently for sales. Also, the second-ranked areas for both decision making categories echo their primary rankings: decision makers choose logistics and non-decision makers choose marketing. ■

Organizations overwhelmingly say that they will be much better able to serve their stakeholders by supporting mobile applications and access than with existing technologies.

Figure 15: Most valuable area to implement mobile solutions.

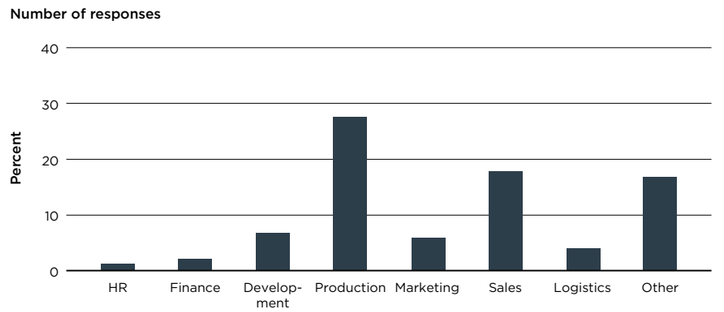
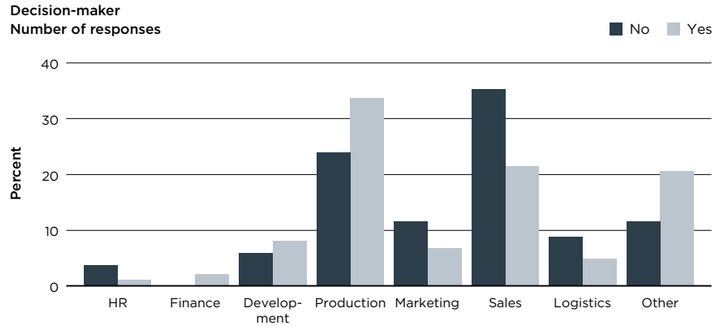
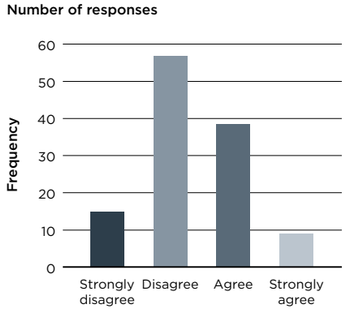


Figure 16: Most valuable area to implement mobile solutions.



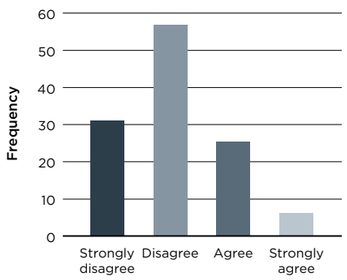
Readiness: IT infrastructure and architecture

Figure 17: Our organization is prepared to meet the challenges of mobility.



Mean = 2.34
Std. Dev. = 0.797
N = 119

Figure 18: I believe that our organization has completely understood the consequences that the coming changes in mobility will have for our organization IT architecture and backbone.



Mean = 2.05
Std. Dev. = 0.822
N = 119

Mobility is perceived by the study's participants to be a huge development and one that we have barely begun to process let alone understand. Many expect that the changes mobility will bring mirror the seismic shift away from mainframe computing that we experienced several decades ago. It is not then surprising that most of the participants in the study do not believe that their organizations are prepared to meet the coming challenges. To underscore this assessment, it should be noted that the IT participants in the study were the most negative of all the respondents in their assessment of IT readiness.

With the exception of one, all of the interview subjects ranked their organization's readiness as a three or four on a scale of 10.

The primary motivation for mobility is driven by the desire to access existing applications. But what are the consequences of enabling such access? Are organizations ready to allow access to existing applications by mobile devices? Any mobile device?

Mobile devices have quickly and comprehensively moved front and center in all of our personal lives. We have a general expectation that not only can we access what we want when we want it but that access will be easy. Furthermore, barriers that previously existed between private and professional activities have come down completely or at least markedly.

But making this a reality means that organizations need to be able to master a whole new dimension. At a practical level, mobile device management introduces new challenges to organizations. Accessing data, let alone networks, challenges accepted paradigms of infrastructure management.

Participants in the study do not believe that their organizations have completely understood how mobility will impact the organization's IT architecture and backbone. While the finance industry is marginally more optimistic, there is considerable worry among the enterprise and public sectors.

However, among those companies who actually do feel prepared to face the challenges of mobility, there are some interesting correlations; primarily, that their work in mobility is characterized by a collaborative approach both in strategy building and in assessing needs. These companies consistently involve customers, employees, partners and the lines of business in their planning for mobility.

However, paradoxically, there is no correlation between companies that say that they are ready to face the challenges in mobility and those companies that say that mobility is one of their top two priorities in 2012.

Overall, organizations believe that the technology issue that will most affect their organization's IT in the coming one to three years will be mobile devices and applications along with integration/interoperability of existing applications.

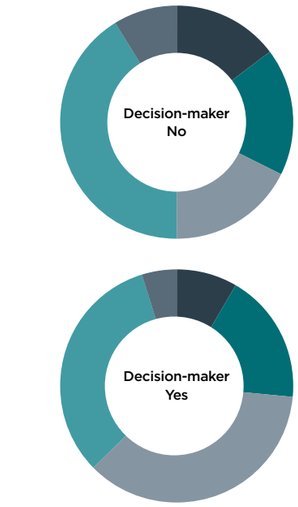
However, the two decision making groups basically mirror each other in which of these comes first: more decision makers believe that mobility will take prominence and more non- decision makers believe that integration/interoperability will.

The data shows the same mirroring pattern between line of business participants and IT participants. The line of business believes that mobile devices and applications is the most pressing technology issue and integration/interoperability is the second; while IT believes that integration/interoperability of existing applications is the most pressing technology issue and mobile devices and applications is the second.

It's important to note however, that in many ways, these are two sides of the same coin. One of the interview subjects discussed their organization's prioritization of integration and interoperability as an absolute deliberate prioritization of mobility but with a nod to the reality that many of these systems need to first have web interfaces that allow PC access.

Paradoxically, there is no correlation between companies that say they are ready to face the challenges of mobility and those companies that say that mobility is one of their top two priorities for 2012.

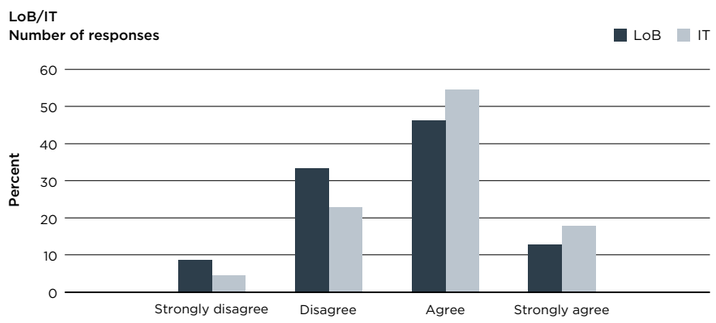
Figure 19: The technology issue which will affect your organization IT most in the coming one to three years is:



- The Cloud
- Data security
- Mobile devices and applications
- Integration/interoperability of existing applications
- Other

It's clear is that organizations see significant challenges on the horizon and they have doubts about their ability to single-handedly meet them. With that in mind, more participants than not say that they will involve partners or suppliers to meet their organization's needs and ambitions within mobility. Although interestingly, IT is more likely to "agree" or "strongly agree" to this than the line of business participants. ■

Figure 20: We will involve partners or suppliers to meet our organization needs and ambitions within mobility.



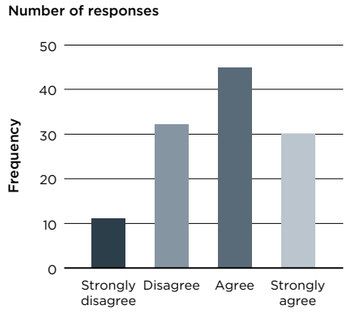
Factors influencing plans in mobility

It's important to understand which factors are influencing these organizations' efforts in mobility. The data show that overall the top two factors influencing plans in mobility were data security and agility, in that order. Among the IT participants, there is a greater focus on agility; optimization of workflow; and employee access to data and apps. Among the line of business participants, there is a greater focus on integration of core systems; data security; supporting customer relationships; and access/security for customer oriented apps.

Agility is particularly important among the finance and public groups, while optimization of workflow is more of a focus for life sciences. It is interesting to note that although data security is the top influencer in plans for mobility, participants are a bit reluctant to conclude that data security in mobility is any more difficult than data security in IT as a whole. Although it's worth noting that non- decision makers and the IT participants were both more likely than not to say that it was.

Yet this makes sense: the biggest risk with mobile devices comes not from the technology but from the user: lost or stolen devices are a far greater threat to data security than network break-ins. There is a considerable burden of awareness training and use policy that needs to accompany organizations' journeys into the realm of mobility. And while this isn't necessarily new for organizations as they have become deeply skilled at password management and laptop lifecycle management, the pure volume of mobile devices coupled with the decreasing size of the devices overall, ups the ante considerably. ■

Figure 21: Data security is more of a challenge in mobile technology than in other dimensions of IT.



Mean = 2.79
Std. Dev. = 0.929
N = 119

Factors influencing plans in mobility:

- **Top influencers:**
  Data security
  Agility
- **Moderate influencers:**
  Employee access to data and apps
  Ability to create and support stronger relationships with clients
  Access and security in connection with customer oriented apps
  Development of customer oriented systems e.g. webshops and portals
  Integration of core systems
  Performance of mobile network(s)
  Cost savings and optimizations
- **Marginal impact:**
  Administering network access
  Globalization strategy

Mobility and access

Figure 22: In three years, will your organization allow its employees to access the organization data and applications, excluding email and calendars, using their own mobile devices?

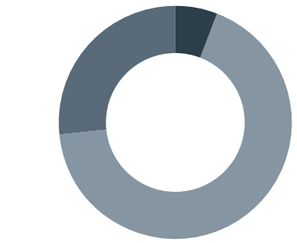
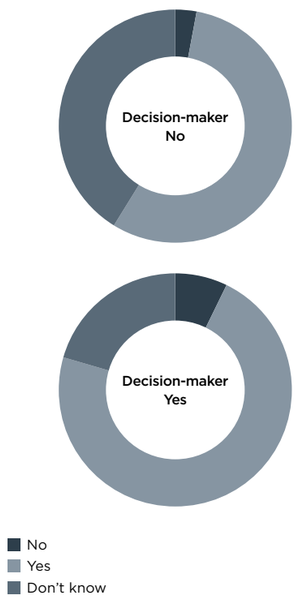


Figure 23: In three years, will your organization allow its employees to access the organization data and applications, excluding email and calendars, using their own mobile devices?



Among the companies participating in this study, the vast majority currently allows their employees to access their email and calendars with the device of their choosing. Although, interestingly, the decision makers said the access was actually higher than the non-decision makers.

Significantly fewer, about 46%, allow their employees to access other data and applications with the device of their choosing. The split between decision makers and non-decision makers becomes even larger: about half of the decision makers said access to data and applications other than email and calendars was permitted while only a third of non-decision makers said so.

Regardless of the perceptions and realities of current access levels, the overall access level is set to change fairly quickly. A full 69% say that within three years, their organization will allow employees to access applications and data, not including email and calendars, with the device of their choosing. And while this is clearly a huge shift, there are still organizations that say they will not allow this kind of access (5%) and a significant minority (25%) say that they just don't know.

But again, the data shows significant differences between the two decision making categories. Decision makers appear to be robustly in favor of opening up access, or at least seeing a future where broader access is a reality. Non-decision makers generally believe that broader access will be there but there's a substantial degree of uncertainty that doesn't appear in other questions and which isn't mirrored among the decision makers. ■

Mobility will change behaviors

It is clear among the participants in this study that mobility is expected to change behavior. This applies to us as individuals as well as to organizations as a whole. Again and again through our interviews, we heard that the ways that we act and interact are set to change.

It is among the finance, enterprise, decision maker and IT groups that the greatest degree of agreement regarding behavioral changes can be found.

The shift from a fixed work place to a flexible work place is expected to penetrate to levels we haven't yet seen. Why shouldn't a municipal worker be allowed to work from home if they can access systems and clients? Why shouldn't warehouse, clinical research, building inspectors and more be able to harvest and process information from where they collect it rather than having to go back to their respective desks to do so? Why shouldn't banking customers be able to administer accounts and activities, let alone apply for financing without having to physically come to the bank?

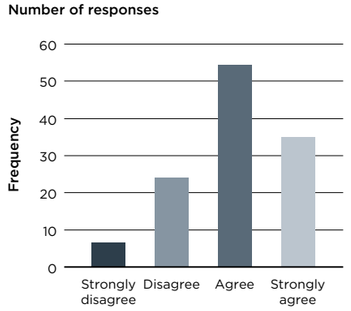
Without exception, the participants in the study believe that mobility will enable changes in behaviors and most participants believe that that change will lead to an increase in productivity.

It's interesting to note however, that the needs of the employees themselves don't rank very highly among the line of business participants as a motivation for mobility initiatives. The needs that are driving mobility initiatives are predominantly coming from the customers, and after than, the lines of business.

Interestingly, several of the interview subjects discussed their organizations' journeys to date through mobility and noted that many of the employee initiatives in mobility came after seeing for themselves that a relatively marginal change enabled by mobility had the power to affect productivity. For example, one financial industry CIO noted that his organization was initially resistant to the idea of employees working from home but after some time with it, found that it was actu-

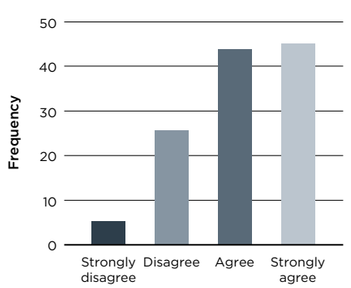
The shift from a fixed work place to a flexible work place is expected to penetrate to levels we haven't yet seen.

Figure 24: We see mobility as a way of increasing productivity.



Mean = 2.99
Std. Dev. = 0.839
N = 119

Figure 25: Mobility creates a valuable new model for interaction with our organization stakeholders, that is our customers, partners and employees.



Mean = 3.08
Std. Dev. = 0.869
N = 119

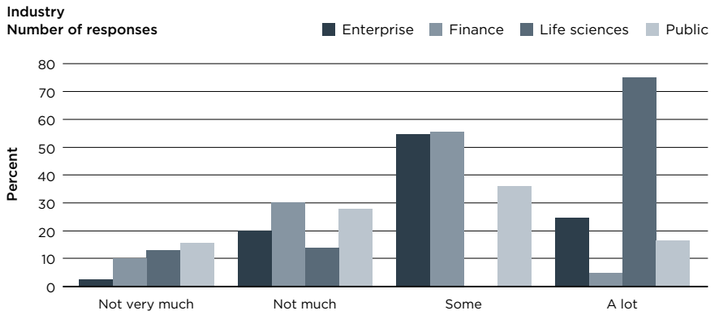
ally quite helpful in holding projects and team-oriented work on schedule. Instead of having to cancel a meeting because someone was home with a sick child or because someone was off-site, they could keep the meeting as scheduled by having the participant(s) call in. This understanding was fundamental in fueling interest in additional mobility initiatives focused on the employees but it was absolutely not part of the original thinking.

It's clear that participants believe that mobility enables a new way of interacting with key stakeholders, e.g. employees, partners, clients and customers.

One of our interview subjects from the life science industry talked about the change in their organization since the organization made a bold shift to mobile working as the standard working format: Employees no longer have desks or fixed telephone lines. Offices are open. It was an expectation that employees would need to actively schedule and prioritize their time in the office. However, it was unexpected how greatly this change would facilitate cross-function and cross-level interaction. People that previously would never have interacted because they physically sat in completely different places are now meeting each other and expanding their internal networks. The organization has been a clear winner here as these strengthening internal networks have contributed to business in positive and unexpected ways.

Ironically, this participant notes that it is often easier to get decisions made because top management now sits with everyone else. They have become accessible and visible in a way they previously weren't and that has helped to speed up decision-making.

Figure 26: Optimization of workflow resulting in an increase in employee productivity.



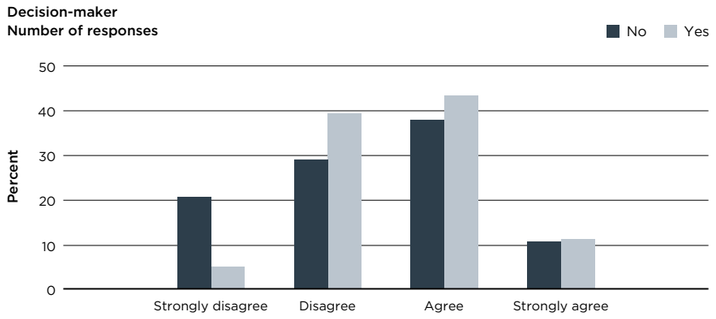
While the lions share of focus is on access to data, mobility can also increase access to people with measurable effect on the organization.

One area that gets a lot of focus is the area of improved workflow and productivity. It is the number one value in mobility among the study's decision makers. But when respondents are asked about factors influencing their initiatives in mobility, there are significant differences across the industries. The life science respondents are without question motivated in their mobility activities by optimizing workflow and through that, employee productivity. The other sectors were positive but more moderate in their responses.

During our interview with a municipal CIO, we uncovered some interesting ideas about a coming change in the public sector. He remarked that the people in decision making roles in the public sector tend to be older and at some considerable distance to the benefits of mobility. Working from home has not been part of their work life; and BYOD (bring your own device), "well, just forget it."

However, he believes that there will be a notable and transformative demographic shift over the coming two- three years that will profoundly change the public sector. Increased governmental focus on efficiency in the public sector means that more decisions will be centralized or at least more standardized. Underperformance will be more obvious and comparable than it previously has been. On top

Figure 27: Improved workflow via mobility is important for us to be able to attract and keep great employees.



Small changes in mobility have often lead to unexpectedly positive results which prompt more employee-focused mobility initiatives.

of that, it is estimated that roughly 20,000 public sector leaders will retire in the coming 10 years. These are powerful forces that are likely to transform the decision making landscape in the public sector.

His take on where this will lead is: a shrinking City Hall, more work from home, fewer municipal facilities, more interaction and processing work done on the computer and via teleconferencing, albeit in a secure environment.

Clearly, improving workflow and employee productivity is a big focus. The decision makers in the study were so convinced of the power of improved workflow as a result of mobility that they convincingly agree that it is important for them to be able to attract and keep great employees.

It is a bit surprising however, that there is significant minority of non-decision makers who "strongly disagree" with this statement.

This message comes through again when asked if the availability and use of devices such as Smartphones and tablets are important for organizations to be able to attract and keep great employees. Decision makers are likely to "agree" and even to "strongly agree" while there is still a sizable minority of non-decision makers who "strongly disagree" with this statement.

We were able to dig more deeply into this paradox in several interviews. One of the things we heard was that the critical element for productivity gains is access to critical data and systems. The production manager we interviewed said that the five-year-old firm-supplied Nokia telephone was enough for him unless the organization opened up processing systems that would allow him to actually do his work on the device. ■

Enablers of mobility

The data make it clear that the participants do not see Cloud technology as an enabler of mobility. One respondent from the finance industry said, "I can connect to the server using my phone. I don't need Cloud technology for mobility." This sentiment reflected the overall view of the participants.

The very few instances of respondents strongly agreeing to this sentiment occur only in the decision making group. Yet, even with that strong minority, both decision makers and non-decision makers overwhelmingly do not agree that Cloud technology is a critical enabler for mobility.

There is a more favorable response among the line of business participants than among the IT participants although both groups are more likely to answer negatively. During one interview, an enterprise CEO said, "we haven't seen much of Cloud yet but no one will install anything in the next generation. Everything will be on the Cloud."

When asked about the single thing that their organization could do to obtain more value in mobility, very few respondents, across any of the subgroups indicate that leveraging Cloud technology is the answer.

Cloud technology was described by one of our interview subjects as a "sledge hammer when I just need a fly swatter." He went on to say that although it's important to be evaluating Cloud technology, insisting on its inclusion in mobility from the beginning could greatly slow down their mobility efforts.

Figure 28: Cloud technology is a critical enabler for mobility.

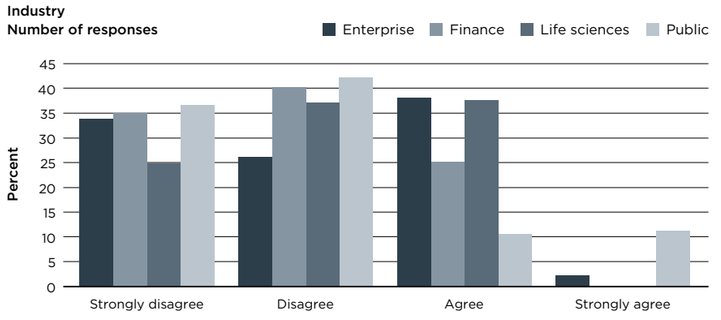
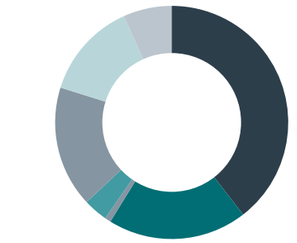


Figure 29: Our biggest concern regarding mobility is:



Industries

Whatever advantages Cloud technology bring to the field of mobility, our pool of respondents shows that there is considerable distance between the understanding of Cloud technology as an enabler for mobility and the current perception.

Emphasizing the distance between these two points, the data also consistently shows that the participants' interests and concerns regarding mobility lie with permissioning access and enhancing agility and not with addressing new platforms for data storage.

One interview subject said "We have been working from 'wherever' for a long time now. This doesn't feel new." The message from this study is that mobility is perceived as being an "add-on" to existing infrastructure rather than a whole new entity. The metaphor of wishing to add on a room rather than build a whole new house is an apt one for the current situation.

When asked about their concerns regarding mobility, it was telling that providing the infrastructure to support mobility registered as a minority concern whereas outside-in dimensions such as security ranked much higher. And although the decision makers registered some concern about a lack of qualified partners/suppliers, none of the non-decision makers indicated this was a concern. Unique to some of the IT participants was the concern regarding the lack of qualified personnel. ■

Participants' interests and concerns with mobility lie with permissioning access and enhancing agility; and not with addressing new platforms for data storage.

The generally favorable opinion of mobility at the macro level holds across all four industries in the study. However, the life science industry shows a bit more reserve when considering just how greatly mobility will contribute to the growth of their business.

It's interesting to observe the patterns of "excitement" among the industries as only the public sector gains increasing support as the scale becomes more positive. The other three industries peak at "agree", although clearly, there's significant strong agreement as well.

As to mobility being one of the top two priorities in 2012, the public sector and enterprise are the overall most positive.

This quantitative picture is backed up by our interviews. The interviews with public sector participants reveal substantial interest in leveraging mobility to support both employee workflow and stakeholder access to information and services. Examples ranging from in the field inspection and processing for building inspectors to increased access to governmental services for private persons, e.g. tax and healthcare systems.

While the finance industry participants are more likely to believe that their organization is prepared to face the coming challenges, the life sciences and public sector participants are quite skeptical about their organizations' abilities to meet the coming challenges.

The industries' responses to preparedness tend to mirror their responses as to whether or not they have collaboratively built a comprehensive mobility strategy. The industries show interesting divergence as to where they plan to develop mo-

Figure 30: Mobility and mobile technology will contribute to the growth of our business.

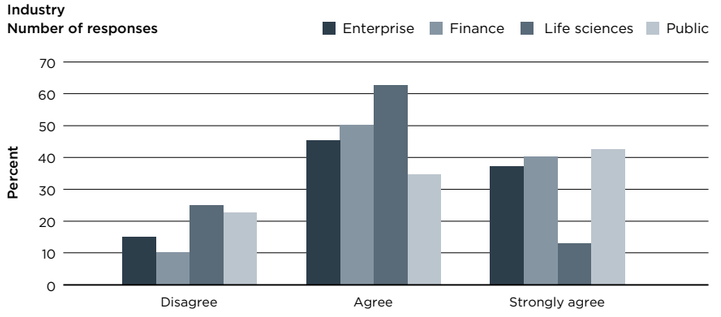


Figure 31: Within the next 12-18 months, we will develop mobile applications for EMPLOYEES

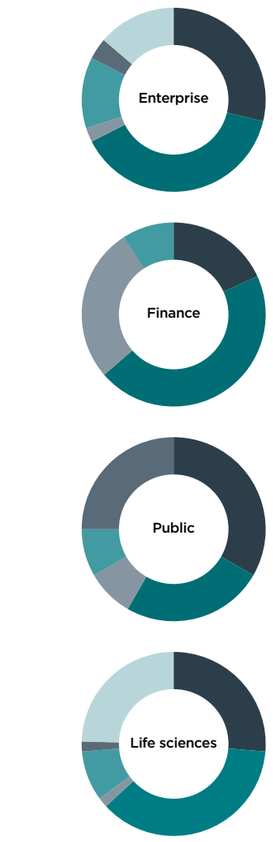


Figure 32: We will be much better able to serve our customers/clients/employees by supporting mobile applications and access than we currently do with existing technologies.

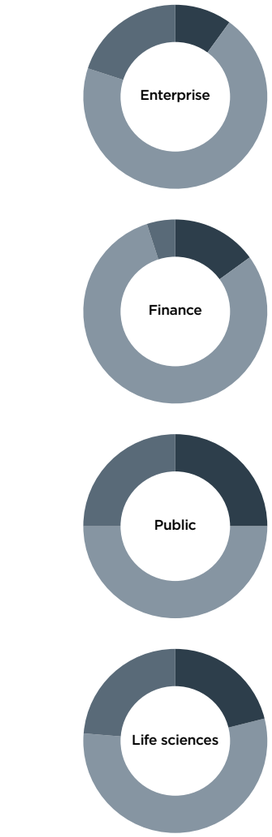
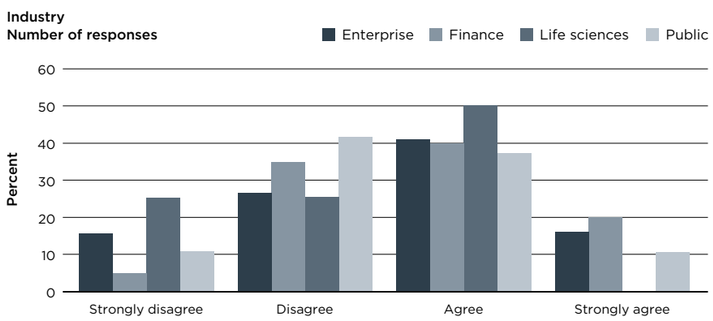


Figure 33: Mobility is one of our top two priorities in 2012.

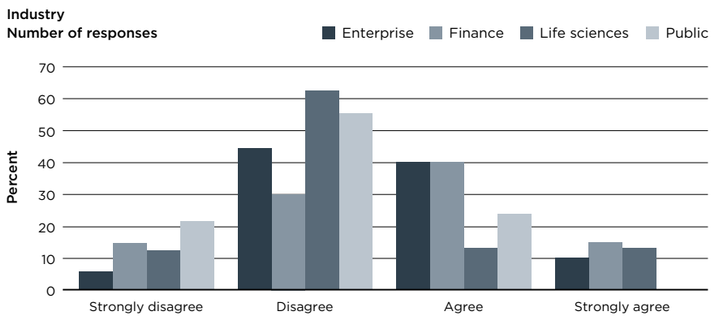


bile applications over the next 12-18 months. The enterprise and public sectors indicate that they will focus on employees and customers. Although it should be noted that 25% of the public sector leaders said that they would not be developing mobile applications at all within the next 18 months.

In the finance sector, almost 75% of mobile application development will focus on customers and potential customers. Life science leaders said that the focus of mobile application development would be on employees; and a significant minority doesn't plan any mobile application development at all.

This mirrors a hefty dose of skepticism in the life science industry regarding mobility's ability to lift their organization's ability to communicate with customers, clients and employees over that of existing technologies. As previously noted, the life

Figure 34: Our organization is prepared to meet the challenges of mobility.



science industry is a bit of a paradox as it simultaneously quite strongly believes that mobility brings with it a valuable new model of interaction.

The financial industry is generally much more positive about the potential for mobility to support positive interactions with customers and other stakeholders. The financial sector convincingly says that the needs of the customers are driving their work in mobility.

There are considerable differences among the industries as to where in the organization mobility could deliver most value. Each industry has a significant and single focus area.

Finance is squarely focused on exploiting mobility in sales; the public sector sees great value in exploiting mobility in production, e.g. service delivery and compliance in this context; life sciences is focused on development and enterprise favors production but has a significant interest in sales. There is no single implementation target that uniformly appeals across industries.

There are notable variations in decision making among the industries. The CEO, or business executive, makes the primary decisions regarding mobility in all the sectors except life sciences where the CIO is the primary decision maker. ■

There is no single implementation target that appeals across industries.

Figure 35: Most valuable area to implement mobile solutions.

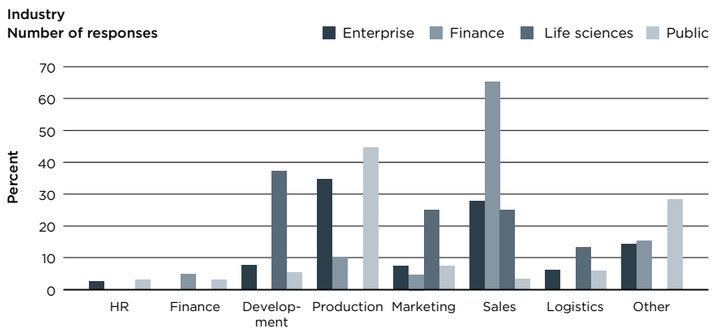
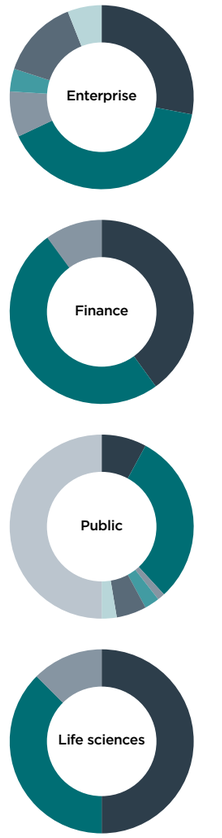
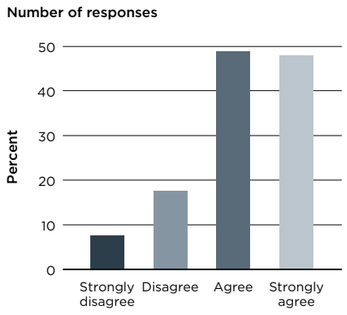


Figure 36: At your organization, who is the primary decision maker regarding how money is invested/spent within mobility:



Conclusions

Figure 37: I am more interested in seeing how mobility changes workflow and processes than in the specific technology itself.



Mean = 3.13
Std. Dev. = 0.873
N = 119

Participants are overwhelmingly more interested in seeing how mobility changes workflow and processes than in the specific technology itself. One of our interview subjects said "making it easy to be mobile means that it's easier to change the work process itself."

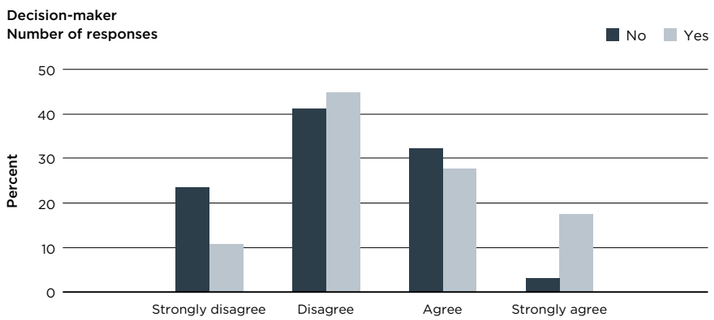
Again and again in our interviews, we heard that the era of mobility has only just begun and that we probably can't even imagine where we will be in five or ten years.

One of the CEO interview subjects noted that a lot of the work thus far and for the near future in mobility has been focused more on the "support" arena than on the "transformative business arena". He clarified that this in no way means that this has been a harvest of low hanging fruit but that their organization's work to enable time and expense reporting, CRM, and document sharing, not to mention the basics of email and calendaring, have been absolute requirements for building an environment where work processes such as monitoring and compliance can take place.

Respondents aren't on the whole convinced that mobility will profoundly change their organizations. Although, there is a significant minority who do believe that this change will be profound.

The belief in profound change as a result of mobility is more likely to be found among decision makers than among non-decision makers. It's definitely worth noting that a sizable minority of the non-decision makers strongly disagrees with the statement.

Figure 38: Mobility will change our organization profoundly.



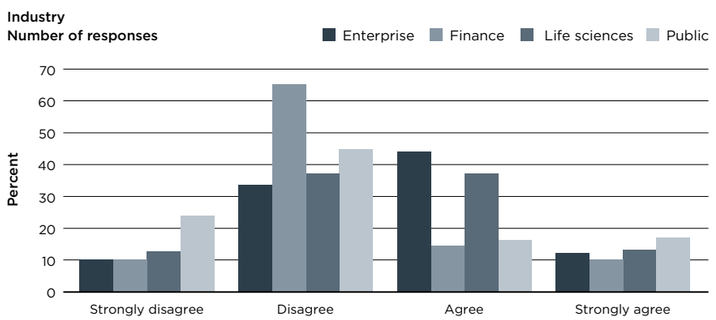
Participants are overwhelmingly more interested in seeing how mobility changes workflow than in the specific technologies.

Among the line of business participants and IT participants, the overall response regarding profound change as a result of mobility is moderate: The line of business trends slightly below the median and IT trends slightly above the median.

Digging more deeply into the numbers, it's apparent that there are actually significant differences among the industries: Finance and the public sector are tepid in their belief of profound change as a result of mobility; life science shows an even split among its participants; and enterprise is pretty positive throughout.

One of our line of business interview subjects offered a challenging perspective when he said that businesses currently look to each other for inspiration and direction in mobility when what they really should be doing is looking to the consumer market for an idea of where we're heading. He said that it's an unsustainable proposition that we as individuals would continue to tolerate one dimension of our lives to be seamlessly mobile with access to everything at our fingertips while tolerating something less than that, and much less than that in many instances, in our professional spheres. ■

Figure 39: Mobility will change our organization profoundly.



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NNIT A/S Østmarken 3A DK-2860 Søborg tel: +45 4442 4242
NNIT China 20th floor, Building A, Jin Wan Mansion Nanjing Road 358 CN-300100 Tianjin tel: +86 (22) 58 856 666
NNIT Czech Republic Lazecká 568/53A CZ-77900 Olomouc tel: +420 585 204 821
NNIT Philippines 24/F 88 Corporate Center 141 Valero St. PH-1227 Makati City tel: +63 2 889 0999
NNIT Switzerland Bändliweg 20 CH-8048 Zürich tel: +41 44 405 9090
NNIT U.S. 650 College Road East, 3rd floor Princeton, NJ 08540 tel: +1 (609) 955 4949

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