# The democratization of wireless: Assessing the impact of open mobile

A Deloitte Research Technology, Media & Telecommunications Study

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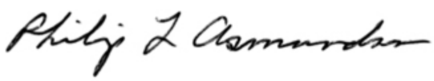
# Foreword

As trends in the wireless sector go, *open mobile* is provoking unprecedented levels of debate and conjecture. The root cause of the excitement is attributable to rapidly evolving developments in technology adoption, regulatory policy, and consumer demands — all of which prompted many industry observers to predict significant disruption for the entire industry. All of this raises many questions on how wireless firms should react and prepare for what could be a fundamental shift in how their business models will operate in the immediate future.

With this in mind, it is my pleasure to present a Deloitte Research survey of leading executives in and around the U.S. wireless sector who share opinions on where the industry is likely headed and how organizations must change in order to remain competitive in an open mobile era. In particular, the report takes an in-depth look at the effect open mobile is likely to have, building on new insight detailed in the accompanying Deloitte Research report, *The Promise of Open Mobile: Capturing Value in a Brave New World.*

At a time when uncertainty abounds in the broader business environment, I trust you will find the survey both insightful and useful.



Phil Asmundson
Vice Chairman,
U.S. Technology, Media and Telecommunications Leader

# Executive summary

## The results of this survey on the impact of open mobile shed light on the growing anticipation of a soon-to-be disrupted wireless industry.

Issues discussed include the prospective impact on the future wireless landscape, planning and investment in open mobile, open platforms and open source technologies over the short-term, assessing the impact on the wireless value chain and capability-building for open mobile.

These results provide a snapshot of where the many strands of the wireless industry stand on the objectives, strategies and tactics used to face the challenge of transitioning to the open era. In tandem with these findings, the report's sister publication, *The Promise of Open Mobile: Capturing Value in a Brave New World*, outlines an effective capabilities strategy that companies can follow to facilitate the transition from the "closed' business models of the past to the new open landscape of the future. Among the report's findings:

- 49 percent of respondents believe that open mobile will be the most disruptive event to hit the U.S. wireless sector in 10 years, and 75 percent believe that survival in an open mobile industry will depend on making the transition from "closed" business models to open technologies and ecosystems. Most respondents believe that the carrier business models of today will no longer be in-use three years from now, and the threat of commoditization looms large. From an industry perspective, 53 percent of network carriers surveyed believe that their current closed business models will no longer exist by 2012.
- Mobile web services are thought to be of potentially higher value in terms of future revenue than products or hardware, and the evolution of mobile broadband technology is considered critical to overall success. Moreover, most respondents believe that software applications developers could become a dominant force that determines winners and losers in an industry where the basis of competition will shift in favor of mobile web content providers.
- Reflecting a growing concern among carriers regarding the long-term effects of recent U.S. regulatory policy, 64 percent of respondents believe that open access regulations will accelerate the commoditization of the U.S. network carriers.
- A shift is apparent in the way consumers are accessing the Internet; 79 percent of respondents believe that *mobile* Internet users are the Internet users of tomorrow. Moreover, 30 percent of surveyed network carriers believe that Internet companies, rather than network carriers, will dominate the U.S. wireless sector in five years.
- Open source technology is a major element of the predicted disruption, with 68 percent of respondents believing it will be a "game-changing" force within wireless in the short-term. As further evidence of the importance of open source adoption, 49 percent of surveyed handset manufacturers think open source technologies have the best chance of bringing the desktop Internet experience to mobile.
- Organizations are still at the early stage of planning for open mobile; only 27 percent of respondents stated that their companies already had an open mobile strategy in place. While 35 percent believed their organizations had a strategy in the planning stage, 19 percent of respondents still have no strategy planned. Additionally, 50 percent stated that implementation of an open mobile ecosystem had yet to take place in their organization.

- In tandem, 57 percent of respondents indicated that adopting open source technology was a strategic priority, with 10 percent stating it was a top priority in 2009. Investment in open source is also predicted to rise over the next three years with 43 percent expecting it will increase within their companies and 14 percent expecting it will increase significantly.
- When asked what mobile platform operating system has the best chance of becoming the defacto standard within the U.S. wireless sector five years from now, 43 percent believe Google's Android platform will dominate, versus 20 percent who believe it will be Apple's iPhone platform.
- From a capabilities perspective, respondents self-assessed their organizations across a range of capabilities important for transitioning to an open mobile environment. Capabilities rated strongest include providing strong internal support to research and development teams (51 percent), partnering effectively with suppliers and competitors (54 percent) and developing a deep understanding of customer needs (60 percent). Conversely, areas where the biggest challenges exist include building trust with developers (50 percent), developing distributed networks of partners and developers (46 percent) and managing intellectual property (42 percent).
- 46 percent of respondents believe that the best course of action for U.S. network carriers to remain competitive in the short-term is to provide full and open mobile internet access to consumers, allowing any third party device, service and application for a flat fee.

# Open mobile today – Growing anticipation in a period of uncertainty

Today, the wireless sector is on the edge of an unprecedented and disruptive shift — one precipitated by accelerated technology development and changing consumer demand.

An expanding Internet is the root cause; the evolution of the mobile web, coupled with a leveling of the regulatory and competitive landscape, are the driving forces behind the change. Additionally, demand for ubiquitous, low-cost access to the web is driving the push toward open mobile in tandem with the Internet's steady, swift decoupling from the desktop.

The ramifications of these developments are evident across the industry. Smartphone sales continue to march upward, mobile web browsers evolve rapidly and drip into mid-range and lower-feature devices, and all the while, mobile Internet usage sustains its explosive uptick. All this is good news for those behind the call for a wide open landscape in wireless. Given the moves in technology, regulatory action and consumer trends, the onset of open mobile seems increasingly likely to be a game changing event.

### Fear of commoditization

The philosophy behind open mobile raises a number of interesting questions for today's dominant players in the U.S. wireless sector. The recent shifts in policy and technology development have combined to present new strategic challenges and tactical obstacles. Most of the uncertainty surrounding these challenges centers on the likely value impact of mobile device platforms integrating open source software technologies and tapping into unmet consumer demand. At this point, such cause and effect remains difficult to accurately forecast, but it is probably substantial. An example of open source in operation is digital giant Google's strategy of freely distributing products such as its browser, applications, and the entire *Android* operating system for smartphones. Of course, anything that increases Internet use could ultimately enrich Google by virtue of more "eyeballs" on the Web leading inevitably to more ad sales via the Google search engine. How must traditional telecom companies and their organizational models change to compete? The answer may lie with how well they can make the transition from the "closed gardens" that have generated huge profits in the past to the open business models needed to support a more egalitarian market. Only then can they fend off the threat from Silicon Valley.

To date, network carriers have remained somewhat slow to react, wary that open mobile will open the doors to commoditization and lead to the dreaded "dumb pipe" scenario last witnessed with Internet service providers in the 1990s. Part of this fear is a concern over prospective revenue sharing with content and applications providers, which some think could benefit the interests of "Internet companies" more than carriers. However, this apprehension is likely to ease as open mobile drives growth in not only the U.S. mobile industry, but also the broader, global, mobile Internet and information markets. Nonetheless, the fear of commoditization could have stymied the current growth of mobile Internet and data services to some extent, even though the significant increase in traffic expected with data and Internet applications continues to grow with every market forecast.

### Taking the pulse of the wireless sector

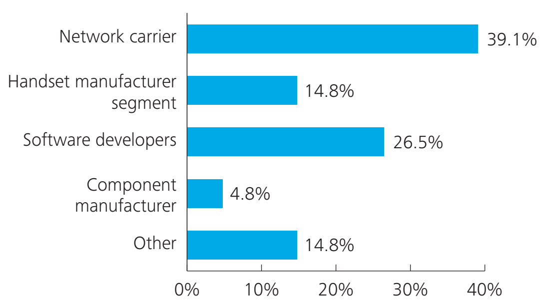
All of these changes suggest that significant reorganization at the firm level is inevitable, if not already under way. To gauge the impact open mobile is having, and will have, on the industry, Deloitte's survey of 230 executives in and around the wireless sector posed top-of-mind questions and probed areas thought critical to sustaining competitiveness over the short-term. In return, the survey yielded some fascinating responses on the momentum behind the shift, highlighting its origins in the growing consumer demand for freedom to choose between devices, software applications and networks. A palpable sense of anticipation is evident, and the prospect of traditional carrier "closed gardens" (carrier-controlled network platforms) disappearing in favor of open access for devices and applications, free from network restrictions or limitations, seems to be emerging.

# About the survey

Deloitte collected 230 highly targeted responses from executives in and around the U.S. wireless sector across multiple industry segments and job functions. Participation was voluntary and anonymous. In some questions, multiple responses were allowed and accounted for accordingly. The report looks broadly at the results in a pan-industry context however, an appendix outlines key selected responses by specific industry, highlighting responses from network carriers, handset manufacturers, software developers and component manufacturers. The survey closed in June, 2009.

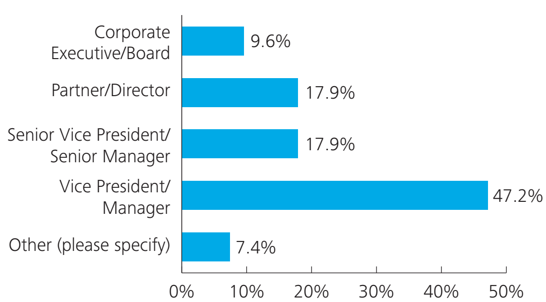
The responses broke down as follows:

**Industry segment**



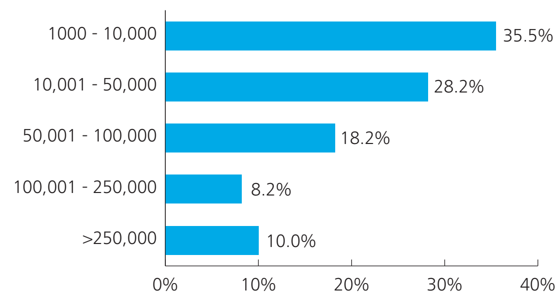

**Other segments**
Venture Capital/Investment Bank, Industry Analyst, Industry Consultant

**Position**

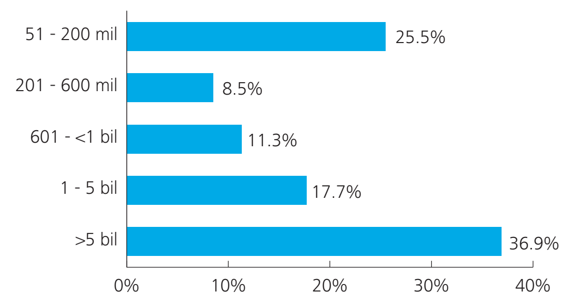



**Other levels**
Analyst, Consultant, Owner

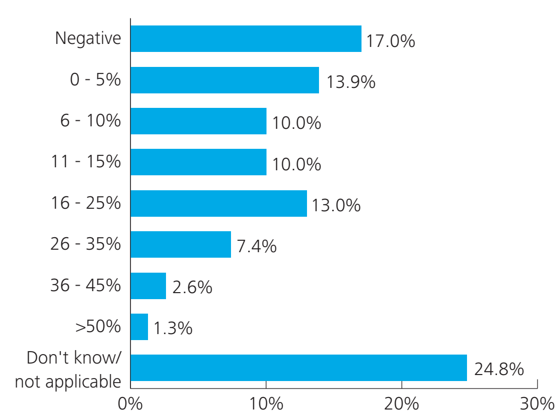
**Company size (employees)**




**Annual company revenue (U.S. $)**

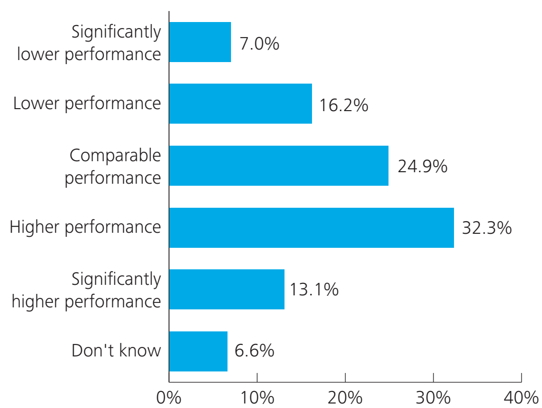



**Average approximate profitability (earnings before interest and taxes) during the last 3 fiscal years**

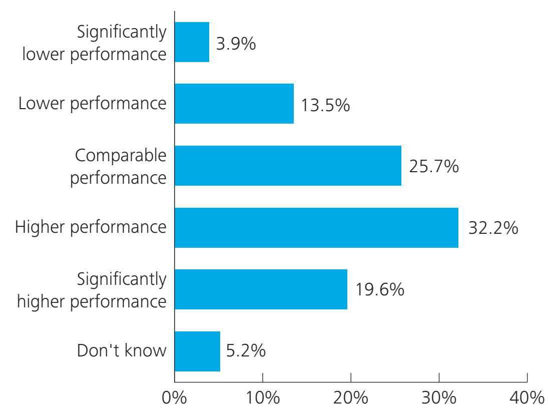


## Compared to your primary competitors, how has your company's overall business performed over the last three years?

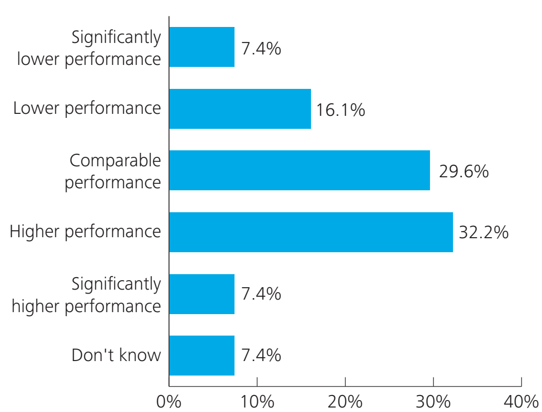
**Total revenue growth**



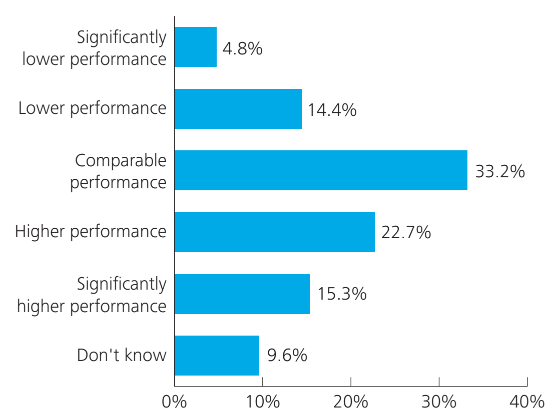

**Customer loyalty/retention**




**Profitability**




**Employee loyalty/retention**

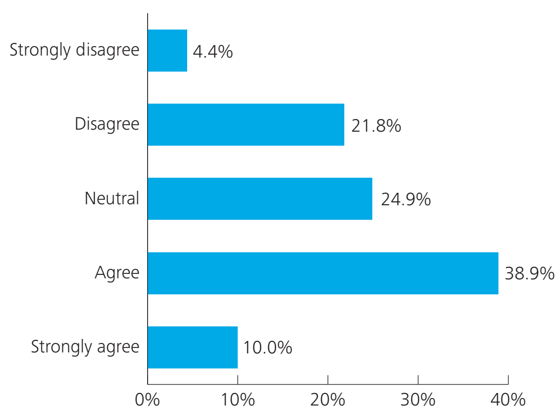


# Exploring the future wireless landscape

## Many in the industry believe open mobile will be the most disruptive trend to hit the U.S. wireless sector in a decade (see Exhibit 1).

A number of factors are lending weight to this assumption. The reemergence of open source technologies as a viable channel to profitability has gained significant momentum, thanks to the recent efforts of Google and Nokia. Regulatory shifts toward open access are evident and moving the industry toward a more balanced competitive environment. Advances in wireless broadband network technology are providing the infrastructure needed for next generation mobile web products and services. To gauge attitudes to these and other developments, survey respondents were asked to indicate their level of agreement to a number of provocative statements that highlight critical issues across the broader open mobile canvas.

**Exhibit 1. Open Mobile will be the most disruptive trend to impact the U.S. wireless sector in 10 years**




### From closed to open…

The subject of network carrier "closed gardens" never fails to elicit strong opinion across today's telecom sector. Established carrier incumbents, who have successfully delivered significant profits and a decade's worth of strong growth, seem reluctant to change business models for fear of substantial revenue loss. Controlling access to products and services through their network portals has allowed carriers to dominate and dictate industry and consumer relationships. Is this all about to change, or will the omnipresent fear of commoditization continue to stymie true open access from ever occurring?

Responses to the questions posed in exhibits 2–5 highlight the threat to the "closed gardens" model from open technologies and policy changes. Most respondents believe that carrier business models will no longer be used three years from now and that the threat of commoditization looms large. In parallel with these findings, mobile web services are thought to be of potentially higher value in terms of future revenue than products or hardware. The evolution of mobile broadband technology is considered critical to overall success. Moreover, software applications developers could become a dominant force that helps determine the winners and losers in an industry where the basis of competition will shift in favor of mobile web content providers. From an industry perspective, 53 percent of surveyed network carriers believe their current closed business models will no longer exist by 2012.

**Exhibit 2. Survival in an open mobile wireless sector will be dependent on making the transition from "closed gardens" to "open ecosystems"**

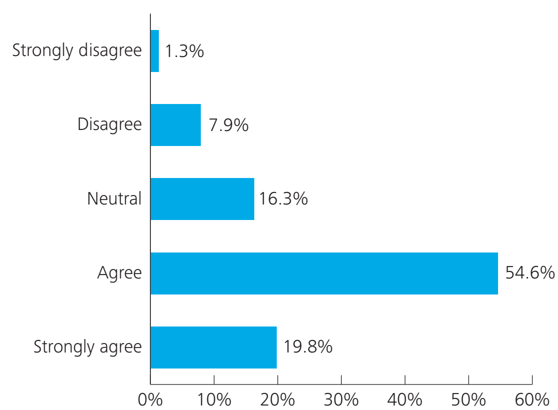


**Exhibit 3. In 2012, the "closed gardens" business model will be over. The future of mobile will be driven by open content and mobile software applications providers.**

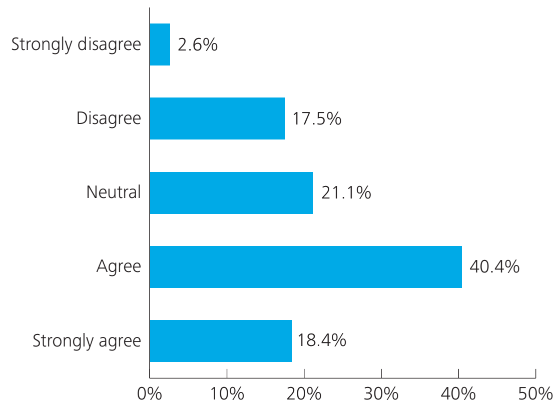



**Exhibit 5. Open access regulations will accelerate the commoditization of U.S. wireless network carriers**

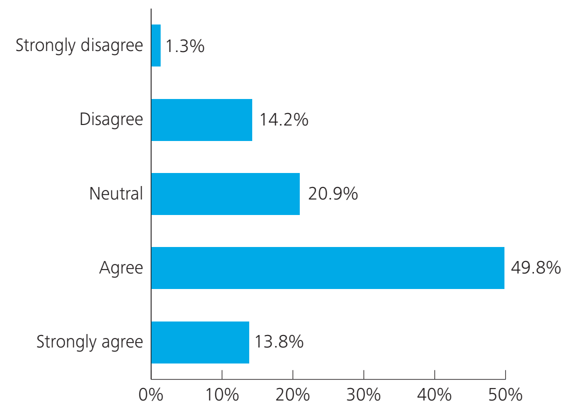



**Exhibit 4. In an open mobile world, services will predominantly drive new revenue opportunities rather than products/hardware**

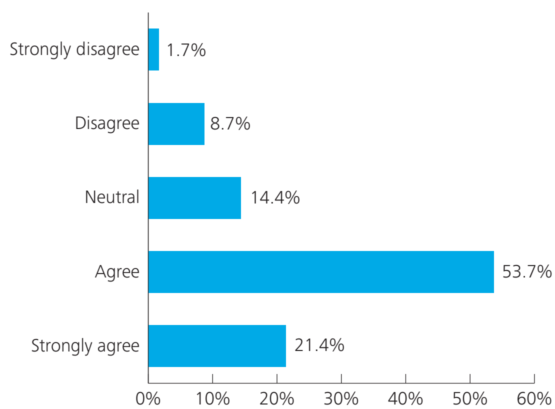
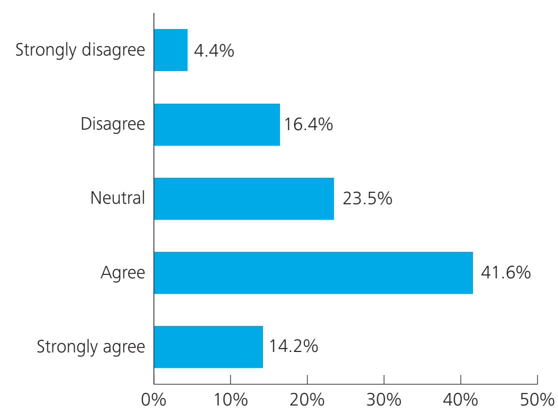



**Exhibit 6. The deployment of next generation mobile broadband technology, such as mobile WiMAX and LTE (Long Term Evolution) will determine the long-term success of open mobile**



## The Resurrection of Open Source

Open source technology, usually in the form of Linux-based handset operating systems, has been widely utilized in the U.S. wireless sector for at least a decade. However, the dominance of proprietary smartphone OS platforms such as Windows Mobile, RIM's Blackberry OS and Apple's iPhone platform implies that open source has often failed to live up to the expectations of the industry. Is this all about to change? Is open source set to finally gain industry-wide traction? High profile open source mobile platform development by Google with its Android OS and Nokia with its open source Symbian strategy look set to change attitudes and challenge the dominance of the proprietary platform. Once more, this move toward a more democratized model of technology development has the evolution of the mobile web at its core. An overwhelming majority believe mobile web users are the internet users of tomorrow and that open source as a "game changing" technology in wireless is inevitable. Furthermore, some 44 percent of those surveyed view open source technology as the best means of finally replicating the desktop internet experience in a mobile setting. However, uncertainty still prevails with regards to whether an open source platform will eventually become the defacto OS standard in the U.S. wireless sector.

Noteworthy from an industry perspective, 30 percent of surveyed network carriers believe that Internet companies, rather than network carriers, will dominate the U.S. wireless sector in five years. Moreover, 53 percent of network carriers surveyed believe the "closed gardens" business model will be extinct by 2012, and 55 percent think open access regulations will lead to the commoditization of the network carriers. Additionally, 49 percent of handset manufacturers surveyed, think only open source technologies have the best chance of bringing the desktop Internet experience to mobile.

**Exhibit 7. Mobile internet users are the internet users of tomorrow**

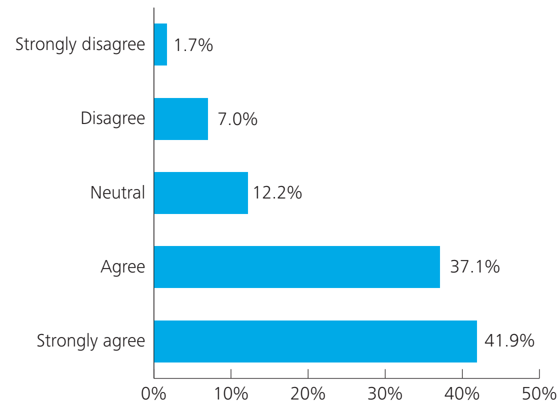



**Exhibit 8. In five years, internet companies, rather than network carriers or handset device makers, will dominate the U.S. wireless sector**

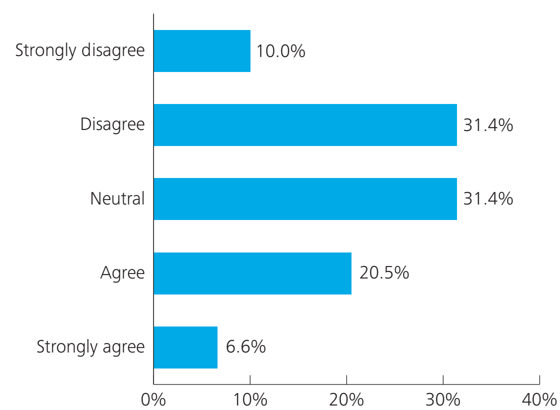


**Exhibit 9. Open source software as a wireless "game changing" disruptive technology is inevitable**

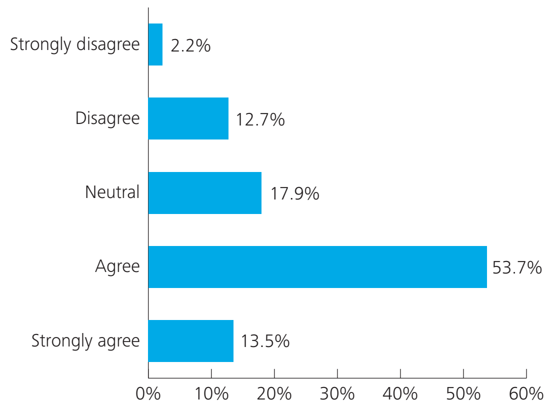



**Exhibit 11. A Linux-based operating system will be the defacto standard mobile operating system across the U.S. wireless sector within 5 years**

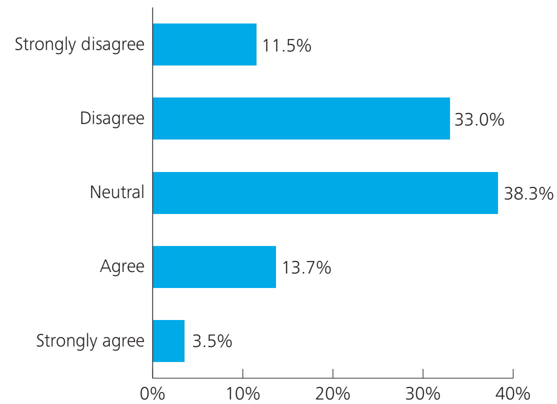



**Exhibit 10. Internet access is steadily being decoupled from the desktop and only open source software technologies have the best chance of bringing the desktop experience to mobile**

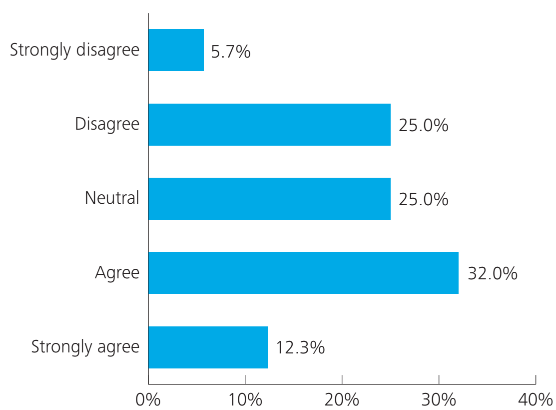
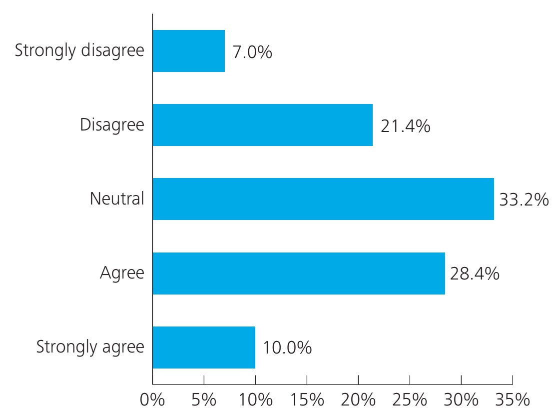



**Exhibit 12. In 3–5 years, Linux-based handsets will have experienced 50 percent market growth in the U.S. wireless market**



# Exploring the impact on the wireless value chain

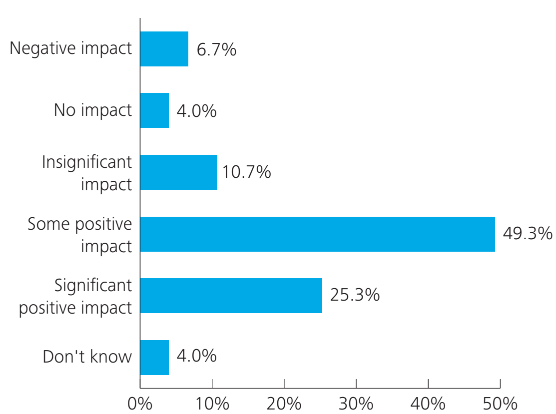
## Open mobile will have a significant impact across the entire wireless value chain.

All industry segments, sub-segments and channels to market are likely to be affected. At this stage, however, accurate quantitative forecasts are somewhat premature and should be done case-by-case, although the potential for general impact on industry-wide value generation can be probed on an exploratory basis. To do so, survey respondents were asked to rate the level of impact open mobile (and in particular, open source technology) is likely to have in the strategic areas of cost leadership, innovation and market segmentation across the following wireless value chain segments: software applications and content; mobile technology platforms; network services; handsets and devices.

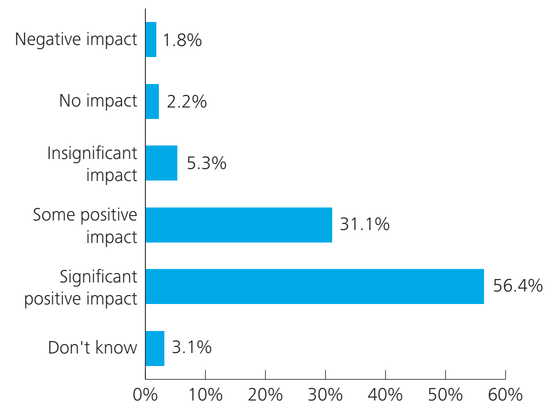
Results across each segment pointed to a general agreement on the positive impact open mobile and open source will have on reducing costs associated with product and service development and on the consumer pricing of products and services. The rate of innovation activity around each segment is also predicted to increase significantly while opportunities for developing new market segments with niche products and services is considered high.

**Exhibit 13. Software applications and content**

13a. Cost leadership – General pricing of mobile software applications and content




13b. Innovation – Increasing the rate of software applications and content innovation




13c. Market segmentation – Development of diverse/niche software applications and content

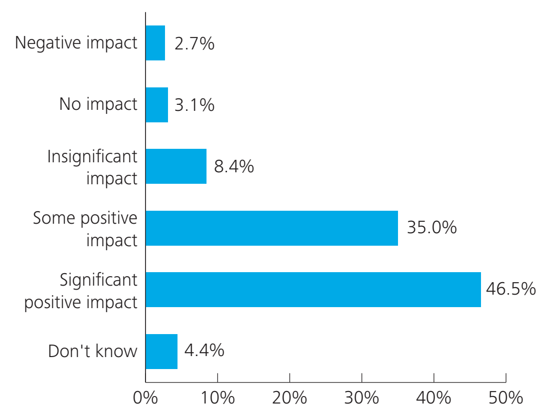
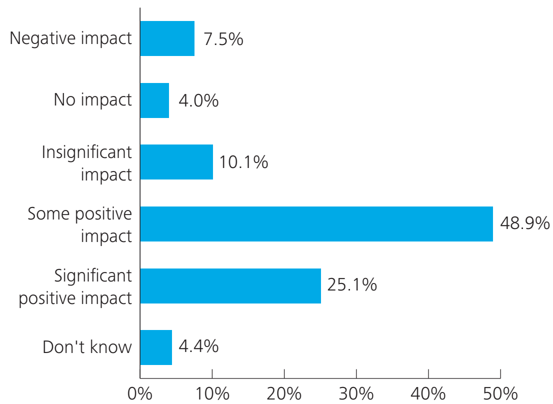
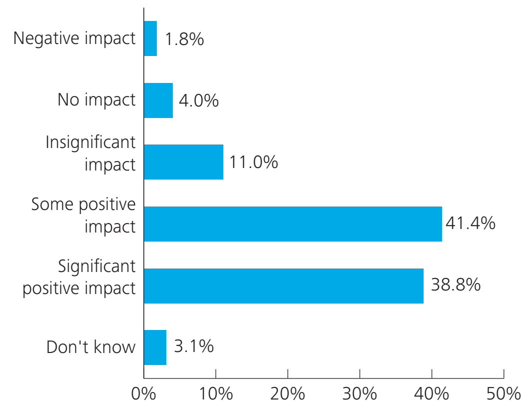


**Exhibit 14. Mobile technology platforms**

14a. Cost leadership – General costs of mobile technology platform development




14b. Innovation – Increasing the rate of innovation on and around mobile technology platforms




14c. Market segmentation – Development of diverse/niche platform applications and content

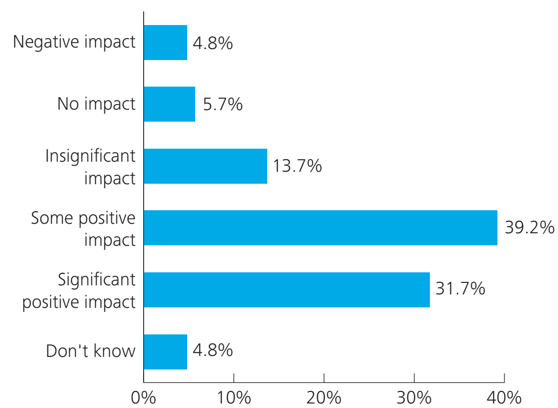
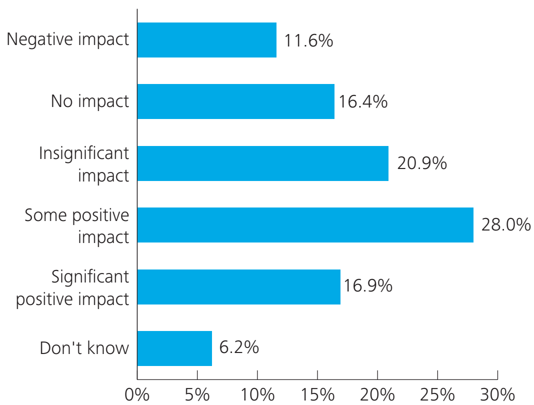
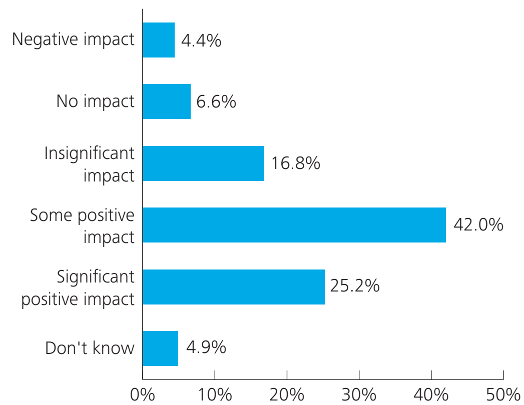


**Exhibit 15. Network services**

15a. Cost leadership – General costs of network carrier consumer data services




15b. Innovation – Increasing the rate of innovation in carrier consumer data services




15c. Market segmentation – Development of diverse/niche mobile internet consumer services

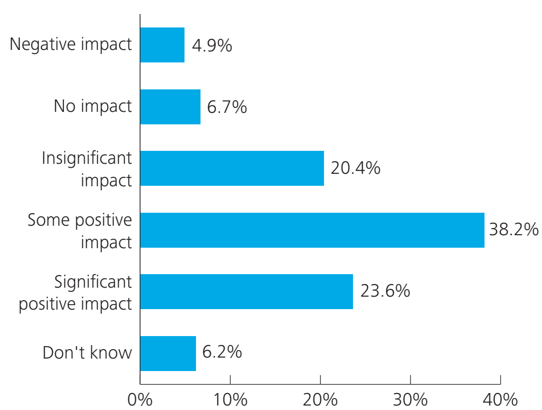
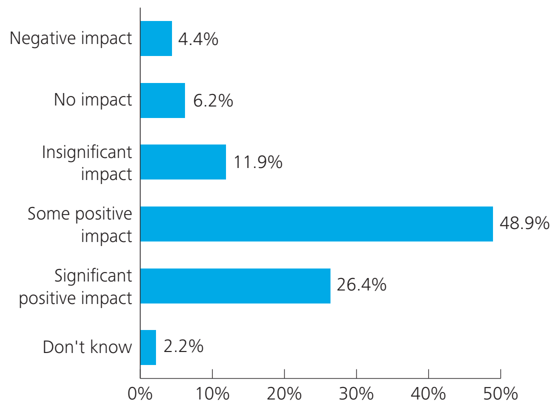
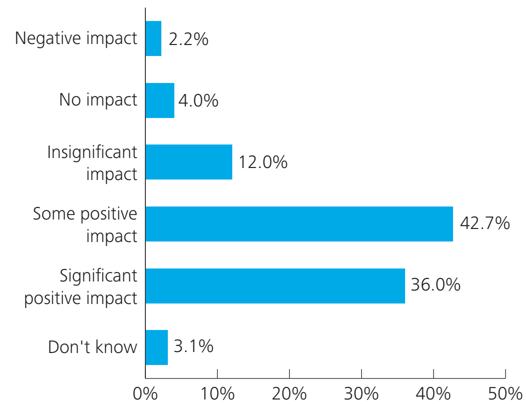


**Exhibit 16. Handsets and user devices**

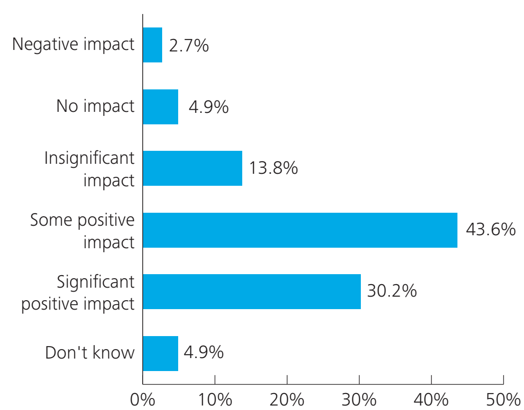
16a. Cost leadership – Handset device product development/ consumer pricing




16b. Innovation – Increasing the rate of innovation in handset product development




16c. Market segmentation – Development of diverse/niche mobile devices and services



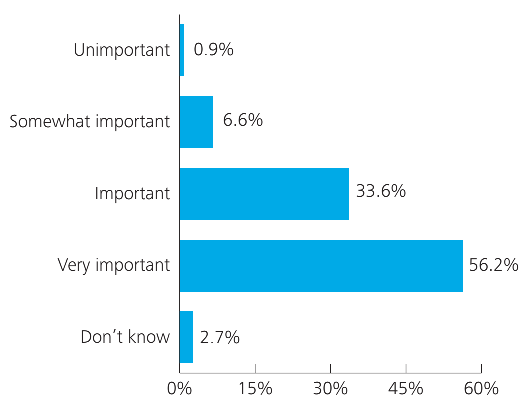
## Increasing the uptake of the mobile web

Survey respondents were also asked to rate the level of importance of a number of initiatives closely aligned to the predicted uptake of mobile Internet services in an open mobile environment. The top three initiatives thought most important to increasing the uptake include enhancing the user experience via improved device features (69 percent of those surveyed), providing attractive pricing on data services at cost-effective flat rates (64 percent) and improving the quality and variety of accessible mobile content (56 percent).

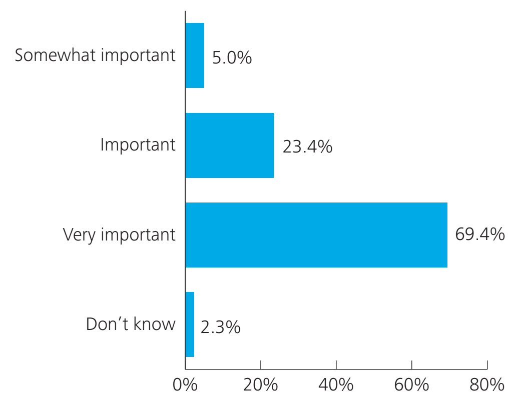
From an industry perspective, notable responses included 61 percent of handset manufacturers calling for the quality and variety of accessible mobile content to be improved while 76 percent of the same group believes attractive pricing on data services is the key to improving mobile internet uptake. Interestingly, only 27 percent of handset developers think providing consumers open access on any carrier network of their choice is the best idea for improving uptake.

**Exhibit 17. Please rate the level of importance of the following initiatives for improving the uptake of mobile internet services**

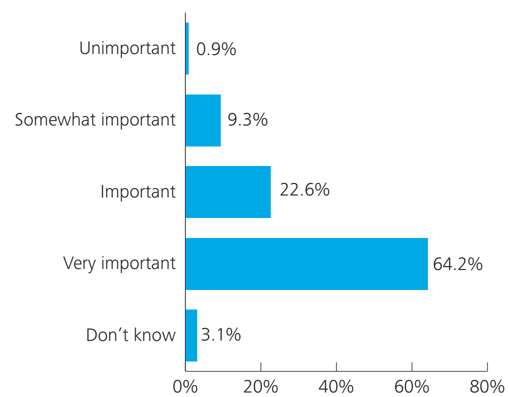
17a. Improve the quality and variety of accessible mobile content



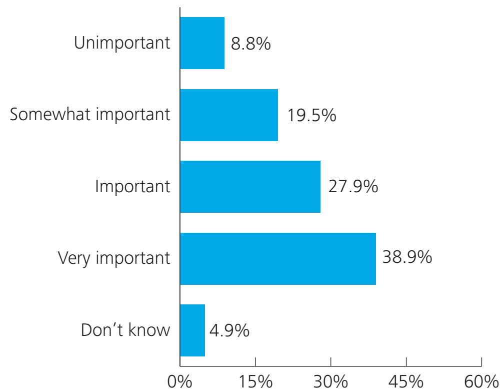

17b. Enhance the user experience via improved device features



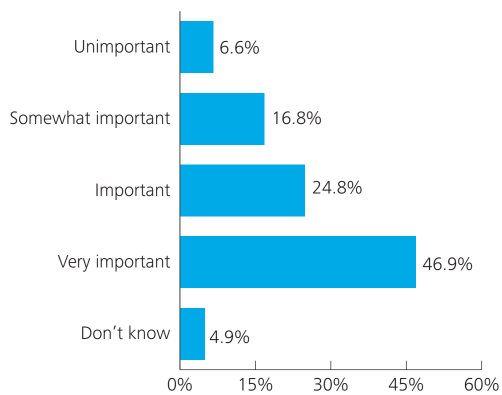

17c. Provide attractive pricing on data services at cost-effective flat rates



17d. Provide consumers open access on any carrier network of their choice

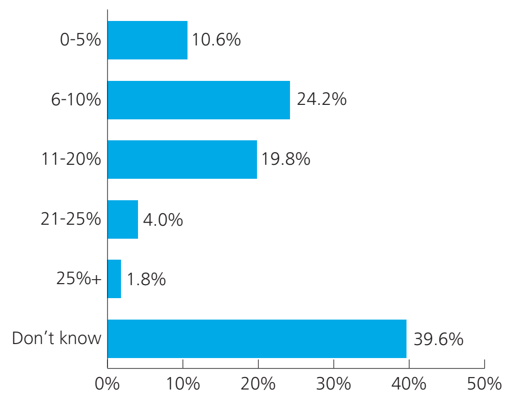



17e. Provide full unrestricted access to any website



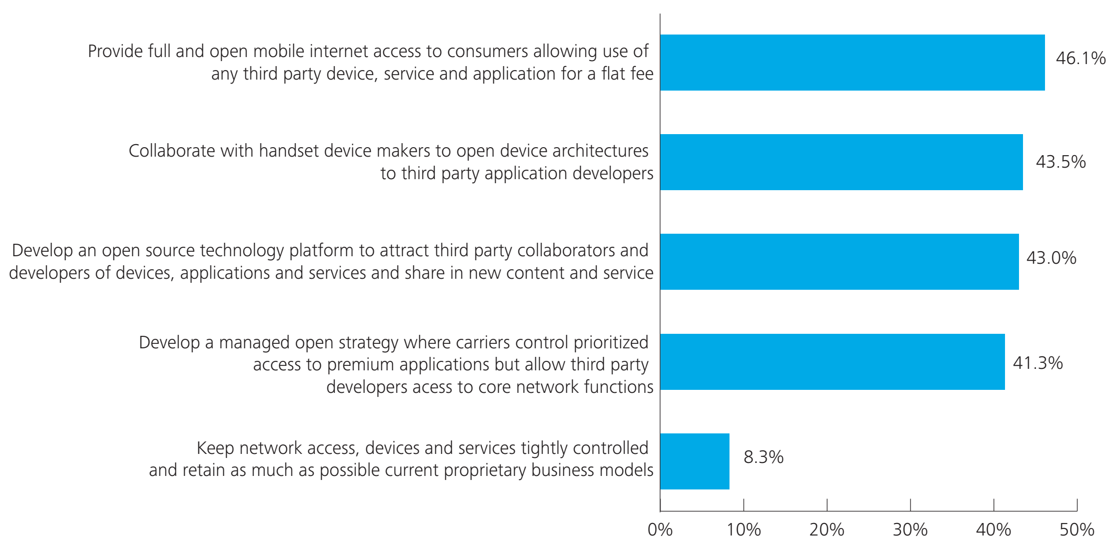

Respondents were also quizzed on the potential savings in manufacturing handset devices when adopting a Linux-based, open source OS. 24 percent predicted 6–10 percent savings, with 20 percent predicting slightly higher savings of 11–20 percent.

**Exhibit 18. What are the likely average savings in total cost of handset manufacture of devices using a Linux-based open source operating system?**



Finally, survey respondents were provided a number of hypothetical options for U.S. network carriers to adopt in the short-medium timeframe that would enable sustainable competitive advantage in the open mobile era. Providing consumers full and open mobile internet access and allowing the use of any third party device and application for a flat fee have the most potential with 46 percent in agreement. This was followed by 44 percent agreeing that network carriers should collaborate with handset manufacturers to open technology architectures to third party applications developers, thereby increasing the level of innovation, and the quantity and variety of mobile web content. Tellingly, only eight percent of those surveyed believed that competitive advantage could be sustained by keeping network access, devices and services tightly controlled and proprietary as much as possible.

**Exhibit 19. What is the best course of action for U.S. network carriers to sustain competitive advantage in the 3-5 year timeframe? (Please select all that apply):**




Note: This is a multiple select question. So percentages may not add to 100. Base used for percentage calculation is 230.

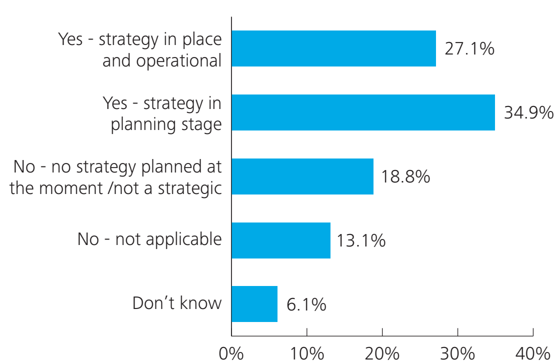
# Planning for open mobile

## Across the industry today, preparation for open mobile varies in priority and intensity.

Objectives and tactics aimed at planning for this disruptive shift are predominantly centered on utilizing open source technologies across a wide range of mobile platform architectures. However, opinions vary on the benefits expected from such adoption. To explore this further, respondents were asked to opine on the legitimacy of a number of open source “truisms”, this time in the context of the mobile web. But to begin with, the straightforward questions of "does your company have an open mobile strategy in place, what mobile OS is thought likely to dominate in the short term and how much investment, and where, should take place for open source technologies?", yielded some interesting responses.

For instance, although 27 percent of respondents stated that their companies already had an open mobile strategy in place, and 35 percent believed it was in the planning stage, 19 percent still had no strategy planned. From an industry perspective, responses were fairly uniform. However,out of the four main industries categorized, 26 percent of network carriers stated their companies had no strategy in place and were not planning to implement one. Handset manufacturers were seen to be more proactive in the area, with 40 percent stating that they already had a strategy in operation.

**Exhibit 20. Does your company have an open mobile strategy in place?**




Meanwhile, 57 percent of respondents indicated that adopting open source technology was a strategic priority, and 10 percent called it a top priority in 2009. In tandem, investment in open source was also predicted to rise over the next three years with 43 percent noting it will increase within their companies and 14 percent noting it will increase significantly. At the product level, focus on preparing for open mobile and utilizing open source technology platforms remains predominantly at the smartphone/mobile internet device level with 77 percent of those surveyed believing that this is the main mobile open source target market. Finally, when asked what mobile platform operating system has the best chance of becoming the defacto standard within the U.S. wireless sector five years from now, 43 percent believe Google’s Android platform will dominate, versus 20 percent who believe it will be Apple’s iPhone platform.

Noteworthy from an industry-breakdown perspective, 34 percent of network carriers do not believe that adopting open source technology is a strategic priority within their companies. Although, 43 percent think their companies will increase investment in open source over the next three years. Meanwhile, 22 percent of handset manufacturers believe their companies will increase investment significantly by 2012.

**Exhibit 21. Where does the adoption of open source technology rank among your company’s strategic planning for mobile technology?**

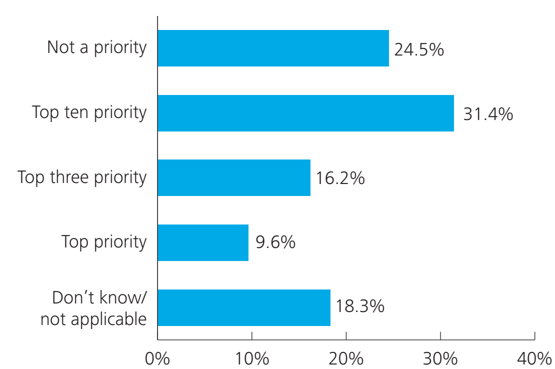


**Exhibit 22. How will your company's investment in open source technology change during 2009 – 2012?**

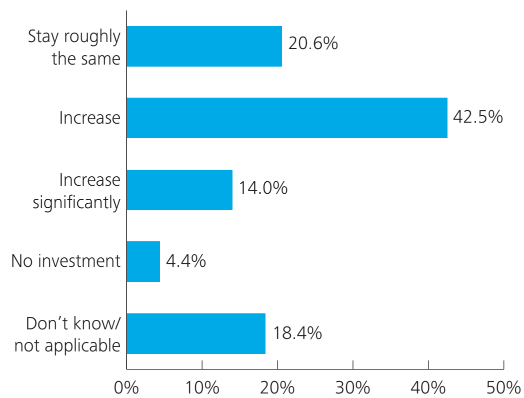



**Exhibit 23. What do you think is the main target market for mobile open source operating platforms?**

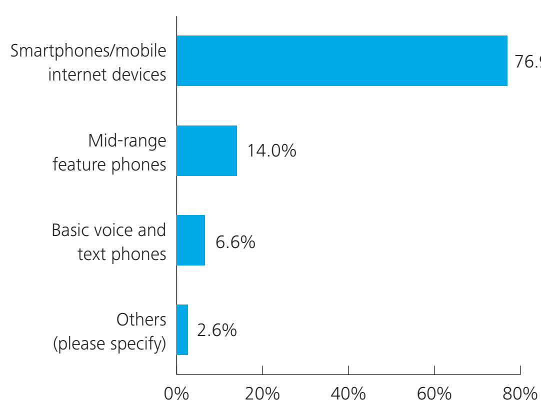
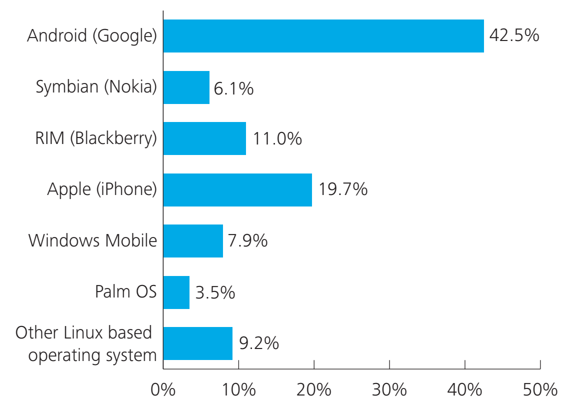



**Exhibit 24. In your opinion, which mobile operating system has the most potential to be the defacto standard in the U.S. wireless sector 5 years from now?**



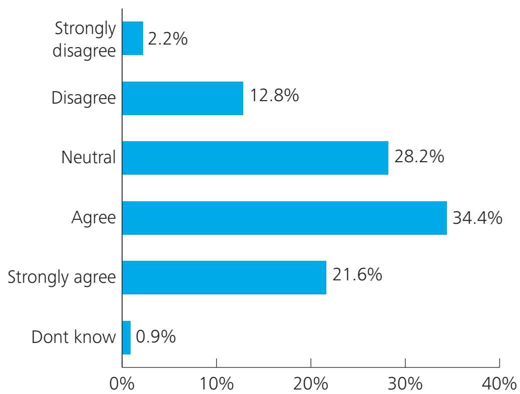

## Judging the benefits of open source in wireless

Survey respondents were asked to rate the main benefits of adopting and utilizing an open source mobile operating system. Over 55 percent believe that an open source mobile OS will lead to increased carrier customer satisfaction and retention, with over 50 percent agreeing that carrier ARPU will increase as a result. From a handset development perspective, 65 percent believe handset manufacturer sales will rise with the adoption of open source and that open source will lower the costs of product development. 71 percent think OS license royalty costs will decrease, and 68 percent think product development time-to-market will improve. Finally, 49 percent think handset device performance will improve with open source technology powering the OS, and 72 percent think that OS platform standardization will be the inevitable outcome for mobile devices. From a software perspective, 69 percent think total cost of software development and ownership will be reduced, and 70 percent view the use of open source technology as a lowering of the barriers to entry leading to increased competition with market leaders.

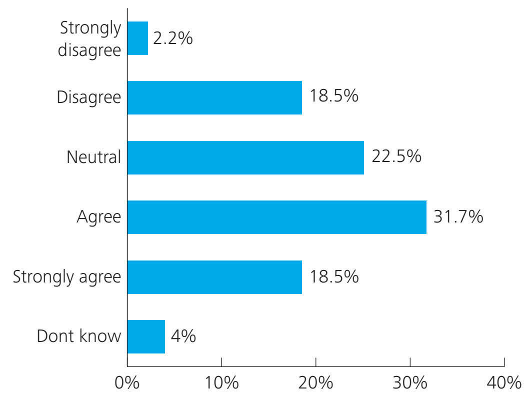
On the flip side, when asked to rate concerns that may arise with the adoption of open source technology by their companies, respondents rated security, quality and maintenance costs as the main issues and perceived obstacles to utilization.

**Exhibit 25. What are the main benefits of adopting / utilizing an open source mobile operating system?**

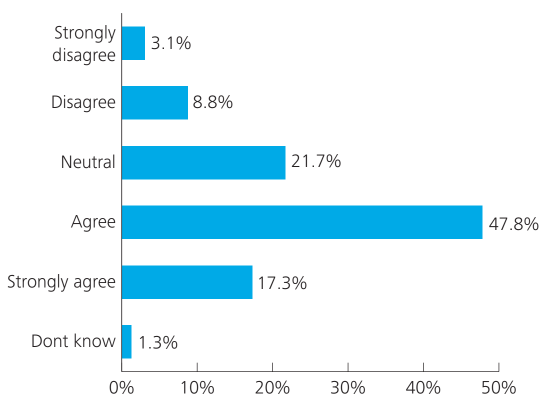
25a. Will lead to increased carrier customer satisfaction & retention



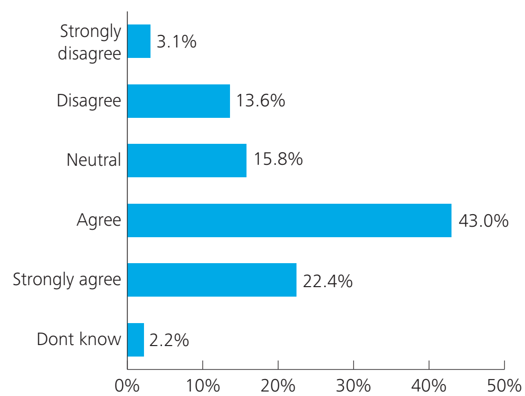

25b. Increased carrier average revenues per user (ARPU)



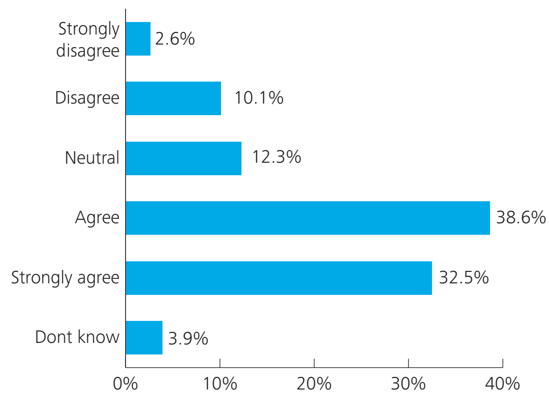

25c. Increased device manufacturer sales from new products and/or services



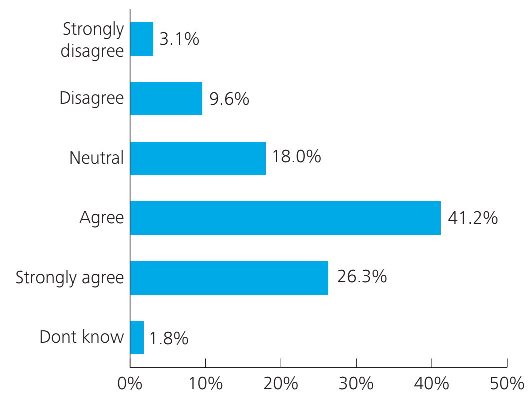

25d. Lower device product development costs



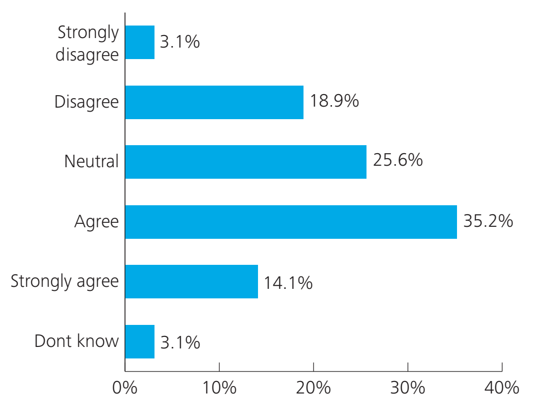
25e. Lower operating system license royalty payments



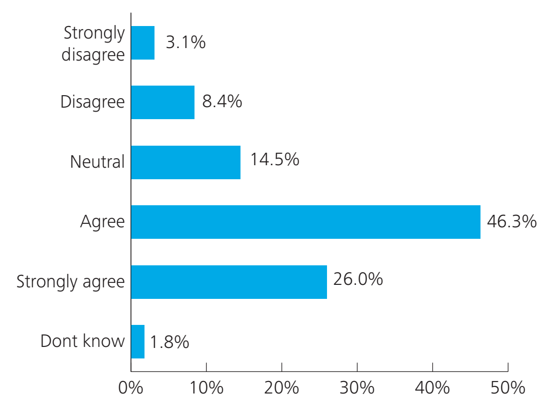

25f. Improved new product development time-to-market



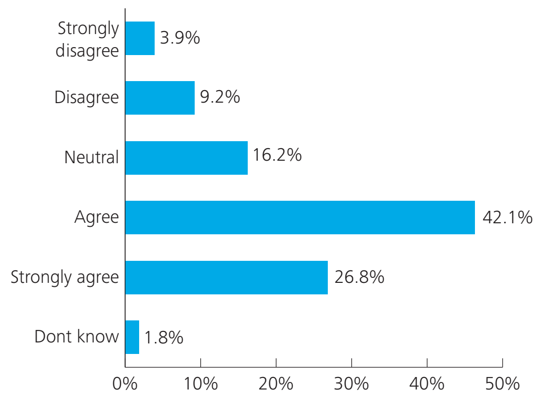

25g. Improved handset device product and service performance




25h. Device operating platform standardization increased



25i. Reduced total cost of software development and ownership




25j. Increased ability to compete with market leaders

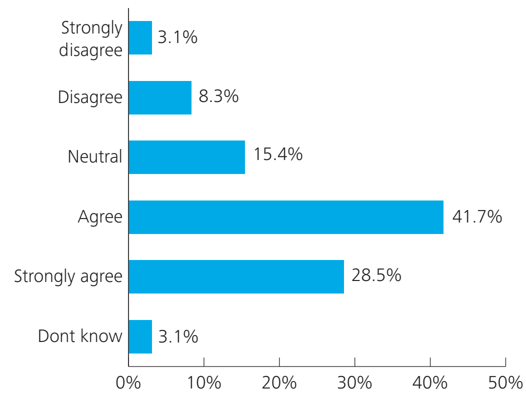
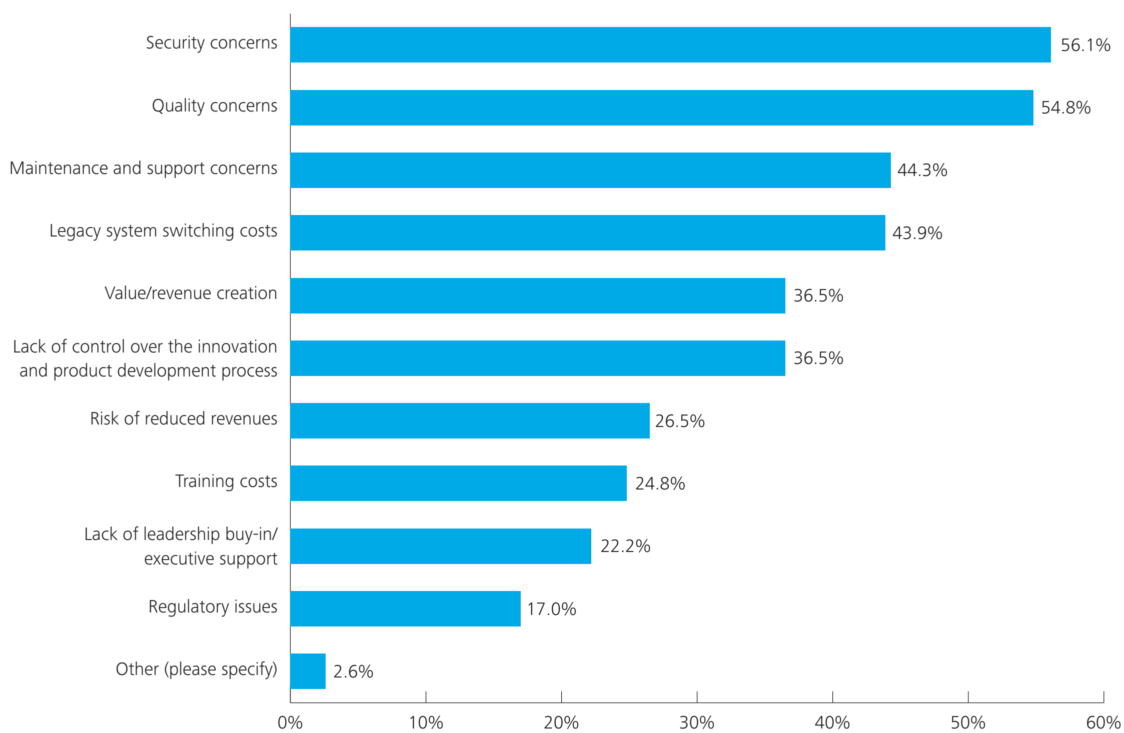



**Exhibit 26. What concerns will your company have when it comes to adopting an open source technology strategy? (Please select all that apply)**



# Capability-building for open mobile

## The final section of the survey focuses on the elements of executing a strategy for migrating to an open mobile world.

First of all, 50 percent of respondents confirmed that their organizations had already developed a mobile technology platform, with 32 percent ranking the use of modular architectures and open interfaces as the most important element of the platform's success. Next, 15 percent stated their organizations were already orchestrating an open mobile ecosystem while 22 percent were members of one. However, 25 percent were not involved in an ecosystem, although they planned to be in the future, and another 25 percent were not involved and had no plans to change. Those respondents whose organizations were the orchestrators of an ecosystem were then asked what incentives were used to ensure members were motivated to participate in network and community building to support the ecosystem platform. Providing "shadow of the future" incentives (potential for future high revenue generation opportunities) were deemed most common by 18 percent of respondents. This was followed by knowledge-sharing and learning potential (14 percent) with straightforward financial payments as the third most common incentive (10 percent).

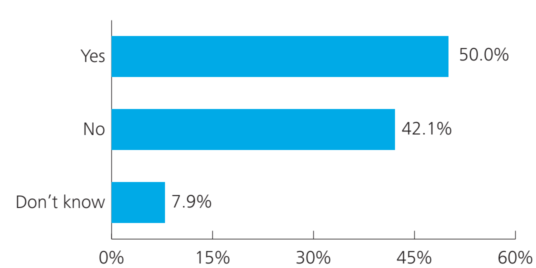
Moving on to explore approaches for becoming a leader in open mobile, it is clear that firms making the transition will require a range of capabilities. These will include ecosystem building, platform development, effective partnering with third parties, understanding customer needs and effectively managing intellectual property.

Survey respondents were therefore asked to self-assess their organization's capabilities in the following areas:

- Fostering an internal culture of collaboration
- Providing strong support to internal research & development teams
- Partnering effectively with suppliers and competitors
- Developing a deep understanding of customer needs
- Building trust with developers
- Developing networks and communities of development partners across dispersed geographical areas
- Intellectual property management

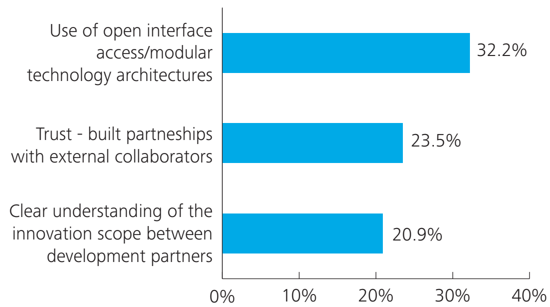
Those capabilities rated strongest included providing strong internal support to research and development teams (51 percent), partnering effectively with suppliers and competitors (54 percent) and developing a deep understanding of customer needs (60 percent). Conversely, those areas where the biggest challenges exist include building trust with developers (50 percent), developing distributed networks of partners and developers (46 percent) and managing intellectual property (42 percent). On the subject of fostering an internal culture of collaboration, respondents were almost evenly split on rating it both a strength (48 percent) and a weakness (49 percent).

**Exhibit 27. Has your organization developed a mobile technology platform*?**



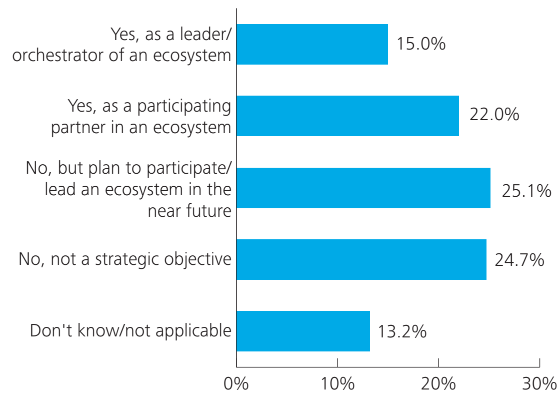

* Platform refers primarily to a software "building block" of separate, inter-linked components which can be further developed/added to by third party developers and in some instances competitors

**Exhibit 28. What are the critical elements of the platform's success? (Please select all that apply):**



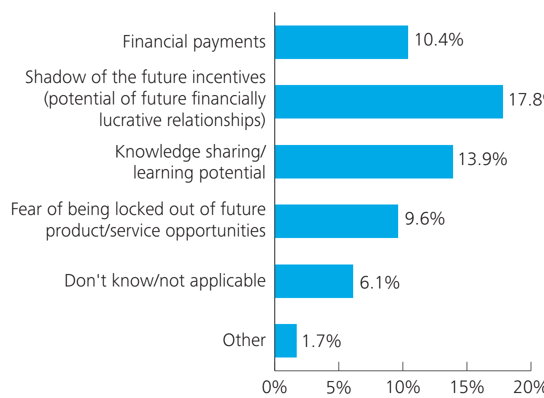

Note: This is a multiple select question. So percentages may not add to 100. Base used for percentage calculation is 230.

**Exhibit 29. Does your organization have an open mobile ecosystem* strategy in place?**




* Ecosystem refers to external third party networks of developers and collaborators dispersed across global geographic boundaries

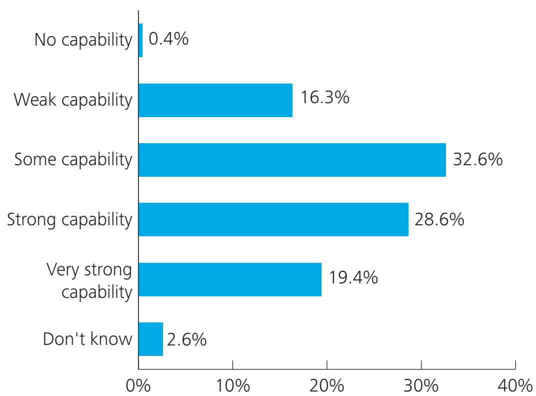
**Exhibit 30. What incentives does your organization provide to ecosystem partners to build and participate in the networks and communities?**



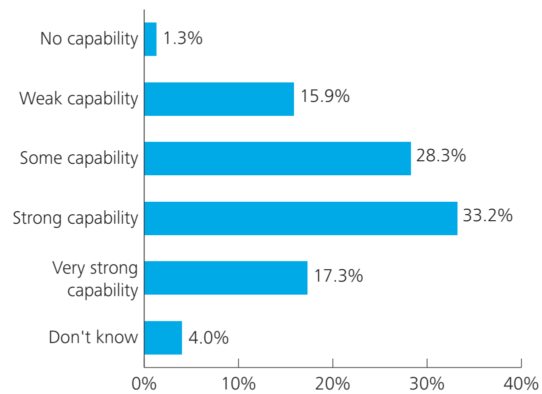

Note: This is a multiple select question. So percentages may not add to 100. Base used for percentage calculation is 230.

**Exhibit 31. How strong do you feel your company's current capabilities are in the following areas?**

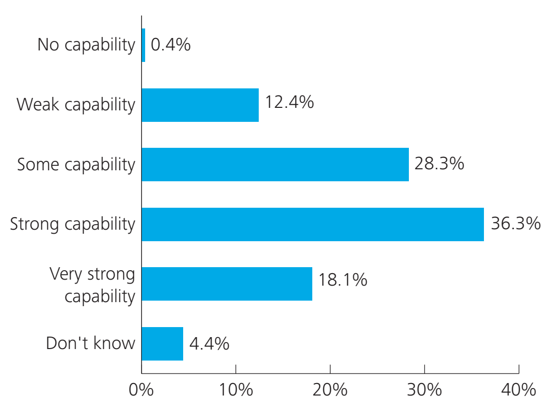
31a. Fostering an internal culture of collaboration



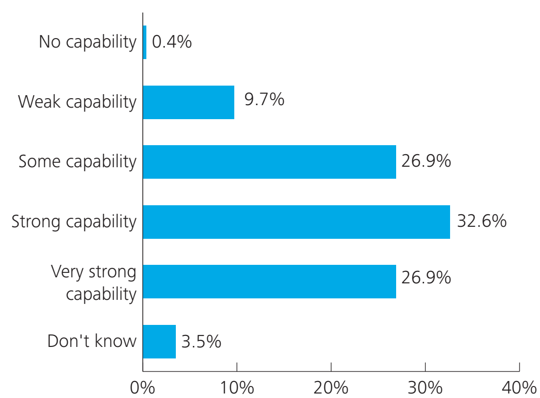

31b. Providing strong support to internal research & development teams



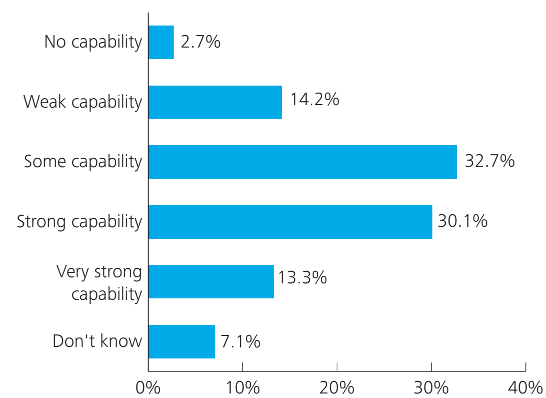

31c. Partnering effectively with suppliers and competitors



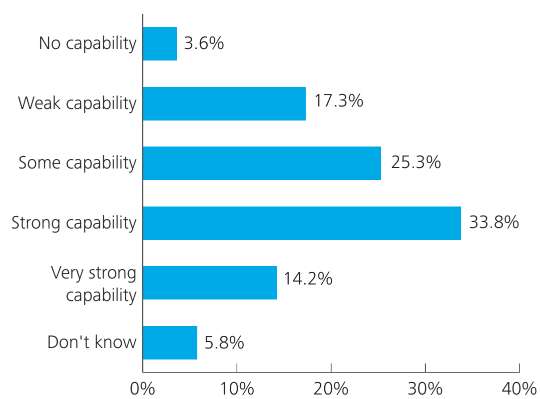
31d. Developing a deep understanding of customer needs



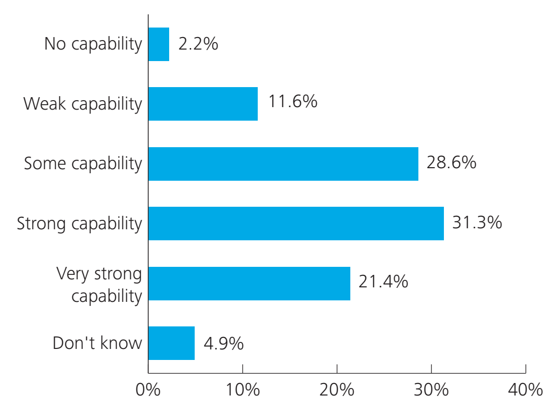

31e. Building trust with developers




31f. Developing networks and communities of development partners across dispersed geographical areas




31g. Intellectual property management



# A final word – Assessing the threats and opportunities

As a final request, survey respondents were asked to comment on what they believe are the biggest threats and opportunities their organizations will likely face with the advent of open mobile. The responses ranged from wildly enthusiastic about impending change to those who were doubtful open mobile would have any positive benefit. A selection of the comments is provided below in no particular order.

- "Lack of carrier support of key applications"
- "Access (data and voice) become commodities but with great costs associated with providing them"
- "Flat-rate pricing probably disappears and tiered pricing based on total MB of usage per month replaces it"
- "An equal playing field finally emerges"
- "Open mobile will change the way the world works, even more so than when the pc emerged"
- "Open mobile is critical for sustainable technological and economic growth in the 21st century"
- "Biggest threat will be not having a coherent transition strategy in place and ready to go when it hits"
- "Niche mobile web applications will reduce customer churn and sustain revenues – the long tail of mobile will finally emerge"
- "Biggest opportunity is the potential for a massive new audience for data and web services"
- "Not getting full carrier co-operation is the biggest threat"
- "Commoditization leading to lower profitability is the biggest threat to carriers"
- "No threats – only opportunities, a rising tide raises all ships"
- "Platform fragmentation is a threat"
- "Open will not happen – the carriers will simply not allow it"
- "Licensing and protection of intellectual property is the biggest challenge"
- "Loss of intellectual property if open source takes hold"
- "Open is the new closed"
- "Barriers and costs of entry will be significantly reduced leading to an influx of cheaper competition from Asia"
- "Quite simply more users with more choice"
- "Free access to carrier networks will threaten the nation's internet infrastructure"
- "Carriers paid billions of dollars for spectrum and invested heavily in building next generation networks – now proponents of open mobile want to free-ride the carrier networks on someone else's dime"
- "Open source platforms will greatly increase the rate of innovation across the industry"
- "Open mobile platform owners will be able to scale innovation into multiple geographies increasing reach and increasing the value of their platforms"
- "Carrier ARPU will diminish significantly through shared revenue streams"
- "Continued differentiation in products and services will drive value creation across the industry"
- "Risk of losing control over security"
- "Core carrier offerings will become commoditized at the hands of Google meaning all the past carrier investment will be nothing more than wasteful expenditure"
- "The stranglehold carriers have on the industry will finally be gone"
- "Value benefit from open source use yet to be fully understood"
- "The dog will soon be wagged by the tail"
- "Ultimately, open mobile will move us from a product to a services-oriented industry"

# Appendix

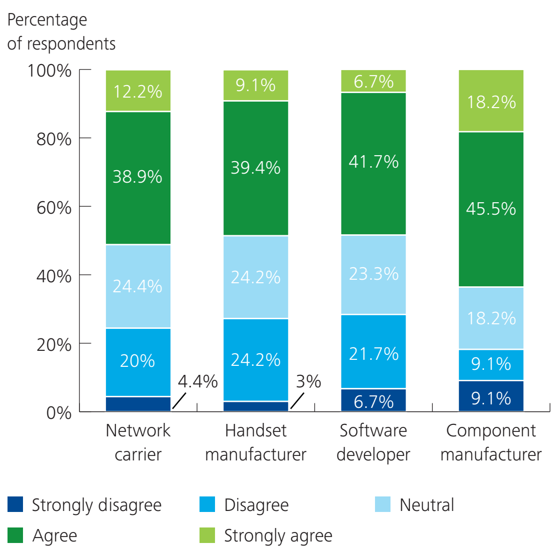
### Key survey findings by industry

Selected key findings for each industry are presented on the following issues:

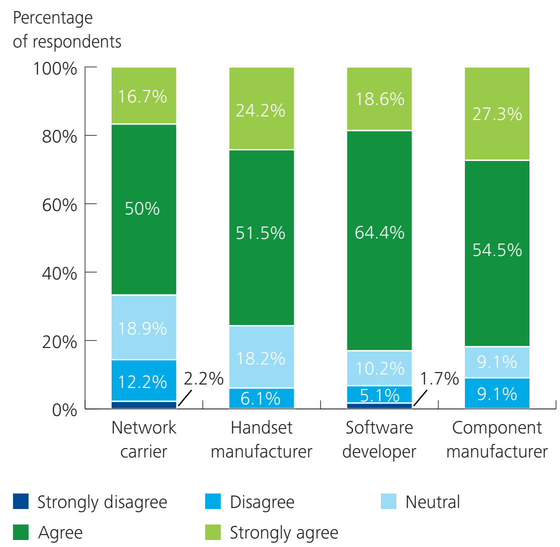
- Exploring the future wireless landscape
- Implementing an open mobile strategy
- Adoption of open source technology
- Investment in open source technology
- Best course of action for U.S. network carriers
- Development of a mobile technology platform
- Implementation of an open mobile ecosystem

### Exploring the future wireless landscape

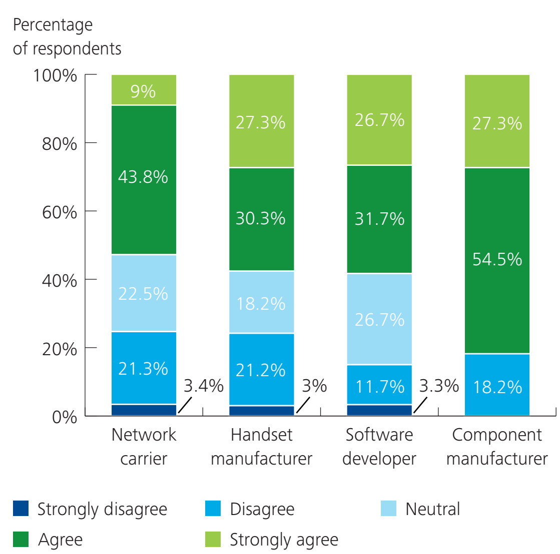
**Open Mobile will be the most disruptive trend to impact the U.S. wireless sector in 10 years**



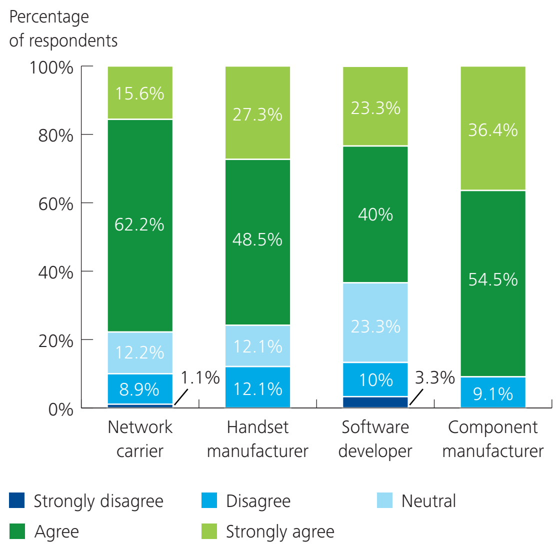

**Survival in an open mobile wireless sector will be dependent on making the transition from "closed gardens" to "open ecosystems"**



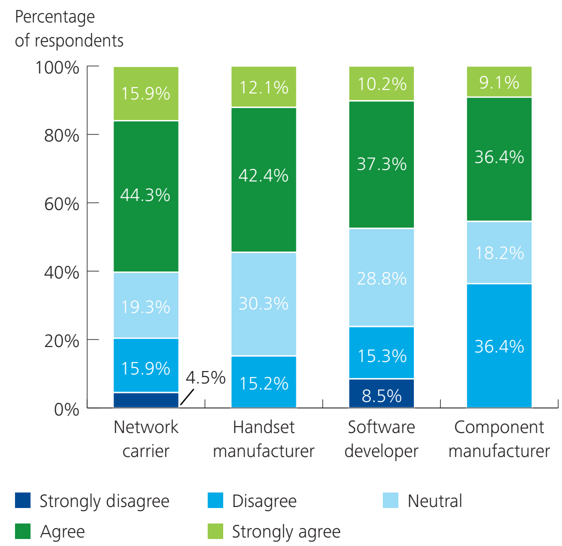

**In 2012, the "closed gardens" business model will be over. The future of mobile will be driven by open content and mobile software applications providers.**



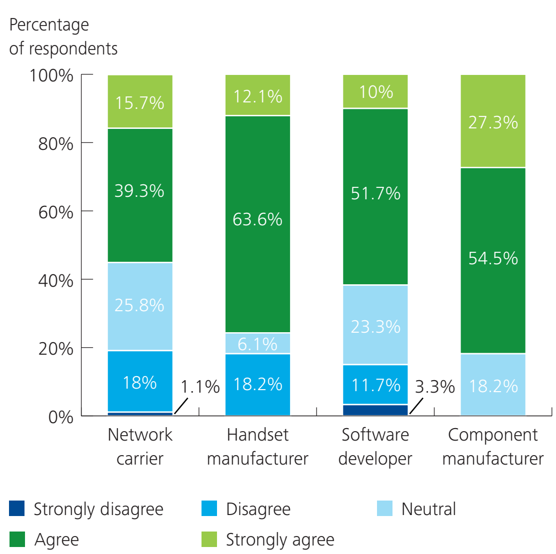
**In an open mobile world, services will predominantly drive new revenue opportunities rather than products/hardware**



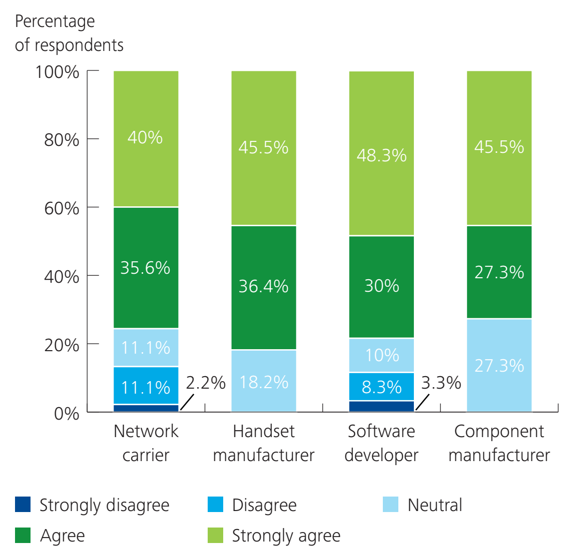

**The deployment of next generation mobile broadband technology, such as mobile WiMAX and LTE (Long Term Evolution) will determine the long-term success of open mobile**



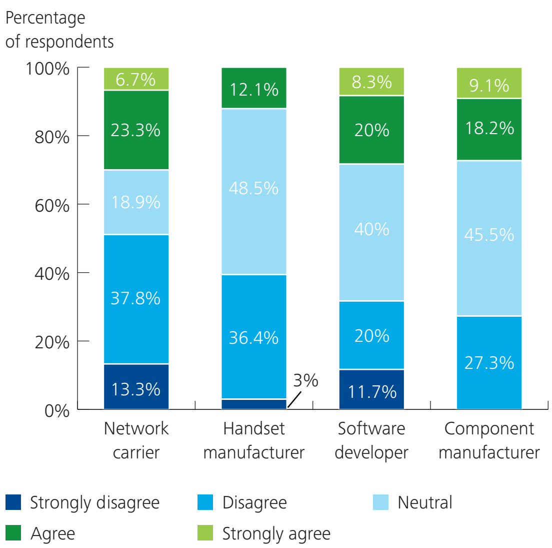

**Open access regulations will accelerate the commoditization of U.S. wireless network carriers**



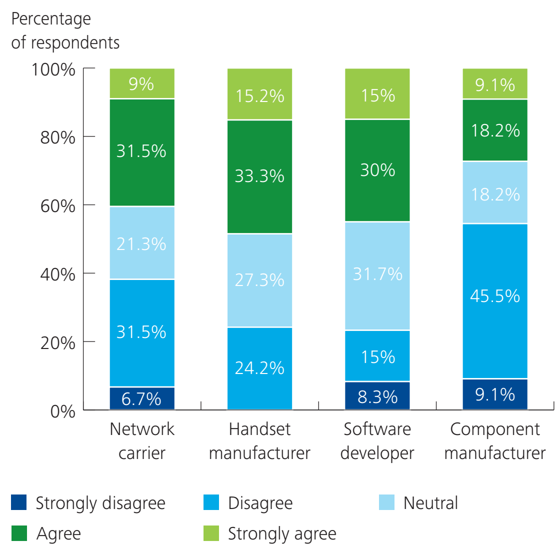

**Mobile internet users are the internet users of tomorrow**



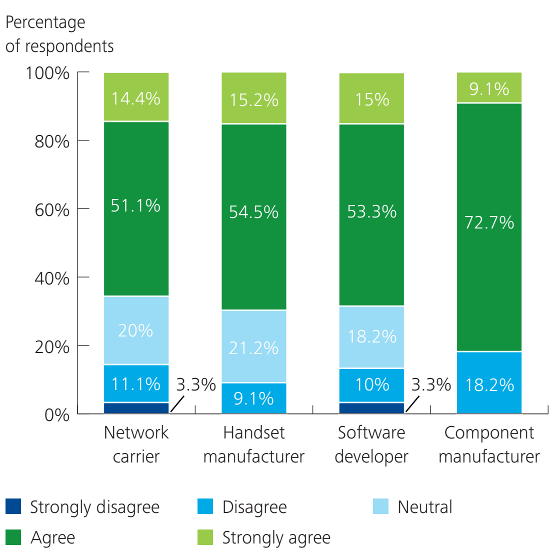
**In five years, internet companies, rather than network carriers or handset device makers, will dominate the U.S. wireless sector**



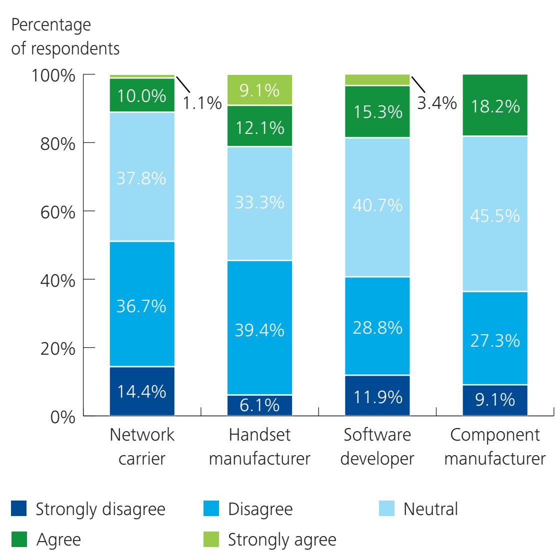

**Internet access is steadily being decoupled from the desktop and only open source software technologies have the best chance of bringing the desktop experience to mobile**



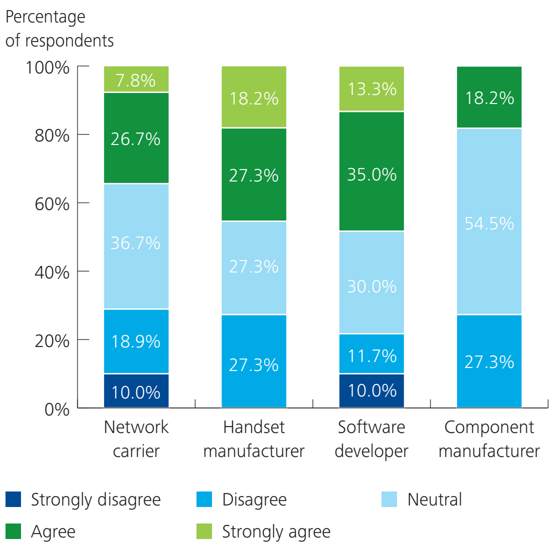

**Open source software as a wireless "game changing" disruptive technology is inevitable**




**A Linux-based operating system will be the defacto standard mobile operating system across the U.S. wireless sector within 5 years**

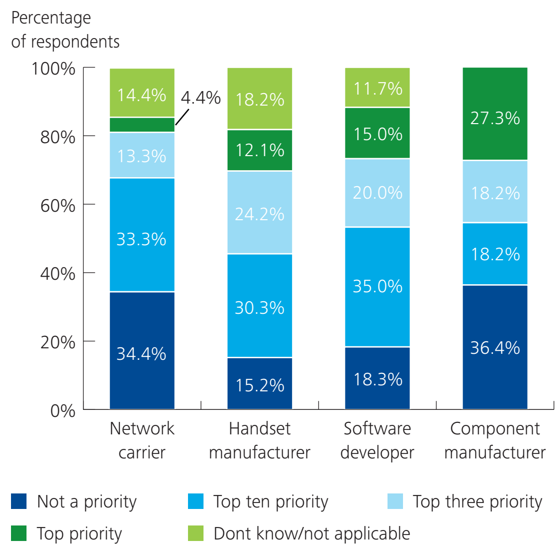


**In 3–5 years, Linux-based handsets will have experienced 50 percent market growth in the U.S. wireless market**



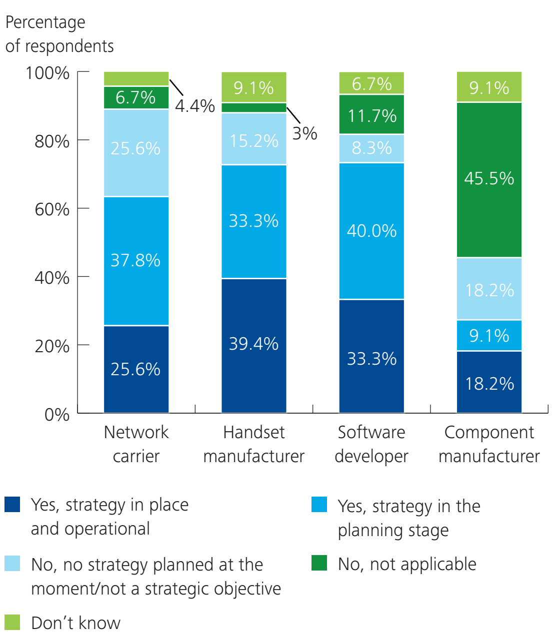

## Adoption of open source technology

**Where does the adoption of open source technology rank among your company's strategic planning for mobile technology?**



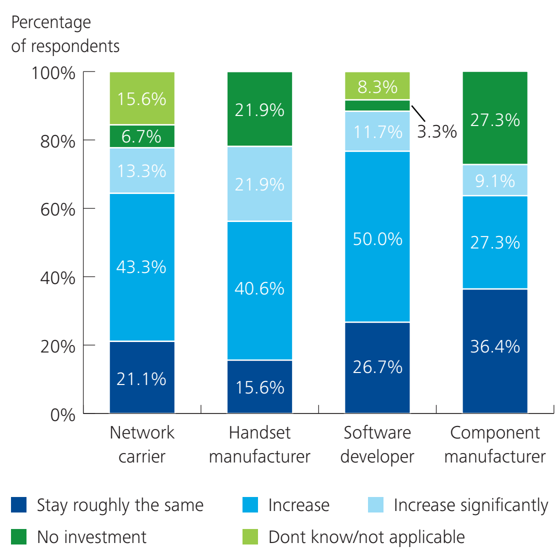

## Implementing an open mobile strategy

**Does your company have an open mobile strategy in place?**

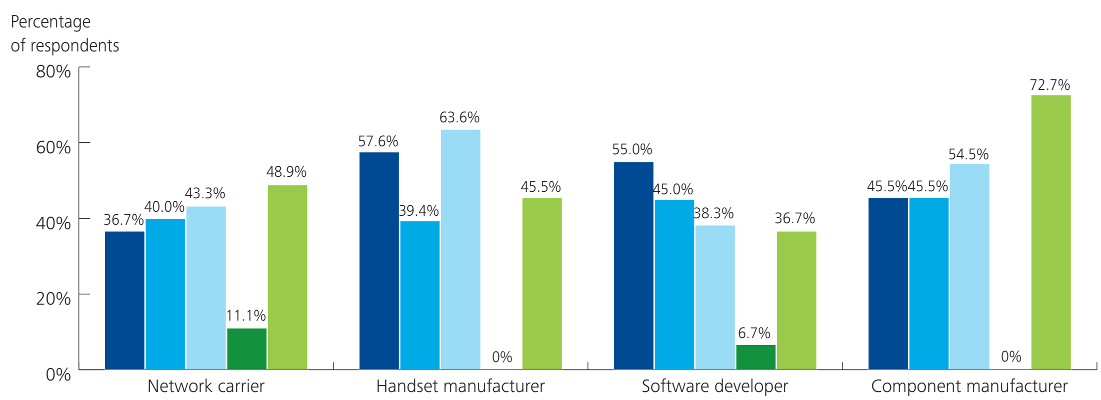



## Investment in open source technology

**How will your company's investment in open source technology change during 2009–2012?**



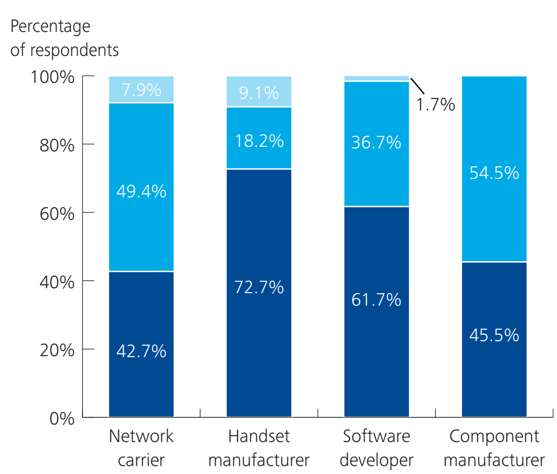
**Best course of action for U.S. network carriers**




- Provide full and open mobile internet access to consumers allowing use of any third party device, service and application for a flat fee
- Develop a "managed open" strategy where carriers control prioritized access to premium applications but allow third party developers access to core network functions
- Collaborate with handset device markers to open device architectures to third party applications developers
- Keep network access, devices and services tightly controlled and retain as much as possible current proprietary business models
- Develop an open source technology platform to attract third party collaborators and developers of devices, applications and services and share in new content and service revenues

## Development of a mobile technology platform

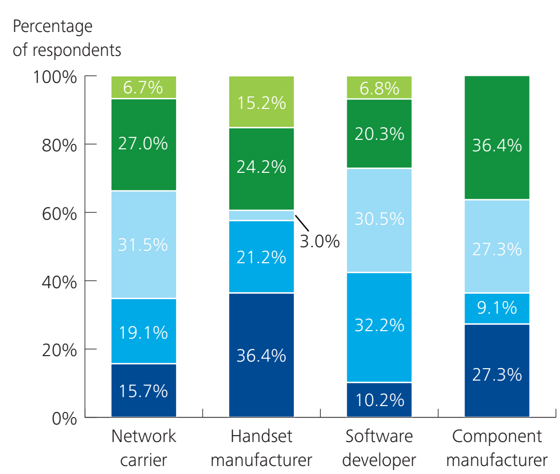
**Has your organization developed a mobile technology platform?**




- Yes
- No
- Don't know

## Implementation of an open mobile ecosystem

**Does your organization have an open mobile ecosystem in place?**




- Yes, as a leader/orchestrator of an ecosystem
- Yes, as a participating partner in an ecosystem
- No, but plan to participate/lead an ecosystem in the near future
- No, not a strategic objective
- Don't know/not applicable

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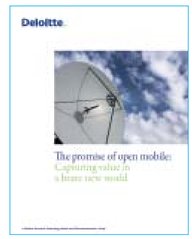
Scott Wilson is the US lead for TMT research and thought leadership development within Deloitte Research. Based in New York, his research work explores the challenges of technology management, innovation and corporate strategy across the technology, media and telecommunications sectors. Dr. Wilson has over 12 years experience in the TMT sector and has held a variety of industry and academic leadership roles. An expert on the subject of innovation strategy, his research has appeared in a number of leading business and academic publications including most recently, *The Harvard Business Review*. A native of the UK, he holds Masters and PhD degrees from Cambridge University's Engineering Department at the Center for Technology Management.

## Acknowledgments

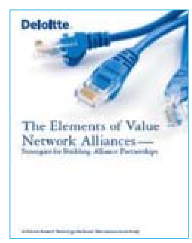
The author is grateful for the feedback, comments and assistance from the following people; Phil Asmundson, Deloitte LLP (United States), Vikram Mahidhar, Deloitte Services LP (United States), Gene Monacelli, Deloitte Consulting LLP (United States), John Namovic, Deloitte Consulting LLP (United States), Duncan Stewart, Deloitte LLP (Canada), Stephen Dixon, Deloitte LLP (Canada), Jane Jantzi, Deloitte LLP (Canada), John Ruffolo, Deloitte LLP (Canada), Sushant Gaonkar, Deloitte Services LP (United States), Prasad Kantamneni, Deloitte Services LP (United States), Ashish Ghambir, Deloitte Services LP, Kathy Dorr, Deloitte Services LP (United States), Kelly Nelson, Deloitte Services LP (United States), Negina Rood, Deloitte Services LP (United States), Chris Landes, Deloitte Services LP (United States), Steve Dorr, Deloitte Services LP (United States), Ryan Alvanos, Deloitte Services LP (United States), Nancy Holtz, Deloitte Services LP (United States), Robert McNeill, ThoughtBright LLC.

## Suggested further reading




*The Promise of Open Mobile: Capturing Value in a Brave New World*, Scott Wilson, Deloitte Research Report, 2009


*Open Source: Salvation or Suicide?* Scott Wilson and Ajit Kambil, Harvard Business Review, Vol. 86, 2008.




*The Elements of Value Network Alliances - Strategies for Building Alliance Partnerships*, Scott Wilson, Deloitte Research Report 2008

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http://www.deloitte.com/dtt/section_node/0,1042,sid%253D16409,00.html

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