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The New Digital Mobile Consumer: How Large Companies are Responding

A TCS Global Trend Study - September 2012

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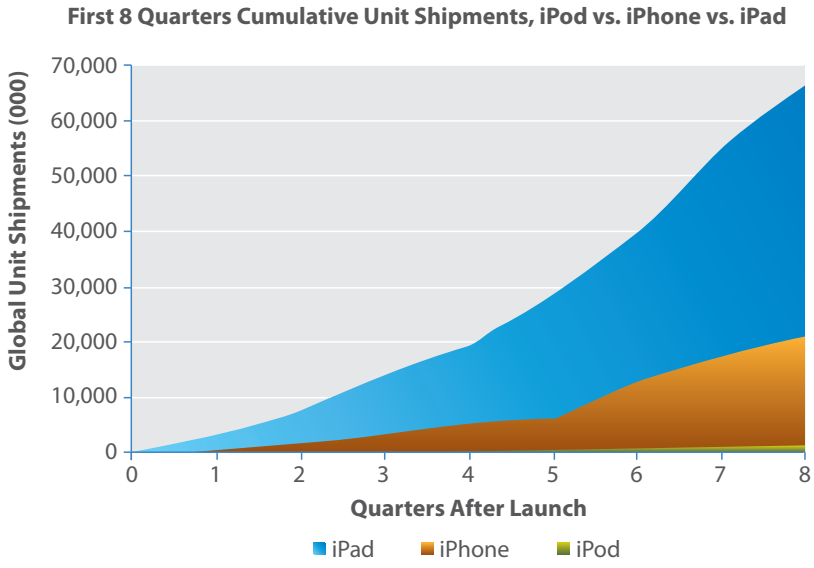
I. Introduction and Key Findings

Introduction and Key Findings: The Race to Win the Digital Mobile Consumer Has Just Begun

For many consumers around the world, mobile devices have become one of life's basic necessities, and a passion that shows no signs of abating. Over the last decade, consumers have purchased smartphones and tablet computers at an astonishing rate. Consider Apple's devices. After releasing the smartphone that changed the cell phone world on June 29, 2007 — the first iPhone — Apple took only eight quarters to ship more than 20 million units. But that adoption rate was nothing compared with the speed with which consumers embraced the company's tablet device, the iPad. Two years after it began shipping the first iPad in April 2010, Apple passed the 65 million unit mark – an adoption rate three times the iPhone's.[1] (See Exhibit I-1.)

Exhibit I-1
How Fast Consumers Have Embraced Apple's Mobile Devices



1 From a presentation by Mary Meeker of venture capital firm Kleiner Perkins Caufield Byers entitled "Internet Trends" and dated May 30, 2012. Meeker quoted Apple financial reports.

But the breathtaking adoption rate is not just an Apple phenomenon. In fact, in the first 13 quarters after hitting the market, global shipments of smartphones based on Google's Android operating system were *four* times those of the celebrated iPhone.[2] By 2012 smartphones of all types had finally cemented themselves in the palms of Americans. In March, half of U.S. subscribers to mobile phone services (50.4%) were using smartphones, according to a Nielsen Co. survey,[3] and nearly half (47%)of those smartphone users were shopping on their devices through mobile apps, not just making phone calls.[4] And smartphones were not the only device that consumers had tasked with their shopping chores. Some 29% of American adults owned tablet devices or e-book readers by January 2012 – up in only one month from 18% —and far above the 2% adoption rate of April 2009.[5]

Yet smartphones and tablets can hardly be called an American-only obsession. The adoption rates were higher in many Asia-Pacific nations, including China (where 66% of online adults had smartphones), Australia (65%) and South Korea (67%).[6] In August 2012, the number of Chinese people who perused the Internet from their mobile devices for the first time was higher than the number who accessed it from a desktop computer.[7]

Consumers' love affair with mobile devices is not likely to fade away soon, if ever. As the devices become ever more potent and as wireless transmission grows in bandwidth and coverage, the adoption rate is likely to only climb further.

The Digital Mobile Consumer: Benefits and Burdens for Consumer Companies

Yet as a company that helps large organizations around the world capitalize on this trend, we believe the most interesting mobile adoption practices to watch are *not* of consumers themselves, although their habits are fascinating indeed. How the world's large consumer companies deal with customers who use their mobile devices for such chores as shopping for airline seats, checking their bank accounts, purchasing and viewing movies, and getting service for household appliances – these organizational practices are starting to paint an intriguing picture.

It's a picture that we decided to capture in the summer of 2012 through a major TCS study: how large organizations in North America, Europe, Asia-Pacific and Latin America have been revamping their strategies, products and processes to win the loyalty of

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[2] Meeker presentation quoting Gartner and Morgan Stanley research, page 10.

[3] " America's New Mobile Majority: a Look at Smartphone Owners in the U.S.," article by Nielsen Co. http://blog.nielsen.com/nielsenwire/?p=31688

[4] Nielsen statistics quoted in an Aug. 6, 2012 story in *PC World*. http://www.pcworld.com/businesscenter/article/260456/nielsen_nearly_half_of_us_smartphone_owners_use_mobile_shopping_apps.html

[5] According to Pew Research Center. E-book reading devices include Amazon's Kindle and Barnes and Noble's Nook. http://libraries.pewinternet.org/2012/01/23/tablet-and-e-book-reader-ownership-nearly-double-over-the-holiday-gift-giving-period/

[6] Nielsen data: http://tw.en.nielsen.com/site/documents/2012NielsenSmartphonedeck.pdf

consumers who use mobile devices to do business with them– the so-called "digital mobile consumer." There are multiple studies on how consumers have taken to mobile devices over the last decade, and particularly in the five years since the first Apple iPhone hit the market. But we found very little in-depth research on how companies were coping with the phenomenon, and in some cases capitalizing on it.

To be sure, the press has been writing about this. In fact, the terms "mobile technology," "mobile strategy" (or "enterprise mobile strategy") and "chief mobility" or "chief digital" officer have taken center stage in the realms of both business and information technology. Once the preserve of technology publications, the terms now adorn the pages of publications read by CEOs and functional heads such as *Fortune, Forbes, Wall Street Journal, Asian Business Daily, The Economist, the Financial Times, Asian Economic Review* and *Bloomberg BusinessWeek*.

But we wanted to go broader and deeper in exploring the topic. This report is the result of our exploration. It is based on an in-depth quantitative survey of more than 600 large companies around the world, illuminating case studies on four major firms, and anecdotes and statistics combed through an extensive literature search.

Our findings encompass a range of issues for large consumer companies:

- How corporations in North America, Europe, Asia-Pacific and Latin America compare in the way they've responded to the digital mobile consumer – that is, how they've altered products/services and processes (especially marketing, sales and customer service), and what they plan to do over the next three years.
- The digital mobile consumer initiatives in companies located in each of the four regions of the world that we explored
- Analysis of what companies in 17 global industries are doing, from airlines to industrial manufacturing companies
- In-depth case studies on four large companies and their consumer mobility initiatives: a global tire manufacturer, Owens Corning, Geisinger Health System, and Qantas

We also grouped and analyzed our survey data into two groups: companies that said they were ahead or far ahead of competitors in winning the digital mobile consumer, and companies that said they were behind or far behind. The differences between these two groups in how they answered a number of questions were revealing.

Key Findings

While the study explores numerous issues, we found six findings to be among the most noteworthy:

1. **Many businesses are making fundamental changes to their products/services and processes to win over the digital mobile consumer**. (See p. 125.) Nearly three times the number of "leaders" in our survey (82%) made the digital mobile consumer a unique market segment than did laggards (only 28%). And a much greater percentage of leaders (85%) developed a new product/service offering for the digital mobile consumer segment than did laggards (30%).

2. **The average company in the four regions of the world will spend between $13 million and $22 million this year on technologies, business process changes, and other expenses to respond to digital mobile consumers**. Asia-Pacific companies are spending the most (an average $22 million, or $2.4 million per $1 billion in revenue) vs. $16 million (or $1.43 million per $1 billion in revenue) in North America, $20 million in Europe (or $1.59 million per $1 billion in revenue) and in Latin America $13 million (or $1.63 million per billion dollars in revenue). (See p. 21.)

3. **Marketing, sales and service functions are taking the lead in shaping their organization's overall strategy for serving the digital mobile consumer – but the IT function is integrally involved**. For example, in 48% of North American companies and 43% of European companies, marketing, sales or service is leading the way, whereas IT is leading the effort in 35% of North American companies and 38% of European firms. Companies in our survey reporting the greatest success in winning the digital mobile consumer rated cross-functional collaboration much higher as a key success factor than the companies with the least success to date. (See p. 15.)

4. **Companies with some of the best opportunities are in sectors that haven't changed as much as others in responding to the digital mobile consumer.** We found this in our research on mobile initiatives at companies in media and entertainment, banking/financial services/insurance (State Farm and Progressive), industrial manufacturing (a global tire manufacturer), health care (Humana and Geisinger Health System), and retail (Starbucks). Companies whose products have greater overall importance (especially urgency) to consumers and whose consumers are more likely to be "in motion" when they research, buy and use those products are among those generating the highest customer and firm value from their mobility initiatives. (See p. 119.)

5. **Designing mobile applications and websites just for tablet devices is becoming a new battleground.** Companies reporting the most success in winning the business of the digital mobile consumer said they designed an average 25% of their mobile apps for tablets; in contrast, in the companies with the least success, the percentage was 17%. Overall, 17% of all the mobile apps that North American organizations have developed to date are designed just for tablet devices (vs. those developed just for smartphones or to run on both tablets and smartphones). In Europe the number is 25%; in Asia-Pacific, 28%; and in Latin America, 27%. (See p. 124.)

6. **Consumers in Asia-Pacific and Latin America conduct more business through mobile devices than consumers in Europe and North America**. Companies in Asia-Pacific and Latin America had a much higher percentage of mobile interactions with consumers than companies in North America and Europe. By percentage of mobile interactions, we mean out of each company's total number of consumer marketing, sales and service interactions, what percentage were consumers conducting through a mobile device? The number was about 48% in Asia-Pacific, 42% in Latin America, and about 28% in Europe. North American companies finished last on this measure, with about 21% of their consumer interactions coming through mobile devices. (See p. 17.)

In the pages that follow, we dive deep into these and many other issues that relate to the way large companies around the world are changing the way they operate to respond to the digital mobile consumer.

II. Comparing Results Across the Four Regions

Comparing Results Across the Four Regions

How do companies around the world compare in the degree to which they've responded to the digital mobile consumer? Are some regions ahead or behind the rest? What business functions are taking the lead in determining mobile strategy in each region? Are consumers conducting more mobile transactions in certain regions than in others? Are companies spending more on their mobile strategies in Western countries than in the East, or are Asia-Pacific companies investing the most?

To answer these and other questions, we surveyed companies in four regions of the world:

- North America (U.S. and Canada)
- Europe (the UK, France and Germany)
- Asia-Pacific (Japan and India)
- Latin America (Brazil, Argentina and Mexico)

Some 664 executives responded to our survey, of which 609 completed all 23 of the survey questions. (See Exhibit II-1.)

Exhibit II-1: Survey by Region

	Number of Respondents	% of Total
North America	300	45%
Europe	165	25%
Asia-Pacific	109	16%
Latin America	90	14%
Total	664	100%

In this chapter of the report, we discuss these and other regional differences.

Who's Taking the Lead in Mobile Strategy?

On the surface, it might seem that the responsibility for determining how to respond to consumers who use mobile devices such as smartphones and tablet computers to do business should fall squarely on the IT function. For sure, consumers are going to want to check a company's prices, whether a certain product is in inventory, and perhaps where its closest locations are. And pricing, inventory and location information are typically housed in corporate systems that the IT function manages.

However, in the majority of companies in all four regions of the world, business functions are taking the lead in mobile strategy. (See Exhibit II-2). In North America, about two-thirds of the respondents said non-IT functions were assuming leadership for mobile strategy with consumers. Of that 65%, the marketing function was dominant, cited by

29%, with sales (10%) and customer service (9%) far behind. Some 8% of North American companies had actually created a new unit that they dedicated to determining their strategy for addressing the digital mobile consumer.

One such company is Starbucks, the $11.7 billion operator of coffee houses in 60 countries. In 2009, the company launched a new internal unit called Digital Ventures to focus on new mobile device-enabled services for Starbucks customers. The unit has been instrumental in the company's pioneering initiatives in digital payments. In the 14 months ending in May 2012, the company reported scanning 45 million payment transactions in its North America stores around the world.[2]

Importantly, however, in about one third of the companies (33%), the IT function had assumed responsibility for helping the organization figure out its mobile consumer strategy. All to say that the IT department doesn't at all appear to be a silent partner in this endeavor.

In fact, when we compared the answers of survey respondents who said they were ahead or behind their competitors in responding to the digital mobile consumer, one of the biggest differences was the importance they attached to cross-functional collaboration. Companies that indicated they were ahead (a group we refer to as "the leaders") gave an average rating of 4.17 (scale of 1-5) to the success factor of "getting departments that work with consumers to work together in a unified way." They rated only two other factors as more important. In contrast, the "laggards" gave this an average rating of only 3.43, and it was fourth on their list of key success factors.

In Europe, we found a similar pattern: In 62% of the companies, a business function was leading the way on mobile consumer strategy; the IT function led in 38% of the organizations. The business function that was more likely than others to steer the ship in this area again was marketing (20% said marketing led the way). Much smaller proportions of participants said sales (13%), service (10%) or a product/service business unit (8%) were driving mobile strategy. And another 8% of respondents said they established a separate department to determine how to respond to mobile consumers. In this region, IT was calling the shots in consumer mobile strategy in 35% of the companies.

In our Asia-Pacific countries of India and Japan, 51% of respondents said non-IT functions were leading the way – most often marketing (16%) and sales (12%). And in Latin America, 69% said consumer mobile strategy came from a non-IT function, with 26% of them coming from marketing and 19% from sales. Some 31% were from IT.

What that says is that customer-facing functions, more often than not, are driving the strategies of large companies in understanding how to respond to digital mobile consumers. Still, the IT group appears to be playing a highly influential role in every region that we surveyed.

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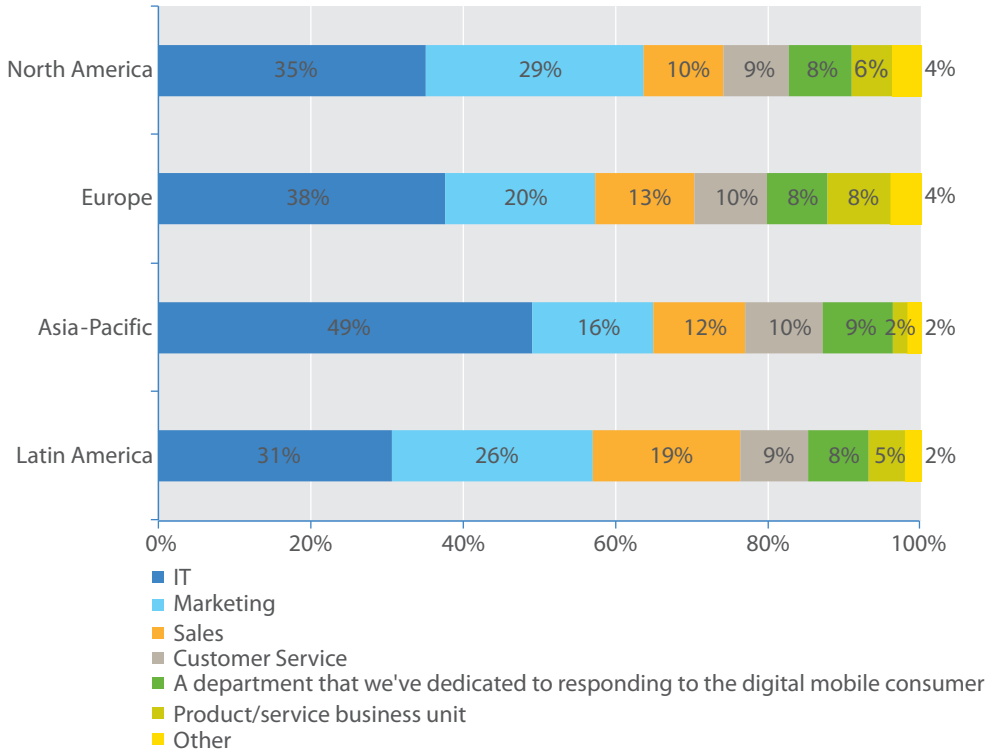
[8] From a *Forbes.com* interview with Starbucks Chief Digital Officer, dated May 24, 2012, "Chief Digital Officer for Starbucks on Technology, Change and Community." http://www.forbes.com/sites/rahimkanani/2012/05/24/chief-digital-officer-for-starbucks-on-technology-change-and-community/

Exhibit II-2
Q6/Global: Which Department Takes the Lead in Determining How the Firm Addresses the Digital Mobile Consumer?

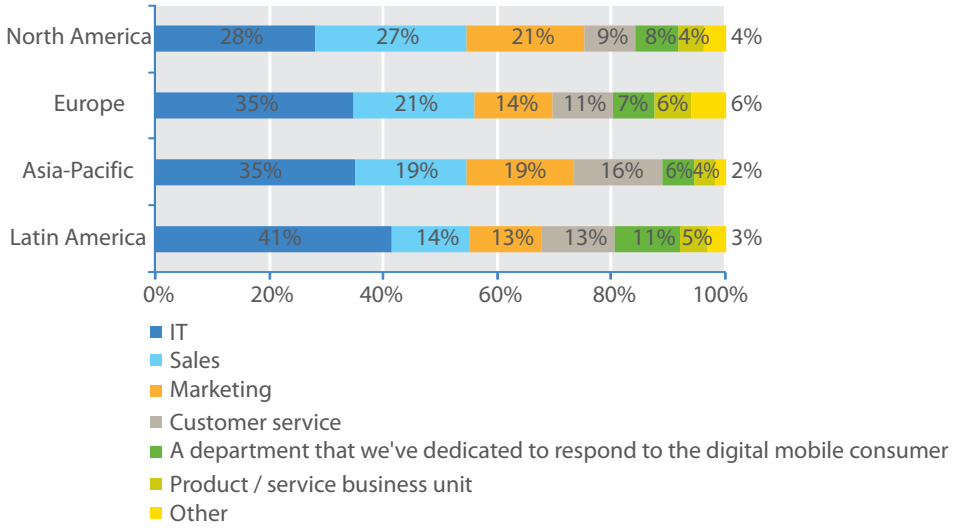


Who's Shaping Mobile Strategy for the Sales Force and the Call Center?

We asked a similar question of respondents to determine who was driving their sales force's and customer service center's strategy for dealing with consumers who possess mobile devices. This has become an especially big issue with retailers, whose in-store salespeople increasingly watch consumers walk in and use their stores to "showroom" – i.e., to touch and feel a product that they might later purchase online with another retailer.

In the majority of organizations, a business function other than IT is taking the lead in determining the sales department's mobile strategy – more often sales in North America, Europe and Latin America than another business function. (See Exhibit II-3.) But the marketing department was typically playing a strong role, too. And the IT function here too was a key internal business partner, with 35% of the companies in Europe and Asia-Pacific saying that IT was leading the way in helping the sales function determine its consumer mobile strategy.

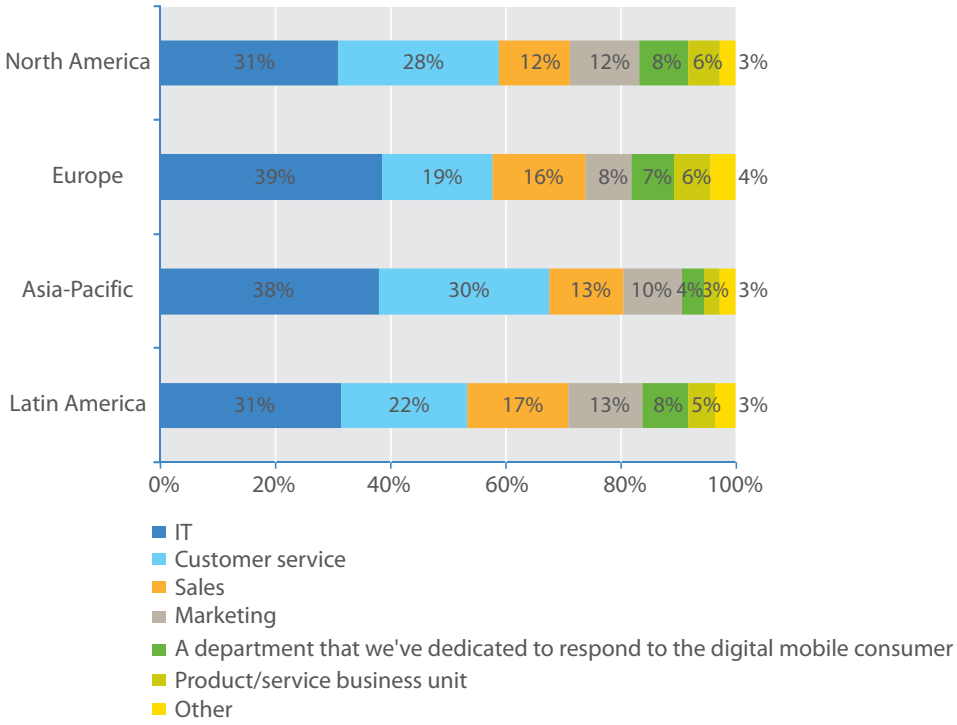
Exhibit II-3
Q7/Global: Which Department Takes the Lead in Determining How Salespeople Use Digital Mobile Devices to Sell Products?



And what about customer service? Who's helping the call center figure out how to deal with consumers who are increasingly calling from mobile devices – or texting, emailing and using mobile apps to log in product problems, ask for help, or deal with other post-purchase issues? (See Exhibit II-4.)

Again, the consumer-facing functions of customer service, marketing and sales were typically in the lead for customer service's response. In fact, customer service itself was most frequently cited as taking the lead for mobile consumer strategy (as it affects the call center) out of all the business functions. But the IT department in all four regions was also frequently playing a strong role.

Exhibit II-4
Q8/Global: Which Department Takes the Lead in Determining How Customer Service Reps Use Digital Mobile Devices to Help Consumers?



Which Regions are Interacting the Most with Consumers Through Mobile Devices?

Everyone knows that consumers are increasingly making their mobile device the tool they depend upon to research, shop, buy, ask for help and renew their purchases (including paying their bills). As a result, companies are responding by:

- Designing and delivering a greater number of their marketing campaigns for mobile devices. Selling more products and services to consumers who make the purchase through their mobile device (or at least place the order, and then pay through traditional means such as mailing checks or using credit cards).
- Conducting more call center transactions with consumers who are using mobile devices.

Numerous companies such as Swedish automaker Volvo have launched extensive

advertising campaigns geared for mobile devices. The company created a mobile app that simulated the driving experience through a 30-second video, which increased website traffic nearly 300% and purchase intent by 88%.[9] But how much business are companies really conducting with consumers who use mobile devices to interact with those businesses? To get a handle on that, we asked survey respondents to estimate the percentage of transactions they conduct today with consumers who are using mobile devices – and in three areas (see Exhibit II-5):

1. The number of purchase transactions (not revenue) out of total purchase transactions.
2. The number of marketing campaigns designed exclusively for mobile devices (out of all marketing campaigns – advertising, event marketing, PR, etc.).
3. The number of customer service interactions out of all service interactions that consumers (using mobile devices) conduct with those companies (through text messages, smartphone calls, social media inquiries made through mobile devices, etc.).

Which region finished on top? Asia-Pacific companies were in the lead, with about 50% of such sales, marketing and service transactions conducted by consumers who are using mobile devices. Next were Latin American companies (in the low 40%), followed by European organizations (with 30% of total sales transactions, 28% of marketing transactions and 25% of service transactions done through consumers' mobile devices).

North American companies reported the lowest percentage of sales, marketing and service transactions being conducted with consumers who use mobile devices. Consumer purchases through mobile devices constituted an average 24% of total sales transactions. Some 21% of marketing campaigns were designed for mobile consumers. And the companies said they were conducting an average 19% of post-sale service transactions with consumers who used mobile devices.

We also asked our survey respondents to project their percentages in the three categories for the year 2015 – three years from now. (See Exhibit II-6.) Of course, these percentages must be considered for what they are – educated guesses, even if extrapolated from trends to date. Still, they strongly suggest that companies in all four regions of the world believe they will only be conducting more business with consumers through their mobile devices. They predict their percentage of sales, marketing and service transactions will continue to rise at a strong clip.

Of the four regions, Asia-Pacific companies predicted the smallest increase in mobile transactions as a percentage of the total in three years. But that increase would be on top of an already large base today. North American and Latin American companies predicted the largest gains, and Europe slightly less gains.

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[9] From a Google web page for its AdMob service. AdMob is a platform for mobile advertising. http://www.google.com/adwords/watchthisspace/case-studies/volvo/

Exhibit II-5
Q11-13/Global: Percent of Consumer Interactions Made Through Mobile Devices (2012)

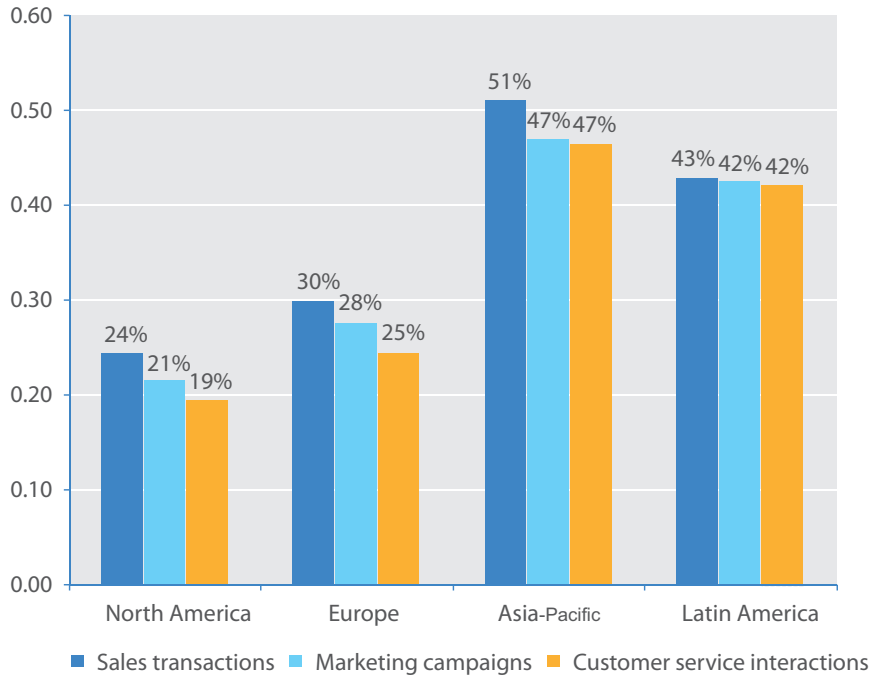
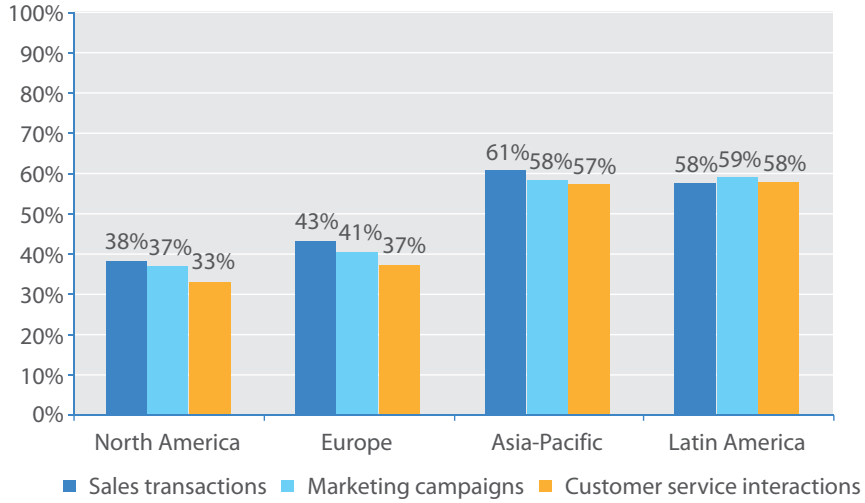


Exhibit II-6
Q11a-13a/Global: Percent of Consumer Interactions Projected to be Made Through Mobile Devices by 2015



These projections suggest that companies in all four regions see an inescapable trend – of consumers electing to deal with them while they are "out and about" using a smartphone, tablet device, feature phone (or whatever becomes the next popular category of digital mobile devices). Perhaps a bigger question is this: Will these companies be prepared to do business with such consumers?

Asia-Pacific and Latin American Companies are the Most Prolific Mobile Apps Producers

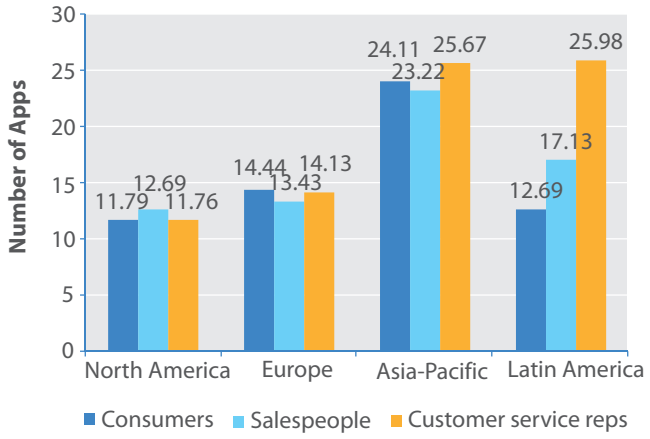
In addition to getting a handle on the number of sales, marketing and service interactions (out of total interactions) with the digital mobile consumer that companies were conducting today and projecting for 2015, we wanted to know the extent to which they had developed mobile applications (or websites modified for mobile devices). We asked respondents to estimate the number of mobile apps they had created to date of three types:

- For consumers
- For their salespeople
- For their customer service representatives

Once again, the regional leader here was Asia-Pacific, where companies reported having developed 23-26 apps to date of each type (for consumers, salespeople or service reps). (See Exhibit II-7.)

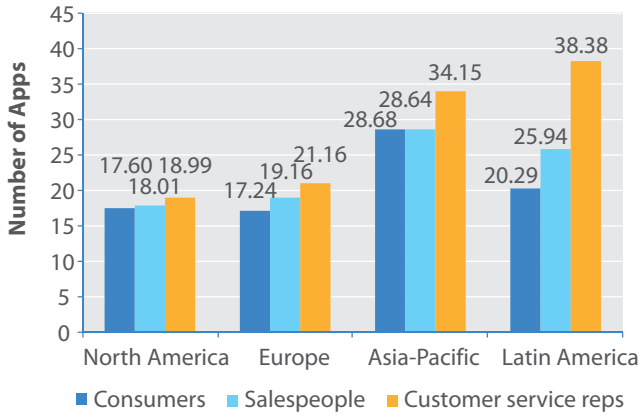
In comparison, North American companies reported developing about half that number of mobile apps – about 12 for each of the three customer-facing functions. European companies' average number of apps for consumers, their sales function and their service departments was a little higher (at about 14). And Latin American companieshad created a higher average number of apps to date: about 13 for consumers, 17 for their salespeople and 26 for service reps.

Exhibit II-7
Q14/Global: Number of Mobile Applications Per Company Developed for Consumers, Salesforce and Customer Service Reps (2012)



What about three years from now, in 2015? The companies predicted they would develop an even greater number of mobile apps than they have today, with Asia-Pacific and Latin American companies being the most "app-happy". (See Exhibit II-8.)

Exhibit II-8
Q14a/Global: Number of Mobile Applications Per Company Projected to be Developed by 2015 for Consumers, Sales Force and Service Reps (in addition to apps in place)



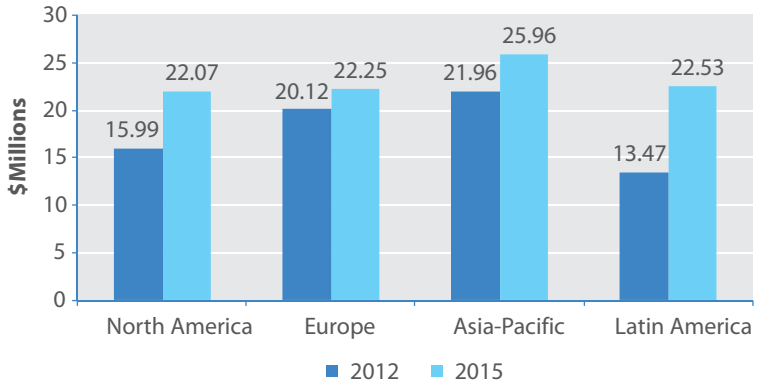
Who's Spending the Most on Responding to the Mobile Consumer?

Many companies have spent in the millions of dollars individually on mobile apps, "big data" tools to analyze consumer data streaming through mobile channels, consulting expertise, and technology help to build and integrate mobile apps and mobile-oriented websites. We wanted to know what companies in North America, Europe, Asia-Pacific and Latin America were spending annually on all this. So we asked respondents to estimate what they would spend this year on technologies and consulting/IT services to respond to consumers who do business with them through mobile devices.

On average, companies in the four regions will spend between 0.14% and 0.24% of revenue to be mobile consumer-ready. To get a sense of that, for a $10 billion company, that would mean from $14 million to $24 million; for a $1 billion company, that would be $1.4 million to $2.4 million.

So what were the actual numbers? In North America, the companies we surveyed said they would spend an average $16 million on responding to mobile consumers. (See Exhibit II-9.) The number was higher in Europe -- $20 million – which was similar to what Asia-Pacific companies reported ($22 million). Latin American companies estimated $14 million for this year.

Exhibit II-9
Q16/Global: What Companies Will Spend in 2012 on Technologies and Services to Respond to Digital Mobile Consumers (Not Adjusted for Average Revenue/Company in Region)

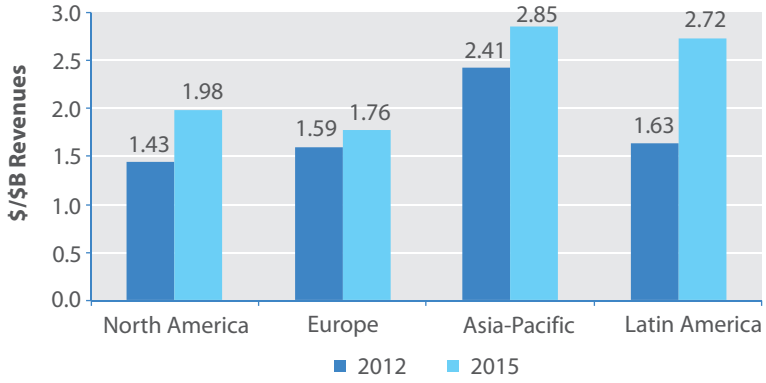


We also asked them to predict what they would spend in three years (in 2015), and the answers were similar: between $22 million and $25 million per company in the four regions.

However, because the average-sized company differed from region to region, these numbers should be normalized. That is, bigger companies should be expected to spend more on mobility than smaller companies – as they would on just about every other business expenditure. To get an apples-to-apples comparison of company spending on mobility by region, we calculated ratios of mobility spending (in dollars) per $1 billion in revenue. (See Exhibit II-10.) These numbers tell a different story:

- In 2012, Asia-Pacific companies spent far more on responding to digital mobile consumers than did companies in the other three regions. Per $1 billion in revenue, they spent an average $2.41 million vs. $1.43 million in North America, $1.59 million in Europe and $1.63 million in Latin America.
- For 2015, the ratio of spending per $1 billion in revenue for companies in the four regions is expected to be higher. In North America, the ratio is predicted to be 1.98 (vs. 1.43 this year); in Europe, 1.76 vs. 1.59 this year; in Asia-Pacific 2.85 vs. 2.41 in 2012; and in Latin America 2.72 – a big leap from 1.63 this year.

Exhibit II-10
Q16a/Global: What Companies Will Spend in 2012 on Technologies and Services to Respond to Digital Mobile Consumers (Adjusted for Average Revenue/Company in Region)



Based on these numbers, it looks like North American and European companies will be trying to catch up in spending with their counterparts in the emerging economies of Asia-Pacific and Latin America. However, companies in the latter two regions are planning to hike their spending too.

III. North America: Just Ramping Up for the Digital Mobile Consumer

North America: Just Ramping Up for the Digital Mobile Consumer

In the previous section of this report, we compared and contrasted the research results in four regions: North America, Europe, Asia-Pacific and Latin America. In this section of the report, we present the results in depth within each region.

We'll start with the two regions in which we generated the largest number of surveys – North America and Europe. Then we'll explore our Asia-Pacific and Latin America findings. For each region, we'll begin the discussion with our key findings.

Key findings:

- While most industries reported making some amount of changes to their product/service offerings and the processes by which they market, sell and service them, the industries reporting the greatest degree of change (on a 1-7 scale) were telecommunications, airlines, healthcare services, retail and travel/hospitality.
- We found three success factors in responding effectively to digital mobile consumers: developing mobile apps that were useful and easy for consumers to use; getting marketing, sales and service to collaborate; and optimizing the mobile sites or apps for local searches that consumers do on their mobile devices.

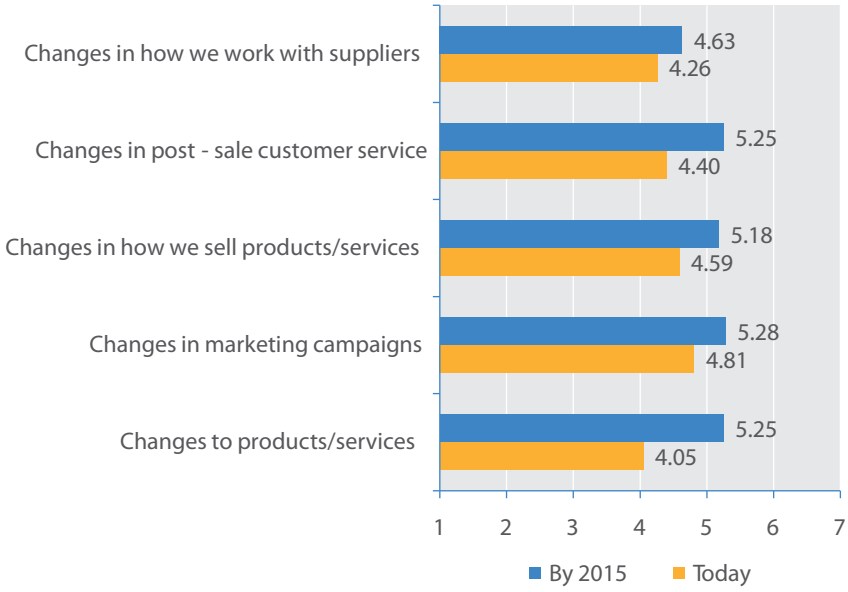
Degree of Product and Process Change: Moderate to Date but Expected to Increase

To get an overall sense of how much companies believe they've changed their products and processes to adapt to consumers who do business with them using mobile devices, we asked survey respondents in North America (as well as the other three regions) to rate the degree of change they've made in five years on a scale of 1 to 7 (1= no change at all, 4=moderate, 7= very high):

- In marketing campaigns
- In selling approaches
- In post-sale customer service processes
- In how they work with suppliers
- In their core products and services

In addition, we asked respondents to gauge the degree of change on these five counts to date, as well as what they predict in three years (by 2015). The exhibit below (Exhibit III-1) presents these results.

Exhibit III-1
Q9+10/North America: Degree to Which Companies Have Made and Will Make Changes to Respond to Digital Mobile Consumers (Scale of 1-7, 1=none, 4=moderate, 7=very high)



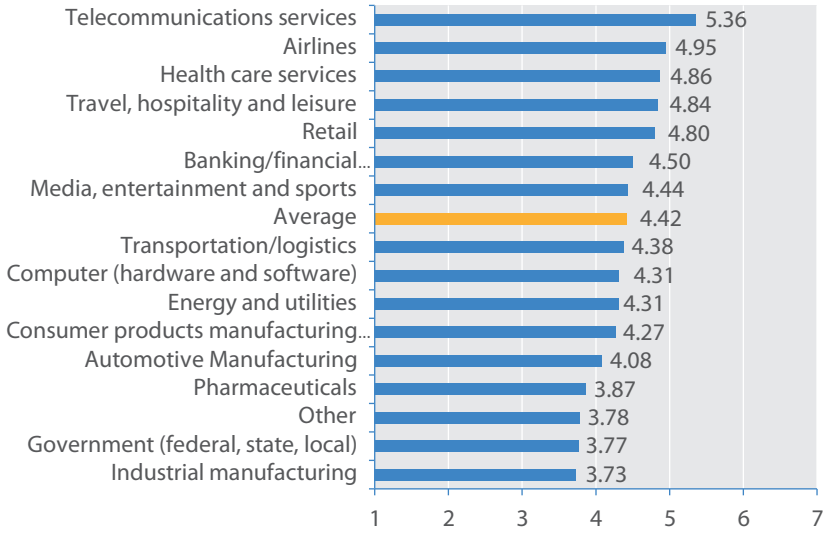
To date, North American companies report changing their marketing campaigns the most (4.81 on the scale of 1-7), and changing their products/services the least (4.05). All these results are between 4 and 5 on our scale – essentially meaning that companies see their changes in products and processes as being "moderate."

By the year 2015, they predict making bigger changes, yet still short of "high" degrees of changein four of the five areas, with each averaging between 5 and 6 on the scale that we provided. The exception was the way they work with suppliers, which received a 4.63 average rating.

We then averaged these five pieces of data for each industry we surveyed – that is, we gave each sector a composite score of product and process change by adding the values of each of the five factors and then dividing by five. In looking at this composite data by industry (see Exhibit III-2), we see certain sectors believing they have made far more substantial changes in products and processes than other sectors:

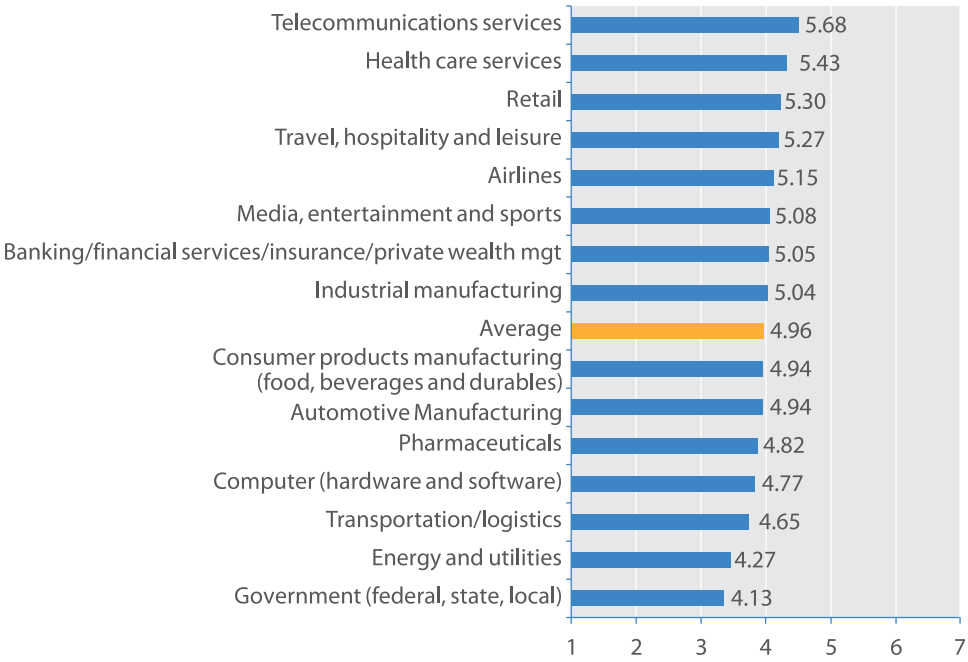
- Industries reporting much greater than average (across industries) changes: Telecommunications services, airlines, health care services, travel/hospitality/leisure, and retail.
- Industries reporting much lower than average changes: industrial manufacturers (the lowest), government and pharmaceuticals.

Exhibit III-2
Q9, 1-5/North America: Comparing Industries in Degree of Change in Products and Processes to Date to Respond to Digital Mobile Consumers (Scale of 1-7, 1=none, 4=moderate, 7=very high)



However, the picture is not expected to change much in three years. (See Exhibit III-3.) We asked the North American companies to predict the degree of change they would make to products and processes by 2015, all to win over the digital mobile consumer. Using our scale of 1-7, the five industries that predicted the greatest amount of change were telecommunications, health care services, retail, and travel/hospitality/leisure. The industries predicting the lowest degree of change were government and energy/utilities. Interestingly, industrial manufacturers predicted they would have to make far more substantial changes than they have done to date (with an average score of 5.04 for 2015 vs. 3.73 for 2012).

Exhibit III-3
Q10, 1-5/North America: Comparing Industries in Degree of Change in Products and Processes Expected by 2015 to Respond to Digital Mobile Consumers
(Scale of 1-7, 1= no change, 7 = very high change)



Consumer Transactions Through Mobile Devices: Relatively Low But Predicted to Jump

Measured by the percent of total consumer interactions that are done through consumers' mobile devices, North American companies that we polled reported the lowest level of activity of the four regions. On average, North American consumers conducted less than a quarter (24%) of their total purchase transactions through mobile devices with the companies we surveyed. (See Exhibit III-4.)

The companies reported conducting an even smaller number of their marketing transactions (that is, marketing campaigns designed exclusively for consumer mobile devices) – about 21%. And they estimated the percentage of customer service transactions by consumers using mobile devices to be 19% of all service transactions.

Exhibit III-4
Q11/North America: Measuring the Impact of the Digital Consumer Across Industries

	2012	2015
% of consumer purchase transactions through mobile devices	24%	38%
% of marketing campaigns designed exclusively for consumer mobile devices	21%	37%
% of post-purchase customer service transactions hat consumers conduct through mobile devices	19%	33%

Nonetheless, the North American companies predicted these percentages to increase sharply by 2015, with mobile-enabled purchase transactions rising to 38% of all consumer purchases; marketing campaigns for mobile devices constituting 37% of total campaigns; and post-sale service interactions through mobile devices comprising a third of total service interactions.

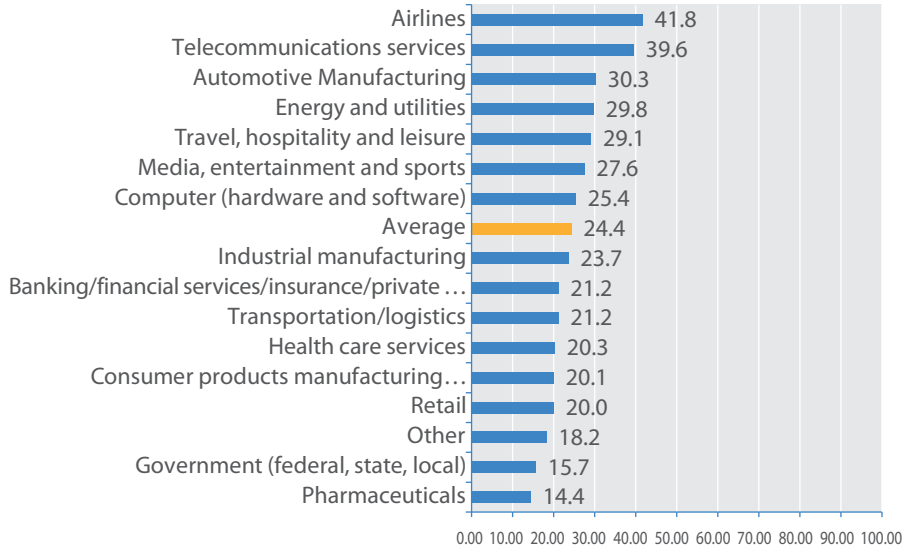
The experiences of State Farm Insurance Companies are instructive. The $63 billion (revenue) company launched its first mobile website long ago – in June 2006. Since then, the highly popular site lets consumers find an agent, call for a rate quote, issue a claim, get help in the event of a car accident, and find a repair facility. "We want our customers to be able to interact with us in any way they choose, any time they choose," Eli Winn, manager of enterprise Internet Solutions at the Bloomington, Ill., company, told a reporter.[10]

In looking at this data by North American industries, we see that sectors such as airlines and telecommunications are in the lead, reporting that they conduct the highest percentage of interactions with consumers who use mobile devices.

Exhibit III-5 shows this by consumer purchase transactions in 2012. Surprisingly, the automotive sector finished high on the list, although we imagine that respondents could have implied that "purchase" transactions included quotes.

[10] Feb. 1, 2012 article in *Mobile Marketer*, "State Farm mobile site ranks top in experience," by Lauren Johnson. http://www.mobilemarketer.com/cms/news/content/12012.html

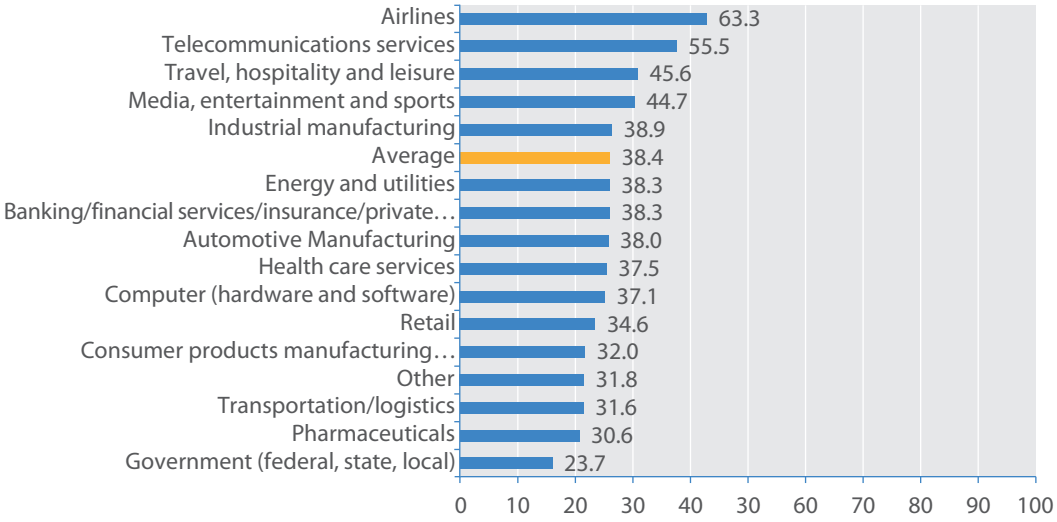
Exhibit III-5
Q11/North America: Percent of Consumer Purchases in 2012 Made Through Digital Mobile Devices



By 2015, our respondents in the airline and telecommunications industries foresee more than half of consumer purchases of their products/services to be conducted through mobile devices. The travel and media-related sectors also predict higher-than-average numbers here. (See Exhibit III-6.)

On the other end of the scale, the sectors predicting the lowest percentage of consumer purchase transactions through mobile devices are government, pharmaceuticals, transportation and consumer products manufacturing (food, beverages, etc.).

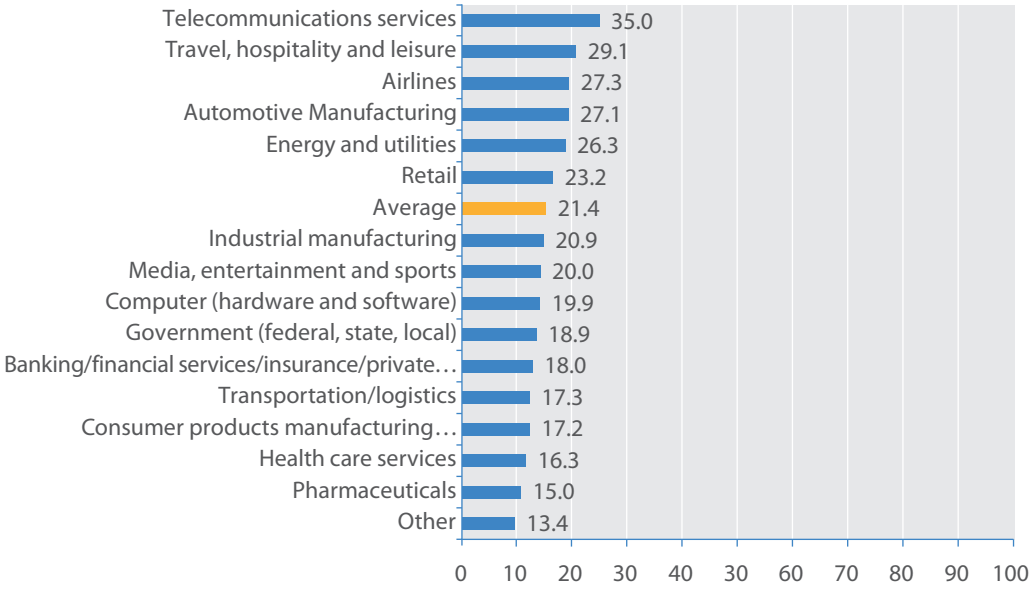
Exhibit III-6
Q11a/North America: Percent of Consumer Purchases Expected by 2015 to be Made Through Digital Mobile Devices



What about the way that North American industries market their products and services? Which sectors are already designing and delivering a high percentage of marketing campaigns through mobile devices, and which sectors aren't? And what about over the next three years?

Our data found that in 2012, telecommunications services, travel-related, airline companies and automotive manufacturers had the highest proportion of marketing campaigns designed for mobile devices (at least 27% of their total marketing campaigns). Those with the lowest percentage were pharmaceuticals, health care services, consumer products, and transportation. (See Exhibit III-7.)

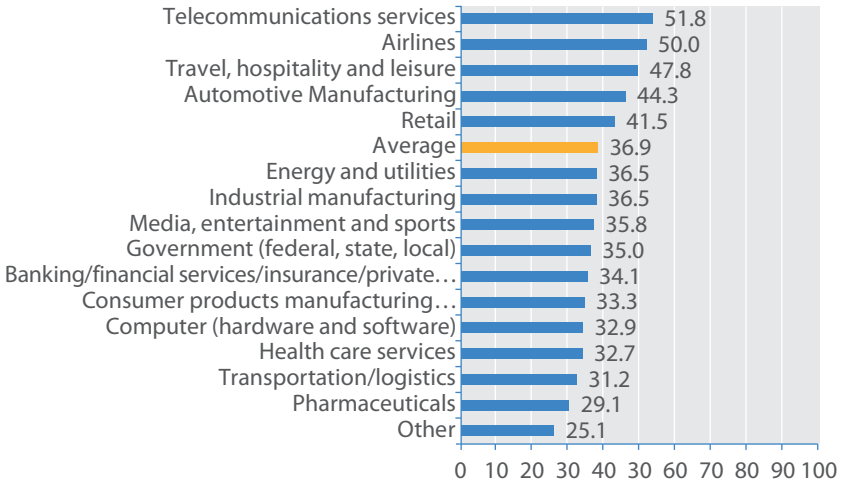
Exhibit III-7
Q12/North America: Percent of Total 2012 Marketing Campaigns Designed Exclusively for Consumers Using Digital Mobile Devices



What about by 2015? Which North American industries will be focusing significantly in marketing through mobile devices? The two industries that expect the highest percentage of total purchases – telecommunications and airlines – also expect to have the highest percentage of marketing campaigns designed for mobile devices. (See Exhibit III-8.)

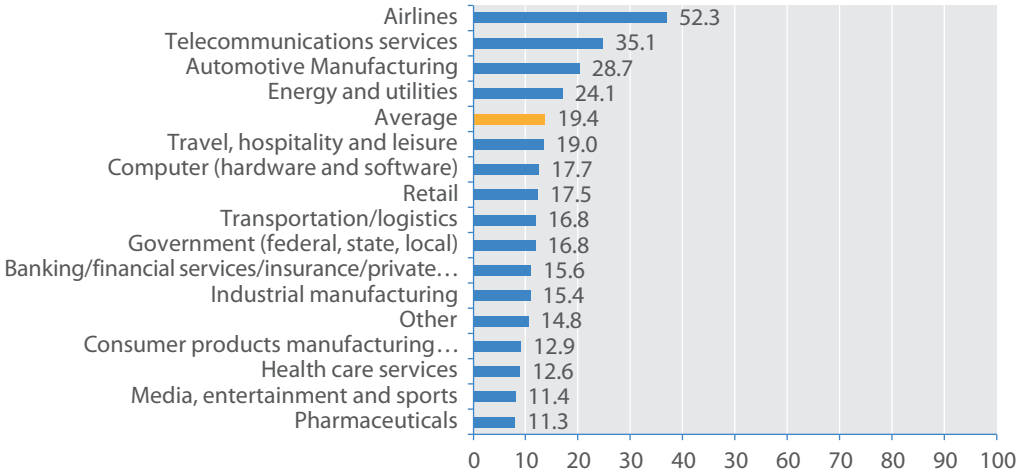
In fact, the airlines and telecommunications sectors expect to devote at least 50% of their total marketing campaigns for mobile devices in three years. Travel-related, automotive and retail also expect to have a higher percentage of their marketing campaigns designed for mobile devices than the overall average in North America.

Exhibit III-8
Q12a/North America: Percent of Total Marketing Campaigns in 2015 to be Designed Exclusively for Consumers Using Digital Mobile Devices



The airlines and telecommunications sectors are also by far the two that are conducting the highest percentage of overall customer service transactions with consumers who use mobile devices. (See Exhibit III-9.) This year, the airlines we surveyed said an average 52% of their total customer service interactions would be done with consumers who use mobile devices. Telecommunications were next – although a distant No. 2 – with an average 35% of total customer service interactions conducted by consumers using mobile devices. Industries with the lowest proportion of customer service transactions conducted through mobile devices were pharmaceuticals, media and healthcare services.

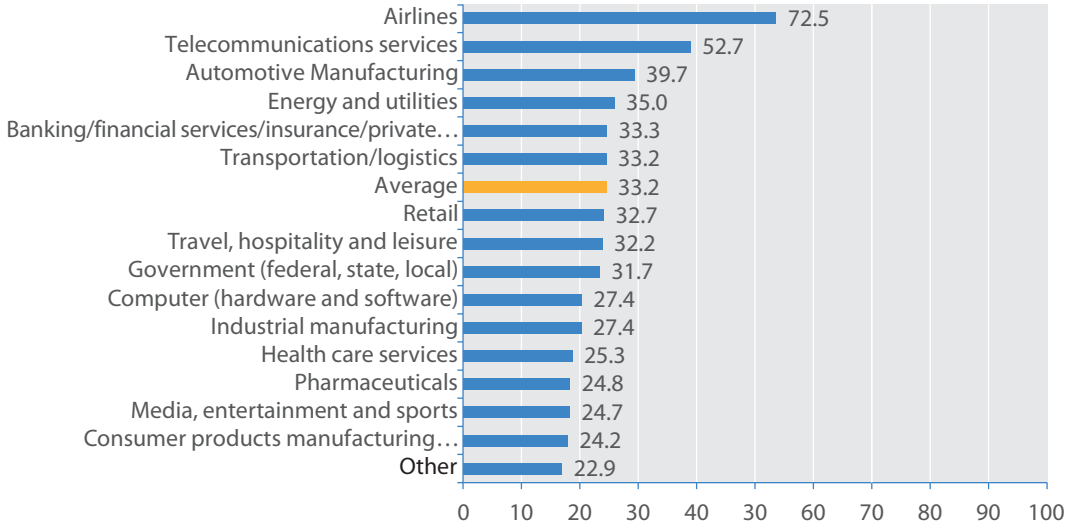
Exhibit III-9
Q13/North America: Percent of 2012 Customer Service Transactions (Post-Purchase) Conducted With Consumers Who Use Digital Mobile Devices



The predicted picture for 2015 looks quite similar for the four industries that reported the highest percentage of service transactions being mobile-initiated this year: airlines, telecommunications, automakers, and energy/utility companies. (See Exhibit III-10.) In fact, North American airlines predict consumers to initiate nearly three-quarters of their service interactions – 72.5% -- through mobile devices in three years. Telecommunications predict about 53% of total service interactions. No other industry was close.

However, the banking sector predicts a doubling in the percentage of consumer service transactions through mobile devices by 2015 – from about 16% today to 33% in three years. Retailers, too, expect a spike here, from 17.5% to 32.7% of service interactions coming from mobile devices.

Exhibit III-10
Q13a/North America: Percent of Customer Service Transactions in 2015 Expected to be Conducted with Consumers Who Use Digital Mobile Devices



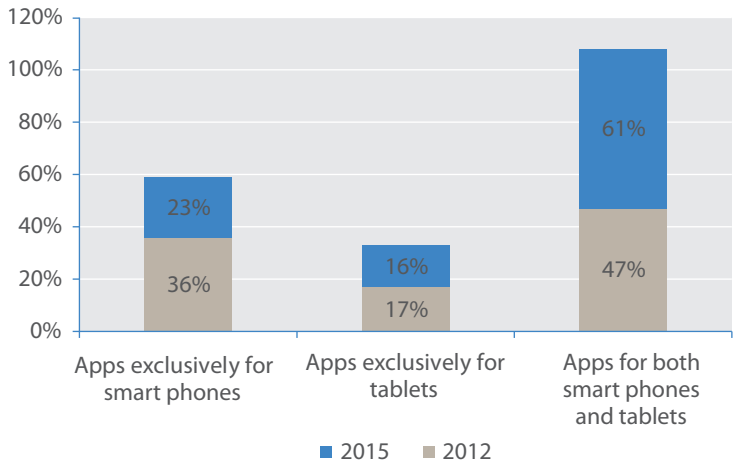
North American Companies Plan to Develop Mobile Apps to Run on Both Smartphones and Tablet Devices

We asked survey respondents about whether they had designed – or were planning to design over the next three years -- mobile apps to run on smartphones, tablets, or both. Of course, the time it takes to develop apps exclusively for one type of device is greater than it is to develop one app that runs on all kinds of mobile devices. Their answers were revealing:

Nearly half (47%) say their mobile apps are designed just for smartphones or for tablets, but that it would change in the future.

They predict that by 2015, 61% of their mobile apps would be designed to run on both smartphones and tablets. (See Exhibit III-11.)

Exhibit III-11
Q15 and 15A/North America: Percent of Mobile Apps Developed for Smartphones, Tablets or Both

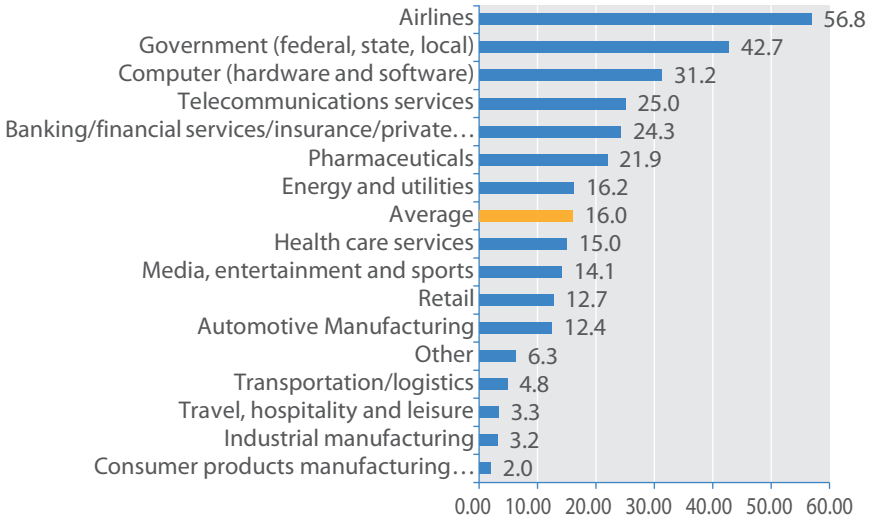


Annual Spending on Responding to the Digital Mobile Consumer: Airlines and Government in the Lead

The North American industry spending the most on being able to respond to the digital mobile consumer is probably no surprise: the airline sector. The airlines we surveyed reported they would spend an average $57 million on technologies and services to deal with consumers who use mobile devices. No. 2 was government agencies – federal, state and local. Their average spending this year was estimated to be $43 million, followed by high tech companies (hardware and software), at an average $31 million per company. (See Exhibit III-12.)

On the bottom end were consumer products manufacturers (food, beverages and durable goods), which said they would spend $2 million this year, and industrial manufacturers ($3.2 million).

Exhibit III-12
Q16/North America: Average Spending Per Company in 2012 on Technologies and Services for Responding to Digital Mobile Consumers ($ millions)



The airline companies we polled predicted spending a similar amount in three years ($63 million), which would lead all sectors. But high-tech companies predicted they would double their annual spending in this area, to $62 million. (See Exhibit III-13.)

Banks/financial services/insurance companies will also spend more than average ($33 million in 2015 vs. $24 million this year). The experiences of insurance companies such as Progressive help explain why. This year, the company launched an initiative to use mobile image capture technology (of vehicle ID numbers) to reduce the time it takes to provide auto insurance quotes to consumers' mobile devices. The technology has helped the company reduce the time from 60 minutes in 2011 to less than 6 minutes today. In a separate initiative, called Snapshot, the company provides willing consumers with an electronic device that plugs into their car's diagnostic port and tracks their driving (miles driven, number of times they hit the brakes, etc.). By tracking consumers' vehicle usage, Progressive can provide some consumers with a lower rate (i.e., drivers who appear to be better risks than the company originally thought). The company told securities analysts that when it offers Snapshot across its U.S. markets, it would increase lifetime premium per annum by more than $100 million.[11]

Other industries that plan to spend more heavily include telecommunications ($30 million in 2015 vs. $25 million this year) and pharmaceuticals ($36 million in 2015 vs. $22 million in 2012).

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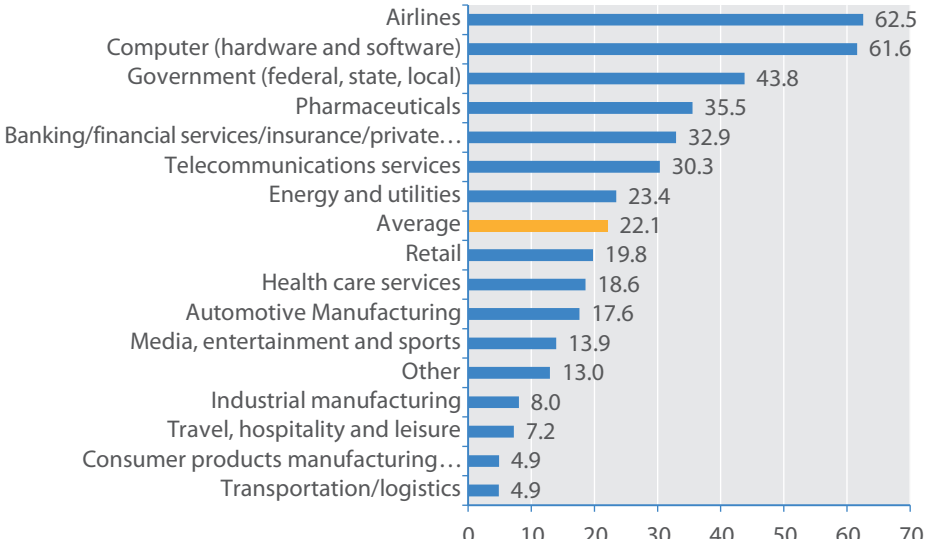
[11] Progressive executives provided these details in a shareholder/analyst call on June 14, 2012, the transcript of which can be found here: http://seekingalpha.com/article/670901-progressive-corp-shareholder-analyst-call

Consumer products, industrial manufacturing, media-related and transportation companies predict much lower-than-average spending in 2015 – all spending less than $14 million per company. Industries with somewhat lower than average spending in 2015 are retail ($20 million), health care services ($19 million) and automotive manufacturing ($18 million).

Exhibit III-13
Q16a/North America: Projected Spending in 2015 Per Company on Technology and Services for Responding to Digital Mobile Consumer ($ millions)



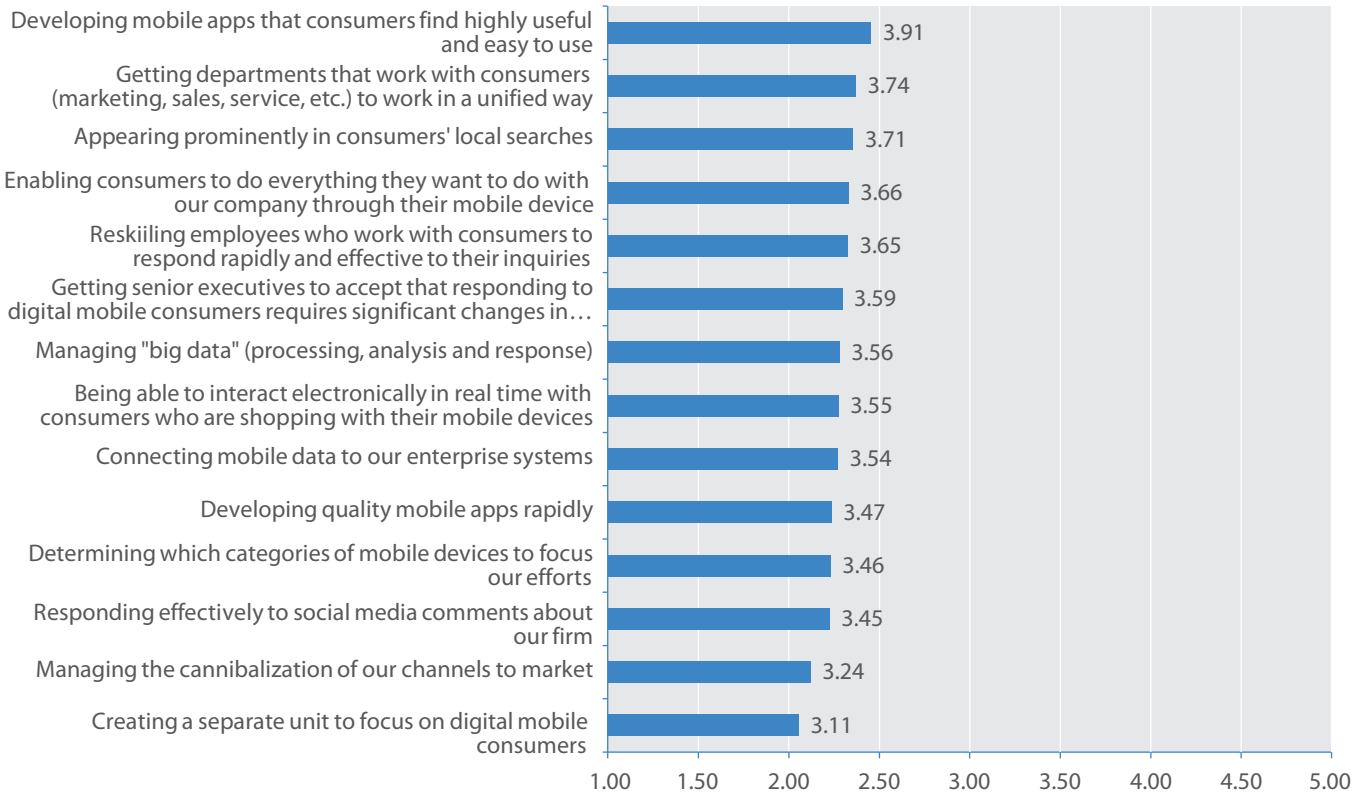
Key Success Factors in Winning Over the Digital Mobile Consumer: Creating Quality Apps and Getting Functions to Work Together

Numerous challenges confront companies that want to respond effectively and cost-efficiently to consumers who increasingly use mobile devices to transact business. Therefore, we wanted to know which elements in responding effectively and efficiently to the digital mobile consumer were considered the most important. We constructed a list of 14 factors that we had heard repeatedly in our interviews. On a scale of 1-5 (1=not at all important, 5= of highest importance), we asked survey respondents to grade these 14 success factors. To be sure, they aren't the only factors. But they were enough to give us an understanding of what factors are more important than others.

What did we find? First, not one success factor stands much higher than all the others. (See Exhibit III-14.) The average scores were all between 3 and 4 on our scale of 1 to 5. However, the three highest-rated factors were these:

- Developing mobile applications that are both useful and easy to use for consumers
- Getting the business functions that "touch" consumers – especially marketing, sales and service – to work in a unified way on mobile initiatives
- Making sure the company's mobile apps or mobile-optimized web pages appear prominently in local search results. That is, when consumers enter a term into a search engine such as Google or Bing, does a company's mobile app or mobile web pages appear near or at the top of search results?

Exhibit III-14
Q21/North America: Key Success Factors in Winning Over Digital Mobile Consumers (Scale of Importance, 1 to 5)



IV Europe: Already Geared Up to Deal with the Digital Mobile Consumer

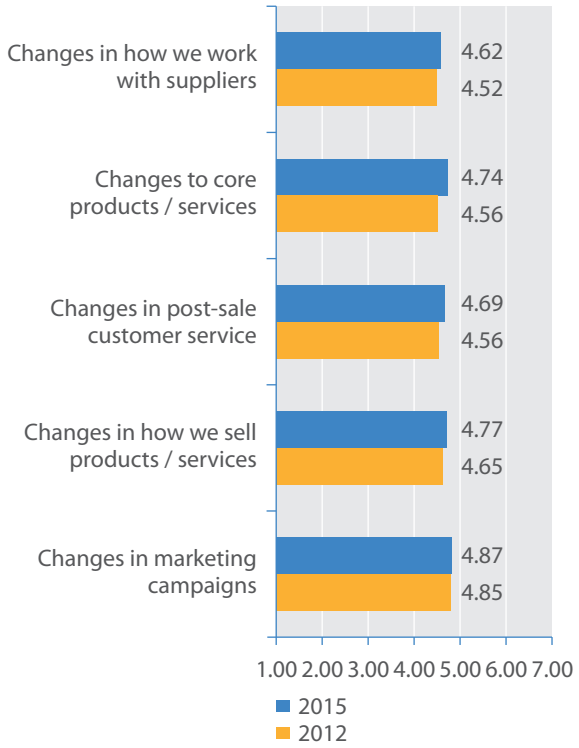
Europe: Already Geared Up to Deal with the Digital Mobile Consumer

Key findings:

- European companies have made more than moderate changes to products and processes to win over the mobile consumer
- European telecommunications, energy and utilities have the highest percentage of total consumer interactions with consumers using mobile devices.
- European automotive, telecommunications and consumer product companies are spending the most to be consumer mobile-friendly

The 165 European companies that we surveyed (in France, Germany and the UK) on average indicated making somewhat stronger changes to products and processes than their North American counterparts had to date. On our scale of 1 to 7, they said they made slightly bolder changes in all five areas. But as for the year 2015, they predicted they would make only incremental changes beyond the ones they have already instituted. (See Exhibit IV-1.)

Exhibit IV-1
Q9+10/Europe: Degree to Which Companies Have Made and Will Make Changes to Respond to Digital Mobile Consumers (Scale of 1-7,=none, 4=moderate, 7=very high)

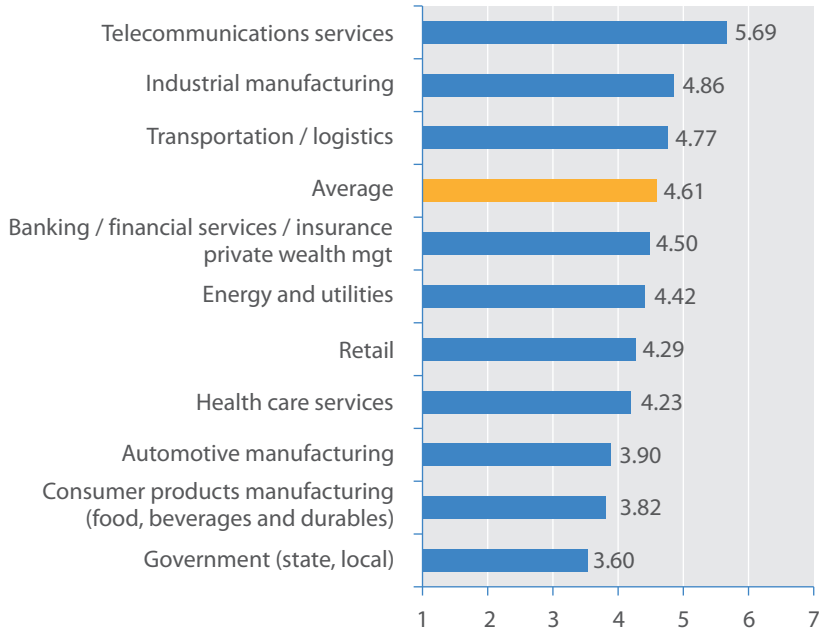


We also compared European industries with the composite scores in product and process change – at least, those industries for which we had large-enough samples. The results were somewhat similar to North America's (Exhibit IV-2):

The telecommunications sector reported the highest degree of change on these five parameters

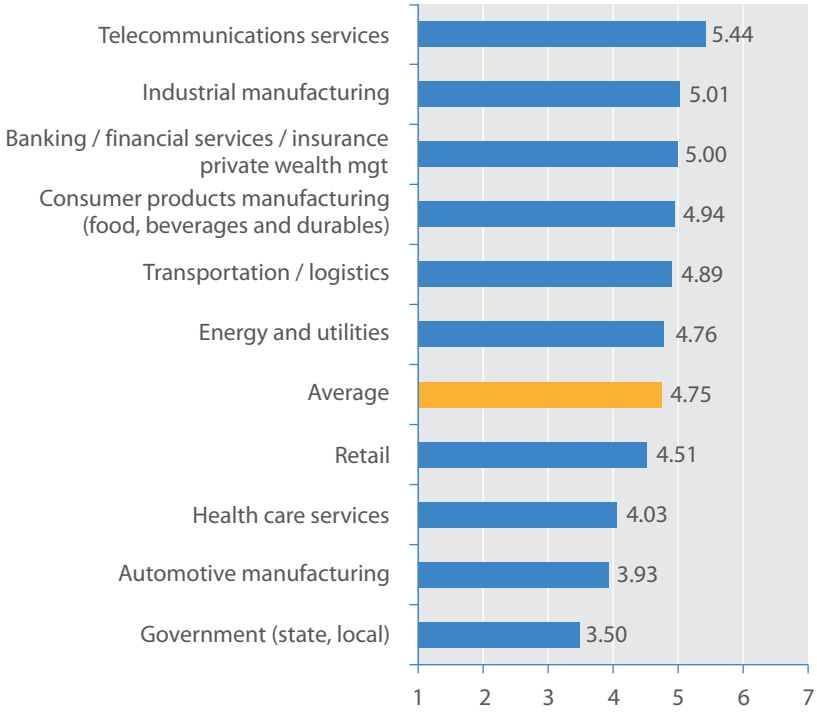
Industrial manufacturers scored more highly in Europe (4.86) than in North America (3.73), as did transportation companies (4.77 in Europe vs. 4.38 in North America)

Exhibit IV-2
Q9, 1-5/Europe : Comparing Industries by Degree of Changes in Products and Processes to Date to Win Over the Digital Mobile Consumer (Scale of 1-7, 1=none, 4=moderate, 7-very high)



In Europe, most of the sectors that have already changed the most say they will continue to change by 2015 to win over the mobile consumer (Exhibit IV-3). Telecommunications (5.44), industrial manufacturers (5.01) and banks say they'll change their products and processes the most by then.

Exhibit IV-3
Q10, 1-5/Europe : Comparing Industries by Degree of Changes Expected by 2015 in Products and Processes to Win Over the Digital Mobile Consumer (Scale of 1-7)



Mobile Consumer Transactions: A Higher Percentage Than in North America

The European companies surveyed indicated they were conducting a somewhat higher percentage of their total marketing, sales and service interactions with consumers who use mobile devices. They estimated consumers would make 30% of their purchases with them through mobile devices this year (vs. 24% of total purchase transactions in North America). (See Exhibit IV-4.) And they estimated that number to be 43% by 2015, five percentage points higher than in North America.

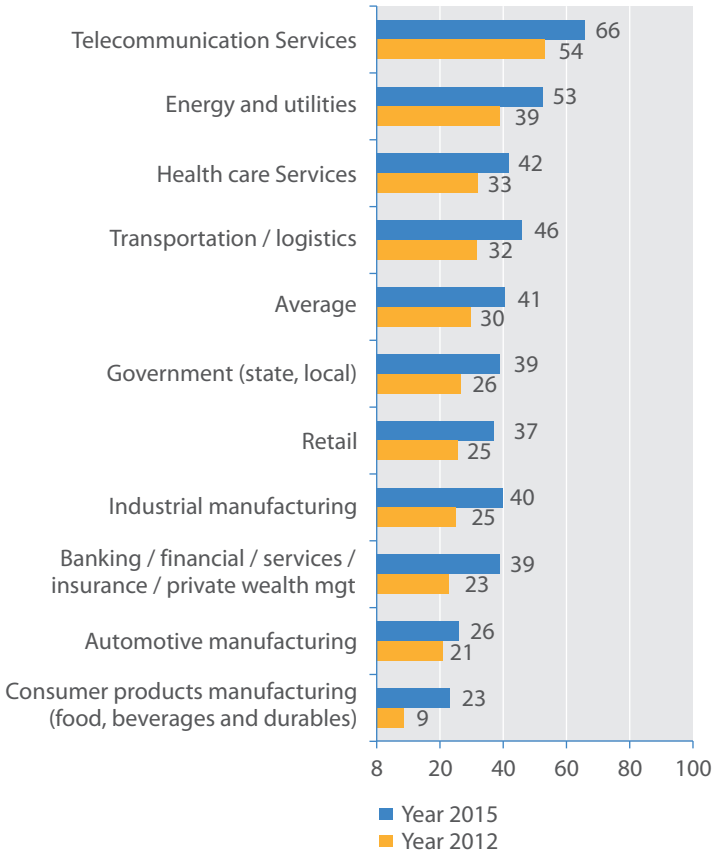
European companies say that 28% of their marketing campaigns this year will have been designed for mobile devices, and that the number would hit 41% by 2015. They appear to be conducting a greater proportion of customer service interactions with consumers who use mobile devices than companies in North America.

Exhibit IV-4
Q11/ Europe: Measuring the Impact of the Digital Consumer Across Industries

	2012	2015
% of consumer purchase transactions through mobile devices	30%	43%
% of marketing campaigns designed exclusively for consumer mobile devices	28%	41%
% of post: purchase customer service transactions that consumers conduct through mobile devices	25%	37%

By industry sector, the data on percent of purchase transactions with mobile consumers shows telecommunications and energy/utility companies in the lead, and banks and automotive companies lagging (Exhibit IV-5). All sectors expect a much bigger percentage of purchases to come through mobile devices in three years.

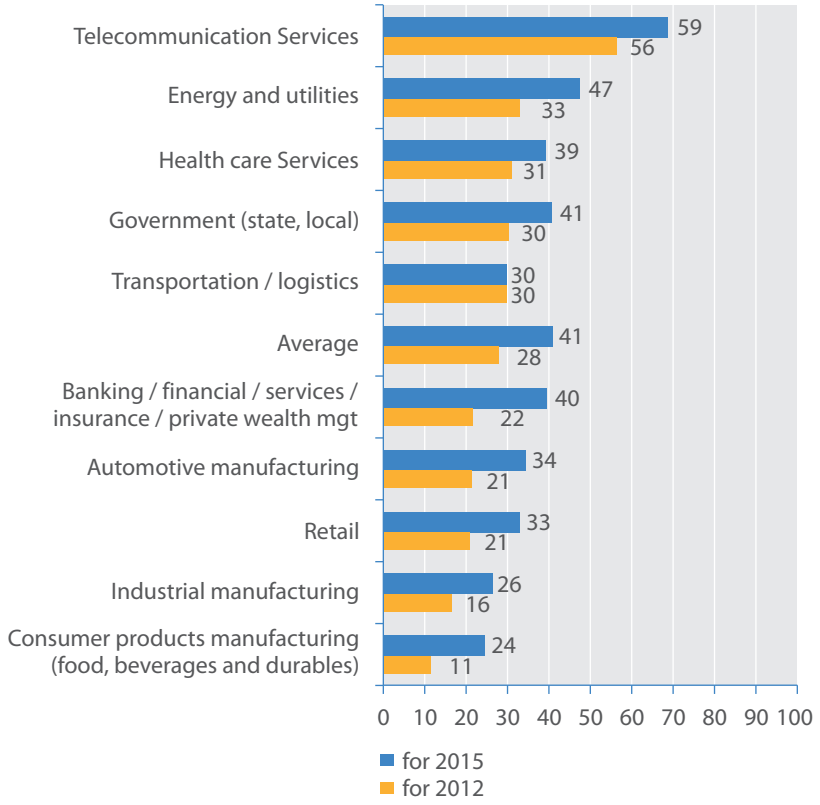
Exhibit IV-5
Q11+11a/Europe: Percent of Consumer Purchase Transactions Through Mobile Devices, by Industry (Today and Projected for 2015)



Looking at marketing campaigns on a European industry basis, one sector is clearly in the lead among the sectors for which we had a sufficient sample: telecommunications services. European telecommunications told us they now formulate more than half of their marketing campaigns (56%) for mobile devices, a number they estimated would reach 69% by 2015. That is understandable given that they own the channels to consumers who use their wireless services. Energy/utilities, health care services, transportation and government all said 30% of their marketing campaigns would be designed this year to be viewed just on mobile devices.

Industries that are trailing the pack are consumer products and industrial manufacturing. (See Exhibit IV-6.) Nonetheless, some consumer products companies have been highly inventive in their mobile marketing. Take Heineken N.V. In November 2011, the Amsterdam-based beer company brought to market a mobile app for the holiday season that let consumers (target segment: upscale millennials) send party invitations and custom holiday cards via email and social media. The app also enabled consumers to book, track and pay for a cab ride through their mobile devices.[12] "Mobile can be an incredibly powerful lever" in building Heineken's brand, Ron Amram, the company's senior media director of marketing, explained in a conference this June.[13]

Exhibit IV-6
Q12+12a/Europe: Percent of Marketing Campaigns Designed Exclusively to be Read by Consumers Using Mobile Devices



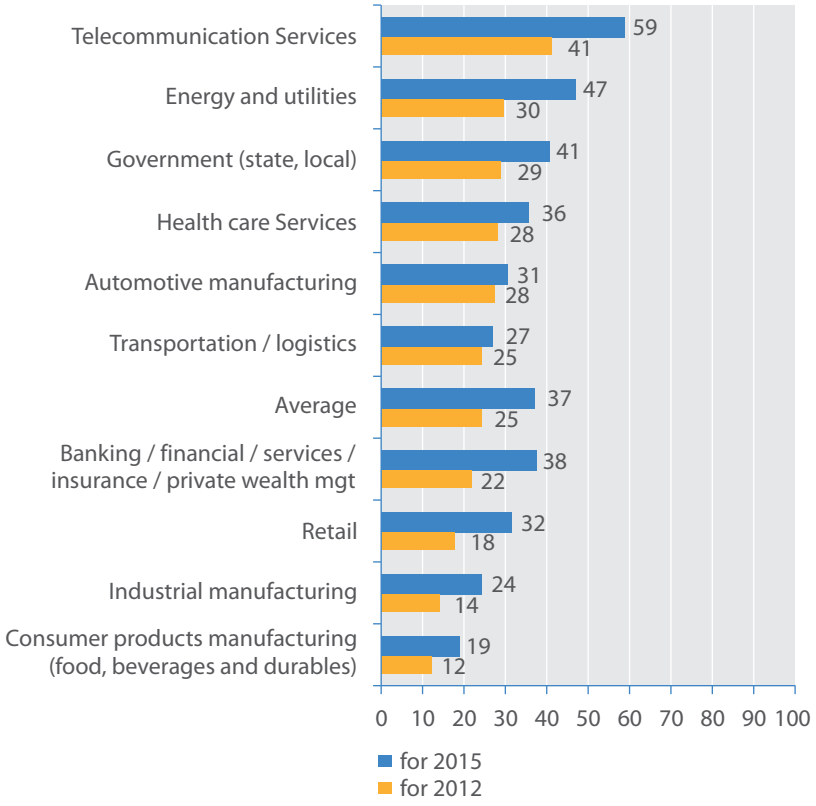
[12] From *Mobile Marketer* article, Nov. 17, 2011, "Heineken taps into holiday cheer with themed app." http://www.mobilemarketer.com/cms/news/advertising/11511.html

[13] Amram spoke at the 2012 MMA Forum in New York. More information here: http://www.mobilemarketer.com/cms/news/strategy/13092.html

What about customer service transactions? Here, too, telecommunications and energy/utility companies led the way. Telecommunications told us that 41% of their total consumer service interactions this year would come from consumers using their mobile devices. They projected that 59% of such interactions would be mobile-based by 2015. Energy/utility companies said 30% of customer service interactions come from a mobile device today, and that number would approach half of all service interactions (47%) by 2015. (See Exhibit IV-7.)

In contrast, few European consumers are reaching out to consumer products or industrial products manufacturers' service departments today through a mobile device. Their inquiries represent only 12-14% of total customer service interactions.

Exhibit IV-7
Q13+13a/Europe: Percent of Customer Service Transactions (Post-Purchase) That Consumers Conduct Through Digital Mobile Devices

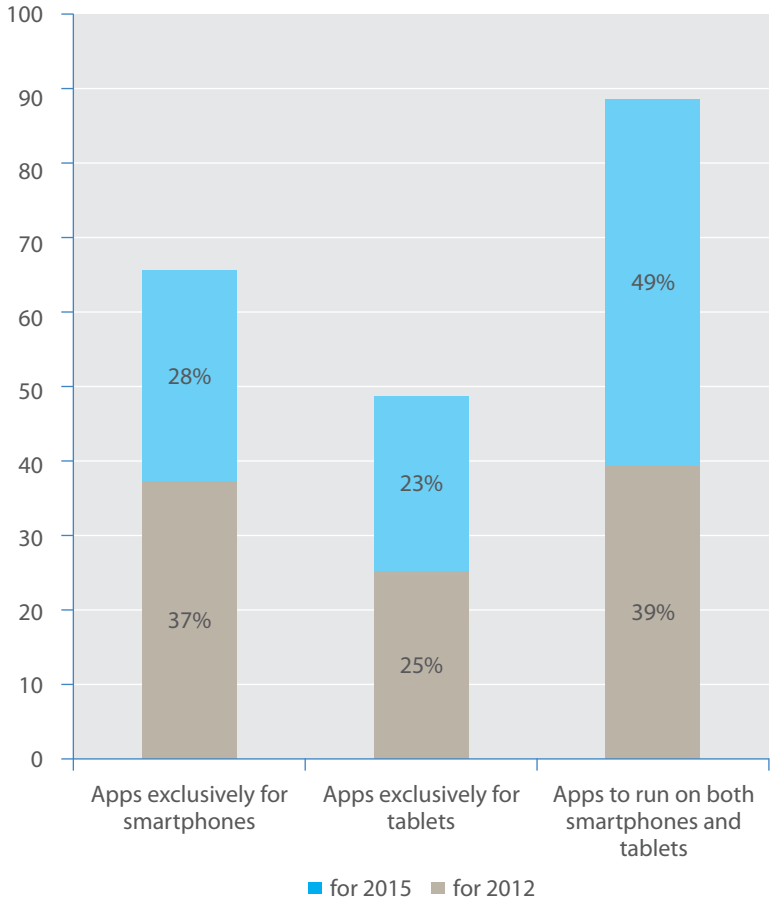


European Companies to Increase the Percent of Mobile Apps They Develop for Both Devices

Echoing the trend in North America, European companies too aim to design mobile apps to run both on smartphones and tablets by 2015. This year, just 39% of their apps run on both types of devices; 37% run just on smartphones and 25% are designed just for tablets.

But by 2015, a slight majority of mobile apps – 51% -- will be designed to run on only smartphones or tablets. European companies plan to design an average 49% of their mobile apps to be viewed on both types of devices. (See Exhibit IV-8.)

Exhibit IV-8
Q15+15a/Europe: Percent of Mobile Apps Developed for Smartphones, Tablets or Both



Annual Investments in Responding to the Mobile Consumer: Automotive and Telecommunications Lead the Pack

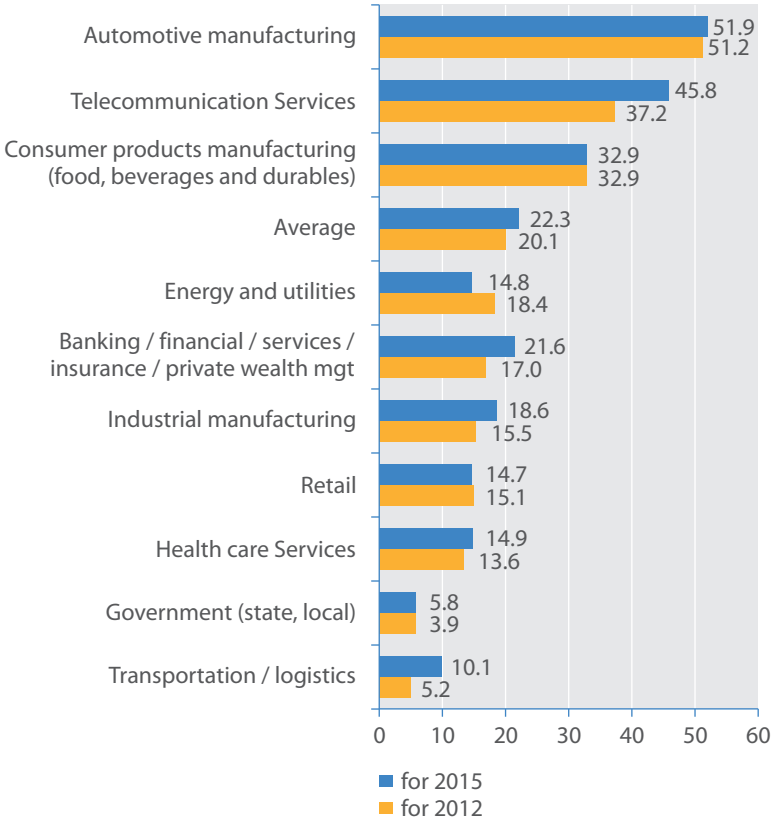
Three European industries reported spending far more this year on catering to the digital mobile consumer than the other industries we surveyed (Exhibit IV-9):

- Automotive (US$51 million)
- Telecommunications (US$37 million)
- Consumer products manufacturing--food, beverages and durables (US$33 million)

The average across industries was US$20 million in spending per company in 2012. In 2015, the average increases but just barely, according to the forecasts of the companies we surveyed, to $22 million. However, some industries plan to invest more than the average then:

- Automotive (US $52 million)
- Telecommunications (US$46 million)
- Consumer products manufacturing ($33 million)

Exhibit IV-9
Q16+16a/Europe: What Companies are Spending on Mobile Digital Technologies and Service to Implement them (US $ millions)

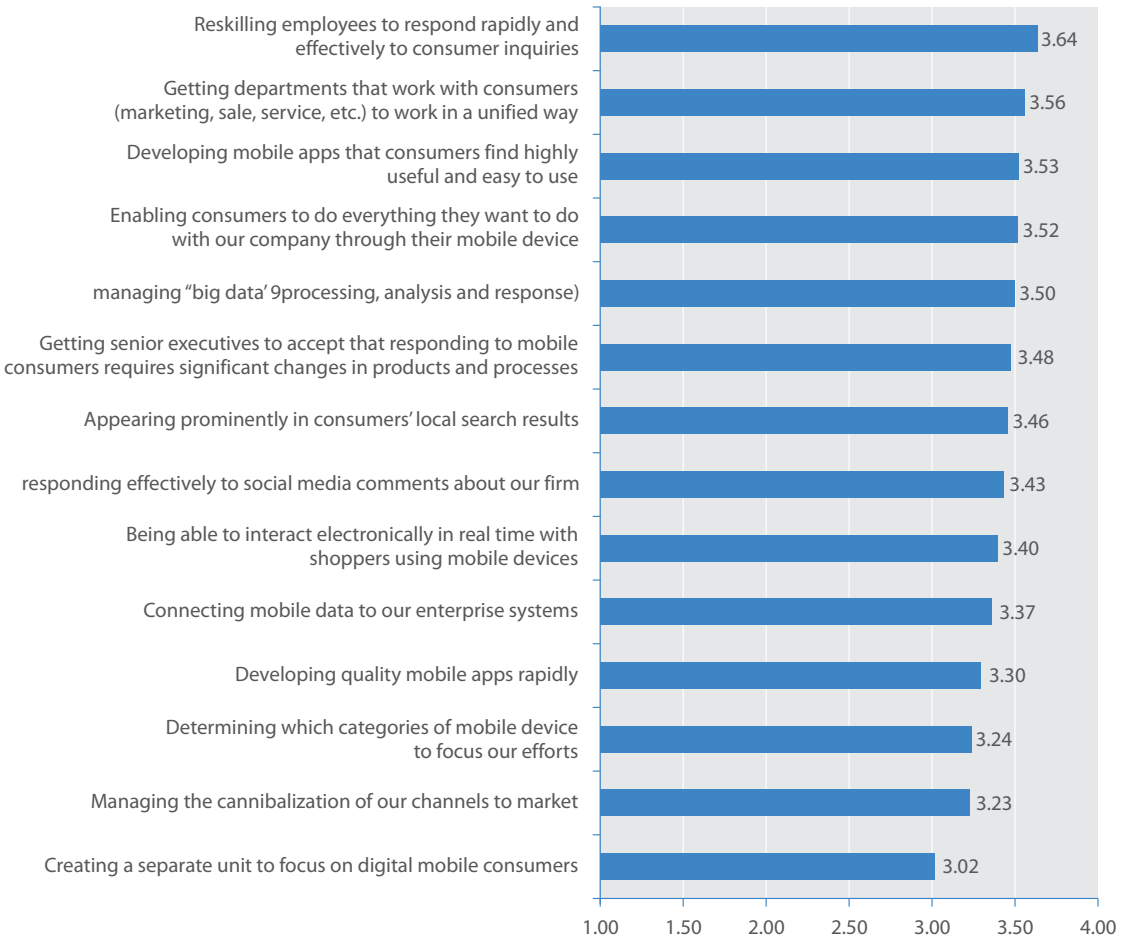


Winning the European Mobile Consumer: Internal Changes are Critical

Like their counterparts in North America, no single success factor stood out among the 14 we provided. And one issue – getting customer-facing functions to work in unison – finished second as it did in North America. (See Exhibit IV-10.)

However, an issue that North American companies rated fifth in importance topped our chart in Europe: reskilling employees to work quickly and effectively with consumers who are interacting with a company through their mobile devices. This issue ranked at the top of the list (3.64 on the scale of 1-5). It underscores the importance of having customer service representatives armed and trained to operate in a world in which consumers demand better service from the touch of their mobile phone or tablet device. Just as in North America, creating a separate unit to focus on mobile consumers was at the bottom of the European list.

Exhibit IV-10
Q21/Europe: Key Success factors in Winning Over Digital Mobile Consumers (Scale of Importance, 1-5)



V. Asia-Pacific: Faster to Embrace the Digital Mobile Consumer

Asia-Pacific: Faster to Embrace the Digital Mobile Consumer

Key findings:

- Asia-Pacific companies say more than half of consumer purchases are made through mobile devices. In addition, the companies estimate they design nearly half their marketing campaigns for mobile devices and that consumers conduct nearly half their service interactions with them through such devices.
- Among eight industry sectors, industrial manufacturers indicate making the largest degree of change (on our seven-point scale) in products and processes to attract and keep the business of the digital mobile consumer – larger than the Asia-Pacific retailers surveyed.
- Energy/utilities, telecommunications services and industrial manufacturing companies are making the largest investments in being responsive to digital mobile consumers.

Degree of Product and Process Change: More Than Moderate, and Likely to Increase

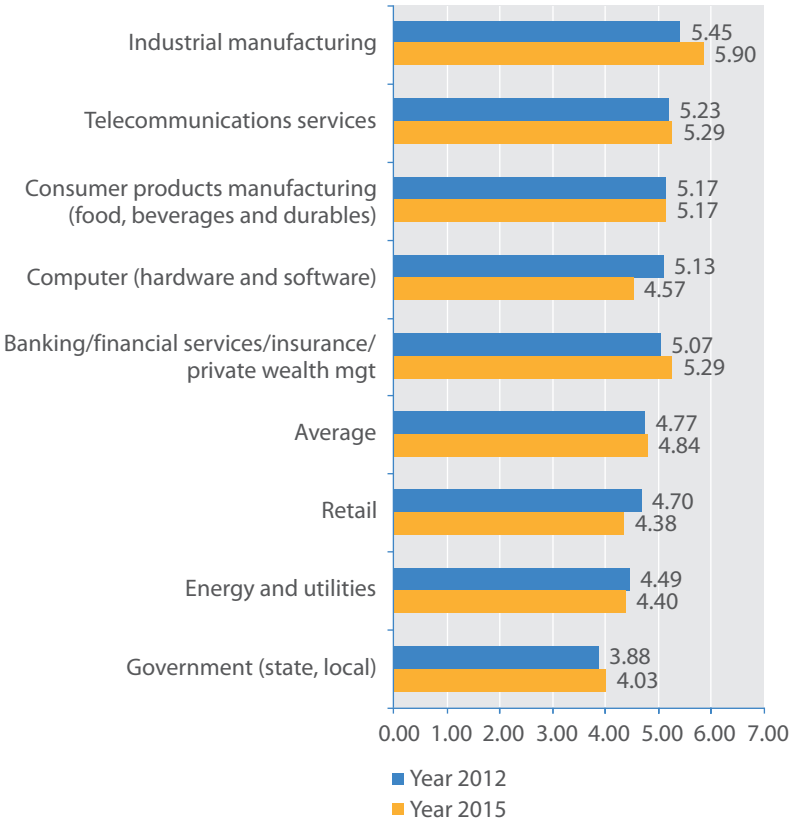
The 109 Asia-Pacific companies that we surveyed (in Japan and India) reported more than moderate changes in products and processes to deal with mobile consumers. They said they had changed their marketing campaigns to the largest extent, based on our scale of 1-7 (1=no change, 4= moderate change, 7= very high change). They made smaller changes to their core products and services. (See Exhibit V-1.)

They expected to continue making more than moderate changes to their products and processes by 2015.

Exhibit V-1
Q9+10/Asia Pacific: Degree to Which Companies Have Made and Will Make Changes to Respond to Digital Mobile Consumers (Scale of 1-7, 1=none, 4=moderate, 7=very high)

In looking at the scores that we compiled on eight industries in the overall degree of change on the five elements above (industries for which we had large-enough samples) we found that industrial manufacturers and telecommunications had changed the most, and government and energy/utility companies had changed the least on this qualitative scale. (See Exhibit V-2.)

Exhibit V-2
Q9+10, 1-5/Asia-Pacific: Comparing Industries in Degree of Change in Products and Processes in 2012 and 2015 to Respond to Digital Mobile Consumers



Mobile Consumer Transactions: Heavy in Asia-Pacific

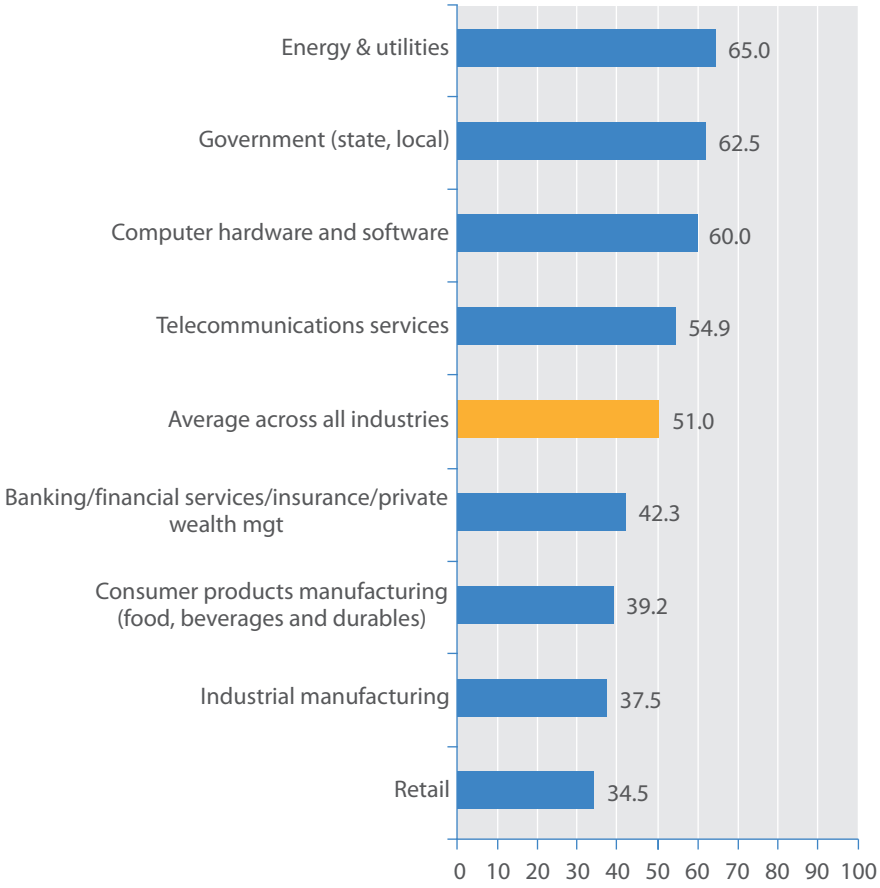
We asked companies in Asia-Pacific about the degree to which they were marketing, selling and serving consumers after the sale through mobile technology. In purchase transactions, the percentage was the highest of the four regions: 50% today, with expectations of reaching 61% in three years. (See Exhibit V-3.)

Exhibit V-3
Q11/Asia-Pacific: Measuring the Impact of the Digital Consumer Across Industries

	2012	2015
% of consumer purchase transactions through mobile devices	51%	61%
% of marketing campaigns designed exclusively for consumer mobile devices	47%	58%
% of post-purchase customer service transactions that consumers conduct through mobile devices	47%	57%

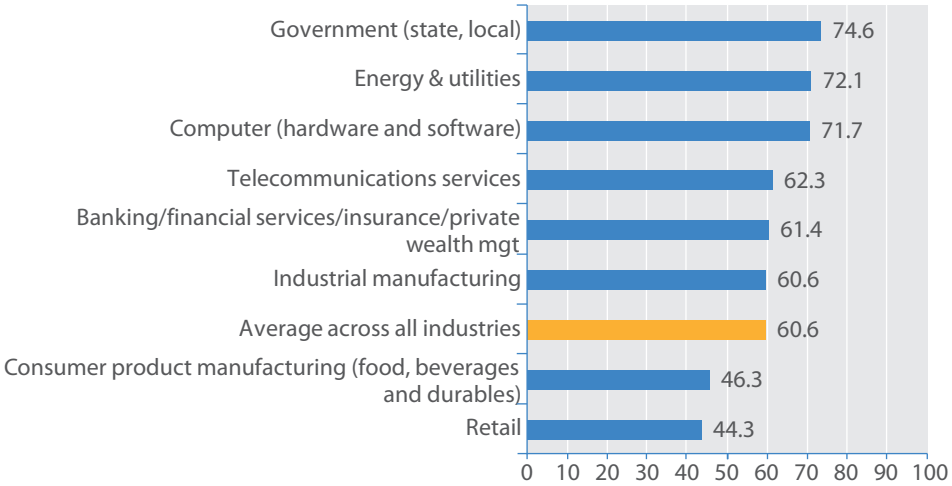
Broken down by industry, the sectors in the lead were energy/utilities, government and computer (hardware and software). The sectors that were trailing were retail, industrial manufacturing, consumer products, and banking. All of these sectors said their consumers made less than half their purchasing transactions through mobile devices in 2012. (See Exhibit V-4.)

Exhibit V-4
Q11/Asia-Pacific: % of Total Consumer Purchases Through Mobile Devices (2012)



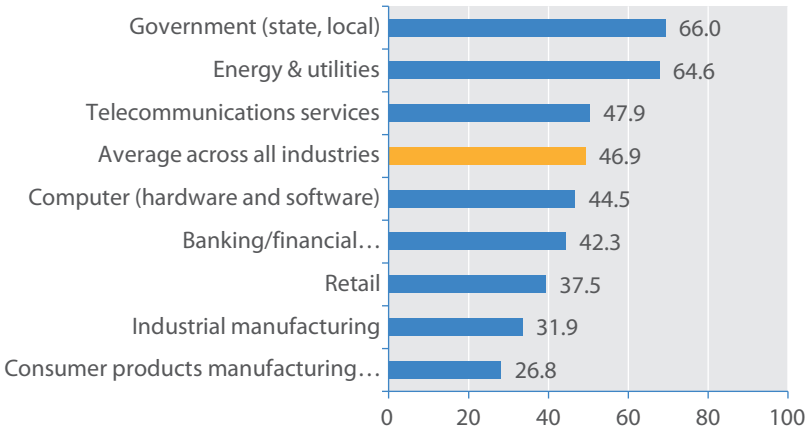
As for 2015, the same four industries with the greatest number of consumer purchases made through mobile devices in 2012 expected the percentage to climb even more. And even industrial manufacturers expect that most consumers (61%) will be purchasing their products using mobile devices in three years (Exhibit V-5).

Exhibit V-5
Q11a/Asia-Pacific: % of Total Consumer Purchases Through Mobile Devices (Projected for 2015)



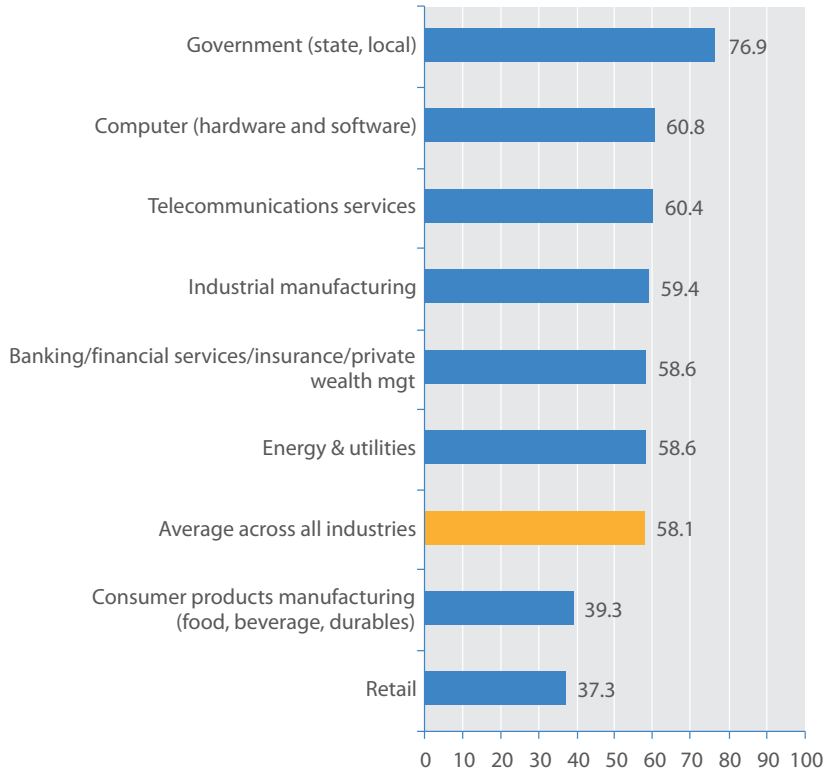
Asia-Pacific companies are also oriented toward marketing through mobile devices. Government agencies and energy/utility sectors have the highest percent of total marketing campaigns through mobile devices (65-66%), while consumer products and industrial manufacturers have the lowest (27-32%) this year. (See Exhibit V-6.)

Exhibit V-6
Q12/Asia-Pacific: % of Total Marketing Campaigns Designed Exclusively to be Read by Consumers Using Digital Mobile Devices (2012)



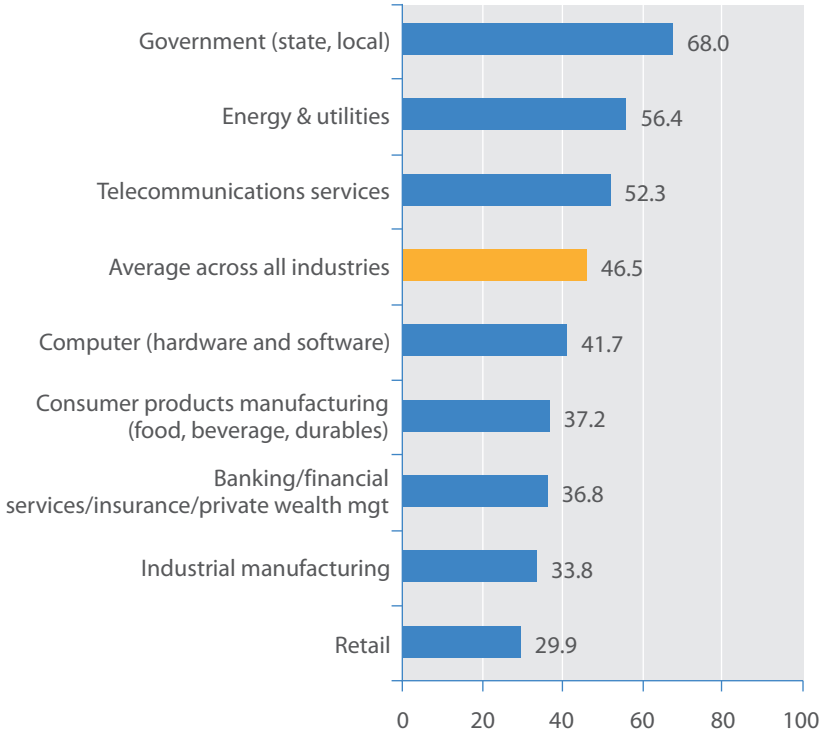
By 2015, these industries expect to be conducting many more marketing campaigns through mobile devices as a percent of total marketing campaigns (Exhibit V-7). The leaders will be government, computer, and telecommunications companies. Asia-Pacific retailers and CPG companies don't expect to shift a similar percentage of their marketing campaigns to mobile devices.

Exhibit V-7
Q12a/Asia-Pacific: % of Total Marketing Campaigns Designed Exclusively to be Read by Consumers Using Digital Mobile Devices by 2015



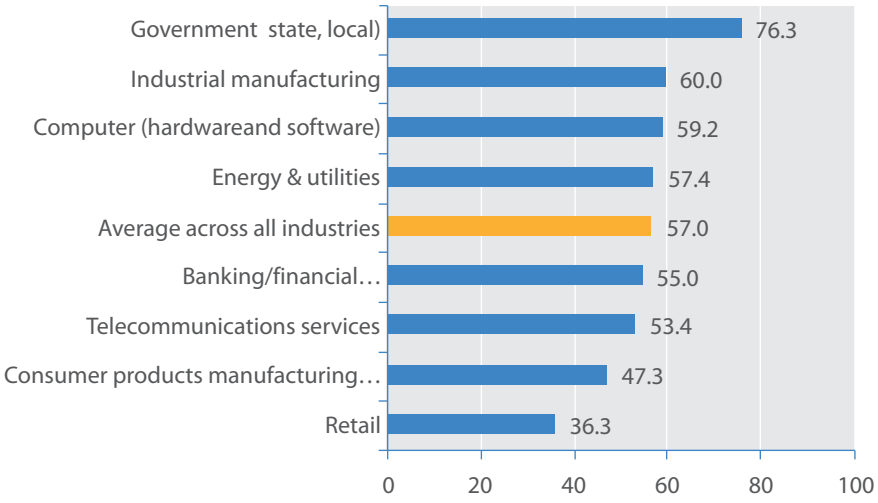
A similar pattern can be seen in post-purchase customer service transactions (Exhibit V-8). The industries whose consumers use mobile devices to interact most frequently (that is, those industries with the highest percentage of service transactions that are conducted through mobile devices) are government, energy/utilities and telecommunications. Industrial manufacturers and retailers report the lowest percentage of total service transactions from consumers using mobile devices.

Exhibit V-8
Q13/Asia-Pacific: % of Total Customer Service Transactions That Consumers Conduct Through Digital Mobile Devices (2012)



By 2015, the Asia-Pacific industrial manufacturers that we surveyed expect that to change dramatically (Exhibit V-9). By then, they predict that 60% of their service transactions will be with consumers using their mobile devices – a nearly doubling in percent of service transactions from 2012. But the region's retailers still see the number of mobile consumers calling or clicking their mobile devices for service after the sale to remain relatively low – at least compared with other industries.

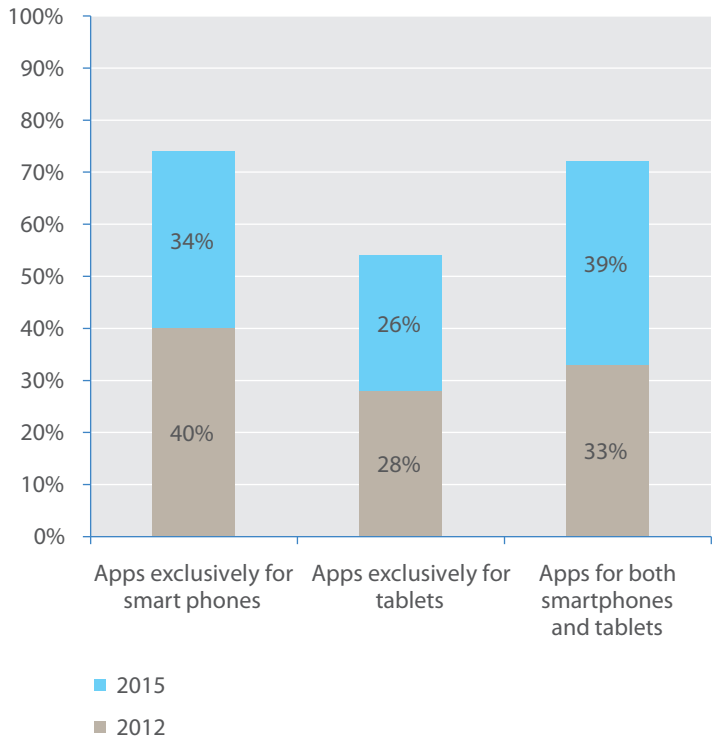
Exhibit V-9
Q13a/Asia-Pacific: % of Total Customer Service Transactions That Consumers are Expected to Conduct Through Digital Mobile Devices by 2015



Asia-Pacific Companies Will Slightly Increase the Percentage of Mobile Apps They Design for Both Smartphones and Tablets

Companies in this region today are designing more than two-thirds of their mobile apps (68%) for either smartphones or tablets but not to run on both devices. But they plan to somewhat reduce that percentage in three years, with 60% of mobile apps designed for a smartphone or tablet but not both devices. (See Exhibit V-10.)

Exhibit V-10
Q15+15a/Asia-Pacific: Percent of Mobile Apps Developed for Smartphones, Tablets or Both

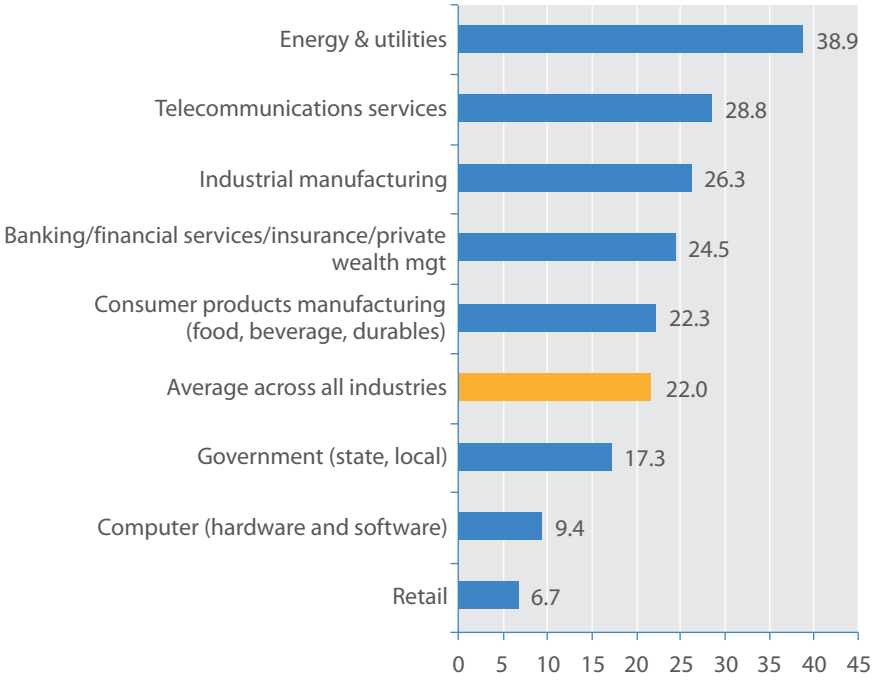


Asia-Pacific Companies' Mobile Investments: Large and Growing

Asia-Pacific industries that spend the most annually on technologies and services (consulting, systems development and integration, etc.) are three: energy/utilities, telecommunications, and industrial manufacturers. Companies in all three industries on average will spend more than US $25 million this year on the ability to respond to the digital mobile consumer. (See Exhibit V-11.)

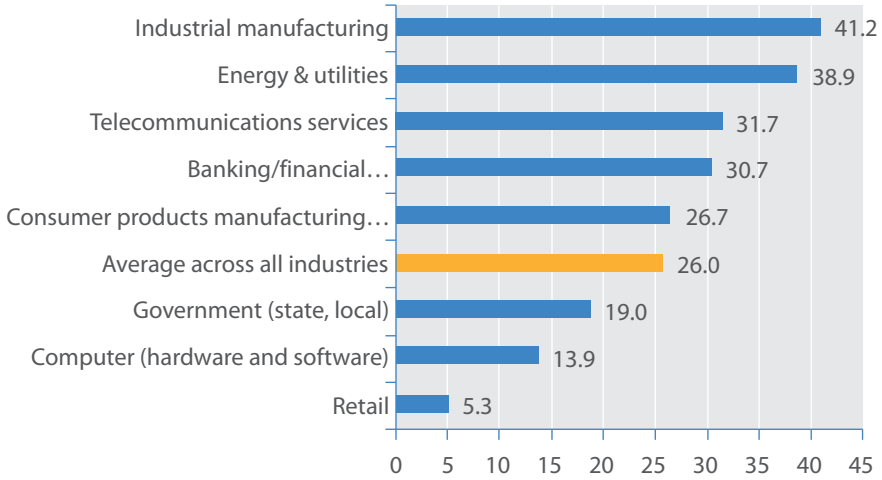
Industries spending the least in this region are retailers ($6.7 million in mobile investments per company), computer ($9.4 million) and government agencies ($17 million).

Exhibit V-11
Q16/Asia-Pacific: Annual Spending on Technologies and Consulting/IT Services to Respond to the Digital Mobile Consumer (2012) (in US $millions)



By 2015, the industries which expect to spend the most are industrial manufacturing ($41 million per company), energy & utilities ($39 million) and telecommunications($32 million). (See Exhibit V-12.) Retailers ($5 million) and computer companies ($14 million) are predicting the lowest annual spending among the industries we surveyed.

Exhibit V-12
Q16a/Asia-Pacific: Annual Spending on Technologies and Consulting/IT Services to Respond to the Digital Mobile Consumer (Projected for 2015) (in US $ millions)



Keys to Playing the Consumer Mobile Game in Asia-Pacific: Developing Useful Mobile Apps and Interacting With Their Users When TheyShop

The Asia-Pacific survey respondents also displayed minor variations in how they answered our question about their keys to being successful with digital mobile consumers. The ratings they gave our 14 factors finished in a narrow band (scale of 1-5): between 3.5 and 4.0. (See Exhibit V-13.)

No. 1 was creating great mobile apps (3.93). That finished near the top in the other regions. But Asia-Pacific companies ranked a different factor second: interacting online and in real time with shoppers. Perhaps these companies are finding that they must intercept consumers during the passion of a purchase. Deciding whether to focus development on types of mobile devices or to write software that applies to all devices came third in importance. And managing the torrents of data that are coming out of the mobile stream – so-called "big data" – finished fourth.

Asia-Pacific companies, like their peers in Europe and North America, put the need to set up a separate unit that would focus on the digital mobile consumer at the bottom of this list (with a 3.53). In terms of relative importance, this issue doesn't rate highly.

Exhibit V-13
Q21/Asia Pacific: Key Success Factors in Winning Over Digital Mobile Consumers (Scale of Importance, 1-5)

VI. Latin America: Led by Retailers, Companies are Highly Responsive to the Digital Mobile Consumer

Latin America: Led by Retailers, Companies are Highly Responsive to the Digital Mobile Consumer

Key findings:

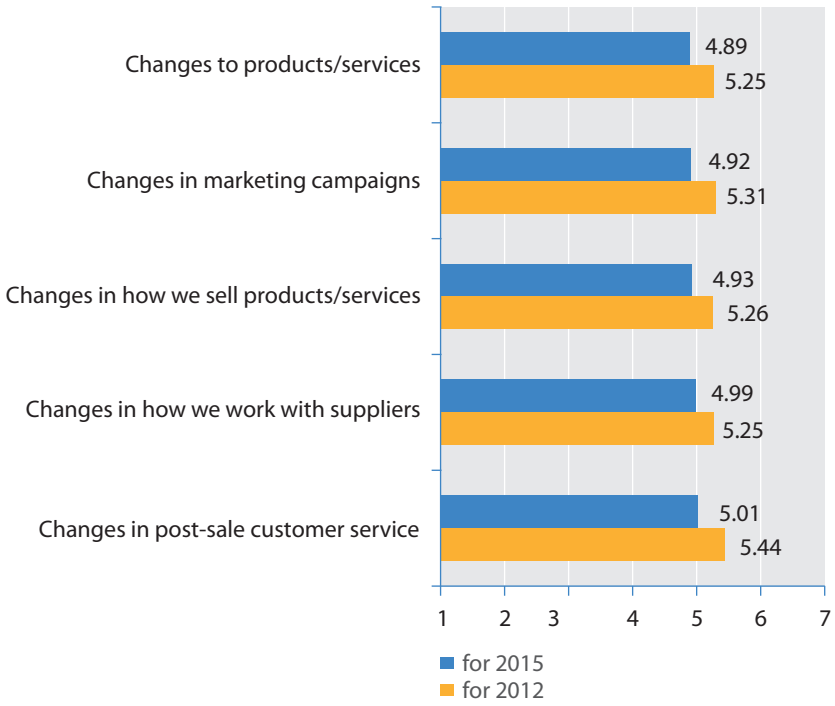
- Latin American retailers lead the four sectors we surveyed in this region in reshaping their businesses to win over the digital mobile consumer. They have the highest percentage of consumer purchases, marketing campaigns and service transactions through the mobile channel.
- The retail sector is spending the most this year on "mobile-friendly" ways of doing business. But by 2015, their mobile investments will be overtaken by those of consumer product companies.
- The two most important success factors in creating effective mobile businesses is enabling consumers to do everything they want to do with a company through their mobile device, and getting customer-facing departments to work in unison on mobile initiatives.

Degree of Product and Process Change: Strong and Increasing

The 90 Latin American organizations that we surveyed (from Brazil, Mexico and Argentina) indicated that they have already made substantial changes in consumer-facing and supplier processes, as well as their products and services on behalf of consumers who use mobile devices to do business with them.

On our scale of 1-7, the Latin American survey respondents measured the degree of change in their products and processes as nearly a 5 – a higher average score than those in the other three regions of the world. And in asking Latin American companies to gauge the amount of change in these areas by 2015, they indicated greater than 5 scores on all five measures. (See Exhibit VI-1.)

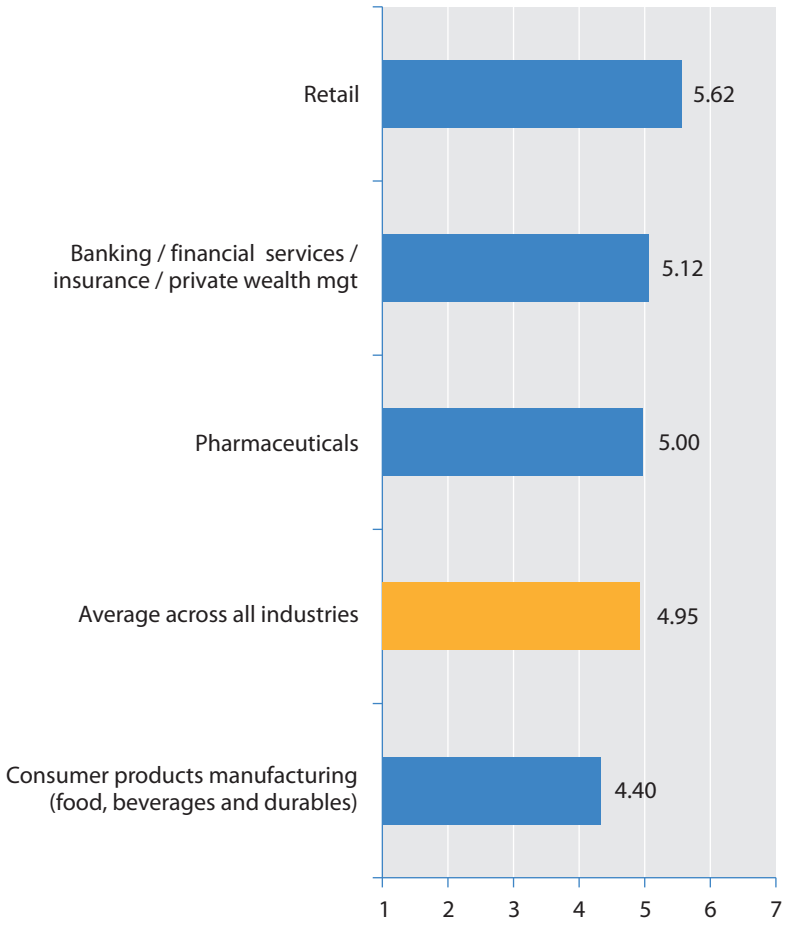
Exhibit VI-1
Q9+10/Latin America: Degree to Which Companies Have Made and Will Make Changes to Respond to Digital Mobile Consumers
(Scale of 1-7, 1=none, 4=moderate, 7=very high)



These measures of product and process change were even more pronounced by industry sector. Among our 90 Latin American respondents, we received sufficient samples in four industries: retail, banking/financial services/insurance, pharmaceuticals, and consumer products manufacturing (food, beverages and durables).

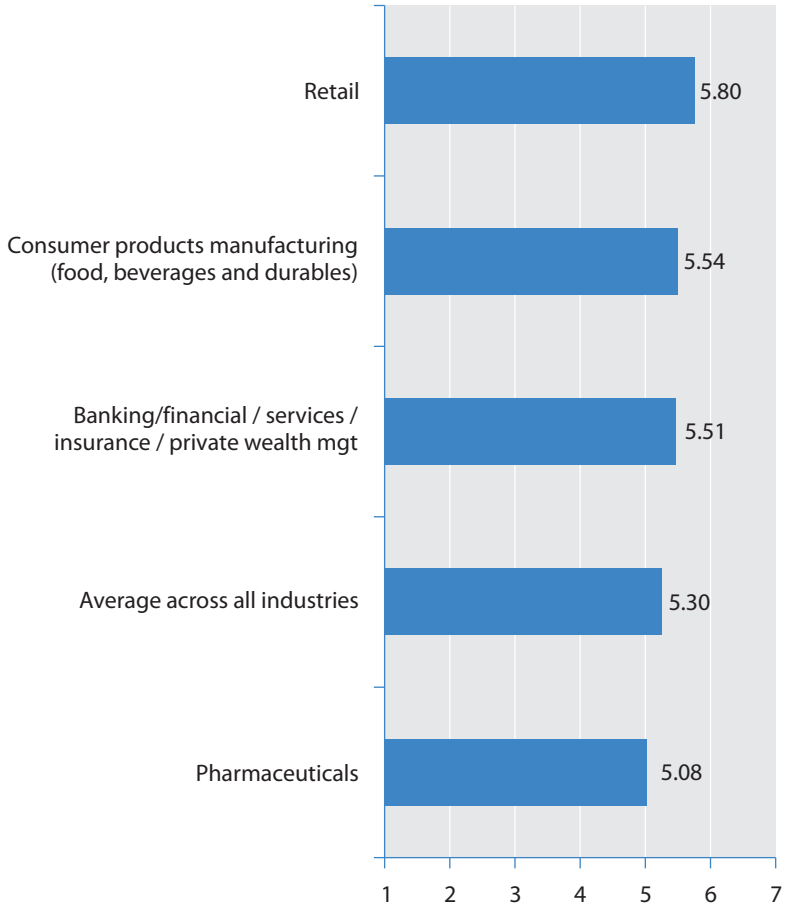
The retailers we surveyed indicated the largest degree of change in product and process to appeal to mobile consumers: 5.62 on this 1-7 scale (Exhibit VI-2). In comparison, consumer product companies gave an average score of 4.40 on product and process changes – a number that was below the average for all 90 companies (4.95).

Exhibit VI-2
Q9, 1-5/Latin America: Comparing Industries in Degree of Change in Products and Processes to Date to Respond to Digital Mobile Consumers (Scale of 1-7, 1=no change, 7=very high change)



However, when asked about the degree of change in these five dimensions that they expected to make by 2015, the consumer products companies indicated they would move much more quickly. They projected their average degree of product and process change to appeal to digital mobile consumers at 5.54 on this 1-7 scale, second only to the degree of change that the retailers projected (5.80). (See Exhibit VI-3.)

Exhibit VI-3
Q10, 1- 5/Latin America: Comparing Industries in Degree of Change in Products and Procsses expected by 2015 to Respond to Digital Mobile Consumers
(Scale of 1-7, 1=no change, 7=very high change)



Consumer Transactions Through Mobile Devices: High and Increasing

Latin American organizations told us that a high proportion of their total interactions with consumers were happening via mobile devices today: 43% of all consumer purchases, 43% of marketing campaigns; and 42% of service transactions. (See Exhibit VI-4.)

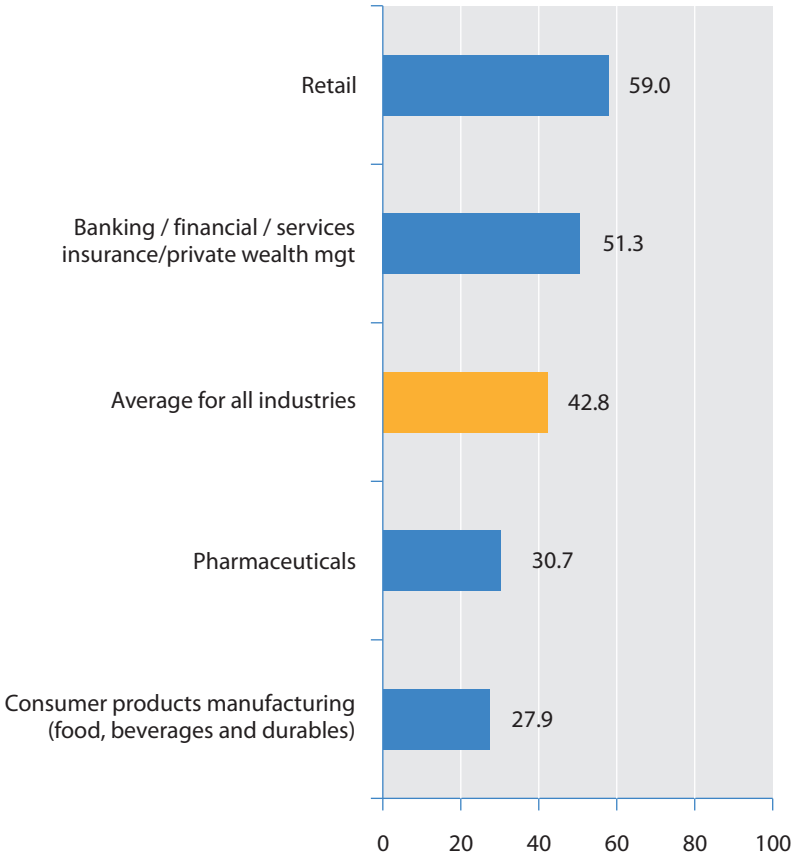
Exhibit VI-4

Q11/Latin America: Measuring the Impact of the Digital Consumer Across Industries		
	2012	2015
% of consumer purchase transactions through mobile devices	43%	58%
% of marketing campaigns designed exclusively for consumer mobile devices	43%	59%
% of post-purchase customer service transactions that consumers conduct through mobile devices	42%	58%

These companies envision that such consumer transactions will only increase over the next three years, estimating them to constitute 58-59% of marketing, sales and service transactions. Of course, this is only their guess. Nonetheless, it is a directional statement that suggests these companies are looking for ways to improve the ways they do business with consumers who use mobile devices.

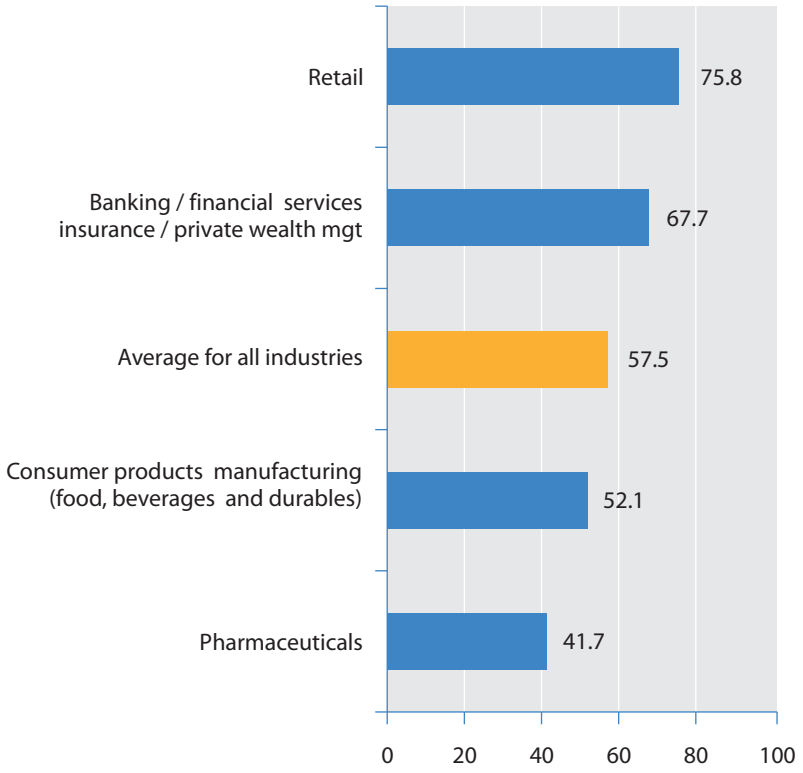
When looking at the average percentages of purchase, marketing and service transactions through the mobile channel in the four Latin American industries we mentioned earlier, the retail sector emerges as the friendliest to date for mobile consumers. (See Exhibit VI-5.) The Latin American retailers surveyed said 59% of payment transactions were done through a mobile device. Banks estimated their number at 51% -- both far above the average (43%) for all 90 companies (which included other industries besides the four we report on).

Exhibit VI-5
Q11/Latin America: % of Total Consumer Purchases Through Mobile Devices (2012)



When asked to estimate the percentage of consumer payment transactions by 2015, all four industries believed it would grow considerably. Retailers expect more than three-quarters of mobile payment transactions to be done through mobile devices then (76%), and for banks the number was 68%. (See Exhibit VI-6.)

Exhibit VI-6
Q11a/Latin America: % of Total Consumer Purchases Through Mobile Devices Expected by 2015



Retailers are also leading the way in the percentage of total marketing campaigns they're designing for mobile devices. They estimate that they will design 62% of their marketing campaigns this year just for mobile devices – more than double the percentage of consumer product companies (26%). And retailers project that 81% of their marketing campaigns will be geared for mobile devices in three years. (See Exhibits VI-7 and VI-8.)

Exhibit VI-7
Q12/Latin America: % of Total Marketing Campaigns Designed Exclusively to be Read by Consumers Using Digital Mobile Devices

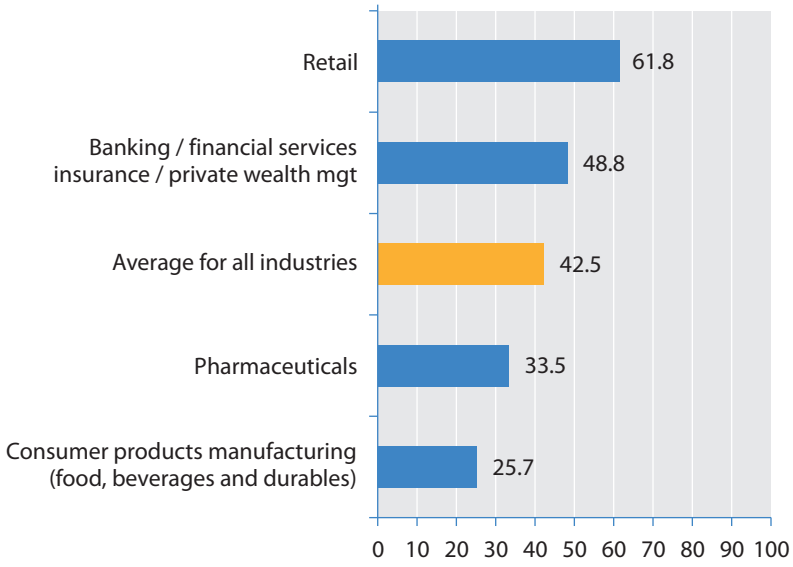
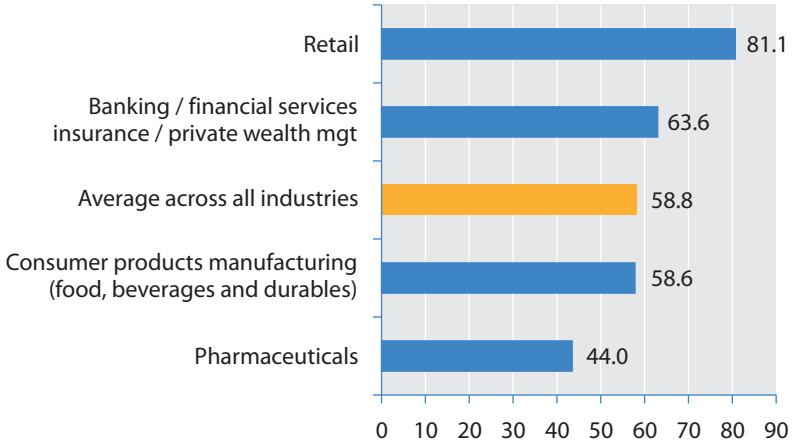


Exhibit VI-8
Q12a/Latin America: % of Total Marketing Campaigns to be Designed Exclusively to be Read by Consumers Using Digital Mobile Devices by 2015



Retailers also are leading the way in responding to consumers who use mobile devices in their post-sale service interactions. Retailers said 63% of such service interactions are with consumers using mobile devices – far above the cross-industry average of 42% today. (See Exhibits VI-9 and VI-10.) All sectors see consumers making an increasing percentage of their post-sale service interactions through mobile devices by 2015.

Exhibit VI-9
Q13/Latin America: % of Total Customer Service Transactions Conducted by Consumers Using Digital Mobile Devices (2012)

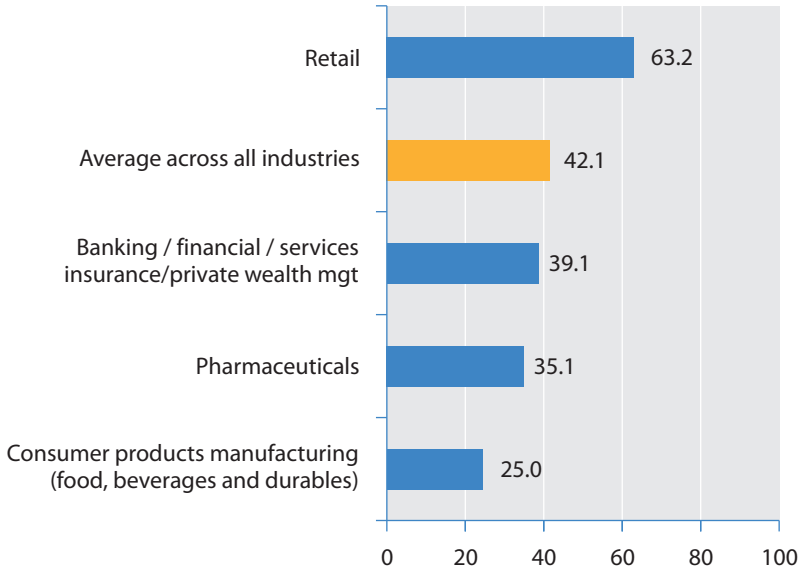
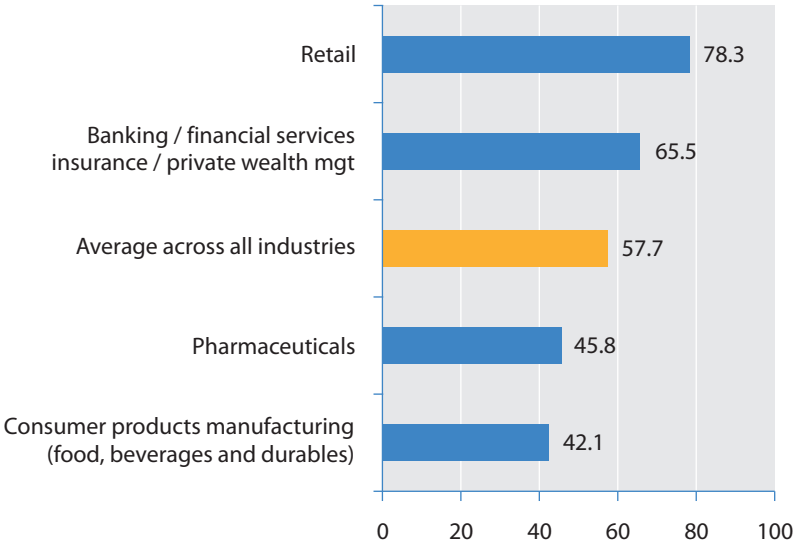


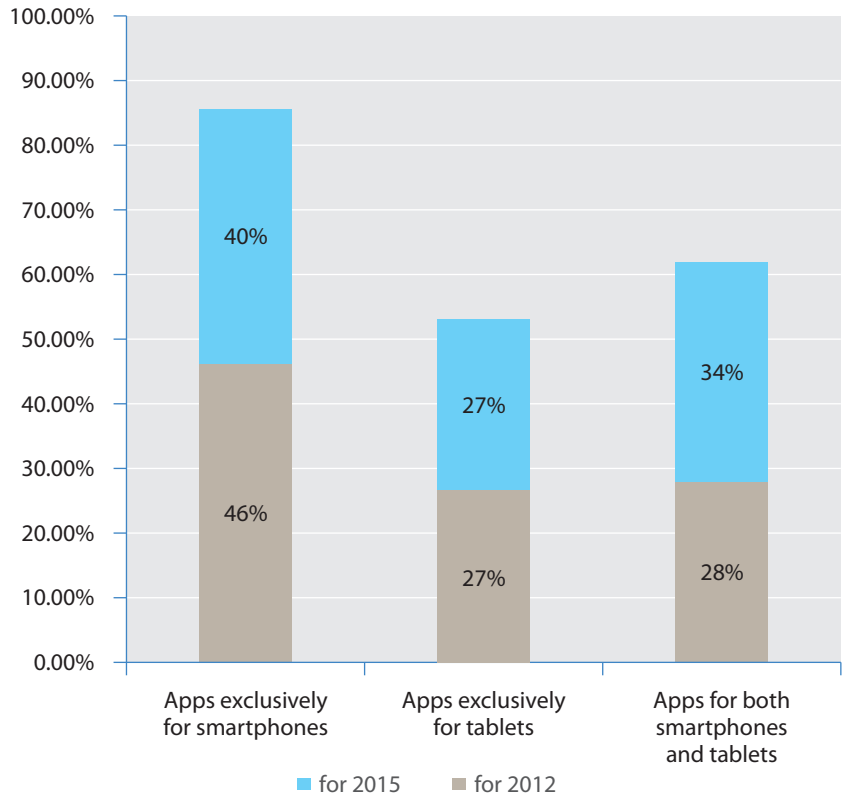
Exhibit VI-10
Q13a/Latin America: % of Total Customer Service Transactions Predicted to be Conducted by Consumers Using Digital Mobile Devices (by 2015)



For Smartphones or Tablets or Both? How Latin American Companies Design Their Mobile Apps

Like their counterparts from the three other regions of the world, the Latin American survey respondents to date had developed the majority of their mobile apps (73%) for either smartphones or tablets but not both devices. But they predicted that would change over the next three years, with a lower percentage (67%) designed for just a smartphone or tablet and a greater percentage (34%) to run on both devices. (See Exhibit VI-11.)

Exhibit VI-11
Q15+15a/Latin America: Percent of Mobile Apps Developed for Smartphones, Tablets or Both



Retailers Lead in Spending on Mobility Today, But Other Industries Expect to Pass Them by 2015

The retailers we surveyed will spend an average $14.9 million this year on technologies and services that help them respond to digital mobile consumers. That was more than the other three sectors on which we can report (pharmaceuticals, banking and consumer products). (See Exhibit VI-12.)

But that picture will change by 2015 if these companies' predictions on their spending are accurate. (See Exhibit VI-13.) By then, the banks we surveyed will more than triple their annual spending on being responsive to digital mobile consumers ($22 million per bank vs. $6 million this year). But consumer products companies plan to be even more aggressive in their spending. They predict investing an average $27 million each by 2015 – nearly four times what they will spend this year.

Curiously, the retailers we surveyed didn't see the need to increase their spending in this area by 2015. Perhaps they believe they have already put the biggest pieces in place today.

Exhibit VI-12
Q16/Latin America: Annual Spending on Technologies and Consulting/IT Services to Respond to the Digital Mobile Consumer (2012) (US $millions)

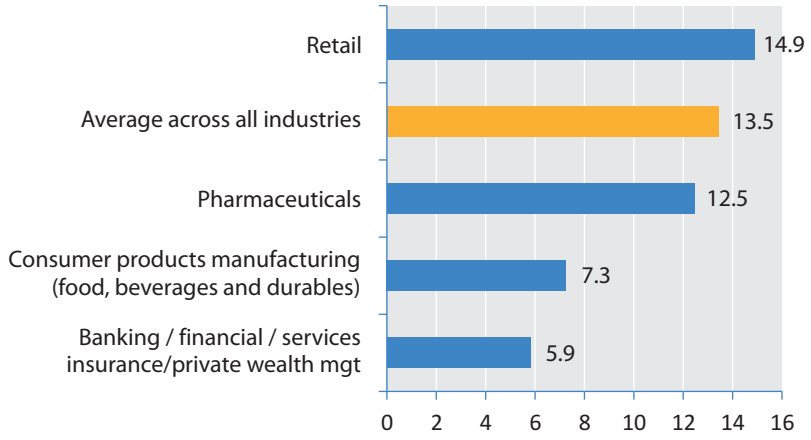
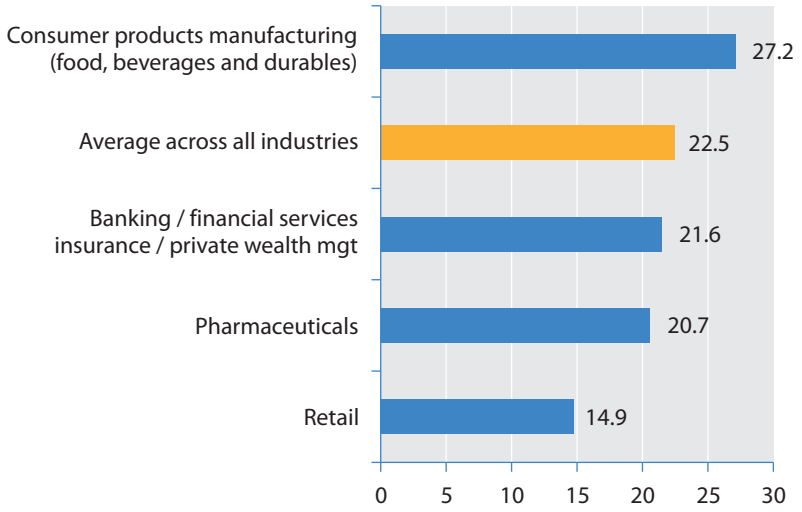


Exhibit VI-13
Q16a/Latin America: Annual Spending on Technologies and Consulting/IT Services to Respond to the Digital Mobile Consumer (Projected for 2015) (US $millions)



Key Success Factors: Letting the Digital Mobile Consumer Do Business the Way She Wants

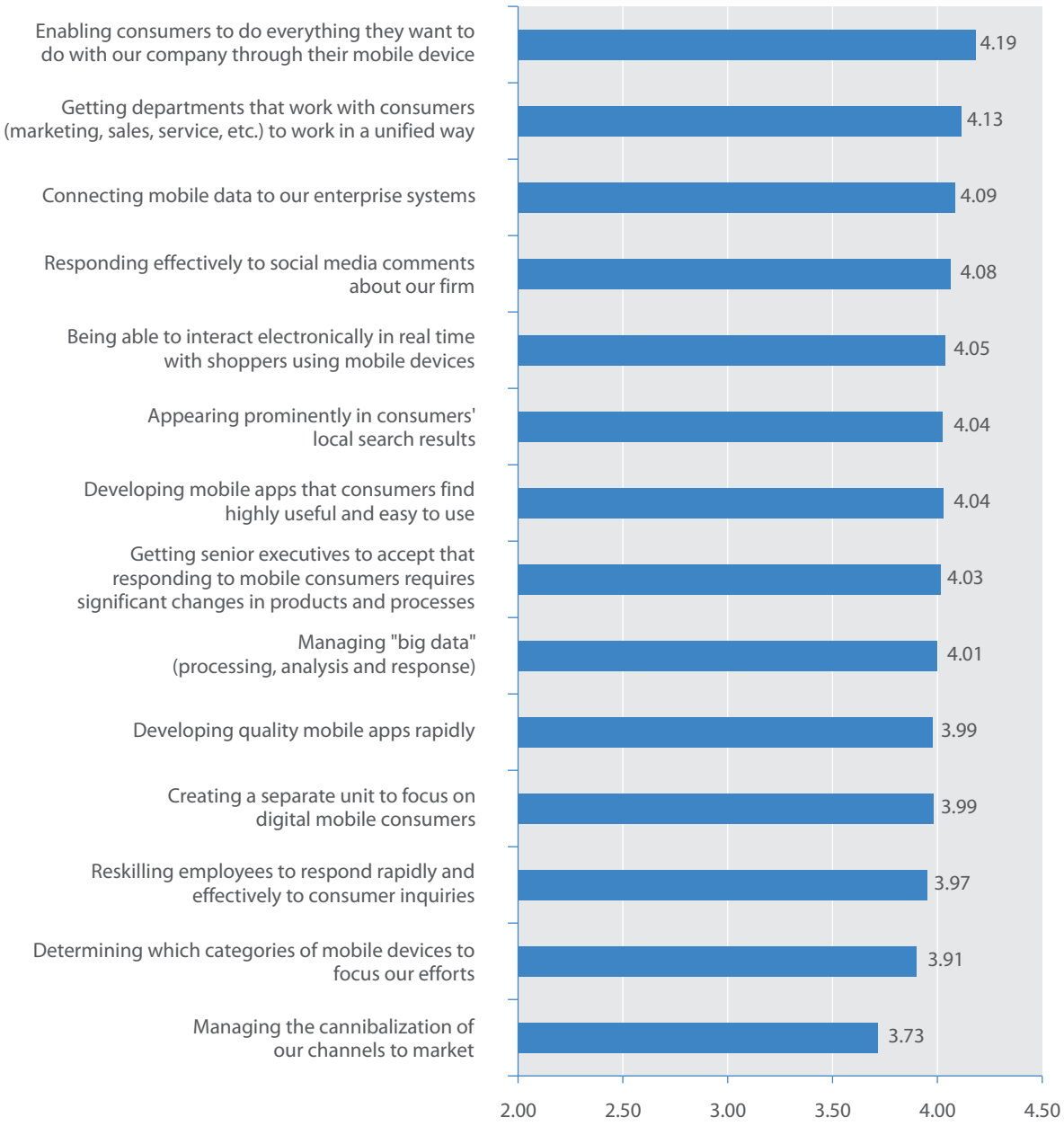
Latin American companies didn't vary significantly in the importance they attached to the 14 factors that contribute to success with digital mobile consumers. On our scale of 1-5, their answers ranged from an average 3.73 (for "managing cannibalization in our channels") to 4.19 ("enabling consumers to do everything they want to do with our company through their mobile device"). (See Exhibit VI-14.)

The most highly rated success factor suggests that Latin American companies are thinking broadly – not narrowly -- about how they could do business with consumers and their mobile devices. The fact that they already do a high percentage of sales, marketing and service interactions through consumers' mobile devices shows that they are already highly "mobile-friendly" businesses.

The second most important factor – getting their consumer-facing functions of marketing, sales, service, etc. to work together on behalf of mobile consumers – suggests these companies are aware of the strong need for cross-functional collaboration. Without it, many departments in a company can create mobile apps that wind up competing with each other.

Connecting mobile data to enterprise systems was rated third highest in importance. Data on inventory (ERP), customers (CRM) and where orders are in the supply chain (SCM) are in such enterprise systems. Unless a company connects its mobile systems to its enterprise systems, it will have a hard time letting customers know such things as whether a product is in stock, where it is in the delivery chain, and which customers deserve the red-carpet treatment.

Exhibit VI-14
Q21/Latin America: Key Success Factors in Winning Over Digital Mobile Consumers (Scale of Importance, 1-5)



VII. Global Industries

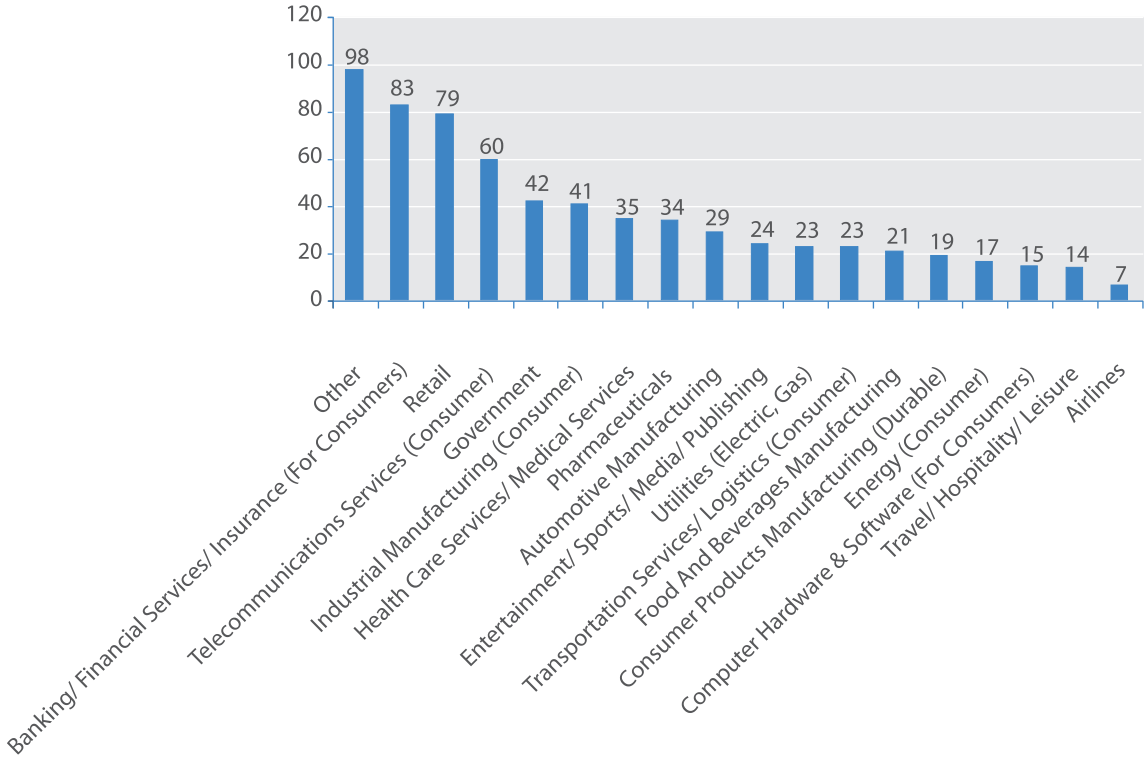
Global Industries

Key findings:

- Industries reporting the greatest changes to date to win over the digital mobile consumer: telecommunications, retail, travel and media & entertainment
- Airlines, telecommunications and energy companies report the highest proportion of marketing, sales, and service interactions with consumers using mobile devices (as a percentage of total consumer interactions)
- Energy, telecommunications and airlines are spending the most this year to win over the digital mobile consumer (from $27 million to $31 million per company)

Our 664 surveys from North America, Europe, Asia-Pacific and Latin America gave us a sufficient sample to explore 17 industries, from airlines to automotive manufacturing. The exhibit below shows the number of respondents.[14]

Exhibit VII-1
Q2/Global Industries: Number of Surveys Per Industry (Combined Across Four Regions of World)



[14] Note: While the number of airline respondents may appear small (7), their average revenue per airline was $6.3 billion.

In this section of the report, we have rolled up the data by industry from across the four regions, meaning these sector findings represent the results of industries on a global basis. We will compare these 17 global industries along a number of dimensions.

Telecommunications, Retailers, Travel and Media Companies Say They've Changed the Most to Deal With the Mobile Consumer

As we've reported in a previous section, we asked survey respondents for a qualitative assessment of the changes they've made to date, and plan to make by 2015, in their products and processes. On this 1-7 scale, the global industries that indicate the greatest degree of change are those that:

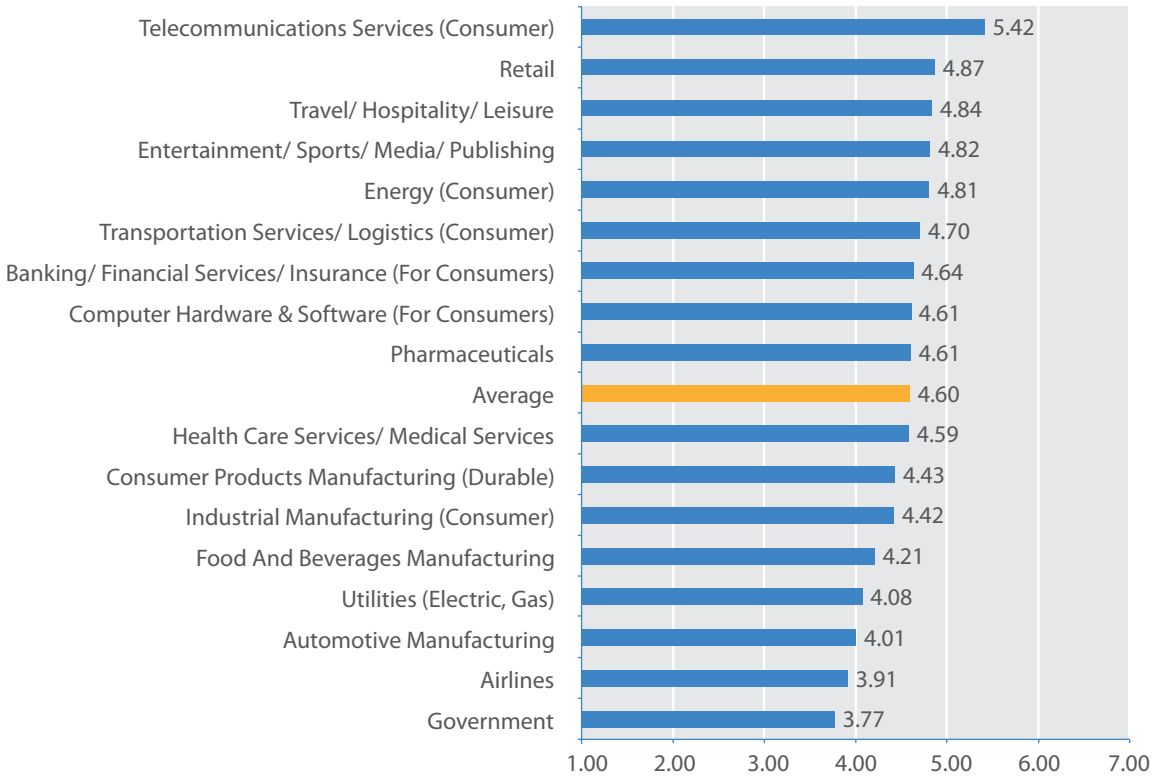
a) *Can deliver their product directly through a mobile device (e.g., media content and telecommunications services)*. Telecommunications had the highest degree of change in products and processes to date to respond to mobile consumers – 5.42 on our scale of 1-7. (See Exhibit VII-2.) Telecommunications scored much higher than the other sectors on this scale. Since they sell the very products (mobile devices and wireless services) that enable consumers to do business electronically when they're on the go, it's understandable that telecommunications companies have made major changes in their products and in the way they deal with consumers in marketing, selling and servicing those products. Media and entertainment companies were fourth, at 4.82. This industry, too, is increasingly delivering its product to consumers' mobile devices: movies, sports, news, videos, and other digitized content.

b) *Must deliver a significant amount of information to consumers so they can better understand what they're purchasing (retail and travel/hospitality/leisure)*. Companies in these industries generally don't deliver their products through mobile devices. Retailers sell consumers physical goods, and travel and hospitality firms provide hotel and other accommodations. Retailers and travel providers finished second and third on the scale of change. Both industries can be seen as businesses that provide information and access to products and services. Retailers, of course, stock their shelves largely with products that they don't make themselves. Their websites and salespeople help consumers understand those products. Travel agencies provide information to consumers who need hotels, dining and other services when they're on vacation or on business – as well as those services in some cases. Both industries, therefore, have the opportunity to provide consumers with critical information for making their purchases and the ability to make those purchases.

Close behind (at fifth) on our scale was the energy industry. Oil companies for many years have been at the forefront of mobile payments. For example, Exxon Mobil in the U.S. introduced in 1997 a device called Speedpass that placed an RFID chip into a keychain for electronic payment at the pump. No doubt that 15 years later, such energy companies are gearing up to help mobile consumers use modern technology to make their purchases even more efficient.

The banking, transportation, computers and pharmaceuticals companies also had higher than average scores on this scale. (The average score across industries was 4.60.)

Exhibit VII-2
Q9/Global Industries: Cumulative Average Changes to Products, Marketing, Sales, Service and Supplier Processes to Win the Digital Mobile Consumer (scale of 1 to 7)



The industries with below average scores included some that have little direct contact with consumers: industrial manufacturing, food and beverage makers, and automakers. These industries largely sell through retailers or dealers, and thus may believe that responding to consumers who use mobile devices is largely the work of those retailers.

Curiously, the airline industry was near the bottom, just above government, perhaps suggesting that the sector long ago had adapted to the demands of the digital mobile consumer.

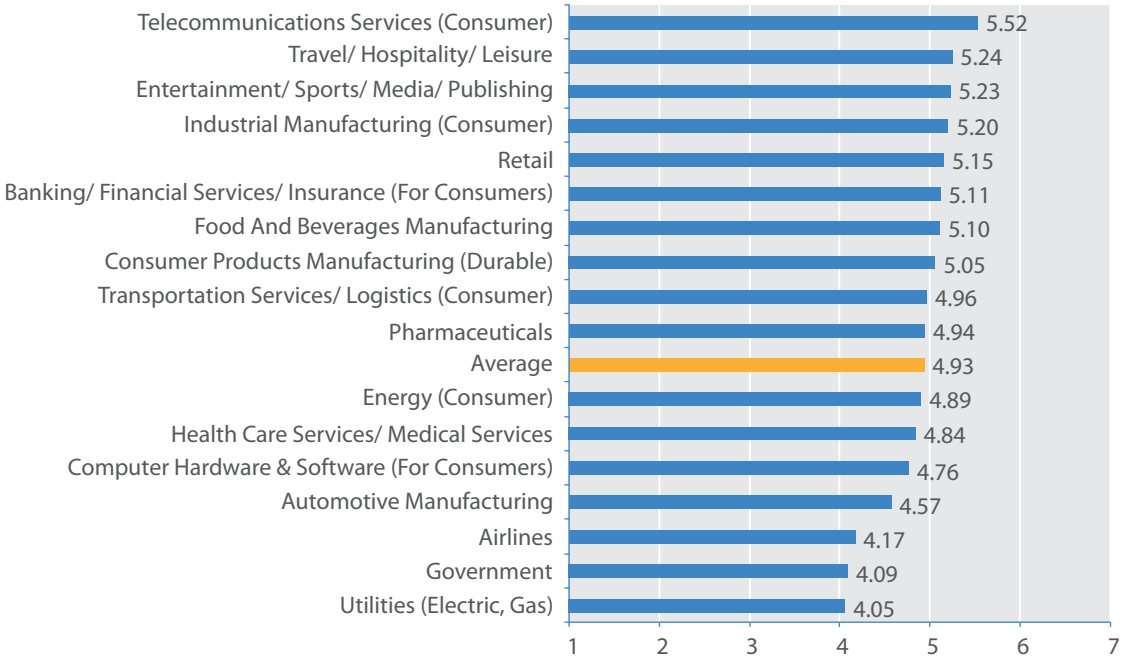
But how do these 17 industries view the changes to products and processes they must make in the near future to respond to digital mobile consumers? Do they feel they need to make more changes, essentially the same, or less?

Across all the industries we surveyed, the average amount of change on this 1-7 scale was predicted to increase by 2015, to 4.93 from 4.60. (See Exhibit VII-3.) Industries that foresee having to change the most:

- Telecommunications services companies (5.52): This isn't a surprise given they are in the epicenter of the digital mobile revolution.

- Travel, hospitality and leisure (at 5.24): The on-the-go consumer increasingly wants or needs to make or change his travel plans while on the road.
- Media and entertainment (5.23): Mobile devices are becoming a key channel for their content.
- Industrial manufacturing (5.20): This may reflect how much consumers can spend on big-ticket hard goods: appliances, lawn and garden equipment, etc. Maybe these industries believe consumers will increasingly research their products through a mobile electronic device.
- Retailers (5.15): This sector is the mainchannel to the consumer for many consumer product manufacturers, from apparel to appliance makers. Retailers increasingly must deal with "show-rooming" – consumers who walk into their stores to get the look and feel of a product and then buy it online someplace else.
- Banking/financial services (5.11): Of course, they are at the center of the whole mobile payments scene. But their influence on the digital mobile consumer goes far beyond that – to being the place where the consumer who's in motion can check on his investments and make changes.

Exhibit VII-3
Q10/Global Industries: Cumulative Average Changes by 2015 to Products, Marketing, Sales, Service and Supplier Processes to Win the Digital Mobile Consumer (Scale of 1 to 7)



Consumer Transactions: Airlines, Telecommunications and Energy Companies are in Front

We compared our global industry sectors on the percentage of marketing, sales and service transactions with consumers using mobile devices out of total transactions:

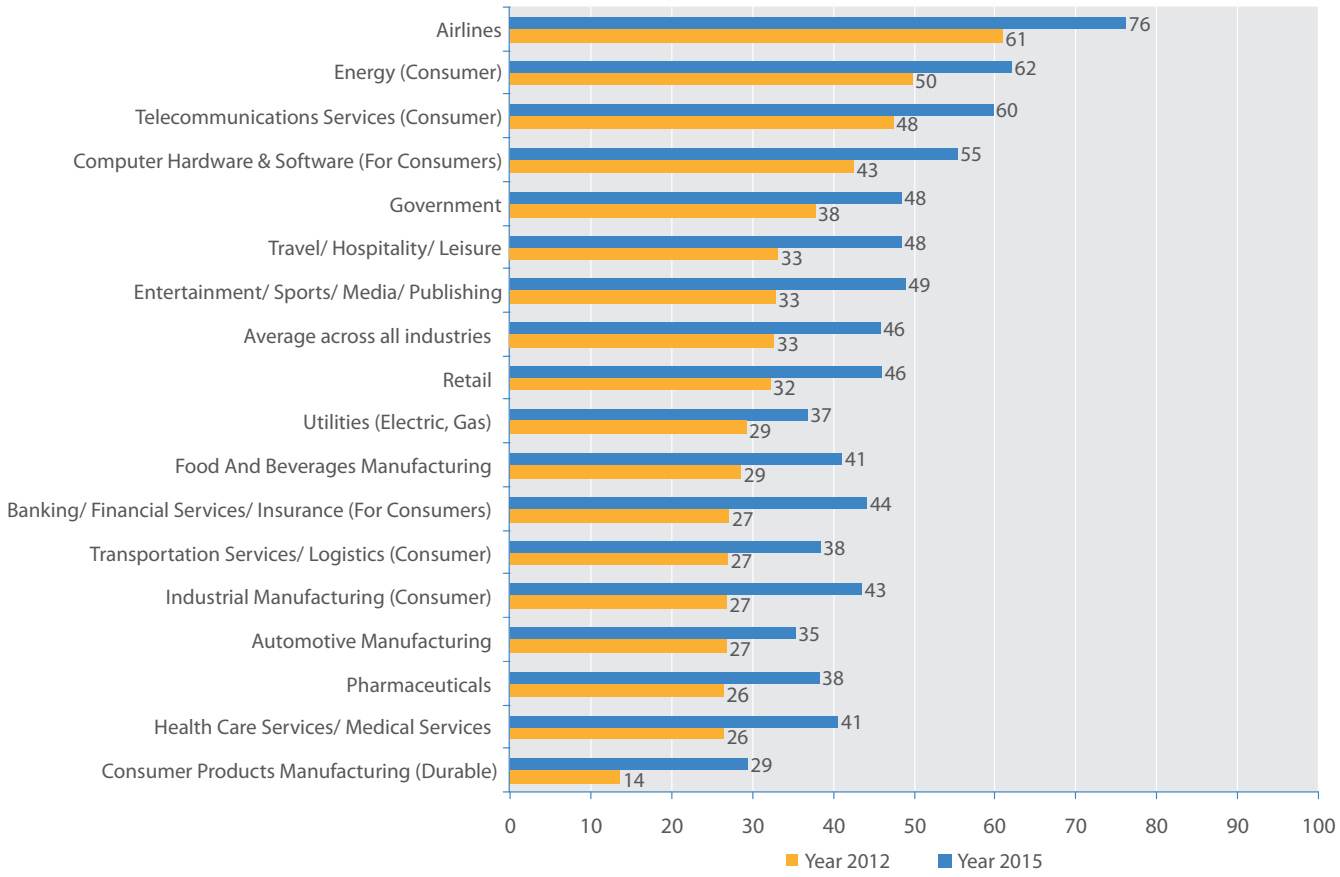
- The percentage of total sales transactions (number, not revenue amount) that came through consumers' mobile devices;
- The percentage of marketing campaigns they designed just to be viewed on mobile devices out of total marketing campaigns; and
- The percentage of post-sale service interactions with consumers who inquired through mobile devices out of total service interactions.

Three industries were at the top on all three measures: airlines, energy and telecommunications. (See Exhibits VII-4, 5 and 6.)

In consumer purchases, the airlines we polled estimated that 61% of consumer purchase transactions of flights are made through mobile devices, and that the number would reach 76% by 2015. Energy companies said half of all consumer purchases are made through mobile devices today, and that number would exceed 60% in three years. And telecommunications said 48% of consumer purchases were being made these days through mobile devices, and they predicted they would rise to 60% by 2015.

Industries on the low end were consumer products (14%), health care services (26%) and pharmaceuticals (26%). The low consumer products rate is no doubt a reflection of the fact that most consumers purchase their products through retailers – not direct through the consumer product manufacturer. In many regions of the world, government pays for healthcare services, as well as for pharmaceuticals. So perhaps lower mobile purchase-to-total purchase ratios should be expected in these sectors.

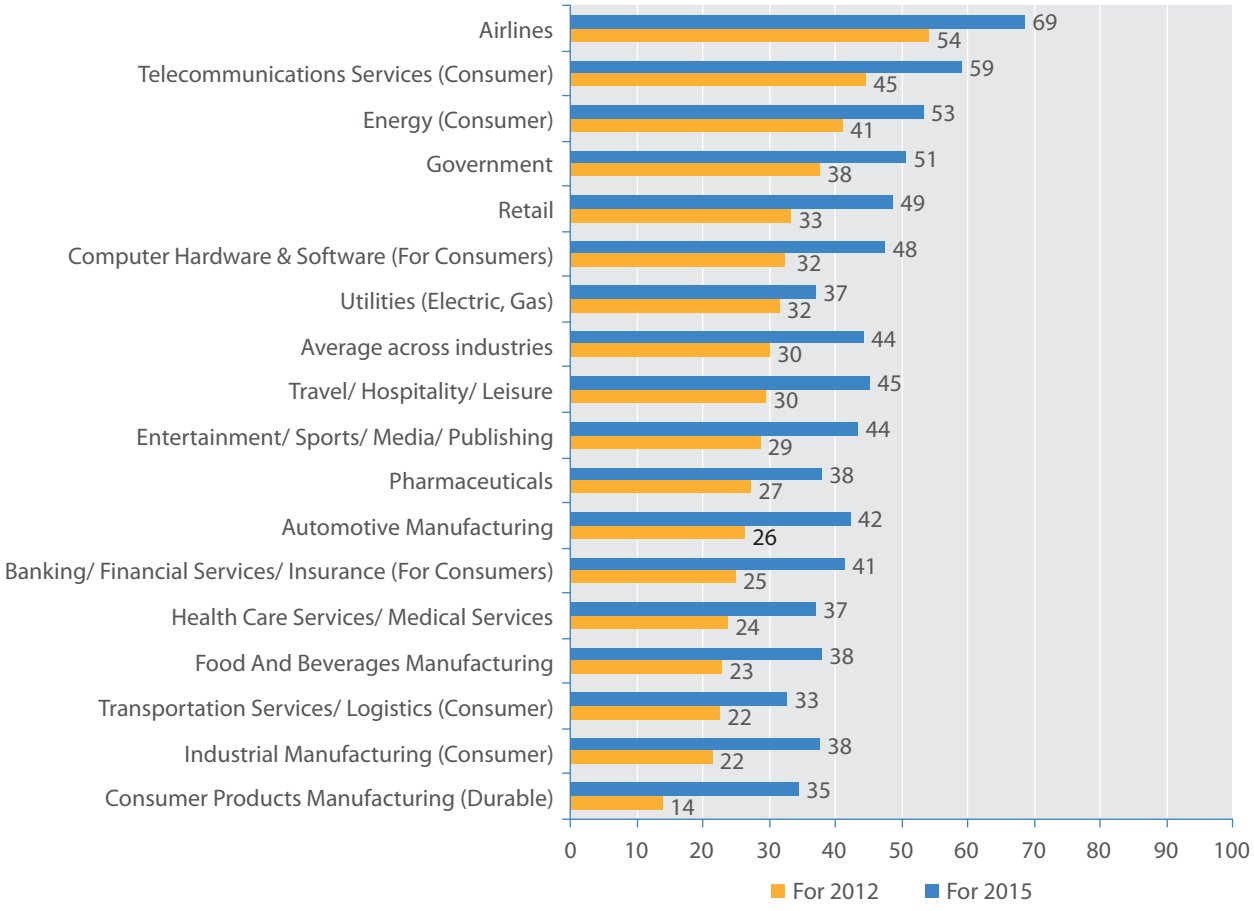
Exhibit VII-4
Q11+11a/Global Industries: Percent of Consumer Purchases Made Through Digital Mobile Devices (2012 and Projected for 2015)



Who's on top in marketing to consumers through mobile devices – at least, which industries are funneling more of their marketing campaigns through the little screens of smartphones and tablet devices? (The numbers here may bear little resemblance to data on the largest mobile advertisers. Our numbers only look at mobile marketing campaigns as a percent of total marketing campaigns.) (See Exhibit VII-5.)

The global industries with the highest proportion of mobile marketing campaigns to total marketing campaigns are (once again) airlines, telecommunications and energy companies. The ones with the lowest ratio are consumer products, industrial manufacturing, transportation services, and food and beverages.

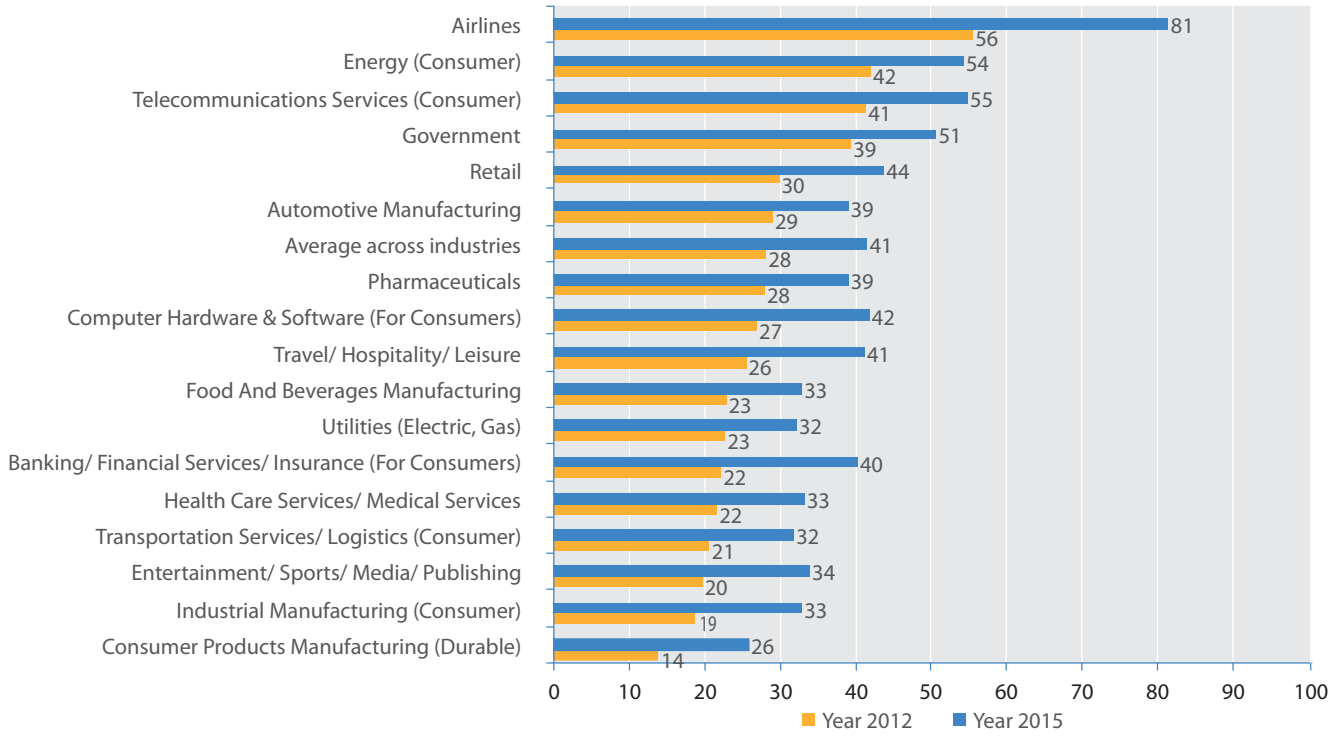
Exhibit VII-5 Q12/Global Industries: Percent of 2012 and 2015 Marketing Campaigns Designed Exclusively for Consumers' Digital Mobile Devices



So which industries are consumers contactingmost frequently after a purchase using mobile devices? The airlines, energy, telecommunications and government sectors (state, federal and local) report the highest percentage of service transactions (out of their total service transactions) coming from digital mobile consumers. (See Exhibit VII-6.) Airlines estimate that 56% of service transactions are with consumers who use mobile devices. They predict the percentage to reach 81% in three years. Energy and telecommunications are a distant second and third (42% and 41%), with government ranking fourth at 39% of service interactions coming through mobile devices.

Industries with the lowest mobile-initiated service interactions are consumer products, industrial manufacturing, and media and entertainment. All say that no more than 20% of their service interactions are coming from consumers using mobile devices.

Exhibit VII-6



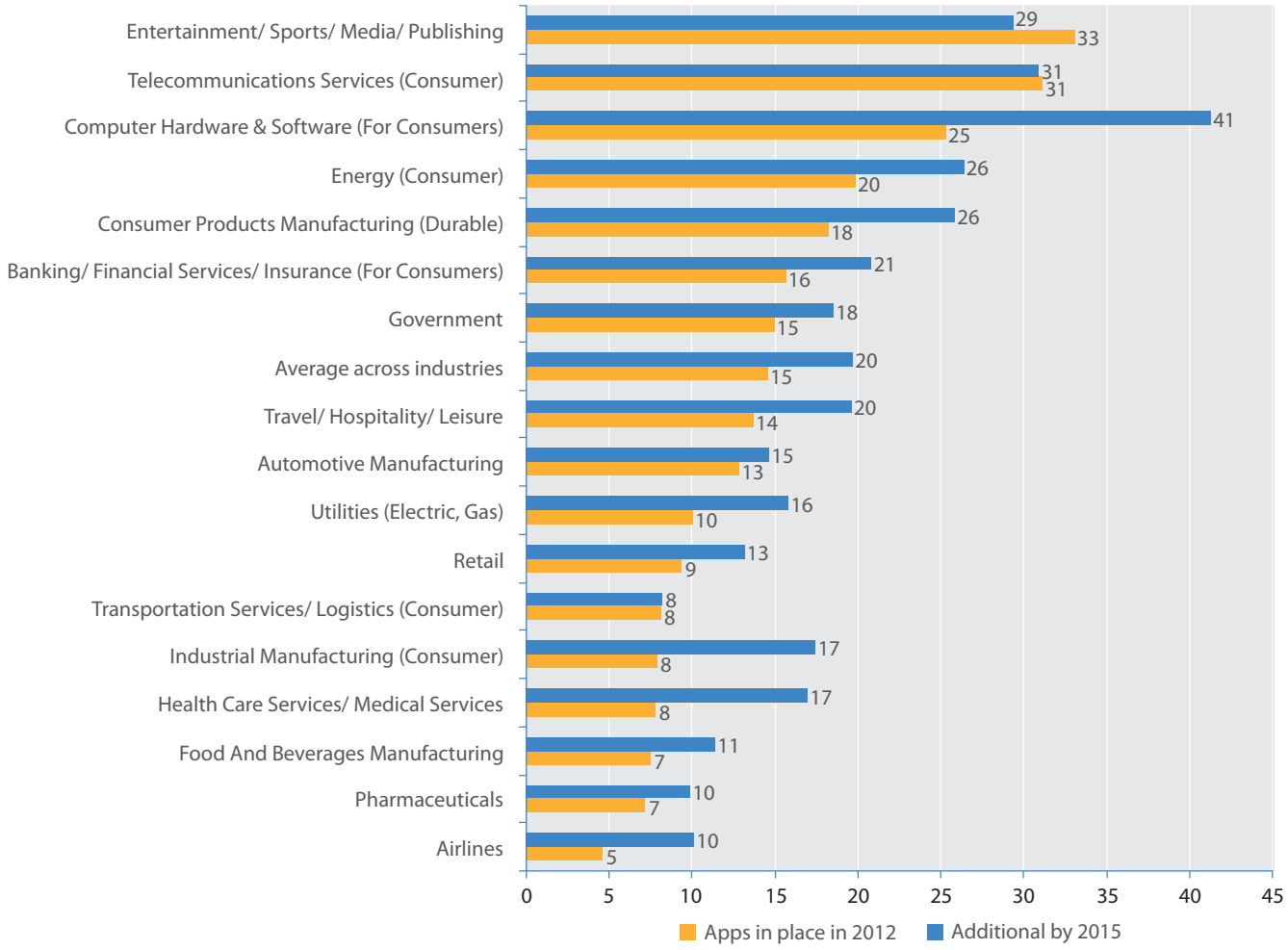
Mobile Apps for Consumers: Media & Entertainment, Telecommunications and Computer Companies Have the Most

Two industries garnered the top spots for most consumer mobile apps produced to date: media and entertainment, and telecommunications services companies. Each industry claimed to have developed more than 30 consumer apps. (See Exhibit VII-7.)

In the next tier were computer (hardware and software), energy, and consumer products companies, with from 18 to 25 consumer apps on average in each sector. In the middle of the pack were banks, government, travel and automotive.

At the bottom were airlines (perhaps they have deployed just a few but heavily used mobile apps)pharmaceuticals, and food and beverage companies.

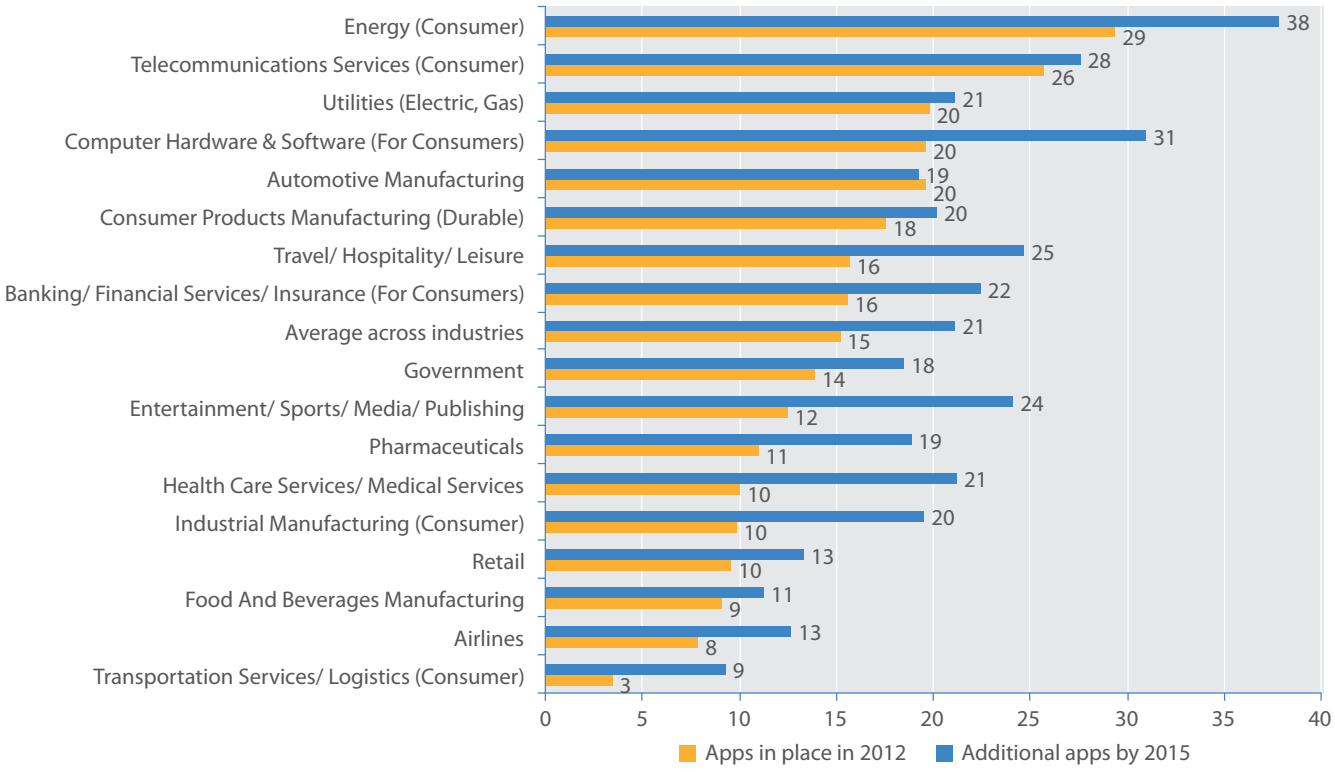
Exhibit VII-7
Q14, 1-a1/Global Industries: Number of Mobile Apps Developed for Consumers to Date, and Additional Apps Planned by 2015



The computer industry appears to be playing catch-up over the next three years, estimating it will develop an average 41 additional consumer mobile apps per company by 2015.

In developing mobile apps to be used by their sales forces (to boost consumer sales), the industries in the forefront with the most apps to date were energy, telecommunications, utilities, computer, and automotive. (See Exhibit VII-8.) Energy and computer companies plan to create the most additional apps for their sales force over the next three years.

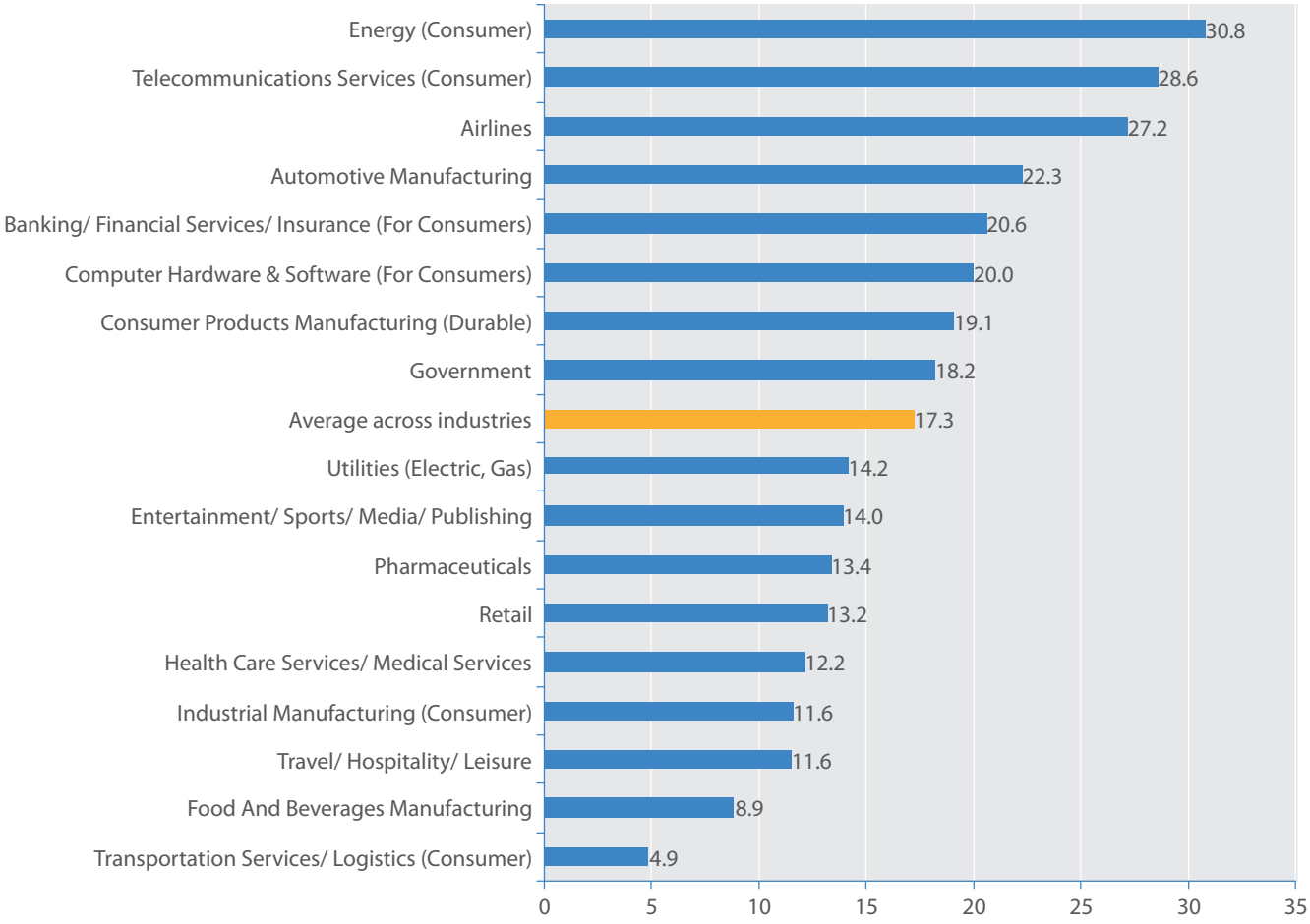
Exhibit VII-8
Q14, 2-a2/Global Industries: Number of Mobile Apps Developed for Sales Force to Date, and Additional Apps Planned by 2015



Spending on the Digital Mobile Consumer: Energy, Telecommunications and Airline Companies Spend the Most

Who has the bragging rights for spending the most on technologies and services to respond to the digital mobile consumer? Which industries are investing the greatest amounts? Energy, telecommunications, and airlines are at the top of the chart, spending an average $27 million to $31 million per company on consumer mobility annually. (See Exhibit VII-9.)

Exhibit VII-9
Q16/Global Industries: Average Company Spending in 2012 on Technologies and Services to Respond to the Digital Mobile Consumer (in US $ Millions)

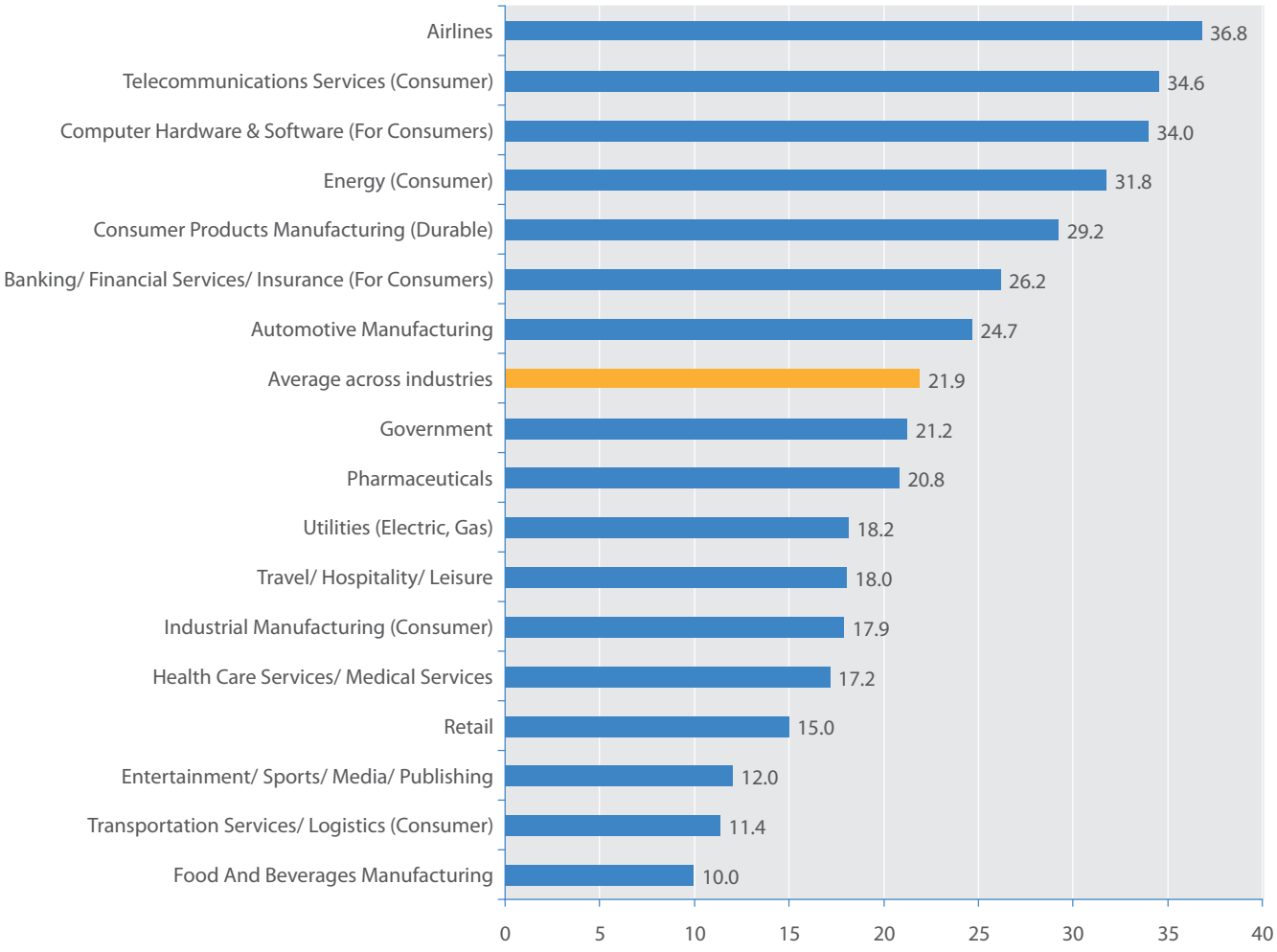


Two industries are at the bottom of the chart: transportation services/logistics and food and beverage manufacturing. Notably, retailers' spending is less than the cross-industry average -- $13 million vs. $17 million per company.

But what about future spending? (See Exhibit VII-10.) By 2015, the industries whose projections would put them in the lead are:

- Airlines ($37 million per company in 2015)
- Telecommunications ($35 million)
- Computer ($34 million)

Exhibit VII-10
Q16a/Global Industries: Average Company Spending Projected for 2015 on Technologies and Services to Respond to the Digital Mobile Consumer (in US $ Millions)



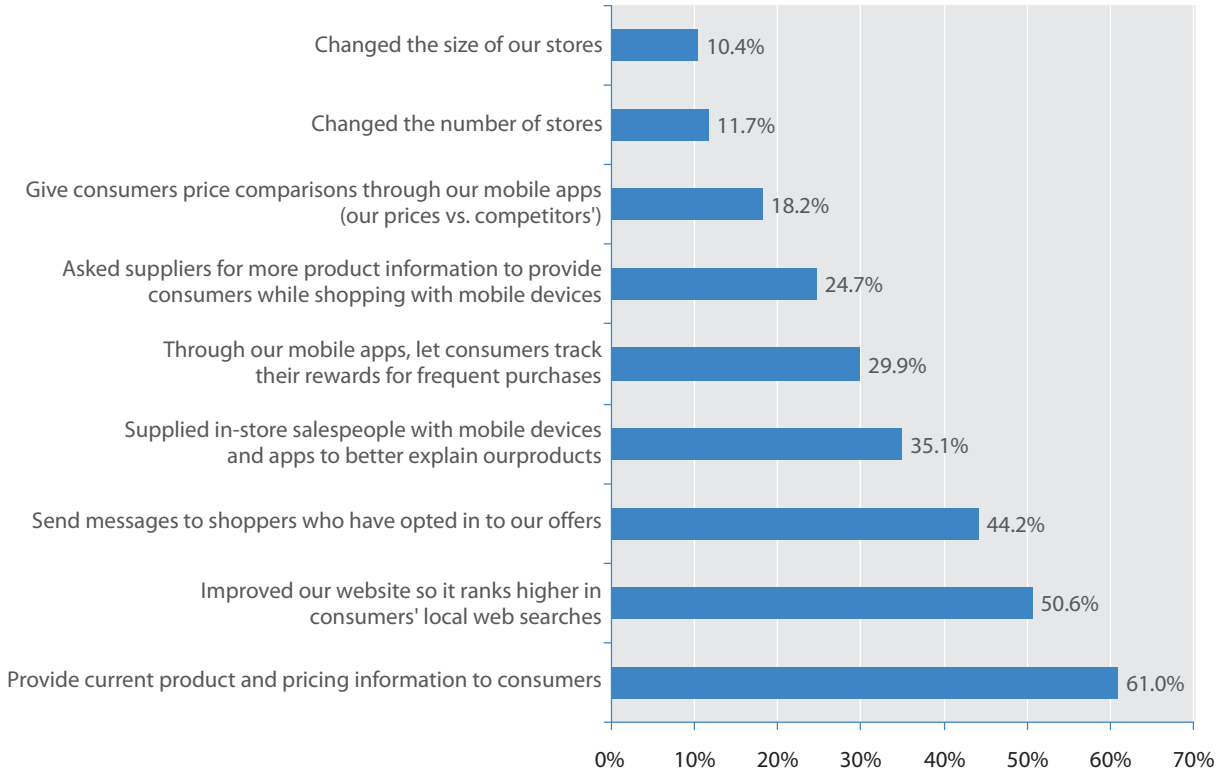
At the bottom: food and beverage ($10 million), transportation services ($11 million), and media and entertainment ($12 million).

Global Retailers: Not Ignoring the Digital Mobile Consumer

While the spending figures may suggest that retailers are ignoring consumers who use mobile devices to do their shopping, other data we collected from the retail survey participants suggests they are not. In fact, the average retailer is doing much to curry the favor of the digital mobile consumer (Exhibit VII-11):

- Nearly two-thirds (61%) are giving digital mobile consumers current product and pricing information through their apps or mobile websites
- About half (51%) have improved their websites to increase their probability of finishing higher in mobile web searches
- Some 44% send text messages to shoppers who have opted in for mobile-directed offers
- About a third (35%) have given their store salespeople mobile devices and apps to better explain products to shoppers

Exhibit VII-11
Q17p/Global Retailers: Changes They've Made to Respond to the Digital Mobile Consumer



Media and Entertainment Companies: Gearing Up for the Mobile Content Consumer

Much has been written about the consumption of media and entertainment on smartphones and tablet devices. The media and entertainment companies we polled around the world said that their largest audience is not yet a mobile one. On average, 16% of the content views were done on mobile devices vs. 54% through traditional media (over the air or cable television, radio, print newspapers, etc.) and 31% through websites.

But industry players expect the picture to change somewhat by 2015, with an average 25% of content views done through mobile devices. Traditional broadcast and print media views are seen dropping to 42% of total content views. (See Exhibits VII-12 and 13.)

Exhibit VII-12
Q17r/Global Media and Entertainment Industry:
Percent of Content Views in 2012 by Channel

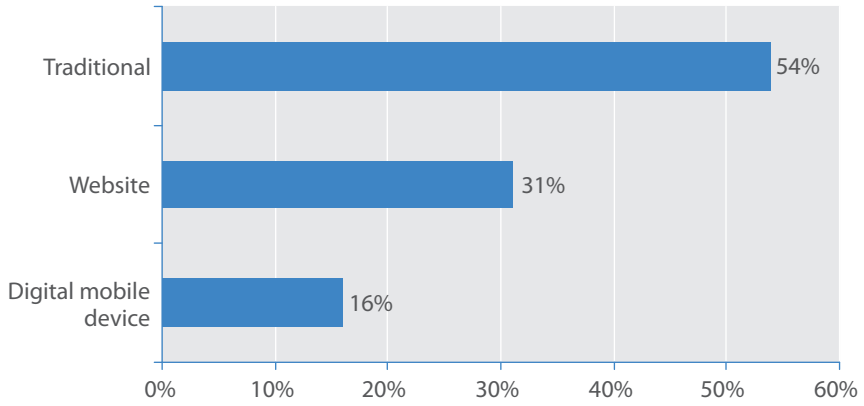
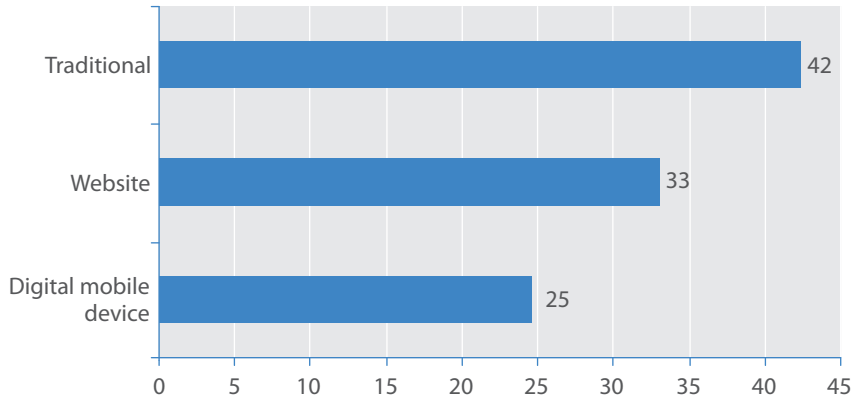


Exhibit VII-13
Q17s/Global Media and Entertainment Industry:
Percentage of Content Views Expected by 2015 by Channel



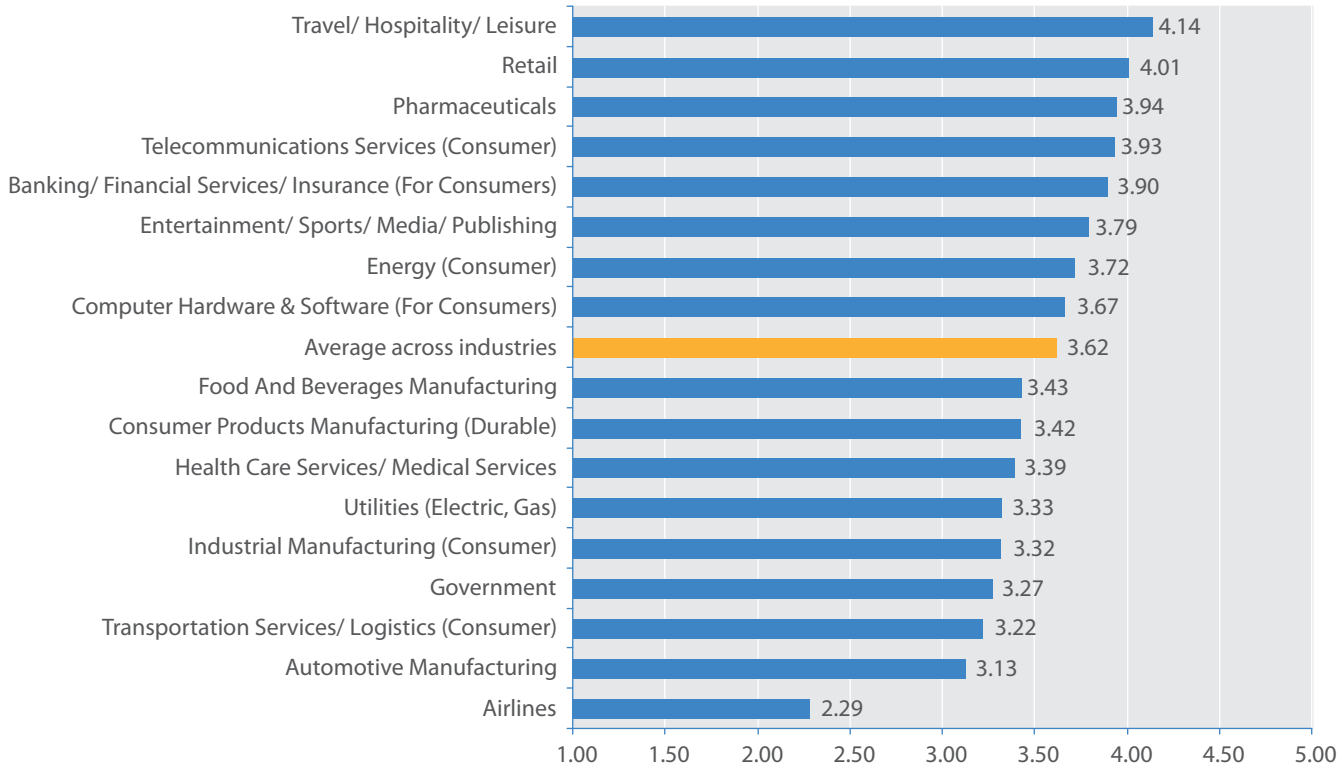
Who's Most Interested in Mobile Payments? Travel, Retail, Pharmaceuticals, Telecommunications and Banking

Our last point of comparison of the 17 global industries is on how important they believe it is for them to collect and analyze mobile payment data. (See Exhibit VII-14.) We asked respondents to rate the importance to their companies of collecting and analyzing the treasure trove of mobile payment data that would come to them from consumer purchases of their products and services.

While the banking sector finds it important (since as debit and credit card issuers and processors, they are in the middle of the payment transaction), so do a number of other industries, especially:

- Travel
- Retail
- Pharmaceuticals
- Telecommunications services

Exhibit VII-14
Q23/Global Industries: Importance of Collecting and Analyzing Consumer Mobile Payment Data
(Scale of 1-5, 1= no importance, 5 = of highest importance)



Industries that placed the least importance on collecting, processing and analyzing mobile payments data were airlines and automotive manufacturing.

VIII. Case Studies in Pioneering Mobility Initiatives

- **Geisinger Health System:** How a Rural Pennsylvania Health Care Provider Uses Mobile to Stay Connected to Patients and Physicians
- **Global Tire Manufacturer:** The Mobile Site That Keeps the Company's Customers on the Road
- **Owens Corning:** Mobile Technology That is One Step From the Consumer
- **Qantas:** Mobile Technology on the Ascent for Pilots and Passengers

How Pennsylvania health care provider Geisinger uses mobile to stay connected to patients and physicians

For the past decade, Geisinger Health System has been ahead of the curve in embracing information technology to connect with patients, medical professionals and the community; improve both health and efficiency; and save money. Patients can use their personal computers to check their test results, send messages to their doctors and fill out health questionnaires. Family members and friends of new mothers can even tap into Geisinger's online site for viewing pictures of the newborn.

The Danville, Pa.-based healthcare system now hopes to expand its reach beyond consumers' and medical professionals' personal computers to their mobile devices. Geisinger's far-flung operations give it a powerful reason to do so. The $2.7 billion (revenue) non-profit organization serves a wide swath of rural Pennsylvania -- 44 counties in the central and eastern parts of the state that are far from its two biggest cities (Philadelphia and Pittsburgh). For many Geisinger patients and medical professionals, traveling to and from the organization's five hospitals and 39 primary care clinics can be time-consuming. Mobile technology's communication and coordination tools can help Geisinger patients avoid unnecessary trips to the clinic, remember appointments and know which medications to take and when.

But the second reason Geisinger is so intent on exploring mobile technology is that technology-driven operational change is in its DNA. Widely praised in recent years by everyone from President Obama to Time Magazine, the organization is considered a pioneer in providing cost efficient and quality health care. It has already embraced technology to streamline record keeping and communicate with patients. As Geisinger CEO Dr. Glenn Steele Jr. stated in the company's 2011 annual report, "In order to reengineer healthcare to better serve the patient and keep costs under control, you have to do everything – *everything*–differently."

So what has Geisinger already done with mobile technology? So far it's been lots of experimentation, intermingled with strands of enthusiastic adoption, according to Chanin Wendling, Geisinger's manager of eHealth.

Two years ago Wendling joined Geisinger's Clinical Innovation Division, dedicated to finding more effective and efficient ways to deliver healthcare. Its charter is clear. "Our division helps support better quality for patients, safety or improving the cost model – anything that benefits healthcare in the organization," Wendling says. "We help the entire Geisinger organization – including our primary care, specialty care and hospitals -- figure out how to improve the way they work."

The Clinical Innovation Division has a rare luxury among healthcare companies: It doesn't get involved in the day-to-day interactions of nurses, doctors, administrative staff and patients. That frees up the division's employees to focus on the big picture of Geisinger's busy overall operations.

Even before the organization launched its Clinical Innovation Division, Geisinger has been a pioneer in the creative use of IT in health care. For example, since the 1990s the organization has been an early adopter of electronic medical records (EMR), which has boosted the quality, cost and safety of health care.

The Focus of Mobile: Improving Patient Care

Geisinger has connected itself to patients and medical professionals online for a decade. In 2001 Geisinger launched a patient portal called MyGeisinger, enabling patients to replace phone calls and even some visits with email communication and a secure web site. Ten years later, about a third of the system's 600,000 active patients have registered to use the system – about 204,000 in all. Patients use MyGeisinger to send notes to physicians, enter data on their conditions, and schedule appointments with primary care and women's health physicians. In turn, Geisinger uses the portal to remind patients of upcoming exams or medical conditions they need to watch. A 2010 article in a health care journal said the portal had reduced by 25% the number of patients who came in for a visit after surgery, and eliminated about 12,000 phone calls a month from patients.[15] Efficiencies such as these are critical for all healthcare providers, and especially so for Geisinger, since it also owns a health insurance plan, with about 300,000 subscribers today.

In the last 1½ years, Geisinger has ramped up efforts to get more patients to enter data on their health. Through MyGeisinger, the organization surveys patients as well as provides questionnaires for those with acute conditions. For example, those with persistent asthma are asked to fill out an online questionnaire (the Asthma Control Test, a national standard of care for persistent asthmatics) about their condition every 90 days. Previously, patients were only able to complete the asthma control test during a clinic visit using a paper form. "A lot of patients don't come in every 90 days," says Wendling. "So by using a third-party questionnaire in MyGeisinger, you don't have to have a clinic appointment to fill in the tool." The information is included in patients' electronic medical records. Those who score poorly get follow-up calls. "Essentially, we're trying to check up on people and make sure their asthma doesn't get out of control and they end up in the emergency room. It allows us to check in on patients more frequently," Wendling explains.

Despite its impressive online innovations, Geisinger is still in the early stages of using mobile apps for both patients and physicians. Rather than a sales tool for gaining new patients, Geisinger's mobile initiatives focus on using the technology to help patients

[15] E. Gardner, "Will Patient Portals Open the Door to Better Care" Health Data Management, March 1, 2010. http://www.healthdatamanagement.com/issues/18_3/will-patient-portals-open-the-door-to-better-care-39853-1.html?zkPrintable=true

engage in their healthcare, such as patient reminders for their medical appointments and their medications. For example, in December 2011 Geisinger implemented a standard app from the health care software firm Epic. The smartphone app gives patients remote access to their MyGeisinger data – test results, health summaries, and more. The impetus to make MyGeisinger easily accessible from mobile devices came two years ago, in September 2010, when physician leader Dr. Thomas Graf suggested to Wendling that Geisinger should be doing more with mobile devices. "We were just talking about general things and then he said one of the things he'd like to see us do is get into the smartphone space," Wendling says. "He said, 'We have all our patients walking around with these devices and we don't do anything with them.' That stuck in my head. So we started to look into what other healthcare organizations were doing with these tools and how we might use them for patient care."

Today, mobile access is making it easier for Geisinger patients to stay up-to-date with their health. Adoption for the mobile app that provides smartphone access to MyGeisinger has been slower than expected, even though patients who use the app have reacted enthusiastically. Seven months after launch, about 1% of MyGeisinger users have used the mobile app, a lower rate than the 8 to 10% that Wendling had expected. (She noted that 13% of MyGeisinger log-ins are from mobile devices.) Wendling believes additional marketing campaigns should raise that percentage. To date, the company has promoted the mobile app on its website, the MyGeisinger home page, press articles and Twitter. Still, the organization's goal is for 25% of MyGeisinger portal users to use the mobile app by 2015.

But that's not the only mobile access that Geisinger has in play. The health care system has also optimized its popular iNursery site for mobile devices, enabling friends and family to "visit" new babies in the hospital through their smart phones. (See link here: http://www1.geisinger.org/inursery/pgMainiNursery.cfm) Another site that Geisinger has built, called Find-a-Doc, helps mobile users locate physicians and clinics in the Geisinger network.

Geisinger Mobile Initiatives for the Next Three Years

For its patients, the healthcare company's mobile initiatives will focus on the concept of "patient activation" – essentially, encouraging consumers to take more responsibility for their health." The idea is that to really improve results, you need patients to be concerned about their health and believe in their role in improving it," Wendling explains. To further that goal, Geisinger is exploring ways to engage patients through mobile apps, text messages, Twitter, Facebook, widgets and games. For example, Wendling's team is developing a wellness game to be played on both a mobile app and the web portal. Her team has also implemented a pilot wellness site that includes a mobile app that tracks people's walking and running activities and automatically uploads them onto a cardio log so that they can monitor their own health (and see the impact of daily exercise).

Geisinger is also launching text message options for patients. They currently pilot text messages to mobile users to remind them of upcoming medical appointments. "We're pursuing a lot in that space now," Wendling says. In the fall, Geisinger will launch a text message program for patients on cholesterol medications who are not refilling their

prescriptions on a timely basis. This program will send a text message to remind patients daily to take their meds. Down the road, Wendling sees this as a broader opportunity to involve other family members in sharing information about when the patient needs medications and or when appointments are so that they are less likely to forget.

Based on previous healthcare innovations, it won't be a surprise if Geisinger gets "mobile right" before many other healthcare systems. As Wendling points out, the organization has " a culture of innovation which sets the tone for trying new things." In addition, having a division dedicated to clinical innovation makes a "huge difference," she says. "Other divisions often don't have the time that's needed to simply try new things."

The Mobile Site That Keeps a Global Tire Company's Customers on the Road

When a global tire manufacturer began developing a mobile site for consumers last year, it thought its greatest usage would come from roadsters in distress -- those with a flat tire. "Our original expectation was that consumers were more likely to use mobile to get a tire replaced, get a tow truck, and so on," says a marketing manager at the company. But that hasn't been the case. Since launching the mobile-optimized website, the company has found consumers are using its mobile site *more* to determine what kind of tire to buy, and *less* to get roadside assistance.

That has opened the eyes of the company to wonder whether it could play a larger role in shaping the consumer's buying decision than it does today. The firm traditionally has its retailers be the entity that helps consumers to purchase the right type and size tire for their vehicle. But with 20% of its website traffic now coming from mobile devices, the question about who should educate the consumer in the research stage of his buying process is no longer clear. "The ability to take a consumer all the way into a purchase is a huge open question that we have to answer," the marketing manager says.

The company does not plan to sell direct over the Web. Its website today explains its tires, prices them, helps consumers determine which ones they need, but then directs them to nearby retailers.

Recently, the company launched its first customer-facing mobile website, enabling consumers with mobile phones and smartphones to learn about its tires and locate retailers that sold them. Tire selections and recommendations are by vehicle, tire size or tire name. Through a mobile device's GPS capability, the shopper can find the nearest retail locations. The site also provides the manufacturer's suggested retail pricing (MSRP), access to promotions and discounts, and click-to-call functionality. At the dealer location, the consumer's research is either validated or the retailer recommends the right or better tire for the consumer's car and driving habits.

Prior to launching the mobile website, 6% of the company's website visitors accessed the site via mobile devices. Now 20% do so from mobile devices that are redirected to the mobile website.

The company believes today's tire buyers need and want expert advice before pulling the trigger on a tire purchase, and most also want installation services (since they require expensive tire balancing equipment). It wants to make absolutely sure it puts customers into the right tire for their vehicle.

The company's research has found that consumers buy tires when a friend, family member or an event points out the need, such as having a flat tire. "People rarely say, 'Oh, I think it's about that time, I think I will buy new tires.'" So the company modeled its mobile site on how desktop computer users were using its corporate website. The company developed a simplified mobile site, gearing the content and navigation to a consumer who is not spending as much time and doesn't have the same screen format as a desktop user. Both sites are purpose-built to fulfill the needs of customers who are in the market for tires.

Three months after launch, the company's mobile website usage peaked at 20% of total website visits and has stayed relatively flat since then. Unless the company were to make

a huge shift in advertising dollars, it expects consumer usage of its mobile site to remain around 20% by the end of this year.

The tire company tracks the percentage of consumers who go on its websites and their "purchase intent" – that is, use a site feature that provides local retailers for a user. If a consumer goes on the website and doesn't try to find a retail locator, for example, the company assumes that the consumer is less likely to buy its tires. It uses key performance indicators such as site satisfaction and purchase intent to determine where it should put its advertising dollars. If the traffic is more efficient on mobile than on the desktop device for any given time, it pushes more search advertising to mobile and less to the desktop.

Although the tire industry has trailed the pioneers of online retailing, very few online companies are selling tires online. "It's a lot harder [to buy and sell tires over the Internet]," the marketing manager explains. "It's a hardware thing. Somebody has to put those tires on your car."

Data isn't available on how many tires today are being sold online in the U.S. Very few tire companies sell online. Reports are that online sales for tire dealers are very small. The closest company is Tire Rack. Around for a long time, it was a catalogue company and has adapted the catalogue to the web.

Amazon sells tires online but it can't tell a customer what tire will fit its vehicle. Even retail chains like Costco and Walmart don't have the market share in tires that they do in other product lines. The tire company marketing manager attributes 80% of this to consumer confidence and 20% to inadequate technology. "No one has optimized the experience to drive a consumer through an online purchase for tires. They try to make it feel like books, and it doesn't work."

But he believes that younger tire buyers will ultimately find it unacceptable not to be able to purchase tires online. It just isn't happening now. "The newer demographic expectations will be totally different," he says. "I think we must be able to fulfill their purchase and their inventory desires online in the future. But now, it's small – it goes back to there is no Expedia in this space and nobody is rushing to figure this out."

As a manufacturer, the company has not been involved in the actual consumer selling process. It made the tires, sold them to retailers and let the retailer do all the work in getting the consumer into the store and making the right purchase. However, the web has changed the company's views on what consumers expect of it. Tire manufacturers in the past produced marketing content largely for retailers; they now have to produce content for consumers as well as retailers, and the firm wants to continue writing that content.

"The ability to take a consumer all the way into a purchase is a huge open question that we have to answer, but we have to figure out how we play a role in the actual tire transaction," he says. "When we figure that out, we will be hell-bent on trying to get consumers through our online experience. That would change everything for the industry."

One Step from the Consumer: The Mobile Technology that Owens Corning is Rolling Out for Contractors and Plant Personnel

As a $5.3 billion manufacturer of materials used in roofing, electronics, insulation and other products, Owens Corning is typically one or two links away in the value chain from its ultimate consumer: homeowners. Nonetheless, the company is keen to use mobile technology in its business, perhaps eventually on the consumer end.

"The short answer is that we're really studying this to determine the best course of action," says Jim Beilstein, director, information and manufacturing technology for the Toledo, Ohio-based company.

Owens Corning has already been remarkably creative in how it deploys mobile technology for its core customers: building contractors, who install its roofing, insulation and other materials. They are ambassadors for the brand to consumers, of course along with the iconic Pink Panther cartoon character, which the company has used since 1980 to promote its insulation products. The company is also developing a mobile system that helps employees track efficiency and quality at its far-flung manufacturing facilities, with the goal of maintaining consistency and quality for industrial and building contractor customers, as well as consumers.

Pro Connect™, a web portal for contractors, is Owens Corning's first entry into mobile technology. The insulation and roofing materials that the company sells to contractors and "big box" retailers, such as The Home Depot and Lowe's, accounted for about two-thirds of its 2011 revenue ($3.5 billion). Introduced over the past year, Pro Connect gives contractors product information, marketing materials, account and rebate information, instruction manuals and other data. Because the site is HTML5-enabled, contractors can access Pro Connect from mobile devices or desktop computers. This means that whether they are on a job site or at an office, contractors can now use their mobile devices to get the information they need to understand and use Owens Corning products.

Contractors have enthusiastically received the mobile-enabled web portal, using it at an even higher rate than the company expected. That's because the portal lets contractors get the information they need, when they need it -- even at a job site or on the run -- without the need to call an Owens Corning customer service center or area sales manager.

"They can now serve themselves on as-needed, anywhere basis, which is what I think a lot of contractors are looking for today," says Beilstein, adding that many contractors are in small to medium-sized businesses without the support personnel that larger companies have to deal with suppliers.

Along with the solid benefits it offers to Owens Corning contractor customers, mobile technology also holds great promise for the company's 90 manufacturing sites around the world. In 2012 the company launched an initiative to provide mobile web tools largely to the company's composites business (which this year will account for about 40% of total sales).

"The challenges we're trying to solve with these tools is to drive productivity in our manufacturing operations," explains Beilstein. "The concept is that by providing our manufacturing people with information that they need at their fingertips, they won't necessarily have to jump on an airplane to solve a problem, or wait a long time to get an answer."

Moreover, large global customers want the composite materials from Owens Corning and other suppliers to be more consistent. "Our products need to have the same characteristics in performance criteria whether they're made in Brazil or Russia," Beilstein says. "Having the ability to understand how platforms are performing around the world is critical to us."

Mobile technology that enables employees worldwide to track plant performance and troubleshoot issues can increase product quality. It can also reduce the need for manufacturing employees to travel to converse with their peers to get answers.

But first, the company must get its global manufacturing plants to speak the same technical language. Owens Corning operates plants in 28 countries, and many of those factories have different technology platforms. "Our plants have shop-floor technology, data systems and manufacturing IT systems that collect information and performance characteristics on how our lines are operating," Beilstein says. Those systems are then integrated with other information systems that operate each plant.

The problem is that the technology running the plants can be quite diverse across Owens Corning's factories. To address this, Owens Corning is creating an integration layer that lets the company connect to all its disparate manufacturing technology platforms, rather than replacing all of the underlying technology, which would be an enormous investment.

Today, Beilstein's group manages a dozen or more mobile technology solutions, each dedicated to a niche manufacturing issue. He would like to take an approach he calls "the Swiss army knife" method, which would be creating a mobile application that can solve a range of plant issues. "We're working with our business units to define what they expect first on a mobile device," he explains. That will probably be building in such mobility functionality as performance dashboards, basic operational and financial reporting, and manufacturing metrics.

The applications are being developed to accommodate an open technology platform, enabling many types of mobile devices to be used in the plants. "I think our employees will like having a choice in what smart phones they use," Beilstein says.

The biggest concern is security. "Protecting information on a mobile device, particularly in an intellectual property-intensive business like we have, is a challenge," he says. As a result, the company is proceeding cautiously into the mobile realm to protect its most sensitive information. "We know the threats are out there. We've been talking with a lot of peer companies that have actually measured the impact of the threats to their businesses. The security of mobile devices is still evolving, whereas security on laptop computers is now very mature."

By end of 2012, about 20 Owens Corning factories should be equipped with mobile solutions that provide dashboard and other reporting. Later, after the solutions have been tested and tweaked, the company will roll out these tools to other plants.

And what about Owens Corning mobile solutions for homeowners? Beilstein says the company is thinking about them, but the benefits are not yet clear. As he points out, homeowners can go as long as 15 to 20 years before they buy a new roof; after purchasing a new home they may never buy insulation again.

Unlike food, beauty products and other consumer items, "it's a one- or two-time event to buy insulation for a home," he explains. The result is that any Owens Corning consumer mobile website or app might be used just once or twice by a consumer until the product is installed. However, the company is embracing mobile technology that ensures quality and protects its reputation, for both its core users and ultimately for consumers.

Mobile technology is on the Ascent for Qantas Pilots and Passengers

Passengers onboard Qantas Airline's B767 aircraft already enjoy the benefits of gate-to-gate entertainment on the overhead screens. However, Qantas has raised the bar again with the introduction of Q Streaming. Following a successful trial earlier this year, every passenger on 16 767 aircraft will be provided with an Apple iPad, stowed in the seat pocket, that will grant access to more than 200 hours of movies, television and audio channels, whenever they want. The iPad automatically connects to an onboard server that stores on-demand entertainment and streams the content to each iPad.

Up in the cockpit, Qantas pilots no longer need to lug around 50-pound stacks of navigation charts, operations manuals, flight plans, safety reporting forms and other reference materials. Instead, four iPads programmed with this information and mounted within easy reach give Qantas pilots access with the swipe of a finger.

Both initiatives are examples of how the Australia-based Qantas – which serves more than 150 cities worldwide and generated $15 billion in revenue in 2011 – is using mobile technology to improve the in-flight experience for both passengers and crew, and in the process improve operations and save money.

Qantas Captain Alex Passerini, whose role is technical pilot, says mobile technology holds great promise in helping the airline make substantial customer service and operational improvements without costly upgrades to the aircraft's built-in equipment. And while Qantas and other airlines still face regulatory limits to keeping customers and employees connected in flight, the airline is dedicated to pushing mobile technology's capabilities as far as it can.

The iPads for pilots, called the Flight Crew Tablet program, will be rolled out to all of Qantas' 2,200 pilots over the fall of 2012. Once in hand, pilots can view the screen instead of shuffling through paper to prepare for an upcoming flight, follow navigation charts and check operating instructions while airborne, view a weather map for signs of trouble or fill out a report. The pilots can receive real-time updates via the iPad while on the ground and during takeoffs and landings, and then via the plane's onboard system once it is airborne.

"The safety implications of being able to provide information in a very timely, efficient and easily accessed manner to our flight crew is important," Passerini says. "Let's face it: The world is getting more complex. We need tools that help us manage all of this information in a more intuitive fashion."

Passerini says the Flight Crew Tablet is dramatically cutting "latency," or the time it takes to move information around its system. Getting updated paper navigation charts from Jeppesen, the Denver-based Boeing subsidiary that produces them, sometimes took three weeks because Qantas operations were on the other side of the world. Many heavy shipments of paper charts moved from Colorado to Los Angeles, and then to Sydney.

"There is a vast quantity of these charts for every airport around the world, and for every airway around the world that links those airports," he says. "Obviously we're a global airline so we're not just focused on our region."

Along with adding Jeppesen's comprehensive navigation charts to the Flight Crew Tablet system, Qantas also programmed in its own extensive system of flight charts, as well as operating manuals from airline manufacturers and other cumbersome paper documents. Passerini estimates that this new mobile technology is saving Qantas about $1.5 million annually in the cost of distributing the charts and other documents, and in fuel costs for the extra weight the paperwork added to the plane.

"We print about 18,000 pages a day around the world with flight planning information alone," says Passerini, "and we are going to cut that down to about 3,000 a day."

Besides putting sound decision-making tools within easy reach for the flight crew, the tablets also help Qantas push critical information such as schedule changes to pilots on layovers. The airline previously had to track pilots down at their hotels, fax the information and arrange for a hotel employee to deliver it. The iPads – which the pilots can personalize – also help make long trips more bearable.

"We have a mobile workforce, a remote workforce," Passerini explains. "They come through Sydney and then disappear, flying our airplanes for up to two weeks at a time. It can be difficult to reach them unless they are actually in the airplane. Engagement is important: being able to access these people when they're away from home, communicate with them effectively and efficiently, and allow them to communicate with their friends and family."

The consumer-friendly iPad was a natural choice for both the Flight Crew Tablet and Q Streaming: easy to learn and use, small enough to tuck into an airline seat pocket or mount on the pilot's dashboard, and with enough screen resolution to display a hit movie or a detailed photo of a volcanic ash cloud.

"The iPad's 9.7-inch display is the perfect size for us; it's basically an A5 size page, which is the size that we use with our Jeppesen terminal charts right now," says Passerini. "It provides a sufficient screen area to view typical aviation documents. It also gives you the graphics needed to view navigation charts."

More than a decade ago, Qantas tried a primitive version of a tablet computer. But the device was limited because it was too large to mount in the cockpit and lacked the necessary resolution for viewing navigation charts. In the years that followed, the technology for transmitting and viewing information has evolved. At the same time, airline regulators around the world have approved more protocols for moving information electronically.

Apple's iPads, introduced in 2010, has been a breakthrough for Qantas because it helps the airline develop systems quickly, without investing in costly on-board systems that can become obsolete. "For some aircraft, equipment that cost many hundreds of thousands of dollars is now generations behind what's available in the devices like an iPad or a Samsung tablet," Passerini says.

The airline worked closely with the Civil Aviation Safety Authority, the government body that regulates Australia's airlines, to develop a system that could be safely used during takeoffs and landings without interfering with the plane's avionics -- the built-in communications systems. Qantas tested the cockpit iPads to ensure they did not interfere with flight controls, oxygen mask deployment, and emergency evacuations during takeoffs and landings.

In the future, Qantas will add even more information to the Flight Crew Tablet such as takeoff and landing performance for each flight. The airline also plans to give other employees access to mobile technology. Qantas hopes to give mechanics and engineers tablet computers that can display wiring diagrams and instructions for maintaining aircraft.

"Rather than having to go back into the shop, print out the pages they need and walk back out to the airplane, they would have access to this information in a form that's easy to carry around, with some kind of protective shell around it," says Passerini.

Cabin crews will also be receiving iPads to manage passenger information now on paper -- such as which frequent fliers are on board, a passenger's frequent destinations and meal preferences. While Qantas customers can already plan trips and display boarding passes on their personal mobile devices, the airline plans early in the new year to let them connect those devices to the Q Streaming server on board the plane. Qantas is also reviewing opportunities to expand Q Streaming to more aircraft in its fleet.

The big frontier in mobile technology is overcoming interference with the plane's onboard communications systems, which would enable both crew and passengers to stay connected at all times and on more kinds of devices. A few Qantas flights in newer planes offer satellite wi-fi, for a premium, but plane avionics have not yet evolved to offer it everywhere.

"We tested a very specific configuration for the pilot iPads," he says. "As you can imagine, our customers come onboard with all sorts of devices. We could never possibly test all of those different configurations."

Still, many customers are clamoring to stay connected, and Qantas is keeping its eye on mobile technology. "In-flight connectivity is obviously being driven by customers," he says. However, the airline won't implement something that compromises the safety of passengers and crews.

IX. Implications and Recommendations: Why Spending Wisely But Opportunistically is the Best Path

Implications and Recommendations: Why Spending Wisely But Opportunistically is the Best Path

Key findings:

- The benefits of winning over digital mobile consumers may be greater in some other sectors. In analyzing our qualitative research (case studies and literature searches), it became clear to us that many companies which sell products/services of high relative importance and urgency for consumers – and whose consumers were more likely to be "in motion" when they researched, purchased and used the product/service – had achieved major benefits from and consumer interest in their mobility initiatives.
- Companies that win over the digital mobile consumer will not necessarily be the ones that spend the most in this area. The "leaders" from the survey are spending about the same percent of company revenue on their mobility initiatives as the laggards.

The data that we present in this report illustrates how companies across industries and across regions of the world have begun to change to respond to the so-called digital mobile consumer. In our interviews, we found that executives of companies that are leading the way don't look at this consumer segment as a burden. Rather, they appear to see them as a great opportunity – a rapidly expanding market segment that will give their business to companies that can reduce the many hassles of their time-starved lives.

In viewing the digital mobile consumer segment as a substantial business opportunity, many (although certainly not all) of the organizations we studied already have instituted substantial changes in the ways they market, sell, service, develop products, and work with suppliers. For example, for drivers who use the mobile website of the global tire manufacturer that we interviewed, it's no longer an ordeal to find someone to fix a flat tire when their car has broken down in an unfamiliar place.

Providing these types of valuable customer experiences – experiences that increase customer loyalty -- has been the mantra of consumer companies for years. The enormous investments these companies have made over the last decade in websites and customer relationship management (CRM) software speaks to this need. Consider what websites have done for consumer companies since they emerged in the mid-1990s. (Amazon.com was born on the Web in 1995.) Through their websites, consumers have been given an around-the-clock channel for getting information on products and services, and for some sites the ability to purchase those offerings. These websites have empowered consumers – i.e., those who could access them from computers with Internet connections.

Also consider that the amount companies are spending on CRM alone is staggering. Gartner estimates that companies worldwide this year will collectively spend more than $12 billion on CRM software, up 33% from 2008.[16] Consumer companies have used CRM so that their marketing departments can tailor direct marketing campaigns, telesales people can prospect for the best customers, and call center agents can have a better picture of the irate consumer on the other end of the phone line.

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[16] From Gartner press releases dated Feb. 8, 2011, http://www.gartner.com/it/page.jsp?id=1541415 and Feb. 26, 2009, which can be found here: http://www.gartner.com/it/page.jsp?id=899012

Yet CRM technology allowed consumer companies to get only so close to their customers. For most of the last decade, those customers would receive the sales call on a home phone, get the direct marketing pitch in the postal mail, and call a contact center from a phone that could do little more than dial a number. For most of the 2000s, if consumers had a mobile phone, that device probably didn't have a web browser. And if it did, the websites that consumers viewed were almost never designed with a tiny screen and a time-starved viewer in mind.

Companies that wanted to lather personal attention on each and every consumer – or at least the minority of the customer base who represented the majority of revenue – could only go so far. They couldn't give consumers who were on the run access to their online repository of self-help information. When the consumer was in motion – with her desktop or laptop computer long out of reach – she was essentially on her own.

In other words, consumer companies have been able to get only so close to the people who buy their products and services, whether they are airline passengers, bank checking and savings account holders, or drivers with tires and auto insurance policies to care about. This is one big reason why consumers who are "out and about" have not been able to get close to those companies in any meaningful way. Perhaps this is one reason why the bellwether index of U.S. consumer satisfaction of companies they do business with has barely budged since 1994. The American Customer Satisfaction Index, which registered 74.2 at the end of 1994 (on a scale of 0 to 100), stood at only 75.9 in the second quarter of 2012 – a scant 1.7% increase over 18 years.[17]

This is all to say that websites and CRM technology have helped companies get a lot closer to their consumers – but only so close. They haven't been able to stay electronically connected to consumers at all times. But with a wave of powerful and easy-to-use mobile devices that have flooded the market since 2007, this is no longer the case.[18] A consumer with a smartphone or tablet device can now easily get the information she needs from just about wherever she happens to be (that is, wherever wireless service exists, especially wi-fi).

Now companies can electronically connect their businesses to consumers (even if they have millions of them) around the clock and around the world – if those consumers have powerful mobile devices. Increasingly, they do.

Mobile Technology Lets Consumer Companies Follow Their Customers Wherever They Go

With each passing day, consumer companies have a greater ability to do business

[17] The ASCI index has been a strongly watched number for many years. The organization, whose index was developed at the University of Michigan's Ross School of Business, polls consumers on their satisfaction with the companies whose products and services they purchase, ranging from airlines and retailers, to computers, media and banks. To see the trends since the organization began tracking consumer satisfaction in 1994, go to http://www.theacsi.org/index.php?option=com_content&view=article&id=31&Itemid=117

[18] Most mobile industry observers would assign the "easy to use" bragging rights to Apple and its iPhone, the first of which came to market in June 2007.

around the clock with more and more of their consumers in every way because of the huge uptake in mobile devices. Companies whose consumers have feature phones, smartphones, tablets and other mobile devices can continuously market and sell to consumers, serve them after the sale, help them research their purchases before they buy, and renew their purchases.

In other words, if they can reshape the way they do business in the ways that digital mobile consumers want to do business with them, companies will have unprecedented opportunities to attract and keep them as customers. The breathtaking adoption of mobile devices is making this opportunity real. Consider how rapidly consumers are becoming wedded to smartphones. In March 2012, about half of U.S. consumers (50.4%) had smartphones, up a remarkable 10 percentage points from the previous 12 months, according to consumer market researcher Nielsen Co. The average consumer downloaded 41 mobile apps (vs. 32 in 2011), and spent 39 minutes a day using the phone.[19] And about half of American smartphone owners (47%) – 45 million people in all -- were shopping on shopping apps by June 2012.

In many Asia-Pacific countries, the majority of online adults in April 2012 had smartphones: China (66%), Australia (65%), and South Korea (67%), to name a few countries.[20] Smartphone adoption in Japan and India has lagged. In Japan, 26% of mobile phones are smartphones (vs. 74% for feature phones); in India, the percentages are 10% smartphones to 90% feature phones, according to Nielsen data.[21] But that doesn't mean that consumers in these countries are shunning the Internet from their mobile devices. In fact, 86% of Japanese consumers accessed the Internet from their mobile device in June. In China, the number of people who access the Internet from a mobile device – 388 million in August 2012 –for the first time surpassed the number who had accessed the Web from a desktop computer.[22]

The result today is that some companies now have millions of consumers who are tracking them through mobile devices.So what's been the impact for these companies? What kinds of returns are they getting, given the average company that we surveyed ($10 billion in annual revenue) will spend $17 million this year to respond to the digital mobile consumer? For some companies, the results have been eye-opening:

So what's been the impact for these companies? What kinds of returns are they getting, given the average company that we surveyed ($10 billion in annual revenue) will spend $17 million this year to respond to the digital mobile consumer? For some companies, the results have been eye-opening:

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[19] See this page on the Nielsen Co. site: http://blog.nielsen.com/nielsenwire/online_mobile/who-owns-smartphones-in-the-us/

[20] Nielsen data: http://tw.en.nielsen.com/site/documents/2012NielsenSmartphonedeck.pdf

[21] Nielsen data on smartphone usage in Asia-Pacific can be found here. http://my.news.yahoo.com/japan-lags-smartphone-adoption-still-071103999.html

[22] According to data from CNNIC, which can be found here: http://my.news.yahoo.com/chinas-mobile-internet-users-surpass-111041885.html

- **Increasing revenue by pricing more accurately:** Auto insurer Progressive Insurance predicts it could generate a $100 million increase in lifetime premiums per annum through an initiative called Snapshot, which places a mobile device in customers' cars and tracks their driving habits. (Those who are better drivers than Progressive had predicted can save money on their policies. Usage of the device is totally at the customer's discretion.)[23]

- **Pleasing impatient consumers by speeding their purchases.** Starbucks, which has grown into an $11 billion company over 41 years due to delivering what it refers to as "The Starbucks Experience" at its 17,000+ coffee houses, has been a retail pioneer of mobile payments. In the 14 months that ended in May 2012, the company had 45 million payment transactions that were scanned through its customers' mobile devices.[24] That no doubt helped the company boost same-store sales in 2011 by 8%.

- **Helping consumers research their purchases.** A growing number of entertainment companies provide mobile users with lots of information to help them decide what to purchase.

- **Marketing and selling more effectively by reminding busy consumers of time-sensitive purchases.** Geisinger Health System will soon remind patients with high cholesterol to refill their prescriptions.

- **Providing a highly differentiated consumer experience in the usage of a product.** Mobile apps help health insurers such as Humana give consumers a tool to improve their health and in emergencies quickly find the medical specialists they may need. Starbucks' offers store visitors free wi-fi and free news and music content through its Starbucks Digital Network. That helps the company stay current on the interests of its customers. As Adam Brotman, Starbucks' chief digital officer, told one reporter, "Digital has to help our store partners and help [us] tell our story, build our brand, and have a relationship with our customers."[25]

- **Providing superior assistance when the customer needs help.** The mobile apps and websites of auto insurance companies such as State Farm and Progressive enable consumers to deal with accidents quickly and effectively – from being able to photograph the damage from their smartphones to calling a tow truck and booking a replacement vehicle.

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[23] Progressive estimated this $100 million increase in lifetime premiums per annum in a June 12, 2012 shareholder/analyst call, based on a full rollout of the service in all the U.S. states in which it does business. As of the time of the call, the service had been available in only a handful of states. The transcript can be found here: http://seekingalpha.com/article/670901-progressive-corp-shareholder-analyst-call

[24] From a May 24, 2012 Forbes.com interview with Starbucks chief marketing officer, Adam Brotman: http://www.forbes.com/sites/rahimkanani/2012/05/24/chief-digital-officer-for-starbucks-on-technology-change-and-community/2/

[25] From a June 12, 2012 article in Venture Beat: http://venturebeat.com/2012/06/12/starbucks-digital-strategy/view-all/

Which Industries Have Some of the Biggest Mobile Opportunities?

In our interviews with digital, marketing and mobile executives in the media and entertainment, insurance, industrial manufacturing and other industries, we heard of enterprising initiatives that have already commanded significant consumer adoption and endorsement. In analyzing what we heard in those interviews, we categorized what they were doing in their consumer mobile initiatives in two ways:

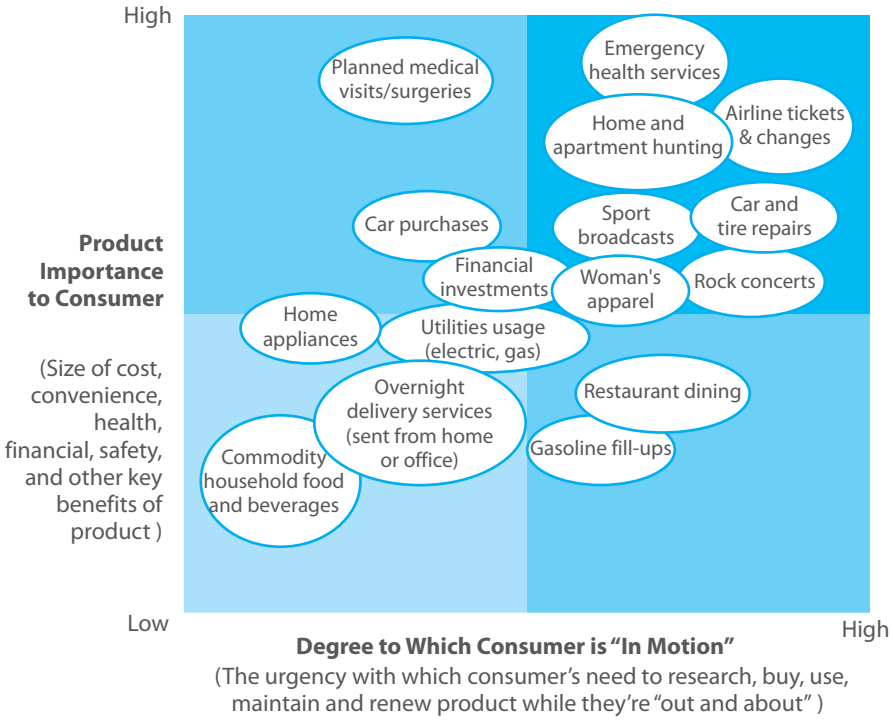
- **The importance of the product to consumers –** The benefits the product provides in financial, health, safety, convenience and other areas, as well as the urgency with which a consumer needs to obtain those benefits.
- **The extent to which the consumer is "in motion" when she needs to consume that product –** all the steps from researching and making the purchase to using the product, getting it repaired when it "breaks" and renewing it.

Our hypothesis is this: Companies that are getting greater traction with their mobile consumer initiatives are those with consumers who a) get higher financial, health, convenience and other benefits from using the product, and have a greater urgency to buy and use it, and b) are more likely to be "in motion" when they research, buy and use the product. By motion, we mean "out and about" – not close to home or office, and thus with a greater need for a mobile device (See Exhibit IX-2.)

The rapid consumer uptake of mobile apps and websites from the global tire company and Humana can be seen this way: Their products are of very high importance and urgency to consumers, and those consumers are often "in motion" when they need to purchase and use the products." Health insurers such as Humana and Aetna are getting consumers with mobile devices to rapidly adopt mobile apps that can locate a medical specialist and hospital, clinic or pharmacy in a medical emergency. When consumers are in unfamiliar locales (on vacation, on business, etc.), these mobile apps become particularly attractive to consumers, especially those with life-threatening medical conditions.

It may appear that other industries – such as car insurance, banking, industrial manufacturing and food and beverage – sell products that are less critical to the health, and financial and emotional well-being of consumers. It may also seem that those consumers don't have the same degree of need to research, purchase, use and maintain those products when they are "in motion." But upon further investigation, that would be misleading. Consider the auto insurance industry. Companies like State Farm and Progressive Insurance have found consumers to be embracing their mobile apps for dealing with car accidents (insurance becomes a critical product at that moment for a consumer, and he is typically "in motion" when he needs to file the accident report).

Exhibit IX-2
Which Industries Have The Greatest The Greatest Opportunities In Pursuing The Digital Mobile Consumer



The more value that a company can provide to a digital mobile consumer, the more likely it will get that consumer to do business with it through a mobile device. So what can companies do to increase the value they can provide the digital mobile consumer? One way to think about this is through the lens of the consumer's entire consumption experience with a product. Every consumer can be seen as going through five steps in the purchase and use of any product (see Exhibit IX-3):

Exhibit IX-3
Additional Examples of Companies That Have Used Mobile Technology to Improve the Consumer Experience

Research	Buy	Use	Maintain	Renew
Entertainment company's mobile apps, emails and text messages let customers know of upcoming performances by their favorite entertainers. Mobile sales transactions could reach 10-15% of total by 2015.	Domino's Pizza mobile apps account for 16% of 1Q sales in UK ($95M). In U.S. (annual revenue of $3.4B), mobile ordering is 8% of sales in mid-2012. Android app is No. 5 in lifestyle ranking, and No. 15 on iTunes Store. Users can track status of order with Domino's Tracker.	Geisinger Health ($3 billion, Pennsylvania-based health care provider and health insurer) issues text messages to remind patients of medical appointments.	Amtrak gave iPhones to 1,700 train conductors this summer to identify disabled passengers who might need help at stops, report equipment failures and let passengers book or change reservations.	Entertainment company's consumer database and location data enable it to remind mobile app and email subscribers of upcoming events by acts of interest to them.
A global tire manufacturer's new mobile website helps consumer select right size tire for their car, features of its tires, and where to go to get those tires.	Starbucks' recent $25M investment in startup payments app Square so that customers can pay by just waving a smartphone app on a scanner; in 2011, 20 million in mobile payment transactions.	Disney Mobile Map App helps theme park visitors navigate their way, find Disney characters, find out wait times and times to return to events they've been waiting for.	The global tire manufacturer's mobile website helps customers with flat tires to find nearest dealer for repair or call two truck.	Geisinger Health iPhone and iPad apps remind patients to renew their cholesterol medications and use them. This fall, will launch a text messaging program to remind cholesterol patients to refill prescriptions.
Humana and Aetna mobile apps help consumers find doctors, hospitals and clinics, which becomes especially important when they have medical emergencies in unfamiliar locales.	Many customers of major cable company use mobile app to order cable service when they are moving to a new city.	Heineken mobile apps for Android and IOS devices lets target audience (upscale millennials) send party invites, creating shopping lists, and book and pay for cab rides.	State Farm (major home and car insurance company) has a mobile site and iPhone and Android apps that helps consumers who get into car accidents (among several benefits). The company's research found consumers were most interested in being able to enter accident info into a mobile site of State Farm's.	Starbucks mobile apps enable loyalty/rewards members (3.6 million in 2011) to see how many more store visits they need to get a free drink.

- **Research**: Looking for options, comparing them on price, features, functions, etc.; determining the best fit product(greater likelihood to be on the road when trying to determine needs and companies and channels that can fill those needs)
- **Buy**: Making the purchase; doing the financial transaction
- **Use**: Making productive use of the product/service after the sale
- **Maintain**: Fixing the product/service when it's not working
- **Renew**: Making it easy to reorder the product

From our interviews and secondary research, we have found examples of ways to improve the life of a digital mobile consumer in all five steps, and across industries.

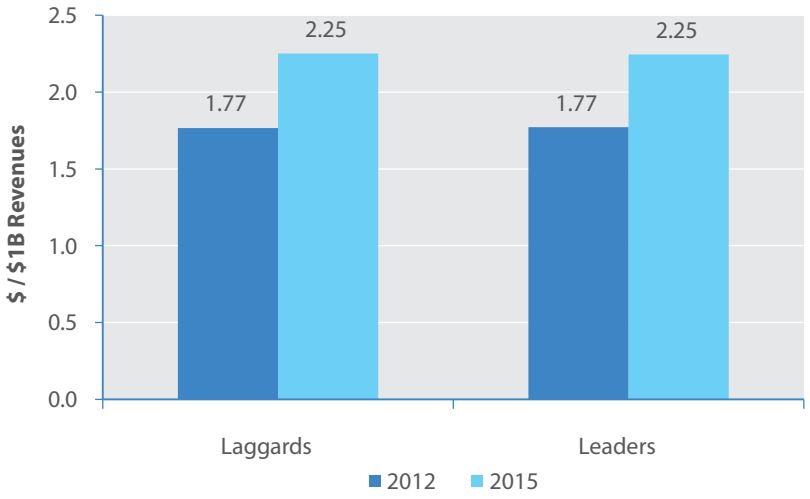
Who Will Win the War? Not Necessarily the Companies That Spend the Most

These and many other mobile initiatives to date will eventually show what "sticks" and what doesn't. We believe every consumer company has an opportunity to generate more business with consumers and increase their loyalty through mobile technologies and new ways of doing business with them. That is, we see enormous opportunities for companies to follow consumers – even if they number in the millions -- to use mobile technology and mobile-friendly ways of conducting business and reap substantial benefits. However, the value of the mobile initiative must be compelling enough to convince consumers to "follow" these companies back through their mobile devices – to want to download and use a company's mobile apps, to want to search on and deploy its mobile websites.

In this way, one can imagine that simply spending heavily on mobility initiatives is no guarantee of success. From our survey, the biggest spenders on initiatives aimed at digital mobile consumers were not at all the most successful ones. How do we know?

We grouped the 664 survey respondents into two categories based on how they answered one of our questions: "Compared to your biggest competitors, how would you rate your firm's success at addressing consumers who interact with your organization through digital mobile devices?" We provided a seven-point scale – from a 1 ("far behind") and a 2 ("behind") to a 4 ("neither ahead nor behind") and a 6 ("ahead") and 7 ("far ahead"). There was barely any difference between "leaders" (answering with a 6 or 7) and "laggards" (answering with a 1 or 2) in their 2012 spending on initiatives to win over the digital mobile consumer (technology, consulting, IT services, etc.). (See Exhibit IX-4.)

Exhibit IX-4
Q16/Global: What Companies Will Spend in 2012 and 2015 on Technologies and Services to Respond to Digital Mobile Consumers (in US$ Millions, Adjusted for Average Revenue/Company)



The ratio of mobile consumer spending as a percent of company revenue was virtually the same for "leaders" and "laggards." And this was the case for both questions on investments – for this year and their projection for 2015. What that tells us is that being successful in this arena requires spending on the right mobile capabilities for consumers – not spending more than the competition.

The Next Phase in Mobility: What Consumer Companies Should Consider

We see six essential elements for determining and executing a superior consumer mobility strategy:

- **Consider the digital mobile consumer as a new customer segment –** one that may very well require new products or services, and (for sure) new ways of marketing, selling to them, and serving them after the sale. About three times the number of "leaders" in our survey (82%) said they made the digital mobile consumer a unique market segment than did laggards (only 28%). And many more leaders (85%) created a new product/service offering for this segment than did laggards (30%). Even after segmenting consumers by which ones use mobile devices, you may find that some are far bigger users of the devices than others.

- **Segment consumers not just on their value but also on the extent to which they are "in motion" and need different product features in each step of their consumption process.** Progressive sends weather alerts to drivers to warn them of bad weather ahead – a mobile feature that will help consumers avoid accidents. Geisinger and Humana's mobile apps or mobile websites remind patients of

important medical appointments and prescriptions they need to refill. And during medical emergencies, the mobile apps of Humana and Aetna direct a consumer to quickly find the right medical specialists and facilities. In these situations, the consumer's need is indeed urgent, and if they're "in motion" (meaning in an unfamiliar part of the country or state) the importance of such mobile apps becomes even greater.

- **Look broadly at mobile technology –** not just at today's popular smartphones and tablet devices. In addition to developing mobile apps for consumer's mobile devices, auto insurance companies are experimenting with mobile instrumentation that they can install in your car. Other industries are following suit – particularly those that stand to gain substantially by tracking the way a consumer uses its product or service (a goal of health insurers).

- **Determine what data and analysis of that data is required to provide a superior consumer experience.** Starbucks has a grand vision for how mobile technology and "big data" can reshape the coffee shop experience – that is, how by knowing the reading, music, food and other habits of the patrons of each store, it can tailor the offering to suit those interests. One of the biggest differences between leading and lagging companies in our survey was in how they use consumer and other data to tailor their responses to them (see Exhibit IX-5). Leaders were more than four times as likely as laggards to send promotional offers to consumers' mobile devices based on where they were geographically located in their shopping process (i.e., their proximity to their stores); more than five times as likely to use real-time GIS and consumer data to interact with consumers; and more than three times as likely to change pricing for consumers who were "in motion" and shopping.

- **Tailor mobile consumer experiences to the type of device (e.g., smartphones or tablets).** This is especially important for companies whose consumers are more likely to be "in motion" when they use mobile apps or mobile-optimized websites. Nielsen's research in 2012 found that consumers use smartphones and tablet devices differently in some ways. In the U.S., smartphone users were much more likely to use those devices while they were "on-the-go," as Nielsen put it – e.g., to locate a store (73% of smartphone users do this vs. 42% of tablet users), use a shopping list while shopping (42% for smartphones vs. 16% for tablets), and redeem a mobile coupon (36% smartphones vs. 11% tablets.)[26] In our survey, the leading companies were more likely to tailor their mobile apps to tablets or smartphones than were the laggards: 25% of leaders' mobile apps were developed just to run on tablets vs. only 17% for the laggards. And by 2015, leaders project that 23% of their mobile apps will be designed exclusively for tablets vs. 16% for laggards.

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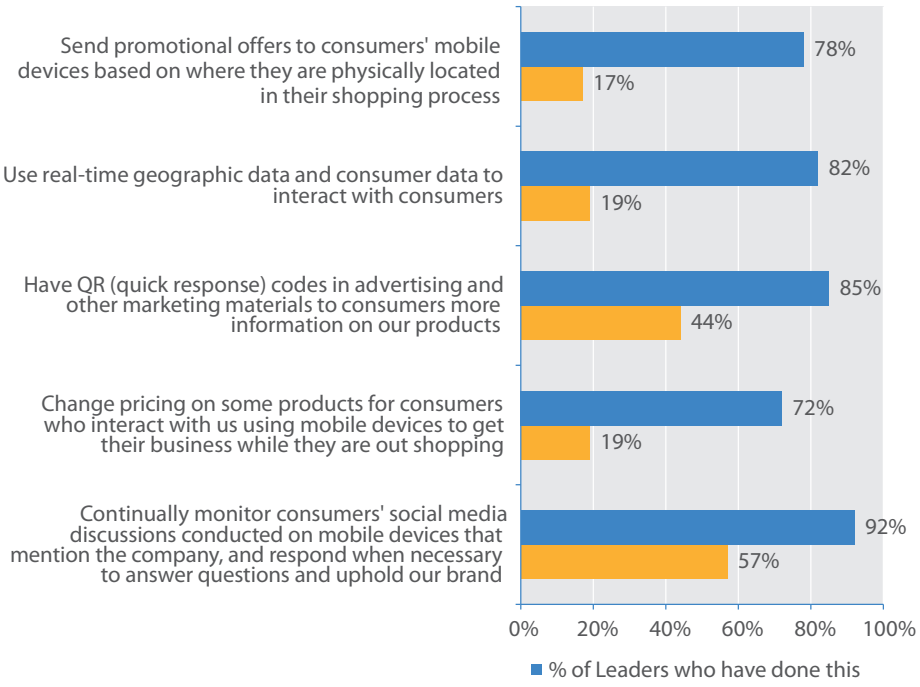
[26] Nielsen article can be found here: http://blog.nielsen.com/nielsenwire/online_mobile/how-us-smartphone-and-tablet-owners-use-their-devices-for-shopping/

Exhibit IX-5
Q17 d, e, f, g, h/Leaders and Laggards: Comparing Them on The Way They Market to the Digital Mobile Consumer



- **Experiment quickly, but be prepared to make major changes in products and consumer-facing processes eventually.** Companies such as State Farm, Humana, Progressive, and Starbucks appear to have started their initiatives by putting themselves in their customers' shoes, and working back from that – rather than essentially trying to retrofit the way they operate today and miniaturize it for a mobile device. Starbucks, for one, is rethinking the whole store experience for consumers given that it can get a strong sense of what visitors want to read and listen to while they're sipping their Caffe Mochas. Even the global tire maker that we spoke to has found that responding to mobile consumers is changing its view on its role in the consumer purchasing process. (See Exhibits IX-5 and IX-6.)

Exhibit IX-5
Q9/Leaders And Laggards: Degree Of Change In Products And Processes To Date To Respond To Digital Mobile Consumers

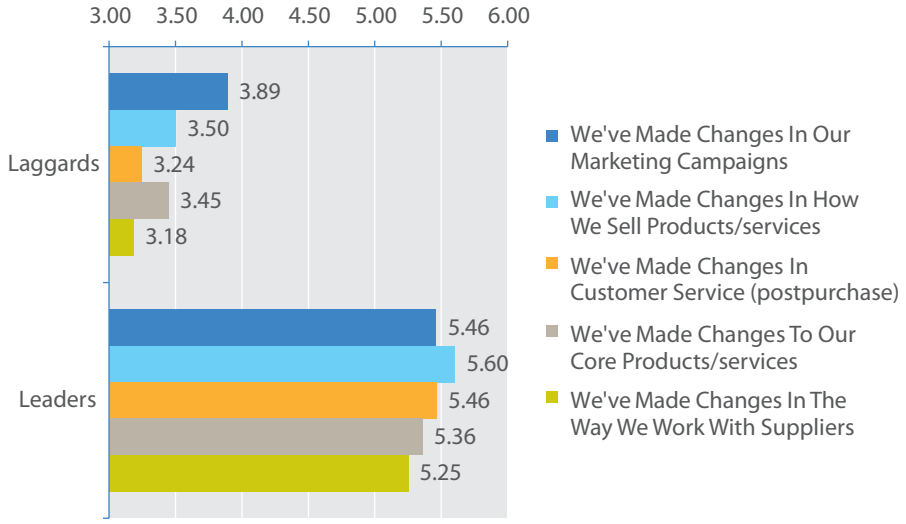
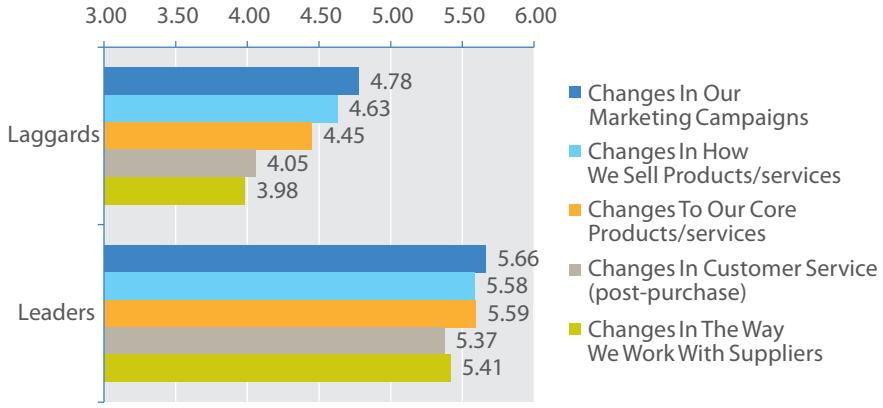


Exhibit IX-6
Q10/Leaders And Laggards: Degree Of Change In Products And Processes Companies Will Have To Make By 2015 To Respond To Digital Mobile Consumers



The opportunities from responding effectively to consumers who increasingly use powerful mobile devices to research, buy and use their products are substantial for many industries. But the learning curve is also substantial, which is why waiting to see what shakes out can be a mistake.

X. Demographics and Research Approach

Demographics and Research Approach

TCS designed this study to focus on consumer industries, both manufacturing and service companies, in four regions of the world: North America, Europe, Asia-Pacific and Latin America.

We focused the study with these parameters:

- B2C and B2B2C companies, not B2B
- Surveying and interviewing companies on how they were responding to mobile consumers – not interviewing or polling the consumers themselves
- Mobile devices – largely smartphones and tablet computers, but also feature cellphones and other electronic devices that companies provide to consumers
- Marketing, sales and customer service processes rather than manufacturing, supply chain or financial processes
- On apps and websites to support mobile consumers, rather than on traditional websites and e-commerce sites
- How companies are using social media, big data and analytics to shape the mobile consumer experience

With this scope in target industries and their operations, we boiled down the issues of exploration into five sets of questions:

1. **How important is the mobile digital consumer to these industries? Which industries think they will have a bigger or less impact on them and why?**
    - How much do companies in each industry we survey believe that consumers armed with powerful electronic devices, apps and social media will affect their business – both their products/services, how the bring them to market (their processes) and the customer experience?
2. **Which industries are most advanced to date in responding to the mobile digital consumer?**
    - Which ones are producing the most mobile apps? What kinds of apps have they developed? How many more and what types of apps do they plan to develop over the next 2-3 years?
    - Which sectors are furthest ahead in managing the data explosion from mobile digital consumers?
3. **How are industries changing the consumer experience to win over the mobile digital consumer?**
    - How are different sectors changing their marketing processes? Sales processes? Post-purchase customer care/service processes?

- What changes in their customer-related and supply chain systems are they making to respond effectively to the mobile digital consumer (e.g., marketing, POS, warehouse/distribution)?

4. **What industries are changing their core products to appeal to the mobile digital consumer?**

   - Especially media, retail banking, and other industries whose products are digital and can be provided through mobile apps

5. **What are the key challenges and success factors in responding to the digital mobile consumer?**

   - What are the key success factors of companies that have been the best to date in responding to the digital mobile consumer?
   - How are they managing "Big Data" from purchase transaction, social media and other data?

To explore these issues, we designed and fielded a 23-question online survey in June and July with companies (most > $500 million in revenue) in our four regions of the world. The questionnaire consisted of multiple choice, ratings and rankings, and yes/no questions. In all, 664 people participated in the survey, and 609 completed all 23 questions. The survey was fielded by a research firm (ResearchNow) that maintains a large panel of senior managers and directors from large companies around the world. For survey respondents in the retail and media/entertainment sectors, we asked an additional set of questions that were specific to their industry.

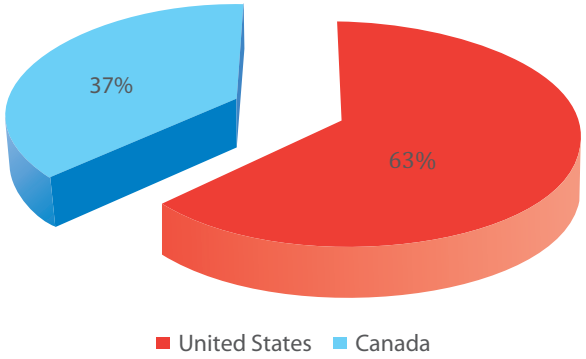
From June through August, we interviewed executives at four companies to hear about their mobility initiatives. These interviews typically lasted 45-60 minutes and involved executives who were leading their company's mobile initiatives.

We also conducted extensive secondary research, searching for examples of companies that had gone public with some aspects of their consumer mobility initiatives. We surfaced dozens of anecdotes and other examples drawn from these companies' websites, speeches at conferences, investor presentation transcripts, press releases, articles in business, industry and technology publications, and articles these companies may have self-published.

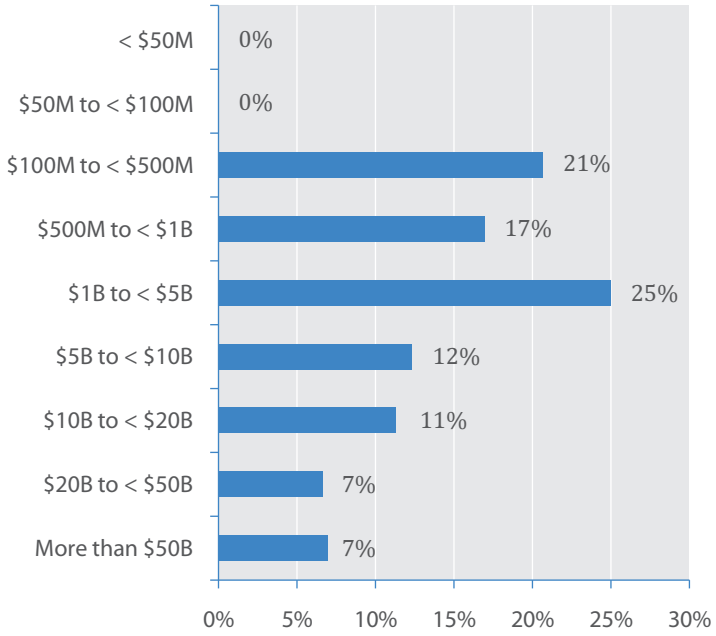
Here are the demographics by region:

North America

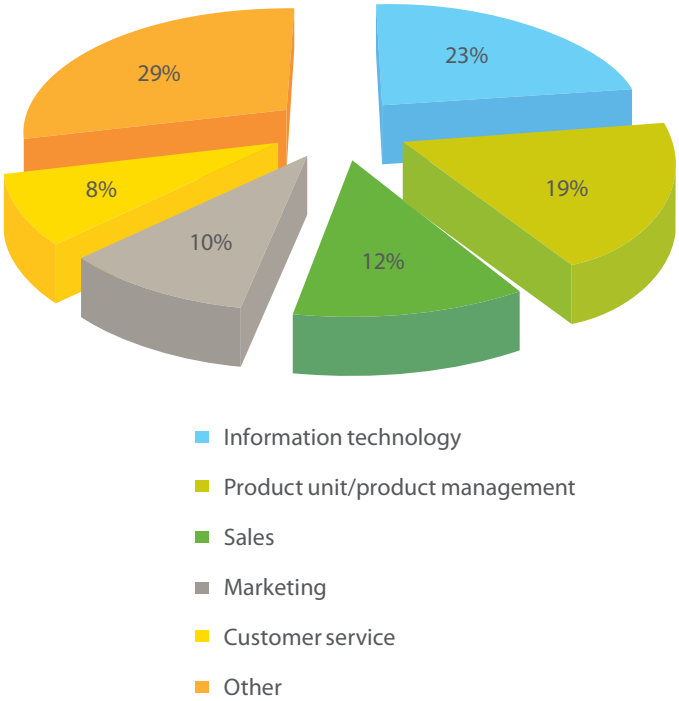
Q4A / North America: Respondents by Country



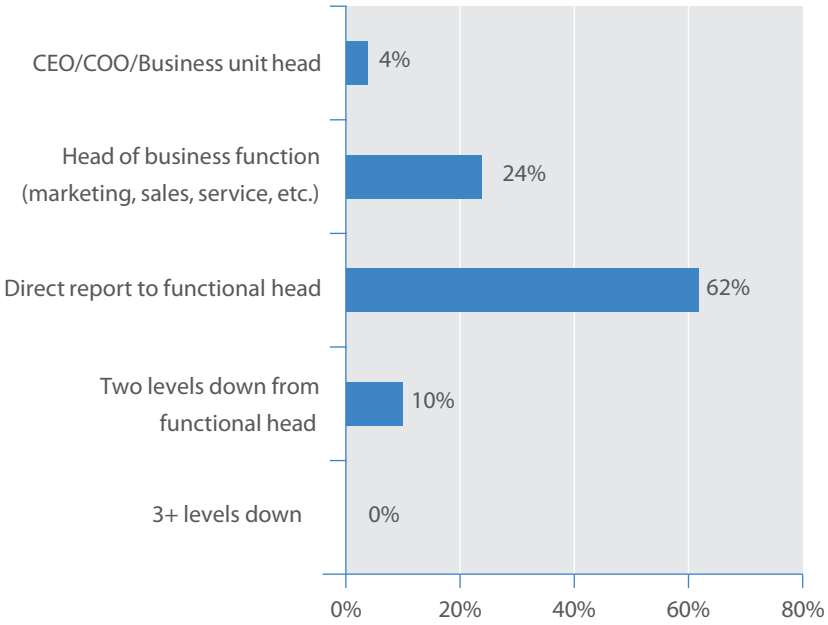
Q2/North America: Respondents by Annual Revenue ($ U.S.)



Q3/North America: Respondents by Functional Area

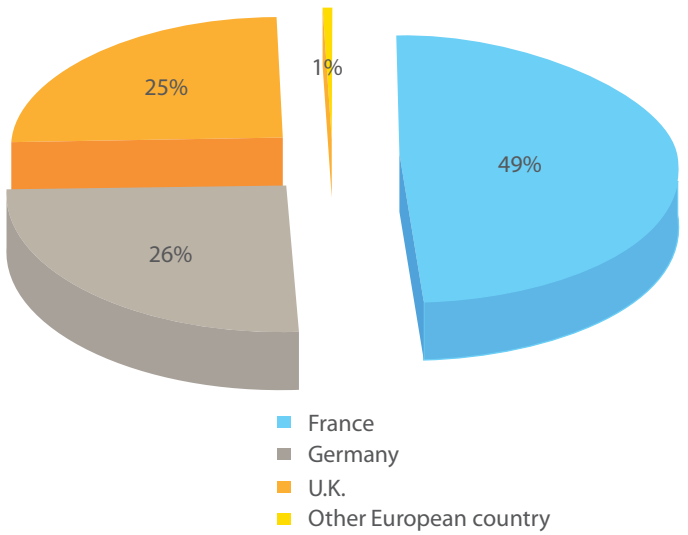


Q4/North America: Respondents by Organizational Level

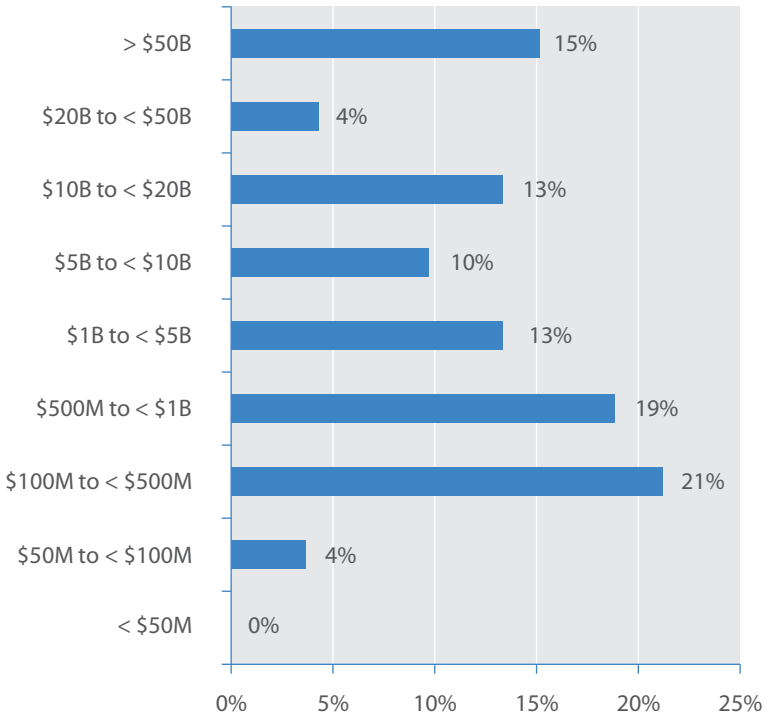


Europe

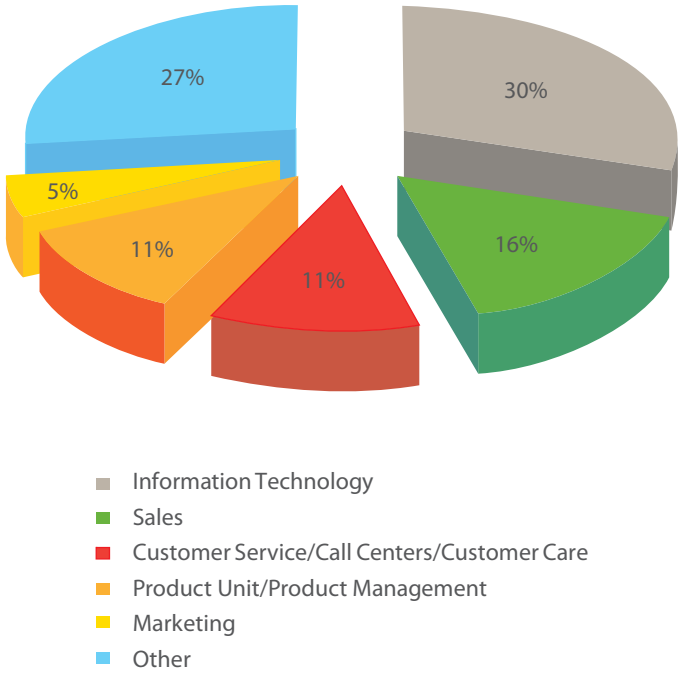
Q4A/Europe:Respondents by Country



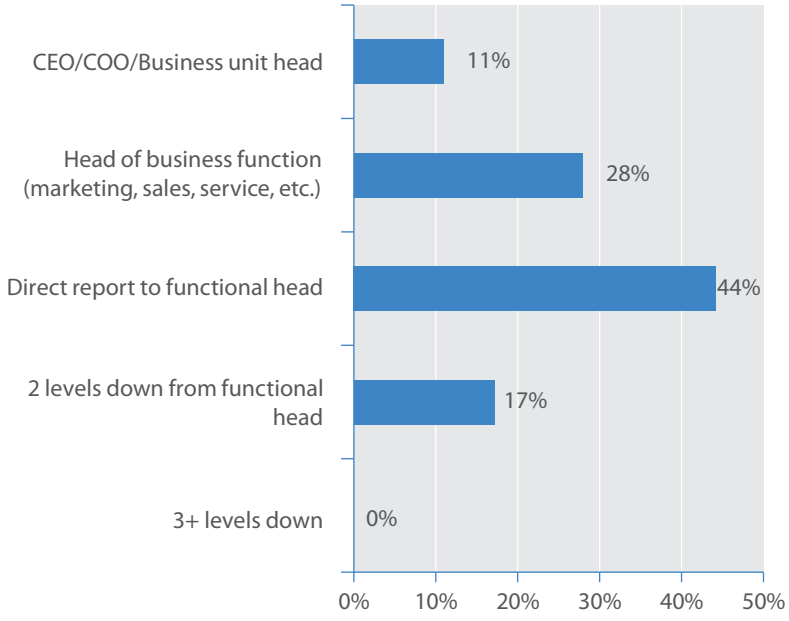
Q2/Europe: Respondents by Annual Revenue (in USD)



Q3/Europe: Respondents by Functional Area

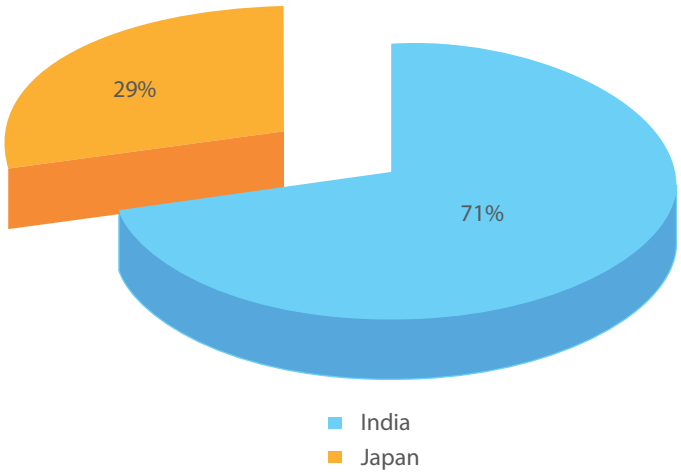


Q4/Europe: Respondents by Organizational Role

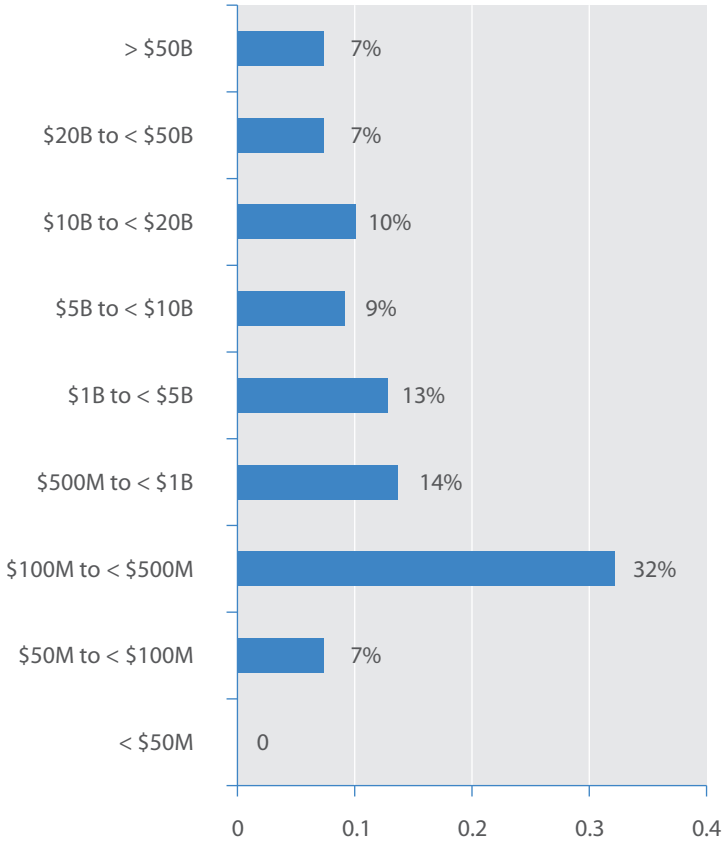


Asia-Pacific

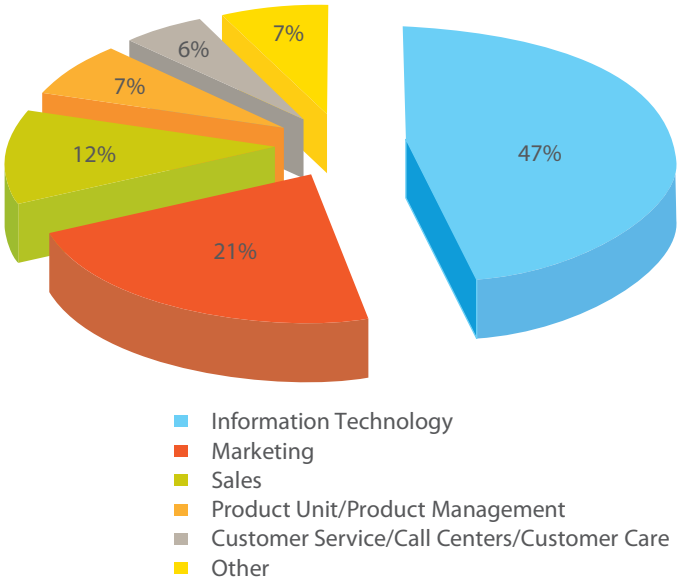
Q4a/Asia-Pacific



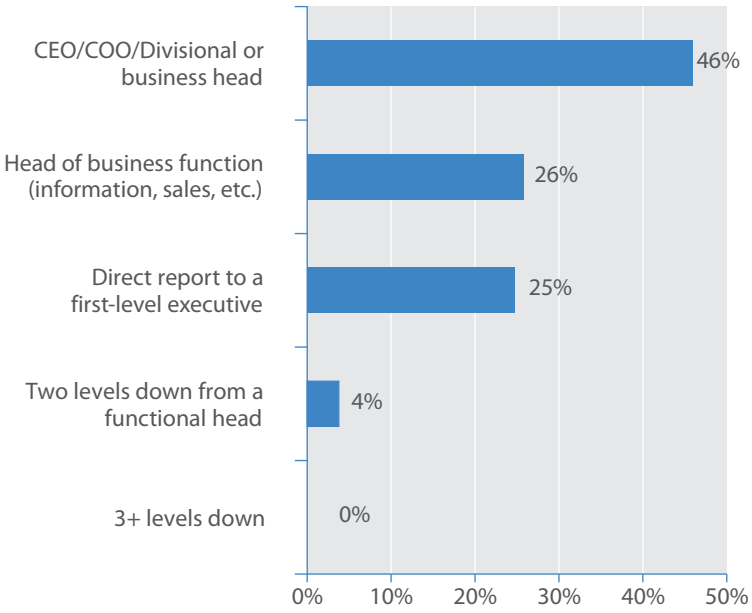
Q2/Asia-Pacific



Q3/Asia-Pacific

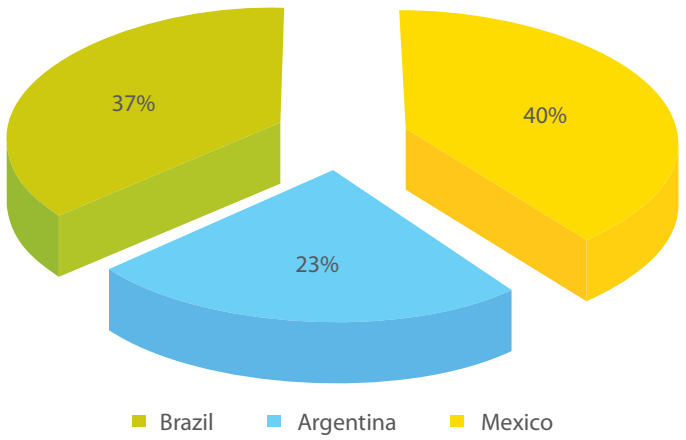


Q4/Asia-Pacific

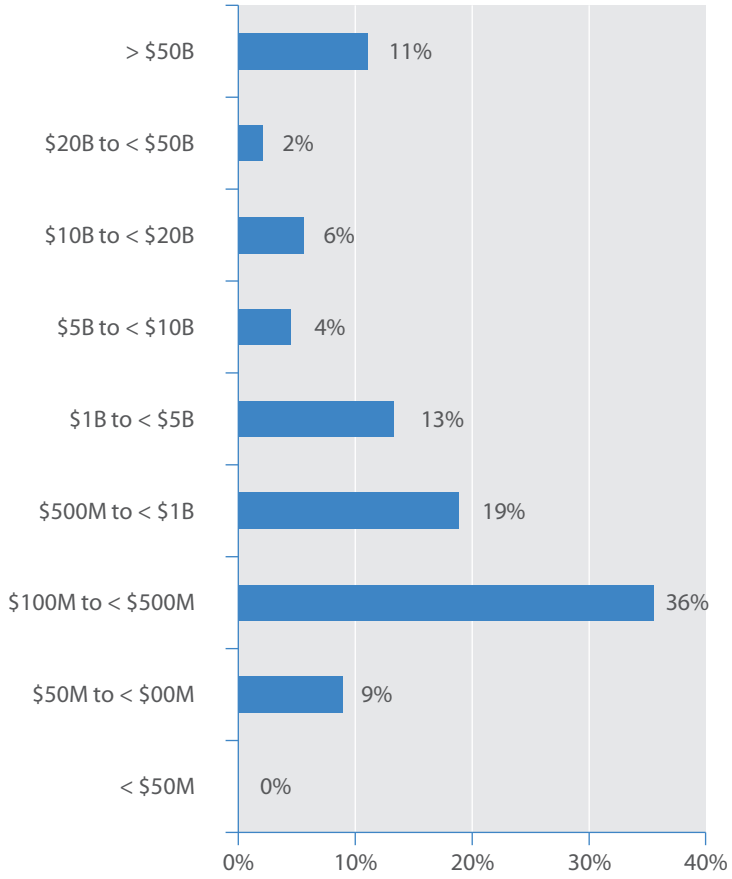


Latin America

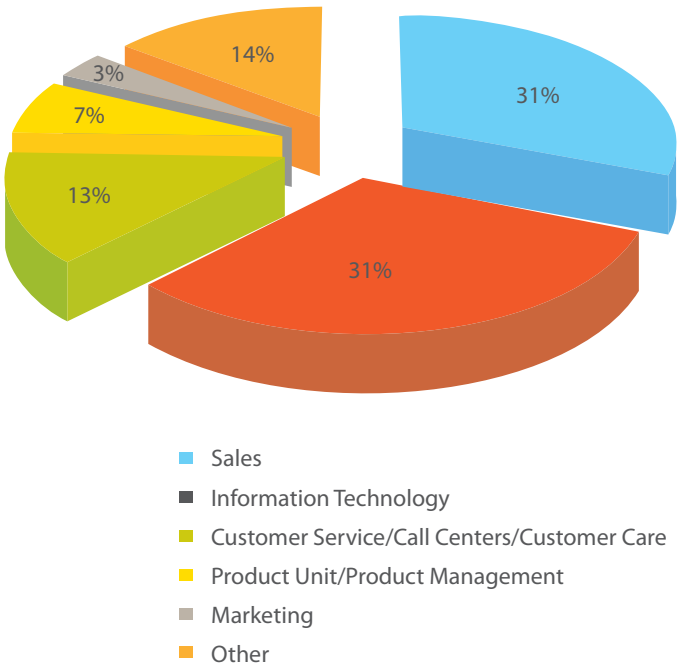
Q4a/Latin America



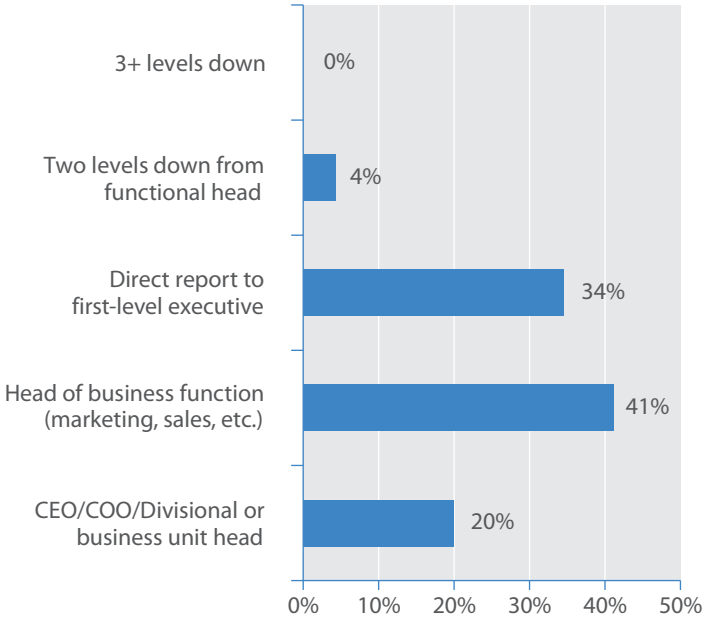
Q2/Latin America



Q3/Latin America



Q4/Latin America



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