Real time: The growing demand for data

2012 North American wireless industry survey

April 2013

A publication from the Entertainment, Media, and Communications Practice

At a glance

Highlights of key industry performance measures and insights into reporting policies and practices of wireless carriers in the United States and Canada

pwc

Acknowledgments

The PwC 2012 North American wireless industry survey was led by Pierre-Alain Sur, PwC's Global Communications and US wireless industry leader; Shara Slattery; Luke Mahan; and Sarah Smart and represents the efforts and ideas of many members of the firm's Entertainment, Media and Communications Industry group. The principal contributors were Amy Breland-Fisher, Natalie Coleman, Steven Etchison, Michael Gibbs, Daniel Hays, Ellen McCready, Andrew Terry, and Azure Wieghaus. PwC also thanks the companies that contributed topics and participated in the survey. Their support for this project, their time in completing the survey, and their candid responses are much appreciated. Together, we have created this survey to provide valuable insight into the operations, changes, and challenges of the wireless industry.

About this survey

The 2012 survey is an annual publication covering the financial and operational reporting policies and practices of wireless telecommunications service providers. PwC solicits survey participation from each of the largest US and Canadian carriers based on domestic subscriber counts. The responses of the carriers who elect to participate are included in the report. The survey is conducted by PwC's Entertainment, Media and Communications Industry group, which prepares the survey questions, solicits company participation, and compiles and analyzes the survey results. The survey period covers information as of December 31, 2011, as well as certain information available as of June 30, 2012. Companies participate voluntarily, and individual survey results are kept confidential by PwC. Certain information related to the previous year has been updated based on the survey responses, in which two years of data was requested to take into account the difference in the participating companies year over year.

PwC has taken reasonable steps to ensure that the information contained in this publication accurately summarizes the survey responses received from the participating companies; however, PwC has not performed any procedures to verify the accuracy of the survey responses. The survey provides a summary of the participating companies' financial and operational reporting policies and practices and does not purport to render accounting guidance or any other type of professional advice. If such advice is required, readers should contact their local PwC office.

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Executive Summary

We are pleased to publish the 16th annual PwC Wireless Industry Survey. This survey is based on detailed data and operating practices provided by major wireless network operators in the United States and Canada.

We hope this survey (1) helps companies better understand industry performance measures and their evolution, (2) provides insight into the policies and procedures utilized by responding companies, (3) offers clarity as to the comparability of financial statements within the industry, and (4) enables the identification of potential operational and financial performance improvement opportunities for wireless network operators. We also aim to address general financial accounting and reporting practices in the industry and identify emerging trends or issues related to technology, service offerings, and customer experience.

The survey has become an annual resource for many wireless communication industry executives. It has evolved with the changing businesses and trends in the industry and is based on feedback received from participating companies each year. This Executive Summary provides highlights of the 2012 survey results. We hope you find this year's survey results informative, relevant, and thought provoking.

The 2012 survey results reflect the participation of nine US companies, including the four largest wireless operators by revenue and subscriber base, as well as four major Canadian wireless companies, including the three largest. The breadth of coverage and participation enables the survey to provide the most representative summary of industry performance, policies, and practices available for the North American market.

We invite you to explore these highlights from this year's results, which cover 2011 year-end metrics and certain 2012 metrics.

Revenue and performance measures

While subscriber growth has continued to be strong across the wireless industry, the pace of expansion has begun to slow, due in large part to market saturation. The United States, for example, has now reached a level where most, if not all, of the addressable market now has a mobile device and service. Increasingly, companies are turning to new growth areas such as multi-device data connection plans and machine-to-machine (M2M) subscriptions for additional growth in the number of connections.

The average number of tablet connections grew nearly 43 percent year over year. This high growth in tablet connections is primarily attributable to higher demand for mobility among enterprises and subscribers, better network connectivity (4G), and higher data demand, particularly for video. The average number of tablet connections for the nine responding carriers who offer a tablet and related data services was 1.0 million as of June 30, 2012 and 0.7 million as of June 30, 2011, for all respondents.

The sale of smartphone devices to new postpaid subscribers continues to grow, representing 60 percent of device sales for fiscal 2011 as compared with 41 percent for fiscal 2010. The trend

toward smartphones is also seen with those customers who upgrade their devices. The percentage of customer upgrade phone sales relating to postpaid smartphones was 70 percent in fiscal 2011, compared with 50 percent in fiscal 2010.

Just as the sale of smartphones has increased, the number of total postpaid subscribers using a smartphone increased to 56 percent as of June 30, 2012, compared with 39 percent as of June 30, 2011. As of June 30, 2012, all responding carriers offered smartphones to their prepaid subscribers, compared with only 73 percent as of June 30, 2011. An average of 21 percent of the prepaid subscriber base used a smartphone as of June 30, 2012, compared with 12 percent as of June 30, 2011.

Releases of operating results and statistics by the operators for the fourth quarter and year-to-date 2012 indicate that these trends have done nothing but continue to accelerate.

The average revenue per user (ARPU) for postpaid customers remained consistent as of June 30, 2012 and 2011 at $55.94 and $55.93, respectively. Given the data service component for smartphone service plans, the average revenue per user for smartphone plans remained significantly higher than the average revenue per user for postpaid customers; however, it did decline at June 30, 2012 to $77.79 for postpaid subscribers, compared with $82.75 at June 30, 2011. Prepaid smartphone subscribers had an average revenue per user of $39 as of June 30, 2012, compared with $41 as of June 30, 2011.

As of June 30, 2012, Android is the most widely used operating system, with an average of 81 percent of prepaid subscribers using it, consistent with the overall industry trend, and with 55 percent of postpaid subscribers using it. Data services have been growing over the last several years but stabilized between June 30, 2011 and June 30, 2012 for prepaid. For all respondents, the average of total prepaid service revenue generated by data services was 32 percent as of June 30, 2012, consistent with the 32 percent as of June 30, 2011.

The percentage of postpaid service revenue related to data increased to 42 percent as of June 30, 2012, up from 38 percent for the same period of 2011. All responding carriers indicated that monthly data ARPU is now above $15 per user. The average ARPU per postpaid data service user increased more than 12 percent to $27 as of June 30, 2012, up from $24 as of June 30, 2011.

The increase on a postpaid per-subscriber basis averaged 27 percent as of June 30, 2012 over June 30, 2011 for the increase in megabytes (MBs) volume. The average MBs per postpaid subscriber per month at June 30, 2012 was 694, compared with 548 as of June 30, 2011. Mobile broadband customers, on average, use 700 percent more data service per subscriber compared with all postpaid subscribers. The average MBs per mobile broadband subscriber per month was 4,961 at June 30, 2012, compared with 3,698 at June 30, 2011. Carriers' average MBs per prepaid subscriber per month (including smartphones, mobile broadband, tablets, etc.) continues to increase for all responding carriers and grew by 65 percent on a year over year basis, from 275 MBs as of June 30, 2011 to 454 MBs as of June 30, 2012.

A continuous trend in minutes of use (MOU) among postpaid respondents has seen a significant decline since June 30, 2010, shrinking from 720 MOU per month to 673 MOU per month for 2012. Prepaid MOU also saw a decline as of June 30, 2012, to 777 MOU from 796 as of June 30, 2011. This is consistent with trends reported around the world. Although the root cause of the decline likely varies, we believe it to be a combination of the increased penetration of price-sensitive customers and the replacement of voice usage with data services (as noted above) such as text messaging, e-mail, and Internet-based messaging services, including BlackBerry Messenger and Facebook.

Property, plant, and equipment

Companies are continuing to experience heavier network traffic as the demands of consumers increase and the availability of advanced data services expands. Notably, overall traffic growth has slowed significantly from the rapid rate of increase seen in recent years, with operators reporting as much as a 60 percent reduction in their rate of traffic growth between June 30, 2011 and June 30, 2012 (a 76 percent increase), and between June 30, 2011 and June 30, 2010 (a 138 percent increase). While it is too early to tell if this slowdown is an indication of a maturing industry and a reduction in subscriber demands, it offers some potential relief to rapidly escalating network capital requirements and deployment challenges. The increased data traffic continues to impact the overall capital expenditures as a percentage of revenue, which approximated 22 percent of service revenue.

Companies continue to transition to 4G technology to support the increasing demand for mobile broadband solutions for various devices, such as laptops, smartphones, and tablets, and to support the demand for new services, such as video chat and mobile TV. As of June 30, 2012, 11 of the 13 responding carriers had their own cell sites using 4G technology, compared with only 5 carriers responding to the 2011 survey. The 2012 survey also shows that, on average, 65 percent of carriers' cell sites used 4G technology, compared with 46 percent in the 2011 survey, and 60 percent of the subscriber base was covered by 4G technologies, compared with 53 percent in the 2011 survey.

As telecom operators continue to upgrade their network technologies to improve performance and increase capacity, many of them are confronted with the challenge of maintaining multiple generations of technologies and networks, with many wireless operators continuing to operate 2G and 3G networks while also deploying 4G technology. Driven by the complexity and cost of maintaining multiple technologies, as well as by the need to make valuable assets occupied by older and less efficient technology available for reuse, operators have begun to prepare for the decommissioning of their older networks. As of June 30, 2012, 8 of the 13 responding carriers indicated they have plans for, or are currently in the process of, decommissioning network assets. Generally, the assets being decommissioned consist of cell site and switch equipment, radio equipment, and broadband wireless networks in the 2.5GHz band.

As these trends continue to evolve, we hope you will find the results presented in this survey useful, and we invite you to explore the in-depth results in the full report.

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Participating company information

The 2012 survey represents 13 wireless companies in North America. The following pages provide the demographics, general corporate data, and structure of the responding carriers, including:

Names of participating companies
Company type and subscriber base
Tablet and related data services
Machine-to-machine services connections
Annual service revenue
Annual equipment revenue
Employee base
Sales locations
Outsourcing
Inventory management
Customer care
Internal Audit

Participating companies:

United States

AT&T Mobility
Atlantic Tele-Network
Clearwire
Leap Wireless
MetroPCS
Sprint Nextel
T-Mobile USA
US Cellular
Verizon Wireless

Canada

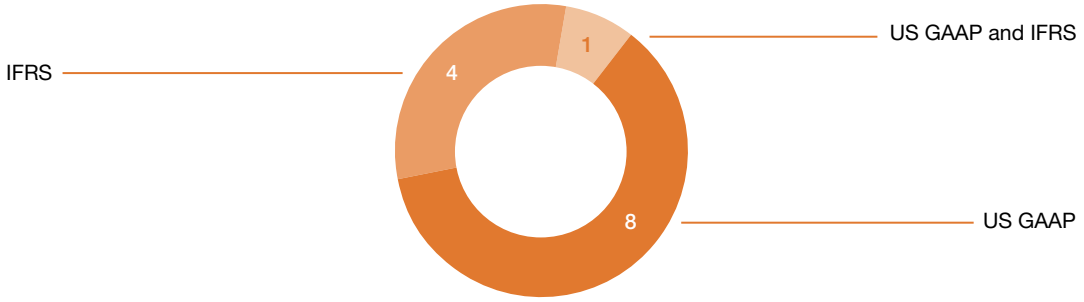
Bell Mobility
Rogers Wireless
TELUS Mobility
Wind Mobile

Company type and subscriber base

Of the 13 companies surveyed, 12 are listed on a public stock exchange and, therefore, were required to file interim and/or annual financial statements, either individually or through their parent company.

The responding companies prepare their financial statements under US Generally Accepted Accounting Principles (US GAAP) and/or International Financial Reporting Standards (IFRS). As compared with the prior year's survey, the number of respondents reporting under IFRS is consistent with the requirement in Canada since 2011.

Figure 1.1: Generally accepted accounting principles

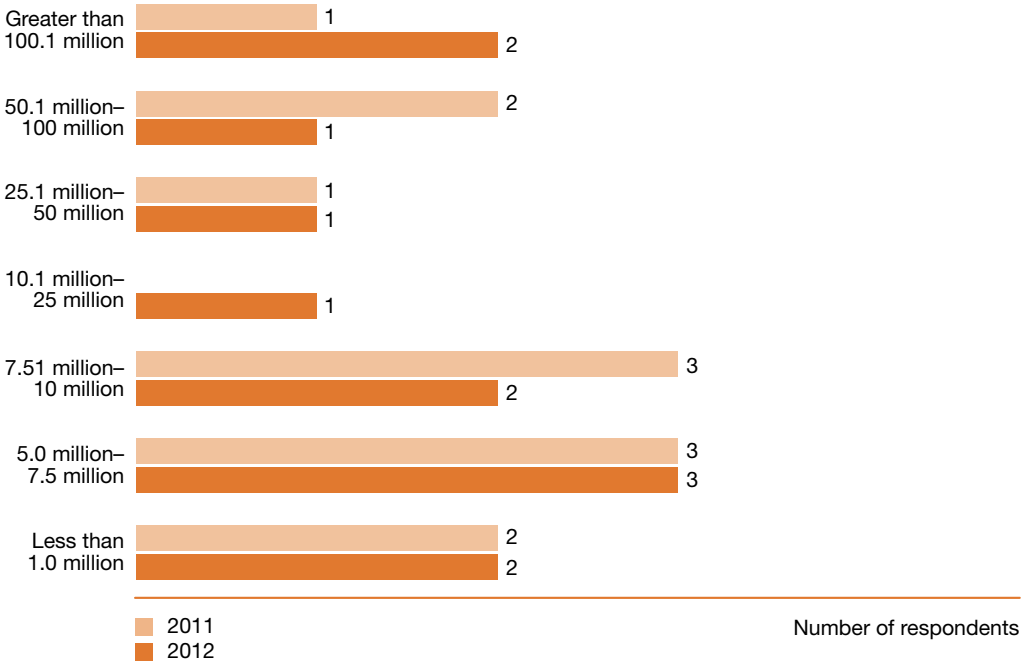


The industry continues to experience subscriber growth as more and more people utilize wireless devices as a substitute for traditional wireline service. The average number of total subscribers for all respondents was 27.9 million as of June 30, 2012, compared with 26.4 million as of June 30, 2011. Of the respondents with revenue greater than $5 billion, subscribers averaged 47.2 million as of June 30, 2012, compared with 44.9 million as of June 30, 2011. Respondents with revenue less than $5 billion averaged 5.5 million subscribers as of June 30, 2012, compared with 4.9 million subscribers as of June 30, 2011.

While subscriber growth has continued to be strong across the wireless industry, the pace of expansion has begun to slow, due in large part to market saturation. The United States, for example, has now reached a level where most, if not all, of the addressable market now has a mobile device and service. Increasingly, respondents are turning to new growth areas such as multi-device data connection plans and machine-to-machine (M2M) subscriptions for additional growth in the number of connections. In recognition of this trend, some respondents have begun to measure and report connections and accounts, rather than simply tracking individual subscribers. These opportunities and approaches are described in more detail on the pages that follow.

Figure 1.2, below, shows the responding companies' reported subscribers as of June 30, 2012 and June 30, 2011.

Figure 1.2: Subscribers as of June 30



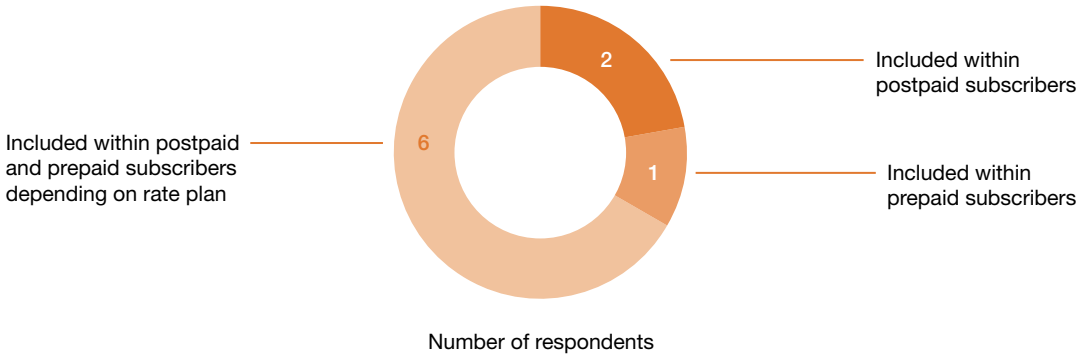
No responses were received in the 1.1–4.9 million category in 2011 or 2012 or the 10.1 million–25 million category in 2011.

Thirty-eight percent of responding carriers externally report their subscriber numbers counted through resellers (third-party companies) or mobile virtual network operators (MVNOs), compared with 42 percent in the 2011 survey. For the five respondents who include MVNO or reseller subscribers in externally reported subscriber numbers, the average number of MVNO subscribers included was 7.8 million as of June 30, 2012, and 6.0 million as of June 30, 2011.

Tablet and related data services

Nine of the thirteen companies surveyed offer a tablet and related data services to subscribers as of June 30, 2012, as the demand for the product continues with consumers. Of the nine responding companies that offer a tablet and related data services to subscribers as of June 30, 2012, they report tablet subscribers within three subscriber categories: postpaid subscribers, prepaid subscribers, or a combination of both postpaid and prepaid subscribers. Figure 1.3 shows the number of surveyed companies offering a tablet and related data services that report tablet subscribers within the three aforementioned categories.

Figure 1.3: Classification of tablets within subscribers



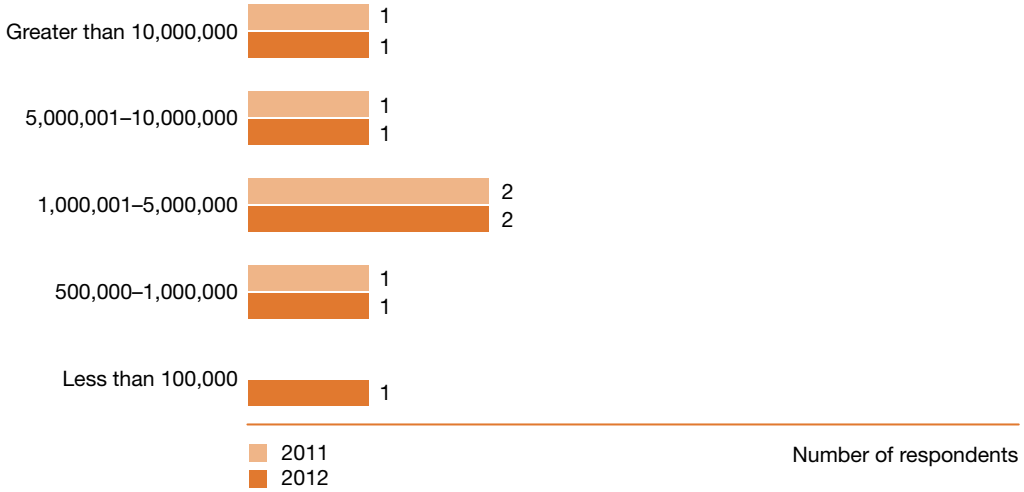
Machine-to-machine services

Machine-to-machine (M2M) services is defined as a wireless two-way connection across a broad range of devices on a network. This connection takes place in real time with little human intervention and can be accessed remotely. Demand for M2M devices and services is witnessing enormous growth in North America across a number of industries, such as automotive, transportation, utilities/energy, security, finance, retail, healthcare, and public safety. The growth has been driven by the availability of innovative technologies, new applications, low-cost communication services, and falling hardware costs. Coverage and service level consistency has been more important than bandwidth to users.

Seven of the thirteen companies surveyed offer M2M services as of June 30, 2012. Of those seven respondents with revenue greater than $5 billion, M2M connections averaged 5.8 million as of June 30, 2012, compared with 5.2 million as of June 30, 2011 for those carriers offering such services in both years. None of the respondents with revenue less than $5 billion offered M2M services as of June 30, 2012.

Figure 1.4 shows the total number of M2M connections as of June 30, 2012 and June 30, 2011 for responding carriers offering M2M services.

Figure 1.4: Total number of machine-to-machine connections as of June 30



No responses were received in the less than 100,000 category in 2011 or the 100,001–499,999 category in 2011 or 2012.

We asked survey participants how M2M connections are reported in their subscriber count. For the seven companies offering such services, these subscribers are divided into postpaid subscriber counts, wholesale customer category, reseller and retail subscriber counts, separately as connected devices, or not included in any subscriber counts. This highlights the newer service offering and diversity in practice based upon the type of service provided.

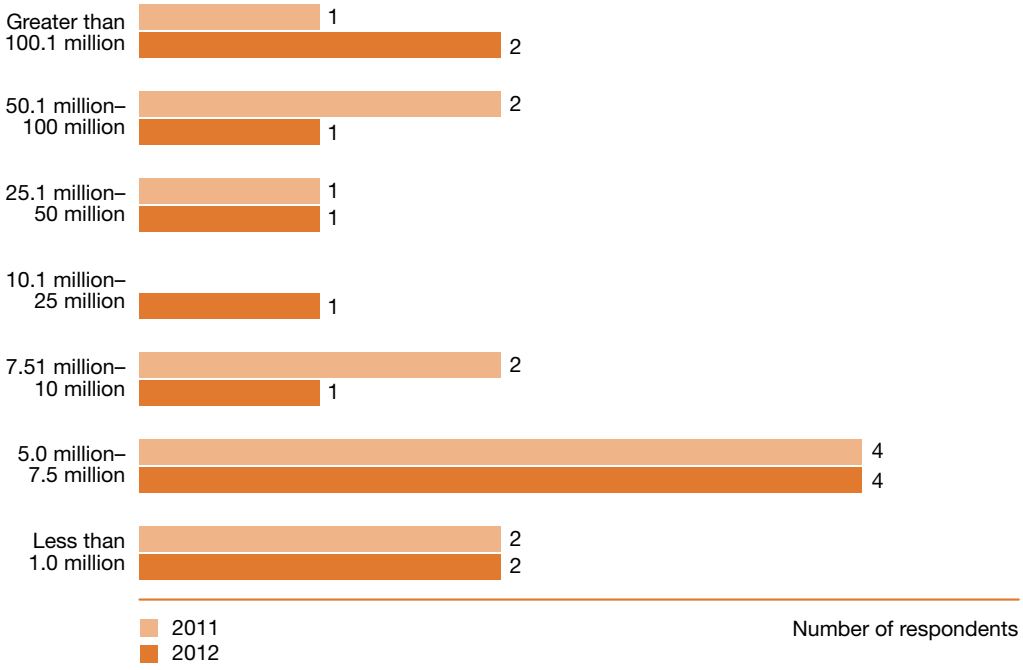
We also asked how carriers account for M2M activations and deactivations within churn calculations. There was a wide variety of methods used, highlighting the emergence of this offering and the lack of standardization as companies begin to use M2M services as an important source of revenue. Companies report M2M activity in varying ways, including, for example, within postpaid churn, wholesale churn, only within subscriber counts, or excluding them altogether. Some companies used multiple methods to account for M2M activations and deactivations.

Connections

For the survey respondents, average total connections grew 5.7 percent year over year. For carriers with revenue greater than $5.0 billion, average total connections grew 5.1 percent; for carriers with revenue less than $5.0 billion, it grew by 12.2 percent. Higher growth for carriers with revenue less than $5.0 billion may be due to the higher demand for prepaid services. The survey results indicate that the average postpaid connections for the respondents grew by just 1.3 percent year over year, which may be due to difficult economic conditions and wider options available under the prepaid segment. On the other hand, the average prepaid connections grew 10.5 percent year over year. Given the slow postpaid growth, operators are promoting prepaid services to maintain overall growth, although not to the extent of cannibalizing their existing base of postpaid subscribers. The launch of affordable smartphones under the prepaid category, coupled with low-cost and unlimited data plans, has made prepaid even more popular, resulting in higher growth than postpaid.

Illustrated in Figure 1.5 is the responding companies' number of connections reported as of June 30, 2012 and June 30, 2011. The number of connections may be equal to or greater than the number of subscribers if a customer has more than one mobile device (e.g., a wireless phone, a tablet, a wireless access card, etc.) or multiple mobile lines on an account. Each device and mobile line is counted as a separate connection. The average total connections for all respondents was 28 million as of June 30, 2012, compared with 26.5 million as of June 30, 2011.

Figure 1.5: Total connections as of June 30

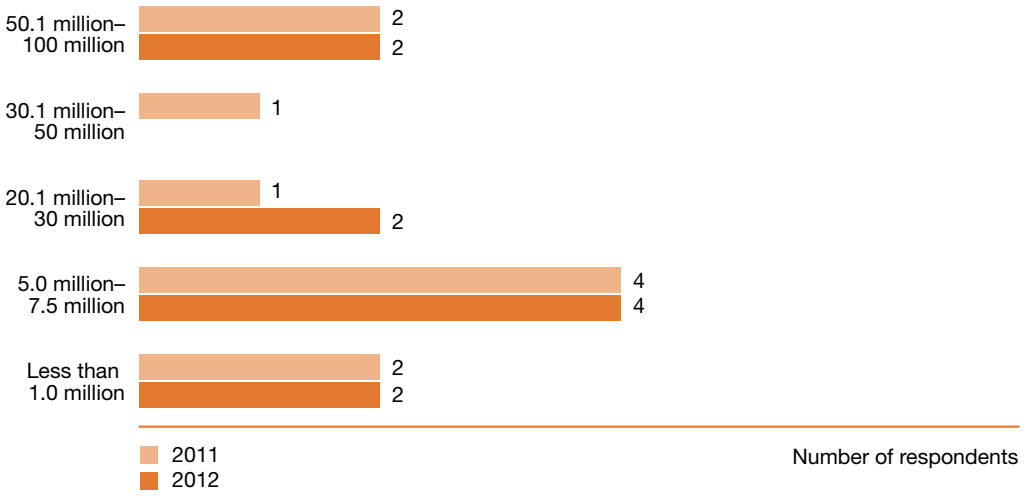


No responses were received in the 1.01–4.99 million category in 2011 or 2012 or the 10.1 million–25 million category in 2011.

The average number of connections was 47.3 million for carriers with revenue greater than $5 billion and 5.5 million for carriers with revenue less than $5 billion as of June 30, 2012, compared with 45.0 million and 4.9 million, respectively, as of June 30, 2011. The number of connections is slightly higher than total subscribers reported by the carriers, as multiple devices continue to be used by subscribers.

Categories of connections included wireless postpaid, wireless prepaid, tablets, laptop cards/wireless access cards, and other. Figure 1.6 illustrates the number of postpaid connections recorded by responding carriers as of June 30, 2012 and June 30, 2011. The average number of wireless postpaid connections for all respondents was 23.2 million as of June 30, 2012, compared with 22.9 million as of June 30, 2011.

Figure 1.6: Wireless postpaid connections as of June 30

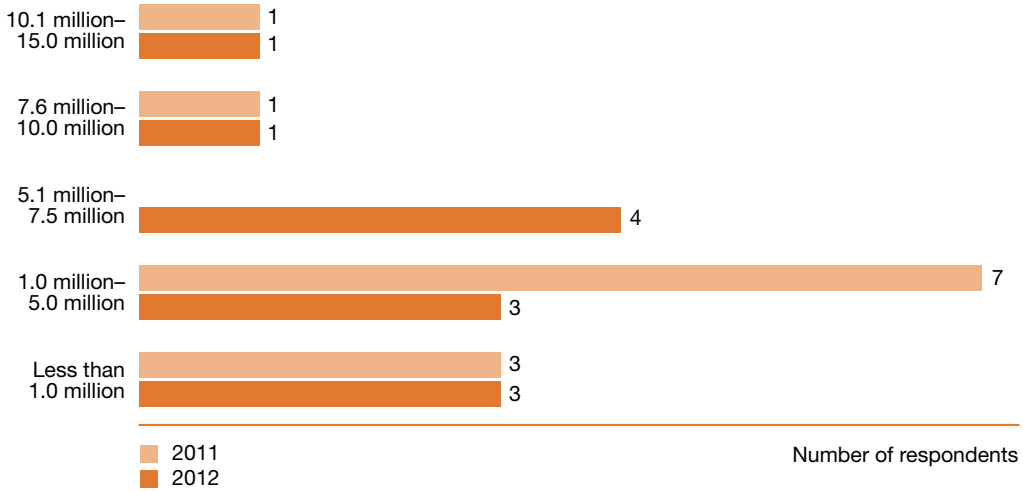


No responses were received in the 1.01–4.99 million and 7.51–20 million category in 2011 or 2012 or the 30.1 million-50 million category in 2012.

The average number of wireless postpaid connections was 32.3 million for carriers with revenue greater than $5 billion, compared with 31.9 million as of June 30, 2011, and 1.9 million for carriers with revenue less than $5 million as of June 30, 2012 and June 30, 2011.

The companies surveyed had an average of 4.2 million prepaid connections as of June 30, 2012 and 3.8 million as of June 30, 2011 for all respondents, as depicted in Figure 1.7.

Figure 1.7: Wireless prepaid connections as of June 30

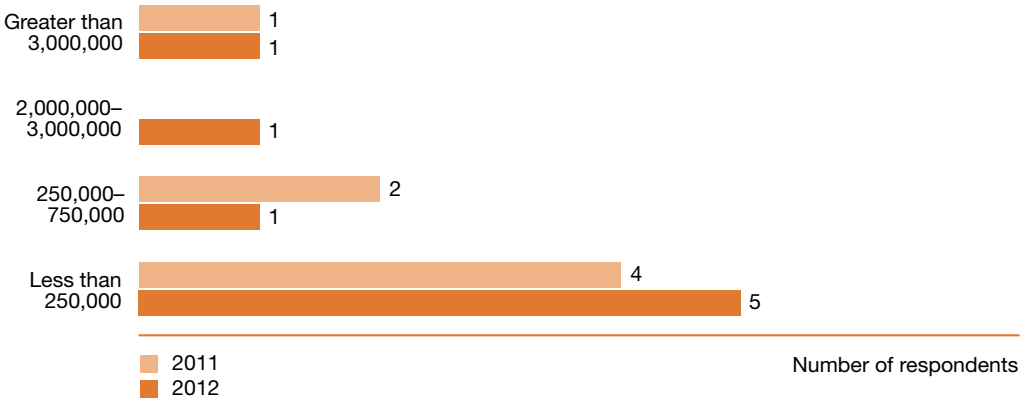


No responses were received in the 5.1 million–7.5 million category in 2011.

The average number of wireless prepaid connections was 4.9 million for carriers with revenue greater than $5 billion and 3.1 million for carriers with revenue less than $5 billion as of June 30, 2012, compared with 4.5 million and 2.9 million, respectively, as of June 30, 2011.

The average number of tablet connections grew nearly 43 percent year over year. This high growth in tablet connections is primarily attributable to higher demand for mobility among enterprises and subscribers, better network connectivity (4G), and higher data demand, particularly for video. The average number of tablet connections for the eight responding carriers with table offerings was 1.0 million as of June 30, 2012 and 0.7 million as of June 30, 2011 for all respondents. The total connections are shown in Figure 1.8.

Figure 1.8: Tablet connections as of June 30

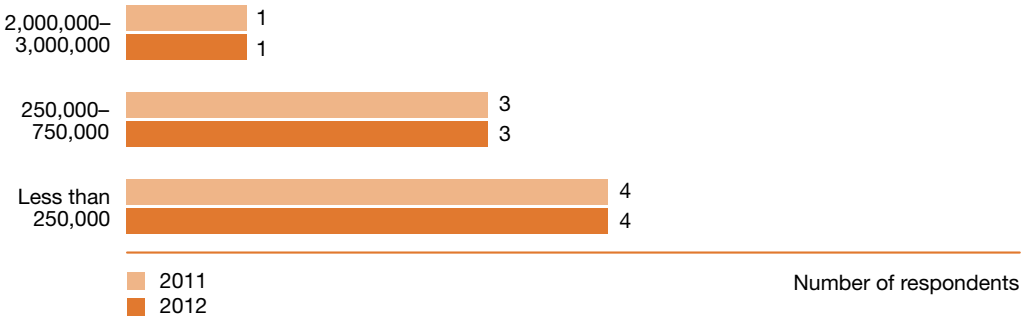


No responses were received in the 750,001–1,999,999 category in 2011 or 2012 or in the 2,000,000–3,000,000 category in 2011.

The average number of tablet connections was 1.1 million for carriers with revenue greater than $5 billion, compared with 0.8 million as of June 30, 2011.

Figure 1.9 provides the number of laptop card/wireless access card connections as of June 30 for the responding carriers. The average number of laptop card/wireless access card connections was 0.4 million as of June 30, 2012 and 0.5 million as of June 30, 2011 for all respondents.

Figure 1.9: Laptop card/wireless access card connections as of June 30



No responses were received in the 750,001–1,999,999 laptop card/wireless access card connections category in 2011 or 2012.

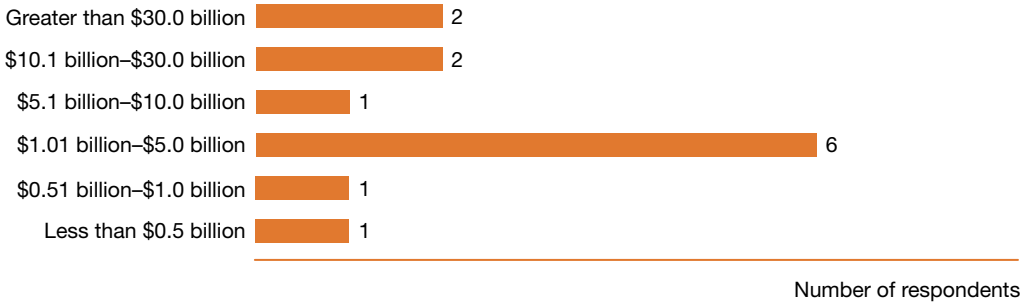
The average number of laptop card/wireless access card connections was 0.8 million for carriers with revenue greater than $5 billion, compared with 0.1 million for carriers with revenue less than $5 billion, as of June 30, 2012, and 0.9 million and 0.2 million as of June 30, 2011, respectively.

Seven of the responding carriers also indicated that they offered other connections, such as e-readers, home/auto security monitoring, voice terminals, and hot spots. The average number of other connections was 3.2 million as of June 30, 2012 and 3.0 million as of June 30, 2011 for all respondents.

Annual service revenue

Figure 1.10 illustrates the responding companies' service revenue reported for the most recent fiscal year, which ended December 31, 2011, for all respondents. The average service revenue was $25.4 billion for carriers with revenue greater than $5 billion and $2.2 billion for carriers with revenue less than $5 billion.

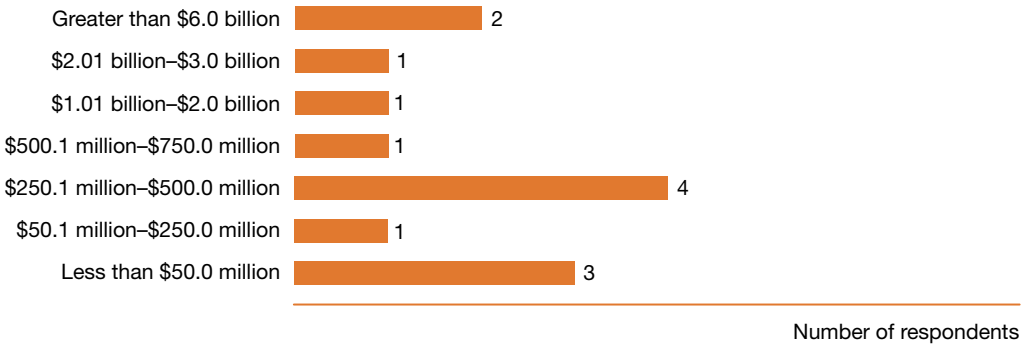
Figure 1.10: Annual service revenue



Annual equipment revenue

Figure 1.11 illustrates the responding companies' equipment revenue reported for the most recent fiscal year, which ended December 31, 2011, for all respondents. The average equipment revenue was $2.9 billion for carriers with revenue greater than $5 billion and $0.2 billion for carriers with revenue less than $5 billion.

Figure 1.11: Annual equipment revenue



No responses were received in the $750.1 million–$1.0 billion or the $3.01 billion to $6.0 billion equipment revenue category

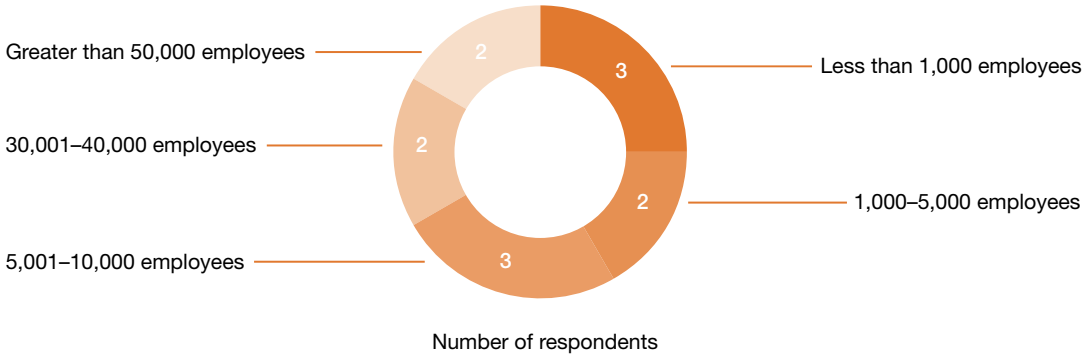
The average equipment revenue for all respondents represented 10 percent of total company revenue, while the average other revenues (none service or equipment revenue) were 3 percent of total company revenue.

Employee base

Carriers with revenue greater than $5 billion averaged 36,758 employees, compared with the average of 35,592 employees reported by respondents in the 2011 survey. These increases could be the result of continued investment in advancing the network and customer service to enhance their subscriber base. Carriers with revenue less than $5 billion averaged 2,943 employees, which is down from an average of 3,579 employees reported by respondents in the 2011 survey. With a limited subscriber base, the carriers with revenue less than $5 billion are looking for sustainability in the capital-intensive industry and are streamlining their overall operational costs to enhance their cash flow and profitability; these declines also reflect outsourcing opportunities.

Figure 1.12 represents the number of full-time employees as of June 30, 2012.

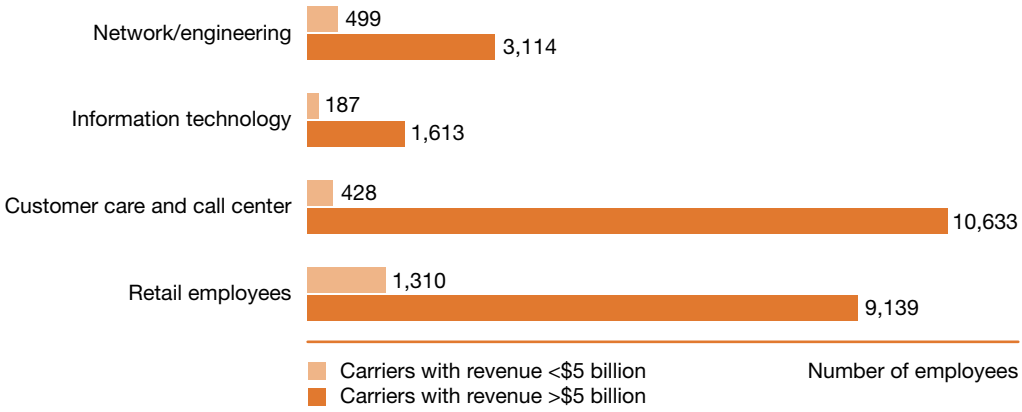
Figure 1.12: Full-time employees



No responses were received in the 10,001–30,000 and the 40,001–50,000 employees categories.

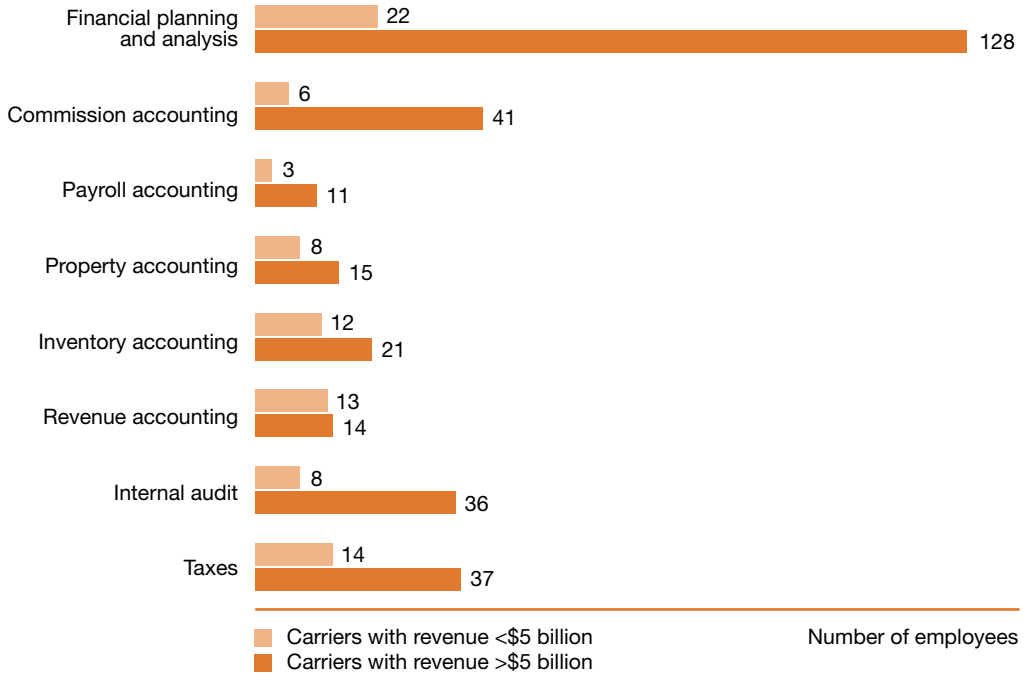
Considering average number of employees per functional position, most carriers have the maximum percentage of their workforce working under the customer care and retail segments (71.7 percent for carriers with revenue less than $5.0 billion and 80.7 percent for carriers with revenue greater than $5.0 billion). In a highly saturated market with intense competition, carriers are deploying a large portion of their workforce into sales and customer service in order to add and retain customers. The number of full-time employees in each functional category as of June 30, 2012 is shown in Figures 1.13 and 1.14. The responding companies were split between carriers in both revenue categories.

Figure 1.13: Average employees per functional position



Additionally, average number of employees per functional accounting and finance position is highest for financial planning and analysis (FP&A) and taxation for all carriers. The growing need to control budgets and improve profitability has led to more employees being deployed for FP&A.

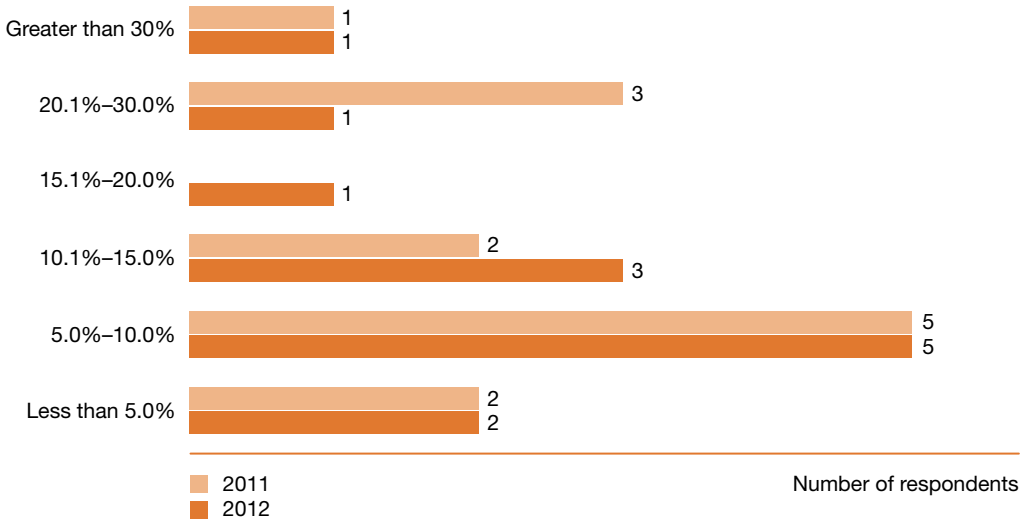
Figure 1.14: Average employees per functional accounting and finance position



Sales locations

All of the responding carriers reported using company-owned retail and kiosk locations to sell and provide services for customers. The average total retail presence related to retail and kiosk locations for the responding carriers was 13 percent as of June 30, 2012 and 16 percent as of June 30, 2011. Figure 1.15 depicts the reported percentage of total retail presence represented by company-owned retail and kiosk locations as of June 30.

Figure 1.15: Company-owned retail and kiosk locations percentage of total retail presence as of June 30

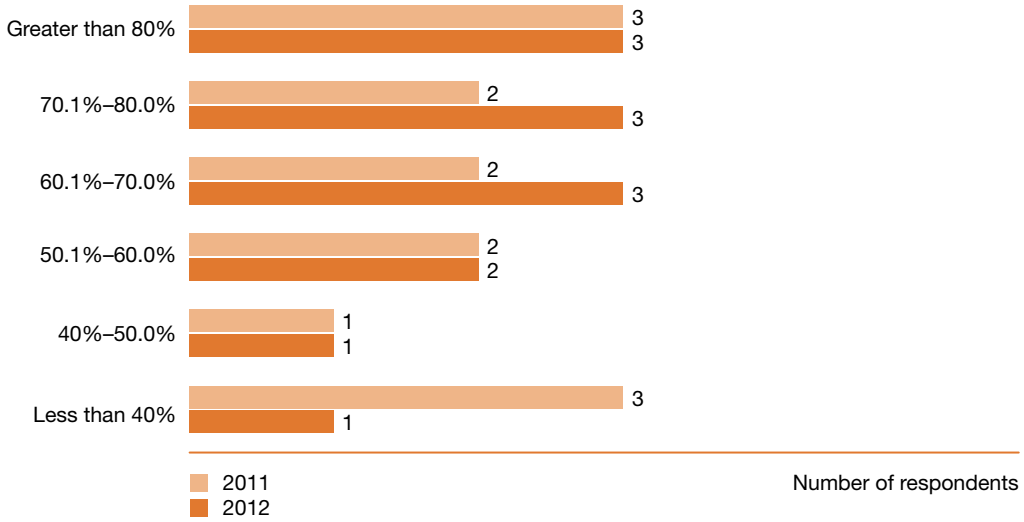


No responses were received in the 15.1%–20.0% category in 2011.

The average percentage of total retail presence from company-owned retail and kiosk locations was 10 percent as of June 30, 2012 for carriers with revenue greater than $5 billion, which is consistent with the previous year's survey. Carriers with revenue less than $5 billion reported an average decrease of company-owned retail and kiosk locations from 23 percent in the 2011 survey to 16 percent as of June 30, 2012. The decrease may be attributable to the growing cost of real estate and a shift to outsourcing.

The percentage of total retail presence represented by reseller/retail locations (third-party companies) and branded franchise locations that sell each carrier's services as of June 30 is shown in Figures 1.16 and 1.17. Most carriers primarily use reseller/retailer locations or branded franchise locations to sell their products and services. The reseller/retailer locations as a percentage of total retail presence as of June 30 grew from 59 percent in 2011 to 66 percent in 2012. The growth in reseller/retailer locations as a percentage of total retail locations is attributable to a decline in company-owned stores, a rise in real estate costs, and carriers trying to expand their market presence to enhance subscriber growth.

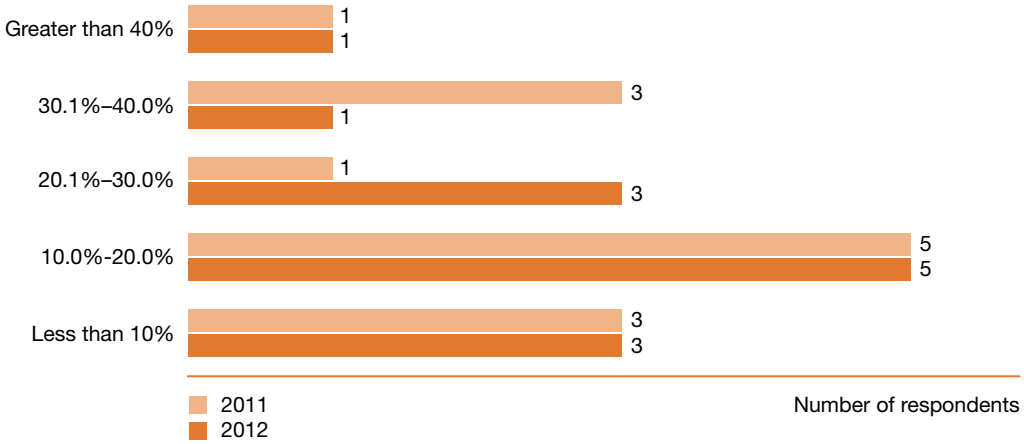
Figure 1.16: Reseller-retail locations percentage of total retail presence as of June 30



The average percentage of third-party reseller/retail stores that sell services for carriers with revenue greater than $5 billion was 73 percent of total retail presence as of June 30, 2012, consistent with the 2011 survey. For carriers with revenue less than $5 billion, it was 58 percent as of June 30, 2012, compared with 44 percent as of June 30, 2011.

Branded franchise locations represent stores that are independently owned by third parties, but whose branding is exclusive to one carrier. The average total retail presence related to these branded franchise locations for the responding carriers was 19 percent as of June 30, 2012 and 22 percent as of June 30, 2011. This decline may be due to increased costs of commissions in this channel and an increase in buyers in the online channels.

Figure 1.17: Franchise and exclusive agent locations percentage of total retail presence as of June 30



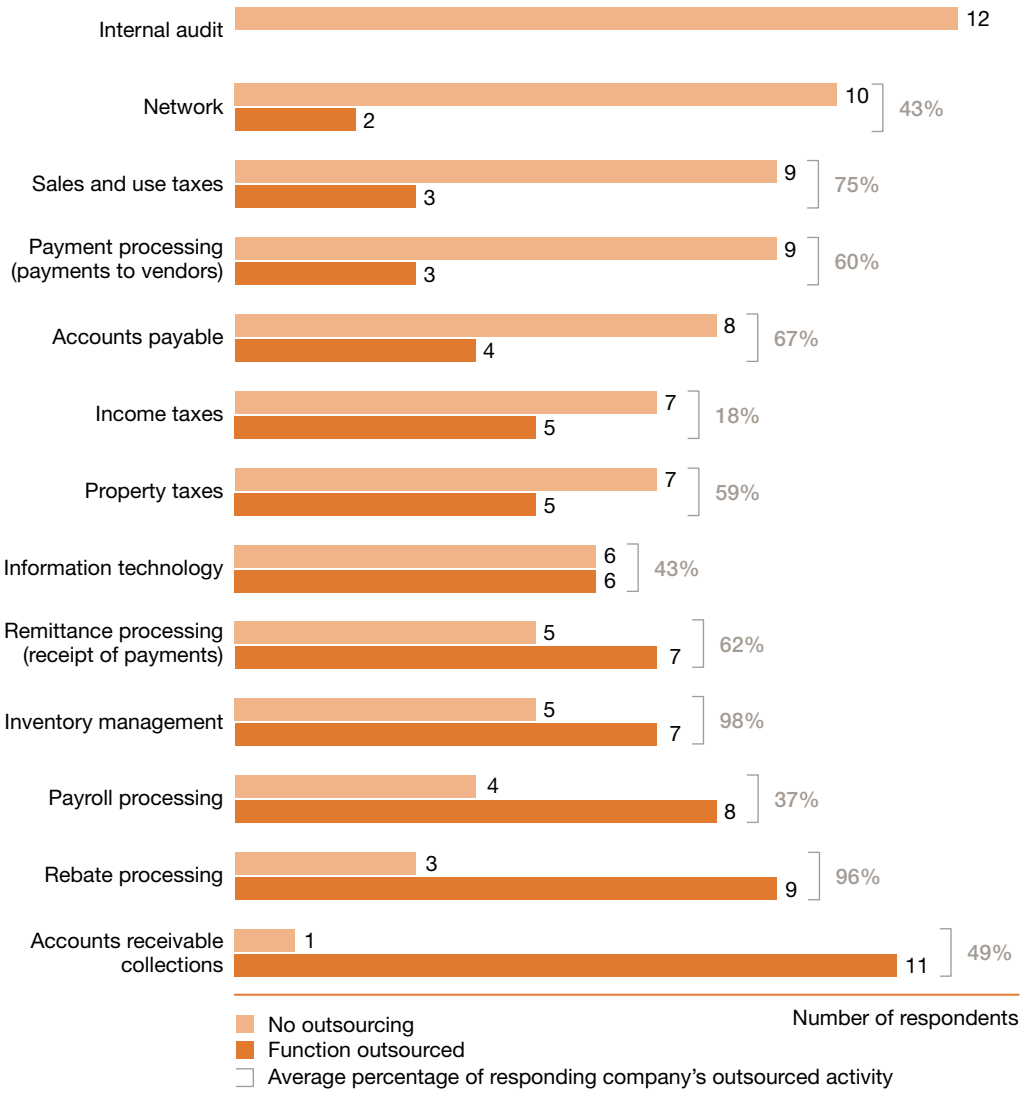
The average percentage of branded franchise locations that sell services for carriers with revenue greater than $5 billion was 16 percent of total retail presence as of June 30, 2012, which is consistent with the percentage as of June 30, 2011. For carriers with revenue less than $5 billion, the percentage was 22 percent as of June 30, 2012, down from 30 percent as of June 30, 2011.

Outsourcing

Outsourcing is already a mature trend in the telecommunication industry, and it is still growing. Functions related to accounting, billing and transaction processing, marketing, and distribution are those most often outsourced. Quality of service and quality control of outputs are ever-present concerns for companies that outsource, causing some carriers to look to rural, domestic insourcing and onshoring.

Twelve of the thirteen respondents reported that they outsource certain business functions. Figure 1.18 depicts the nature of outsourced functions, excluding the customer care function, among survey participants.

Figure 1.18: Outsourcing



Inventory management

Thirty-one percent of responding companies indicated that they utilize vendor-managed inventory (VMI) to maintain the inventory levels within their distribution networks for mobile devices (up from 25 percent of respondents in the 2011 survey). Of the four carriers that utilize VMI, one carrier managed 100 percent of its inventory through VMI, and the remaining three carriers managed 30 percent or less of their inventory through VMI.

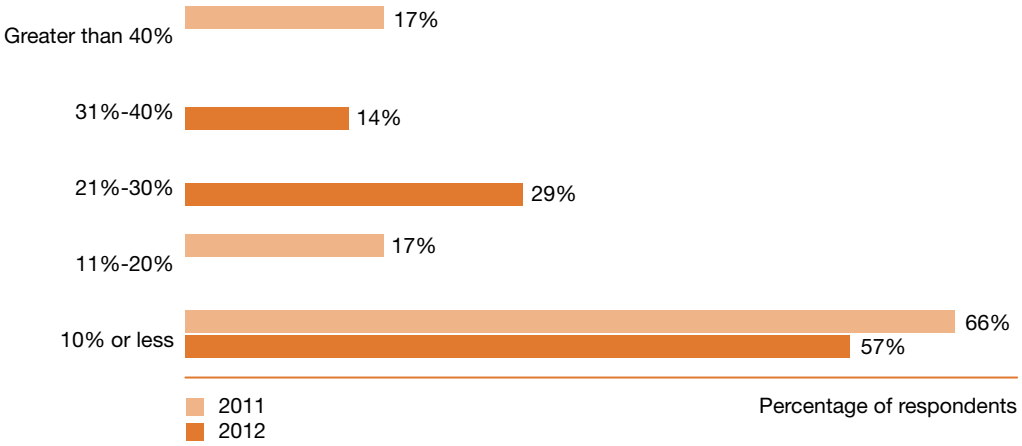
Customer care

As of June 30, 2012, customer care costs as a percentage of total revenue were 4.4 percent. These costs include all costs associated with the operation of the call centers (domestic and international, outsourced or in-house), including infrastructure costs of the building (allocations), furniture, and fixtures. In-house average cost per subscriber for calls to a call center average $3.86 per month, compared with the lower cost for outsourced calls at an average of $3.33 per month.

The responding carriers' percentages of customer care activity provided for postpaid and prepaid subscribers, categorized by the source, are shown in Figures 1.19 to 1.25.

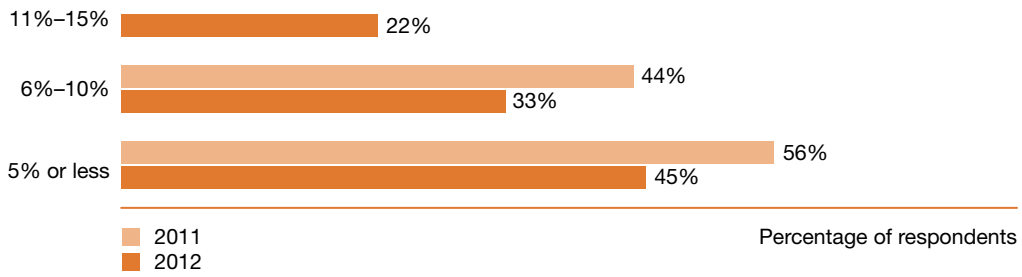
The average customer care activity via Internet for all carriers was 17 percent for postpaid customers and 7 percent for prepaid customers as of June 30, 2012, compared with 18 percent and 6 percent, respectively, as of June 30, 2011.

Figure 1.19: Customer care via Internet transactions (postpaid) as of June 30



No responses were received in the 11%–20% category in 2012, the 21%–30% and 31%–40% category in 2011, or the greater than 40% category in 2012.

Figure 1.20: Customer care via Internet transactions (prepaid) as of June 30

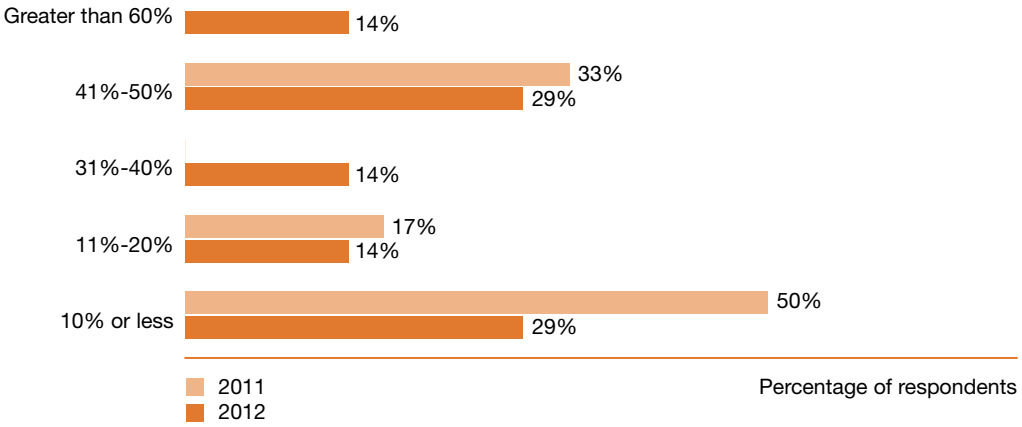


No responses were received in the 11%–15% category in 2011.

For carriers with revenue greater than $5 billion, the average customer care activity via Internet transactions was 19 percent for postpaid subscribers and 7 percent for prepaid subscribers as of June 30, 2012, a slight decrease for postpaid and slight increase for prepaid from 24 percent and 6 percent, respectively, as of June 30, 2011. For carriers with revenue less than $5 billion, the average customer care activity via Internet transactions was 15 percent for postpaid subscribers compared with 5 percent as of June 30, 2011, and 8 percent for prepaid subscribers, up from 6 percent as of June 30, 2011. This increase for the carriers with revenue less than $5 billion is the result of carriers trying to decrease their overall customer care cost by automating processes such as billing reminders and announcements.

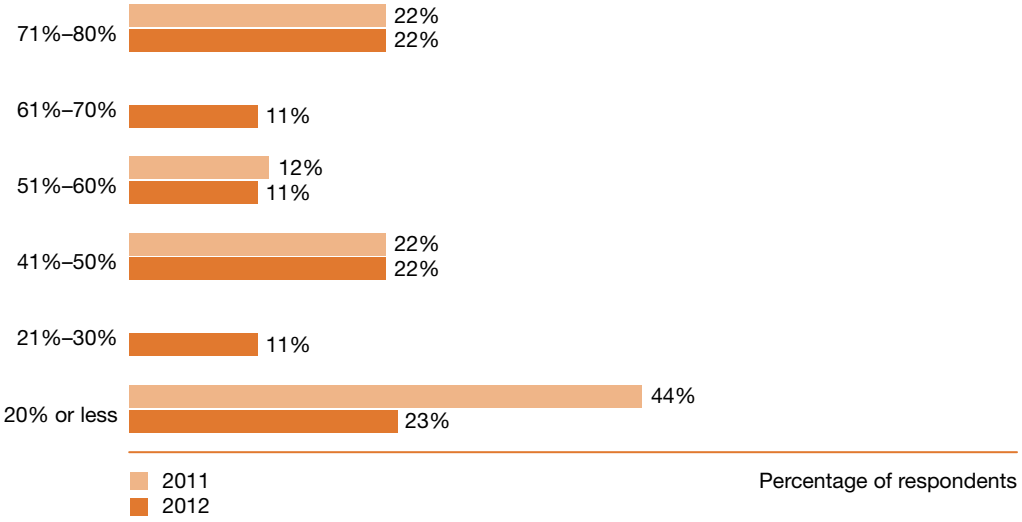
The average customer care activity via interactive voice response (IVR) for all carriers was 33 percent for postpaid customers and 47 percent for prepaid customers as of June 30, 2012, compared with 20 percent and 41 percent, respectively, as of June 30, 2011.

Figure 1.21: Customer care via interactive voice response (postpaid) as of June 30



No responses were received in the 21%–30% and the 51%–60% categories in 2011 and 2012 or in the 31%–40% and greater than 60% categories in 2011.

Figure 1.22: Customer care via interactive voice response (prepaid) as of June 30



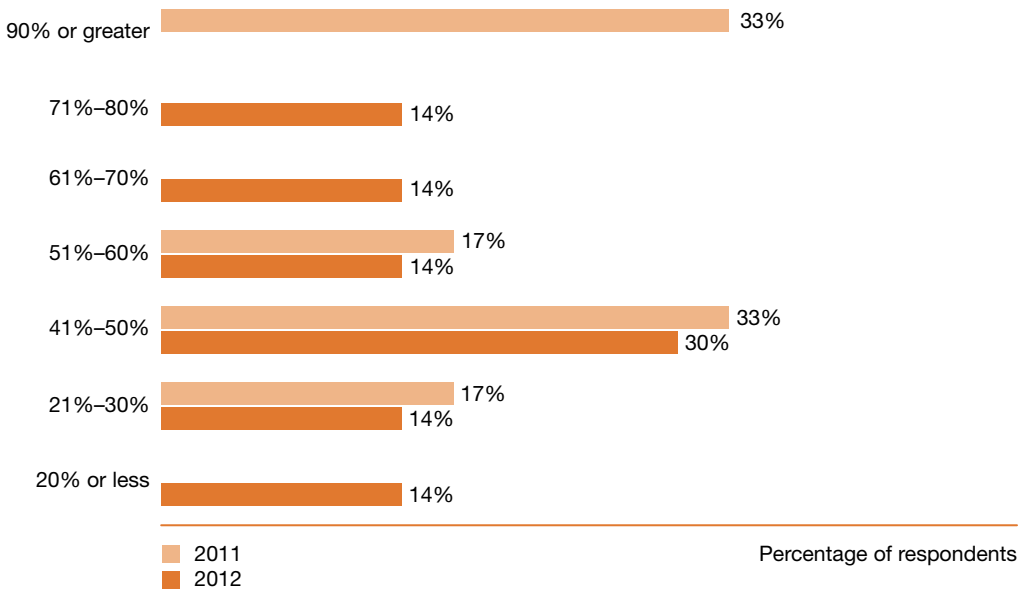
No responses were received in the 21%–30% and 61%–70% categories for 2011 or in the 31%–40% and 81%–100% categories in 2011 and 2012.

Carriers with revenue greater than $5 billion completed 23 percent of customer service via IVR for postpaid and 57 percent for prepaid subscribers as of June 30, 2012, compared with 17 percent and 50 percent, respectively, as of June 30, 2011. Carriers with revenue less than $5 billion completed 40 percent of customer service via IVR for postpaid and prepaid subscribers as of June 30, 2012. As of June 30, 2011, those same carriers utilized IVR 28 percent of the time for postpaid subscribers and 30 percent for prepaid subscribers.

For carriers with revenue greater than $5 billion, use of IVR for postpaid was less than half of that for prepaid. This may be because prepaid are lower ARPU customers and use mostly limited services; for that reason, IVR is an effective way to pass on information at a lower cost. In contrast, postpaid services are mostly complex and carry higher ARPU and contracts, so carriers use their employees to interact with and retain these customers. The need to enhance the customer experience and provide easy accessibility to information without undergoing extensive customer care processes may also have led to this growth in the use of automated services.

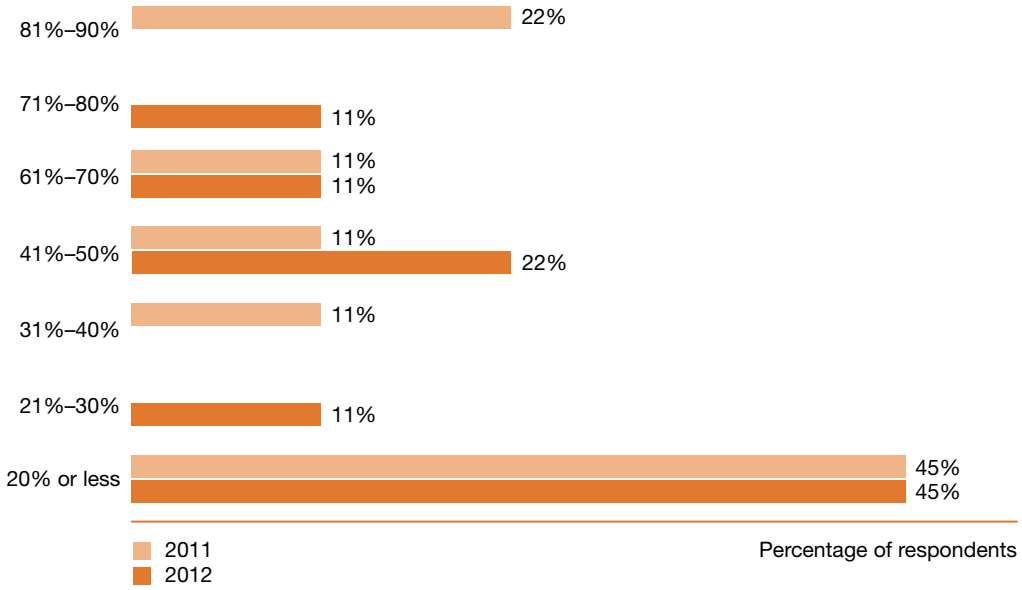
Growth in the use of IVR for customer care has led to an equivalent decline in customer care via live customer service representative, both for prepaid and postpaid segments. With their subscriber base increasing, carriers are finding it difficult to deploy an equal number of representatives to cater to these customers. The high cost of hiring and retaining scarce talent is also a big challenge for these carriers. Customer care via live customer service representative was utilized 45 percent of the time for postpaid and 34 percent for prepaid subscribers as of June 30, 2012, compared with 60 percent and 42 percent, respectively, as of June 30, 2011.

Figure 1.23: Customer care via live customer service representative (postpaid) as of June 30



No responses were received in the 20% or less category in 2011, the 31%–40% or 81%–89% categories in 2011 and 2012, the 61%–70% and 71%–80% categories for 2011, or the 90% or greater category in 2012.

Figure 1.24: Customer care via live customer service representative (prepaid) as of June 30

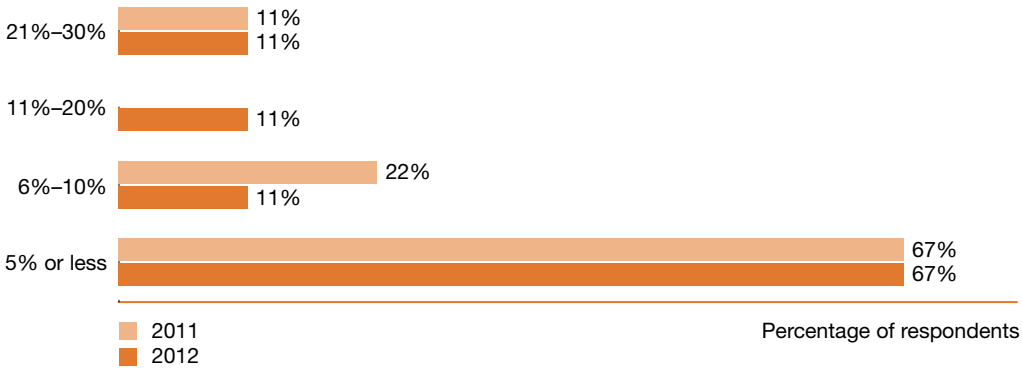


No responses were received in the 21%–30% category in 2011, the 31%–40% category in 2012, the 71%–80% category in 2011, the 81%–90% in 2012, or the 51%–60% and the 91%–100% categories in 2011 and 2012.

Customer care via live customer service representative averaged 57 percent for postpaid and 19 percent for prepaid carriers with revenue greater than $5 billion as of June 30, 2012, compared with 56 percent postpaid and 30 percent prepaid as of June 30, 2011. Customer care via live customer service representative for carriers with revenue less than $5 billion averaged 37 percent for postpaid and 46 percent for prepaid as of June 30, 2012; as of June 30, 2011, it averaged 68 percent and 56 percent for postpaid and prepaid subscribers, respectively.

In addition, prepaid customers utilized their handsets to complete 5 percent of customer care transactions on average as of June 30, 2012, which is consistent with the average as of June 30, 2011, as illustrated in Figure 1.25 below. For postpaid customers, the average customer care transactions completed via the handset increased to 5 percent as of June 30, 2012, from 2 percent as of June 30, 2011.

Figure 1.25: Customer care via handset (prepaid) as of June 30



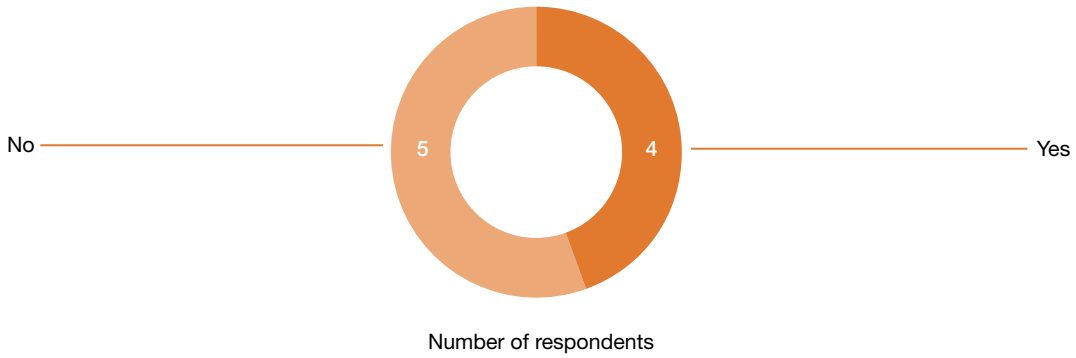
No responses were received in the 11%–20% category in 2011 or in the 31%–100% category for 2011 and 2012.

We asked companies to indicate the coverage related to customer care per 1,000 subscribers. On average, responding carriers had between one-half and one customer care representative for each 1,000 subscribers as of June 30, 2012.

We also asked companies to indicate the average number of call transfers that a subscriber experiences before an issue is resolved. According to respondents, the average number of call transfers before the issue or inquiry is resolved is less than one, which is consistent with the 2011 survey.

The number of responding carriers who segment subscribers' customer care calls into call prioritizations—meaning, for example, that high-value customers have a separate prioritization line or answer queue—is shown in Figure 1.26.

Figure 1.26: Carriers that segment customer care calls for prioritization



Responding carriers that do prioritize customer care calls based upon subscriber type have various numbers of segments and criteria for each segment. Segmentation approaches vary from prioritizing customer care calls by product and by call type (based upon agent skill) to prioritizing corporate accounts.

On average, smartphone calls to the customer care centers take 542 seconds for postpaid subscribers and 548 seconds for prepaid subscribers, compared with the 580 seconds for postpaid and 522 seconds for prepaid in the 2011 survey. In contrast, non-smartphone calls to the customer care center average 511 seconds for postpaid subscribers and 456 seconds for prepaid subscribers. Handle time was defined as time incurred from the point when the customer call was first answered (either via the automated directory or by a person) to resolution of the issue. The higher call times for smartphone subscribers represents the additional complexity of the devices and issues a user may face related to data, applications, and other technical functionalities.

Figure 1.27 shows the types of customer care activities available for subscribers to complete or perform via their handsets based on the responses from eight carriers. Most of the carriers offer payment and billing activities on the handset, which eases the bill payment process and could result in reduced payment collection cost.

Figure 1.27: Activities via a handset

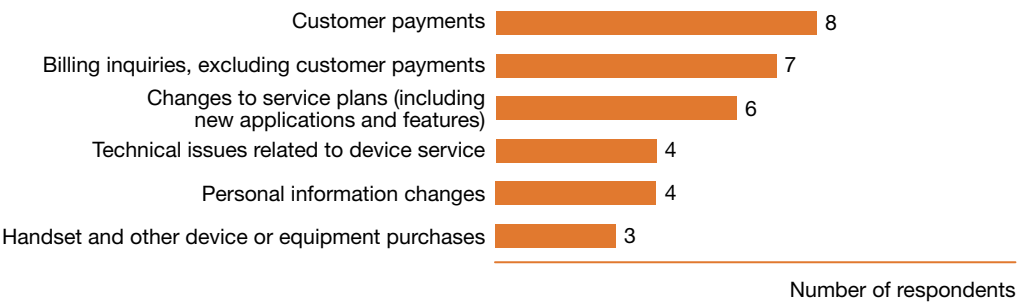


Chart totals greater than the number of responding companies because multiple responses were allowed.

Carriers offer more customer care activities via the Internet because it is a more dynamic and interactive platform through which carriers can resolve customer queries and processes in much less time. In addition, the use of additional resources, such as video and audio, can provide demos and resolve queries, which in turn enhance the customer experience. Figure 1.28 shows the types of customer care activities available to subscribers over the Internet, based on responses from 12 carriers.

Figure 1.28: Activities over the Internet

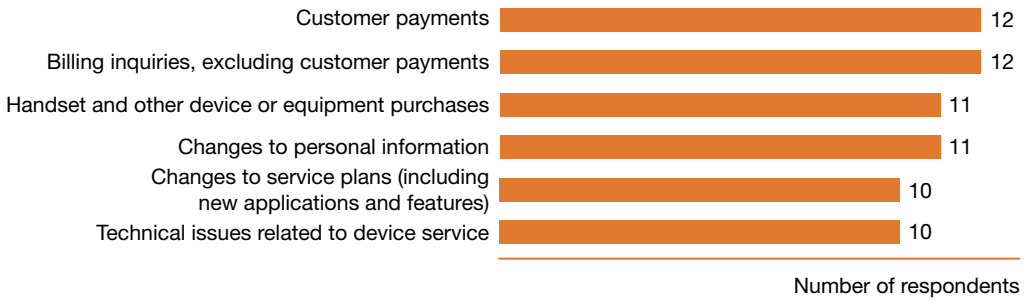


Chart totals greater than the number of responding companies because multiple responses were allowed.

We asked companies to indicate the level of customer care activities that are outsourced to third parties. Twelve responding companies reported outsourcing at least a portion of their customer care call volume. We noted that carriers were generally inclined to outsource more of their prepaid call volume than their postpaid call volume; this is due to the complex nature of postpaid services. Additionally, postpaid ARPU is 2-3 times that of prepaid, as retaining these customers is critical to the carriers. Seventy-five percent of the responding companies outsource at least some portion of postpaid customer care activity, while 67 percent of the companies outsource all of their prepaid customer care activity.

The number of carriers outsourcing customer care for postpaid is shown in Figure 1.29. The average percentage of postpaid customer care volume handled by third parties for all respondents is 57 percent. Companies with revenue less than $5 billion reported an average of 71 percent, compared with 46 percent for carriers with revenue greater than $5 billion.

Figure 1.29: Outsourced customer care activity (postpaid) as of June 30

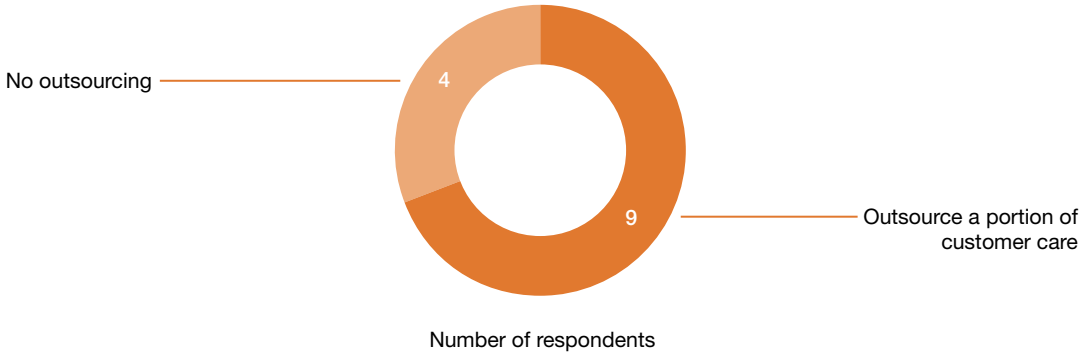
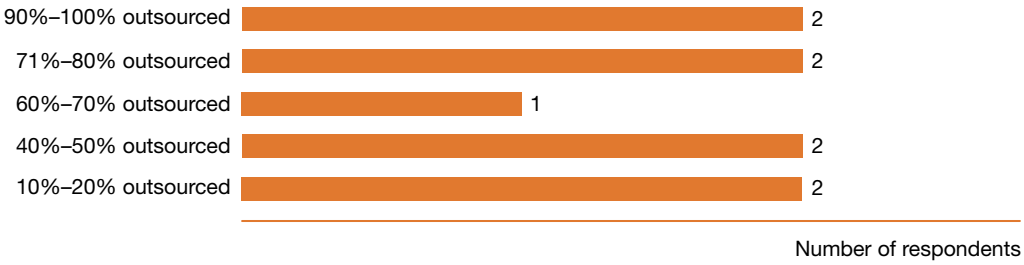


Figure 1.30 indicates the percentage of outsourced activity for all respondents who outsource a portion of their postpaid customer care volume to third parties (excludes carriers that do not outsource).

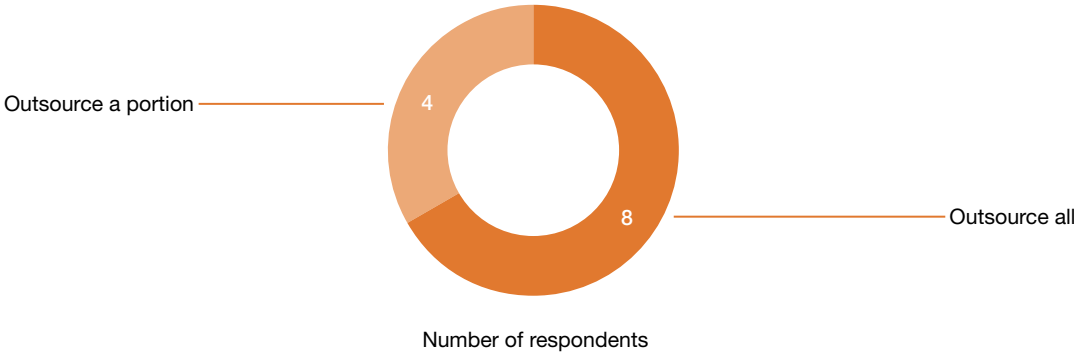
Figure 1.30: Outsourced customer care activity percentages (postpaid) as of June 30



No responses were received in the less than 10%, 21%–39%, 51%–59% and 81%–89% categories.

The average percentage of prepaid customer care volume handled by third parties is 96 percent, regardless of the size of the company. For responding carriers that outsource only a portion of customer care, the average percentage is 87 percent of prepaid customer care. The number of companies that outsource prepaid customer care is shown in Figure 1.31.

Figure 1.31: Outsourced customer care activity (prepaid)



Figures 1.32 and 1.33 show the types of activities carriers outsource for both postpaid and prepaid customer care activities and whether those activities are completed domestically (primary country of operation) or internationally.

Figure 1.32 Postpaid customer care services outsourced

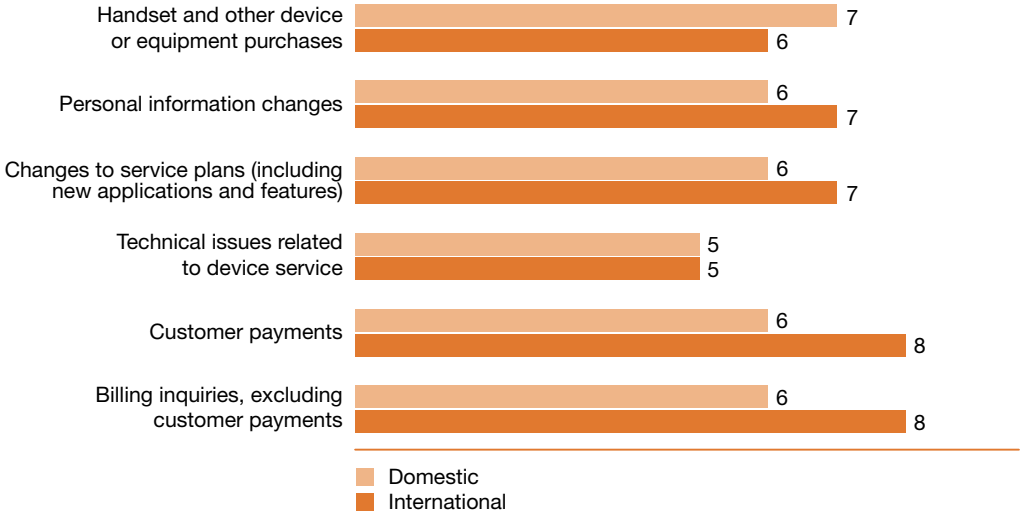


Chart totals greater than the number of responding companies because multiple responses were allowed.
Responses were received from eight carriers.

Figure 1.33: Prepaid customer care services outsourced

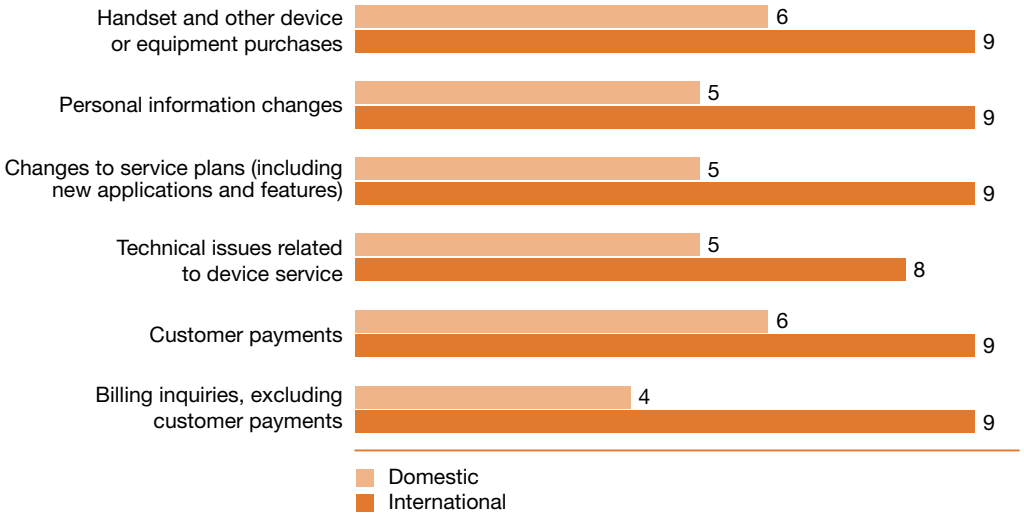


Chart totals greater than the number of responding companies because multiple responses were allowed.
Responses were received from 10 carriers.

Figures 1.34 and 1.35 reflect the percentage of outsourced volume that was handled domestically (primary country of operation) or internationally. Responding carriers indicated a slight shift toward international outsourcing for prepaid customer care and a slight shift toward domestic outsourcing for postpaid customer care in fiscal 2011, as compared with fiscal 2010.

Figure 1.34: Domestic versus international outsourcing (postpaid)

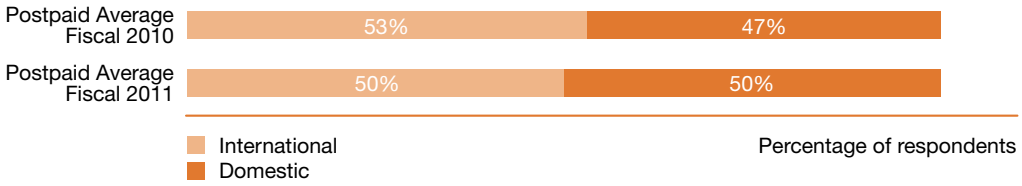
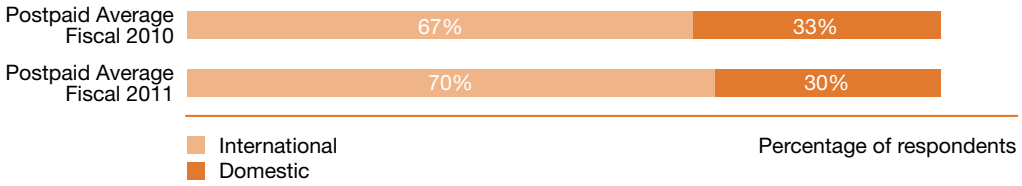


Figure 1.35: Domestic versus international outsourcing (prepaid)

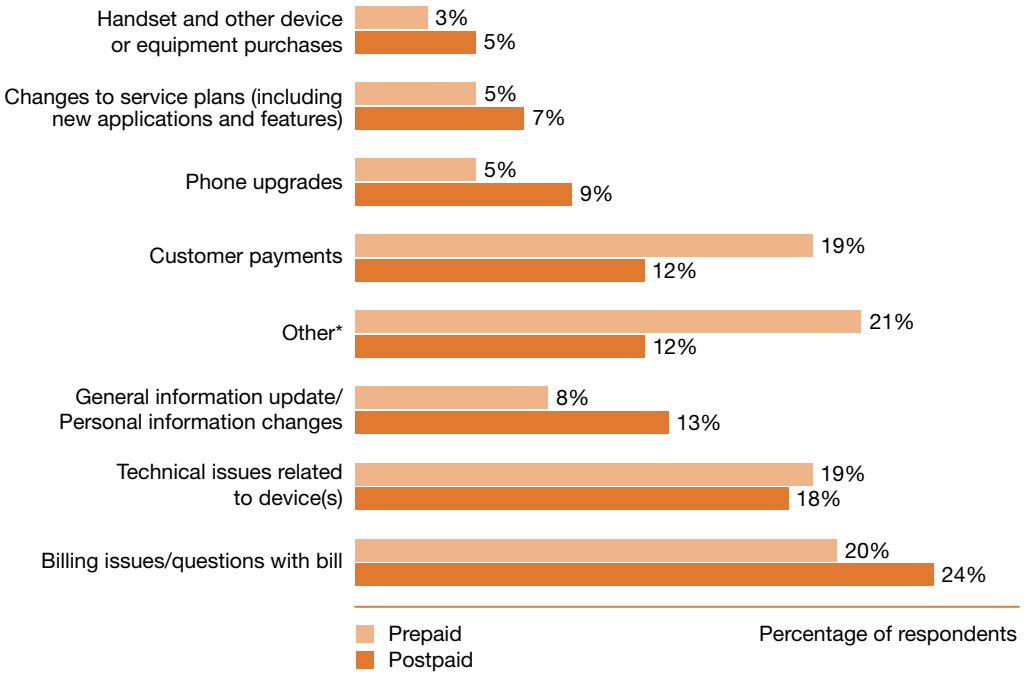


Outsourced locations for postpaid customer care activities included Canada, Mexico, Philippines (utilized by the most carriers), Dominican Republic, Colombia, India, Tunisia, Panama, Guatemala, Honduras, US, El Salvador, and Egypt. In addition to the postpaid locations, prepaid customer care activity was also outsourced to Jamaica and Nicaragua.

Respondents indicated that 100 percent of postpaid and prepaid customer care that is not outsourced (i.e., customer care activity performed by company employees) is handled domestically.

Figure 1.36 depicts the average call categories for postpaid and prepaid customer care calls.

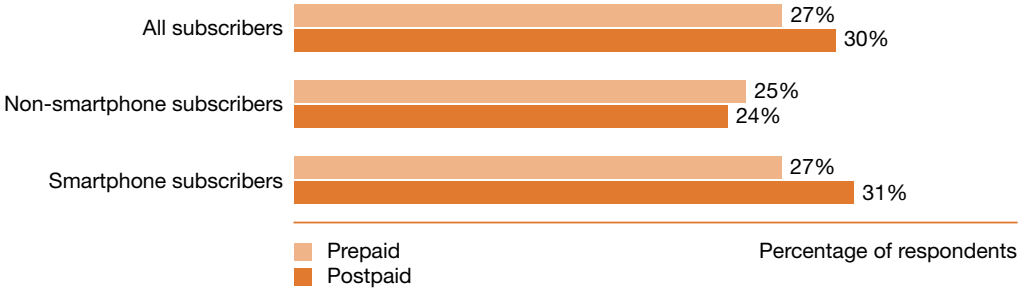
Figure 1.36: Postpaid and prepaid customer care call categories



*Other includes activation/deactivation of service, pre-sales inquiries, eligibility, and calls not completed.

Figure 1.37 indicates the average postpaid and prepaid subscribers who make a customer care call on a monthly basis.

Figure 1.37: Percentage of subscribers who make a customer care call on a monthly basis

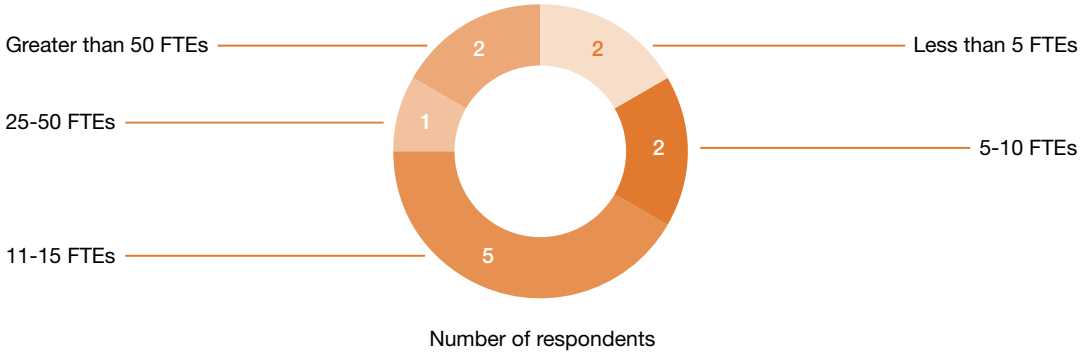


For all subscribers, regardless of whether prepaid or postpaid subscriber or smartphone or non-smartphone device, the average number of calls per year to a call center is three.

Internal audit

The number of full-time equivalents (FTEs) that are dedicated to the internal audit function within the respondents' organizations is depicted in Figure 1.38.

Figure 1.38: Number of full-time equivalents for internal audit function

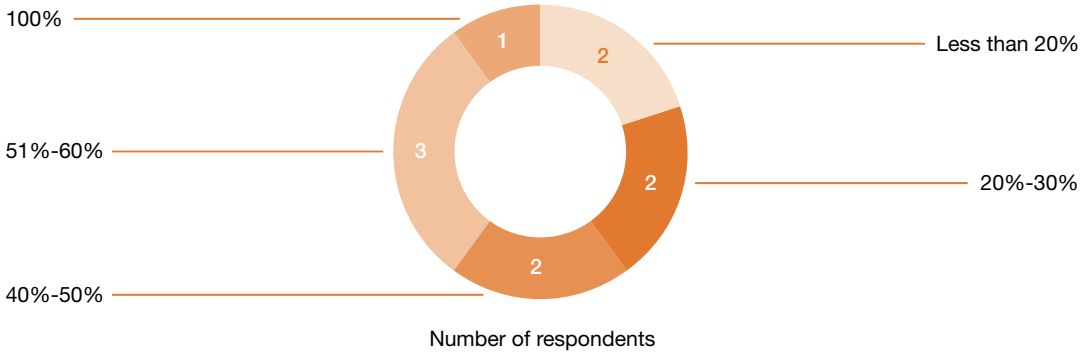


No responses were received in the 16–24 FTEs category.

The average number of FTEs for all respondents was 29. Carriers with revenue less than $5 billion reported an average of 8 FTEs, compared with 36 FTEs for carriers with revenue greater than $5 billion. The average number of individuals in internal audit per $1 billion of revenue was 1.8.

Figures 1.39 and 1.40 depict the percentage of internal audit staff with graduate degrees and certifications, such as CPA and CFA.

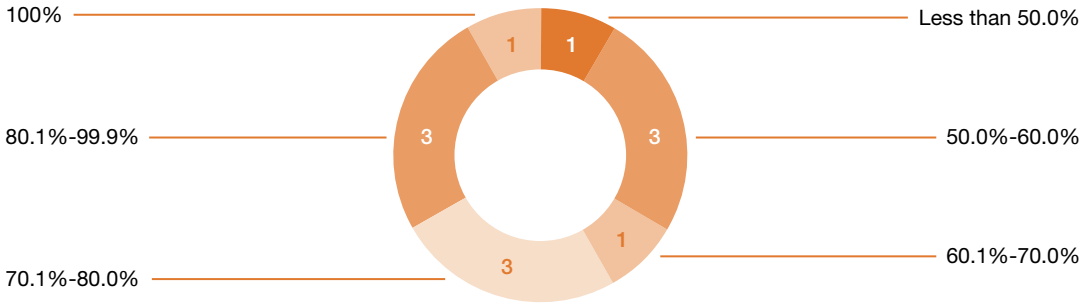
Figure 1.39: Percentage of internal audit staff with graduate degrees



No responses were received in the 31%–39% or 61%-99% category.

The average percentage of internal audit staff with graduate degrees for all respondents was 44 percent.

Figure 1.40 Percentage of internal audit staff with certifications

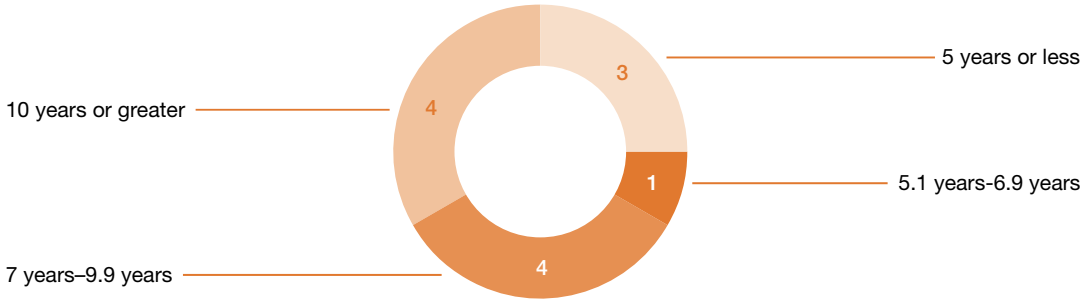


Number of respondents

The average years of audit experience per internal audit employee is 7.8, which is consistent with the 2011 survey of 7.7. The average years of business experience per internal audit employee is 12.4, an increase from 9 years in the 2011 survey.

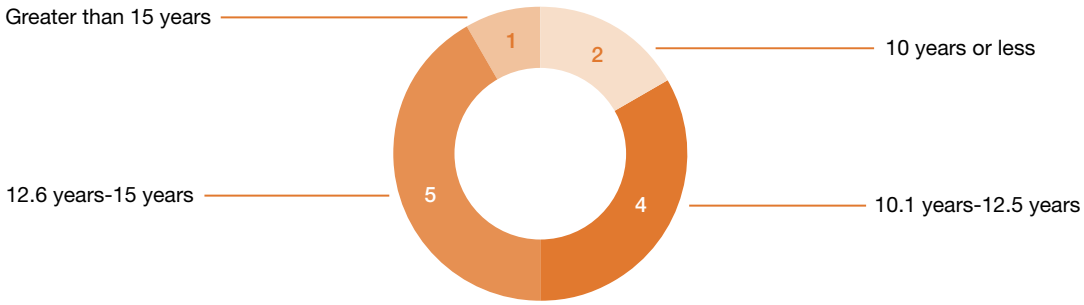
Figures 1.41 and 1.42 depict the average years of audit experience and business experience per internal audit employee.

Figure 1.41 Internal audit average years of audit experience



Number of respondents

Figure 1.42 Internal audit average years of business experience



Number of respondents

Postpaid revenue

The following pages cover wireless company practices related to postpaid revenue. Data service revenues continue to be an area of focus and to grow as a percentage of revenue, driven largely by strong growth in smartphone adoption.

Customer metrics
Service contracts
Smartphones
Data services
Family plans
Features revenue
Termination fees and bad-debt expense
Customer billings and payments
Activation channels
Devices

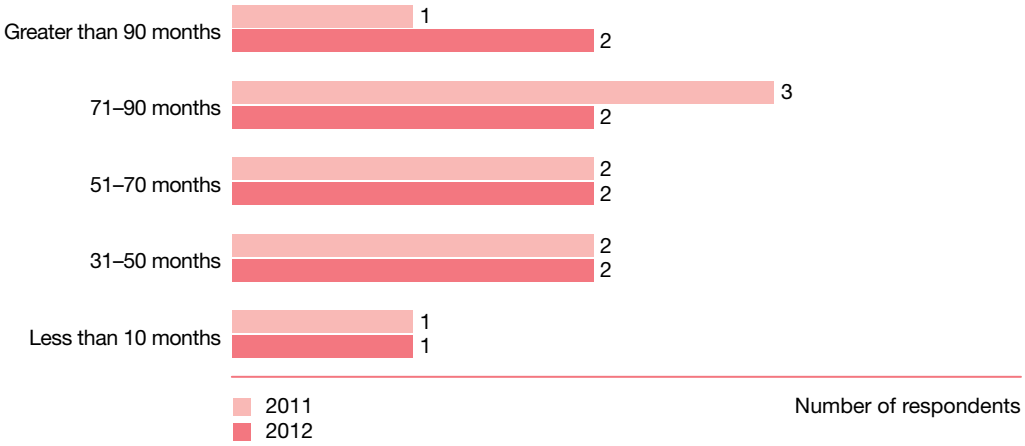
Customer metrics

Postpaid is defined as a type of mobile phone account for which service is typically provided by a prior arrangement with a carrier, with the user typically billed after the service is provided. According to an initial contract, customers are charged a flat rate for a certain amount of minutes/texts, etc., and usage above the limit incurs additional charges (billed in subsequent periods).

The average length of postpaid customer relationships was approximately 63 months at June 30, 2012, compared with 60 months at June 30, 2011. For companies with revenue greater than $5 billion, the average length of customer relationships was 76 months at June 30, 2012 compared with 71 months at June 30, 2011. Carriers with revenue less than $5 billion experienced a smaller year over year increase in the average length of customer relationships in the current year, increasing to 39 months at June 30, 2012 from 38 months at June 30, 2011. Net subscriber growth in the traditional postpaid segment will continue to be difficult to come by as US penetration of wireless service has increased to greater than 100 percent, which means customer relationships and churn are largely driven by customers changing carriers, rather than by adding new subscribers.

Figure 2.1 depicts the average length of the responding companies' relationships with postpaid customers.

Figure 2.1: Average length of customer relationships at June 30



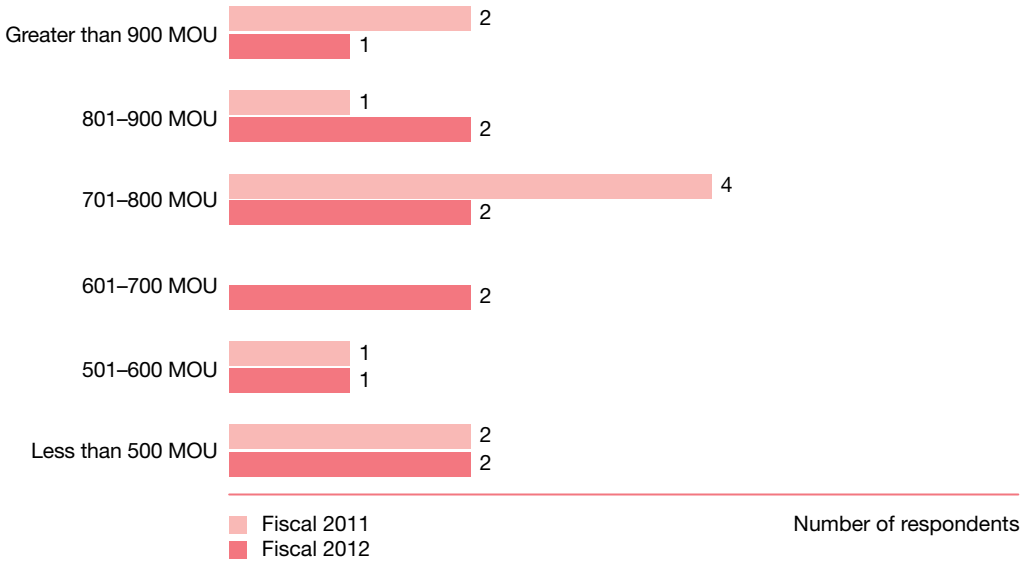
No responses were received in the 10–30 months category in 2012 or 2011.

Figure 2.2 shows that the average minutes of use (MOU) among respondents has seen a significant decline since June 30, 2010, shrinking from 720 MOU per month to 673 MOU per month for 2012, which is consistent with trends reported around the world. Although the root cause of the decline likely varies, we believe it to be a combination of the increased penetration of price-sensitive customers and the replacement of voice usage with data services and/or non-verbal communication, such as text messaging, email, and Internet-based messaging services including BlackBerry Messenger and Facebook. We also see that this trend toward continuing voice to data cannibalization puts increased pressure on profit margins.

Figure 2.2: Average monthly minutes of use per postpaid subscriber as of June 30

The average monthly minutes of use per postpaid subscriber at June 30, 2012 compared with June 30, 2011 is shown in Figure 2.3.

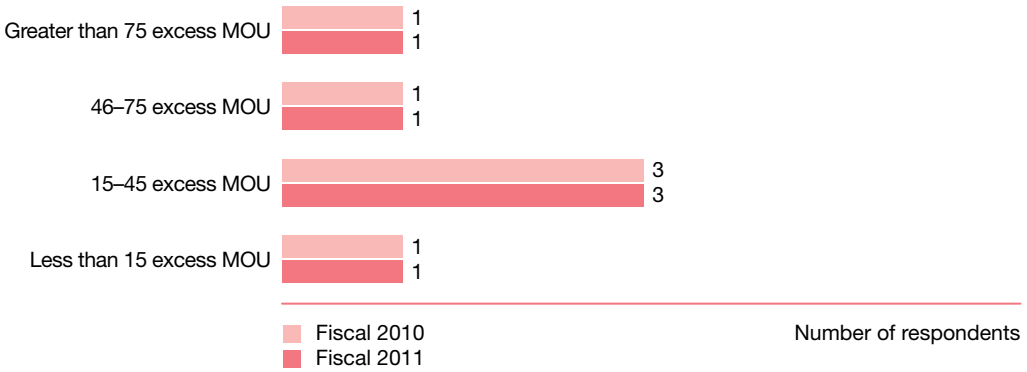
Figure 2.3: Average monthly minutes of use per postpaid subscriber as of June 30



No responses were received in the 601–700 MOU category in 2011.

The average monthly excess minutes of use billed to postpaid subscribers is shown in Figure 2.4.

Figure 2.4: Billed excess minutes of use



Eighty-two percent of the responding companies report postpaid churn externally. The responding carriers indicated that an average of 39 percent of all churn is a result of involuntary disconnects (company-induced disconnects or terminations of service), up from 33 percent as reported in the previous year. For carriers with revenue greater than $5 billion, the average involuntary churn is 28 percent, half the involuntary churn of 56 percent associated with carriers with revenue less than $5 billion.

We asked the companies how postpaid churn is calculated.

- 100 percent use net deactivations for the numerator.
- 80 percent use average number of subscribers for the denominator.
- 20 percent use beginning subscribers for the period in the denominator.

We also asked participants how their companies define net deactivations (or "buyer's remorse") for postpaid subscribers. Seven of 10 respondents indicated they define net deactivations as gross deactivations less subscribers who disconnect within the first 30 days of subscriber activations, and one of these respondents also includes net reactivations of subscribers during the same period. Two of the respondents utilized net deactivations reflecting net deactivations either during the period or within 30 days of activation, and the other was gross deactivations during the period, less those subscribers who deactivate within the first 15 days for a feature phone and the first 30 days for a smartphone.

Because many carriers offer postpaid and prepaid services, we asked how companies account for a subscriber who moves from being a postpaid subscriber to being a prepaid subscriber, and vice versa (prepaid subscriber becomes a postpaid subscriber). Seven of the responding carriers indicated that they exclude migration activities from the churn calculation, while three carriers include the migration activity in gross activations and deactivations, and thus impact the churn calculation. One carrier indicated the migration is counted as a transfer out of one category and into the other, causing a change in net adds and ending subscriber base.

For responding companies that track postpaid information separately, Figures 2.5 and 2.6 detail churn rates for postpaid subscribers. Churn overall is trending in the right direction on a year over year basis.

Figure 2.5: Average Churn for postpaid subscribers as of June 30, by size

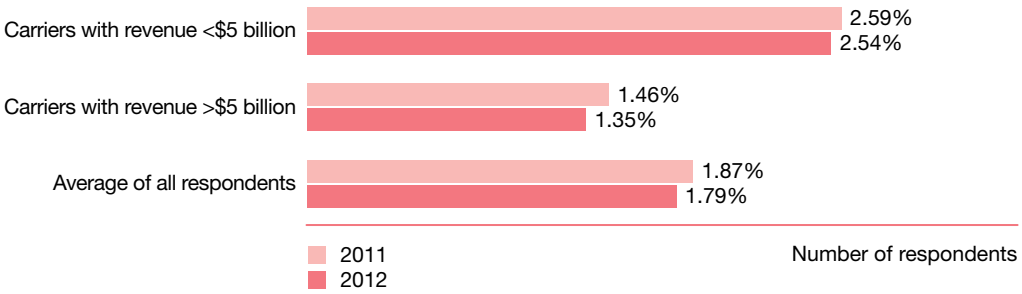
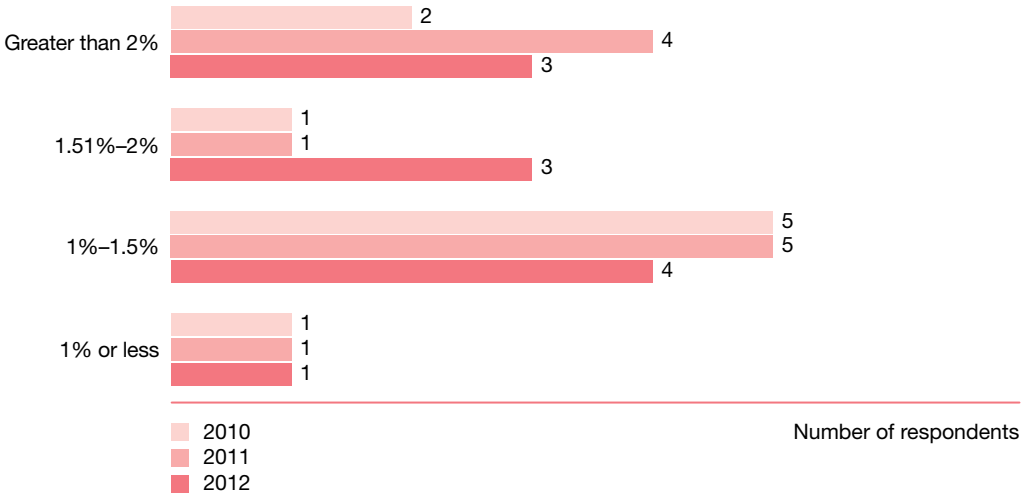
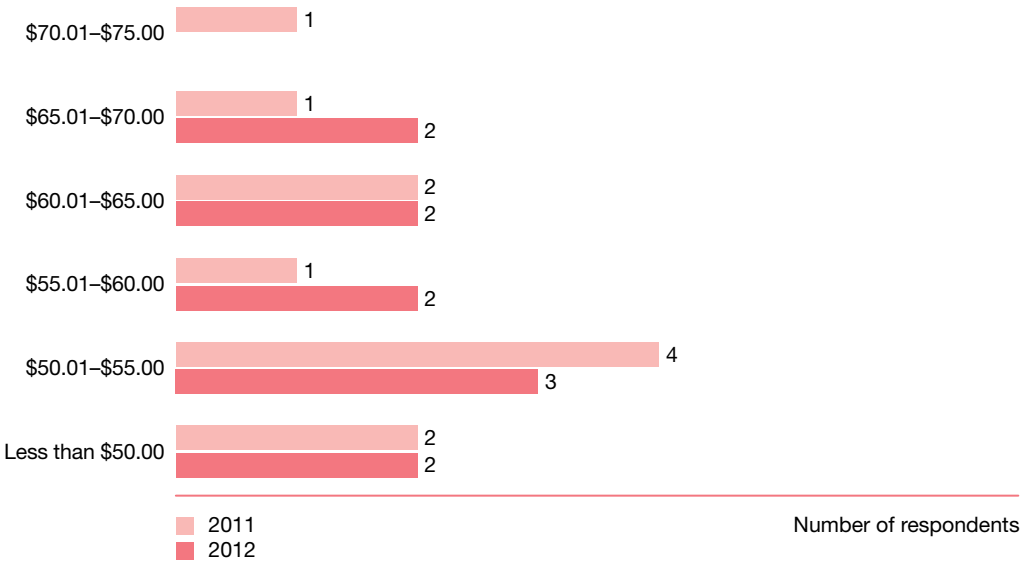


Figure 2.6: Churn for postpaid subscribers as of June 30



Total average ARPU as of June 30, 2012 and 2011 was flat at $55.94 and $55.93, respectively. Responding companies with revenue greater than $5 billion reported postpaid ARPU of $60.84 as of June 30, 2012, which is a slight decrease from $61.22 as of June 30, 2011. For companies with revenue less than $5 billion, postpaid ARPU averaged $47.37 as of June 30, 2012 which is a slight increase compared with the $46.67 as of June 30, 2011. Figure 2.7 highlights how many carriers are in each category of ARPU for postpaid subscribers.

Figure 2.7: Average revenue per user for postpaid subscribers as of June 30



No responses were received in the $70.01–$75.00 category in 2012.

We asked the responding companies whether they include any nonsubscriber revenue in calculating average revenue per user (such as roaming revenue, wholesale revenue, and advertising revenue). Ninety-one percent of the responding companies include other nonsubscriber revenue in their ARPU. Figure 2.8 indicates the number of respondents that include varying types of nonsubscriber revenue in calculating ARPU.

Figure 2.8: Revenue included in ARPU calculation

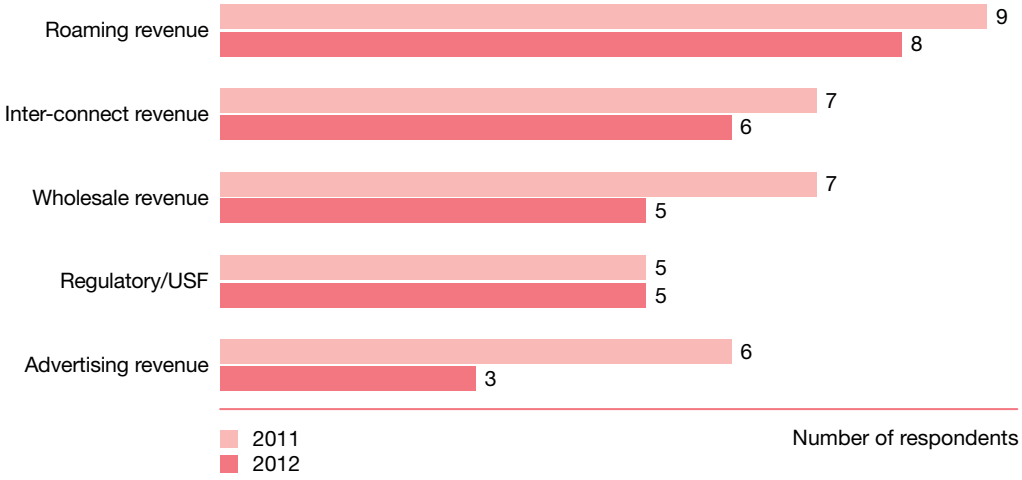
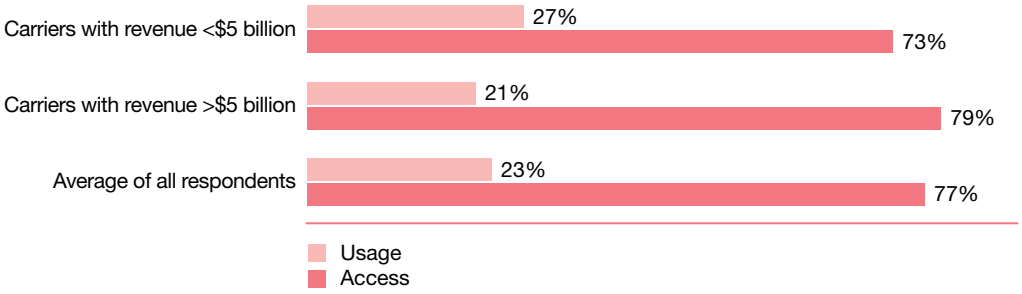


Figure 2.9 indicates what percentage of company's postpaid subscriber revenue is related to access versus usage as of June 30.

Figure 2.9: Access versus usage subscriber revenue as of June 30



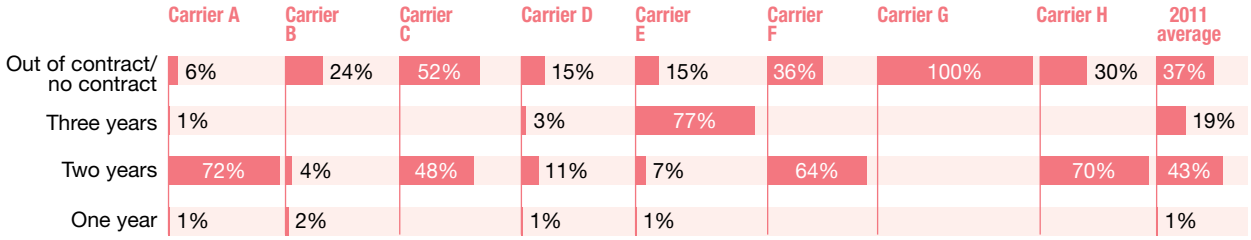
Seventy-seven percent of the respondents' revenue is the result of access, which is slightly lower than the previous year's 80 percent. The continued high dependency on access is a risk to carriers, particularly as alternative voice and video communications options such as over-the-top (OTT) and voice over long-term evolution (VoLTE) grow in popularity.

Service contracts

Of the responding companies, 11 of the 13 indicated they have postpaid service contracts with their subscribers. In combination with device subsidies and offsetting termination fees, the use of postpaid service contracts continues to be a popular mechanism for attracting and retaining subscribers who do not wish to make large, up-front investments in costly smartphones.

Figure 2.10 illustrates the responding companies' terms of postpaid service contracts and the approximate percentage of subscribers on each contract term.

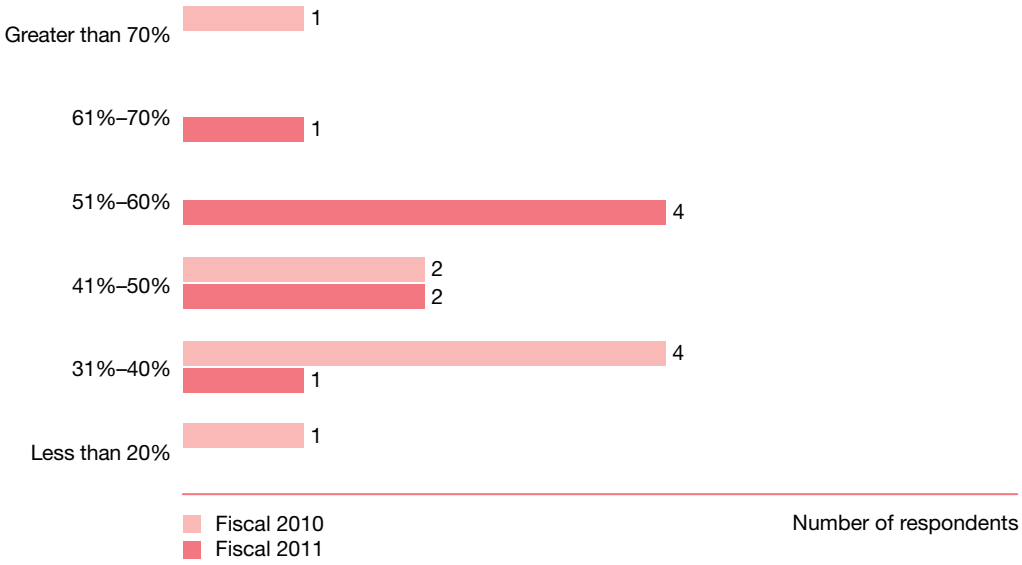
Figure 2.10: Percent of subscriber base by contract length as of June 30, 2012



Smartphones

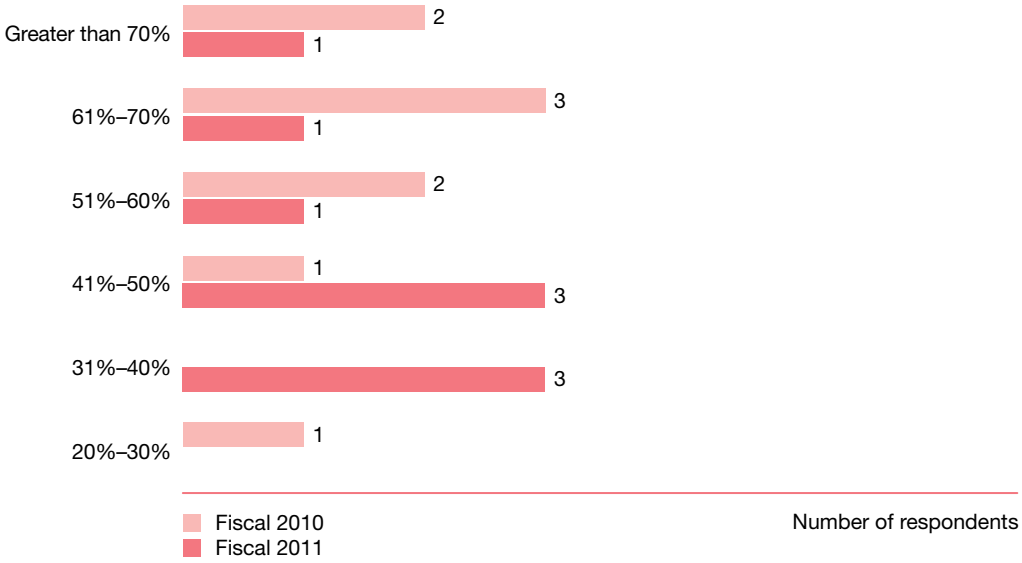
Companies were asked to specify service revenue by device type as a percentage of total service revenue. Smartphones were defined as mobile phones offering advanced capabilities with PC-like functionality (such as Android, iPhone, and BlackBerry). Smartphone device sales are cannibalizing the sales of other phones that may be more profitable to sell. An average of 48 percent of the responding companies' total service revenue was for smartphone services for fiscal 2011, compared with 37 percent as of fiscal 2010; this illustrates the average decrease in non-smartphone services year over year (52 percent, compared with 63 percent in fiscal 2010). Figures 2.11 and 2.12 illustrate the percentage of service revenue to total revenue associated with smartphone and non-smartphone devices as of fiscal 2011 and fiscal 2010.

Figure 2.11: Smartphone service revenue as a percentage of total service revenue



No responses were received in the less than 20% category in 2011, the 20%–30% category in 2010 or 2011, the 51%–60% or 61%–70% categories in 2010, or the greater than 70% category in 2011.

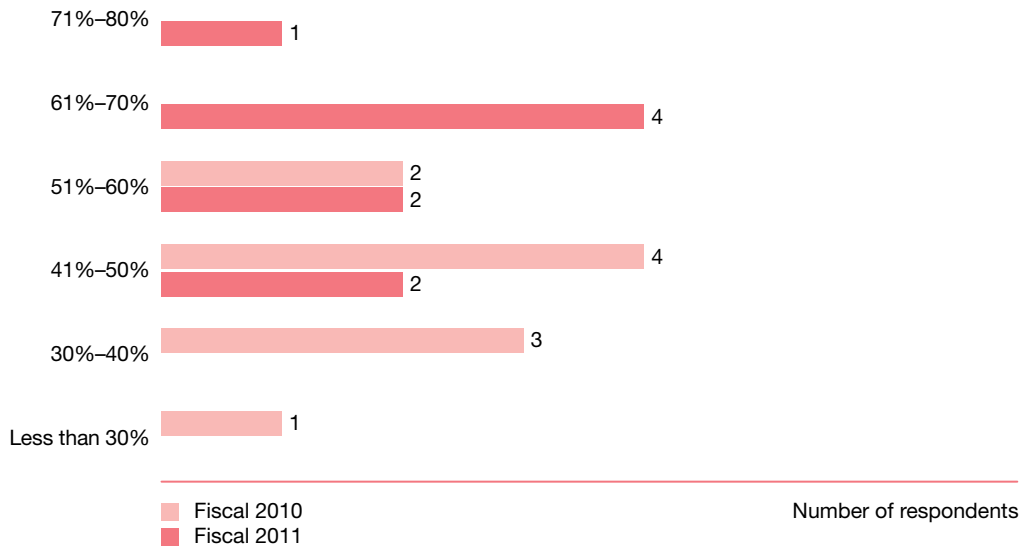
Figure 2.12: Non-smartphone service revenue as a percentage of total service revenue



No responses were received in the less than 20% category in 2010 or 2011, the 20%–30% category in 2011, or the 31%–40% category in 2010.

We asked participating companies what percentage of new postpaid phone sales and postpaid customer upgrade sales were related to smartphones for fiscal 2011 and 2010. The results are depicted in Figures 2.13 and 2.14. The average of all responding companies for the percentage of new phone sales related to smartphones was 60 percent for fiscal 2011, an increase of 46 percent over fiscal 2010 average new phone sales of 41 percent. The profitability of smartphones and other mobile devices is mutually dependent on handset/device subsidies, which indicates that the growing smartphone sales may not be the most profitable category due to the high subsidies in terms of the impact on profit margins.

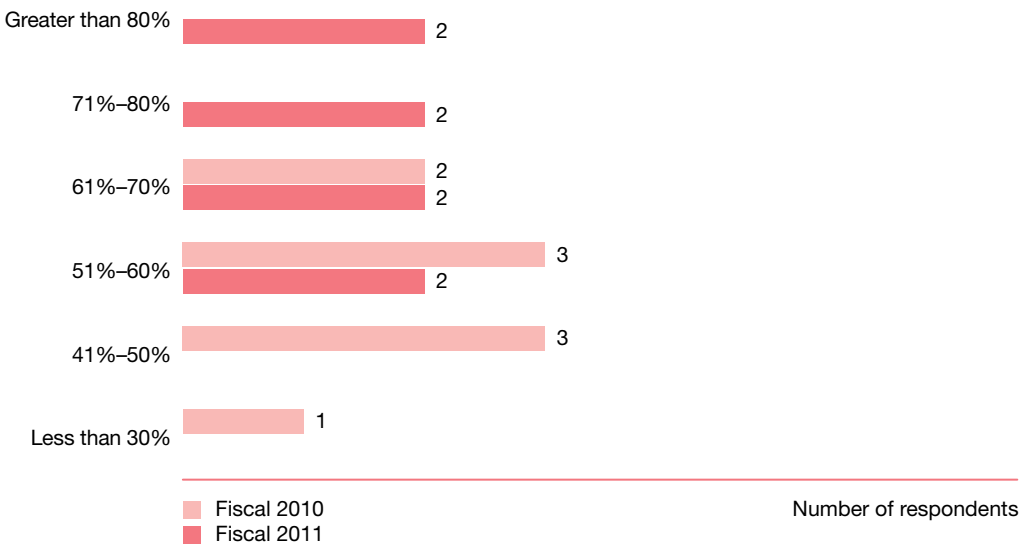
Figure 2.13: Smartphone sales as a percentage of new phone sales



No responses were received in the less than 30% category and 30%–40% category in 2011 or in the 61%–70% and 71%–80% category in 2010.

The average of all responding companies for the percentage of upgrade phone sales related to smartphones was 70 percent for fiscal 2011, compared with the fiscal 2010 average upgrade phone sales of 50 percent. Figure 2.14 provides the responses for the upgrade phone sales related to smartphones.

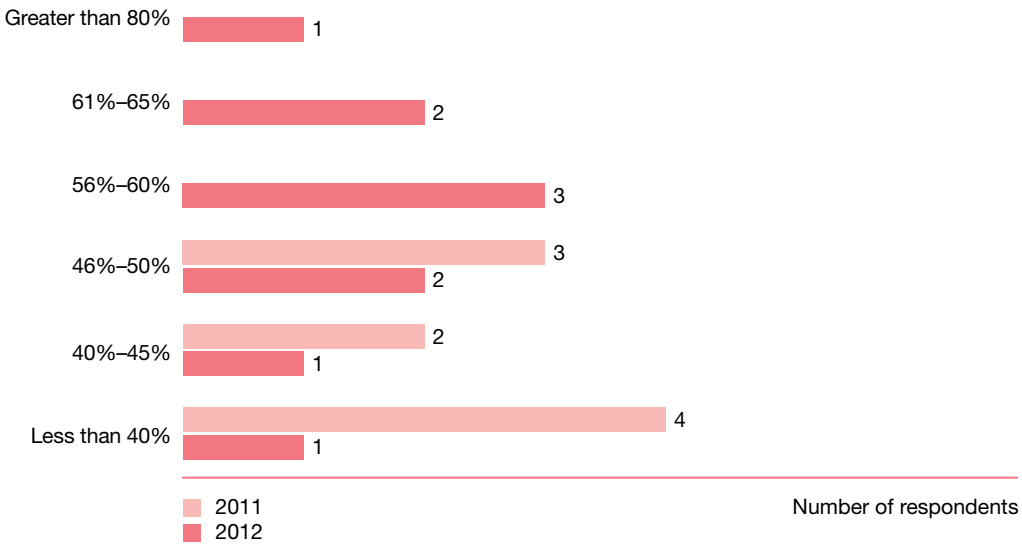
Figure 2.14: Percentage of customer upgrade phone sales related to smartphones



No responses were received in the less than 30% and 41%–50% categories in 2011, in the 30%–40% category in 2011 or 2010, or in the 71%–80% and greater than 80% categories in 2010.

Figure 2.15 illustrates the carriers' percentage of smartphone subscribers and ARPU for postpaid customers as of June 30. The average percentage of smartphone subscribers at June 30, 2012 was 56 percent, compared with 39 percent at June 30, 2011.

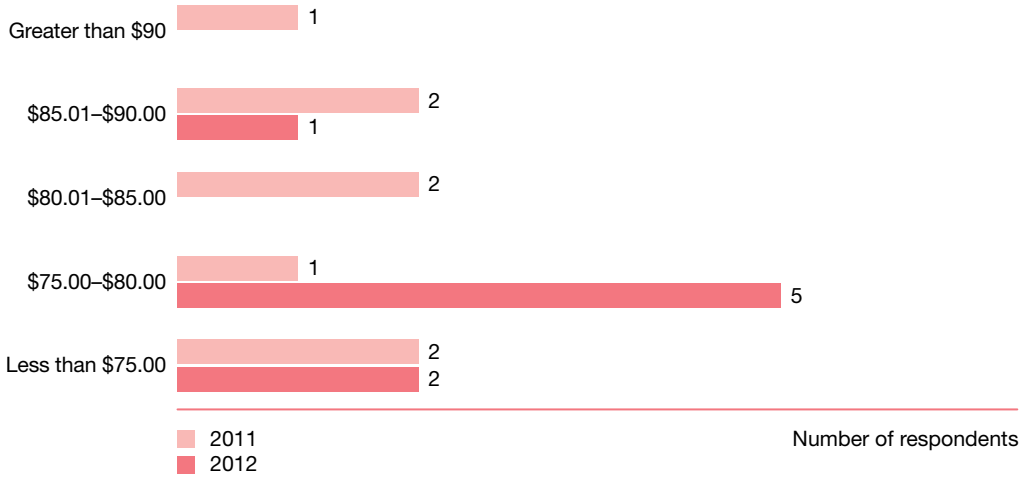
Figure 2.15: Smartphone subscribers as a percentage of total subscribers as of June 30



No responses were received in the 51%–55% category in 2012 or 2011; the 56%–60%, 61%–65%, and greater than 80% categories in 2011; or the 66%–80% category in 2011 or 2012.

The ARPU of smartphone subscribers at June 30, 2012 declined to $77.79, compared with $82.75 at June 30, 2011. Figure 2.16 shows the ranges of average revenue per postpaid user for smartphones as of June 30.

Figure 2.16: Average revenue per postpaid user for smartphone users as of June 30

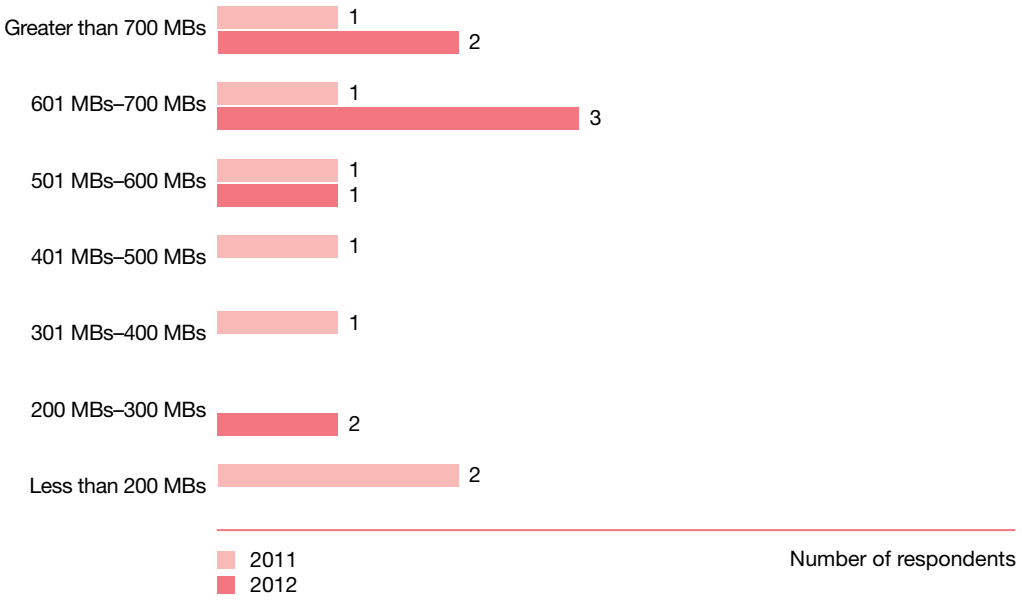


No responses were received in the $80.01–$85.00 and greater than $90 categories in 2012.

While smartphone penetration has continued to grow, adoption by the mass market is clearly beginning to slowly degrade ARPU. While the overall benefit of such growth may outweigh the costs, continued rapid annual increases of nearly 50 percent in data usage per subscriber demand that operators take steps to achieve step-level increases in efficiency. The ongoing rollout of spectrally efficient 4G LTE networks may contribute to this, but will likely require additional support and evolved network operating models.

Smartphone users on average consumed 632 MBs of data per month as of June 30, 2012, compared with 431 MBs of data per month at the same time in 2011. Figure 2.17 compares the MBs per user per month as of June 30, 2012 and June 30, 2011.

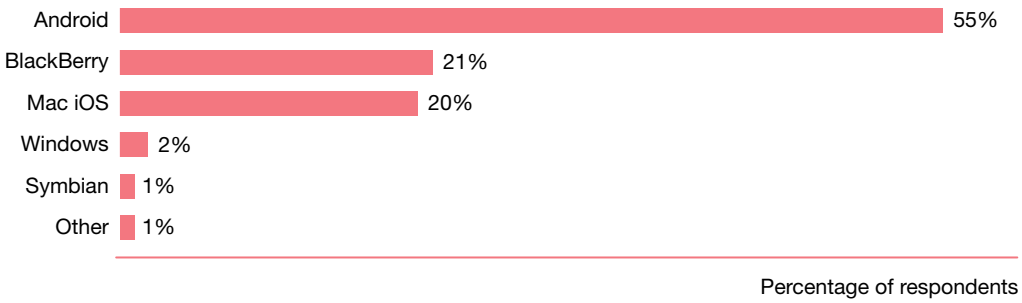
Figure 2.17: Megabytes per postpaid smartphone per month as of June 30



No responses were received in the less than 200 MBs category in 2012, the 200 MBs–300 MBs category in 2011, or the 301 MBs–400 MBs and 401 MBs–500 MBs categories in 2012.

The companies indicated that their postpaid wireless subscribers use various operating systems. Figure 2.18 indicates the percentage of postpaid smartphone subscribers operating on the available operating systems as of June 30, 2012.

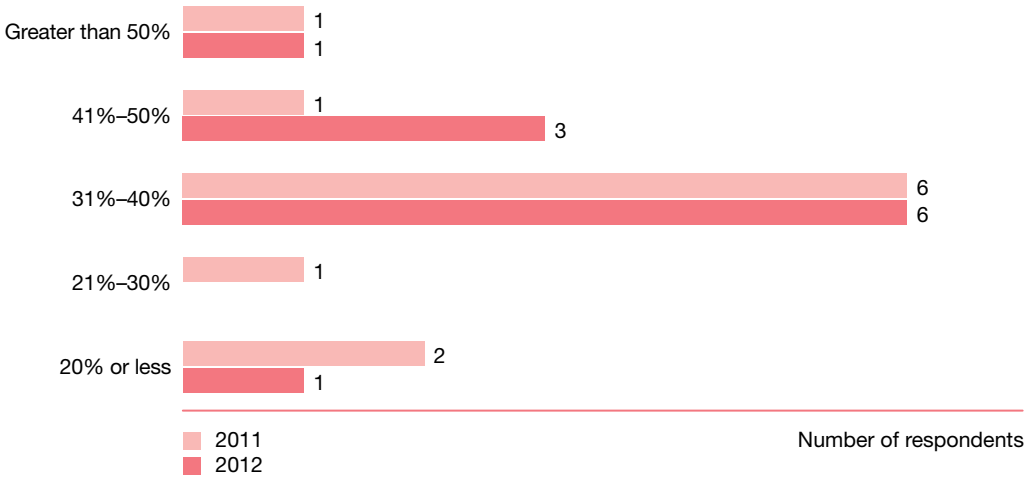
Figure 2.18: Smartphones per operating system as of June 30, 2012



Data services

Data services continue to be an area of focus and are offered by all the responding companies to postpaid subscribers. Carriers are continuing to look at data services as opportunities to grow revenue. Figure 2.19 illustrates the percentage of responding companies' postpaid service revenue generated by data services. For all respondents, the percentage of postpaid service revenue related to data increased to 42 percent as of June 30, 2012, up from 38 percent for the same period in 2011. Carriers with revenue greater than $5 billion increased 6 percent as of June 30, 2012, to 39 percent, compared with a smaller increase in the revenue generated by data services for carriers with revenue less than $5 billion, 45 percent as of June 30, 2012 compared with 44 percent as of June 30, 2011.

Figure 2.19: Percentage of postpaid service revenue generated by data services as of June 30



No responses were received in the 21%–30% category in 2012.

Figures 2.20 and 2.21 illustrate the percentage of responding companies' total service revenue generated by data services as of June 30 and by size, respectively. Data services continue to be an area of growth for wireless operators, with many attributing a growing percentage of their revenue to these services as of June 30, 2012.

Figure 2.20: Percentage of total service revenue generated by data services as of June 30

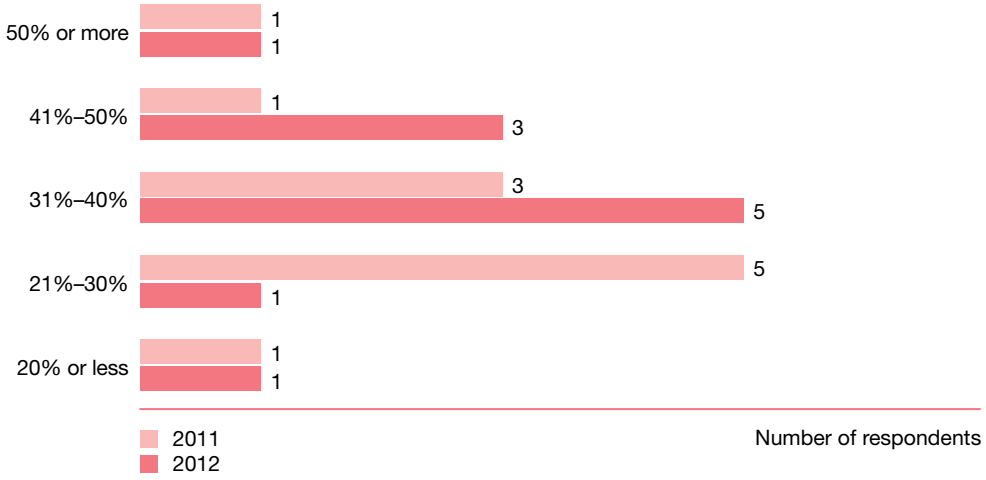
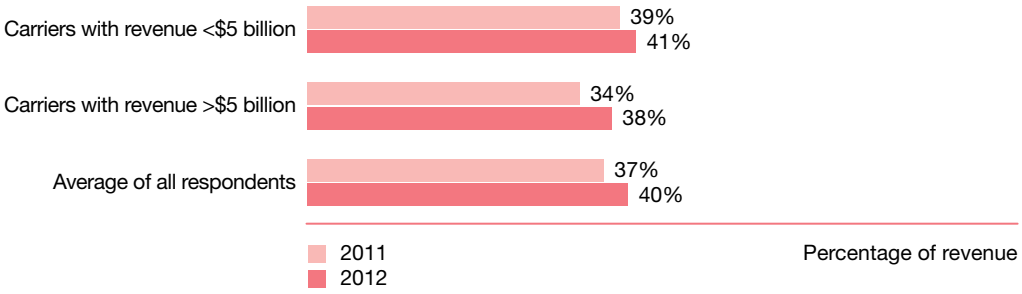


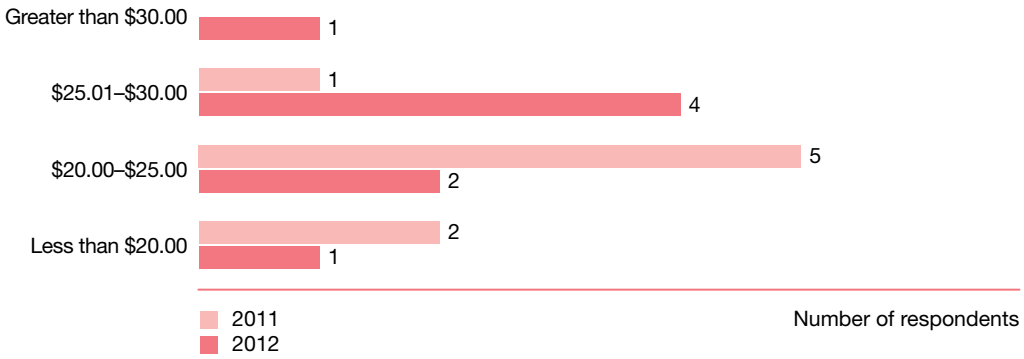
Figure 2.21: Percentage of total service revenue generated by data services as of June 30, by size



The attribution of some of this revenue can be challenging to compare and analyze, as many plans remain bundled and do not differentiate the value of the data services compared with the value of voice services.

The approximate monthly contribution to postpaid ARPU by each postpaid data services user is shown in Figure 2.22. All responding carriers indicated that monthly data ARPU is now above $15 per user. The average ARPU per postpaid data service user increased more than 12 percent to $27 as of June 30, 2012, from $24 as of June 30, 2011.

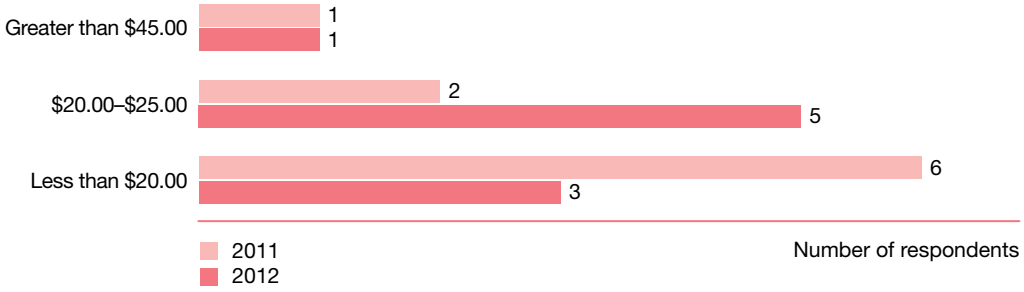
Figure 2.22: Monthly contribution to postpaid ARPU by data service user as of June 30



No responses were received in the greater than $30.00 category for 2011.

The approximate monthly contribution to total average revenue per data services user is shown in Figure 2.23. Data users on average contributed $23 of total ARPU as of June 30, 2012, which is up from the average of $21 at June 30, 2011.

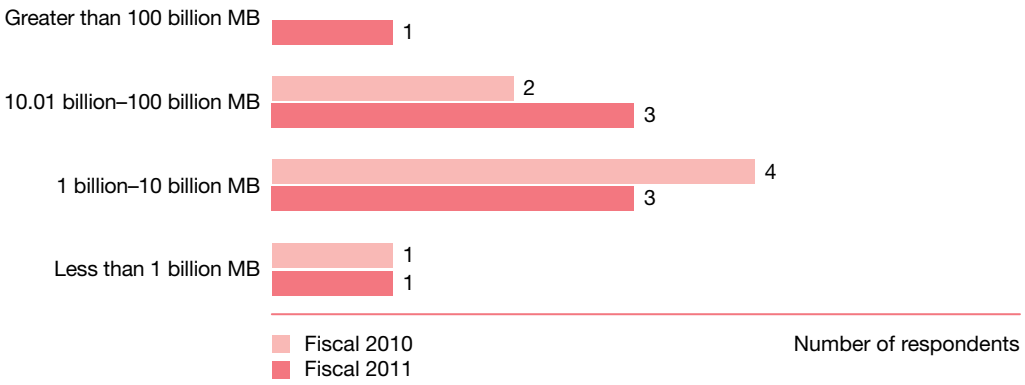
Figure 2.23: Monthly contribution to total ARPU per data service user as of June 30



No responses were received in the $25.01–$45.00 category in 2012 or 2011.

While ARPU continues to grow, this growth is coming with additional cost as the volume of data services is growing. The data growth is codependent on and highly impacts the network costs and network technology upgrades. Generally, data traffic is expensive, and the carriers are looking to mitigate the toll on their networks through gaining additional capacity, either by adding more spectrum or more cell sites. The average volume in megabytes (MB) for all postpaid subscribers for fiscal 2011 and fiscal 2010 increased by 114 percent, to 37.1 billion MBs from 17.3 billion MBs. Figure 2.24 shows the responding carriers' total MBs volume year over year.

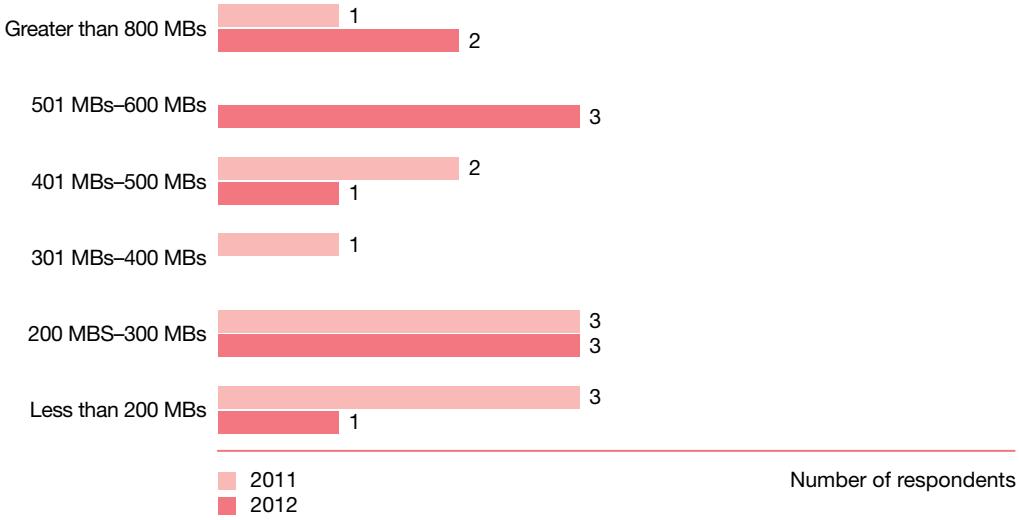
Figure 2.24: Total postpaid data services volume in megabytes



No responses were received in the greater than 100 million MB category in 2010.

Consistent with an overall increase in MBs volume, the increase on a per-subscriber basis averaged 27 percent as of June 30, 2012 over June 30, 2011. The average MBs per postpaid subscriber per month at June 30, 2012 was 694 MBs, compared with 548 MBs as of June 30, 2011. For carriers with revenue greater than $5 billion, the average MBs per subscriber per month at June 30, 2012 was 439 MBs, up from 270 MBs at June 30, 2011. For carriers with revenue less than $5 billion, the average MBs per subscriber per month at June 30, 2012 was 1,076 MBs, up from 964 MBs at June 30, 2011.

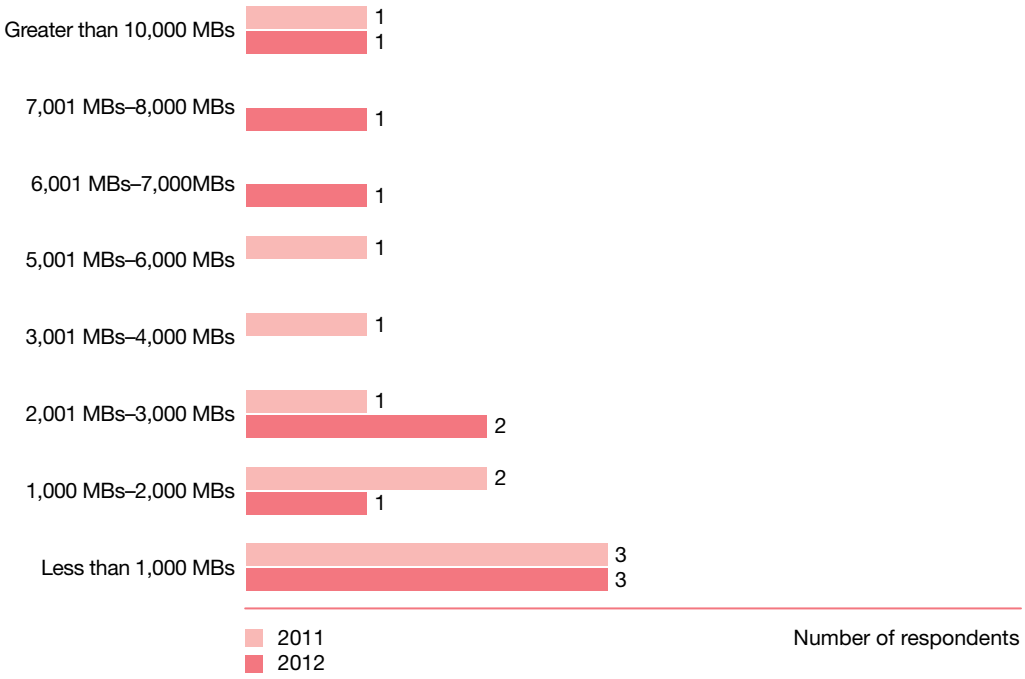
Figure 2.25: Average MBs per postpaid subscriber per month as of June 30



No responses were received in the 301 MBs–400 MBs category in 2012, the 501 MBs–600 MBs category in 2011 or in the 601 MBs–800 MBs category in 2011 or 2012.

Mobile broadband customers on average use 700 percent more data service per subscriber compared with all postpaid subscribers. The average MBs per mobile broadband subscriber per month was 4,961 at June 30, 2012, compared with 3,698 at June 30, 2011. Figure 2.26 indicates the average MBs per postpaid mobile subscriber for the responding carriers as of June 30.

Figure 2.26: Average MBs per postpaid mobile broadband subscriber per month as of June 30

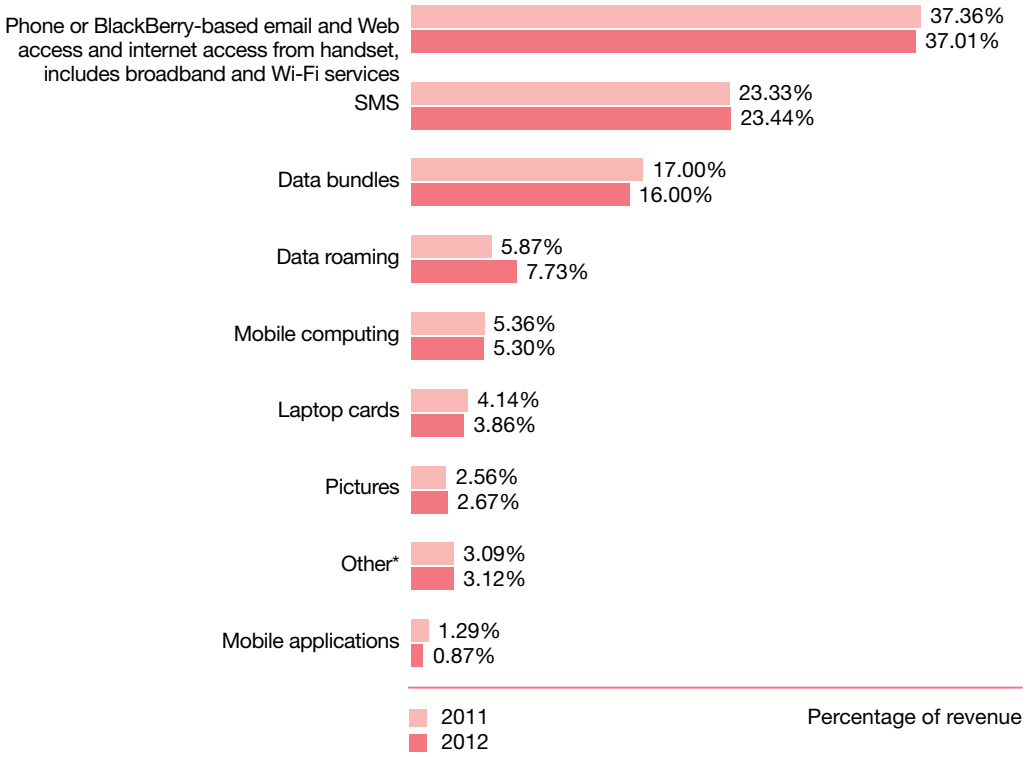


No responses were received in the 3,001 MBs–4,000 MBs and 5,001 MBs–6,000 MBs categories in 2012, the 4,001 MBs–5,000 MBs category in 2011 or 2012, or the 6,001 MBs–7,000 MBs and 7,001 MBs–8,000 MBs categories in 2011.

We asked responding companies who have an application store or website enabling subscribers to purchase and download applications, ringtones, games, etc., how the revenue associated with these purchases is being recognized. Of the responding companies, 4 recognize revenue gross with the cost reflected in cost of service, and 5 indicated that it depends on the specific facts to determine gross revenue or net revenue reporting.

The responding companies offer multiple types of data services to customers. Figure 2.27 depicts the percentage of total revenue generated from each type of data service identified as related to postpaid data services as of June 30.

Figure 2.27: Postpaid data revenue by source as of June 30



* Other includes ringtones, games-downloading, premium SMS, location based services, ring-back tones, embedded wireless cards, video and music downloads, premium services, tablets, application purchases and value-added services.

The above Figure 2.27 suggests some significant changes in the usage of services by customers:

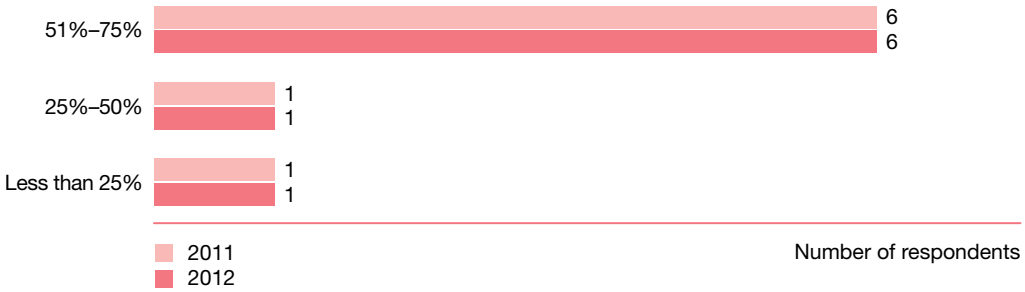
- As the reliability and availability of wireless broadband increase, the revenue from data roaming continues to increase;
- Two key factors contribute to the minor growth in SMS revenue: more users are signing up for SMS plans, thus avoiding per-message fees, and many users have begun replacing SMS use with Internet-based chat/messenger applications.

Seventy-three percent of the postpaid carriers offered a tablet device to their subscribers as of June 30, 2012. On average, the carriers offer 4 different tablet options. The responding carriers that do offer a tablet indicated that the ARPU as of June 30, 2012 averaged $33.75, and the average number of subscribers was 360,000 and ranged from 11,000 to 1.3 million.

Family plans

A large number of companies continue offering family plans to their customers. We are also seeing carriers expand these family plans to include tablets and hot spots. Eighty-two percent of responding companies offer family plans to their postpaid subscribers. Figure 2.28 shows the percentage of postpaid subscribers who are enrolled in family plans as of June 30, 2011 and 2012. On average, 58 percent of subscribers are on family plans as of June 30, 2012, which is a slight increase from 56 percent as of June 30, 2011.

Figure 2.28: Percentage of postpaid subscribers on family plans as of June 30

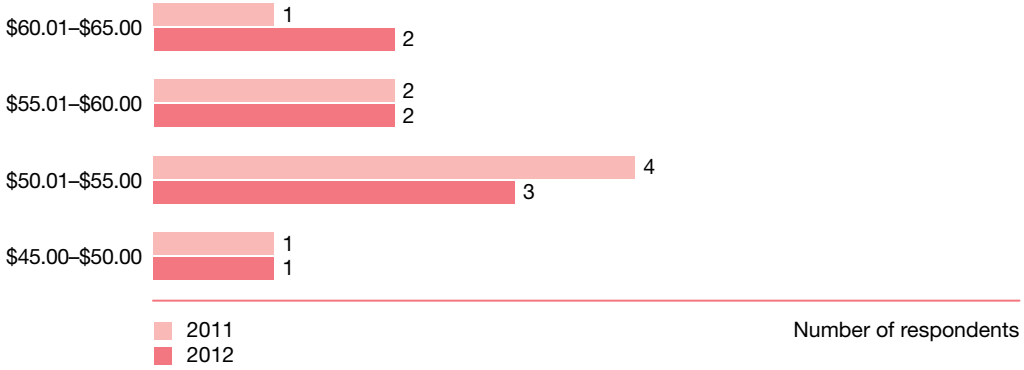


While family plans can be a slight drag on ARPU, they are an effective means of deterring churn since they require the conversion of an entire set of devices and customers in order to effect a change. We also believe that family plans may also yield significant secondary benefits, particularly in terms of lower rates of bad debt and reduced per-user customer care costs.

Only 25 percent of responding companies include the use of wireless cards, wireless data dongles, or embedded devices such as tablets as part of postpaid family plan account options as of June 30, 2012. As carriers begin to offer more incentives for multi-device users to subscribe to 3G and 4G services, we expect the percentage to have increased in 2012.

The average total revenue per family plan increased as of June 30, 2012 to $150, from $146 as of June 30, 2011. The slight increase in average ARPU for family plan subscribers is likely due to data usage and tiered plans. The overall ARPU per user associated with family plans slightly increased as of June 30, 2012 to $56.00, compared with ARPU of $54.50 as of June 30, 2011. Figure 2.29 depicts the ranges of ARPU for monthly family plan subscribers.

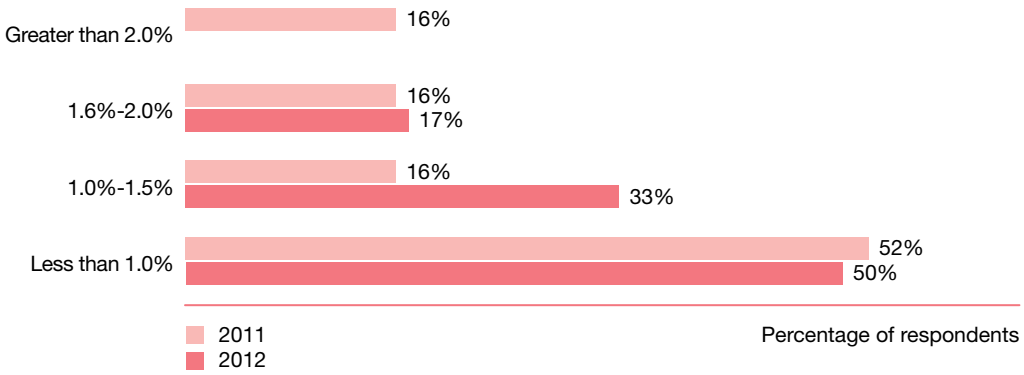
Figure 2.29: Average monthly family plan subscriber revenue per user as of June 30



To add subscribers to family plans, many of the responding companies charge for each additional subscriber enrolled. Forty-three percent of the respondents charged $10 or less per additional subscriber on family plans, forty-three percent charged $10 to $30, and the remaining carriers varied based on plan and current promotions. Compared with prior year responses, the additional charge for each subscriber has continued to increase toward the $10 to $30 range.

Figure 2.30 reflects churn rates for postpaid family plan accounts. As of June 30, 2012 and 2011, average postpaid family plan churn for all respondents was 1.24 percent and 1.21 percent, respectively.

Figure 2.30: Churn associated with family plan accounts as of June 30



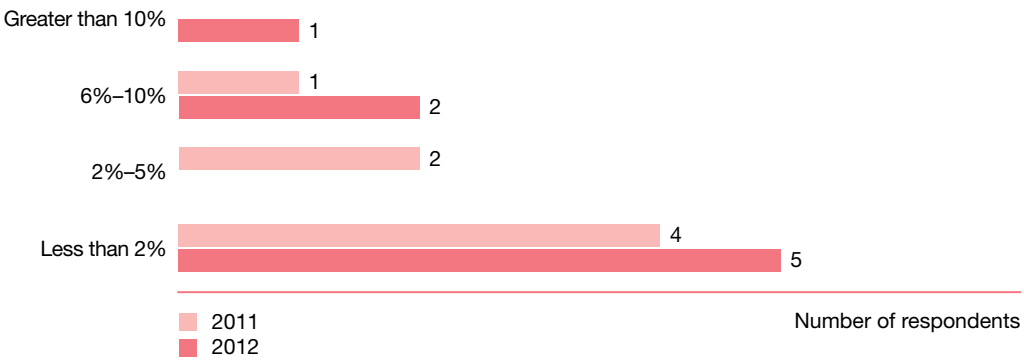
No responses were received in the Greater than 2.0% category in 2012.

In general, family plans appear to be an effective way to increase the length of subscriber relationships and reduce churn; churn continues to be lower for family plan customers than for overall postpaid. As of June 30, 2012, family plan churn of 1.24 percent is 30 percent lower than the overall total postpaid subscriber churn of 1.79 percent.

Features revenue

Sixty-three percent of responding companies indicated that features revenue made up less than 2 percent of total service revenue. Figure 2.31 shows the number of respondents and the percentage of feature revenue to total service revenue. On average, feature revenue increased at June 30, 2012 to 5 percent of total service revenue, from 2 percent at June 30, 2011. The increasing importance of features revenue is noteworthy because many wireless operators have invested significantly in product and service innovation.

Figure 2.31: Feature revenue as a percentage of total service revenue as of June 30



No responses were received in the 2%–5% category in 2012 or the greater than 10% category in 2011.

Figure 2.32 illustrates the various features offered to subscribers by the responding companies.

Figure 2.32: Features offered to subscribers

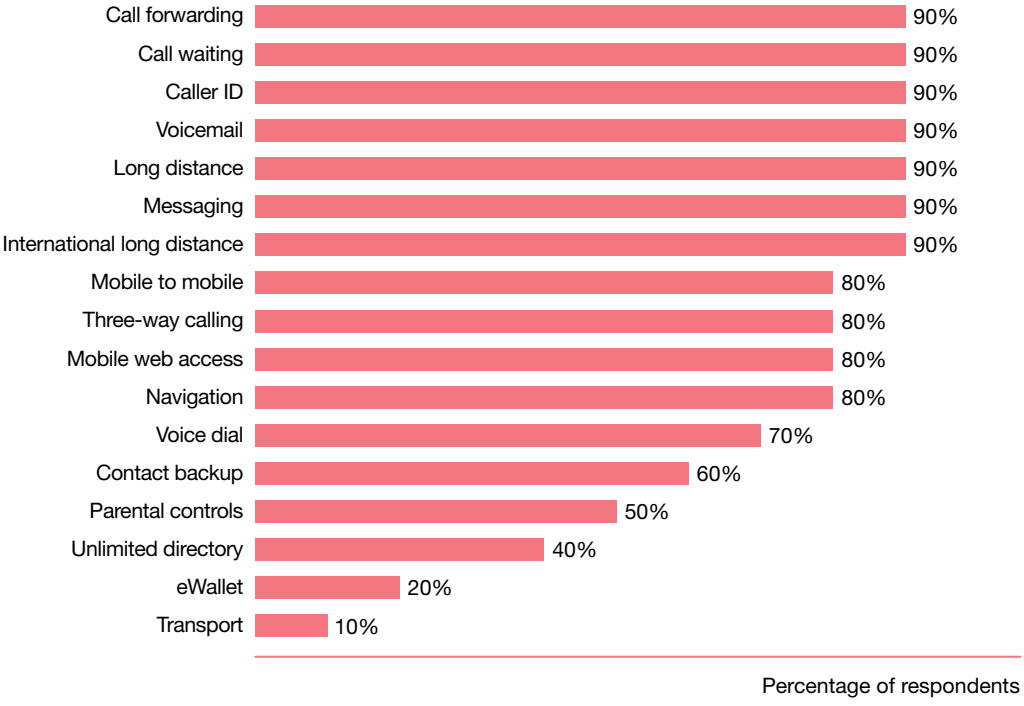


Chart totals greater than 100% because multiple responses were allowed.

Termination fees and bad-debt expense

The responding companies use three methods to record revenue related to termination fees, which are illustrated in Figure 2.33.

Figure 2.33: Method of accounting for termination fee bad debt expense

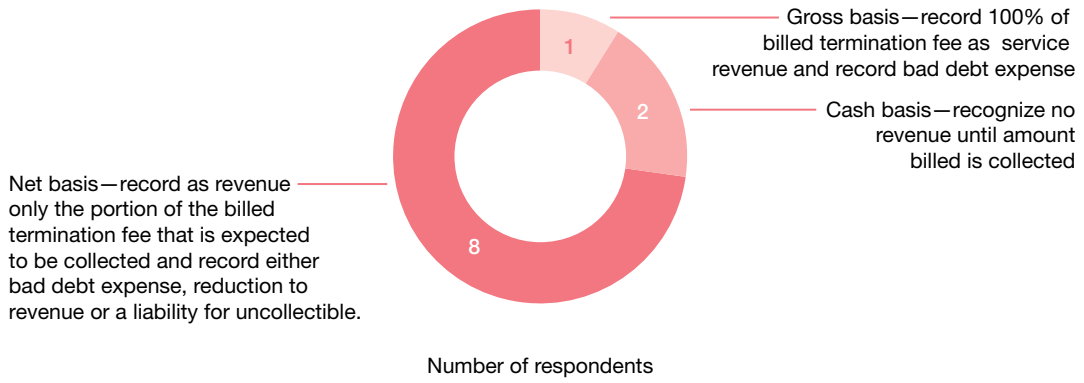
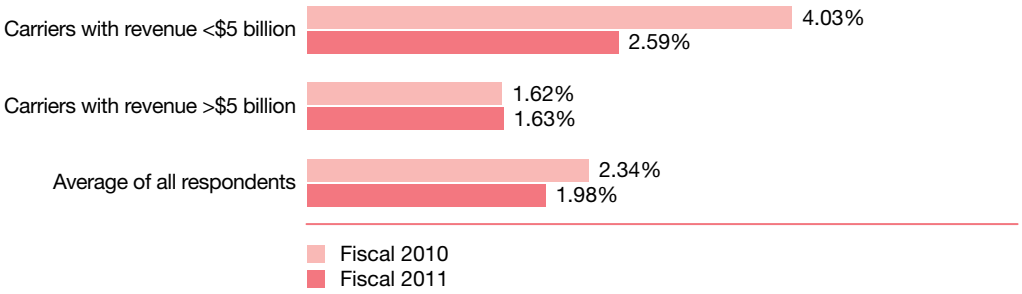


Figure 2.34 illustrates bad-debt expense related to postpaid receivables as a percentage of total postpaid revenues. As the economic climate continues to see large changes, responding companies are having increased volatility related to bad debt expenses over the past few years, with fiscal 2011 seeing overall reduced expense.

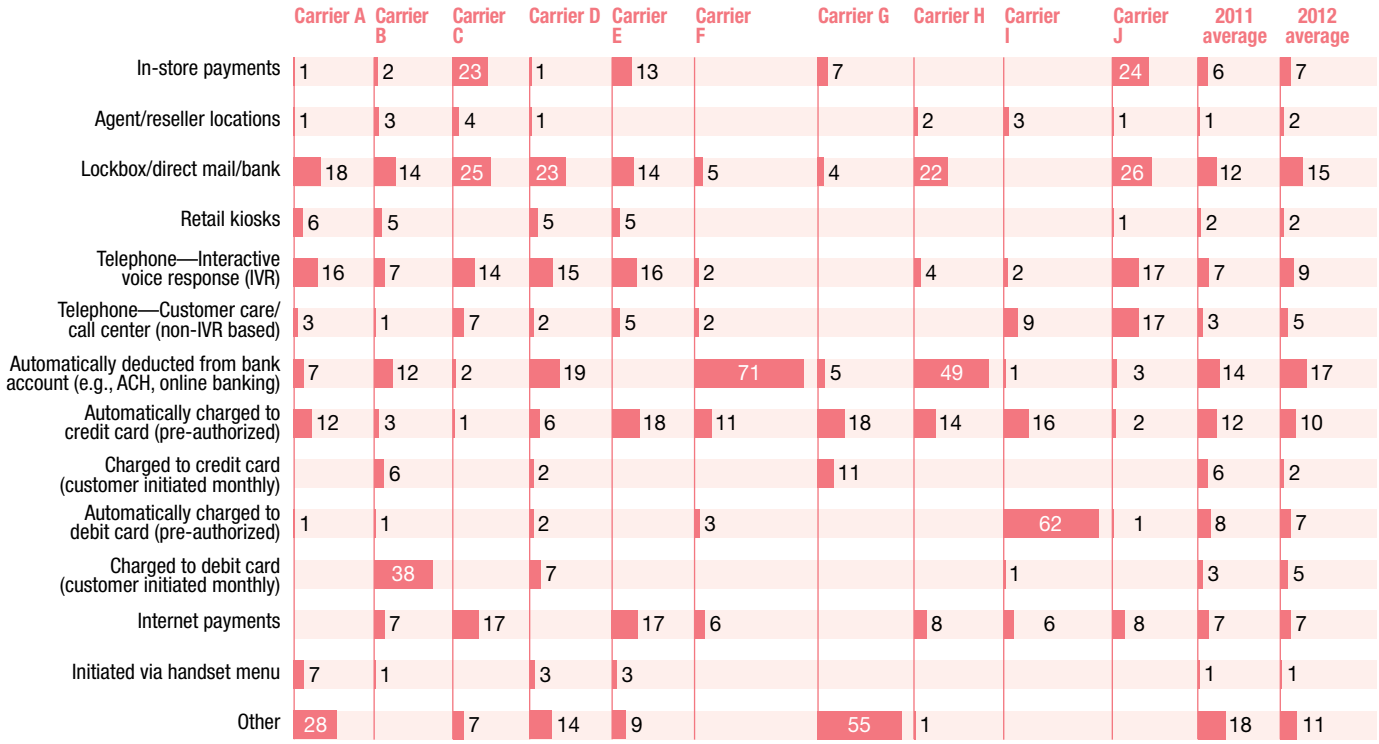
Figure 2.34: Postpaid bad-debt expense as a percentage of total postpaid revenues



Customer billings and payments

We asked the responding companies to indicate the percentage of customer payments they received through each payment channel for postpaid customers. The results are depicted in Figure 2.35, including the average of all responding companies. The trending of the results indicate that customers increasingly prefer electronic forms of payment due to the time savings and convenience of these payment methods.

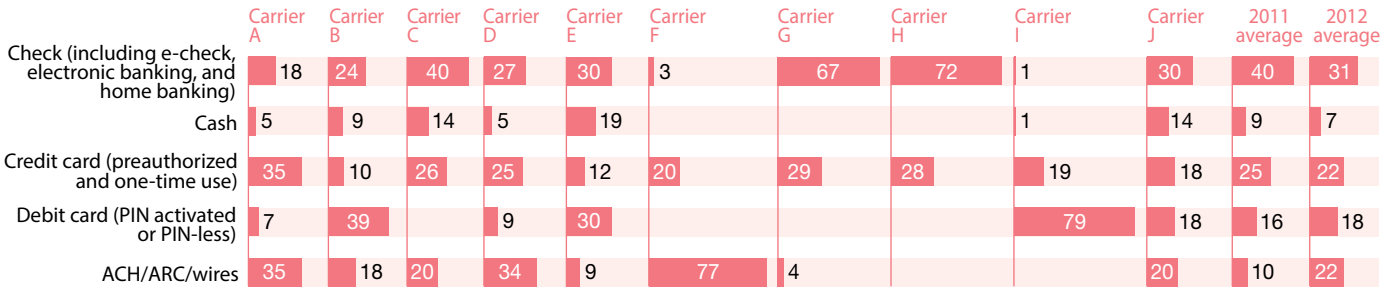
Figure 2.35: Postpaid customer payment channel



	Carrier A	Carrier B	Carrier C	Carrier D	Carrier E	Carrier F	Carrier G	Carrier H	Carrier I	Carrier J	2011 average	2012 average
In-store payments	1	2	23	1	13		7			24	6	7
Agent/reseller locations	1	3	4	1				2	3	1	1	2
Lockbox/direct mail/bank	18	14	25	23	14	5	4	22		26	12	15
Retail kiosks	6	5		5	5					1	2	2
Telephone—Interactive voice response (IVR)	16	7	14	15	16	2		4	2	17	7	9
Telephone—Customer care/ call center (non-IVR based)	3	1	7	2	5	2			9	17	3	5
Automatically deducted from bank account (e.g., ACH, online banking)	7	12	2	19		71	5	49	1	3	14	17
Automatically charged to credit card (pre-authorized)	12	3	1	6	18	11	18	14	16	2	12	10
Charged to credit card (customer initiated monthly)		6		2			11				6	2
Automatically charged to debit card (pre-authorized)	1	1		2		3			62	1	8	7
Charged to debit card (customer initiated monthly)		38		7					1		3	5
Internet payments		7	17		17	6		8	6	8	7	7
Initiated via handset menu	7	1		3	3						1	1
Other	28		7	14	9		55	1			18	11

Figure 2.36 shows the sources of payments by percentage for postpaid subscribers and compared with the average of all responding companies.

Figure 2.36: Methods of postpaid customer payments



Responding carriers indicated that an average of 16 percent of the postpaid base of subscribers pay using recurring payments (such as credit card, debit card, ACH, check) each month.

Activation channels

Carriers use various sales channels to secure subscribers. We asked companies to indicate the percentages of their postpaid subscribers attained through each sales channel. Their responses are illustrated in Figures 2.37 and 2.38. There were no significant changes on a year over year basis. Consistent with previous years, postpaid subscribers prefer to activate their phones in the retail stores or kiosks. This is likely because subscribers like the customer service and the ability to look at and physically interact with the handset portfolios on display.

Figure 2.37: Postpaid subscriber activation channels by size

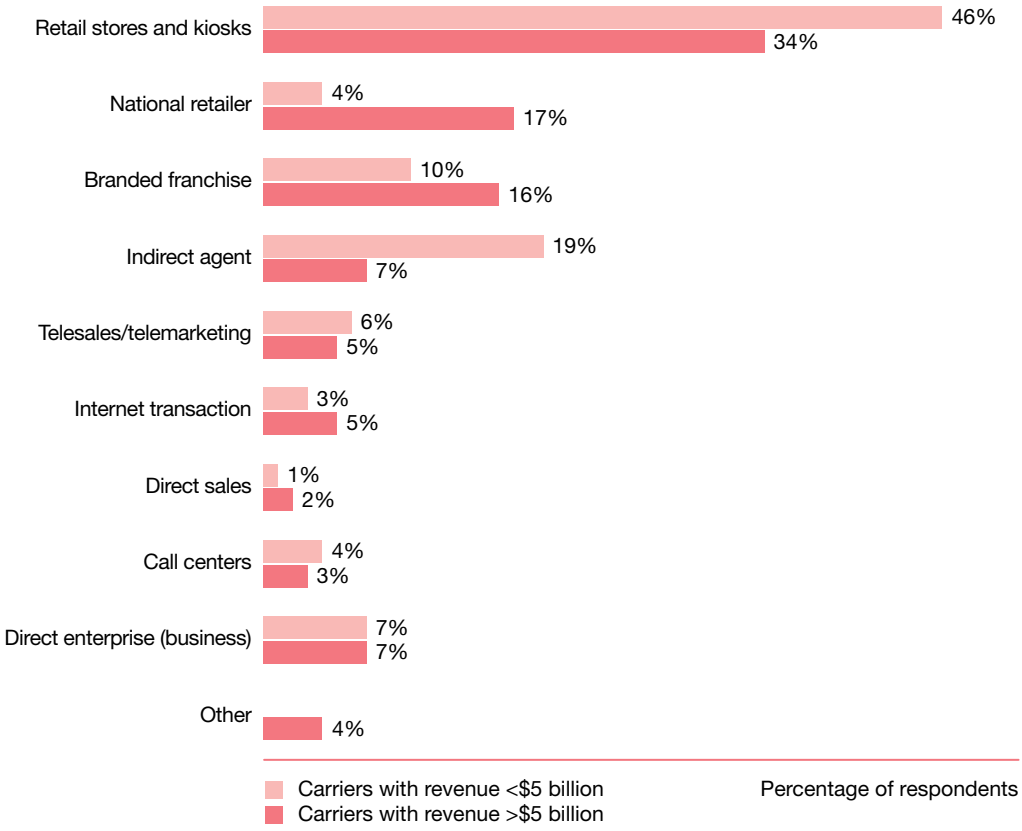
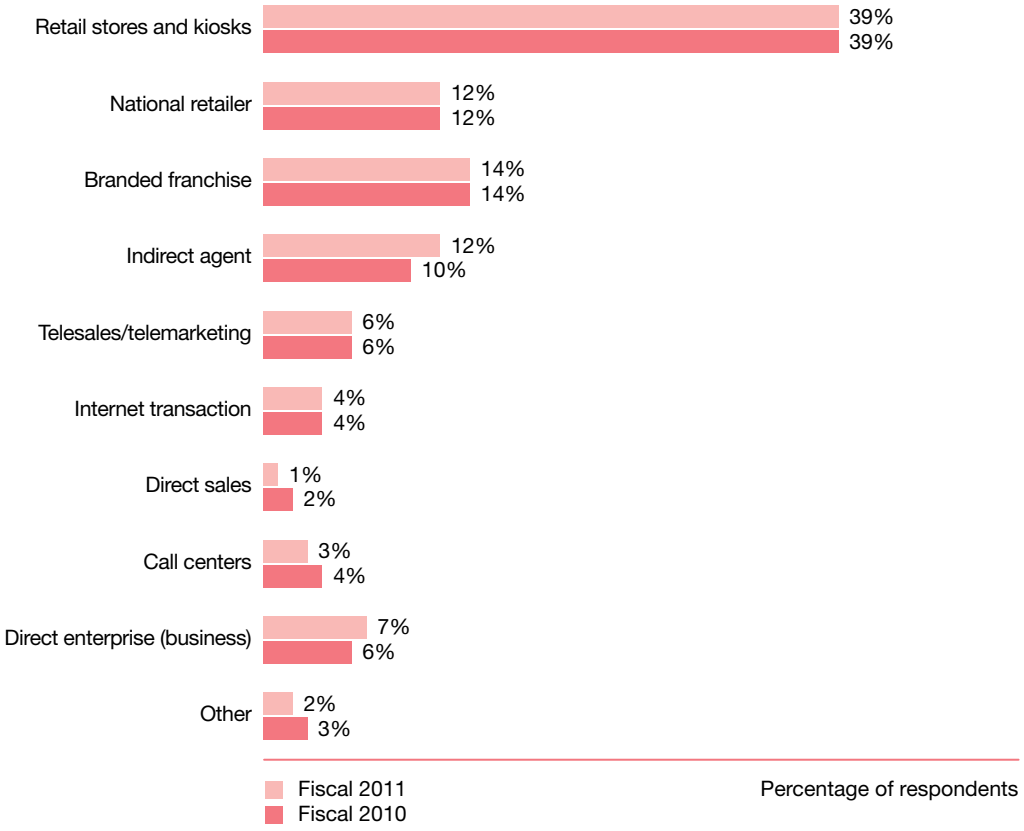


Figure 2.38 Postpaid subscriber activation channels by year



Eight of the responding companies indicated that they expense all costs as incurred related to customer acquisition costs for a postpaid subscriber, while three responding carriers indicated that they defer activation fee and an equal amount of acquisition expense.

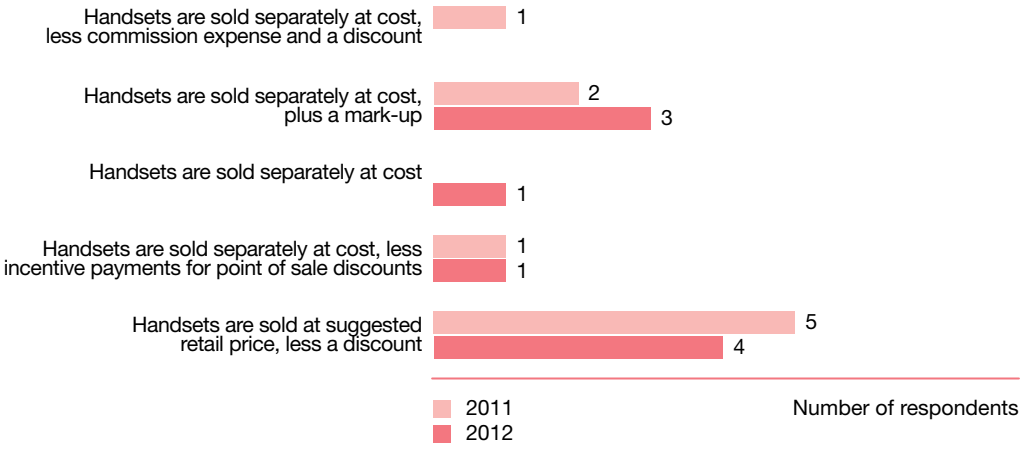
All responding companies expense customer retention costs for postpaid subscribers. As of December 31, 2011, the average retention expense as a percentage of total postpaid revenue was 11.3 percent.

Devices

Ten of the responding carriers allow a postpaid customer to utilize their own device for service on the carrier's network (i.e., customers bring their own device). Of these respondents, one carrier provides a subsidy on a bring-your-own device when activated on a postpaid plan. All responding carriers that allow a customer to bring in their own device to activate postpaid service require a credit check before service begins.

Companies were asked to indicate how they treat sales of handsets if they use resellers and/or indirect agents. The majority of the respondents indicated that handsets are sold at suggested retail price less a discount for postpaid handset sales, as described in Figure 2.39.

Figure 2.39: Treatment of postpaid handset sales related to resellers and/or indirect agents



No responses were received in the handsets are sold separately at cost category in 2011 and handsets are sold separately at cost, less commission expense and a discount category in 2012.

Prepaid revenue

The following pages cover wireless company practices related to prepaid revenue. As volatility continued in the economic situation of the United States in 2012, subscribers looked for alternative rate plans. A result among all carriers was another increase in prepaid revenue as a percentage of total service revenue.

Prepaid services
Prepaid active subscribers
Prepaid cards
Retention
Activation channels
Payment channels
Payment methods
Smartphones
Tablets
Devices
Disconnection and zero balance accounts
Prepaid data services
Megabytes
Prepaid handset sales

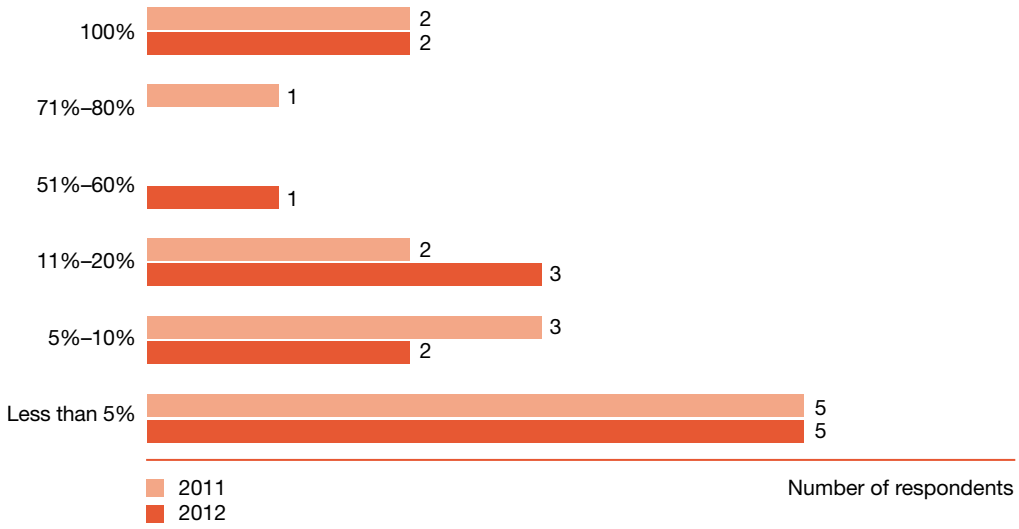
Prepaid services

Prepaid is defined as a type of mobile phone account that requires its owner to pay for a service period or purchase call credits before services can be used. The purchased credit is used to pay for services at the point the service is accessed or used. Users are able to top off their credit at any time, using a variety of payment mechanisms. These subscribers are typically not on a contract.

All of the responding companies offer customers the opportunity to pay for wireless service in advance. Survey respondents also indicated that they do not require a minimum usage or minutes of use for inclusion in the subscriber count, except for one carrier, who requires at least one minute of use. Of the thirteen carriers with prepaid subscribers, only one offers family plans to those prepaid subscribers.

Figure 3.1 depicts prepaid revenue as a percentage of total service revenue as of June 30, 2012 and June 30, 2011.

Figure 3.1: Prepaid revenue as a percentage of total service revenue as of June 30

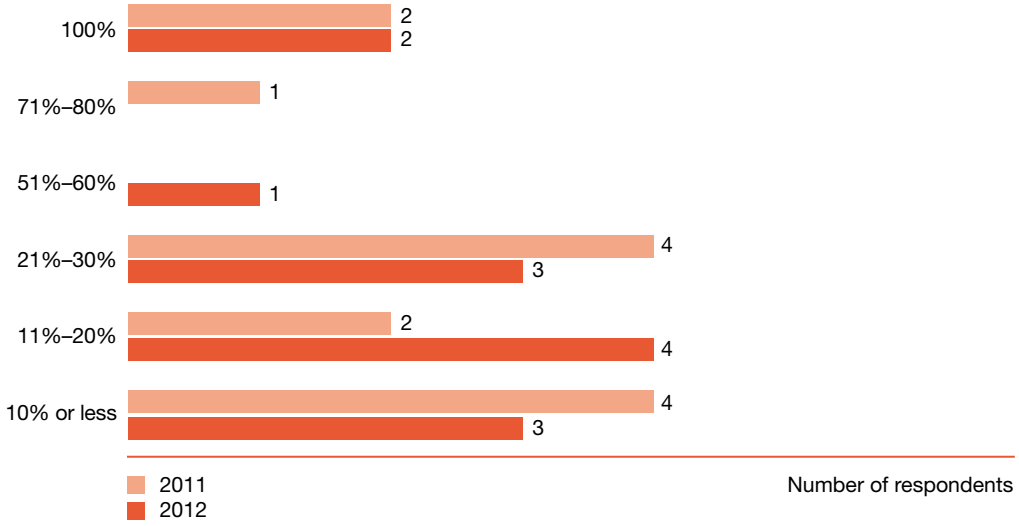


No responses were received in the 21%–50%, 61%–70%, and 81%–99% categories for 2011 and 2012, the 51%–60% category for 2011, and the 71%–80% category for 2012.

For respondents with revenue greater than $5 billion, prepaid revenue as a percentage of total service revenue averaged 7.0 percent as of June 30, 2012, which is a slight increase from 6.9 percent as of June 30, 2011. For respondents with revenue less than $5 billion, prepaid revenue as a percentage of total service revenue averaged 46.9 percent in 2012, compared with 47.9 percent in 2011.

The percentage of the responding companies' total subscribers who were prepaid subscribers as of June 30, 2012 and June 30, 2011 is illustrated on Figure 3.2. Among all companies, the average prepaid subscriber percentage remained relatively consistent with the previous year, at 32 percent in 2012 and 33 percent in 2011.

Figure 3.2: Percentage of prepaid subscribers as of June 30



No responses were received in the 31%–50%, 61%–70%, and 81%–99% categories for 2011 and 2012, the 51%–60% category for 2011, and the 71%–80% category for 2012.

For companies with revenue greater than $5 billion, the average percentage of prepaid subscribers among total subscribers was 17 percent as of June 30, 2012 and June 30, 2011. For companies with revenue less than $5 billion, the average percentage of prepaid subscribers among total subscribers was 50 percent in 2012, slightly down from 51 percent in 2011.

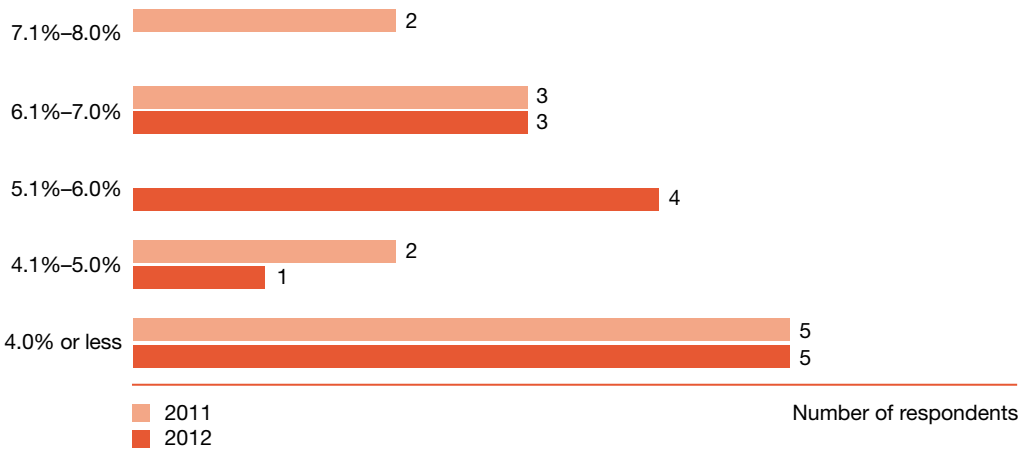
We believe that the lack of growth in the prepaid subscriber base is attributable to the combination of a maturing market, mobile subscriber penetration exceeding 100 percent, and rebounding recessionary consumer purchasing behaviors, which have previously evolved toward mobile services that allow more careful control of spending.

Of the responding companies, 31 percent included wholesale and mobile virtual network operator (MVNO) revenue in prepaid revenue. Of the four carriers that do track wholesale and MVNO operations in prepaid revenue, all of them indicated that they track such activity by subscribers, while two indicated that they also track such activity by minutes of use (MOU).

For the carriers that report prepaid churn externally (62 percent of survey participants), the numerator is net deactivations for the period, except for one carrier that uses gross deactivations for the period. The denominator is average subscribers for the period, except for two carriers that use beginning subscribers for the period. We also asked participants how their companies define net deactivations (or "buyer's remorse") for prepaid subscribers. Five of nine respondents indicated they define net deactivations as gross deactivations during the period less subscribers who disconnect within the first 30 days of subscriber activations, and three of nine respondents indicated that net deactivations are defined as the net number of subscribers who disconnect, less reactivations of subscribers during the same period. The one remaining respondent indicated that it defines net deactivations as those reflecting a specific deactivation code that take place within 180 days of activation.

The average churn as of June 30, 2012 for all carriers was 4.88 percent, down from 5.23 percent the previous year. Figure 3.3 shows the average monthly churn for prepaid subscribers as of June 30, 2012 and June 30, 2011.

Figure 3.3: Churn for prepaid subscribers as of June 30



No responses were received in the 5.1%–6.0% category in 2011 and in the 7.1%–8.0% category in 2012.

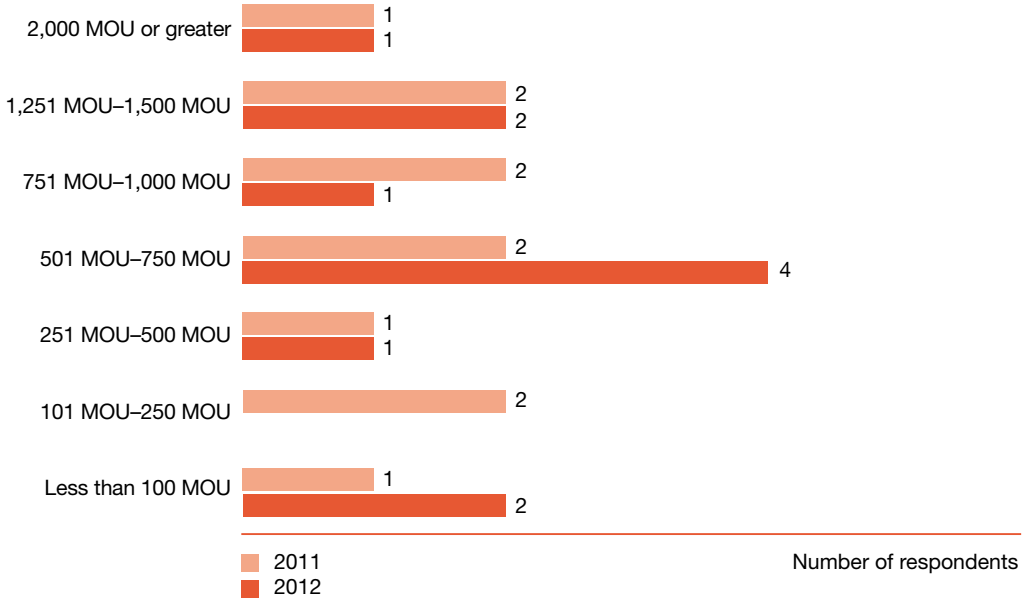
For companies with revenue greater than $5 billion, the average monthly churn for prepaid subscribers was 4.7 percent as of June 30, 2012, compared with 5.1 percent as of June 30, 2011. For companies with revenue less than $5 billion, the average monthly churn for prepaid subscribers also decreased to 5.1 percent as of June 30, 2012, compared with 5.5 percent as of June 30, 2011.

The average prepaid subscriber life for responding companies was 21 months as of June 30, 2012, compared with 19 months as of June 30, 2011. For respondents with revenue greater than $5 billion, the average prepaid subscriber life was 22 months as of June 30, 2012, compared with 20 months as of June 30, 2011. For respondents with revenue less than $5 billion, the average prepaid subscriber life as of June 30, 2012 was 19 months, compared with 17 months as of June 30, 2011.

As prepaid subscriber churn declined, prepaid subscriber life increased across the carriers. This may be due to the convergence of postpaid and prepaid segments, which are witnessing increasing similarity in terms of plan offerings and handsets. Prepaid carriers today are aggressively working to offer not only low-priced, unlimited plans to their customers but also the value-added services and smartphones that were earlier associated with only postpaid plans.

The average monthly minutes of use for prepaid subscribers as of June 30, 2012 and June 30, 2011 is shown in Figure 3.4.

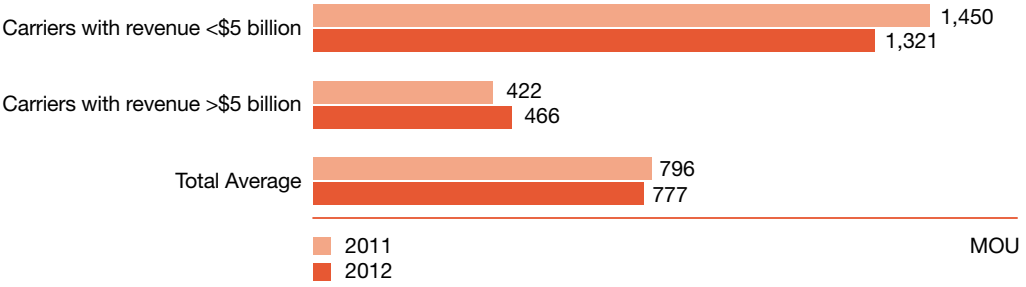
Figure 3.4: Average monthly minutes of use for prepaid subscribers as of June 30



No responses were received in the 101–250 MOU category in 2012 or the 1,001–1,250 MOU and the 1,501–1,999 MOU categories for 2011 and 2012.

Figure 3.5 shows the average prepaid MOU as of June 30, 2012 and June 30, 2011. On an overall basis, minutes of use slightly decreased, which is consistent with postpaid MOUs.

Figure 3.5: Prepaid minutes of use as of June 30



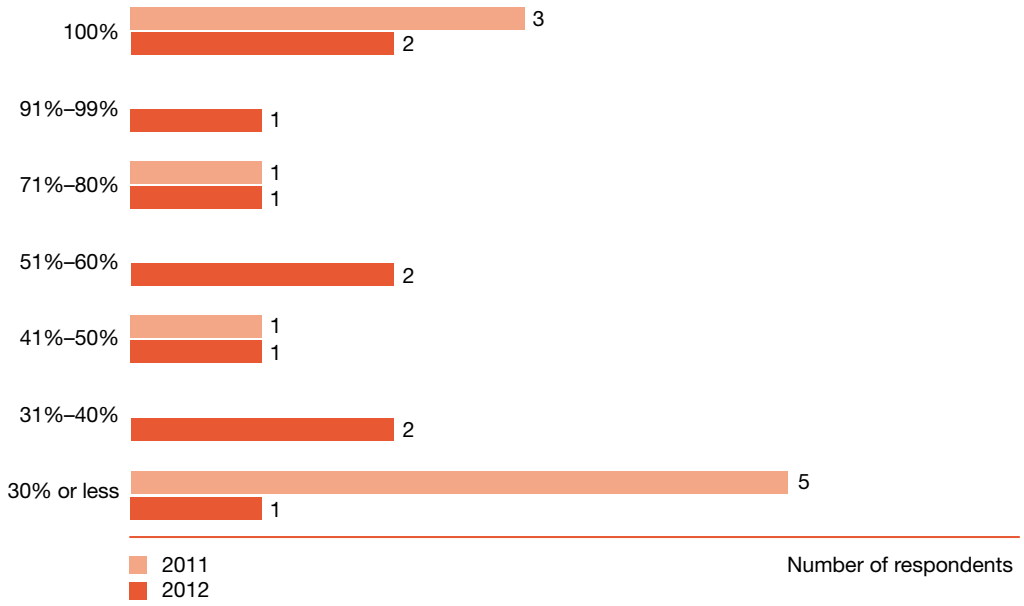
For carriers with revenue less than $5 billion, there was a decline of approximately 9 percent, and for carriers with revenue greater than $5 billion, there was an increase of approximately 11 percent in 2012 compared with 2011. The decline in MOU for carriers with revenue less than $5 billion can be attributed to their historic offering of primarily feature phones, used for such basic services as voice and SMS; these phones are seeing a decline in demand due to the increase in smartphone usage by prepaid subscribers, who are using more data.

The percentage of prepaid subscribers on unlimited voice plans has increased significantly across carriers, which may be due to the unwillingness of the cost-conscious subscriber to spend on additional voice minutes. Similar to industry trends, the minutes of usage under unlimited voice plans also declined.

Ten of the responding companies offer unlimited voice prepaid plans to their customers. Consistent with the previous year's survey, where unlimited prepaid plans are offered to customers, the rate of subscribers enrolled in such plans is high: as of June 30, 2012, an average of 60 percent of subscribers at these carriers were on prepaid plans, compared with 51 percent in 2011.

Figure 3.6 depicts the percentage of prepaid subscribers that participate in respondents' unlimited voice plans as of June 30, 2012 and June 30, 2011.

Figure 3.6: Percentage of prepaid subscribers participating in unlimited voice plans as of June 30

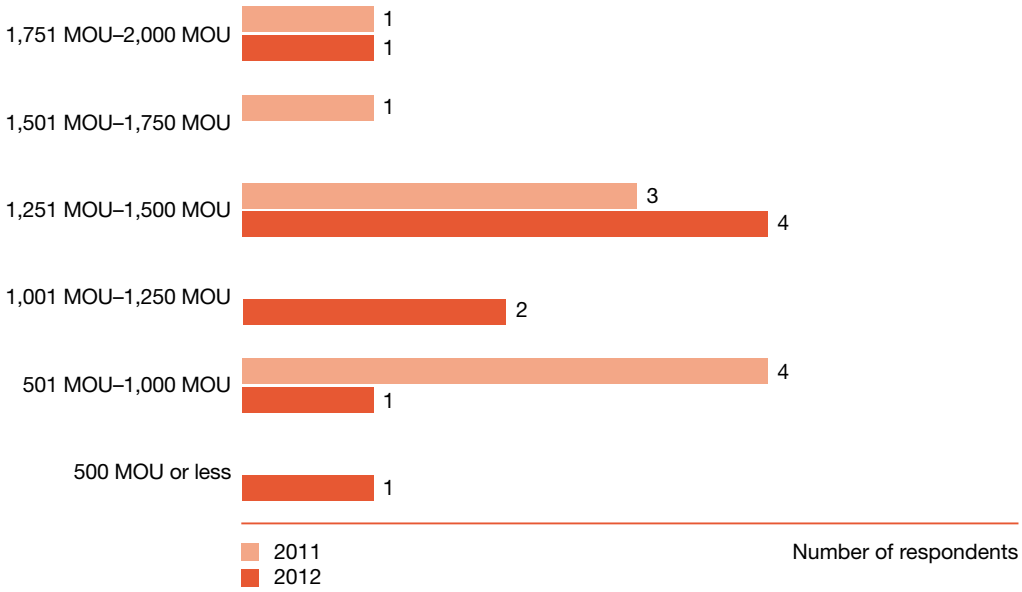


No responses were received in the 61%–70% and 81%–90% categories for 2011 and 2012 or in the 31%–40%, 51%–60%, and 91%–99% categories in 2011.

For carriers with revenue greater than $5 billion, an average of 38 percent of prepaid subscribers are on unlimited voice plans, when offered, as of June 30, 2012, compared with 24 percent of subscribers as of June 30, 2011. For carriers with revenue less than $5 billion, an average of 82 percent of prepaid subscribers are on unlimited voice plans, when offered, which is up slightly from the 78 percent as of June 30, 2011.

The average monthly MOU per prepaid subscriber participating in unlimited voice plans as of June 30, 2012 and June 30, 2011 is shown in Figure 3.7.

Figure 3.7: Monthly average MOU for unlimited plans as of June 30

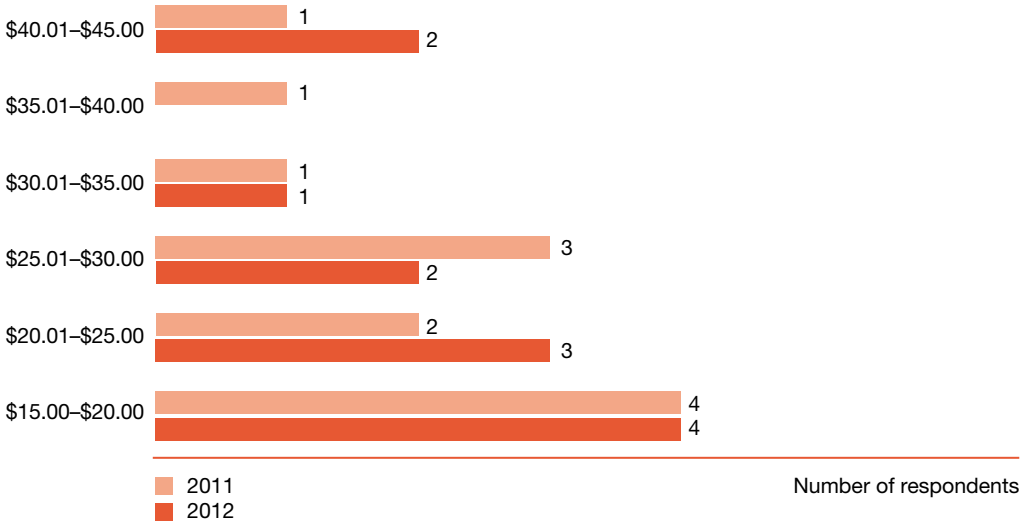


No responses were received in the 500 MOU or less and 1,001–1,250 MOU categories in 2011, and in the 1,501–1,750 category in 2012.

The average monthly MOU per prepaid subscriber participating in an unlimited voice plan was 1,230 as of June 30, 2012, a slight decrease from 1,272 the previous year. The MOU for the unlimited plans continues to be significantly higher than the overall averages. The average fee charged for an unlimited voice prepaid plan is $42 per month. The average fee charged for an unlimited voice prepaid plan ranged from approximately $20 per month to $55 per month.

Average revenue per user for all responding carriers was essentially unchanged as of June 30, 2012 at $25.52, compared with $25.57 in 2011. Figure 3.8 shows the average revenue per user per month for prepaid subscribers as of June 30, 2012 and June 30, 2011.

Figure 3.8: Average revenue per user for prepaid subscribers as of June 30

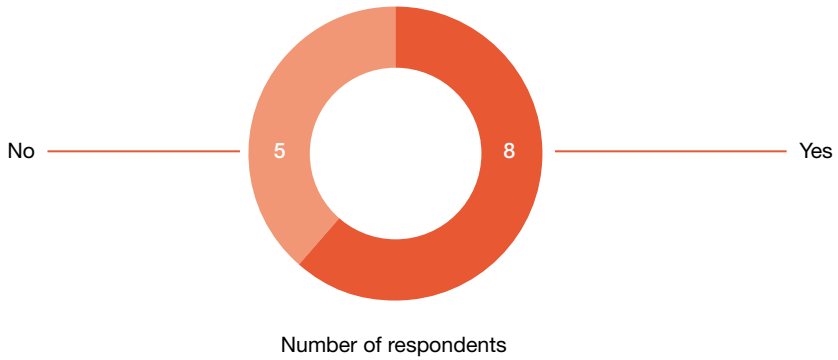


No responses were received in the less than $15.00 category for 2011 and 2012 or in the $35.01–$40.00 category for 2012.

Responding companies with revenue greater than $5 billion reported average prepaid ARPU of $21.09 as of June 30, 2012, up slightly from the June 30, 2011 ARPU of $20.50, which is likely a result of the continued addition of services such as data options to prepaid subscribers to help increase overall subscriber base. For companies with revenue less than $5 billion, prepaid ARPU averaged $31.73, slightly less than the $32.66 average as of June 30, 2011. This decline continues to represent the competitive pressures leading to lower prices and a trend toward all-inclusive plans.

Figure 3.9 indicates the number of responding companies that include any revenue in the prepaid ARPU calculation that is not driven directly by services provided to and driven by the subscriber base (i.e., roaming revenue, wholesale revenues, advertising revenues, etc.).

Figure 3.9: Carriers who include other revenue in prepaid ARPU



Of the eight respondents who do include other revenue in ARPU, they include various categories of revenue in the calculation. Figure 3.10 shows those types of revenue.

Figure 3.10: Categories of other revenue included in prepaid ARPU

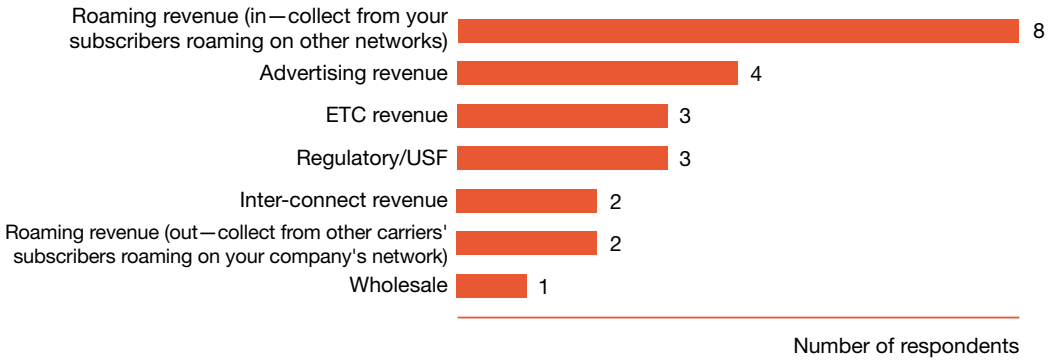


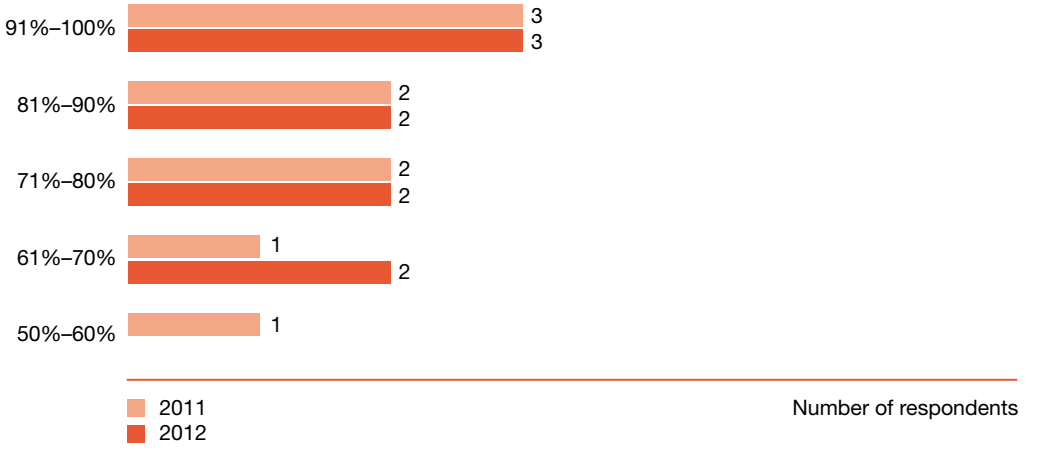
Chart totals greater than the number of responding companies because multiple responses were allowed.

Prepaid active subscribers

Prepaid active subscriber base increased across carriers. In the second quarter of 2012, the US prepaid segment surpassed 100 million subscribers for the first time. The growth is attributable to slow economic conditions and the availability of smartphones and affordable data services under the prepaid segment. Despite the rise in the prepaid active subscriber base, however, the ARPU of this segment declined across carriers. The decline was more significant for carriers with revenue less than $5 billion as they continue to focus on price reductions to attract customers.

The percentage of responding carriers' prepaid subscriber base that was active (service used within the month) as of June 30, 2012 and June 30, 2011 is shown in Figure 3.11. An average of 82 percent of subscribers were active as of June 30, 2012 compared with 79 percent as of June 30, 2011.

Figure 3.11: Prepaid active subscriber base as of June 30, 2012

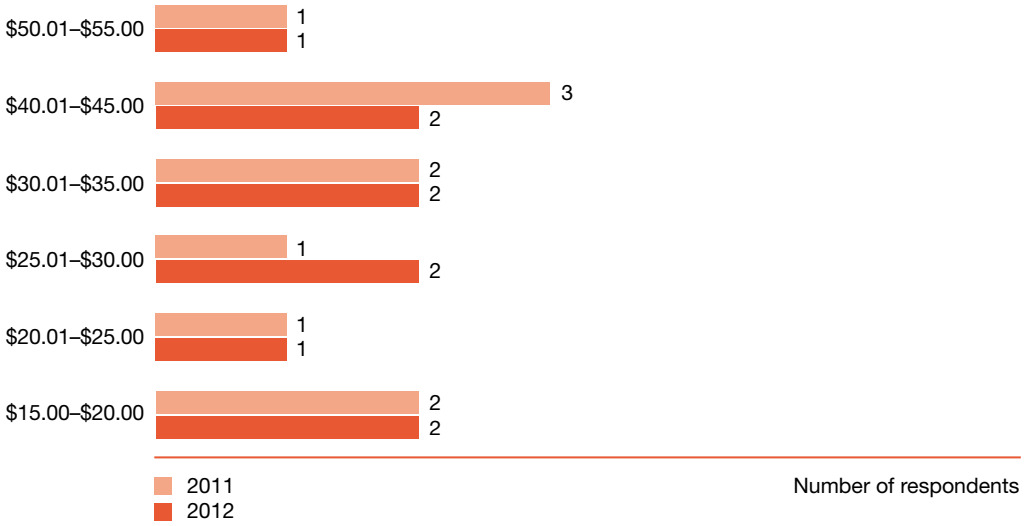


No responses were received in the less than 50% category in 2011 and 2012 or in the 50%–60% category in 2012.

For carriers with revenue greater than $5 billion, the monthly average of active prepaid subscribers was 84 percent as of June 30, 2012, compared with 82 percent as of June 30, 2011. For carriers with revenue less than $5 billion, the monthly average was 79 percent as of June 30, 2012, an increase from 76 percent as of June 30, 2011.

Figure 3.12 indicates the current monthly ARPU for total active prepaid subscribers as of June 30, 2012 and June 30, 2011. The average ARPU of active prepaid subscribers for all responding carriers was $31.25 in 2012, compared with $33.33 in 2011, and higher than total prepaid ARPU of $25.52 (which includes all subscribers).

Figure 3.12: Prepaid ARPU for active subscribers as of June 30



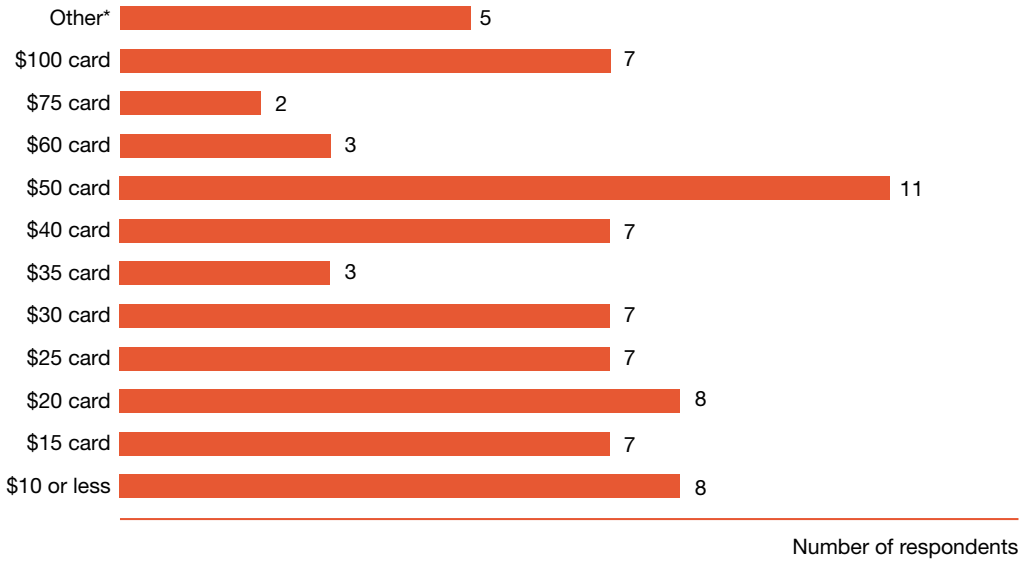
No responses were received in the less than $15.00, $35.01–$40.00 and $45.01–$50.00, categories for 2011 and 2012.

For carriers with revenue greater than $5 billion, the average monthly ARPU for total active prepaid subscribers was $24.43 as of June 30, 2012, compared with $25.10 as of June 30, 2011. For carriers with revenue less than $5 billion, the average was $41.48 as of June 30, 2012, compared with $45.67 as of June 30, 2011.

Prepaid cards

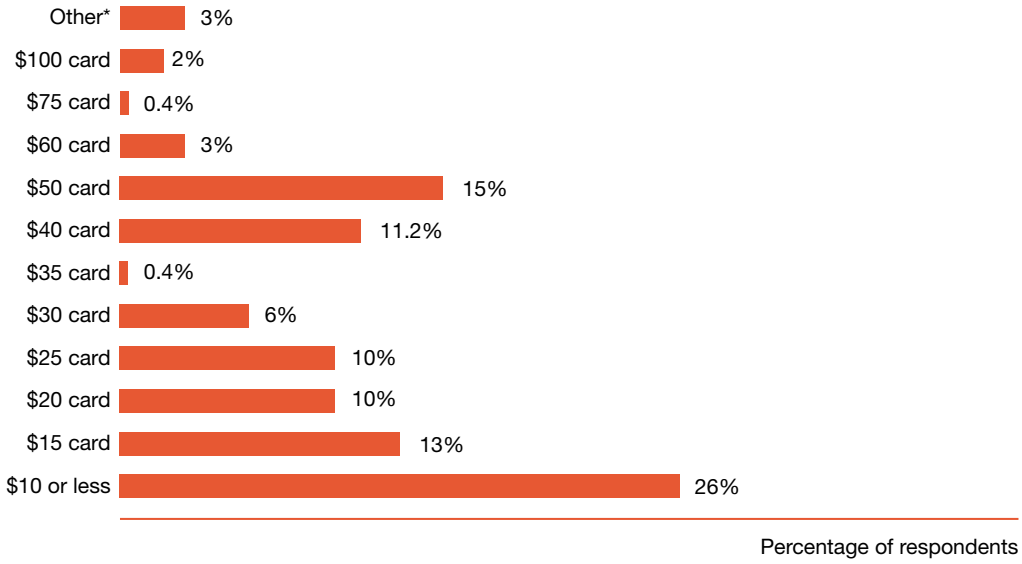
Figures 3.13 and 3.14 indicate the number of responding companies that sell prepaid cards (both physical cards and those sold online) with face values in each value category and the average percentage of monthly cards sold in each value category.

Figure 3.13: Face value of prepaid cards sold



*Other includes cards with face values ranging from $11 to $90, including open values within the range.
Chart totals greater than the number of responding companies because multiple responses were allowed.

Figure 3.14: Percentage of total monthly prepaid cards sold by value category



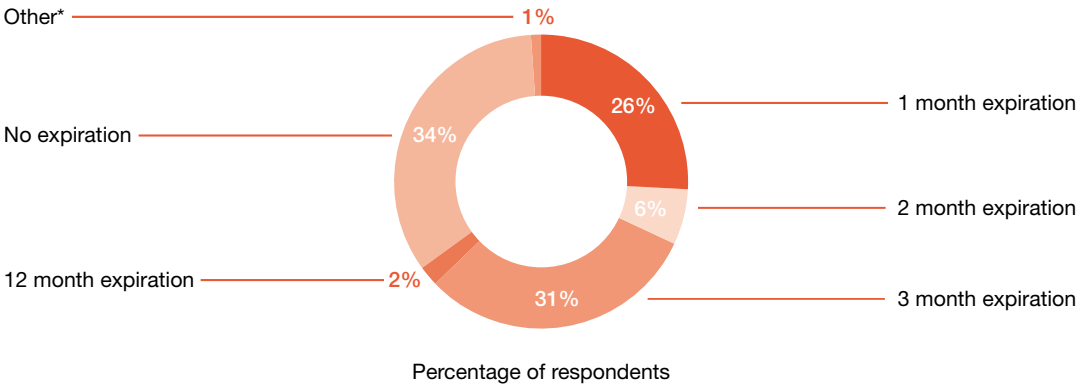
*Other includes cards with face values ranging from $11 to $90, including open values within the range.

According to the survey results, there was low variation among carriers in terms of face value of prepaid cards sold, but the percentage of total monthly prepaid cards sold was skewed toward cards with a face value of $10 or less. This may be due to lower affordability for prepaid customers and slow economic conditions.

Carriers were asked if the value of prepaid cards offered affected the expiration period. Of the responding carriers, only four indicated that the expiration period is affected by the value of the card.

Figure 3.15 illustrates the average expiration periods for prepaid cards/service usage that have been activated for the responding companies.

Figure 3.15: Expiration period for activated prepaid cards



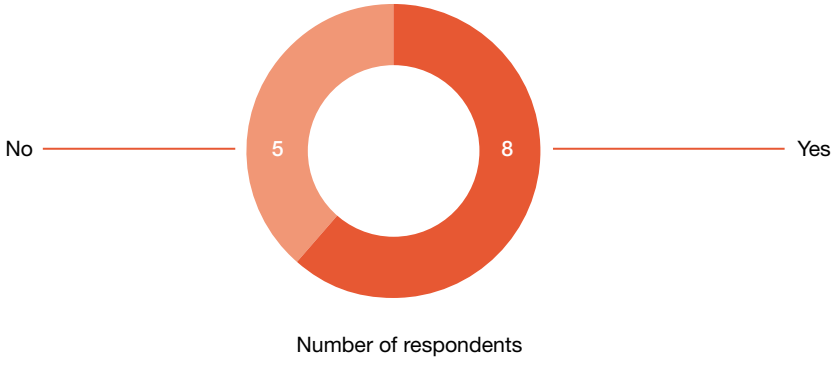
No responses were received in the 4 month and 6 month categories.
*Other includes 45 day and 75 day expiration periods.

Retention

Companies continue to focus on retaining current customers as penetration levels have increased. More than 60 percent of the prepaid carriers try to give incentives to customers with inactive or expired accounts in order to retain them; incentives such as free minutes and free prepaid cards may be helpful to some extent in retaining customers.

Figure 3.16 depicts the number of companies that offer incentives to prepaid subscribers when accounts are inactive or expired to keep the subscriber active.

Figure 3.16: Carriers that offer incentives to prepaid subscribers



Incentives offered by responding carriers ranged from free minutes of use/top-up minutes and free prepaid cards to bill credits. Other incentives offered include free additional services, free gift cards and accessories, free upgrades or devices, and modified rate plans.

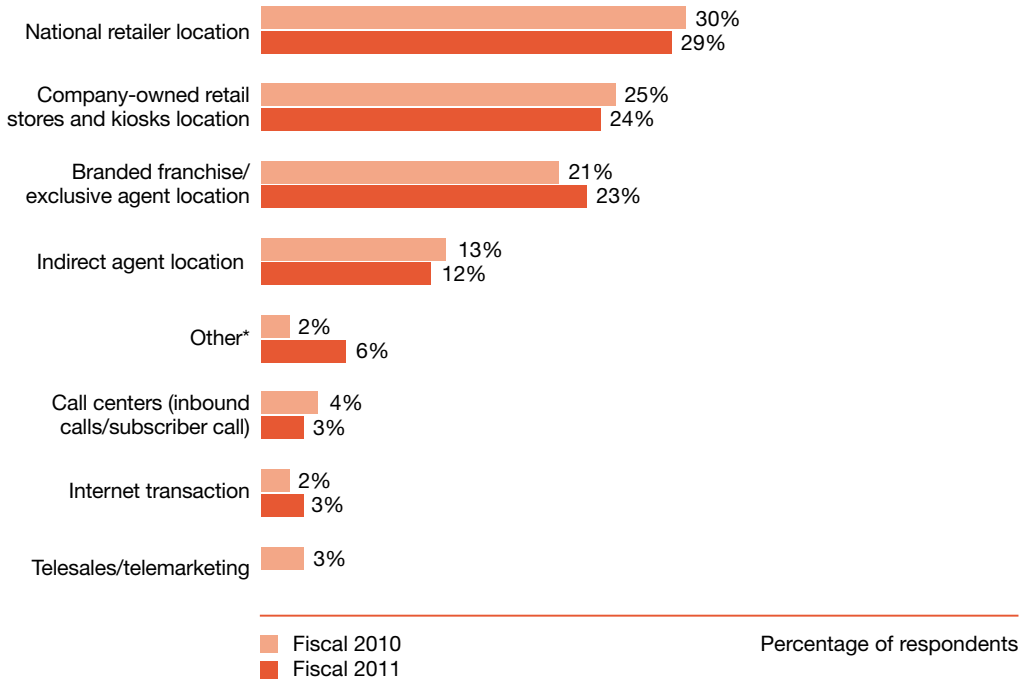
Six of the carriers surveyed offer retention credits to inactive or expired accounts during 30 to 150 days after the accounts have become inactive or expired. The remaining carriers do not offer retention credits to inactive accounts.

We asked carriers to indicate whether they offer a re-activation incentive to an inactive or expired subscriber before the account would be included as terminated/disconnected for purposes of calculating churn (the company resets at the point of the accepted offer the subscriber's inactive activity, not counting that subscriber as terminated/disconnected, and thus increasing the life of the subscriber). Of the responding carriers, only four participate in this type of program.

Activation channels

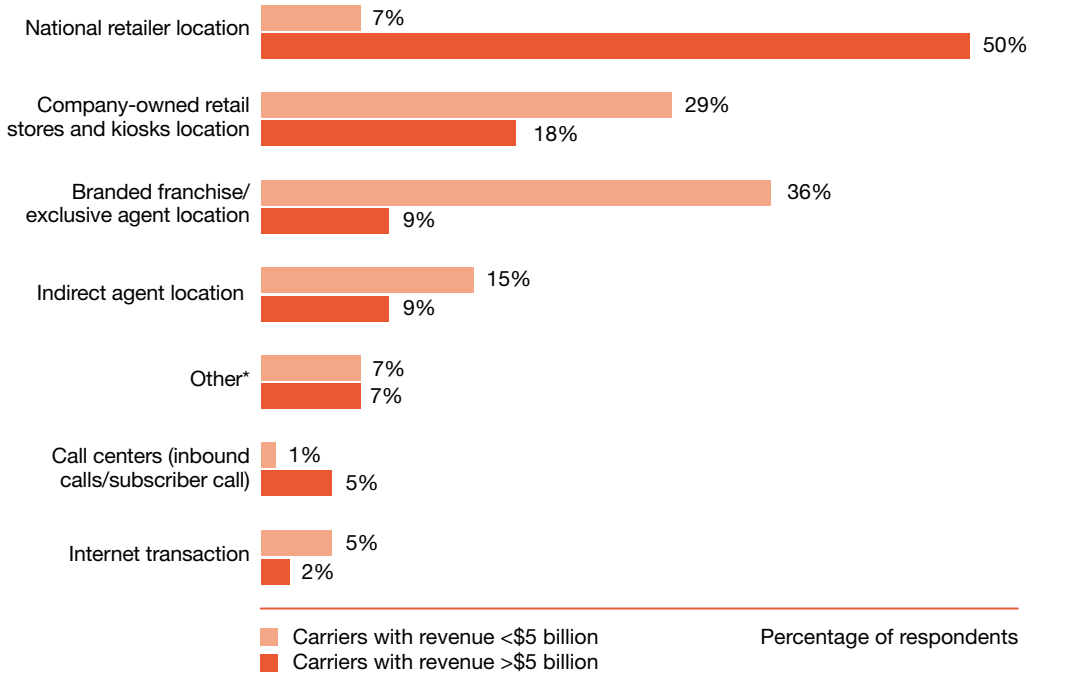
Carriers use various sales channels to acquire prepaid subscribers and to allow prepaid subscribers to replenish service. We asked companies to indicate the percentages of their prepaid subscribers whom they acquire through each of the different sales channels for fiscal 2011 and fiscal 2010. Their responses are illustrated in Figures 3.17 and 3.18 depicting fiscal 2011 versus fiscal 2010 and based on the size of the carriers with revenue greater than and less than $5 billion.

Figure 3.17: Prepaid sales activation channels



*Other includes Assurance Wireless direct mail, VAD/OEM, online retailers, Web, and Lifeline.
No responses were received in the Telesales/telemarketing category for 2011.

Figure 3.18: Prepaid sales activation channel as of fiscal year 2011

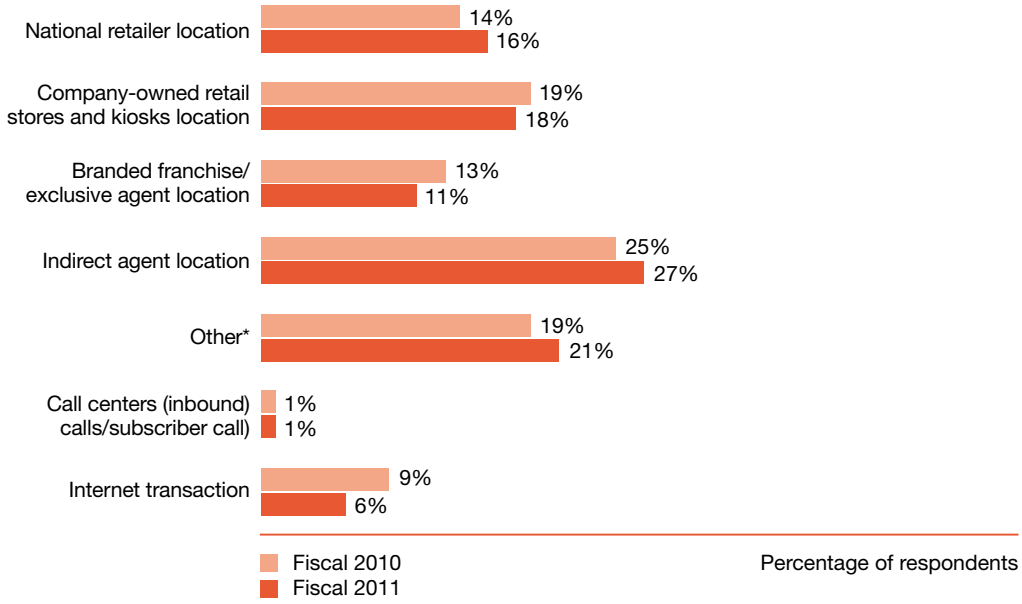


*Other includes Assurance Wireless direct mail, VAD/OEM, online retailers, Web, and Lifeline.

The activation channels did not show a significant change on a year over year basis for the carriers in the revenue categories. For carriers with revenue greater than $5 billion, there was an increase in national retailer location to 50 percent from 46 percent the previous year, which came from a slight decrease in company-owned retail stores and kiosks and branded franchise/exclusive agent locations. The branded franchise/exclusive agent locations increased to 36 percent from 32 percent in the previous year for the carriers with revenue less than $5 billion, and national retailer locations decreased to an average of 7 percent from 12 percent over the same time period.

The percentage of subscriber replenishments made through the various channels in fiscal 2011 and fiscal 2010 is shown in Figure 3.19. The results for fiscal 2011 are not significantly different from those of fiscal 2010.

Figure 3.19: Prepaid subscriber replenishment channels

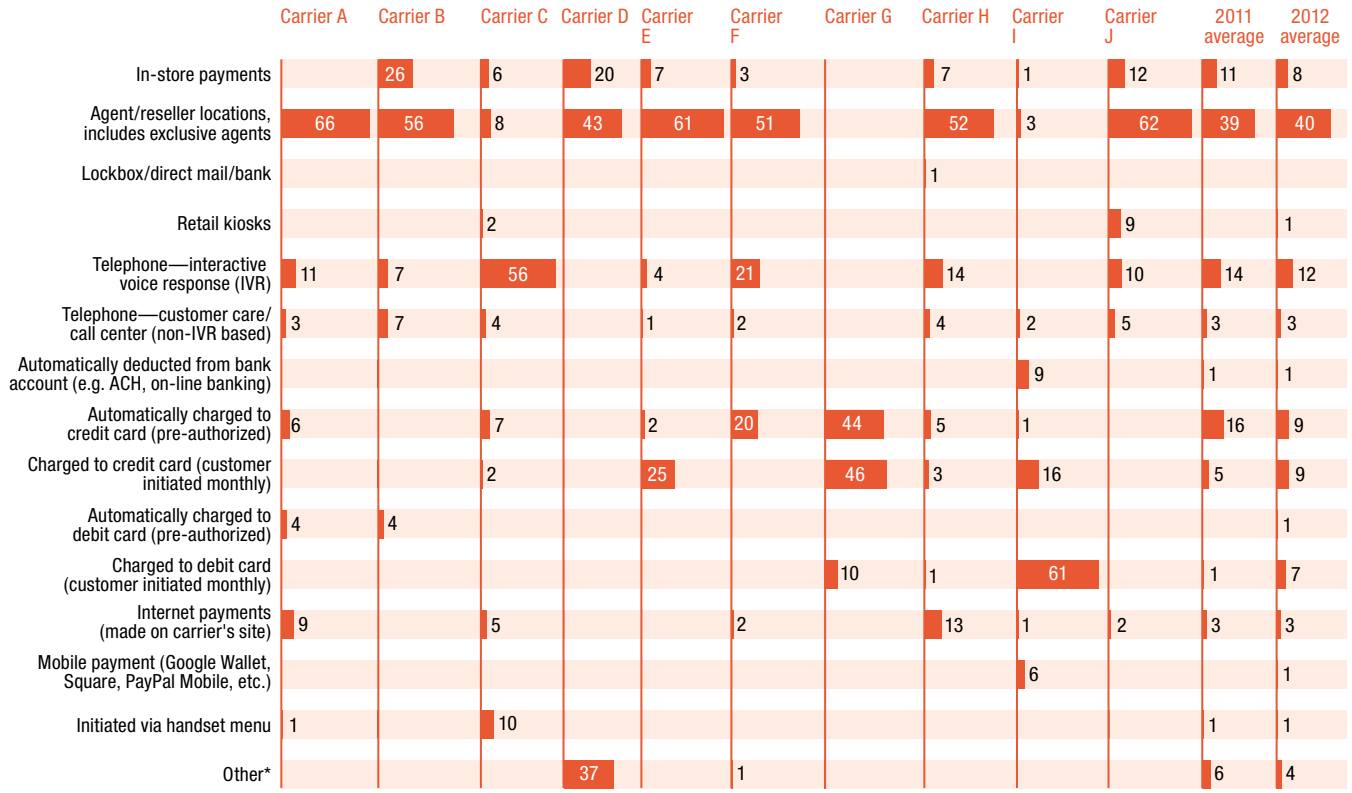


*Other includes auto-replenishment, activation promotion and airtime cards.

Payment channels

Carriers offer multiple ways for subscribers to pay for their prepaid services. Figure 3.20 shows the percentage of payments received through the various payment channels. Consistent with previous years, the agent/reseller channel continues to be the largest method of payment, totaling approximately 40 percent of all payments made. The payment channels have remained relatively consistent with the 2011 survey results.

Figure 3.20: Prepaid subscribers' payment channels

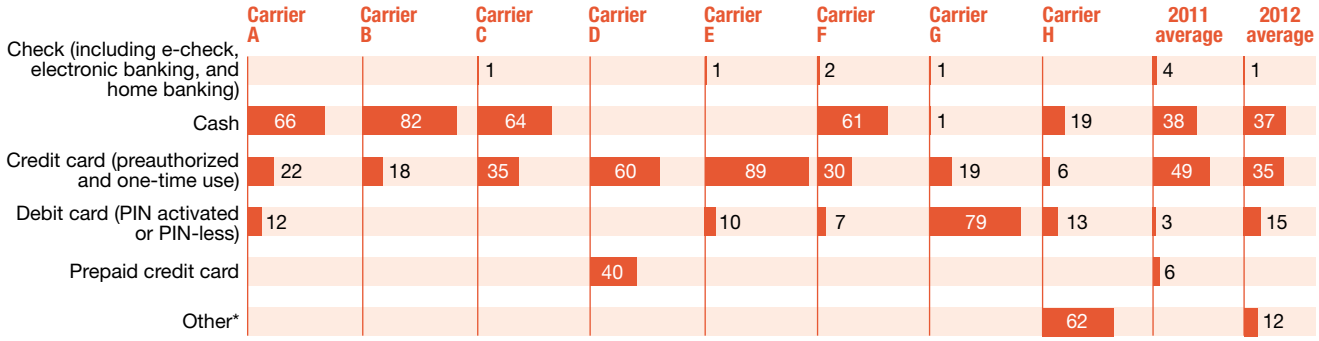


*Other includes prepaid cards, airtime cards and third-party sites.

Payment methods

Figure 3.21 shows the various payment methods used by carriers' prepaid subscribers, regardless of payment location. Cash became the method of choice, with an average of approximately 37 percent, and credit cards are also used at least 35 percent of the time (credit cards were the method of choice in the 2011 survey, at 49 percent).

Figure 3.21: Methods of prepaid customer payments



*Other includes prepaid cards.

Smartphones

Smartphone handsets are becoming more and more popular; however, prepaid subscribers generally lag behind postpaid subscribers in adopting newer technology. Prepaid wireless providers are quickly adapting to widespread consumer demand for smartphones and wireless data. Until now, premium services and advanced handsets were primarily associated with the postpaid segment, while the prepaid service providers concentrated on aggressive and affordable pricing and basic services. But the trend is changing at a fast pace as more prepaid service providers are actively working to blur the line between the two segments. With more prepaid service providers now offering unlimited data plans, the shift of prepaid subscribers to smartphones is inevitable. This shift is evident from the survey results, which show that the prepaid smartphone subscriber base increased across carriers.

As of June 30, 2012, all responding carriers offered smartphones to their prepaid subscribers, compared with only 73 percent as of June 30, 2011. An average of 21 percent of the prepaid subscriber base utilized a smartphone as of June 30, 2012, compared with 12 percent as of June 30, 2011. These subscribers contributed, on average, $39 to ARPU as of June 30, 2012, compared with $41 as of June 30, 2011. Figure 3.22 illustrates the average percentage of prepaid subscribers using smartphones as of June 30, 2012 and June 30, 2011.

Figure 3.22: Average percentage of prepaid subscriber base using smartphones as of June 30

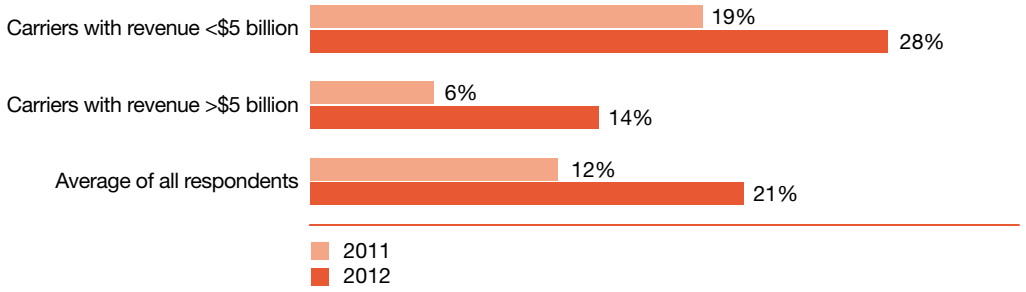
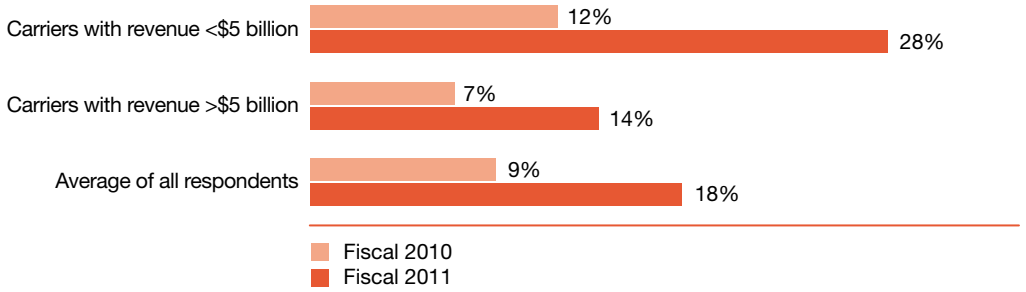


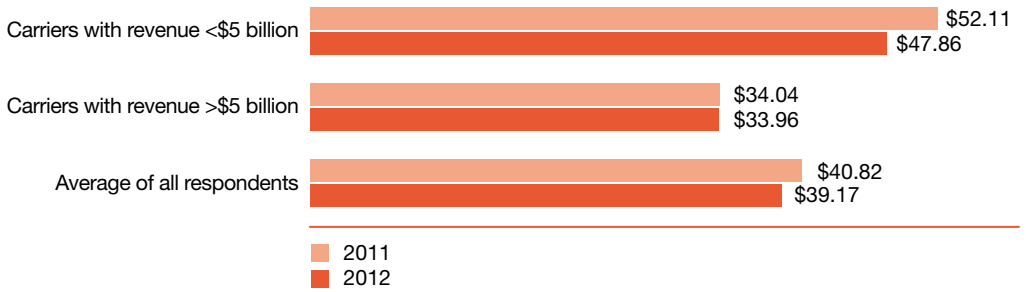
Figure 3.23 depicts the average percentage of new prepaid phone sales represented by smartphones in the most recent fiscal year (2011) and the previous fiscal year (2010). Average smartphone sales as a percentage of new prepaid phone sales also increased significantly across carriers.

Figure 3.23: Average smartphone sales as a percentage of new prepaid phone sales



The average ARPU of prepaid subscribers using smartphones as of June 30, 2012 and June 30, 2011 is included in Figure 3.24.

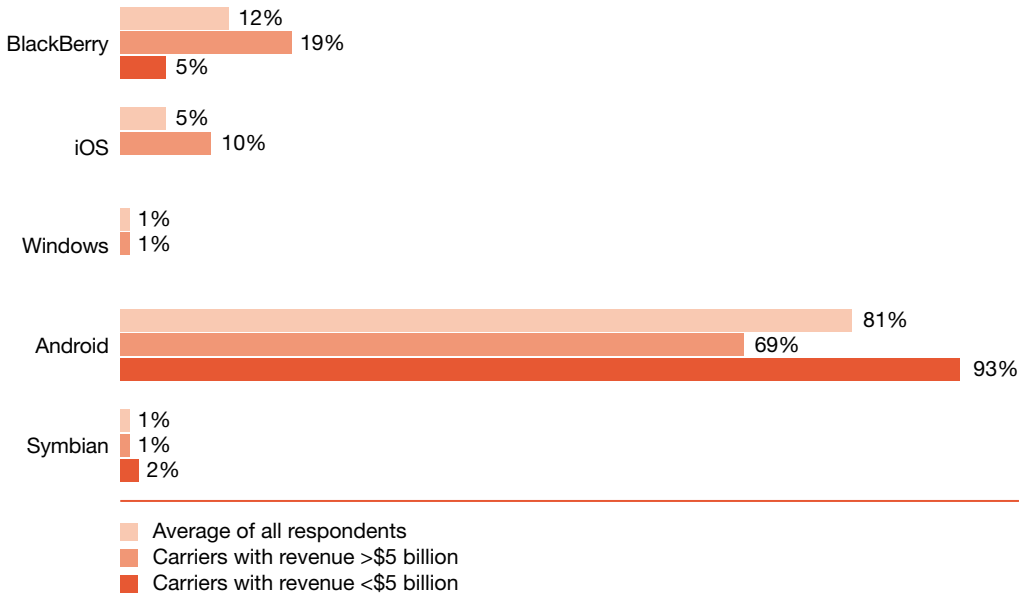
Figure 3.24: Average ARPU of prepaid subscribers using smartphones as of June 30



The average megabytes (MBs) per subscriber increased to 501 MBs as of June 30, 2012, compared with 331 MBs in the 2011 survey for prepaid smartphone subscribers. Average monthly smartphone data usage ranged from 84 MBs to 1,310 MBs as of June 30, 2012.

The companies indicated that their prepaid wireless subscribers use various operating systems. Figure 3.25 indicates the percentage of prepaid smartphone subscribers operating on the available operating systems as of June 30, 2012. Android is the most widely used operating system, with an average of 81 percent of prepaid subscribers using it, consistent with the overall industry trend, with 55 percent of postpaid subscribers using the Android system. Android overall is an open system with a lower cost.

Figure 3.25: Operating systems used for prepaid smartphones as of June 30, 2012



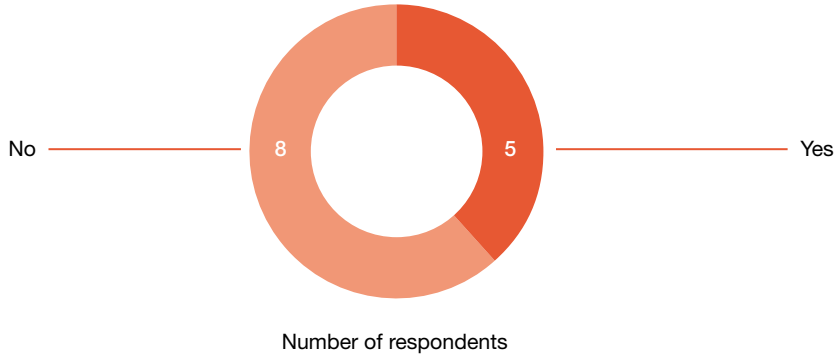
No responses were received in the Windows or iOS category for carriers with revenue <$5 billion.

Tablets

Most carriers still do not offer prepaid data tablet services. Tablet users tend to consume large amounts of data and so have higher monthly data bills, which prepaid subscribers historically have not supported.

The number of respondents who offer a prepaid data tablet and related service as of June 30, 2012 is shown in Figure 3.26.

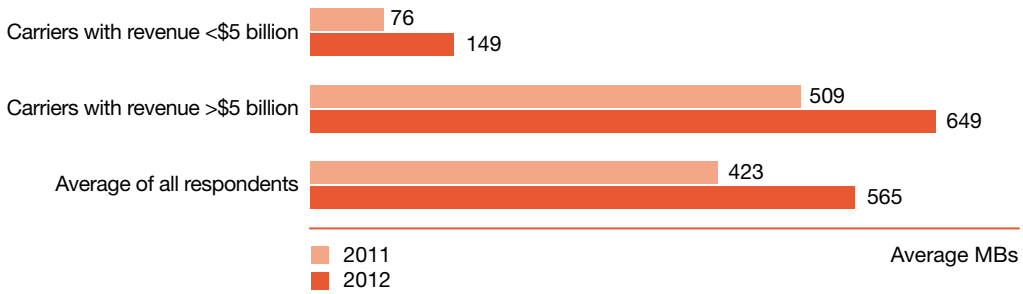
Figure 3.26: Carriers that offer a prepaid tablet and related data service as of June 30



The five respondents who do offer a prepaid data tablet and related data service to prepaid subscribers offer between one and nine tablet options. The average ARPU for prepaid tablet subscribers as of June 30, 2012 was $28.04. Total tablet subscribers within the prepaid subscriber base ranged from 45,000 to 2.2 million as of June 30, 2012.

Figure 3.27 depicts the average MBs per prepaid "mobile broadband" subscriber as of June 30, 2012 and June 30, 2011.

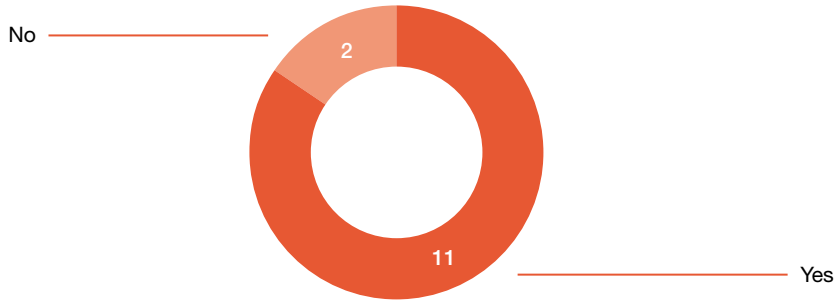
Figure 3.27: Average Megabytes (MBs) per mobile broadband prepaid subscriber as of June 30



Devices

With most carriers offering minimal to no subsidy on prepaid handsets purchased through them, most carriers allow their subscribers to use their own devices on the carrier's network. The number of responding carriers who allow a prepaid customer to use their own device for service on the carrier's network (i.e., customers that bring their own device) is indicated in Figure 3.28.

Figure 3.28: Carriers that allow prepaid subscribers to bring their own device



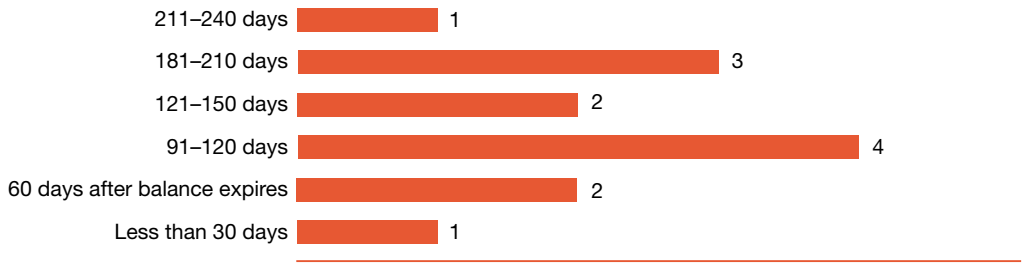
Carriers were asked what percentage of their subscriber base as of June 30, 2012 had service on their network through a device that was not purchased from them. Five carriers responded, indicating that the average percentage is 18.34 percent.

Disconnection and zero balance accounts

Twenty-seven percent of responding companies indicated that their prepaid cards have an expiration period or expiration date if they have not been activated, which is a significant decrease from 45 percent in the 2011 survey. For these companies whose prepaid cards expire, the expiration periods range from 90 days to 18 months, and could vary based on refill PIN card.

We asked companies how long they wait before disconnecting service if a prepaid customer account has no activity. Figure 3.29 depicts the average waiting period before disconnecting inactive accounts for prepaid subscribers.

Figure 3.29: Waiting period before disconnecting inactive accounts*



*The waiting period can depend on the type of plan (i.e., unlimited versus monthly).
No responses were received in the 30–59 days, 61–90 days or 151–180 days categories.

The time during which customers can have a $0 balance in their prepaid account before the service will be disconnected is illustrated in Figure 3.30.

Figure 3.30: Days to disconnect accounts with zero balance

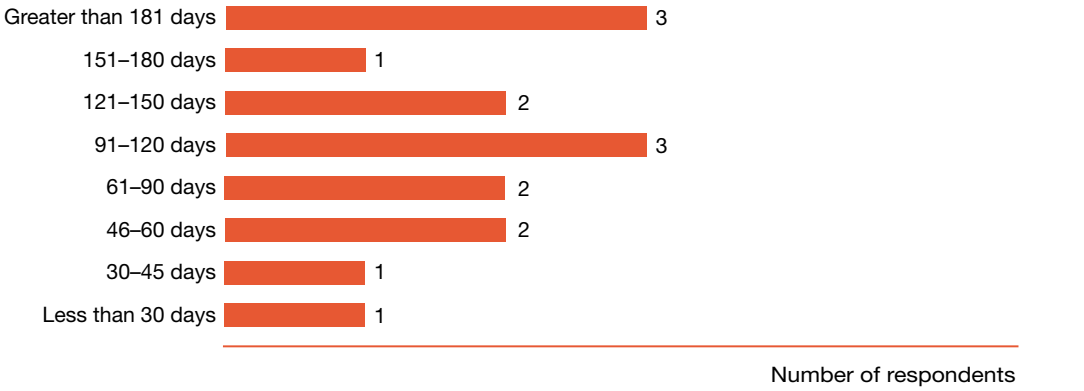


Chart totals greater than the number of responding companies because multiple responses were allowed.

Twelve of the 13 responding carriers indicated that after they disconnect service, the subscribers forfeit any remaining balance and revenue is recognized.

We asked companies if they offer a grace period to subscribers to reactivate an account with the same phone number. Seven companies indicated that they do offer a grace period. Figure 3.31 indicates the length of the grace period offered for subscribers to reactivate an account with the same phone number.

Figure 3.31: Grace period

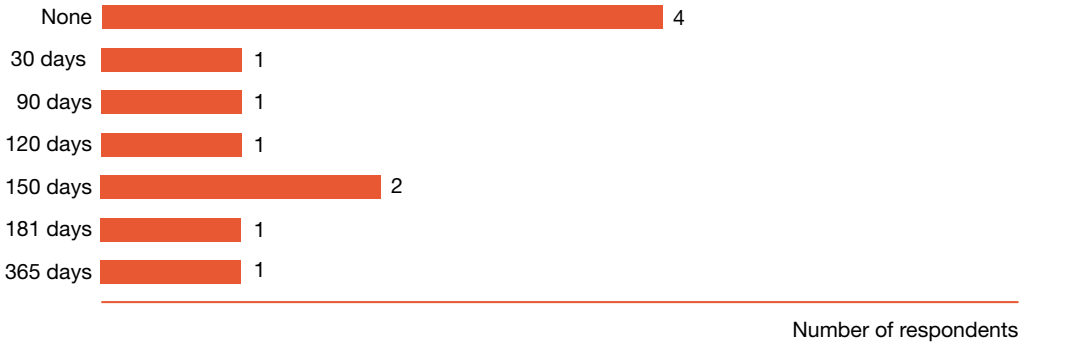


Chart totals greater than the number of responding companies because multiple responses were allowed.

We asked companies if they factor in any breakage (prepaid minutes sold but never redeemed by the subscriber) for inactivated/expired cards upon sale and recognize revenue immediately. Ninety-two percent of responding carriers do not factor in any breakage for inactivated/expired cards. One company does factor in breakage and uses 1.375 percent to calculate it.

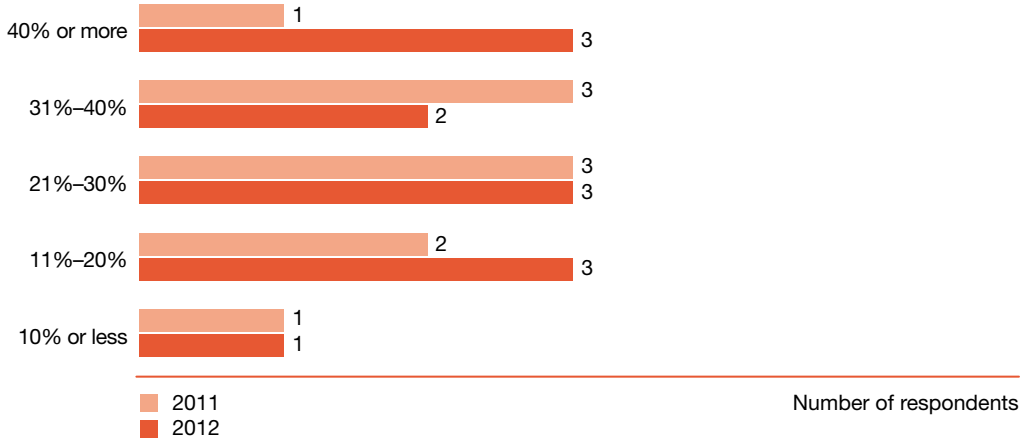
The responding carriers recognize breakage in a variety of ways, ranging from recognizing revenue after a period of time to escheating the revenue based on the applicable laws in each state. For respondents that recognize revenue over time, that period ranged from one to 24 months, with an average period of ten months. Also, the period of time over which the revenue is recognized depends upon the expiration date of the prepaid card for several carriers.

We asked companies how they account for activated but unassociated cards (cards not associated with an account or device). For carriers that have cards that have not been associated with an account or device, seven of the responding carriers recognize the revenue after a period of time. This period of time varies from 12 to 60 months and can depend upon the expiration date associated with the card.

Prepaid data services

We asked companies if they offer prepaid data services to their customers and if that revenue is tracked separately. All of the companies surveyed offer data services to their prepaid subscribers, 12 of which track the data revenue separately and one which does not. Data services have been growing over the last several years but stabilized between June 30, 2011 and June 30, 2012 for prepaid. For all respondents, the average of total prepaid service revenue generated by data services was 32 percent as of June 30, 2012, consistent with the 32 percent as of June 30, 2011. Figure 3.32 shows the percentage of prepaid revenue that carriers have generated from data services in the past two years as of June 30.

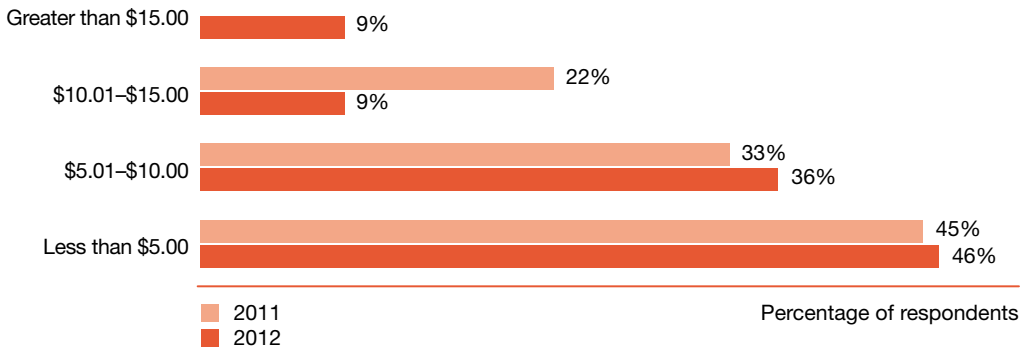
Figure 3.32: Percentage of prepaid service revenue generated by data services as of June 30



For carriers with revenue greater than $5 billion, an average of 28 percent of total prepaid service revenue was generated by data services as of June 30, 2012, and 26 percent as of June 30, 2011. These increases in data revenue were derived from an increased penetration of smartphones and better pricing strategies, which more than offset the decline in voice and SMS revenue. For carriers with revenue less than $5 billion, an average of 37 percent was generated in 2012, down from 41 percent in 2011.

In dollar terms, prepaid data services are contributing consistently to overall prepaid ARPU in 2012, compared with 2011, with an average of $7.10 as of June 30, 2012, compared with $7.55 at June 30, 2011. Figure 3.33 shows that 55 percent of respondents indicated data services contribute greater than $5 to overall prepaid ARPU in 2012, compared with 56 percent in 2011. In comparison, for postpaid subscribers, all responding carriers indicated that monthly data ARPU now exceeds $15 per user as of June 30, 2012.

Figure 3.33: Average monthly contribution to prepaid ARPU by each prepaid subscriber as of June 30



No responses were received in the greater than $15.00 category for 2011.

Megabytes

Prepaid average megabytes increased significantly across carriers, in line with the industry trend of growing data consumption. The growth has been facilitated by availability of more affordable smartphones and data plans under the prepaid segment.

Participating carriers provided responses on average megabytes per prepaid subscriber per month as of June 30, 2012 and June 30, 2011 (including smartphones, mobile broadband, tablets, etc.). The data usage continues to increase for all responding carriers and grew by 65 percent on a year over year basis from 275 MBs as of June 30, 2011 to 454 MBs as of June 30, 2012. For carriers with revenue greater than $5 billion, the average MBs used was 357 MBs as of June 30, 2012, significantly higher than the 119 MBs used as of June 30, 2011. For carriers with revenue less than $5 billion, the average was 617 MBs as of June 30, 2012, also a significant increase from the 482 MBs used as of June 30, 2011.

Prepaid handset sales

All carriers but one responded that they use indirect/exclusive agents for the sale of handsets and service to prepaid subscribers. However, carriers differ in how they account for the prepaid handset sale. The differing methods by which carriers account for the sale of prepaid handsets to indirect agents is shown in Figure 3.34.

Figure 3.34: Method of accounting for prepaid handset sales

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Performance measures

The following pages cover performance measures for evaluating wireless company results.

Customer metrics
Subscriber costs
Customer retention and rebates
Mobile advertising
Network costs
Billing
Credit and collections
Revenue assurance and fraud management

Customer metrics

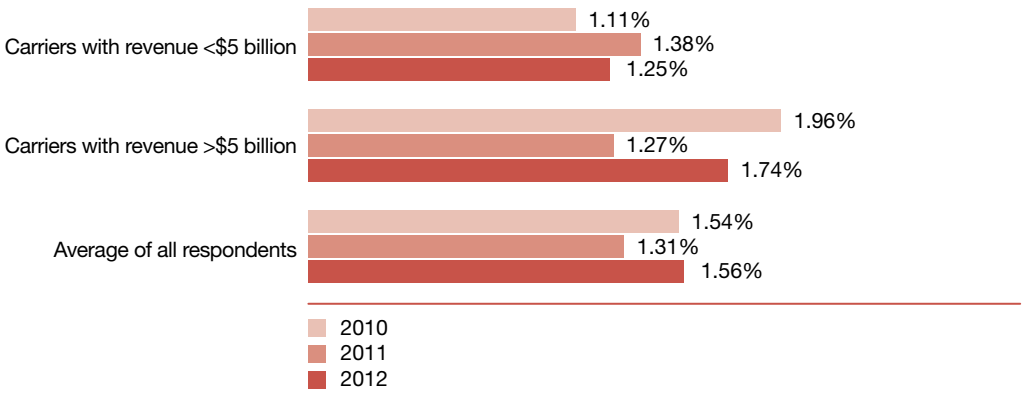
We asked companies how they define minutes of use (MOU). Fifty-four percent of the respondents defined MOU as minutes per the switch—regardless of whether those minutes are ultimately billed to the customer—while 46 percent of the respondents defined MOU as only billed minutes (whether included as part of a plan or as additional non-packaged minutes). All responding companies round seconds used to the nearest minute of use. In addition, all the companies indicated that zero rated MOU (minutes for which no billing is associated because it is included within a plan or unlimited plans) are counted in the total MOUs and any minute reporting. As voice minutes decline and consumers spend more and more time on data-intensive applications (such as video, gaming, and mobile applications) carriers will begin to redefine the metrics used for evaluation and the definition of such metrics.

We asked the responding companies whether they charge for incoming calls and text messages. For carriers with revenue greater than $5 billion, all seven respondents indicated that they charge for incoming calls and text messages. For carriers with revenue less than $5 billion, two of the six respondents charge for incoming calls and only one respondent charges for incoming text messages.

We asked companies what percentage of their total service revenue was a result of roaming. The average of all respondents was 6.2 percent as of June 30, 2012, compared with 5.9 percent as of June 30, 2011. Carriers with revenue greater than $5 billion averaged 4.5 percent as of June 30, 2012 and 2011, while carriers with revenue less than $5 billion averaged 8.1 percent, up from 7.5 percent as of June 30, 2011. A rise in inter-regional travel, coupled with consumer demand for constant connectivity via data-hungry smartphones, is driving the demand for roaming services, which is partially offset by subscribers who either minimize or discontinue their use of mobile services while traveling internationally due to the high fees associated with usage.

We also asked companies their percentages of bad-debt expense to total service revenue. Average bad-debt expense was 1.56 percent as of June 30, 2012, compared with 1.31 percent as of June 30, 2011, likely an impact of the overall economic challenges that have continued, as well as high unemployment. Figure 4.1 compares bad-debt expense as a percentage of total service revenue for the past three years.

Figure 4.1: Bad-debt expense as a percentage of total service revenue



Figures 4.2, 4.3, and 4.4 show operating expense as a percentage of total service revenue; sales and marketing expense as a percentage of total service revenue; and earnings before interest, taxes, depreciation, and amortization (EBITDA) margin as a percentage of total service revenue as of June 30, 2012 and 2011. Operating expenses as a percentage of total service revenue have generally been increasing across all carrier sizes, driven in large part by higher network operations costs in such areas as rent, cell site backhaul for rapidly growing data connections, and utilities. While these increases have put pressure on EBITDA margins, they have been offset, at least in part, by more conservative spending on sales and marketing as the wireless industry has matured and total subscriber growth has slowed.

Figure 4.2: Operating expense as a percentage of total service revenue as of June 30

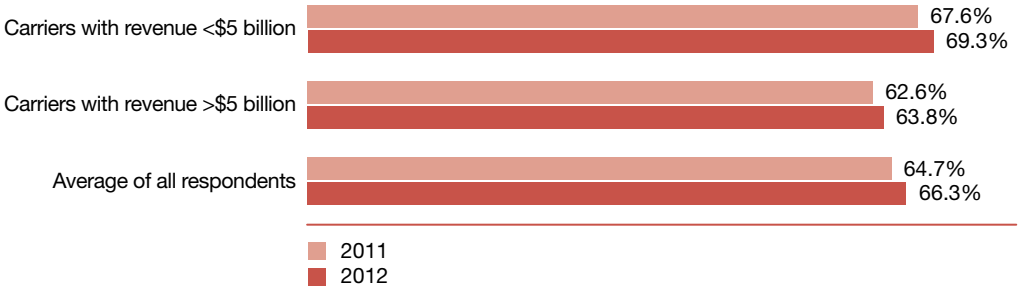


Figure 4.3: Sales and marketing expense as a percentage of total service revenue as of June 30

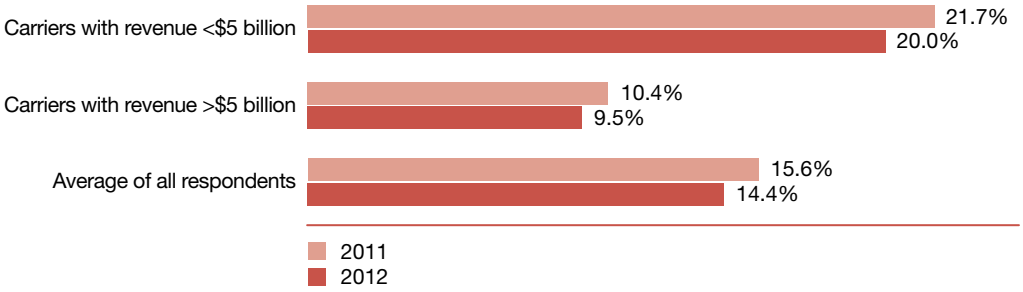
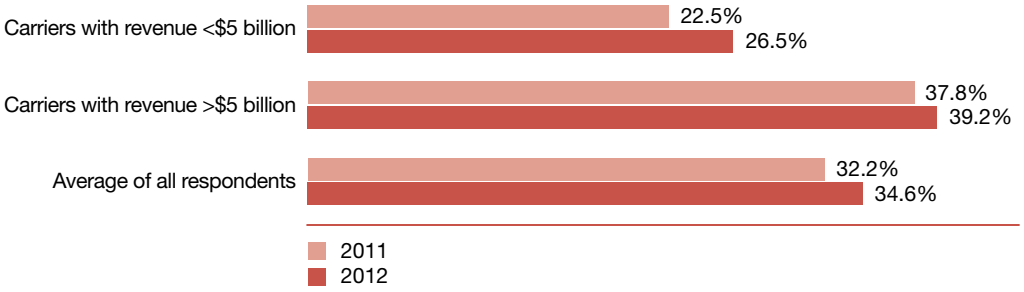


Figure 4.4: EBITDA margin as a percentage of total service revenue as of June 30

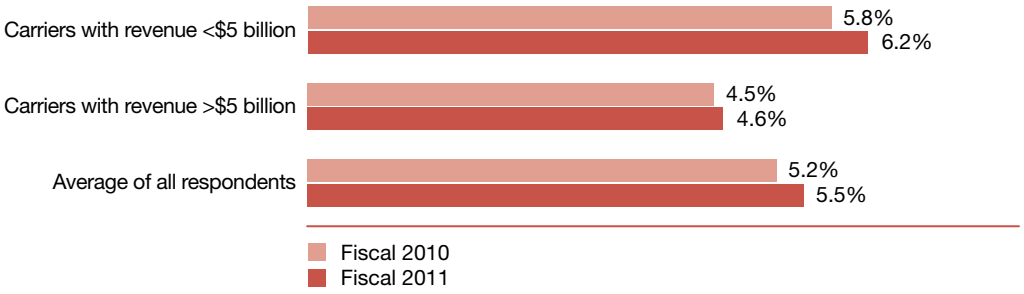


Improvement in EBITDA margins can be attributed to a rise in data ARPU, driven by growing demand for mobile data services. Emphasis on value-added services, such as mobile applications and m-commerce, has also helped the carriers in improving their bottom line.

Subscriber costs

Costs to obtain a new subscriber as well as maintain existing subscribers are significant in the industry. Figures 4.5, 4.6, and 4.7 show promotion expense (includes rebates, free products/services, accessories, etc.) as a percentage of total service revenue; commission expense as a percentage of total service revenue; and handset subsidies as a percentage of total service revenue for the responding companies for fiscal 2011 and 2010. While most subscriber acquisition costs saw relatively modest changes, handset subsidies continued to rise, particularly for larger carriers that have been the most aggressive in providing advanced smartphones to subscribers. The financing of this increased working capital has become problematic for the entire industry, with some carriers now starting to experiment with the unsubsidized sale of devices in exchange for lower service rates.

Figure 4.5: Promotion expense as a percentage of total service revenue



Promotion expense as a percentage of total revenue increased marginally for almost all the survey respondents. With more than 100 percent subscriber penetration, the wireless market is now highly saturated, making it difficult for carriers to add new subscribers and forcing them to spend more to attract them.

Figure 4.6: Commission expense as a percentage of total service revenue

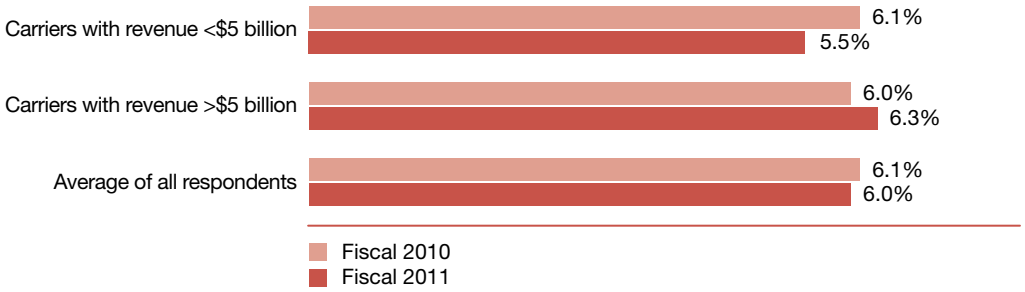
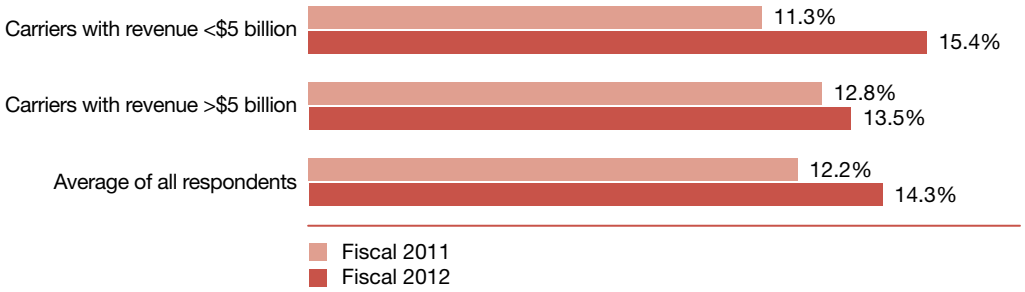


Figure 4.7: Handset subsidies as a percentage of total service revenue



Handset subsidies as a percentage of total revenue increased on a year over year basis. Increasing competition and the need to enhance data revenue are pushing carriers to offer higher handset subsidies.

Companies were asked to indicate the costs that they include in the numerator of their calculation of cost per gross addition when used as a performance measure. Figure 4.8 shows the elements used in the numerator for the calculation for the current year and in the 2011 survey.

Figure 4.8: Costs included in numerator of cost per gross addition

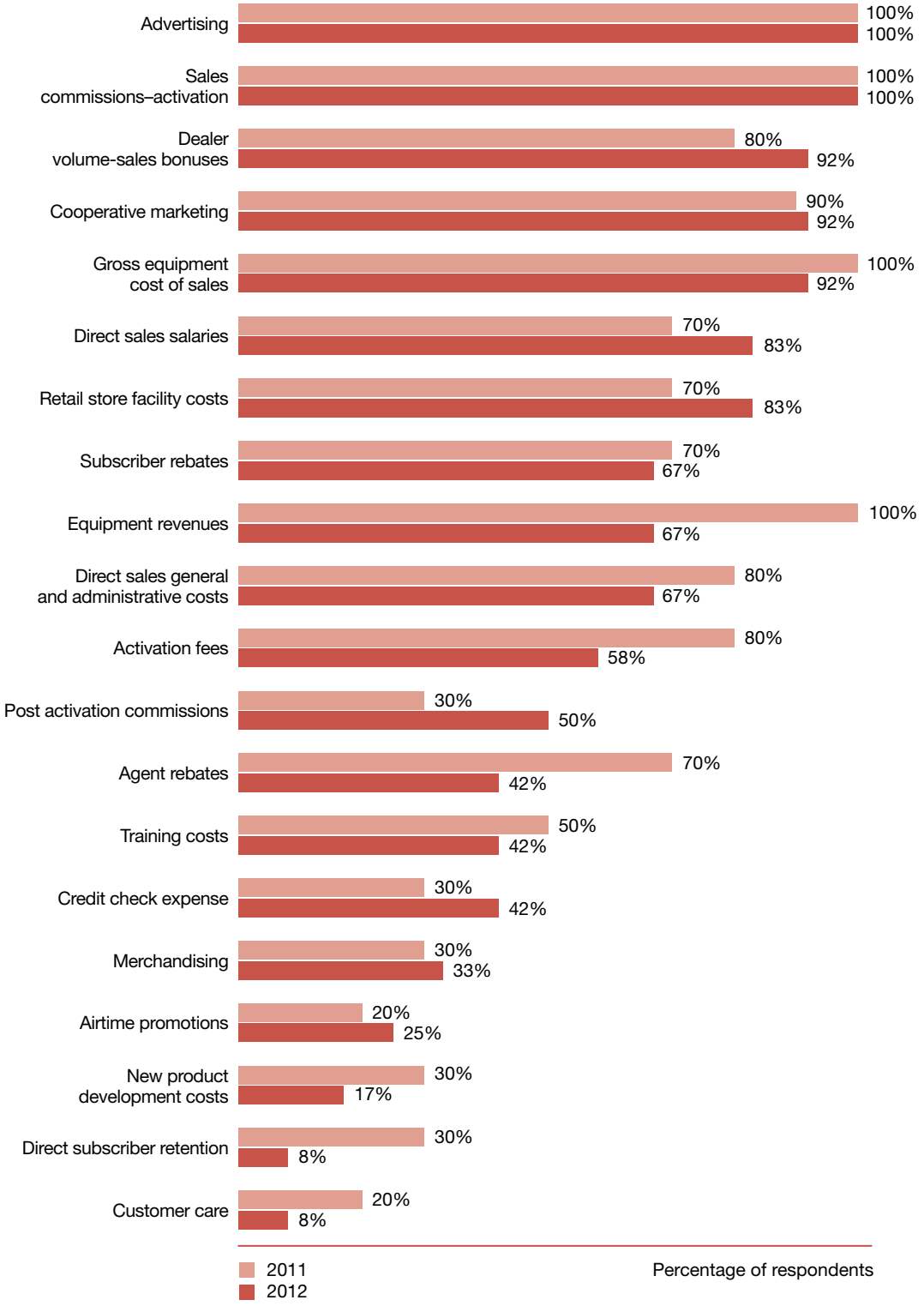
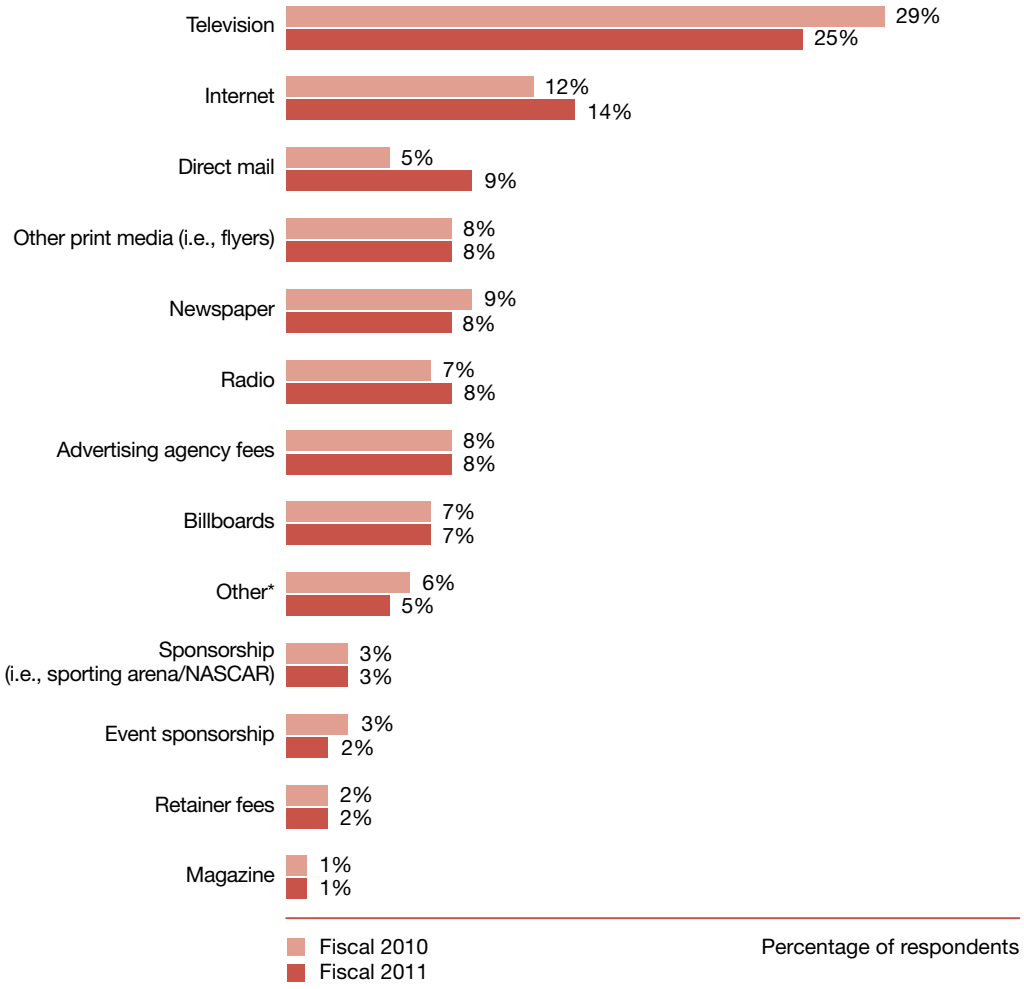


Chart totals greater than 100% because multiple responses were allowed.

The carriers were also asked which media outlet they used for advertising services. Figure 4.9 illustrates the average response by type of advertising for fiscal 2011 and 2010.

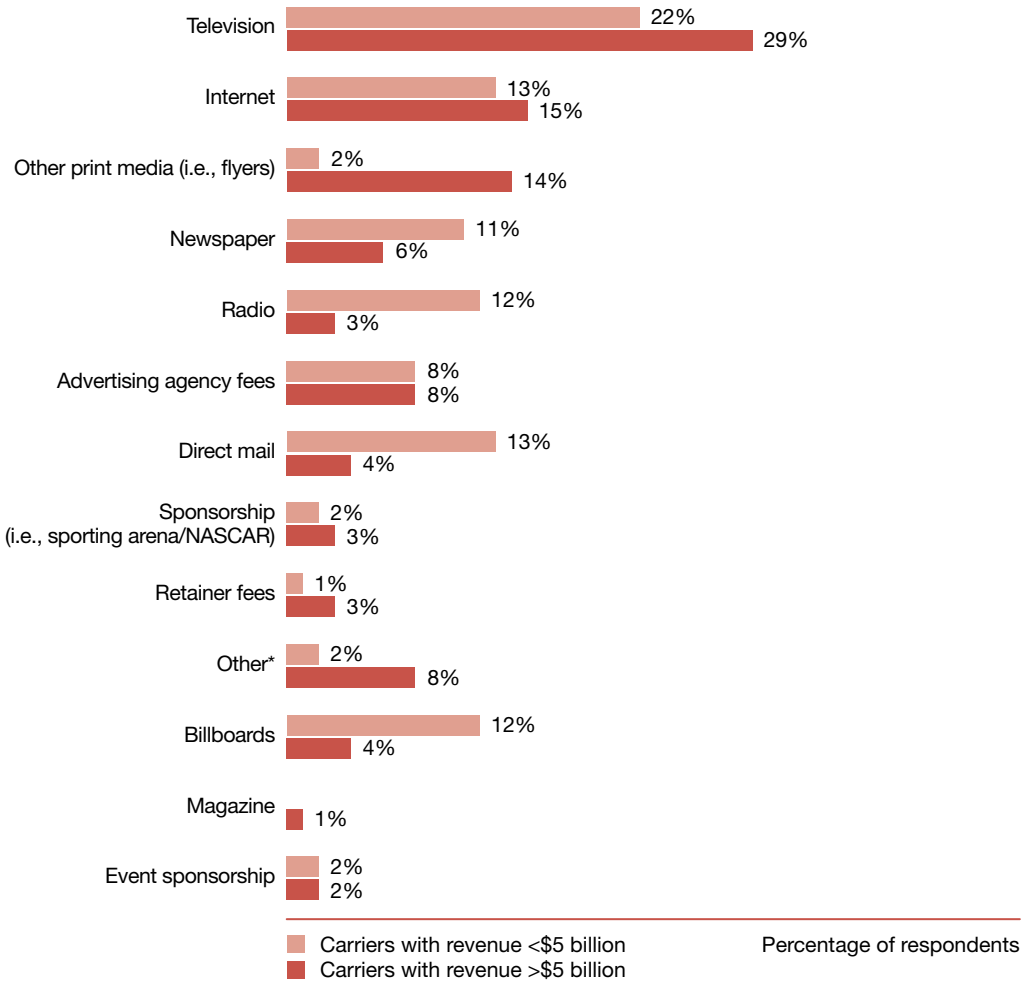
Figure 4.9: Advertising medium by year



*Other includes entertainment/production, cinema, co-op advertising, general promotion, and product development.

Advertising media spend split between carriers with revenue less than $5 billion and carriers with revenue greater than $5 billion is depicted in Figure 4.10. The overall trend and use of advertising by both categories of carriers is consistent with the 2011 survey.

Figure 4.10: Advertising medium by carrier



*Other includes entertainment/production, cinema, co-op advertising, general promotion, and product development.
No responses were received in the magazine category for carriers with revenue <$5 billion.

Apart from TV and Internet, which are popular across all carriers, carriers with revenuer greater than $5 billion primarily use other print media for their advertisements, while carriers with revenue less than $5 billion use newspapers, radio, direct mail, and billboards. Carriers with revenue less than $5 billion also use less of television when compared with carriers with revenue greater than $5 billion, which may be due to the higher cost of TV advertisements. The difference in advertising channels reflects the structure of the US wireless industry. While carriers with revenue greater than $5 billion typically dominate the national market, carriers with revenue less than $5 billion are mostly limited to certain geographies. As such, they rely more on local advertising media, such as newspaper, billboard, radio, etc.

Customer retention and rebates

Many manufacturers offer companies marketing development funds to encourage sales of their products. Of the responding companies that receive marketing development funds from their vendors, all classify these receipts as contra-expense, and the companies are evenly split on which line they use, either marketing expense or cost of sales. Figure 4.11 illustrates the incentives and services offered as customer subsidies by the respondents.

Figure 4.11: New customer incentives and services offered

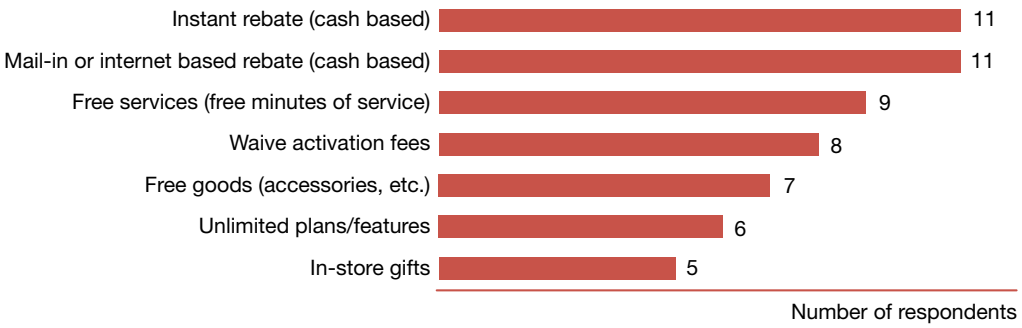


Chart totals greater than the number of responding companies because multiple responses were allowed.

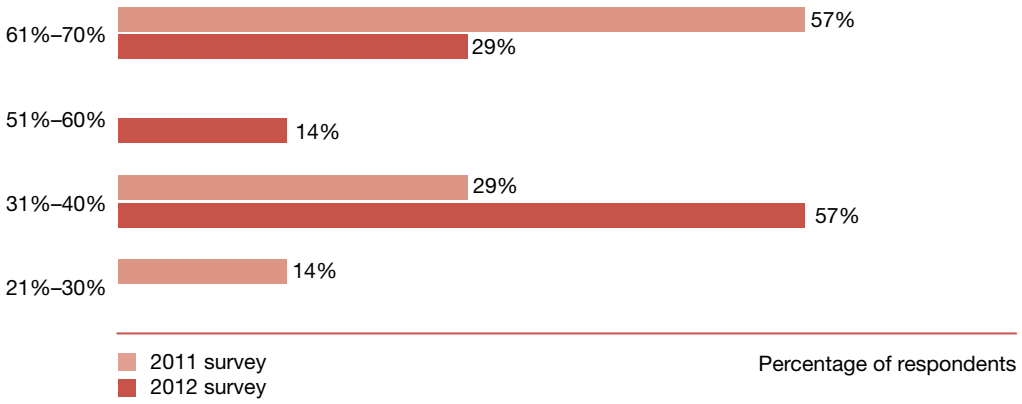
Many companies use mail-in rebates as a way of attracting new customers to buy their handsets. Of the responding companies, 54 percent, on average, offer mail-in rebates to their postpaid customers. Carriers with revenue greater than $5 billion offer mail-in rebates to 71 percent, compared with only 33 percent for carriers with revenue less than $5 billion. Of the companies that offer mail-in rebates, all respondents indicated that they use third-party providers to process mail-in rebate programs.

Rebate requirements vary widely among the responding companies; however, most companies surveyed require that customers return the product's rebate redemption form, receipt, and UPC. Other companies require the product's serial number, packaging slip, or customer bill.

Of the responding companies, 60 percent recognize a liability associated with mail-in rebates at activation, 30 percent recognize at the time of sale of the rebate eligible unit (not activation of the unit), and 10 percent recognize only when the form is redeemed.

The responding companies' average historical redemption rates for all mail-in rebate programs for all subscribers is depicted in Figure 4.12.

Figure 4.12: Average historical redemption rate for mail-in rebate programs



No responses were received in the 0%–20% category in 2011 and 2012, the 21%–30% category in 2012, the 41%–50% category in 2011 and 2012 or the 51%–60% category in 2011.

Figure 4.13 shows the average redemption rate for responding companies for each dollar value range of mail-in rebate programs.

Figure 4.13: Mail-in rebate historical redemption rate

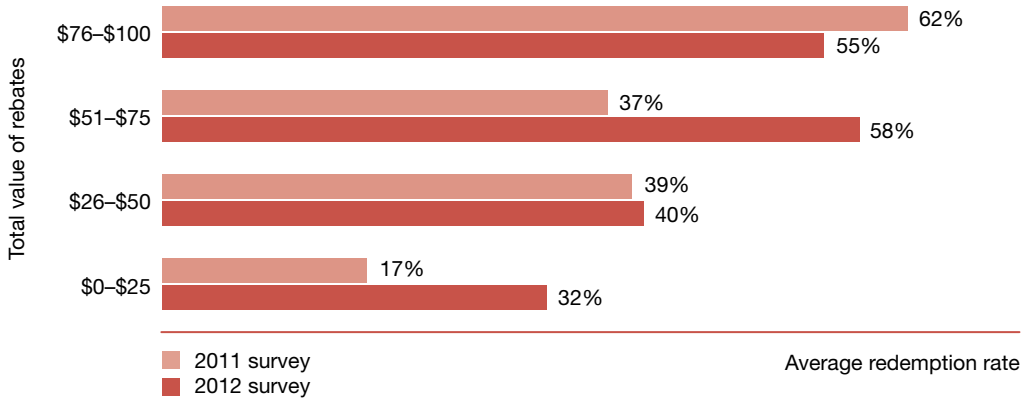


Chart totals greater than 100% because respondents provided redemption rates in each category.

The dollar value of instant rebates offered is illustrated in Figure 4.14.

Figure 4.14: Dollar value of instant rebates offered

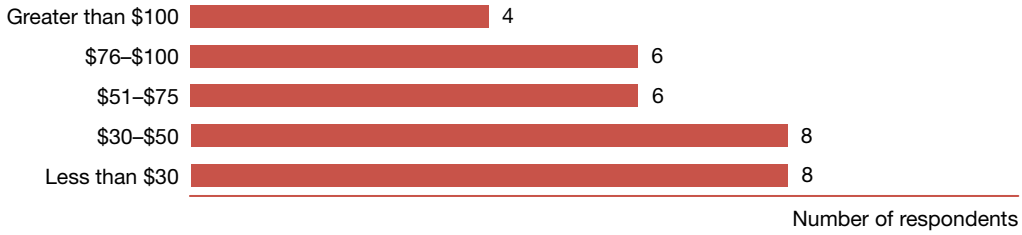


Chart totals greater than the number of responding companies because multiple responses were allowed.

Many companies team with their handset and accessory vendors to provide joint rebates to subscribers who purchase handsets or accessories. Often, these rebates are sponsored by the manufacturer, such that the manufacturer reimburses the carrier for the specified amount of redemptions under the program, or administrates the program directly. Seven of the nine responding carriers who participate in joint rebate programs recognize a liability when the related revenue is recognized, and two carriers never record a liability. Responses indicated that the reimbursements are recorded as a reduction of costs of revenue for seven carriers, with two recording them as equipment revenue. In addition, six companies indicated that they classify the cost incurred in connection with these joint or sponsored mail-in rebate program(s) on the income statement as a reduction in equipment revenue, while two carriers include it in cost of equipment and one in marketing expense.

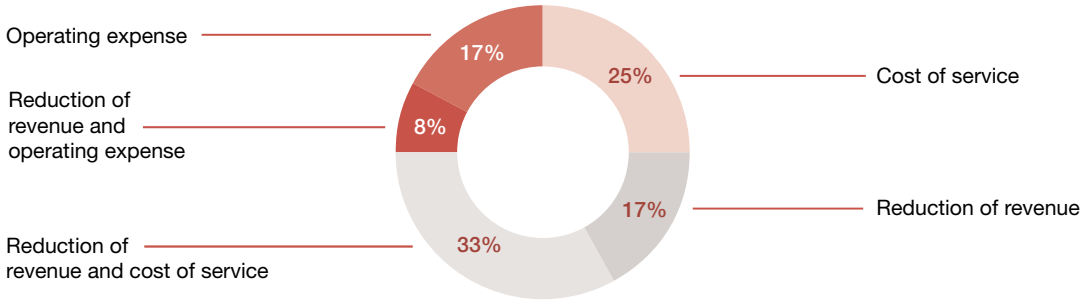
Mobile advertising

As it matures, the revenue stream from mobile advertising is becoming an increasingly important and critical opportunity for mobile network operators. While still insignificant when compared with subscriber revenues, mobile advertising represents a significant opportunity to offset costs and garner incremental margin on the existing subscriber base. We expect that additional operators will begin to establish focused business units aimed at preserving and growing the mobile advertising revenue stream in the future.

Of the responding companies, 69 percent recorded revenue related to mobile advertising. Fifty percent of those respondents indicated they recognize mobile advertising revenue by using the net method (record the net impact only for the revenue and associated cost), and the remaining 50 percent indicated they use the gross method (recognize gross revenue and gross costs).

Ninety-two percent of the responding companies' subscribers can access third-party content through their handsets that the company does not source (such as through a short-code SMS/text, m-sites, or a premium rate), compared with 75 percent in the 2011 survey. Figure 4.15 illustrates how the respondents account for the revenue share payment made to the third-party content provider.

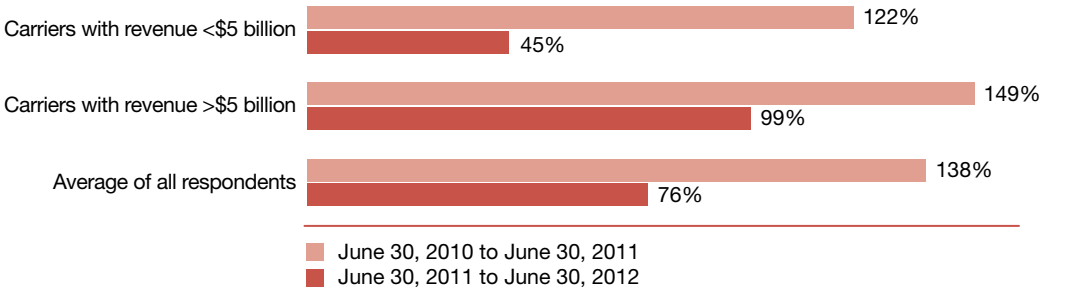
Figure 4.15: Revenue share payment made to third-party content providers



Network costs

Companies are continuing to experience heavier network traffic as the demands of consumers increase and the availability of advanced data services expands. We asked companies about the increase in their network traffic between June 30, 2011 and June 30, 2012, and between June 30, 2010 and June 30, 2011; the results are included in Figure 4.16. Notably, overall traffic growth has slowed significantly from the rapid rate of increase seen in recent years, with operators reporting as much as a 60 percent reduction in their rate of traffic growth. While it is too early to tell if this slowdown is an indication of a maturing industry and a reduction in subscriber demands, it offers some potential relief to rapidly escalating network capital requirements and deployment challenges.

Figure 4.16: Percentage increase in network traffic



We asked companies which costs are included in network/system expense. The results are consistent with the 2011 survey. Their responses are illustrated in Figure 4.17.

Figure 4.17: Costs included in network/system expense

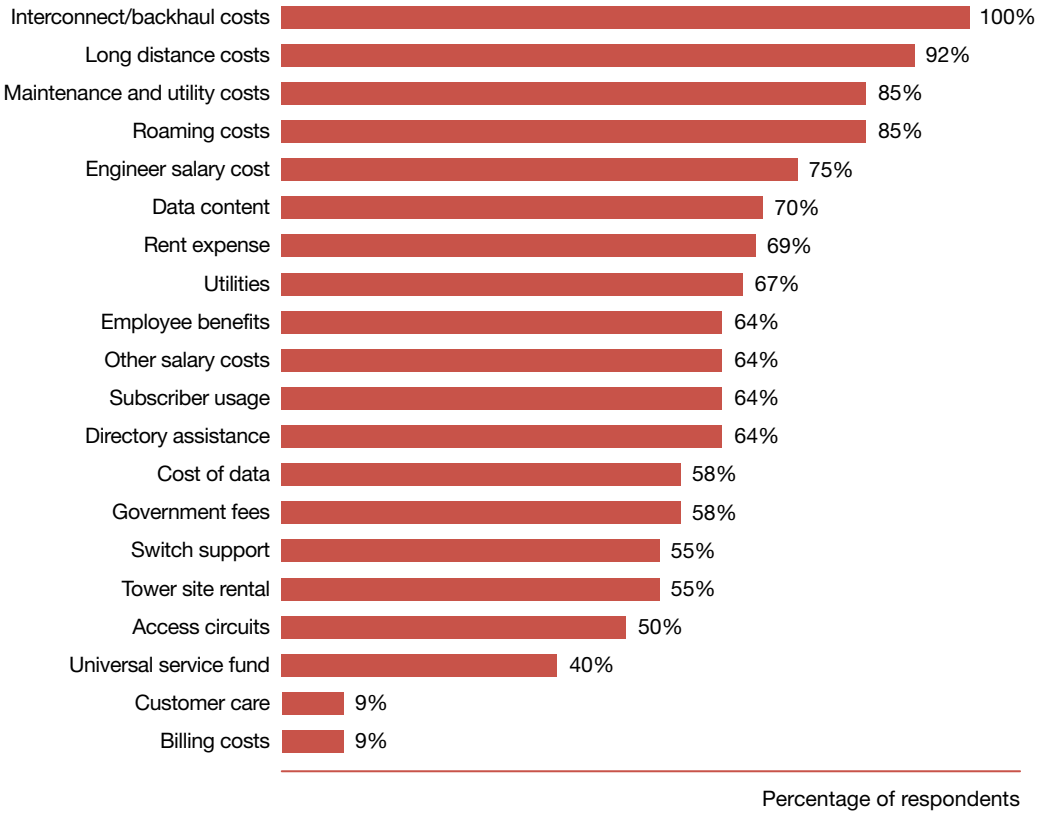
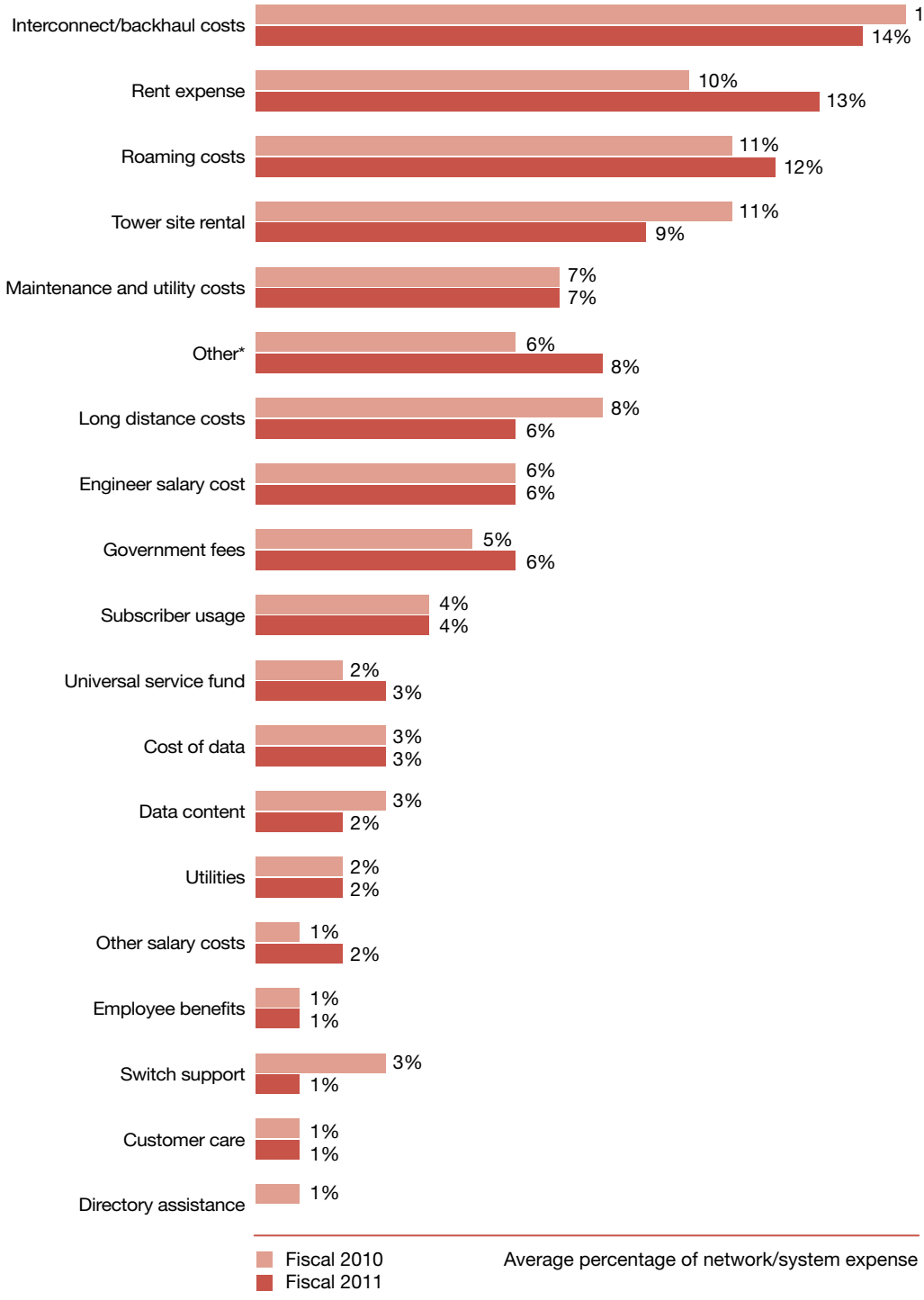


Chart sums to greater than 100% because multiple responses were allowed.

We asked companies what percent of the total network/system expense each component represents; their average responses are illustrated in Figure 4.18. Overall, there were no significant changes compared with the 2011 survey responses.

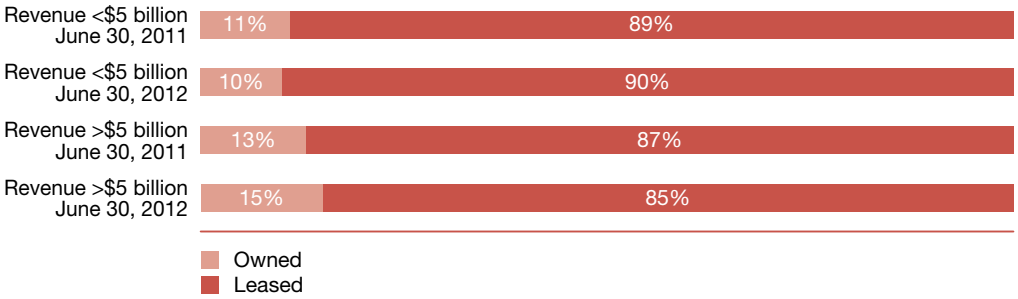
Figure 4.18: Components of network/system expense



*Other refers to miscellaneous costs, outside services, land acquisition costs, and property taxes.

Divestment of tower assets has been one of the key trends in the wireless industry as carriers try to focus on their core communication business. Many carriers are struggling from high investments in network advancement and are looking to infrastructure flexibility, network infrastructure sharing, and outsourcing as an effective way to cut down average costs. We asked companies what percentage of their cell sites they lease rather than own. Responding companies lease an average of 87 percent of their cell sites as of June 30, 2012, consistent with the 88 percent as of June 30, 2011. Figure 4.19 shows the percentage ownership of cell sites based on the size of the company.

Figure 4.19: Cell site ownership

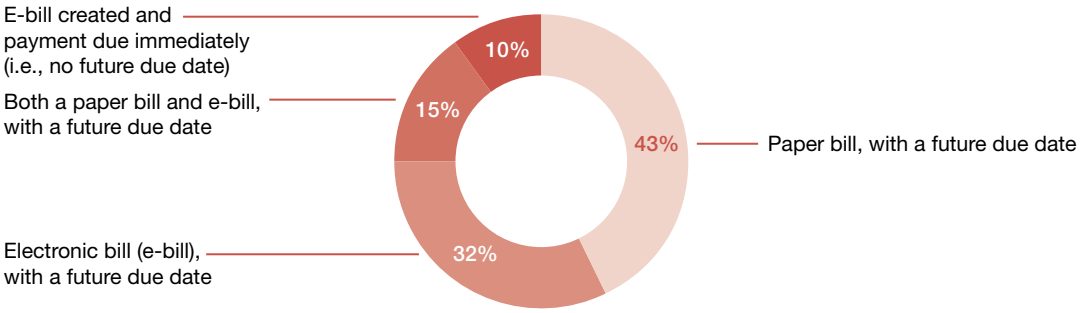


Seventy-seven percent of the responding companies indicated they use circuit inventory tracking systems to account for system expenses. Thirty percent of respondents that use tracking systems utilize an external service provider to track the circuit inventory. The remaining companies perform the circuit tracking internally via internally developed systems or purchased software. The companies performing circuit tracking internally do so primarily by operating market and on a channel-by-channel basis. All respondents (100 percent) perform bill verification for long-distance and interconnect expenses, consistent with the 2011 survey. Ninety-two percent of respondents said they perform bill verification internally, also consistent with the 2011 survey. Of the respondents that perform bill verification internally, the most common internal departments performing bill verification were finance and accounting and engineering.

Billing

We asked companies to identify the method whereby their postpaid subscribers receive monthly invoices as of June 30, 2012. The responses are shown in Figure 4.20.

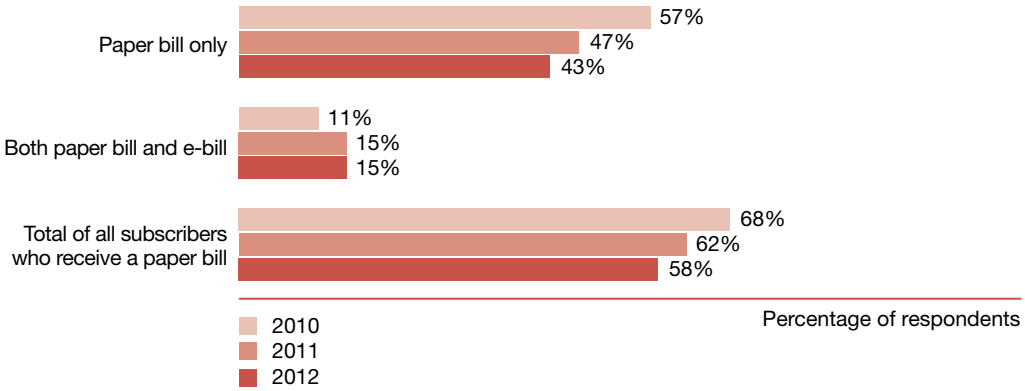
Figure 4.20: Monthly invoice delivery method as of June 30



Reducing the cost and promotion of environmentally friendly policies are major reasons for carriers to promote e-bills. E-bills are also gaining in popularity because more and more subscribers are using the Internet, especially on their smartphones, to pay their bills.

The average percentage of subscribers receiving paper invoices overall has continued to trend downward in the current year, as illustrated in Figure 4.21.

Figure 4.21: Percentage of subscribers receiving a paper bill as of June 30



We asked the companies if they charge subscribers for paper bills. Forty-six percent of the respondents charge subscribers for paper bills, consistent with the 2011 survey. The average charge was $2.07 per month, compared with $1.82 in the 2011 survey. The average cost per subscriber for a monthly paper bill (from print to mail) was $0.69 and ranged from $0.57 to $0.96. In contrast, the respondents' average cost per subscriber for monthly e-bills was $0.17 and ranged from $0.05 to $0.38.

We also asked the companies if they charge subscribers for detailed billing (billing that includes all call detail information). Fifty-eight percent of the respondents charge subscribers to obtain detailed billing; the average charge was $2.00 per month. Companies also indicated that the charge often depends on the rate plan.

Credit and collections

We asked the companies if they complete credit checks on all new subscribers. Sixty-seven percent of the respondents indicated they do. Of the carriers with revenue greater than $5 billion, 86 percent said they complete credit checks on new subscribers, compared with only 33 percent of the carriers with revenue less than $5 billion. When a credit check is completed for a new customer, the average time for a credit decision is five seconds.

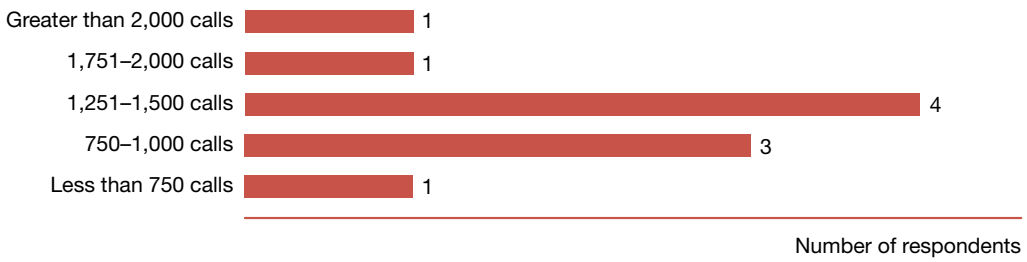
The average number of days after the bill due date for which an account is canceled for nonpayment is 81 days, within a range of 30 to 150 days. The average for carriers with revenue greater than $5 billion for account cancellation is 91 days, compared with only 69 days for carriers with revenue less than $5 billion.

The companies were also asked how many days pass after nonpayment of a past-due account before a customer care agent calls the subscriber. The average number of days was 17, and the responses ranged from 1 day to 52 days. Eighty-three percent of the respondents also indicated that they use an automatic dialer to call accounts that are past due. The time period when the automatic dialer begins to call past-due accounts ranged from 1 to 52 days.

We asked the companies how many employees in their collections department focus solely on past-due, late, or suspended accounts. For carriers with revenue greater than $5 billion, an average of 681 employees focus solely on past-due, late, or suspended accounts. In comparison, carriers with revenue less than $5 billion dedicate an average of 86 employees in their collections department solely to these areas.

We also asked how many calls are handled by each call collector on a monthly basis. The average number of calls was 1,430, and responses ranged from 683 calls to 3,500 calls. Figure 4.22 depicts the number of calls handled by respondents.

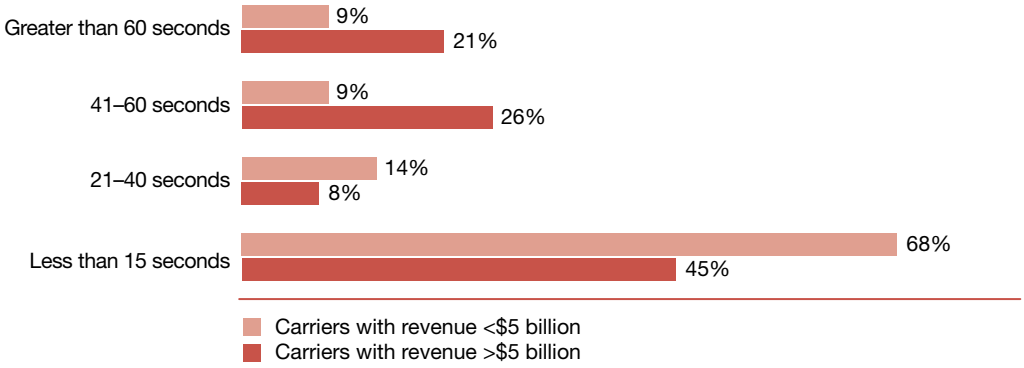
Figure 4.22: Number of calls handled per month by each collector



No responses were received in the 1,001–1,250 or the 1,501–1,750 category.

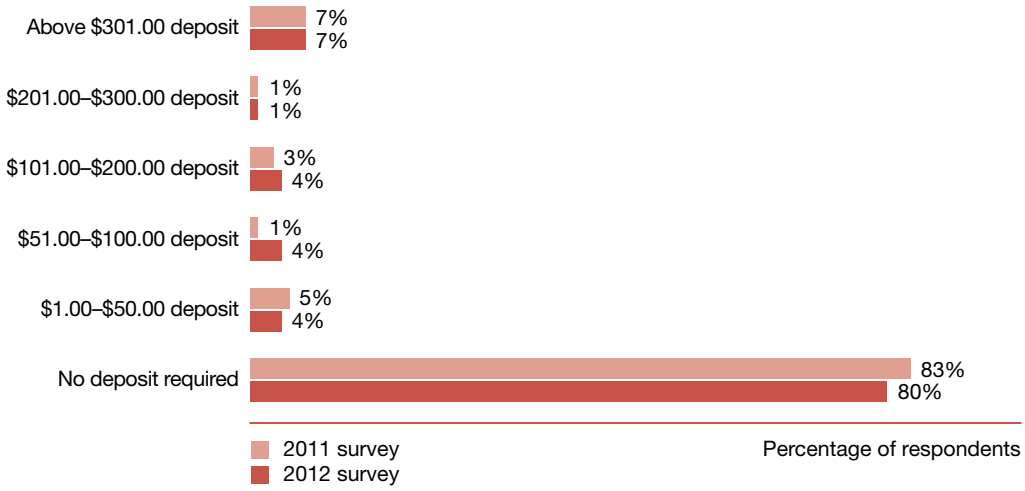
Figure 4.23 illustrates the average time frames in which customer calls are answered by customer service representatives. On average, customer calls were answered in less than 60 seconds 85 percent of the time, compared with 75 percent in the 2011 survey.

Figure 4.23: Customer calls answered within each time frame



We also asked companies about their different levels of deposit charges and the percentage of deposits associated with each level. Three respondents do not require any deposits. For the carriers that have deposit requirements, Figure 4.24 represents the average percentage of deposits associated with each dollar level for the current year or the percentage of subscribers who are not charged a deposit, compared with the 2011 survey.

Figure 4.24: Deposits charged

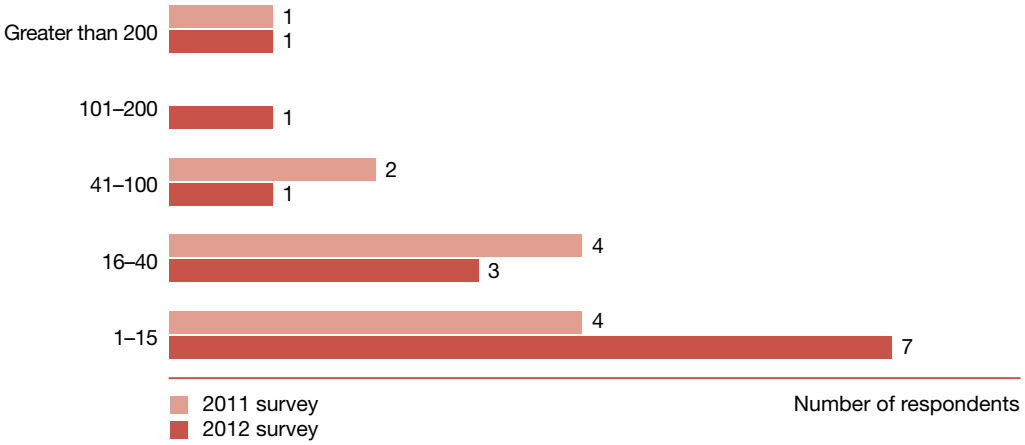


Revenue assurance and fraud management

The revenue assurance function plays an important role in ensuring adequate internal controls over financial reporting and in minimizing revenue leakage. All respondents currently have a dedicated revenue assurance and/or fraud management function. As the nature of network traffic and the revenue model diversify, the potential for revenue leakage increases. Additionally, the adoption of new technologies, such as 4G, the cloud, near field communication, etc., is adding new revenue streams, but at the same time they are also producing more unguarded points for revenue leakage and more territory for fraudsters. As their subscriber base increases, carriers must invest in building a strong revenue assurance and fraud management ecosystem in order to maintain ARPU and to fight against increasing capital and operating expenses.

Figures 4.25 and 4.26 indicate the number of individuals at each of the responding companies dedicated to revenue assurance in total, compared with the 2011 survey, and per $1 billion in revenue.

Figure 4.25: Dedicated number of revenue assurance individuals



No responses were received in the 101–200 category in 2011.

Figure 4.26: Dedicated number of revenue assurance individuals per $1 billion in total revenue

Companies indicated that the cost of actual fraud instances for the most recently completed fiscal year (2011) and the previous fiscal year (2010), as a percentage of service revenue (the cost/lost revenue that was not recoverable due to instances of fraud), were 0.18 percent and 0.15 percent, respectively. We also asked companies how they account for fraud subscribers in subscriber count for churn, and the majority of responses indicated fraud subscribers are excluded from gross adds

if identified within the same month or within 15–30 days, while some companies said it is 90 days. Companies were also asked how they account for revenue from fraudulent services, and the majority indicated that the revenue is recorded in the month of fraudulent services and, if detected within the same month, this revenue is reversed or the revenue is reversed against the revenue in the subsequent months.

Figures 4.27 and 4.28 show the dedicated number of fraud management individuals in total in the current year, compared with the 2011 survey, and per $1 billion in revenue.

Figure 4.27: Dedicated number of fraud management individuals

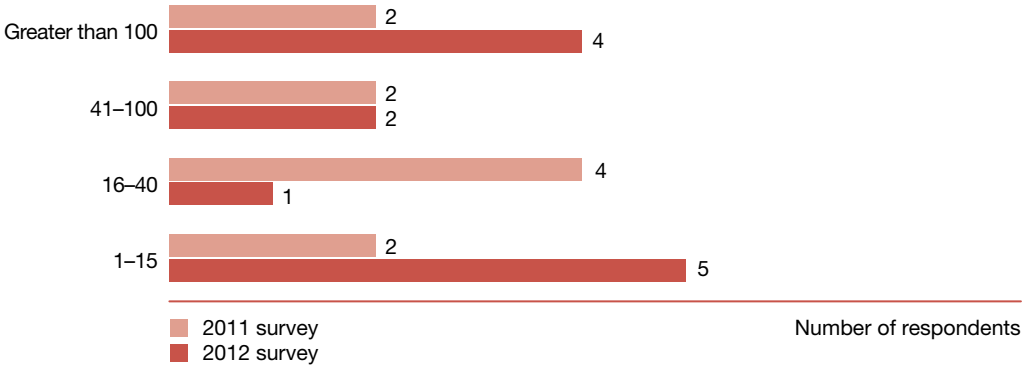


Figure 4.28: Dedicated number of fraud management individuals per $1 billion in total revenue

Revenue assurance and fraud management activities have generally been observed to increase in recent years as companies pursue opportunities to directly impact their bottom line. The advent of new, more sophisticated revenue assurance tools has made the identification of potential revenue leakage areas easier, and companies are increasing their focus on capturing the benefits. One-third of the responding companies make fraud management activities the responsibility of finance and accounting, while the remaining two-thirds have a separate revenue assurance and fraud management function responsible.

Companies were asked about components of the revenue process that have the greatest leakage risk to their revenue or margin. Consistent with the 2011 survey, the companies indicated that activation and rating and invoicing processes represented the highest risk, with financials, network reliability, and roaming and carrier settlement being ranked as the least risky areas for revenue or margin leakage. As this shows, much of the challenge with revenue leakage happens either at the point of greatest human interaction—the point of sale—or at what is arguably the most technically complex moment, the point of rating. Leading companies are increasingly looking to place additional controls

at both points in order to reduce leakage.

The revenue assurance platform or tool each of the responding companies uses is shown in Figure 4.29. For purchased tools or combination with internally developed, the platforms most often used included Subex and cVidya, with three carriers using each.

Figure 4.29: Revenue assurance platform or tool utilized

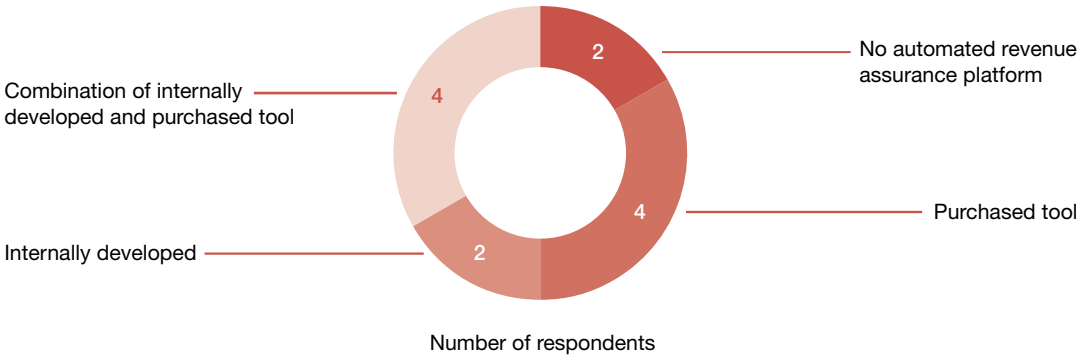
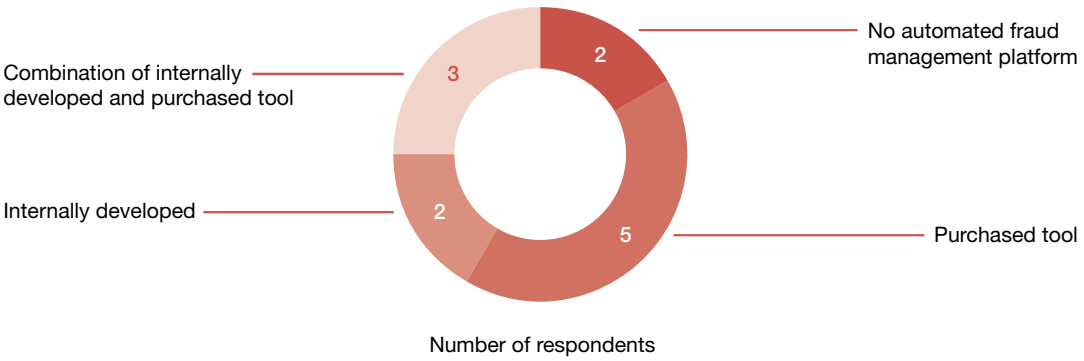


Figure 4.30 indicates what fraud management platform or tool each of the responding companies uses. For purchased tools, the most commonly used platforms included Subex, Minotaur, Cybersource and cVidya.

Figure 4.30: Fraud management platform or tool utilized



Eighty-five percent of respondents answered that e-Wallet (making purchases through a wireless device) has not been implemented and, as such, they have not begun revenue assurance/fraud management activities in this area. The remaining 15 percent answered that e-Wallet has been implemented, but very minimal revenue or revenue assurance/fraud management opportunities have begun.

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Property, plant, and equipment

The following pages cover wireless company practices in the area of property, plant, and equipment.

Licensed spectrum
Capital expenditure reporting
Technology usage
Capitalization policies
Capitalized labor
Asset impairments and fair value
Asset useful lives
Colocation
Decommissioning of network assets
Cell sites and asset retirement obligations
Government grants
Tax basis

Licensed spectrum

The mobile data tsunami has caught the US wireless industry by surprise, and the lack of adequate spectrum has become a major bottleneck. In the United States, the majority of low-range spectrum is held by TV broadcasters and government agencies, though most of it remains unused, and the absence of a large base of uninterrupted spectrum has resulted in efficiency challenges for carriers launching a 4G network. According to the Federal Communications Commission (FCC), in 2011, spectrum surplus held by US network operators stood at 225 MHz; however, by 2014, those same operators will face a spectrum deficit of 275 MHz. Mobile carriers are taking a number of steps to meet their capacity needs today, aside from aggressively seeking opportunities for mergers and acquisitions or network sharing; these steps include launching tiered data plans in an effort to partially control traffic loads and investing in a next generation 4G network and backhaul technologies such as Wi-Fi and small cells. We are also seeing carriers selling femtocells to their end users as signal extenders or boosters, as well as exploring options such as spectrum refarming and even downsizing by decommissioning certain assets to optimize their networks. The FCC is now working on a two-way "incentive auction" plan to buy spectrum from TV broadcasters for proceeds and allocate these airwaves to wireless carriers through forward selling auctions. This process, however, is expected to be lengthy and is estimated to take another five to eight years. In the meantime, the FCC has partnered with the National Telecommunications & Information Administration (NTIA) to test spectrum sharing between commercial organizations and government in the 1755–1780 MHz band, which may enable the FCC to auction paired spectrum within the next three years. Ultimately, carriers will continue to address the lack of adequate spectrum primarily in three ways: 1) lobbying for the auctioning of additional spectrum; 2) working on more efficient use of their existing spectrum, and 3) adopting new technologies that will enable more seamless spectrum sharing between parties.

Responding companies primarily own and use licenses in the cellular (~850 MHz), personal communication services (PCS) (~1.9 GHz) and advanced wireless spectrum (AWS) (~2100 MHZ and 1700 MHZ) categories to provide service within North America. Figure 5.1 shows the number of respondents that own and/or use each of the reported license types.

As shown in Figure 5.1, carriers are most often using as many spectrum bands as they can, particularly given continued increases in mobile data usage and the deployment of long-term evolution (LTE) networks as overlays to 2G and 3G networks. The majority of owned but not used spectrum licenses are in the AWS and PCS cellular bands, many of which were purchased during recent spectrum auctions and are planned for use with LTE. As LTE continues to be deployed, we expect that some licenses shown in Figure 5.1 will be decommissioned and refarmed for use with LTE.

Figure 5.1: Wireless license owned and used for active subscribers

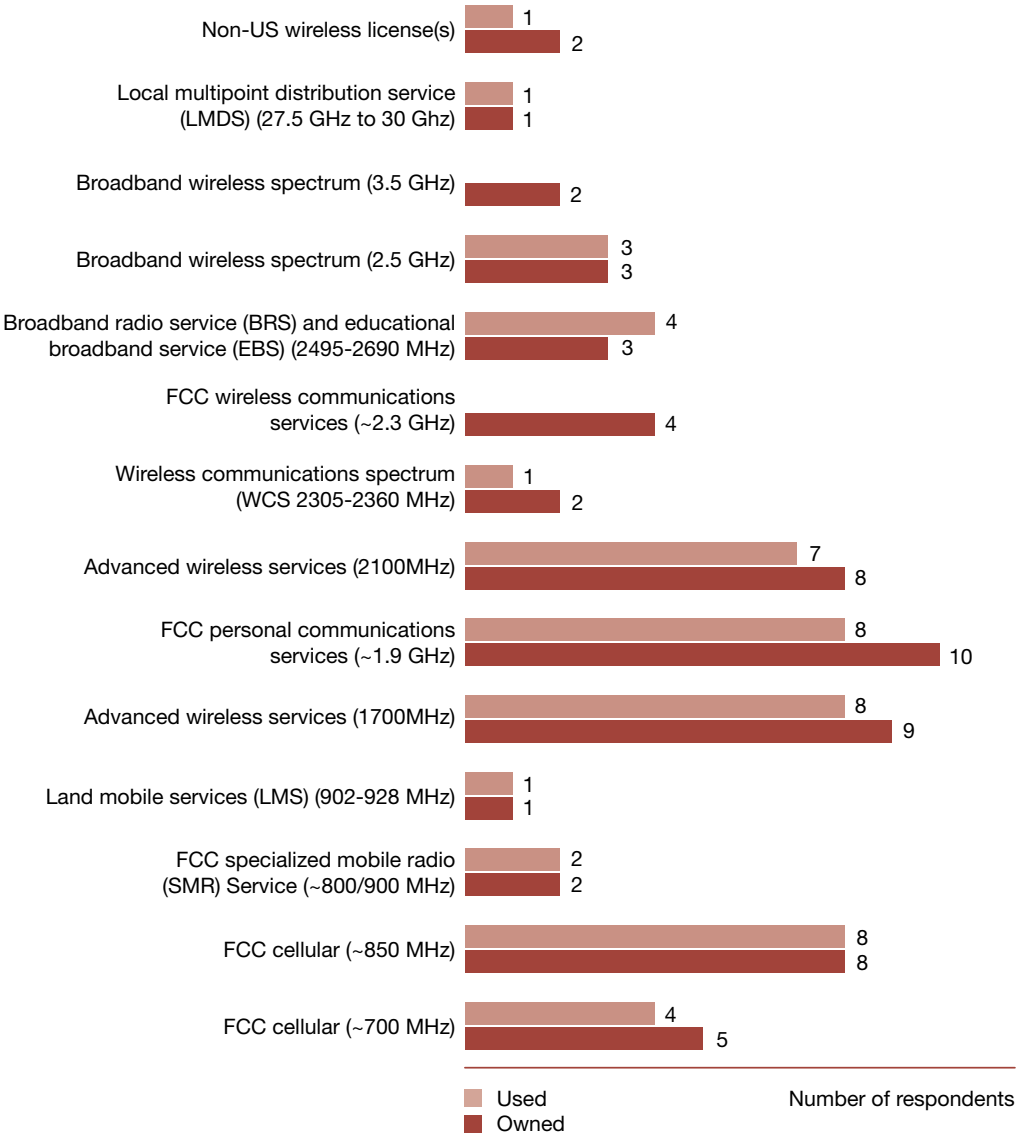
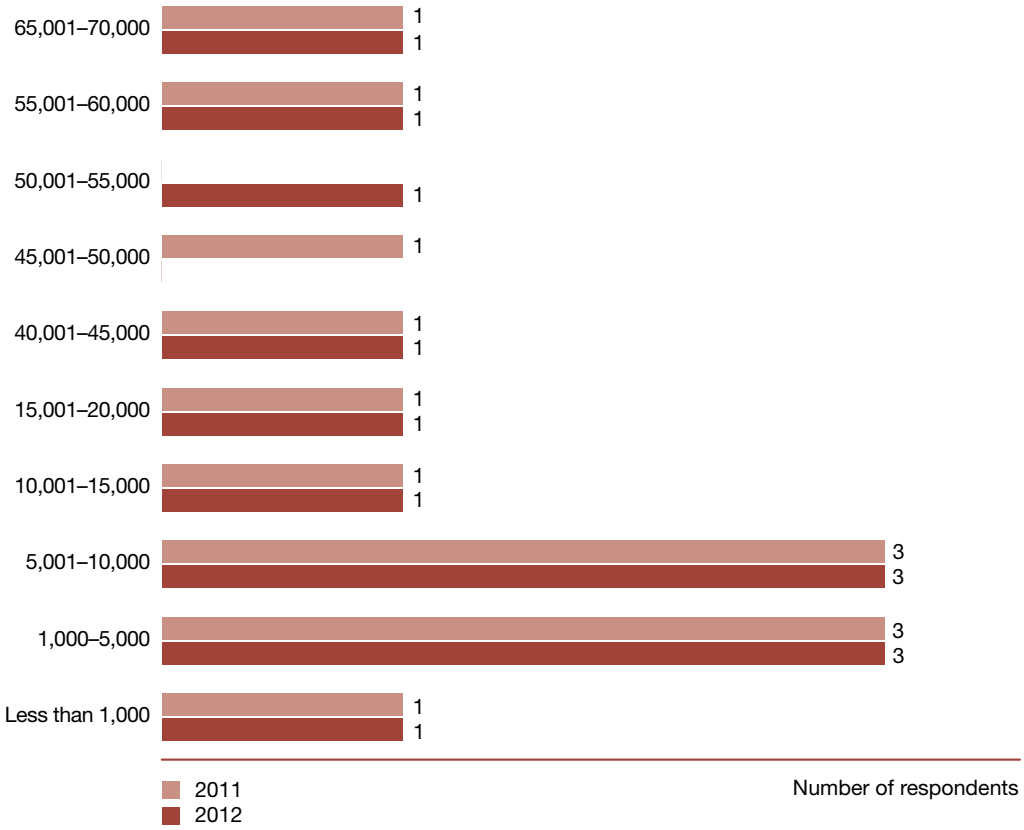


Chart totals more than the number of responding companies because multiple responses were allowed.

In the coming years, we expect both upward and downward pressure on cell site counts. The number of macro cell sites has generally stabilized in recent years but may see some downward movement with the decommissioning of 2G networks. On the other hand, the outlook for deployment of small cells promises to drastically increase the total number of cell sites by as much as 1000 percent. This will pose potential future challenges for the deployment, management, and tracking of large volumes of distributed network assets, well above today's levels.

Figure 5.2 indicates total cell sites as of June 30, 2012 and 2011 for each responding carrier. The average number of cell sites as of June 30, 2012 and 2011 for all responding carriers was 21,635 and 21,491, respectively. For carriers with revenue greater than $5 billion, the average number of cell sites decreased slightly, as of June 30, 2012, to 33,151 compared with 33,201 as of June 30, 2011. Carriers with revenue less than $5 billion increased the average number of cell sites in use to 8,201 as of June 30, 2012, compared with 7,831 as of June 30, 2011. The decrease by the carriers with revenue greater than $5 billion is consistent with ongoing decommissioning by certain carriers to eliminate and rationalize networks.

Figure 5.2: Total cell sites as of June 30



Capital expenditure reporting

While global capital expenditure (capex) spending in telecom has soared from just over $50 billion to about $325 billion in real terms over the 30 years leading up to 2011, it can be the most significant cash outflow for telecom operators who need to continuously invest in building next-generation networks and technologies, along with new services and applications. The major areas of investment through 2015 will include 2G mobile network capacity expansion, migration of 2G to 3G, and deployment of LTE networks in developed markets.

We asked companies to report their capital expenditures as a percentage of service revenue, gross fixed assets, and net fixed assets for the fiscal year ended December 31, 2011 and 2010. The results are illustrated in the following three charts (Figure 5.3, 5.4, and 5.5, respectively) for the different categories of responding companies. Although for many carriers the overall capital expenditures increased in the current year survey because of the rollout of LTE and other new products and technologies, as a percentage of the gross and net fixed assets there was a decrease in the average of all respondents for both categories due to the duplication of networks resulting in higher fixed asset balances.

Figure 5.3: Capital expenditures as a percentage of service revenue

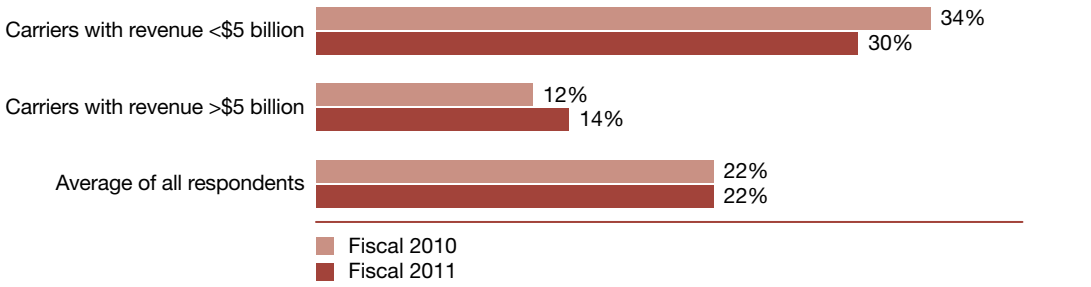


Figure 5.4: Capital expenditures as a percentage of gross fixed assets

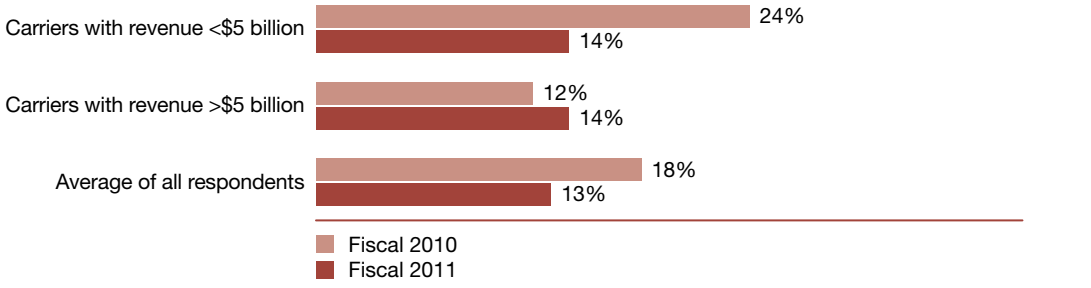


Figure 5.5: Capital expenditures as a percentage of net fixed assets

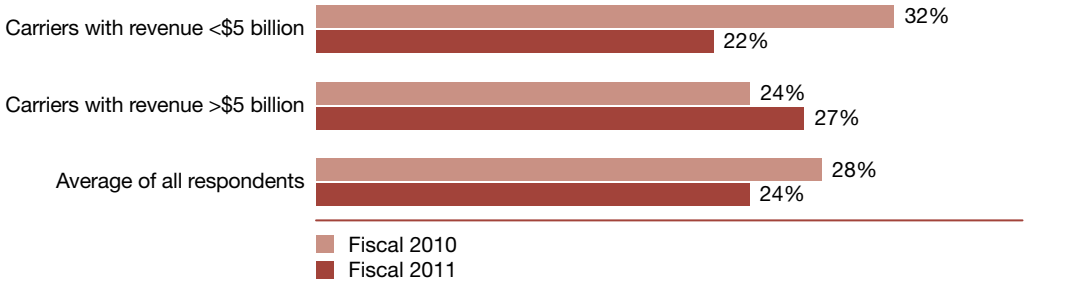


Figure 5.6 and 5.7 show depreciation expenses as percentages of service revenue and of gross fixed assets, respectively, for fiscal year 2011 for the different categories of responding companies, compared with responses for fiscal year 2010.

Figure 5.6: Depreciation expense as a percentage of service revenue

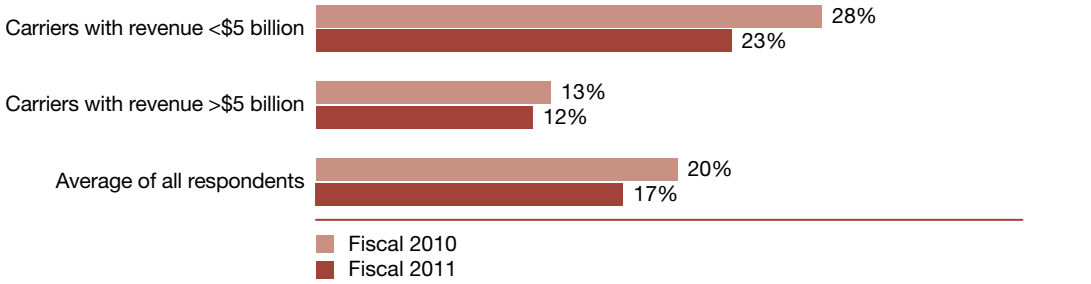
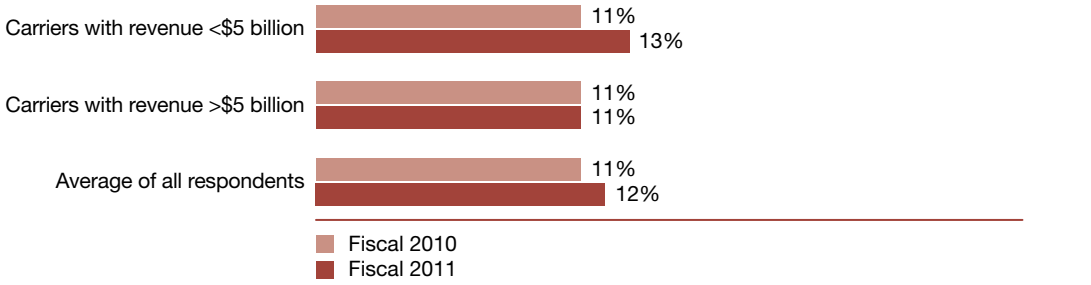


Figure 5.7: Depreciation expense as a percentage of gross fixed assets



The following two charts compare capital expenditures per average market population (Figure 5.8) and per average subscriber (Figure 5.9) for the different categories of responding companies for fiscal years 2010 and 2011.

Figure 5.8: Capital expenditures per average POP

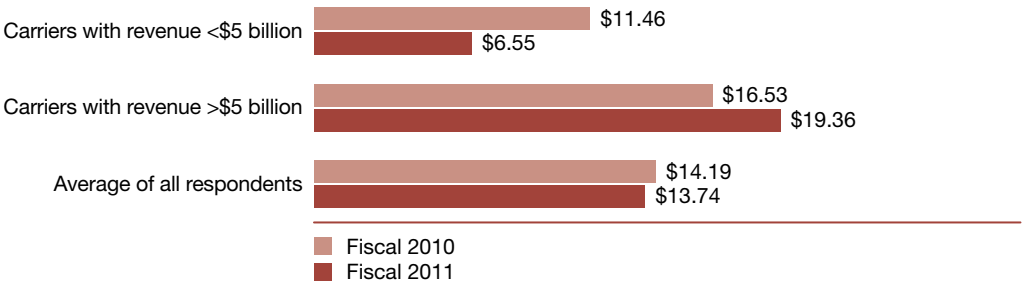


Figure 5.9: Capital expenditures per average subscriber

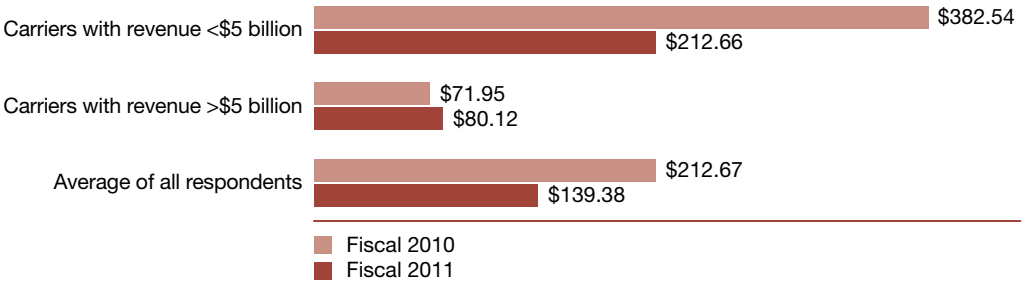
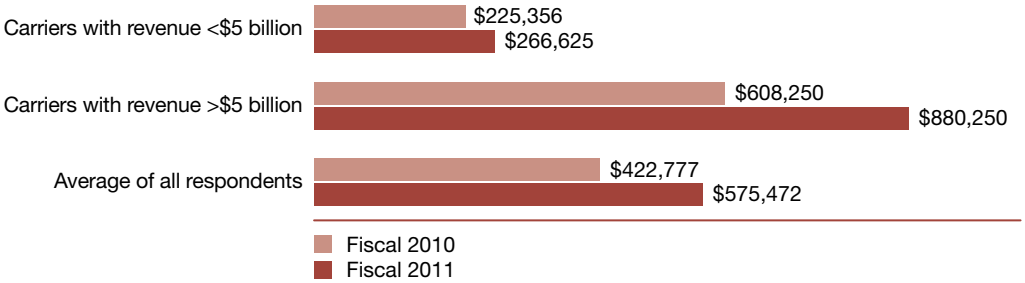


Figure 5.10 shows that new technologies cost more per cell site among all carriers in 2011, compared with the previous fiscal year.

Figure 5.10: Capital expenditures per average new cell sites



Participants were asked to provide their depreciation expenses per average POP, per average subscriber, and per average cell site for fiscal year 2011. The following three charts (Figure 5.11, 5.12, and 5.13, respectively) show the results compared with those for the previous fiscal year.

Figure 5.11: Depreciation expense per average POP

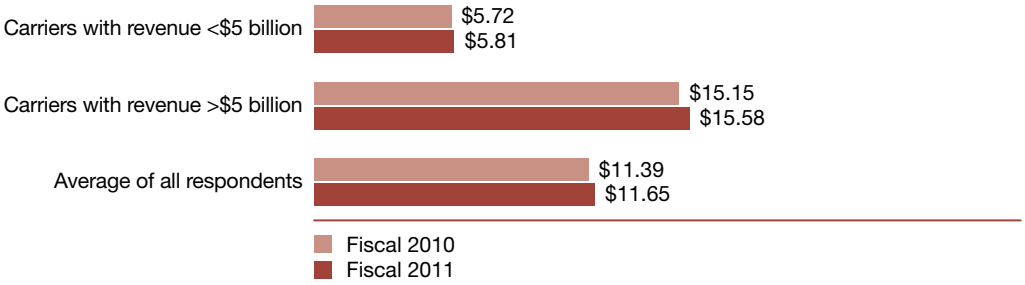


Figure 5.12: Depreciation expense per average subscriber

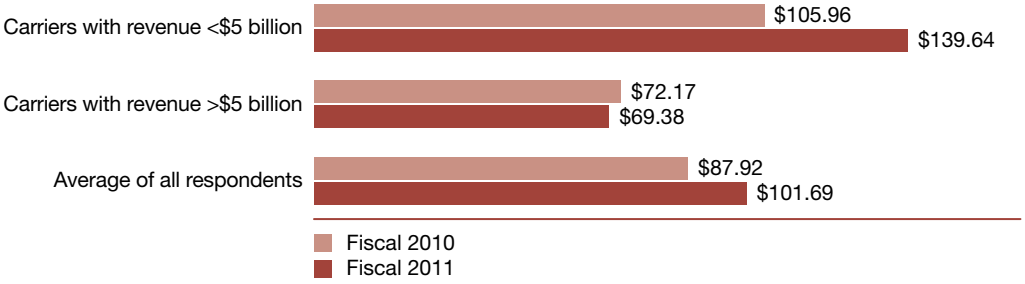
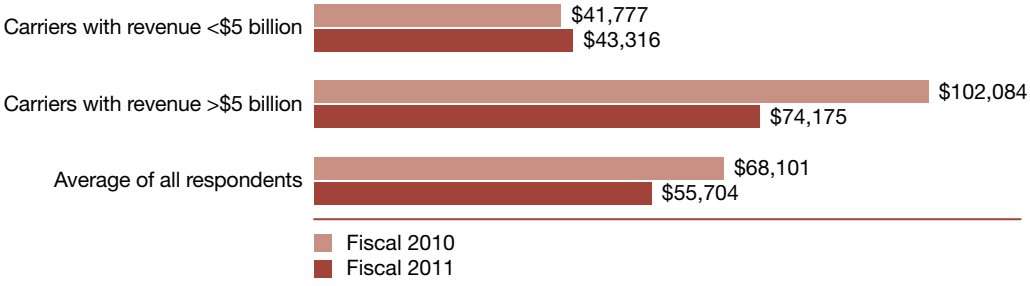


Figure 5.13: Depreciation expense per average cell site



Technology usage

The growing adoption of smartphones, tablets, and other connected devices, coupled with the corresponding high consumption of data, including video, gaming, mobile commerce, and social networking, has left no choice for carriers but to adapt to the new technologies. But while carriers are trying to leverage these opportunities, their network capacities are struggling to meet the growth in data traffic, and their network upgrade initiatives have been hampered by the limited availability of spectrum. In addition, off-loading technologies such as femtocells, Wi-Fi, IP Ethernet, and network sharing are also seeing increased demand. However, it is not only a challenge for the wireless networks; the carriers themselves will need to change their business models to cater to the growing demand for mobility by consumers and enterprises. The rapid adoption of trends like social networking, bring-your-own-devices (BYOD), converged services, video conferencing, m-commerce, and location-based services will push operators to further invest in such technologies as cloud computing, virtualization, co-location and data centers, and near-field communication (NFC). The growing penetration of connected devices will also require mobile operators to collaborate with other sectors, including retail, automotive, healthcare, consumer electronics, and utilities, both on the business and the technological front.

Respondents were asked what percentages of their cell sites and subscriber base are covered by third-generation technology, and Figure 5.14 shows their responses. As in previous years of transitions in technology, the market is moving rapidly toward near-complete 3G penetration and continued 4G roll-out by the carriers.

Figure 5.14: Percentage covered by 3G technology as of June 30, 2012

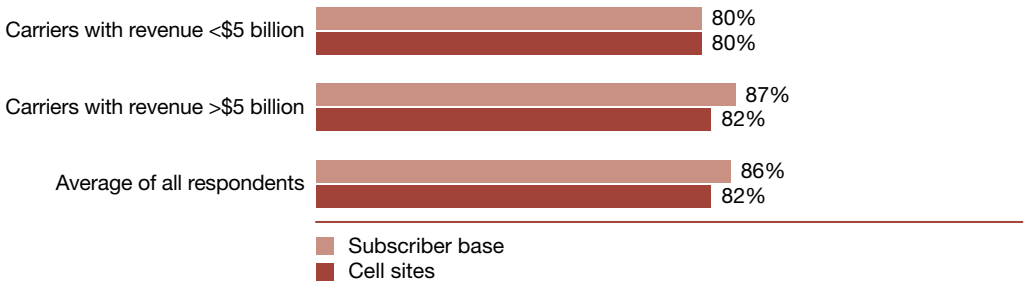


Figure 5.15 shows the responding companies' average cost for implementing 3G technology at each new and existing cell site, and Figure 5.16 shows the cost for implementing 4G. As would be expected, the cost of a new site is considerably higher than upgrading a current network.

Figure 5.15: Average cost per cell site for 3G technology

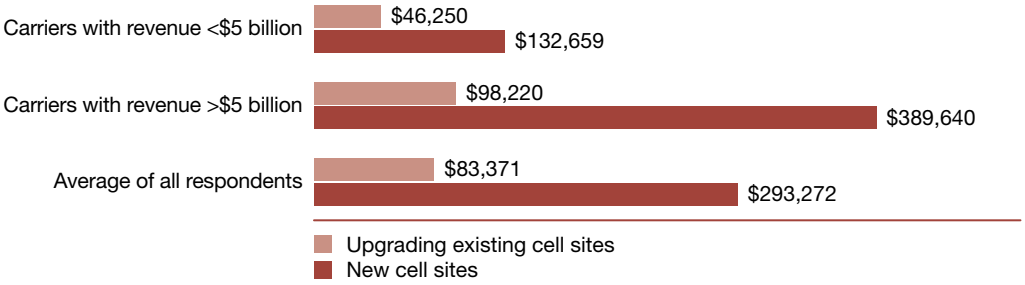
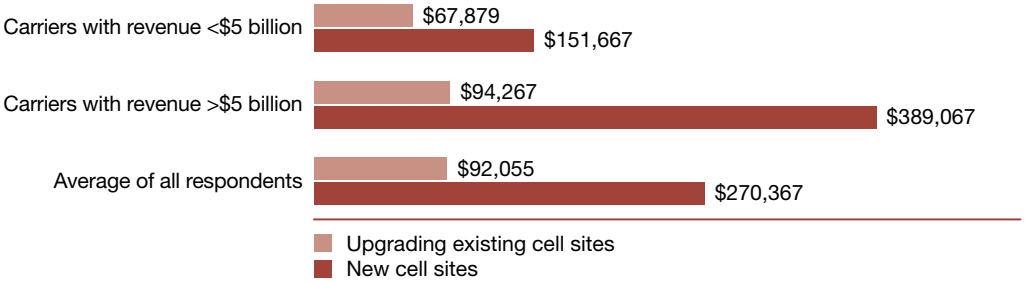


Figure 5.16: Average cost per cell site for 4G technology



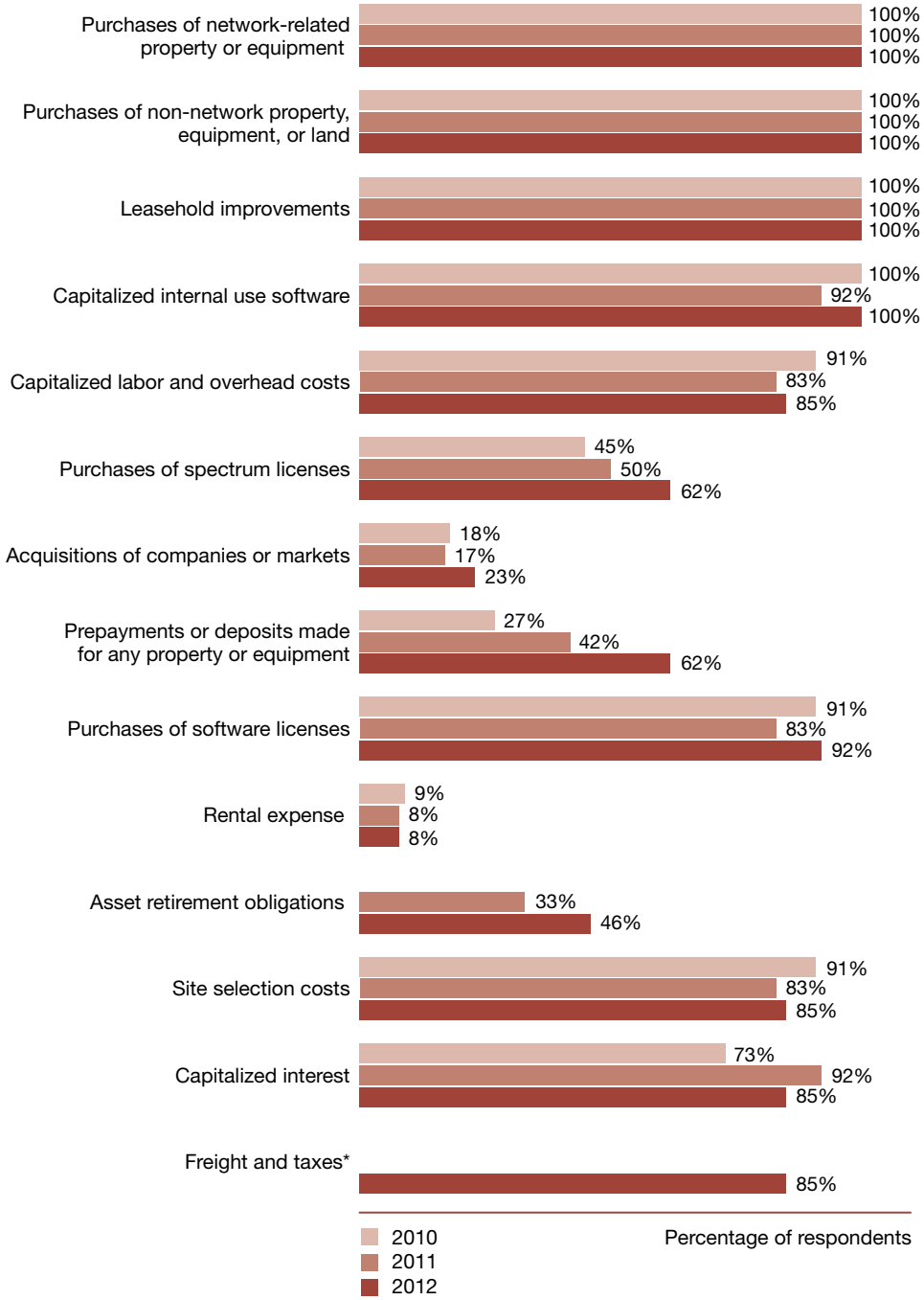
As of June 30, 2012, 11 of the 13 responding carriers had their own cell sites using 4G technology, compared with only 5 carriers responding to the 2011 survey. The 2012 survey also shows that, on average, 65 percent of carriers' cell sites used 4G technology, compared with 46 percent in the 2011 survey, and 60 percent of the subscriber base was covered by 4G technology, compared with 53 percent in the 2011 survey.

Capitalization policies

While many categories of assets are being capitalized on a consistent basis, some categories, such as spectrum licenses, asset retirement obligations, and prepayments/deposits, continue to be inconsistently applied. The capitalization of spectrum licenses is particularly critical given recent acquisitions of licenses by several major US carriers, as well as the expected auction of additional spectrum for the deployment of mobile broadband.

Figure 5.17 illustrates the percentage of respondents that include each category of expenditures in their externally reported capital expenditures, compared with the 2010 and 2011 surveys. Only one carrier made any changes to the type of costs capitalized, which included adding ARO, prepayments/deposits, and freight/taxes.

Figure 5.17: Types of capital expenditures

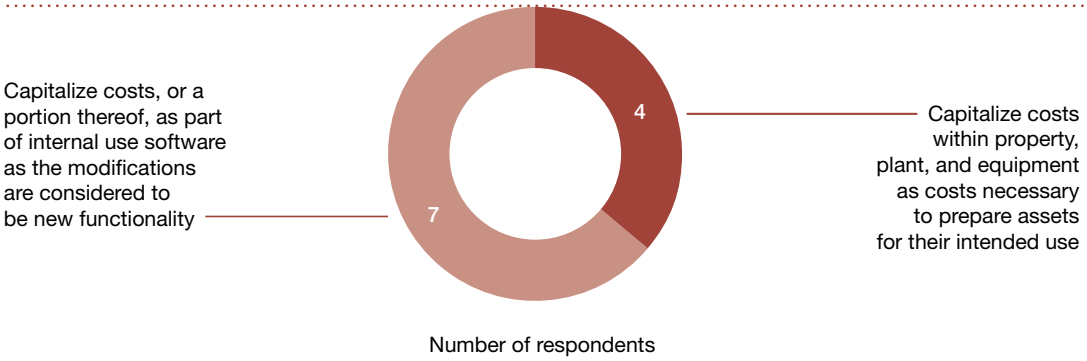


*Freight and taxes became a separate category in 2012, therefore no comparative data exists.

Chart totals greater than 100% because multiple responses were allowed,
No responses were received in the asset retirement obligations category for 2010.

Companies were also asked how they account for required changes to internal-use software, driven by the movement toward LTE technology. The results are shown in Figure 5.18, below.

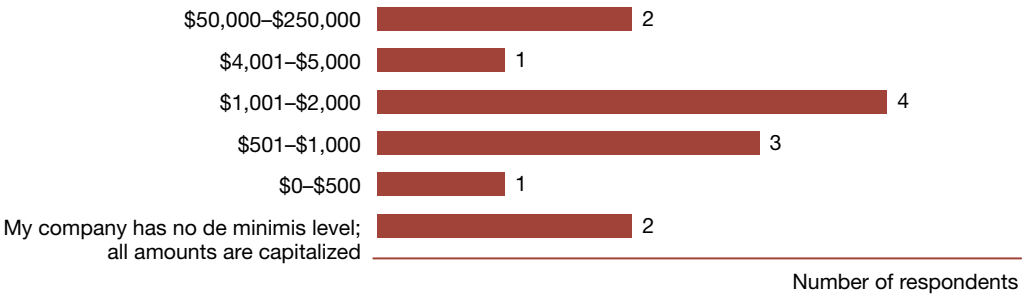
Figure 5.18: Accounting for changes to internal-use software driven by movement toward LTE



Companies were asked how they account for internal-use software modifications aimed at increasing capacity (modifications may or may not be made in connection with a new hardware purchase). All responding carriers in the current year indicate that they capitalize costs, or a portion thereof, as part of internal-use software, as the modifications are considered to add new functionality, comparing with 92 percent in the previous year's survey.

Figure 5.19 shows respondents' de minimis levels for the capitalization of internal-use software. Compared with the responding companies' policies for network equipment in Figure 5.21, we see that several utilize a higher threshold for internal-use software when determining capitalization.

Figure 5.19: De minimis level for capitalization of internal-use software



No responses were received in the $2,001–$4,000 or $5,001–$49,999 categories.

Figure 5.20 illustrates the types of costs associated with fixed assets capitalized by responding companies and compares this year's responses with those from the 2011 and 2010 surveys. Only one carrier made a change to the type of costs capitalized, which was to begin capitalizing interest on wireless licenses.

Figure 5.20: Fixed asset costs capitalized

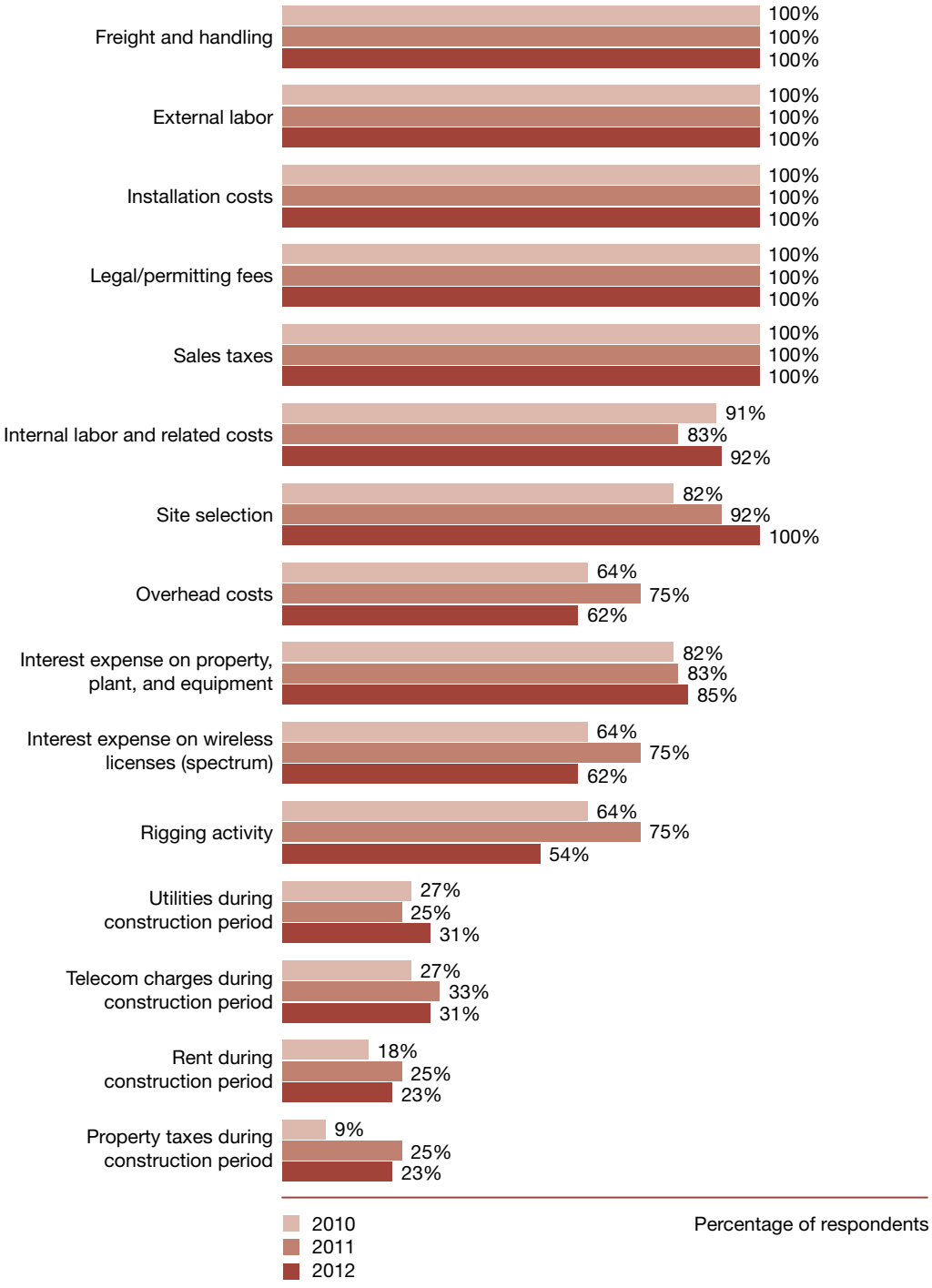
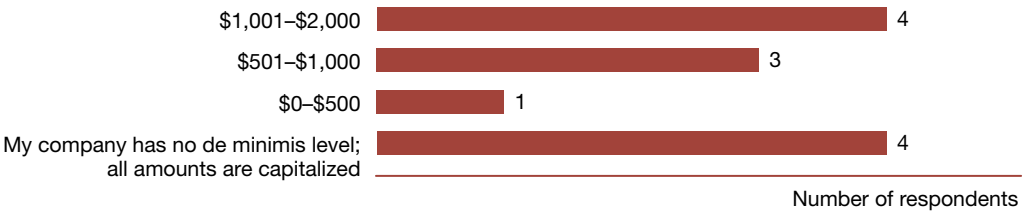


Chart totals more than 100% because multiple responses were allowed.

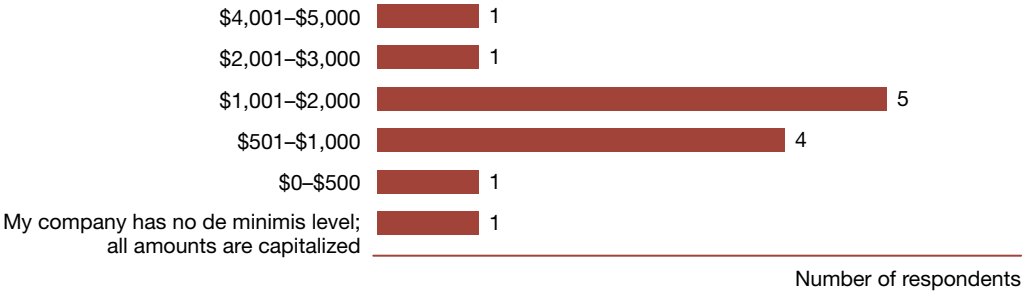
Figure 5.21 shows respondents' de minimis levels for the capitalization of property, plant, and equipment. Ninety-two percent of respondents stated they have made no changes to de minimis levels over the past two years.

Figure 5.21: Minimum capitalization thresholds for property, plant, and equipment



Compared with the responding companies' policies for network equipment, several utilize a higher threshold for non-network equipment when determining capitalization, as shown in Figure 5.22.

Figure 5.22: De minimis level for non-network equipment capitalization



Companies were asked whether they receive rebates from their equipment vendors based on a specified level of fixed-asset purchases or other commitments. Ninety-two percent of the respondents indicated they receive these types of rebates from equipment vendors. Forty-two percent reduce the cost basis of equipment at the time of purchase based on an estimate of the rebates to be received, and 58 percent reduce the cost basis only at the time the rebate has been earned (such as when a specified level of purchases has been met), both of which are consistent with prior year responses.

Capitalized labor

Companies utilize significant internal resources related to network assets and the construction and/or upgrade of cell sites. Responding carriers were asked to provide the percentage of total labor costs, and specifically engineering labor costs, capitalized as part of property, plant, and equipment as of June 30. The results are shown in Figure 5.23 and 5.24, respectively.

Figure 5.23: Percentage of total labor costs capitalized as part of PPE as of June 30

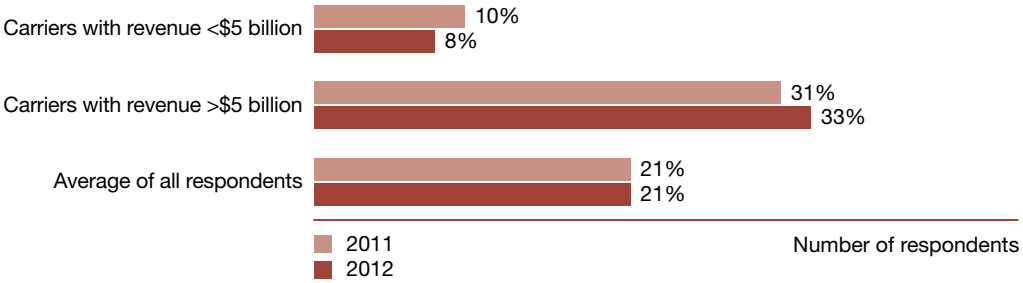
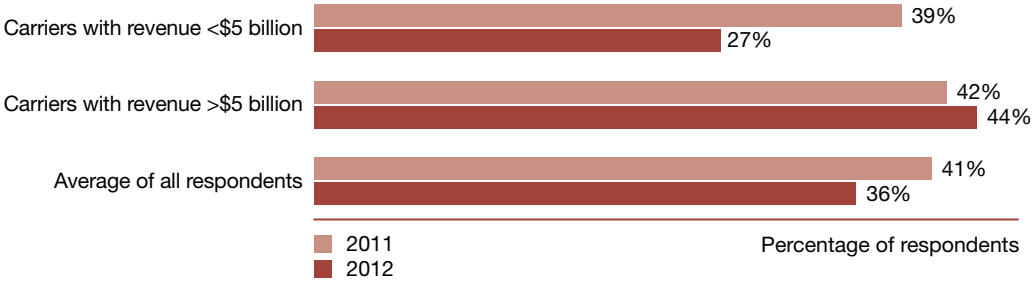


Figure 5.24: Percentage of engineering labor costs capitalized as part of PPE as of June 30



Responding companies were asked how they determine or quantify their internal capitalized labor amounts for capitalization. Compared with 64 percent of respondents in the 2011 survey, 77 percent of respondents in the current survey indicate they use the indirect method, as shown in Figure 5.25.

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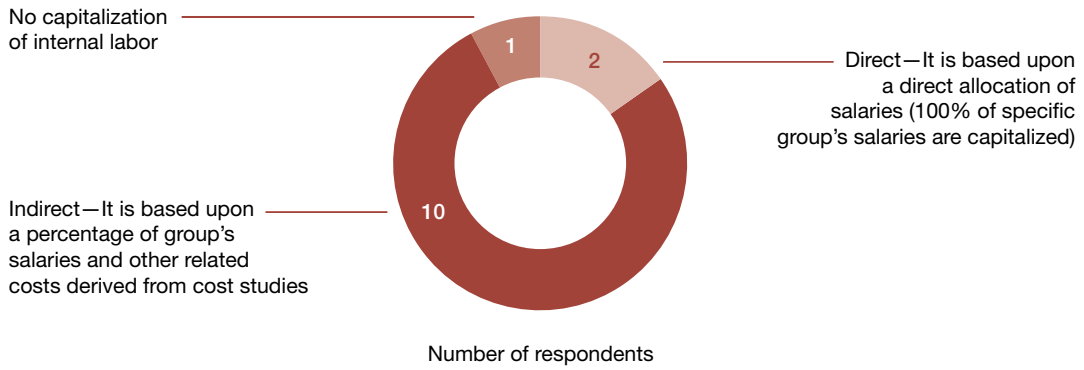
Figure 5.25: Capitalized labor cost



Of the ten companies in Figure 5.25 that use the indirect method 75 percent of responding companies indicated an annual study compared to 25 percent that perform the study quarterly.

For the ten companies using the indirect method, as illustrated in Figure 5.25, above, Figure 5.26, below, indicates the approach used by management to obtain the cost study information.

Figure 5.26: Basis for costs studies

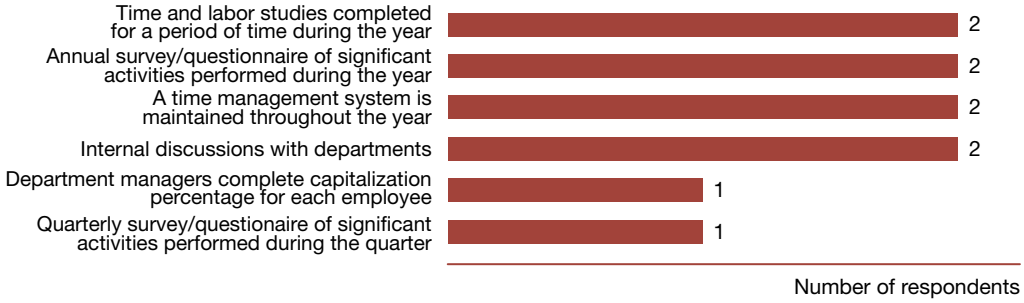


Figure 5.27 illustrates the types of expenses respondents say they include in their internal capitalized labor costs. None of the carriers changed the types of internal costs capitalized in the current year.

Figure 5.27: Types of internal capitalized costs

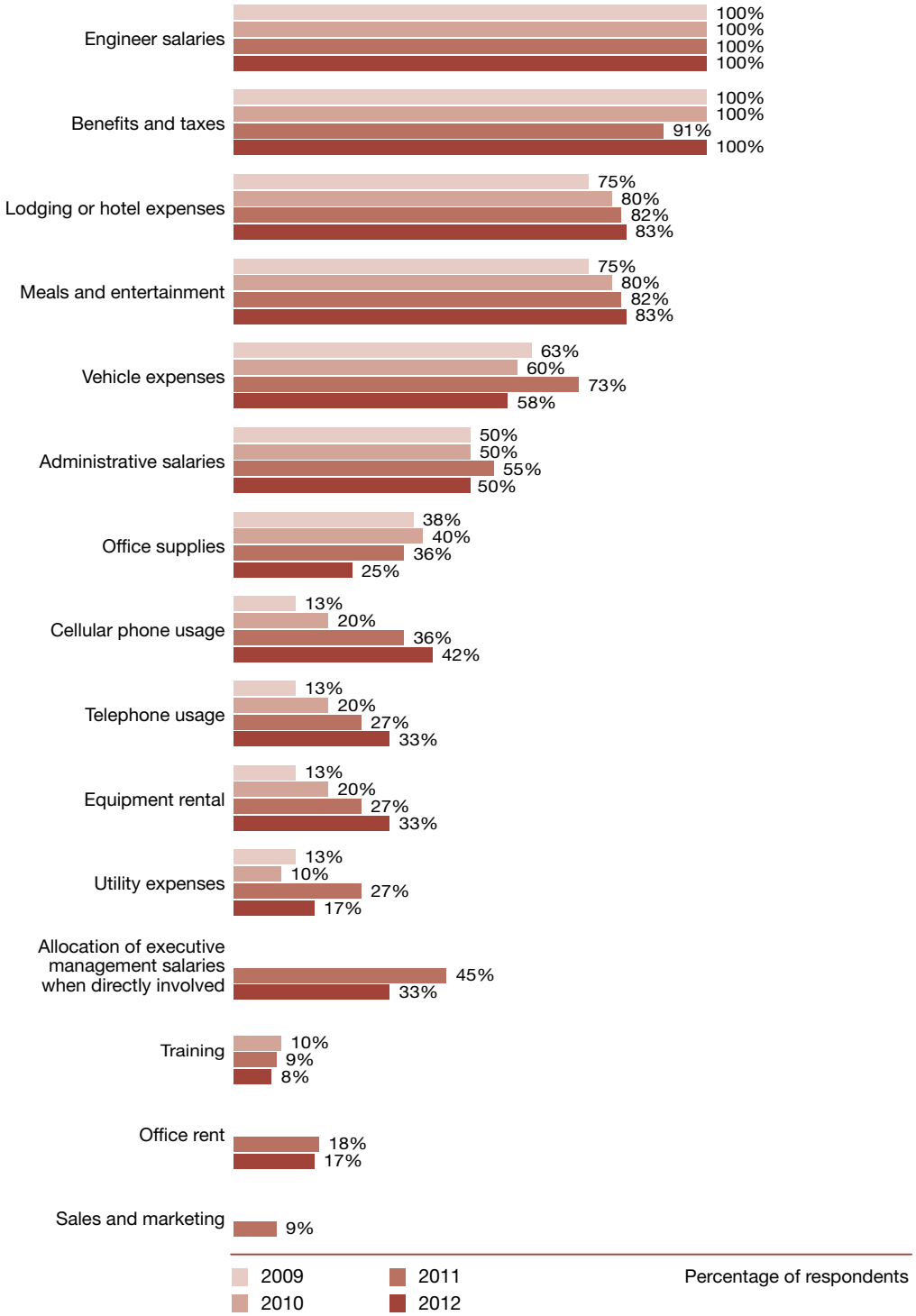


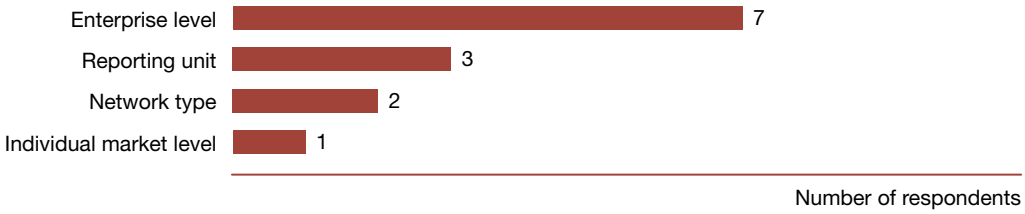
Chart totals more than 100% because multiple responses were allowed.
No responses were received in allocation of executive management salaries for 2009 and 2010, training for 2009, office rent for 2009 and 2010, and sales and marketing for 2009, 2010 and 2012.

Asset impairments and fair value

Eighty-five percent of respondents indicated they exclude asset impairment charges from their earnings before interest, taxes, depreciation, and amortization calculations, which is slightly lower than the 91 percent in the previous year's survey.

Figure 5.28 shows how respondents define the lowest level of cash flows for purposes of asset impairment testing under applicable accounting standards. Similar to the results of the previous three surveys, the majority of respondents define the enterprise level to be the lowest. In the current year's survey, one carrier changed the definition to move from a market level to an enterprise level.

Figure 5.28: Lowest level of cash flows



Responding companies offered their definition of the lowest level of cash flows or cash generating units under applicable accounting standards, as shown in Figure 5.29, below. The results are consistent with those of the previous year, in which 75 percent of responding companies indicated that the lowest level is generally consistent with segment reporting.

Figure 5.29: Lowest level of cash flows or cash generating units

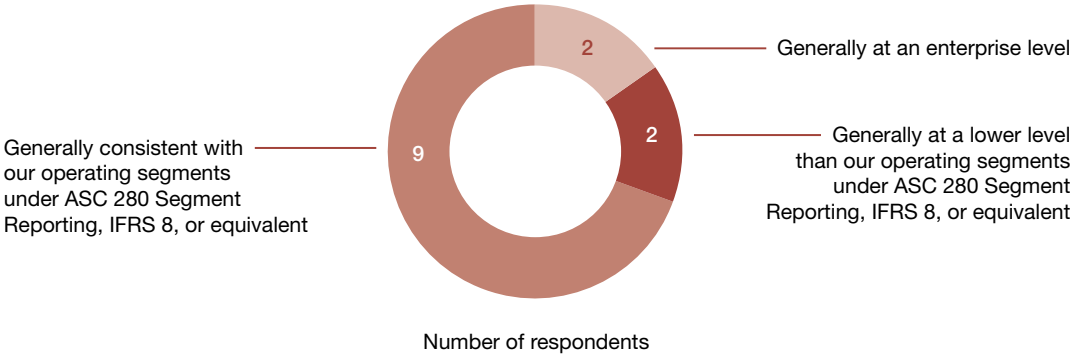
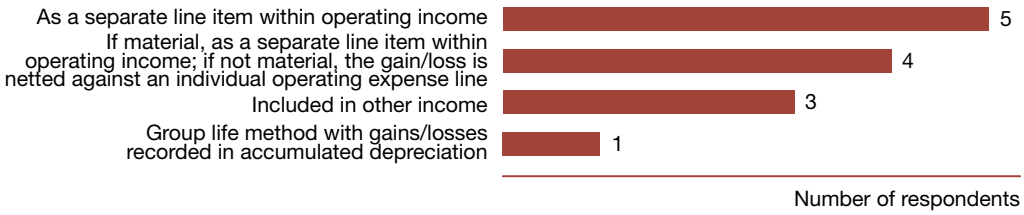


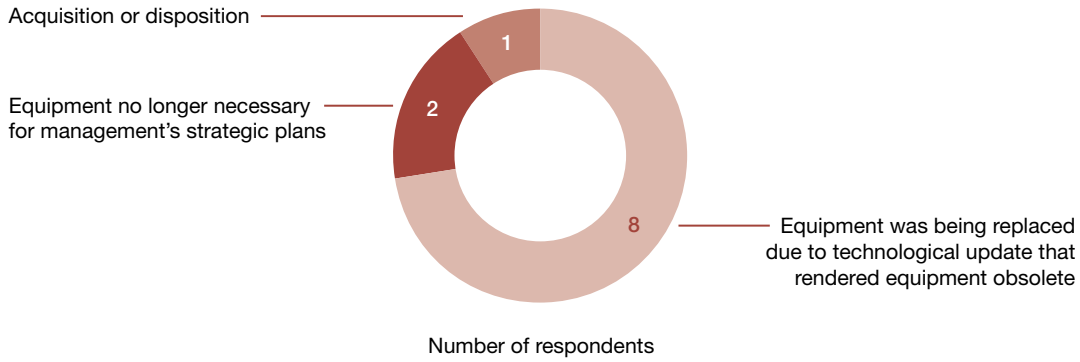
Figure 5.30 shows the financial statement line item on which responding companies record a resulting gain or loss upon the sale of a long-lived asset or group of assets. The results are largely consistent with those in the 2011 survey.

Figure 5.30: Recording gain/loss from sale of long-lived assets



Eighty-five percent of responding carriers have recorded impairment charges or accelerated depreciation, compared with only 50 percent in the 2011 survey. Figure 5.31 shows the primary drivers of those charges.

Figure 5.31: Primary driver of impairment or accelerated depreciation charges



We expect that this number may increase in the coming years, as the widespread deployment of 4G technologies and evolution of voice services to 4G-based solutions renders some legacy equipment obsolete, and as companies begin to decommission certain parts of their networks.

Asset useful lives

Figure 5.32 shows fixed asset components that are tracked and depreciated separately within the respondents' fixed asset systems.

Figure 5.32: Separately tracked and depreciated fixed-asset components

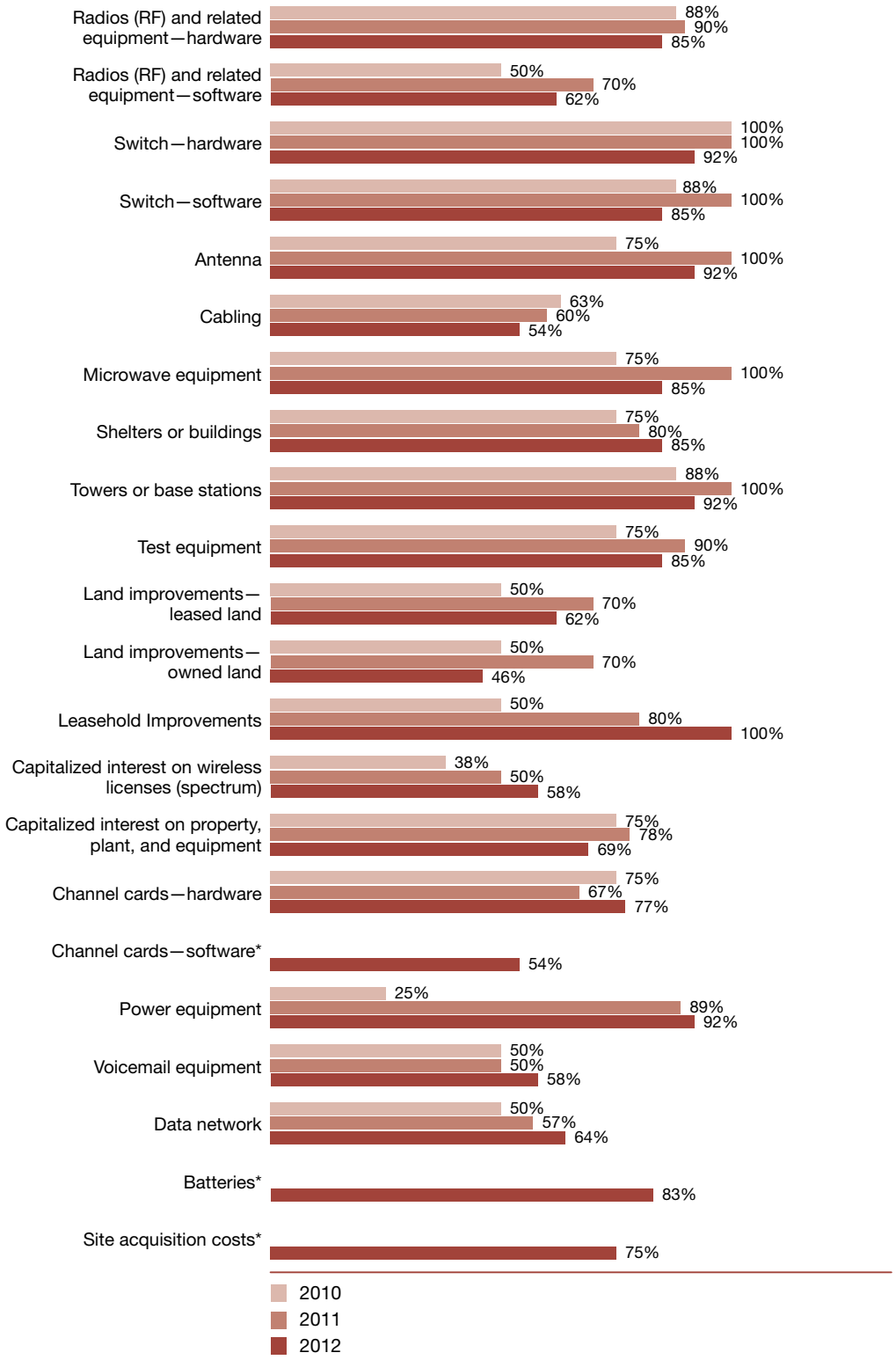
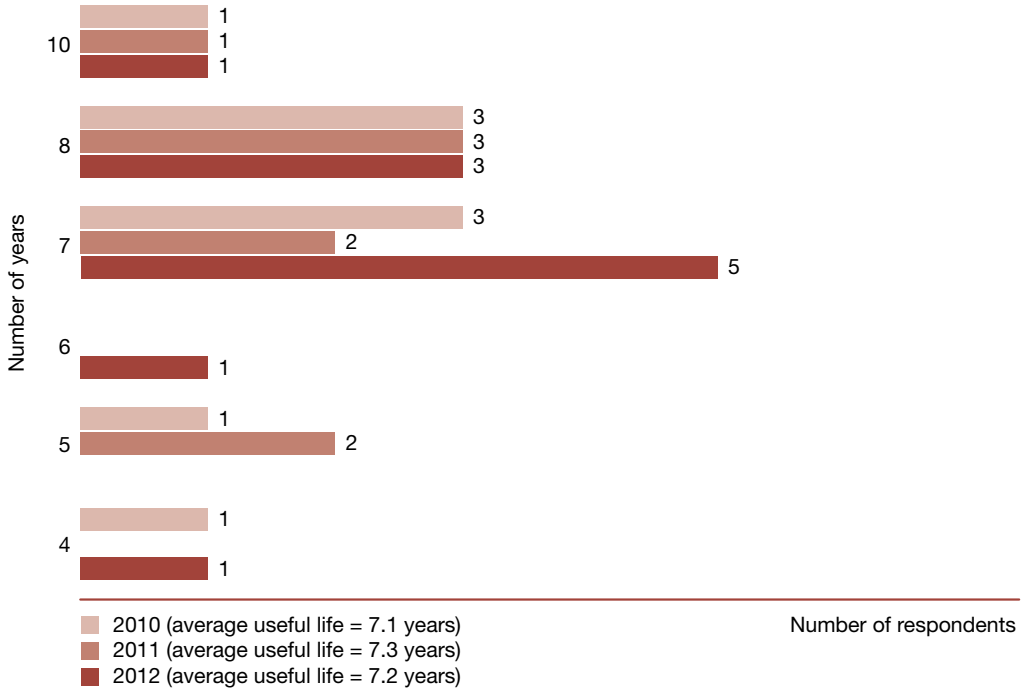


Chart totals more than 100% because multiple responses were allowed.
*These categories were not in the 2012 survey, therefore no responses are shown for previous years.

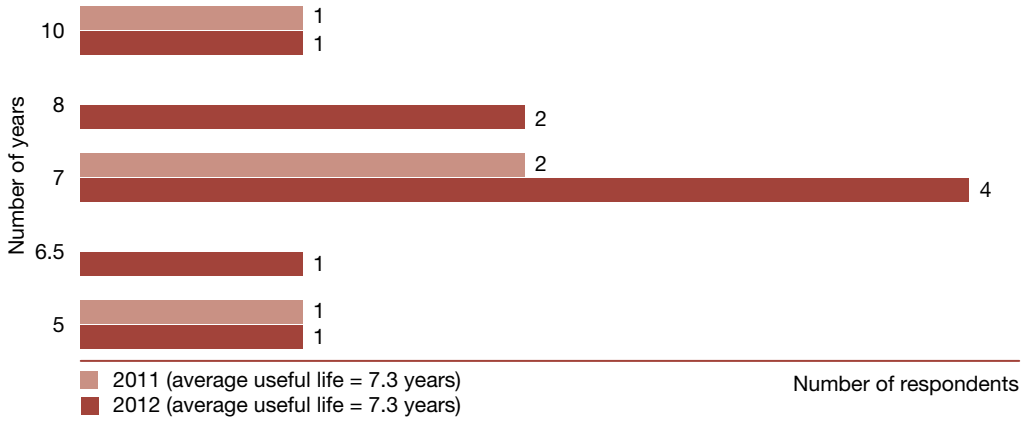
The following charts (Figure 5.33–5.72) illustrate the depreciation lives for the fixed asset components that are tracked and depreciated separately. The charts are separated into the depreciation lives for 3G and 4G for each fixed asset component. The information for 3G shows survey results for three years; results for 4G, due to the increase in use, are shown for only two years as more carriers have equipment in use in the current year. In addition, the categories related to channel cards—software, batteries, and capitalized interest on wireless licenses and property, plant, and equipment—are included for the first time in the current survey.

Figure 5.33: Radios (RF) and related equipment—hardware 3G



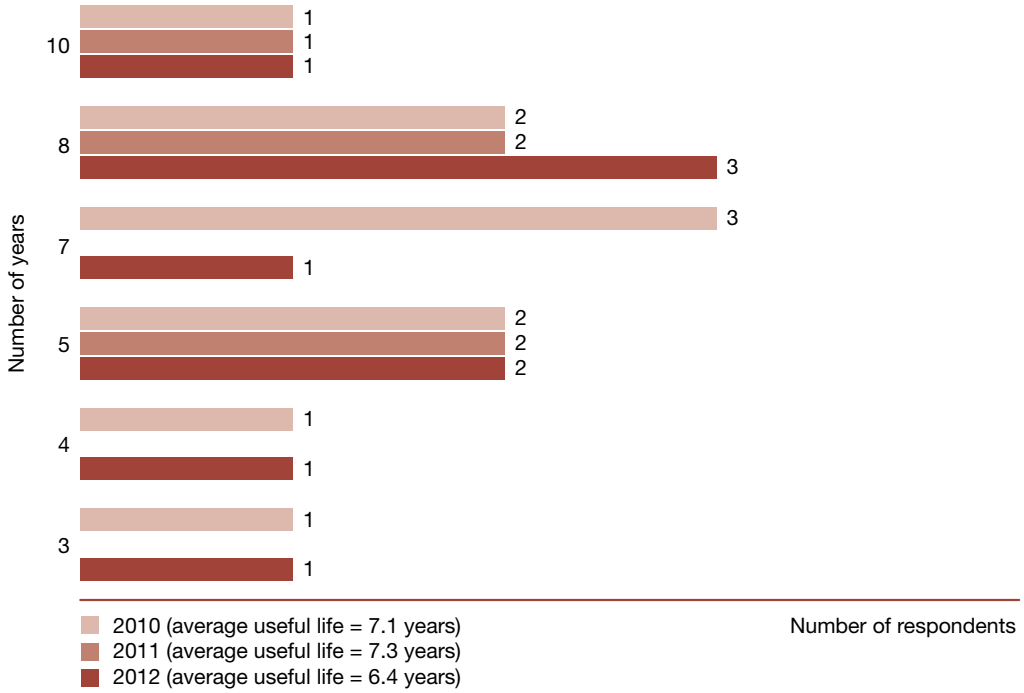
No responses were received in the 4 years category for 2011, the 5 years category for 2012, or the 6 years category for 2011 and 2010.

Figure 5.34: Radios (RF) and related equipment—hardware 4G



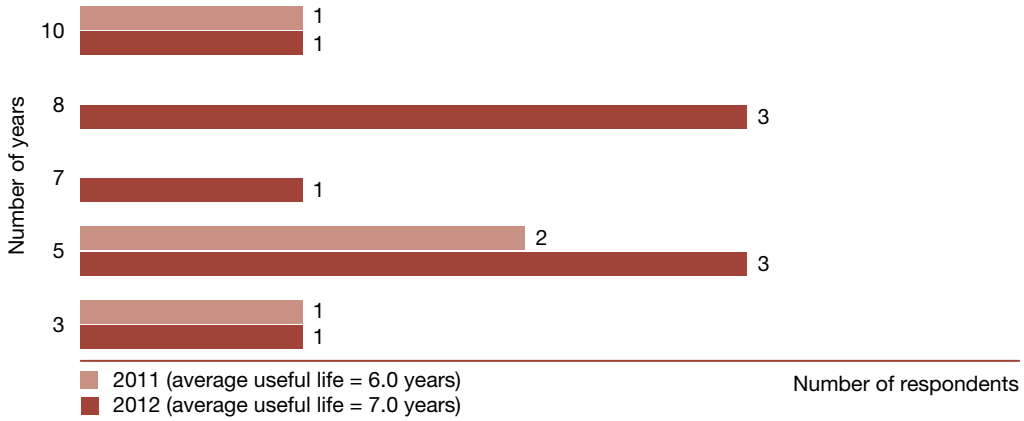
No responses were received in the 6.5 or 8 years categories for 2011.

Figure 5.35: Radios (RF) and related equipment—software 3G



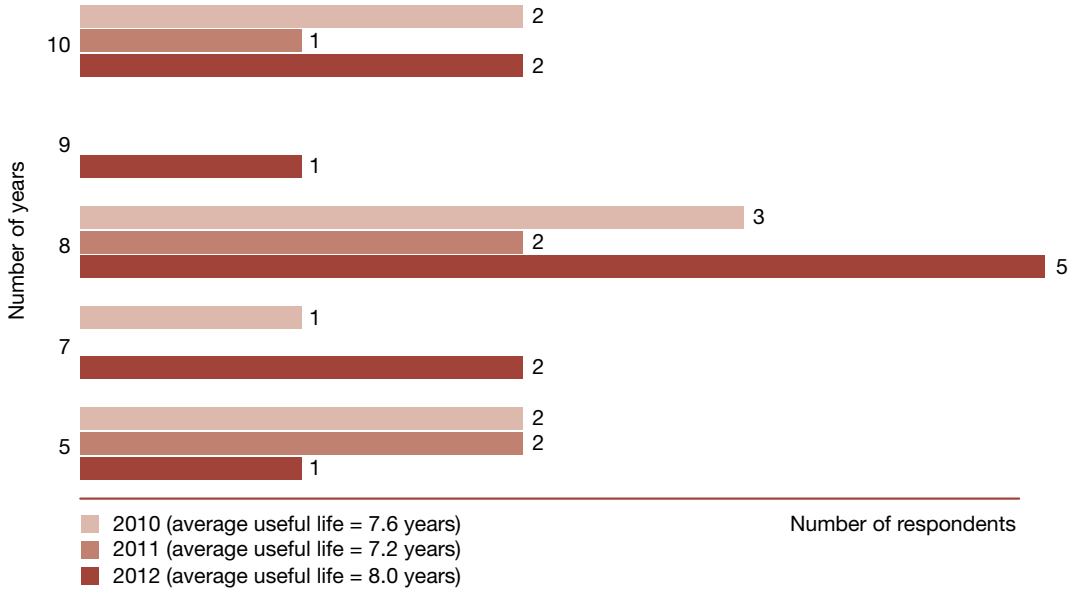
No responses were received in the 3, 4 or 7 years categories for 2011.

Figure 5.36: Radios (RF) and related equipment—software 4G



No responses were received in the 7 or 8 years categories for 2011.

Figure 5.37: Switch—hardware 3G



No responses were received in the 7 years category for 2011 or the 9 years category for 2010 and 2011.

Figure 5.38: Switch—hardware 4G

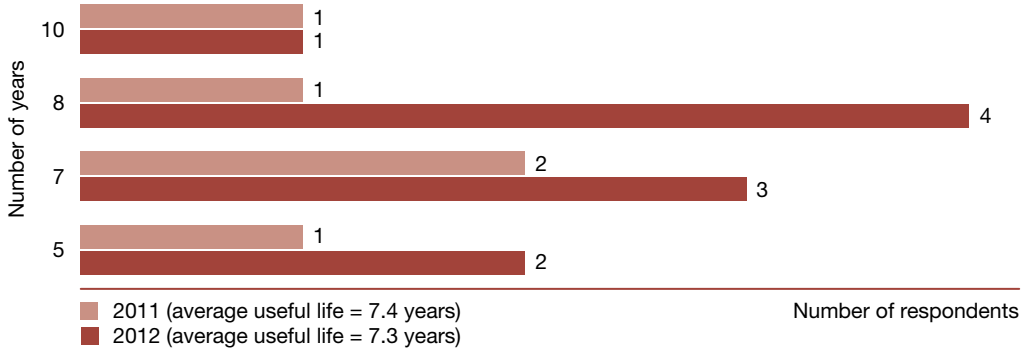
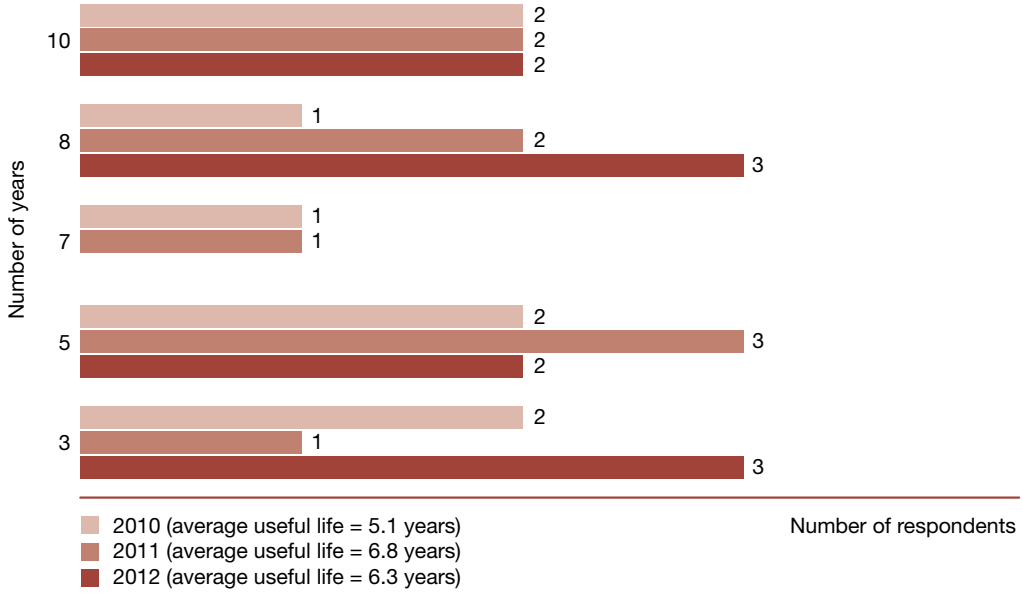
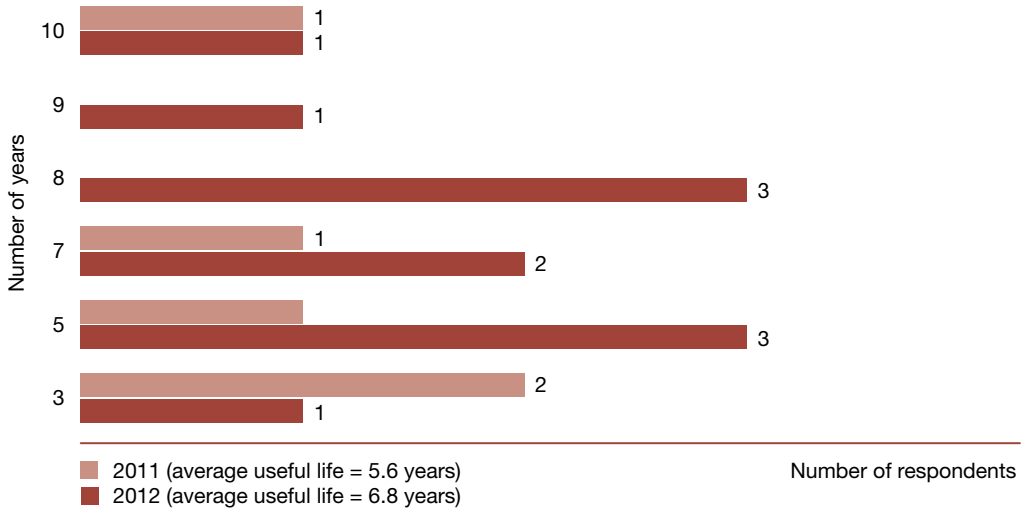


Figure 5.39: Switch—software 3G



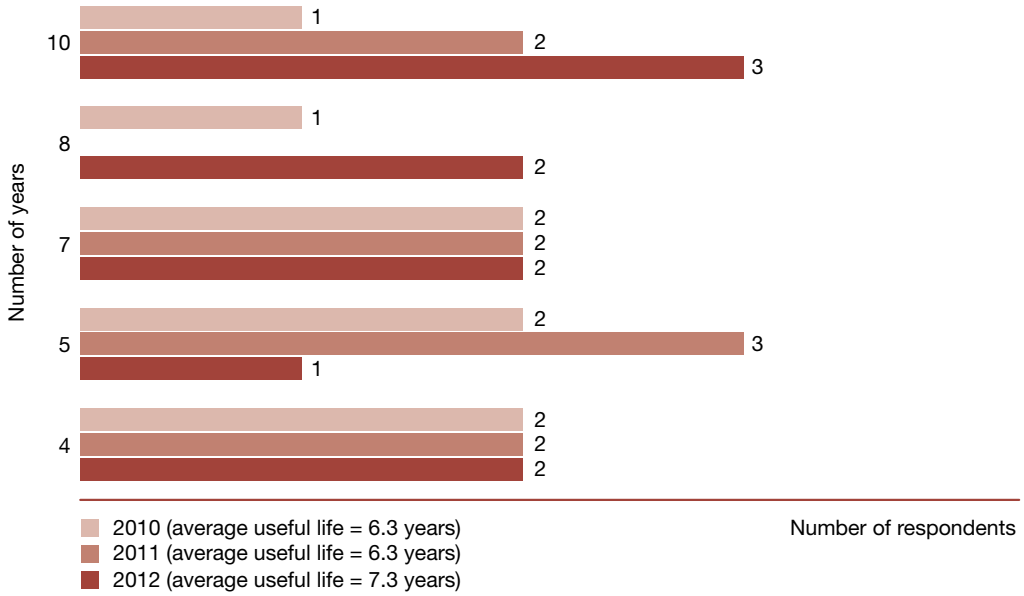
No responses were received in the 7 years category for 2012.

Figure 5.40: Switch—software 4G



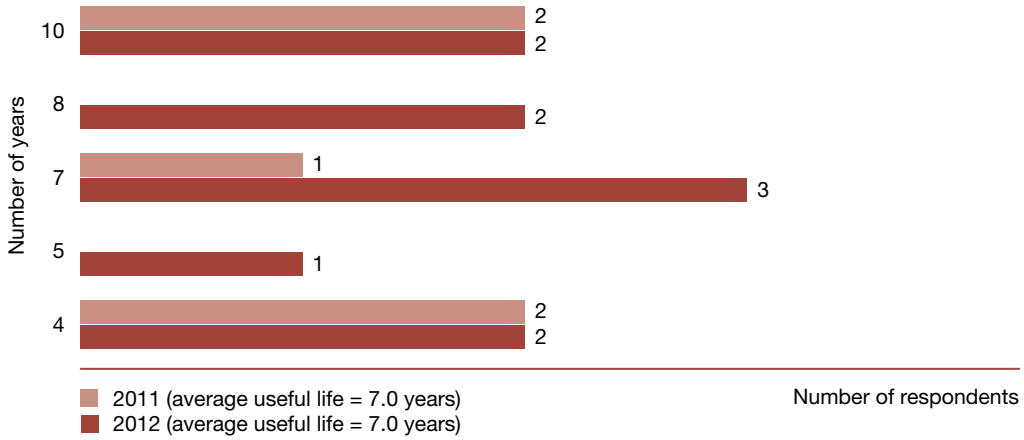
No responses were received in the 8 or 9 years categories for 2011.

Figure 5.41: Antenna 3G



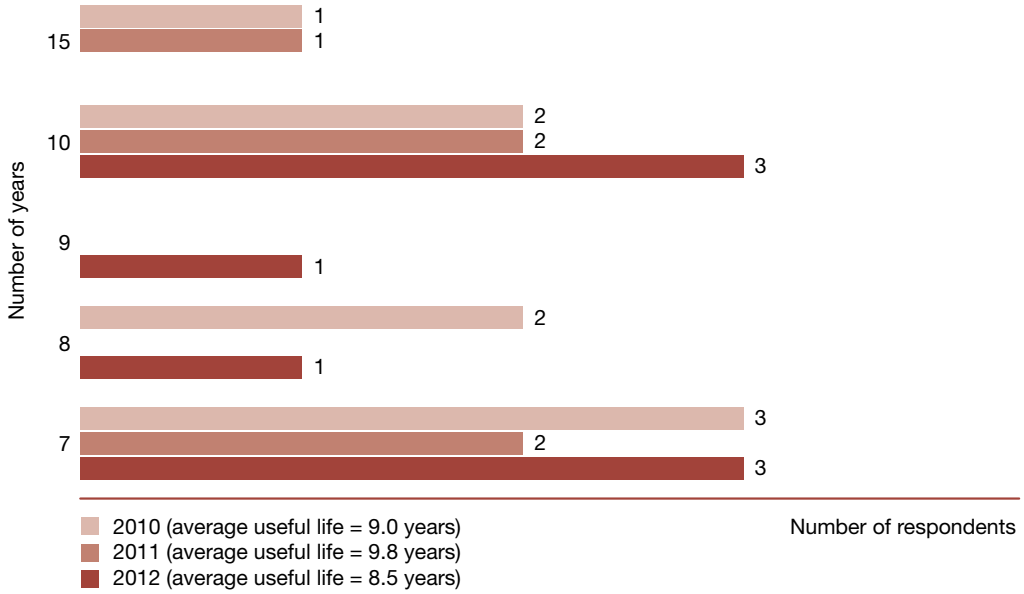
No responses were received in the 8 years category for 2011.

Figure 5.42: Antenna 4G



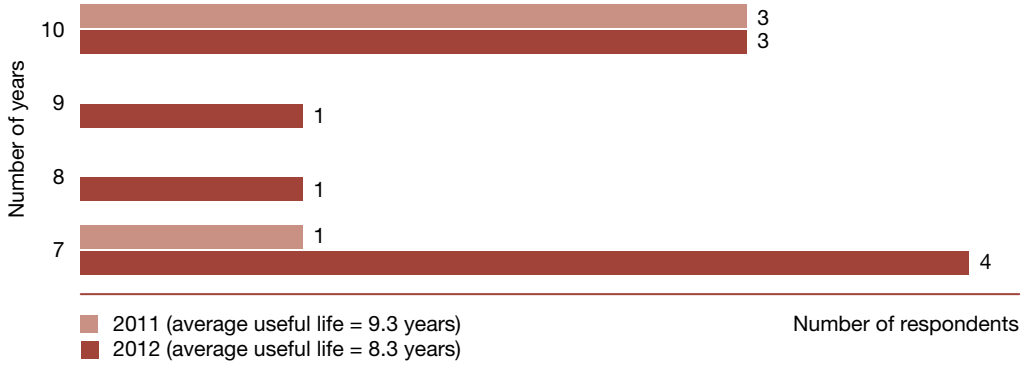
No responses were received in the 5 or 8 years categories for 2011.

Figure 5.43: Cabling 3G



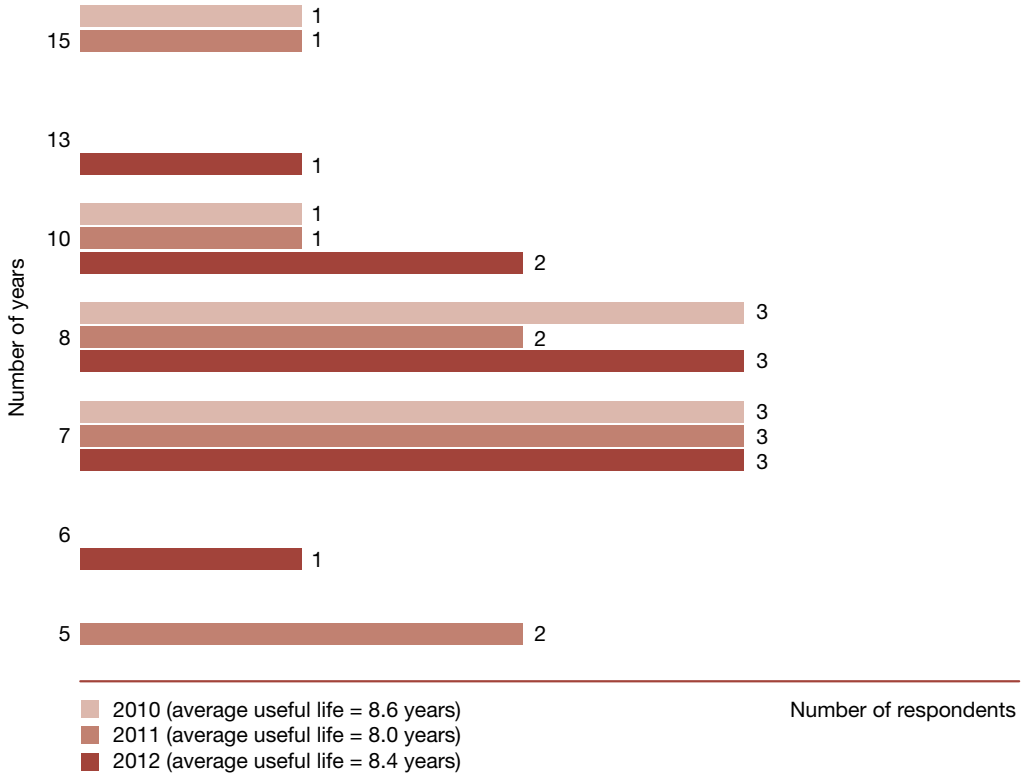
No responses were received in the 8 years category for 2011, the 9 years category for 2010 and 2011 or the 15 years category for 2012.

Figure 5.44: Cabling 4G



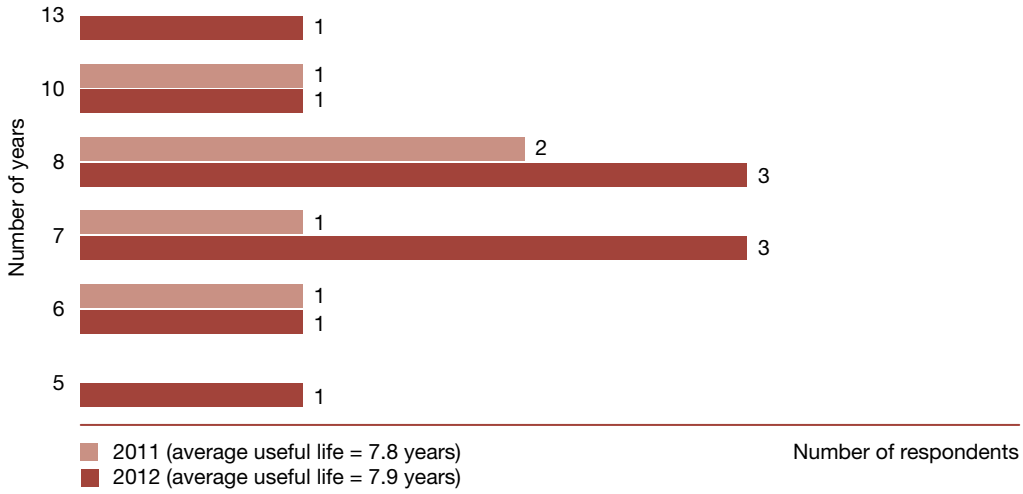
No responses were received in the 8 or 9 years categories for 2011.

Figure 5.45: Microwave equipment 3G



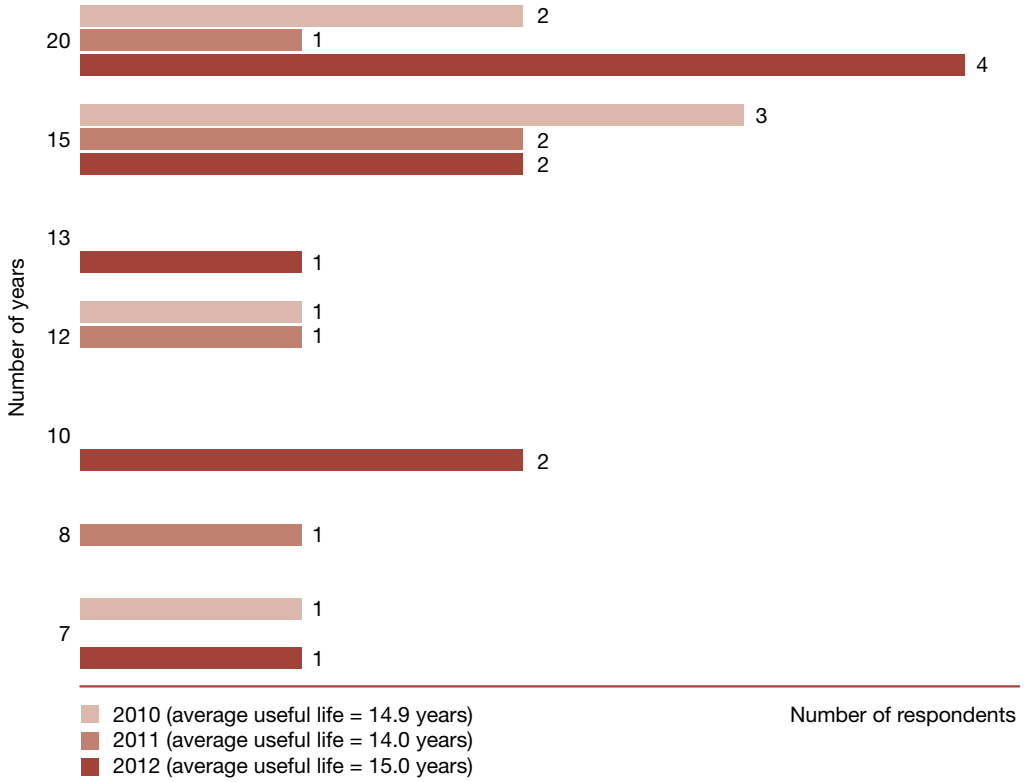
No responses were received in the 5 years category for 2010 or 2012, the 6 or 13 years categories for 2010 or 2011 or the 15 years category for 2012.

Figure 5.46: Microwave equipment 4G



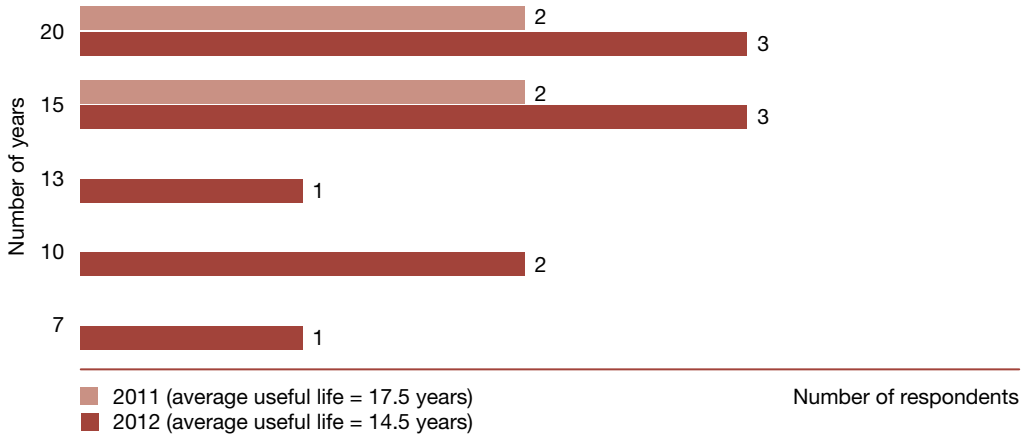
No responses were received in the 5 or 13 years categories for 2011.

Figure 5.47: Shelters or buildings 3G



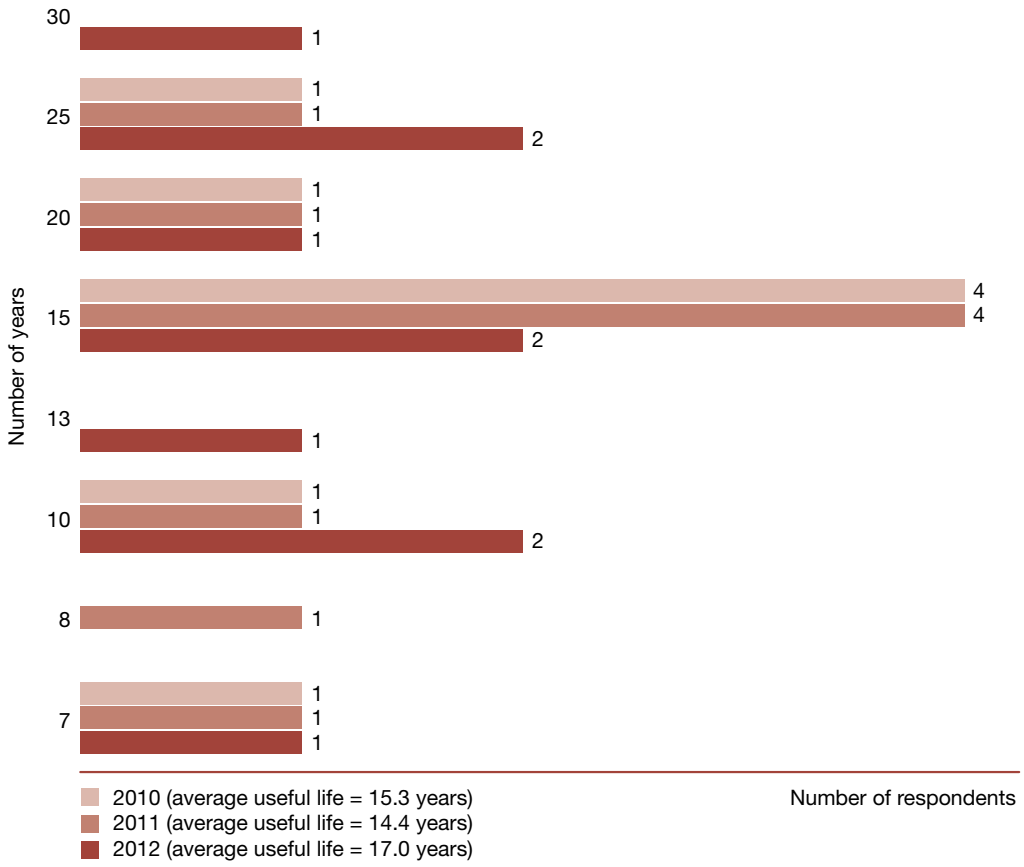
No responses were received in the 7 years category for 2011, the 8 years category for 2010 or 2012, the 10 or 13 years category for 2010 or 2011, or the 12 years category for 2012.

Figure 5.48: Shelters or buildings 4G



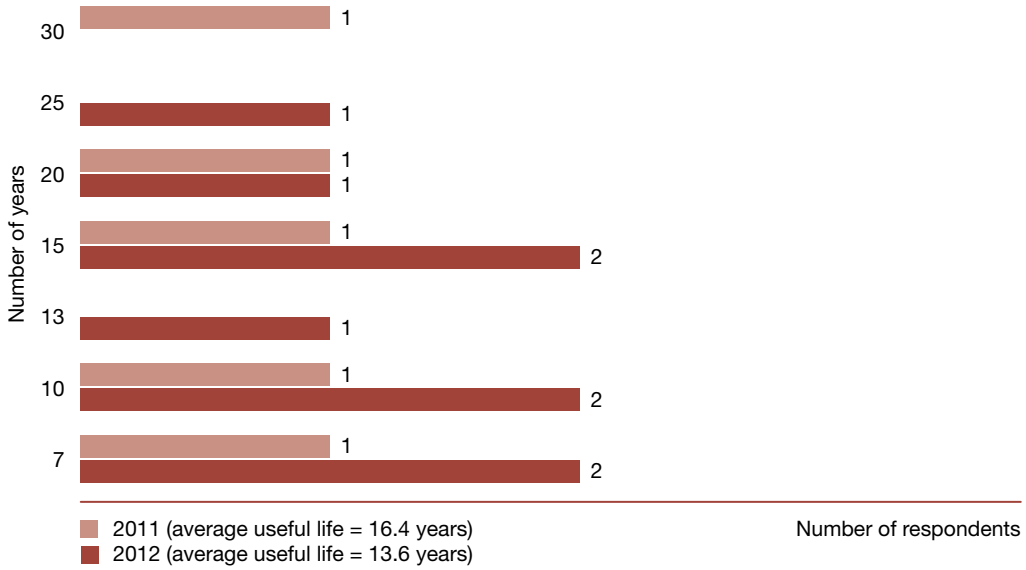
No responses were received in the 7, 10 or 13 years categories for 2011.

Figure 5.49: Towers or base stations 3G



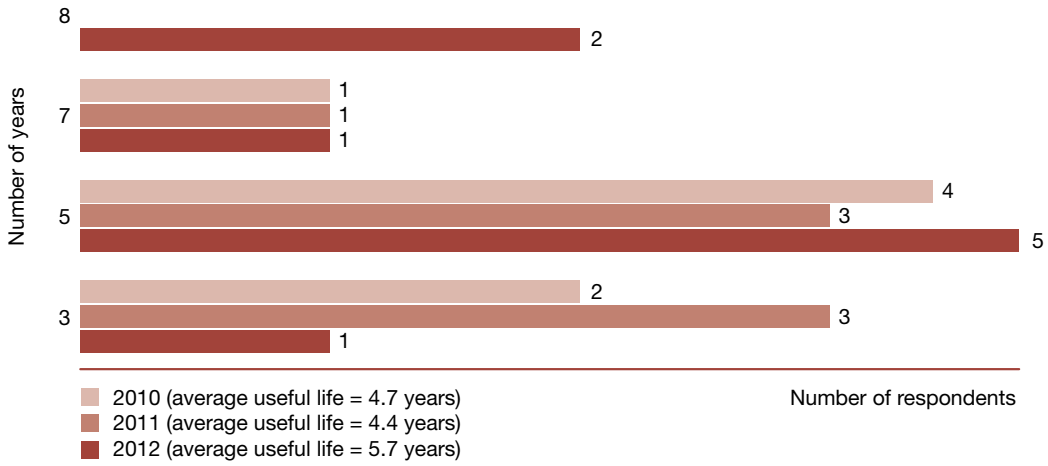
No responses were received in the 8 years category for 2010 or 2012, or the 13 or 30 years categories for 2010 or 2011.

Figure 5.50: Towers or base stations 4G



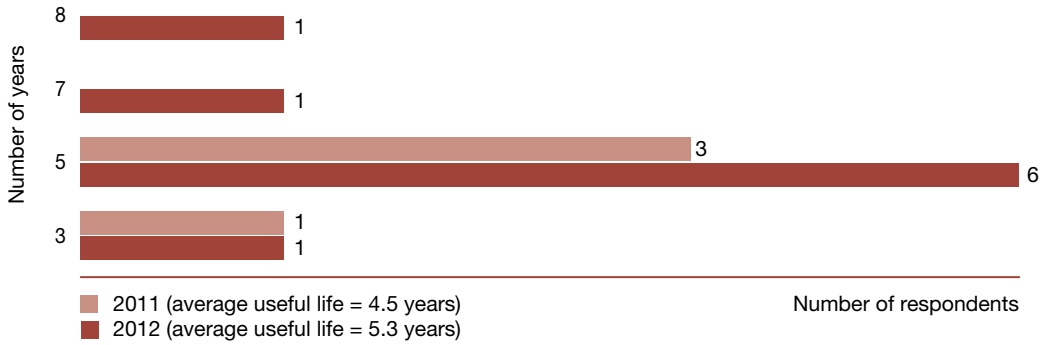
No responses were received in the 13 or 25 years categories for 2011 or the 30 years category for 2012.

Figure 5.51: Test equipment 3G



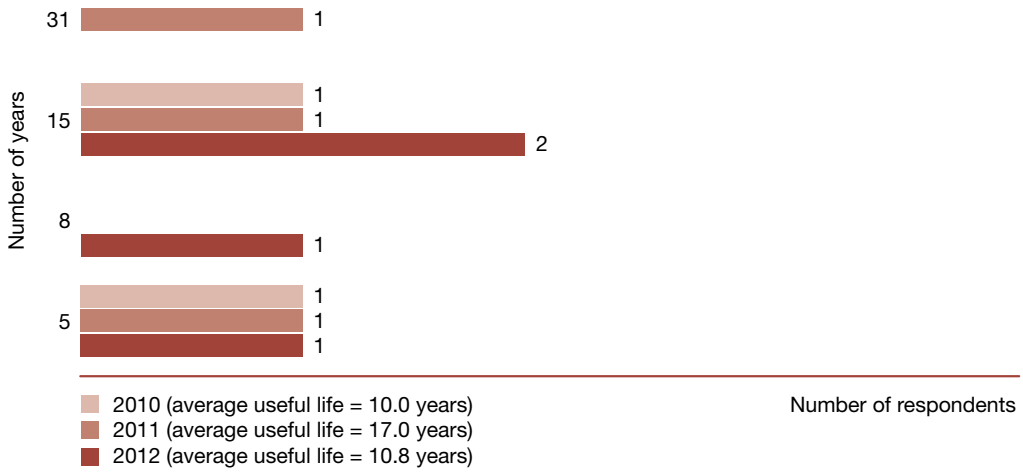
No responses were received in the 8 years category for 2011 and 2010.

Figure 5.52: Test equipment 4G



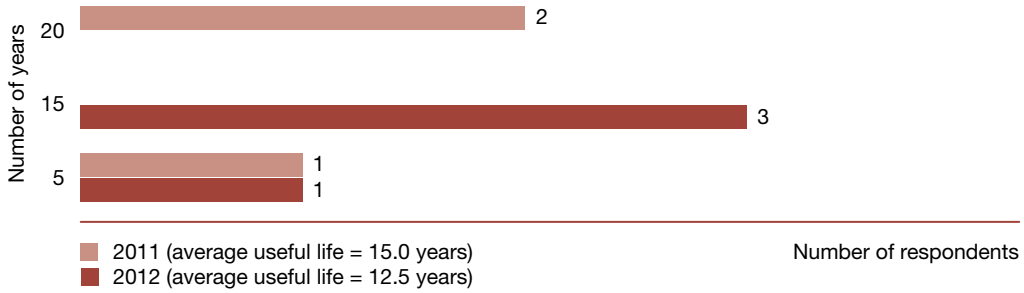
No responses were received in the 7 or 8 years categories for 2011.

Figure 5.53: Land improvements—leased land 3G



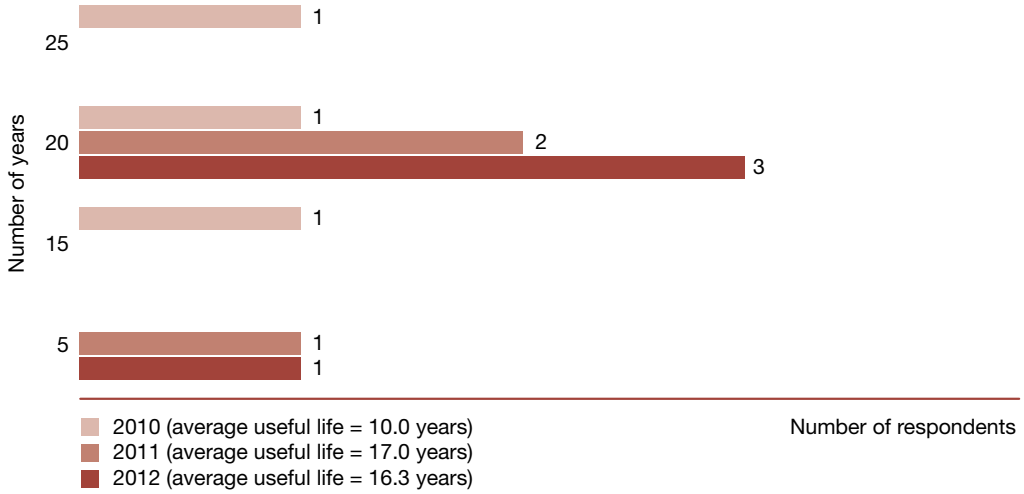
No responses were received in the 8 years category for 2010 or 2011 or the 31 years category for 2010 or 2012.

Figure 5.54: Land improvements–leased land 4G



No responses were received in the 15 years category for 2011 or the 20 years category for 2012.

Figure 5.55: Land improvements–owned land 3G



No responses were received in the 5 years category for 2010 or the 15 and 25 years categories for 2011 or 2012.

Figure 5.56: Land improvements–owned land 4G

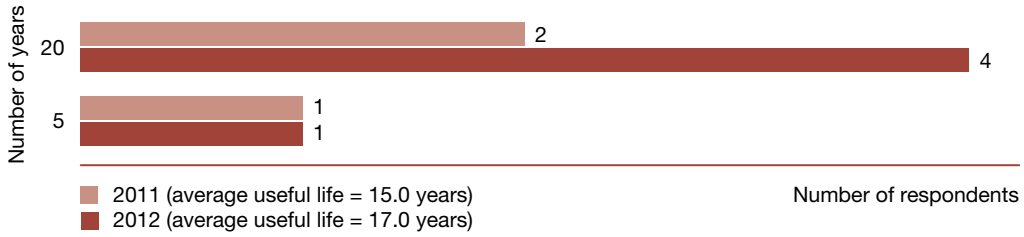
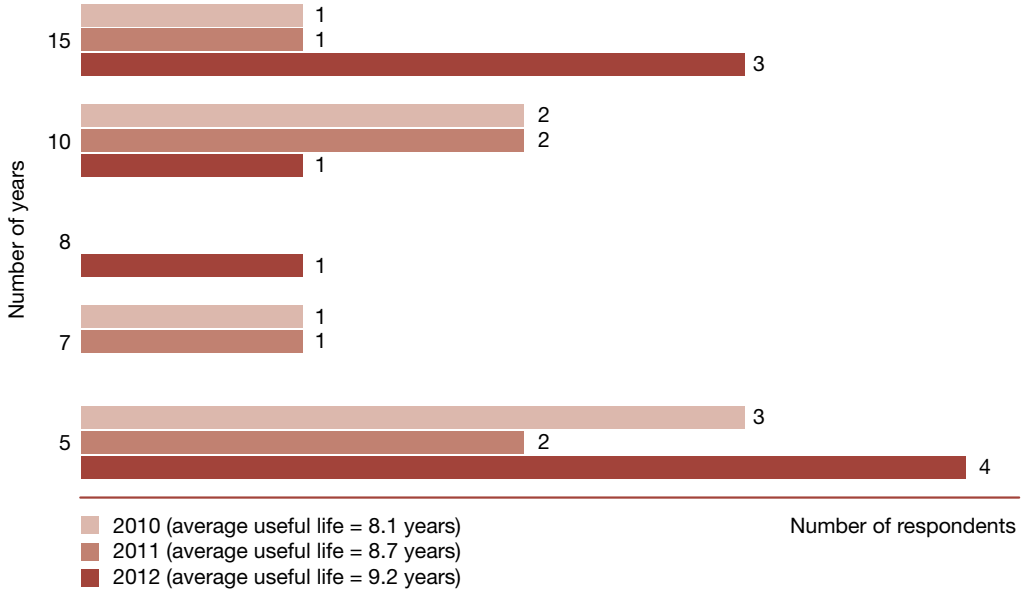
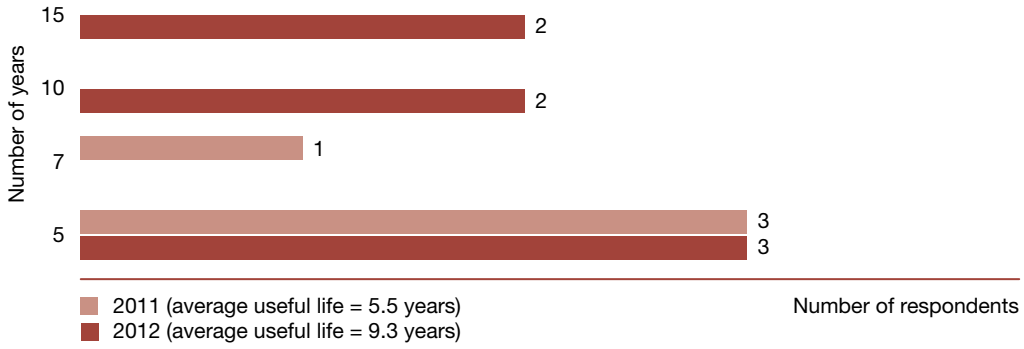


Figure 5.57: Leasehold improvements 3G



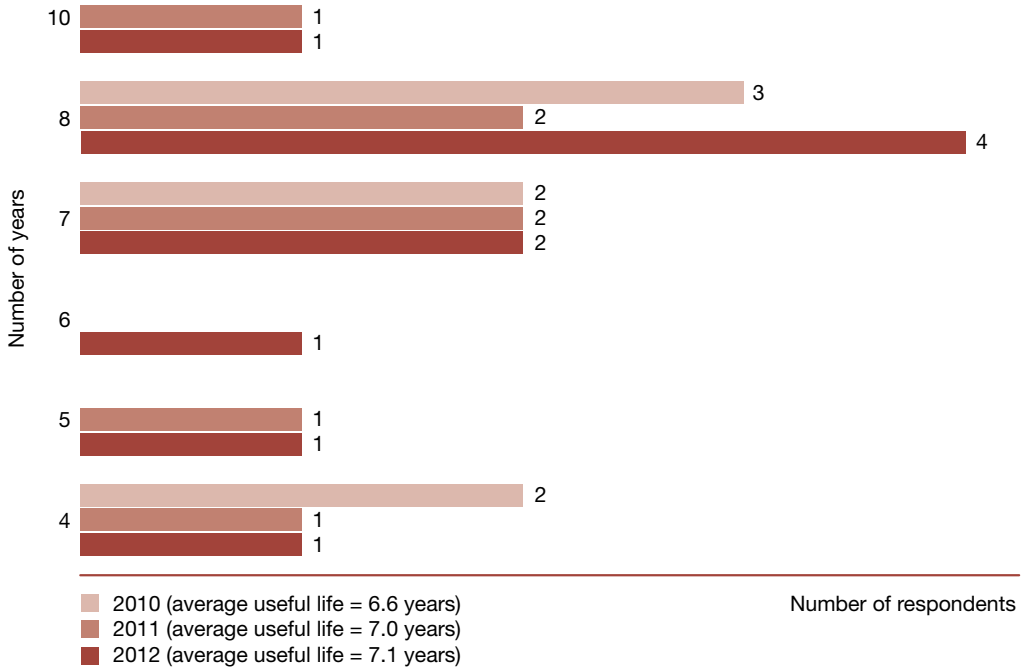
No responses were received in the 7 years category for 2012 or 8 years category for 2010 or 2011.

Figure 5.58: Leasehold improvements 4G



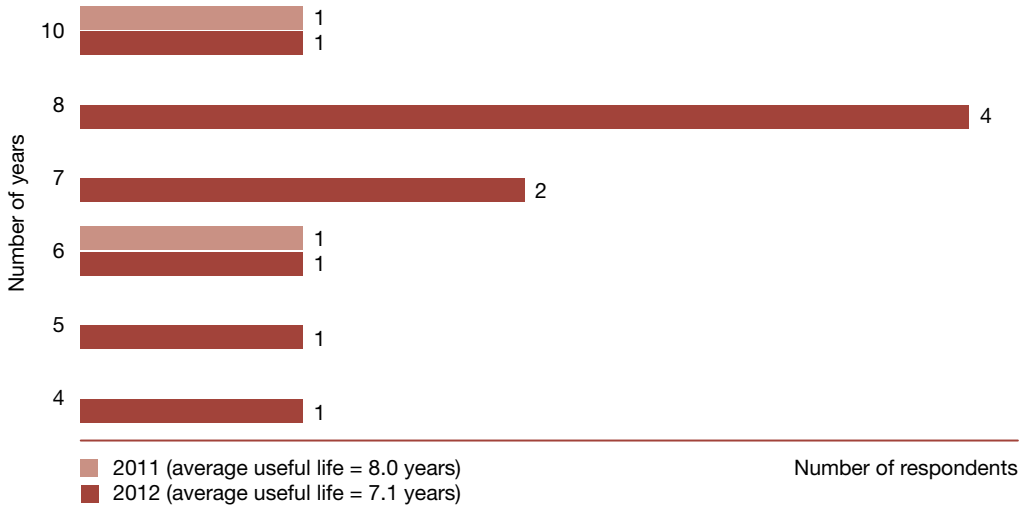
No responses were received in the 7 years category for 2012 or the 10 or 15 years categories for 2011.

Figure 5.59: Channel cards—hardware 3G



No responses were received in the 5 or 10 years category for 2010 or 6 years category for 2010 or 2011.

Figure 5.60: Channel cards—hardware 4G



No responses were received in the 4, 5, 7, or 8 years categories for 2011.

Figure 5.61: Channel cards (software-access/keys to unlock additional capacity 3G)

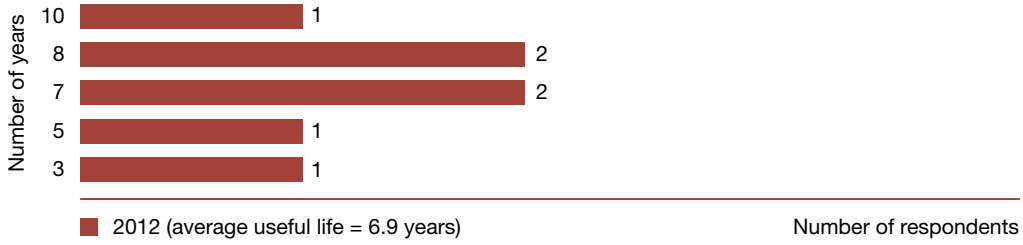


Figure 5.62: Channel cards (software-access/keys to unlock additional capacity 4G)

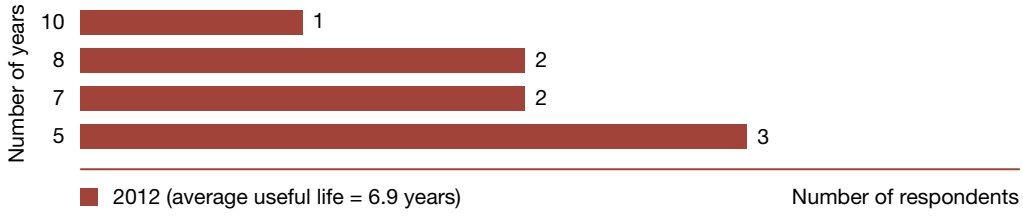
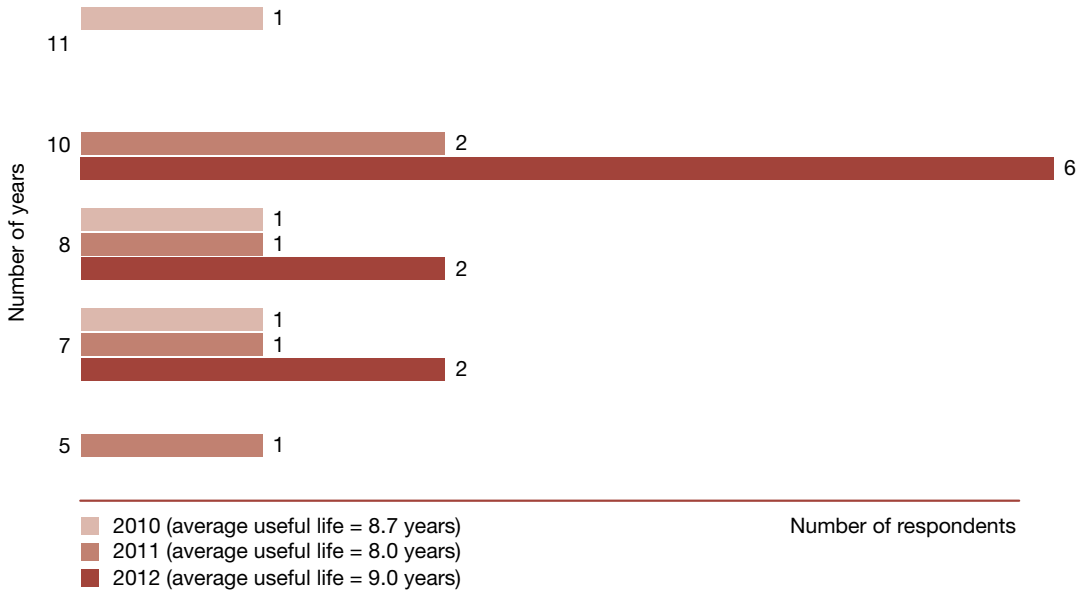
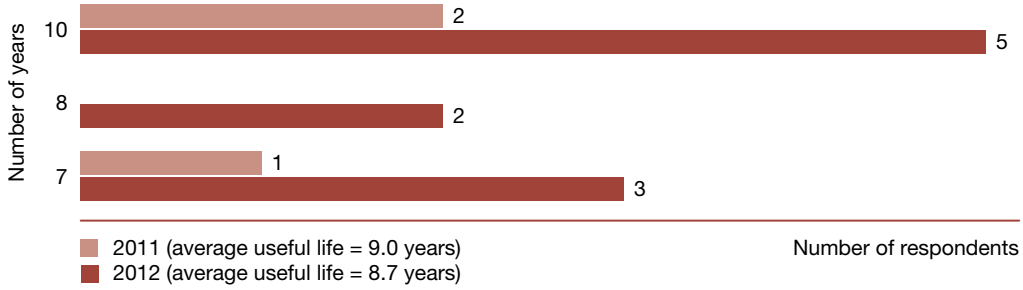


Figure 5.63: Power equipment 3G



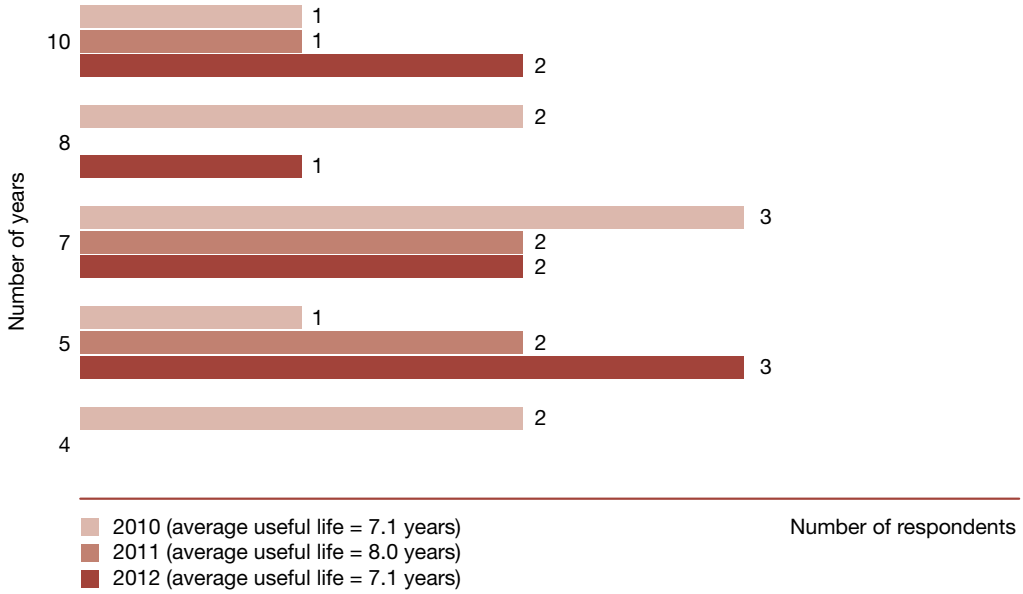
No responses were received in the 5 years category for 2010 or 2012, the 10 years category for 2010, or the 11 years category for 2011 or 2012.

Figure 5.64: Power equipment 4G



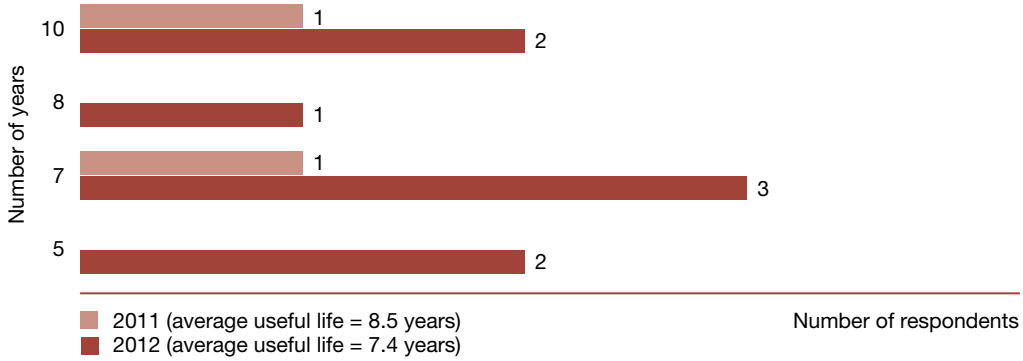
No responses were received in the 8 years category for 2011.

Figure 5.65: Voice mail equipment 3G



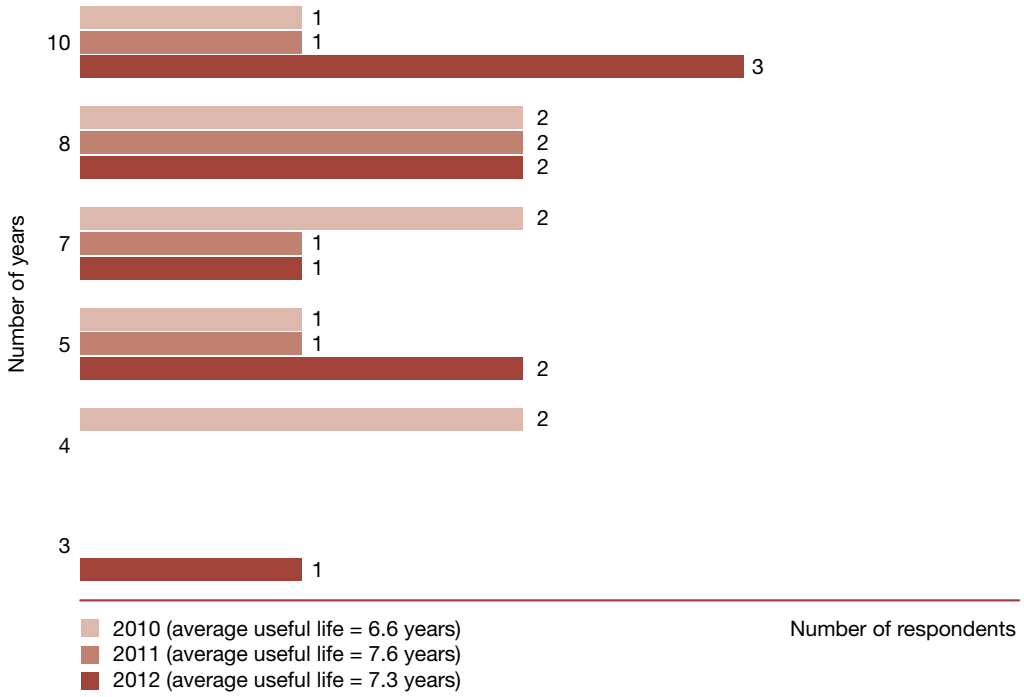
No responses were received in the 4 years category for 2011 or 2012 or the 8 years category for 2011.

Figure 5.66: Voice mail equipment 4G



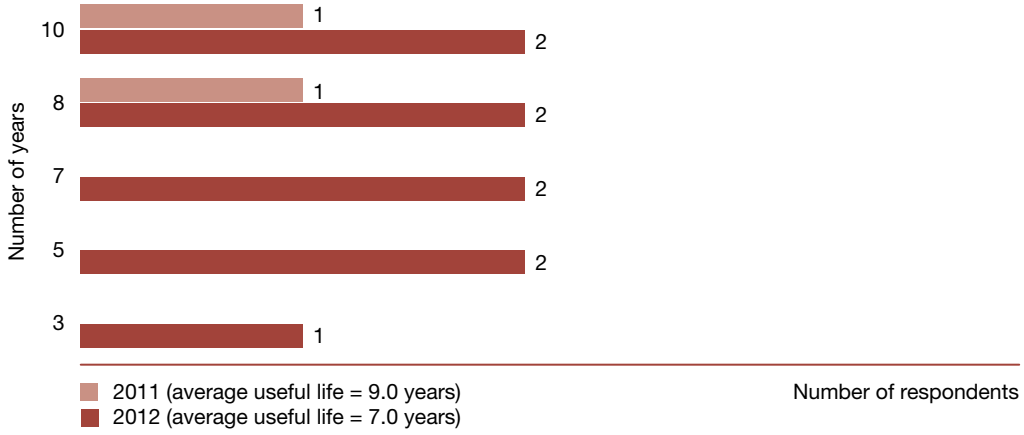
No responses were received in the 5 or 8 years category for 2011.

Figure 5.67: Data network 3G



No responses were received in the 3 years category for 2010 or 2011 or the 4 years category for 2011 or 2012.

Figure 5.68: Data network 4G



No responses were received in the 3, 5, or 7 years categories for 2011.

Figure 5.69: Capitalized interest on wireless licenses (Spectrum) 3G

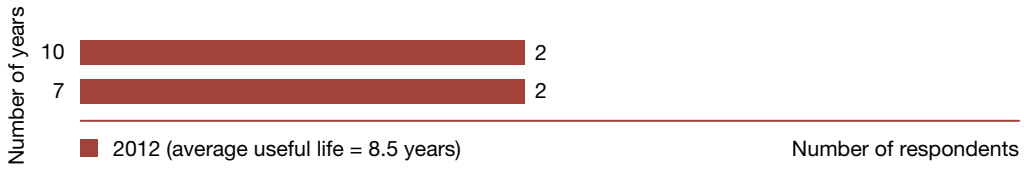


Figure 5.70: Capitalized interest on wireless licenses (Spectrum) 4G

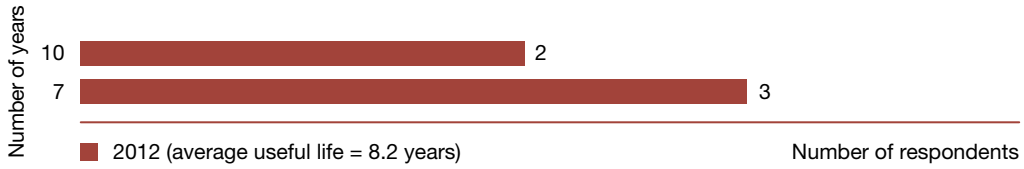


Figure 5.71: Capitalized interest on property, plant, and equipment 3G

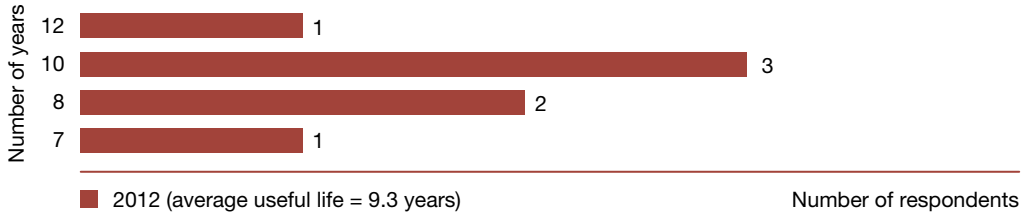
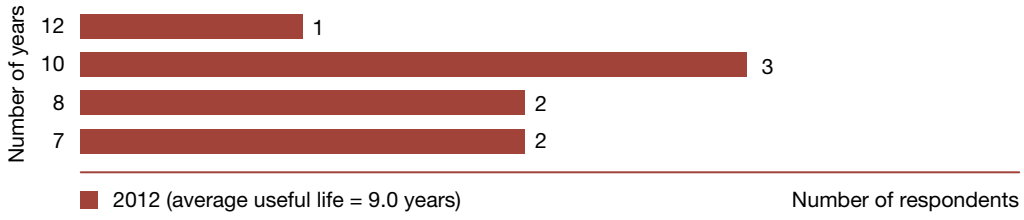
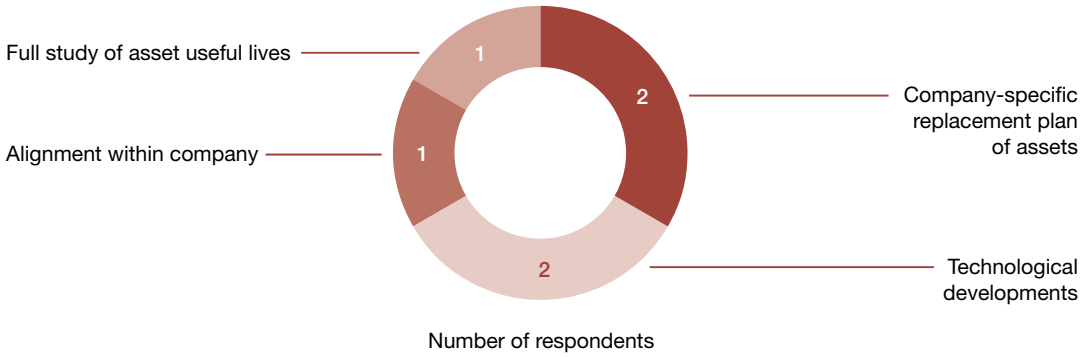


Figure 5.72: Capitalized interest on property, plant, and equipment 4G



Companies were asked whether they changed any of their fixed asset useful lives during the previous year. Forty-six percent of the thirteen respondents had changes in the useful lives of their fixed assets, compared with 50 percent of respondents in the 2011 survey. Of the six respondents that had changes in the current survey, four indicated the changes generally decreased depreciation expense, and the other two had increases in depreciation expense. Figure 5.73 indicates the reasons the respondents cited for changing their fixed asset useful lives.

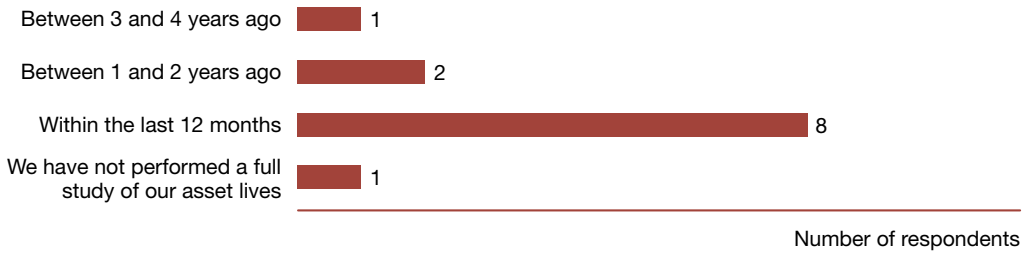
Figure 5.73: Trigger for change in useful lives



Advances in technology are a cause for review of some fixed asset useful life assumptions. For example, as network equipment has become more compact and energy efficient, the usefulness of large shelters, racks, and power supplies has rapidly diminished. The useful lives associated with 4G technology are also indicating that the average life on certain categories of assets is shorter.

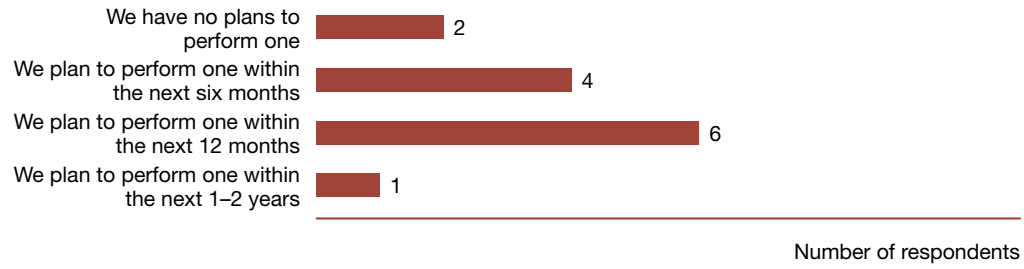
Figure 5.74 shows the last time the respondents performed full studies of their fixed assets' useful lives.

Figure 5.74: Most recent fixed asset useful life study



Companies were also asked to indicate when they plan to perform their next studies of fixed asset useful lives; Figure 5.75, shows their responses. Only one respondent indicated that they utilize third-party resources to assist with these studies, while all other respondents said they use only internal resources when conducting analyses of asset lives.

Figure 5.75: Next planned fixed asset useful life study



Colocation

Figure 5.76 shows the approximate percentages of respondents' total cell sites that generate colocation receipts. As has been the trend in recent years, few cell sites are currently generating colocation receipts because of the increased usage of shared towers and other site facilities owned or operated by tower leasing companies.

Figure 5.76: Percentage of cell sites that generate Colocation receipts

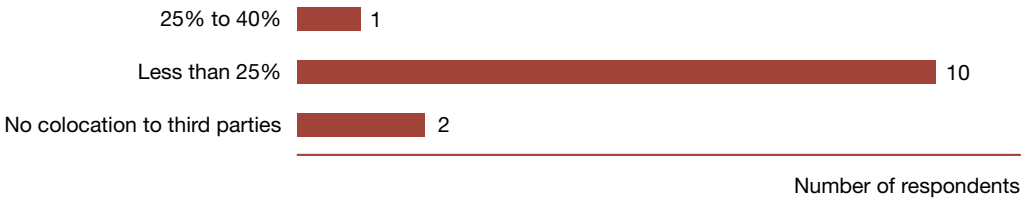
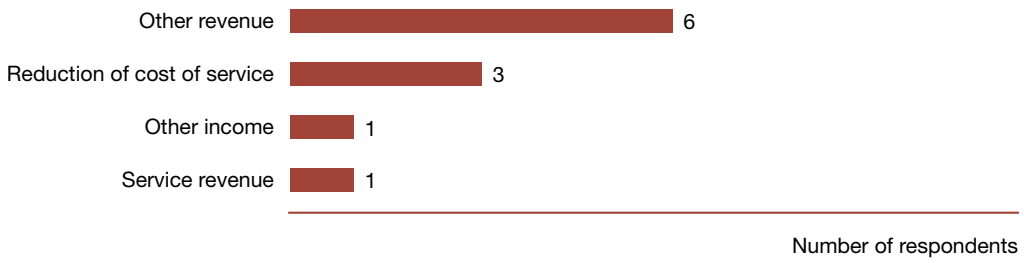


Figure 5.77 shows where the respondents record colocation receipts on their income statements.

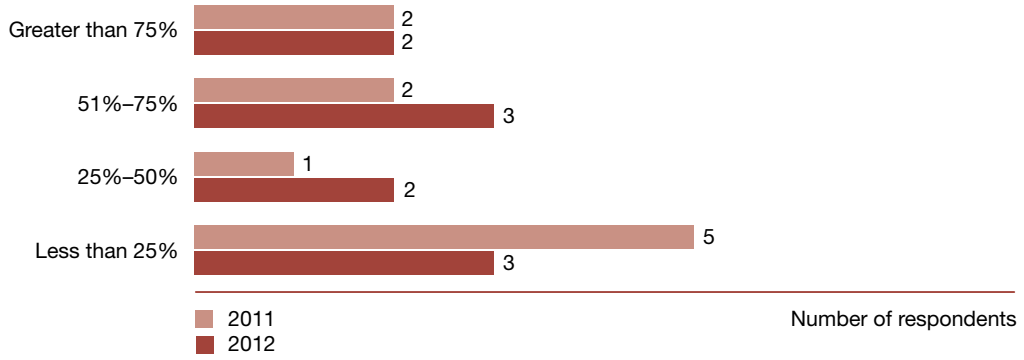
Figure 5.77: Classification of collocation receipts on income statement



For responding companies that classify colocation receipts on the revenue financial statement line item in Figure 5.77, 86 percent record it in other revenue, up 26 percent from 60 percent in the previous year and significantly up from 37 percent in the 2010 survey.

Companies were also asked what percent of assets are colocated on third-party sites. The average of colocated assets for all responding companies was 47 percent. Carriers with revenue less than $5 billion had more colocated assets than carriers with revenue greater than $5 billion, at 62 percent compared with 36 percent. The results are presented in Figure 5.78.

Figure 5.78: Percentage of assets collocated on third-party sites



Fifty-eight percent of respondents indicated that they record colocation costs on the income statement in cost of services/revenue, while 42 percent indicated they record the costs in operating expenses.

As carriers look for additional ways to lower costs and increase POPs and subscriber coverage, they are beginning to use network sharing. Five of the responding carriers are participating in network sharing agreements, and, on average, 23 percent of networks are shared. Carriers are sharing between 5 percent and 50 percent of their networks.

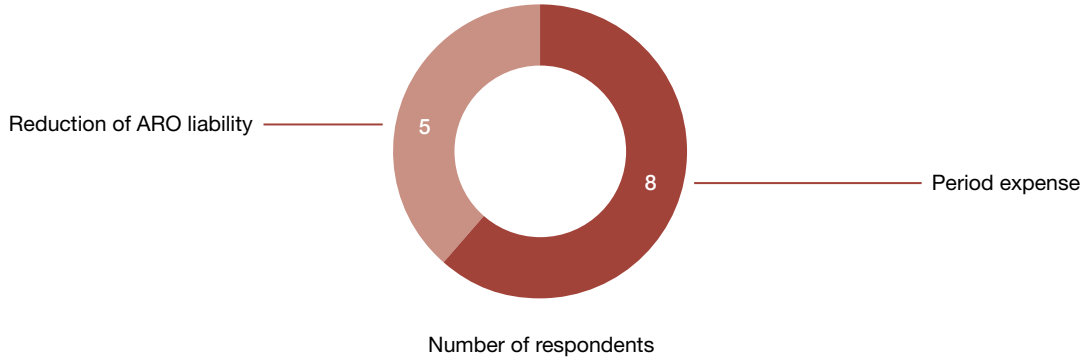
Decommissioning of network assets

As telecom operators continue to upgrade their network technologies to improve performance and increase capacity, many of them are confronted with the challenge of maintaining multiple generations of technologies and networks. Many wireless operators continue to operate 2G and 3G networks while also deploying 4G technology. Driven by the complexity and cost of maintaining multiple technologies, as well as by the need to make valuable assets occupied by older and less efficient technology available for reuse, operators have begun to prepare for the decommissioning of their older networks.

As of June 30, 2012, 8 of the 13 responding carriers indicated they have plans for, or are currently in the process of, decommissioning network assets. Generally, the assets being decommissioned consist of cell site and switch equipment, radio equipment, and broadband wireless networks in the 2.5GHz band.

Figure 5.79 indicates how costs associated with decommissioning assets are being recorded/treated each period.

Figure 5.79: Decommissioning expense recognition



Cell sites and asset retirement obligations

Responding companies were asked to indicate the locations of their cell sites, and the average results are presented in the following two charts (Figure 5.80 and 5.81) and compared with the 2011 survey split for carriers with revenue greater than and less than $5 billion.

Figure 5.80: Type of cell sites utilized as of June 30 for carriers with revenue >$5 billion

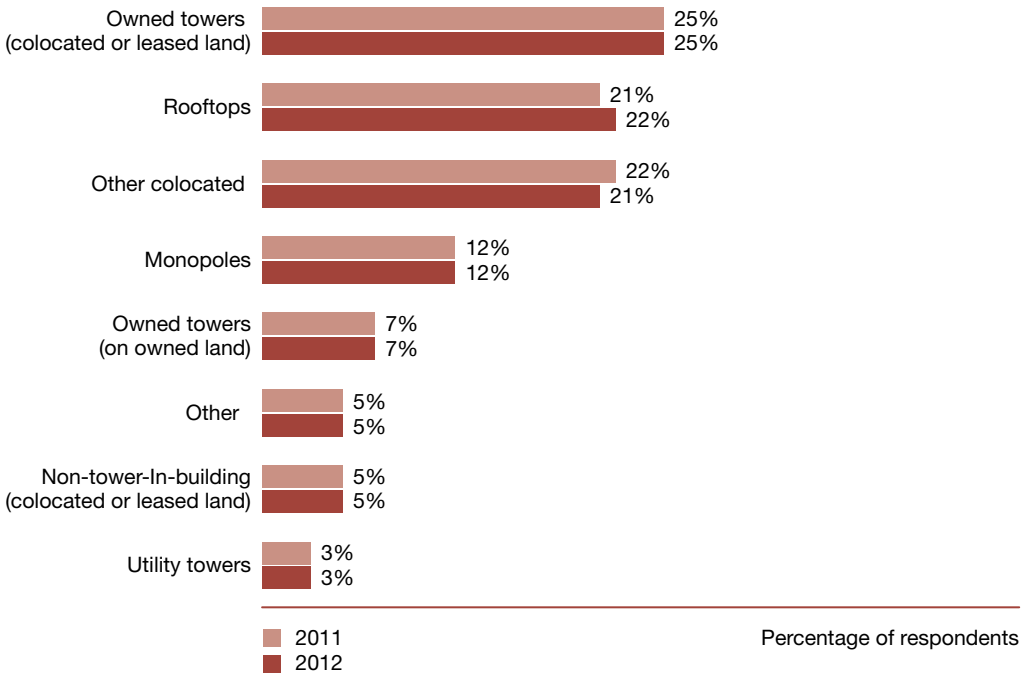
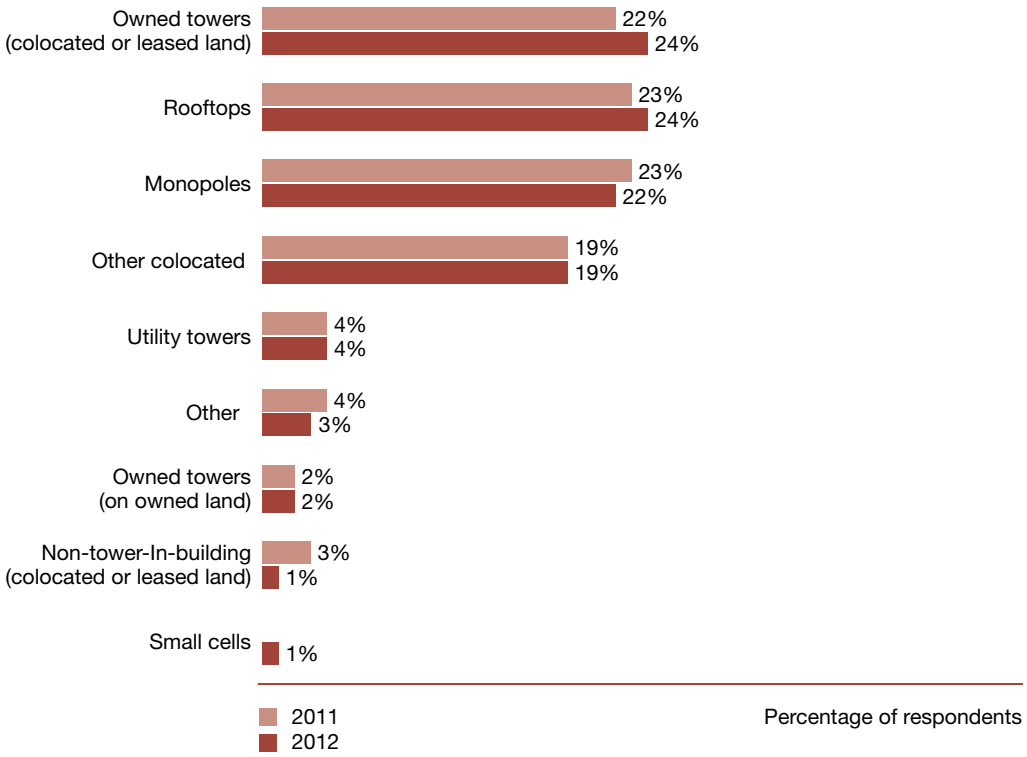


Figure 5.81: Type of cell sites utilized as of June 30 for carriers with revenue <$5 billion



The average cost per cell site for the current year, compared with the 2011 and 2010 surveys, is included in Figure 5.82, below. Costs for all categories increased, compared with the previous years' surveys, indicating that as carriers continue to install and implement new networks, the cost per cell site continues to increase.

Figure 5.82: Average cost per cell site

	2012	2011	2010
Colocated cell sites	$277,285	$211,412	$231,386
Rooftops	$278,774	$126,012	$218,750
Towers on leased lands	$292,616	$202,142	$244,855
Monopoles	$231,996	$226,394	$355,162
Towers on owned land	$360,870	$184,687	$200,379
Utility towers	$330,907	$160,897	$215,135
Non-tower-in building	$289,324	$103,595	$161,099

For the respondents that indicated they record asset retirement obligations (AROs), Figure 5.83 summarizes the costs included in the respective calculations, compared with the previous two surveys.

Figure 5.83: Costs included in asset retirement obligation calculation

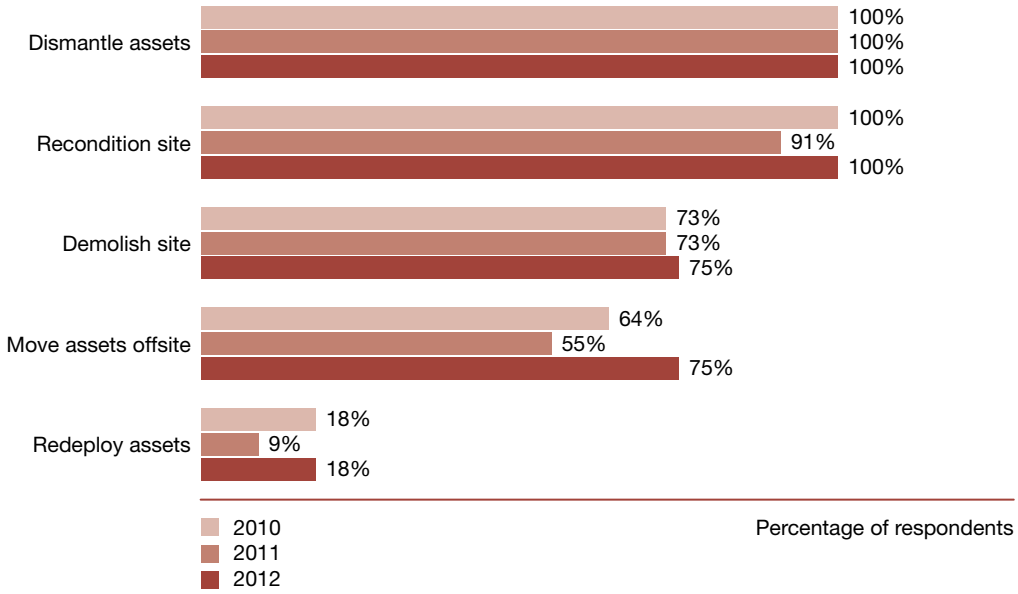
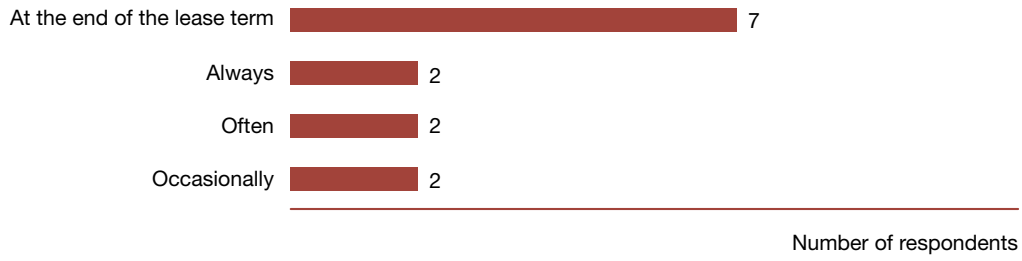


Chart totals more than 100% because multiple responses were allowed.

Fifty-eight percent of the responding companies indicated that lessors have required remediation or restoration activities related to termination of cell site leases. On average, lessors have required remediation 70 percent of the time, up from 54 percent in the 2011 survey. In addition, four carriers indicated they have been required to remediate 100 percent when terminating cell site leases. During 2011 and 2010, responding companies completed remediation activities associated with mobile telephone switching offices, cell towers (located on rooftops, colocated, and utility towers), retail facilities, and general and administrative buildings.

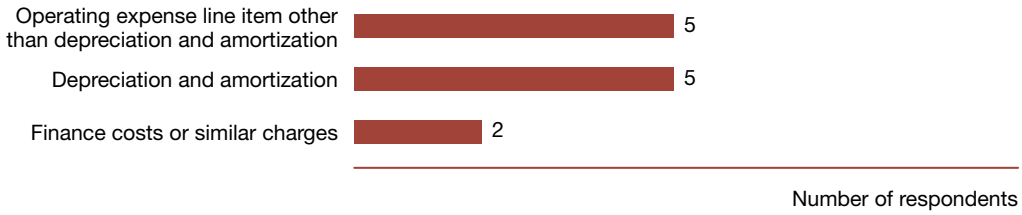
The survey asked companies whether they factored the probability of the lessor enforcement into the calculation of their asset retirement obligation liabilities. Sixty-two percent of the respondents factor the probability of lessor enforcement into the calculation of their asset retirement obligation liabilities. Figure 5.84 indicates how often those carriers believe lessors will enforce remediation.

Figure 5.84: Remediation or restoration activities expected to be required by lessors



Responding companies continue to be split on the classification of asset retirement obligation accretion expense in the income statement, as shown below in Figure 5.85. Forty-two percent record the asset retirement obligation expense as an operating expense line item other than depreciation and amortization expense, which is lower than the 54 percent in the 2011 survey.

Figure 5.85: Income statement line classification for accretion expense



Of those companies that record accretion expense as an operating expense line item other than depreciation and amortization, two of the carriers record the expense in network/system expense, two record it in cost of service, and one carrier includes it in selling, general, and administrative expense.

Figure 5.86 shows which line items on the statement of cash flow respondents use for reporting accretion expense.

Figure 5.86: Reporting of accretion expense on statement of cash flow

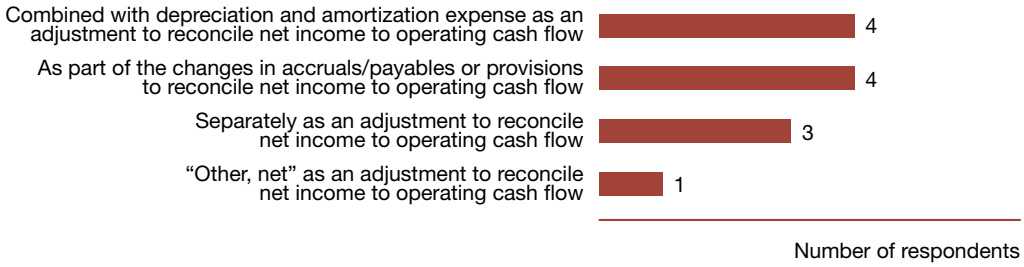
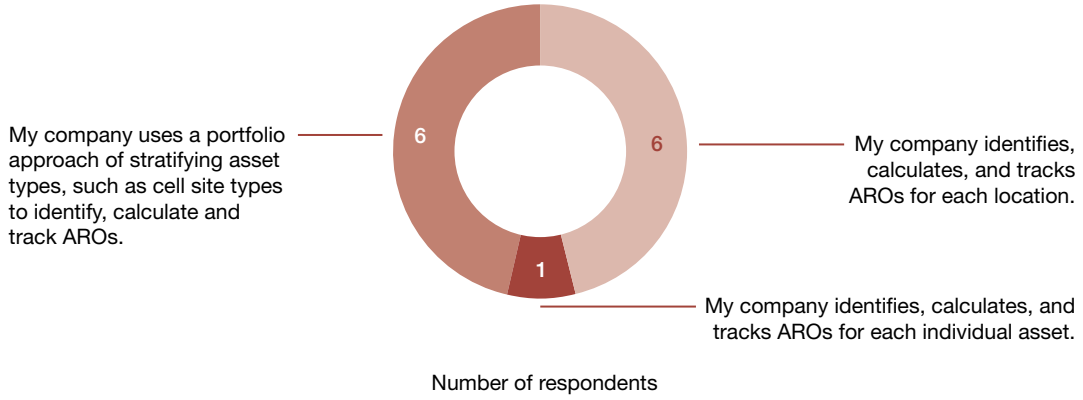


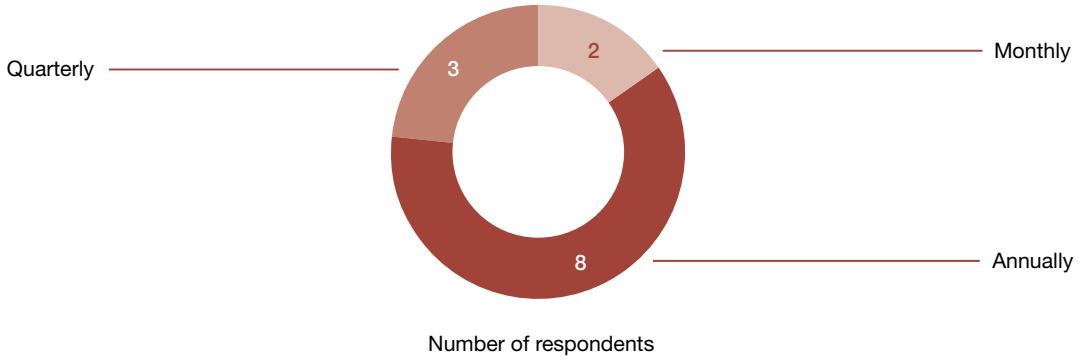
Figure 5.87 illustrates the responding companies' various methods of identifying, calculating, and tracking asset retirement obligations (AROs).

Figure 5.87: Method of identifying, calculating, and tracking asset retirement obligations



Consistent with previous years' surveys, more than 50 percent of the respondents update AROs on an annual basis. Figure 5.88 shows the frequency with which the responding companies update their ARO analyses.

Figure 5.88: Frequency of update of asset retirement obligation analysis



Responding companies that do not use mass asset accounting were asked how they account for retirements of components of a piece of equipment. Sixty-nine percent of the respondents indicated they write off the exact value because components are tracked at the component level. Twenty-three percent write off a component based on an estimate of its remaining net book value, while eight percent use a combination of exact value and estimates.

Government grants

Carriers were asked if they had applied for government grants or stimulus funds in expanding their network (such as US broadband stimulus funds). Thirty-four percent of responding carriers have applied for such grants, and all indicated that any grant received will reduce the cost of the asset by the amount received.

Within the statement of cash flows, all carriers who have applied for government grants indicated that they would account for the grant as a reduction to capital expenditures in the investing activities of the statement of cash flows.

Tax basis

Companies were asked whether they use integrated fixed asset systems that link book basis and tax basis calculations for recording additions, disposals, transfers, and the like. Fifty-four percent of respondents indicated they use integrated fixed asset systems. The remaining 46 percent of respondents that do not have integrated fixed asset systems said they use between two and four fixed asset systems.

Companies were asked when they had last reconciled their fixed asset tax basis and book basis differences. All of the respondents indicated they had performed such reconciliations within the previous 12 months, and 42 percent indicated they perform reconciliations regularly (at least semi-annually).

Summary of tables and charts

Participating company information

Postpaid revenue

Prepaid revenue

Postpaid performance measures

Property, plant, and equipment

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About PwC

PwC's Entertainment, Media and Communications industry practice delivers a wide range of professional services to telecom, cable, satellite, Internet, media and entertainment service providers across the globe. The group provides industry-focused assurance, tax, and advisory services to build public trust and enhance value for its clients and their stakeholders.

Drawing on our accumulated experience, we anticipate and help our clients address the challenges of global regulatory change, and deal with the impact of industry convergence. We continue to add measurable value to our client relationships through our leadership and innovation, which are evident in our evolving services and products. With thousands of practitioners around the world, we are always close at hand to provide resources with deep industry experience.

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