



INFORMATION, COMMUNICATIONS
& ENTERTAINMENT

Consumers and Convergence IV

Convergence Goes Mainstream:
Convenience Edges Out
Consumer Concerns Over
Privacy and Security

KPMG INTERNATIONAL

Consumers and Convergence



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Foreword

July 2010

Analysts have been predicting the convergence of mobile technologies with online systems for years. They've been discussing the personal and business benefits of convergence as well as the future of mobile innovation. In 2010, for many millions of consumers across the globe, convergence is now mainstream.

We are pleased to present KPMG's Consumers and Convergence Survey. This is the fourth year that KPMG has conducted this global survey, including 5,627 consumers in 22 countries. As in previous years, the objective of this publication is to identify consumer convergence trends, issues, as well as critical insight into the forces shaping the technology, communications and media markets. This year we also explored the impact of consumer cloud services.

The survey findings highlight the intricate relationship of the consumers' converged existence, and how mobile devices are extensions of their online persona. The responses indicate technology and mobile convenience are edging out consumer concerns over privacy and security. More than 90% of the respondents rank security and privacy as troubling issues. Yet, despite their anxieties, they are pressing ahead with convergence because the benefits are simply too good to pass up.

Consider:

- Almost half of global consumers conducted banking transactions with their mobile devices in 2010. A 29% increase from 2008.
- Nearly three times as many people shopped at a retailer's website in 2010 than did in 2008.
- An impressive two-thirds of consumers around the world today use cloud computing applications and services.

The global scope of this analysis provides insights into the differences among consumers by region including the BRIC countries versus the G7. For instance, consumers in Brazil, Russia, India and China are more willing to pay for content, open to receiving mobile advertising and have expressed a higher level of concern about privacy and security.

The survey also highlights trends related to consumers' willingness to pay for content, and their views associated with mobile services that should remain free of charge. Another interesting finding is the importance of the consumers' relationships with internet and mobile service providers and areas of opportunity to win the consumer business.

Although the demand for mobile services is increasing around the world and the market opportunities are expanding quickly, the consumer business landscape remains fiercely competitive.

We hope you find this report useful, and we appreciate any feedback you may wish to offer.

Sincerely,



Gary Matuszak

Global Chair
Information, Communications & Entertainment



Sean Collins

Global Chair
Communication and Media





Executive Summary

Convergence Goes Mainstream: Convenience Edges Out Consumer Concerns Over Privacy and Security

In the five years since KPMG launched the *Consumers & Convergence* survey, dramatic shifts have occurred in how consumers integrate internet and mobile technology into their daily lives. This spring KPMG surveyed more than 5,000 consumers in 22 countries, in order to continue to track the consumer landscape and future market implications.

This year's survey results confirm that consumers, especially in Asia Pacific (ASPAC), are adopting, at increasing rates, a variety of mobile and cloud-computing applications. Consumers around the world are more willing than ever to use their mobile phones for financial transactions and they are more open to receive ads in return for cheaper basic services. Also, consumers are demanding unique value from service providers in exchange for their loyalty and business.

Privacy continues to be an important issue. Even though the survey revealed that consumers are increasingly willing to accept targeted personally identifiable information (PII)-based advertising, particularly in exchange for lower cost or free services and content, they also expressed more anxiety about data privacy than in earlier studies.

Another interesting trend is consumers' willingness to either pay for specific content or accept advertising. Entertainment content, such as games, video, and music, have perceived premium allure. This is good news for technology, telecommunications and media companies looking for new business models to differentiate their value and capture new markets.

Change is perhaps the only constant, as consumers redefine—on their own terms—market drivers such as trust, value, privacy and security. These are not trivial changes; they alter the landscape for the array of companies that cater to users of mobile and online technologies and services.

Service providers have the opportunity and challenge to address the needs of early adopters and more sophisticated mobile consumers in all regions, but particularly in ASPAC. The expanding sophistication of the global user base has led to dynamic shifts in consumer attitudes with strategic and tactical implications for a number of industries including technology, telecommunications, media, retail and financial services.

The most significant findings to this year's study include:

Consumers have a paradoxical view of privacy. Consumers of all ages express more anxiety about data privacy than they have previously, but they're also more willing than ever to give up PII if they get something of value in return. Nearly eight out of ten global consumers (79 percent) said they are concerned about unauthorized access of PII. But nearly six in ten (58 percent) said they would be willing to allow their online usage and profile information to be tracked if it resulted in lower costs.

Mobile banking catches fire. In this year's survey, 34 percent of consumers say they are comfortable using a mobile phone to handle their online banking and financial transactions, compared to only 14 percent in 2008.

Nearly half (46 percent) of the consumers in 2010 say they have used their mobile device for banking. Only 19 percent did so in 2008. Regionally, users in ASPAC (61 percent) and Central/Eastern Europe (CEE) (45 percent) are the most likely to have conducted banking transactions on their mobile phones than elsewhere. And younger consumers are more likely than older ones to do their banking with their mobile phones.

Shopping hits the road. This year, 28 percent of consumers indicate they used an online retailer's site from their mobile phone, nearly three times as many as in 2008 (10 percent).

A new breed of "Information Sharer" is emerging. Making up about 10 percent of the market, this consumer is willing to bargain PII for content and services. The Information Sharer is also more receptive to online and mobile advertising.

Trading eyeballs for services. More than half of all online consumers and 4 in 10 mobile phone users say they are willing to accept advertising in exchange for free or bargain pricing on various services and content.

Consumers in the emerging BRIC nations are more fluent in the language of mobility than their G7 counterparts. Consumers in Brazil, Russia, India and China have embraced mobile networks as their de facto telecom standard. They're much more willing to pay for content, are more open to receiving mobile advertising, yet they are more concerned about privacy and security.

Paying the piper. A significant 43 percent of respondents say they are willing to pay for frequently used online and mobile content, with consumers in BRIC far more willing than those in G7 nations¹. However, only 16 percent globally say they would pay for an entire site, with the remainder saying they would pay for some sections of a site.

Blue skies ahead for consumer cloud services. Two thirds (66 percent) of individuals currently use cloud services for applications such as email, photo sharing, and video sharing. The top two inhibitors are lack of awareness and a perceived lack of need by consumers.

Don't cut the cord. Globally, 84 percent of consumers said they continue to have a landline telephone connection. However, across regions and age groups, the top reason they have it is internet access; voice usage takes a secondary role.



¹ Italy did not participate in this survey.

Insights & Implications

For Service Providers

- No single online-access plan trumps alternatives for in-home or mobile activities.
- Consumers demand a choice of service offerings, particularly from mobile operators. Menu rule.
- Quality of service and price are the main reasons consumers consider changing phone or internet service providers.
- Value remains a constant refrain. Users don't expect the best deal to come from a single provider and remain willing to juggle a mix of access technologies and services from mobile, cable, wireline, and satellite providers.
- Younger consumers are nearly as likely to have a landline as other age groups.

For Content Providers

- The vast majority of global consumers believe access to most content should be free; 57 percent say they will not pay for frequently used content.
- Not all content is equal in the minds of consumers, and those that will pay for content prefer to pay for parts of a site, not the whole thing.
- Generic news and opinion are considered commodities.
- There is value in targeted information and content, but consumers may be more likely to provide PII rather than money.
- Entertainment content, such as games, video, and music, have perceived premium allure.
- Regional and national demographics play a huge role in the perception of content.

- Nearly three-fourths of consumers paid for less than half of the applications they downloaded.
- Monetizing non-entertainment information in most countries will encounter stiff resistance unless the offerings are unambiguously distinctive.

For Cloud Computing Companies

- Consumers interpret cloud computing as using services such as e-mail, and storing and accessing information important to them on the internet.
- Users see personal benefits from these services.
- Cloud computing services for consumers appear to be successful in engendering their loyalty.
- There is surprisingly low use of social networking services by those 24 and younger on mobile devices, with only 9 percent saying it was the preferred device, up from 1 percent in 2008.

For Financial and Retail Companies

- Consumers are willing to experiment with and ultimately embrace new mobile services.
- While an increasing number of consumers are comfortable using their mobile phones for banking or retail purchases, it is important to remember that the majority still are not. Significant efforts need to be made to reach hesitant consumers.
- Although security and privacy remain strong forces of concern, consumer perceptions can likely be influenced.

- Regional and age demographic preferences need to be considered.
- More than twice the number of consumers 44 and under used their mobile phones to purchase products on a retailer's site in 2010 than in 2008.
- More than twice the number of consumers 54 and under used their mobile phone to conduct a banking transaction in 2010 than in 2008.

For Marketing and Advertising

- Online marketing opportunities are expanding.
- Consumers generally prefer targeted PII-based advertising.
- Anxiety over privacy means that consumers demand transparency; violate their trust and consumers are willing to abandon a brand.
- Users are increasingly willing to exchange lower cost or free services and content for advertising.
- Tolerance for mobile advertising remains low.

Key Findings

As online and mobile technologies mature and users become more experienced with them, significant change in related applications and services is inevitable. This year's *Consumers & Convergence IV* research reveals substantial shifts in consumer behavior and attitudes. These changes can affect both strategic and tactical choices by businesses developing and deploying services, content, and tools for online and mobile consumers.

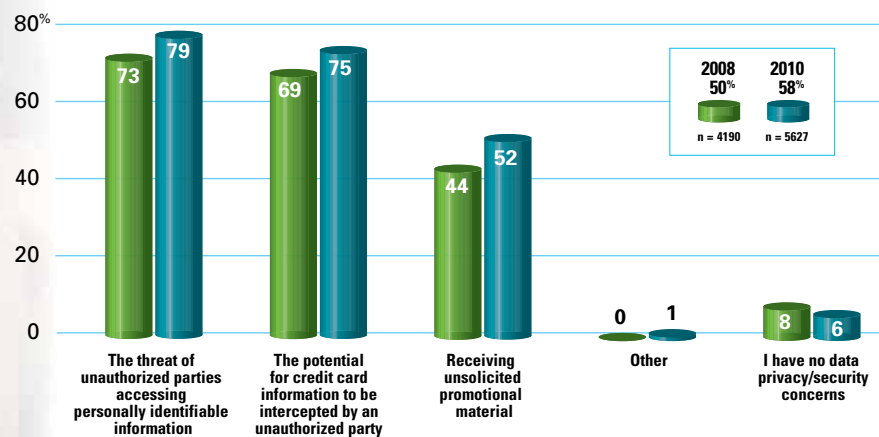
The survey shows that users' comfort and experience with certain advanced, high-value, mobile services is accelerating across the globe, but there are significant differences between countries and age groups. These differences obviate one-size-fits-the-world planning, but there are significant cross-national, even cross-regional consistencies in consumer views on convergence that could benefit enterprises serving multiple markets. Finally, this survey challenges the conventional wisdom that consumers are rapidly abandoning landline systems in favor of a mobile-only lifestyle.

1 The Paradox of Privacy

When it comes to sharing their personally identifiable information, consumers around the globe exhibit two seemingly conflicting behaviors.

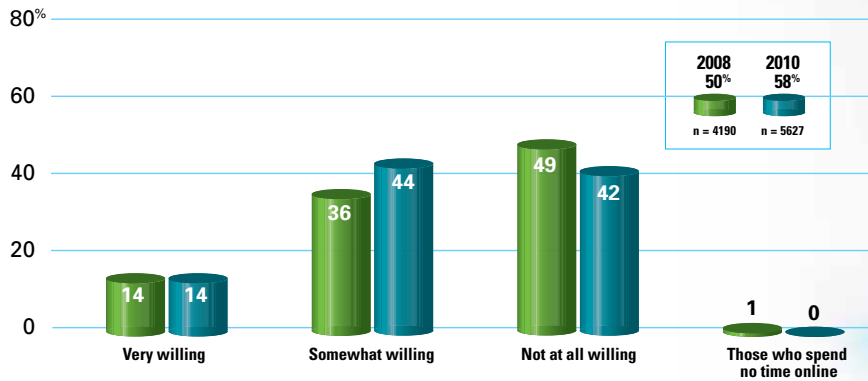
On the one hand, they express greater concern than ever over the privacy of their personal information. This year, nearly eight out of ten global consumers (79 percent) said they were concerned about unauthorized access to personally identifiable information. This represented a six to eight percent increase over the 2008 findings for specific privacy threats (Fig. 1) and it was also consistent across regions and age groups.

Figure 1: Concerns about PII are on the rise in 2010



Source: KPMG, *Consumers & Convergence IV*, 2010

Figure 2: Despite rising concerns, willingness to hand over PII has risen as well.



Source: KPMG, *Consumers & Convergence IV*, 2010

On the other hand, consumers appear more willing than ever to allow their personal information to be tracked (Fig. 2). This year, nearly six in ten (58 percent) said they would be willing to allow their online usage and personal profile information to be tracked if it resulted in lower costs, an increase of eight percentage points from 2008.

Clearly, consumers remain wary about sharing information. Complex website privacy policies, new privacy regulations, and news reports about difficulties in this area do little but fuel this anxiety. But if providers are willing to provide something of value in return—whether it be discounts, personalized offers and content, or new services—consumers may be willing to take a greater risk.

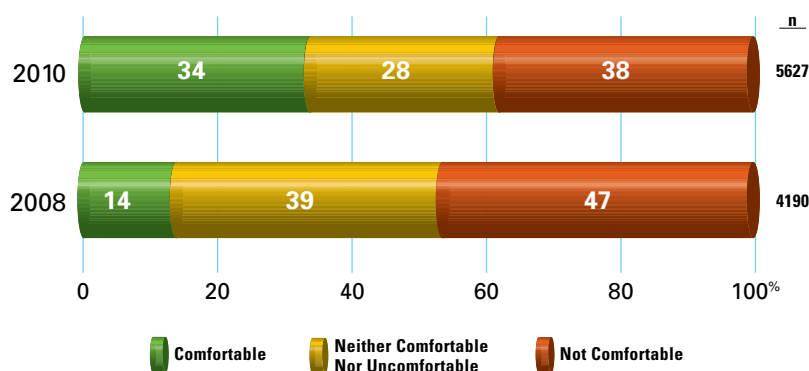
This issue may become increasingly important if new mobile technologies and applications ask consumers to give up more personally identifiable information. With GPS-equipped phones and 3G and 4G mobile apps becoming more prevalent, companies may be able to track not only consumer information and behavior but also location. In order to get consumers to opt-in to this kind of location- and context-based tracking, marketers will almost certainly have to provide something of significant value in return and transparent privacy policies will be key to gain consumer trust.

When it comes to sharing their personally identifiable information, consumers around the globe exhibit two seemingly conflicting behaviors.

2 The Rise of the Mobile Converged Consumer

Perhaps the most striking change among consumers in this year's survey is the dramatic uptick in the use of mobile applications that may matter most to them: managing and spending their money. Although still in the minority, users are becoming more comfortable in using their mobile handsets to manage financial services, just as they adopted internet banking, electronic bill-payments and e-commerce at the start of the broadband era. While security and privacy dominate users' concerns regarding online and mobile transactions, they are becoming more willing to set those aside to gain the benefits and convenience of conducting personal business through their mobile handsets. Still, those comfort levels are not yet universal.

Figure 3: Comfort conducting financial transactions on mobile device: 2008 vs. 2010.



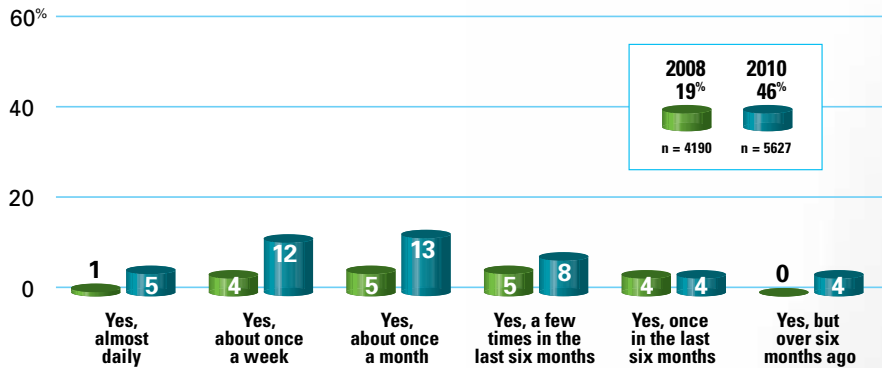
Source: KPMG, *Consumers & Convergence IV*, 2010

Banking and financial transactions

More than twice as many consumers today indicated they are comfortable using a mobile phone to handle their online financial tasks than two years ago—34 percent in 2010 compared to 14 percent in 2008 (Fig. 3). More importantly, nearly half (46 percent) of the consumers in the survey say they have used their mobile device for banking purposes. Only 19 percent did so in 2008. Almost a third (30 percent) of consumers say they conduct personal banking at least once a month, triple the 10 percent that did so in our previous survey (Fig. 4).

While the increase in comfort level is significant, it is important to realize about two-thirds of consumers are not yet comfortable conducting financial transactions on their mobile phones. This could represent a considerable market opportunity.

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Figure 4: Consumers who used their mobile phone for banking 2008 vs. 2010

Source: KPMG, *Consumers & Convergence IV*, 2010

Regional differences influence consumers' behavior. Although there were increases globally from 2008 to 2010, the ASPAC region, where mobile devices are most prevalent, showed the most significant growth in the adoption of mobile banking transactions, with 44 percent saying they make mobile banking transactions at least once a month. That compares to 26 percent in CEE, 15 percent in EMA and 13 percent in the Americas. And 61 percent of ASPAC consumers and 45 percent of CEE consumers have made at least one banking transaction with their mobile phone in 2010.

Age also plays a role in all regions. More than twice the number of consumers 54 and under used their mobile phone to conduct a banking transaction in 2010 than in 2008. As in previous years' surveys, older consumers appear to be more reluctant to use their mobile phones for online banking, but adoption is increasing to 18 percent of those 55 and older in 2010 from 12 percent in 2008.

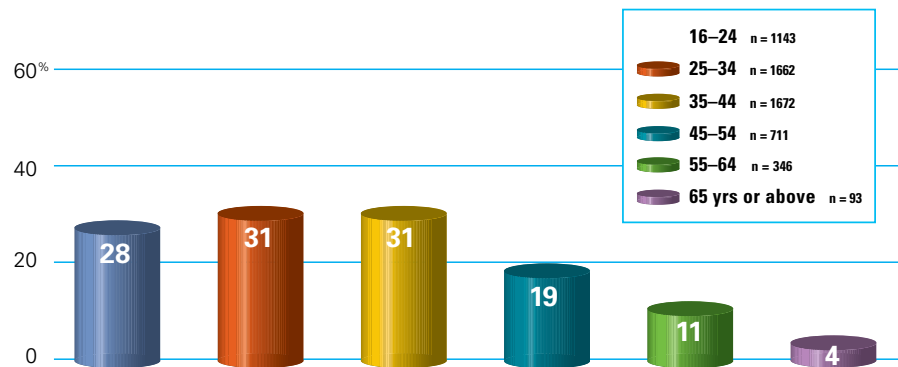
Survey results suggest this was not because they had more concerns over security (see section on older consumers' attitudes below). Potential explanations include reasons of habit, or capabilities of the devices themselves; as later adopters of mobile technologies, older consumers may not have the most feature-rich phones, nor may they feel comfortable viewing information on smaller screens. If handheld units, such as smartphones or tablets, with larger screens and more feature-rich applications become more ergonomically appealing, older consumers may adopt advanced mobile banking services for convenience.

Growth of Mobile-Commerce (m-commerce)

In addition to conducting financial and banking transactions through their mobile phones, consumers have made a notable shift to using those devices for retail purposes, m-commerce, if you will. The percentage of consumers surveyed that say they used an online retailer's site from their mobile phone jumped 18 points, from 10 percent in 2008 to 28 percent in 2010. Although increases at least doubled in all comparable regions, ASPAC led the way again in users' experience with mobile online retail transactions, with 41 percent saying they had used their mobiles to buy.

In m-commerce, age again is a factor across regions. Younger consumers in all parts of the globe readily engage with retailers through their mobile phones (Fig. 5). More than twice the number of respondents age 44 and under used their mobile phones to purchase products on a retailer's site in 2010 than had in 2008. Those 55 or older are still hesitant to engage in these kinds of mobile purchases.

Figure 5: Younger consumers more often buy products online with their mobile devices



Q: Have you ever purchased something using a mobile phone through a retailer's mobile site?

Source: KPMG, *Consumers & Convergence IV*, 2010

3 Identifying "Information Sharers"

This surge in the use of mobile phones to conduct financial, banking, and retail transactions coincides with another significant finding in this year's survey—a greater willingness on the part of some consumers to offer up their PII and use their mobile devices to manage personal applications such as banking or medical transactions.

To gain a greater understanding of these so-called "Information Sharers," we segmented out consumers who in the survey said they were:

- willing to exchange their PII for cheaper or free content;
- comfortable doing banking with a mobile device; and
- comfortable accessing their personal medical information on their mobile device in three to five years' time

This segment made up slightly more than 10 percent of the overall sample. Geographically, they were more likely to come from leading emerging markets—48 percent of Information Sharers were from China (compared to 28 percent of all respondents), 17 percent were from India (compared to 15 percent of all respondents) and 13 percent were from Russia (compared to nine percent of all respondents).

American consumers were among the least likely to be Information Sharers—consumers in the U.S. made up 4 percent of this group, but they were 12 percent of all respondents.

What other characteristics do Information Sharers display?

- They are much more likely to be employed full time than others (83 percent vs. 65 percent globally).
- They are far more willing to see tailored ads on mobile devices (75 percent Information Sharers vs. 52 percent globally).
- They don't mind seeing ads on their mobile phones. Even fewer (five percent) say they don't mind seeing ads on their personal computers (only 11 percent of Information Sharers say they don't want to see ads at all vs. 36 percent globally).
- They are much more willing to receive ads on a PC in exchange for free or cheaper services or content (82 percent for Information Sharers vs. 56 percent globally).

When it comes to mobile devices, Information Sharers have higher comfort levels using their mobile devices for browsing the web, tracking financial data, shopping and a range of other tasks than do most other users (Fig. 6).

As a result of these traits and preferences, today's Information Sharers are more than twice as likely than others to buy goods from a retailer using their mobile phone (58 percent vs. 28 percent globally). They are also three times more likely to use mobile banking applications on a daily basis than other global consumers (15 percent vs. five percent), and fully 60 percent of Information Sharers access their bank information on a mobile device at least once a month.

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Figure 6: Information Sharers are more comfortable using their mobile phones for a range of activities.
Q: What is your preferred device when conducting each of the following activities?

All Respondents	Personal Computer	Mobile Phone	Other Device	n
Talking (e.g., Skype)	70%	29%	1%	2391
Chatting or instant messaging	70%	29%	1%	3551
Accessing maps / directions	75%	23%	2%	3615
Reading a book	63%	21%	16%	1866
Playing games	77%	17%	6%	3395
Accessing news and information	83%	13%	4%	4788
Social networking	88%	11%	1%	4058
E-mailing	89%	10%	1%	5312
Banking / personal finance	90%	8%	2%	4163
Browsing the web	93%	6%	1%	5240
Shopping	90%	5%	5%	4319
Watching TV / movies / videos	77%	5%	18%	3602
Other	79%	9%	11%	364

Information Sharers	Personal Computer	Mobile Phone	Other Device	n
Chatting or instant messaging	62%	38%	1%	438
Reading a book	61%	35%	4%	306
Accessing maps / directions	65%	34%	1%	423
Talking (e.g., Skype)	68%	31%	<1%	363
Playing games	72%	24%	3%	412
Social networking	79%	21%	1%	483
E-mailing	78%	21%	<1%	559
Accessing news and information	79%	20%	1%	520
Banking / personal finance	82%	18%	<1%	474
Browsing the web	84%	16%	<1%	554
Shopping	87%	11%	2%	480
Watching TV / movies / videos	84%	8%	8%	457
Other	80%	8%	13%	34

May not equal 100% due to rounding.
Source: KPMG, *Consumers & Convergence IV*, 2010

The BRIC countries have often been considered leaders in mobile device usage.

4 BRIC vs. G7: Developed Markets in Emerging Economies

As well as examining trends in online and mobile convergence by traditional geographic regions (Americas, Europe/Middle East/Africa and Asia Pacific), this year we took a closer look at the topic by economic regions, analyzing differences in behavior and attitudes between consumers in the BRIC countries (Brazil, Russia, India and China) and those in the G7. The results are compelling.

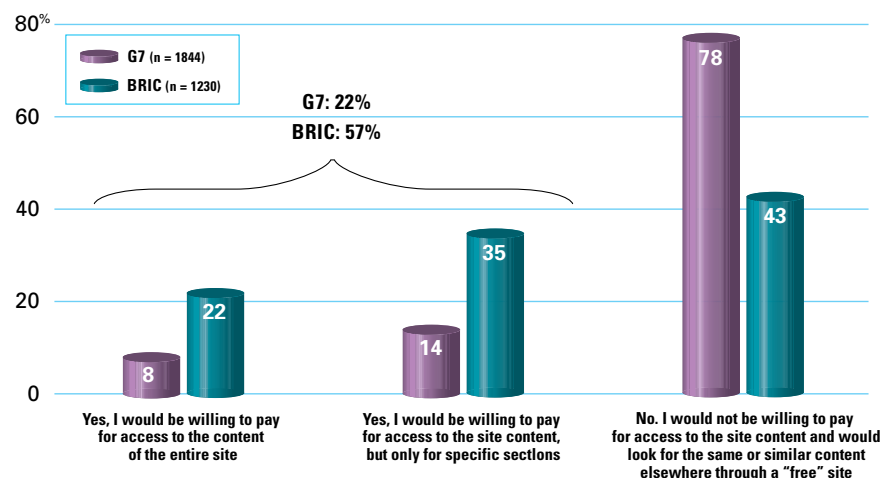
The BRIC countries have often been considered leaders in mobile device usage. More importantly, as newer economies, these nations typically have not had the reliable telecommunications infrastructures (aka dependable landlines) that are typical of the G7 nations. Hence, they have more actively embraced mobile networks as their de facto consumer telecommunications standard.

Therefore, it's no surprise that twice as many consumers in the BRIC countries appear willing to jettison their landline as compared to consumers in the G7 (22 percent vs. 11 percent). Still, even in BRIC, the vast majority of consumers intend to keep their landlines.

Paying for content

Although globally, 57 percent of consumers say they would never pay for frequently used content, BRIC consumers express distinctive attitudes about information access that should appeal to content and application providers. The difference is even more telling compared with G7 users. For example, those surveyed say they are twice as likely to have downloaded a mobile application than a G7 consumer (75 percent to 35 percent). Moreover, 22 percent of BRIC mobile users say they are willing to pay for an entire site's content compared to a mere eight percent of G7 mobile users.

Figure 7: BRIC consumers are far more likely than G7 users to pay for content



Source: KPMG, *Consumers & Convergence IV*, 2010

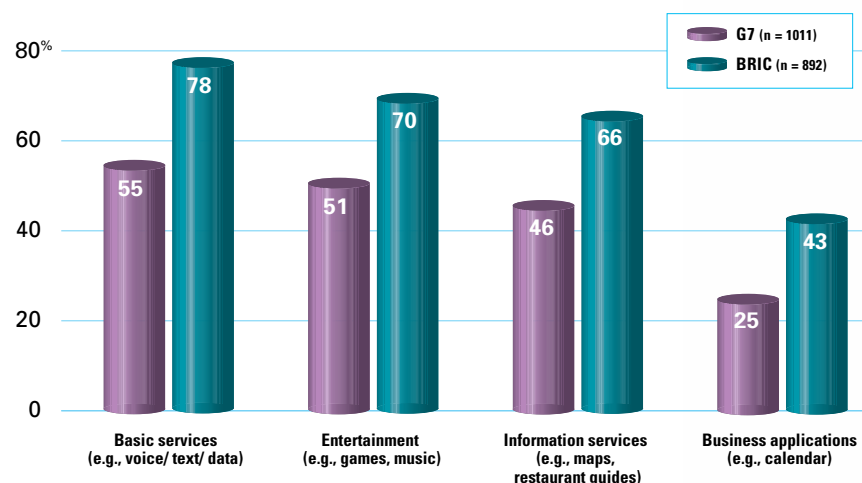
Those surveyed in the BRIC nations say they are much more willing to pay for both online and mobile content than G7 or global users as a whole, even for commoditized content like news and information (Fig. 7). Furthermore, they say they are more willing to switch internet service providers for exclusive content than G7 consumers (64 percent vs. 34 percent). This characteristic of BRIC users could prove valuable to media companies seeking ways to monetize content.

However, three-fourths of BRIC, G7, and global consumers paid for less than half of all of the applications they download from the internet, making the paid app market appear more difficult to develop than some may believe.

Open to ads

BRIC consumers also seem more willing than others to receive advertising in exchange for cheaper or free content or services both online (61 percent BRIC vs. 49 percent G7) and on their mobile devices (50 percent vs. 30 percent). Among those willing to receive advertising, BRIC consumers are much more amenable to getting mobile ads in exchange for a wide range of cheaper or free mobile content or services (Fig. 8). These data show that BRIC consumers are very attractive to businesses with the right mix of advertising supported content and services.

Figure 8: What services or content are worth receiving advertising for on a mobile device



Source: KPMG, *Consumers & Convergence IV*, 2010

Security and privacy

However, across the board, BRIC consumers are more wary than G7 users about the pitfalls of security and privacy. For example, when it comes to mobile devices, 46 percent of G7 consumers say they are “very concerned” about security and 42 percent claim to be “very concerned” about privacy, while an astonishing 81 percent of BRIC consumers say the same about security and 71 percent about privacy.

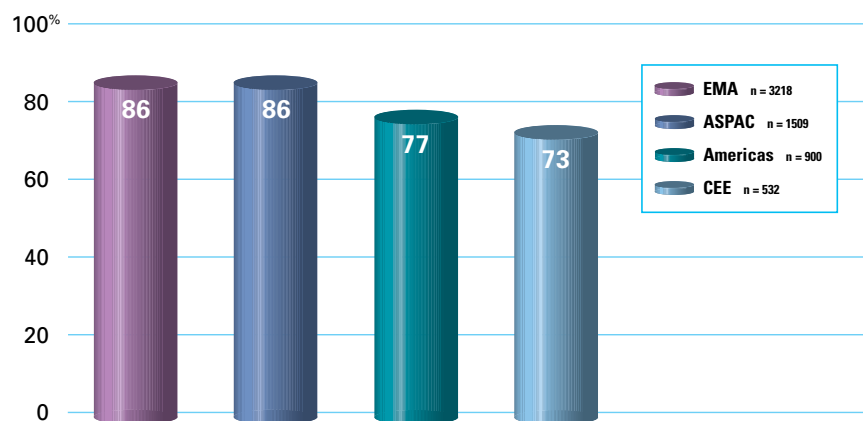
This much greater sensitivity to security and privacy by BRIC consumers could be related to their greater dependence on and use of mobile devices than those living in G7 countries. Nonetheless, it should emphasize to organizations serving those consumers that while this survey indicates there are greater opportunities to both monetize content through both advertising and paywalls, the risk of losing consumers through perceived (or actual) security and privacy lapses is far greater.

5 Infrastructure & Access: Don't Drop that Landline...Yet

It has almost become an assumption among industry observers that consumers around the world, particularly younger ones, are disconnecting their hard-wired links to voice and data services in favor of their mobile devices. That could hardly be the case based on those surveyed for this report.

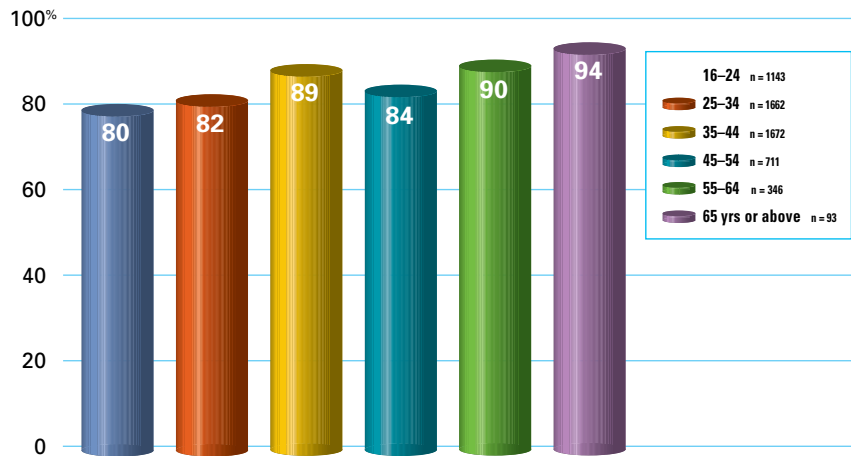
Globally, 84 percent of consumers say they continue to have a landline telephone connection. Moreover, the results are similar by region (Fig. 9), with the Central and East European region showing the lowest level of installed telephone landlines.

Figure 9: Users by region who say they have a telephone landline



Source: KPMG, *Consumers & Convergence IV*, 2010

Only 19% of those surveyed said they intended to drop their telephone landline.

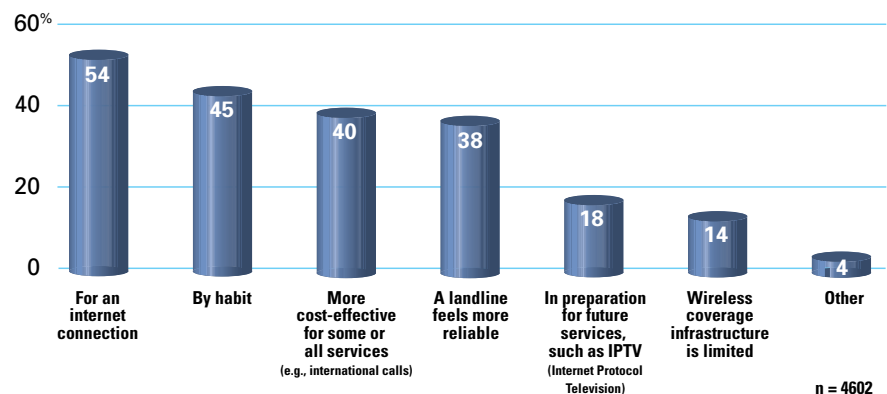
Figure 10: Global telephone landline use by ageSource: KPMG, *Consumers & Convergence IV*, 2010

The results also are consistent across age groups, with some skewing of landline use toward older consumers, but only slightly less among younger ones (Fig. 10). These results challenge the broadly accepted assumption that younger consumers were overwhelmingly eschewing telephone landlines completely. The data demonstrates this is not the case.

However, closer analysis reveals evidence suggesting why telephone landline installations remain at such high levels for a majority of consumers: internet access (Fig. 11). Voice usage takes a secondary role. Thus, it becomes paramount for providers of telephone landline services to focus investments in areas that will retain their data-oriented users. These results are similar by region and age.

Further, only 19 percent of those surveyed said they intended to drop their telephone landline. Among those who said they intended to abandon their landline, 60 percent said they would do so within six months. Again, the survey data is consistent by region and age.

Cable, satellite, and internet protocol TV (IPTV) subscribers mirror landline user patterns. While a lower percentage of those surveyed globally have these access services than have landlines (74 percent), planned abandonment is equally low (10 percent). And usage is similar across regions as well as age groups.

Figure 11: Reasons for having a telephone landlineSource: KPMG, *Consumers & Convergence IV*, 2010



Respondents continue to have a broad range of reasons to change mobile carriers.

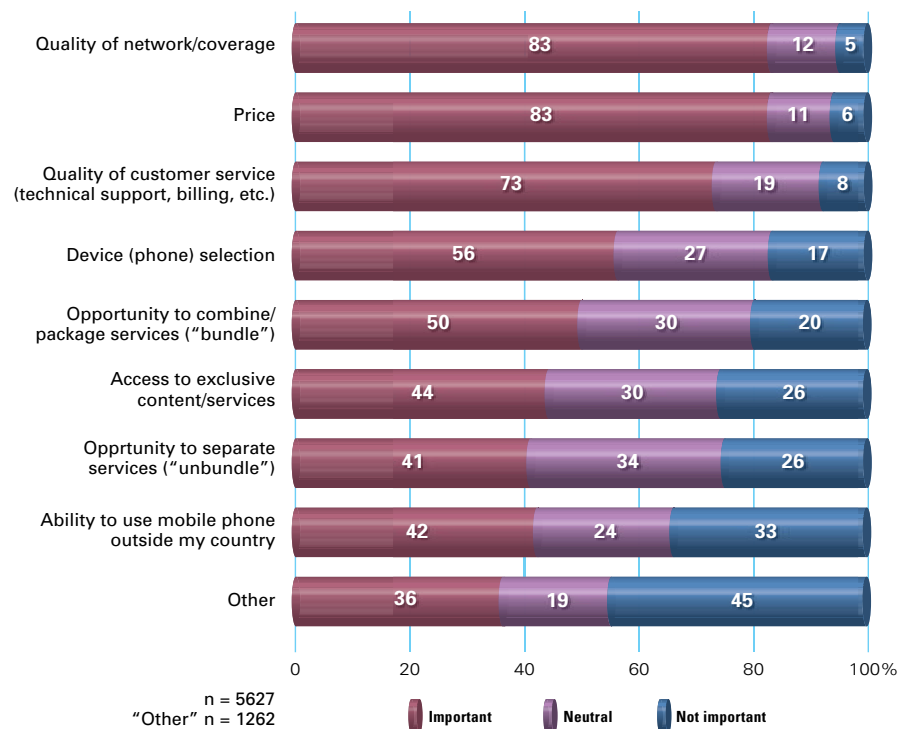
6 Not Ready for Unlimited Voice and Data

It's possible that the data-centric use of telephone landlines affects the way consumers are choosing their mobile phone plans. That is, despite concerted efforts by many carriers to guide their users toward unlimited voice and data plans only 28 percent of global consumers have adopted these all-encompassing subscriptions for their mobile devices. Add to that, recent developments among major carriers to drop unlimited data plans means monetization of mobile data plans remains fluid.

Instead, the vast majority of consumers choose from a long list of options that provides them the best "perceived value." Consistent with previous *Consumers & Convergence* studies, respondents continue to have a broad range of reasons to change mobile carriers. They have a high sensitivity to network coverage, cost, customer service, performance, quality of service, and other factors (Fig. 12). These results are similar across both regions and age groups.

This indicates that consumers are making sophisticated choices for both data and voice mobile services consistent with a range of their activities based on a mix of access technologies available to them, including telephone landlines, cable, satellite, and IPTV. In short, consumers are not feeling locked in by online or mobile service providers and are exercising choice whenever it meets their perceived advantage.

Figure 12: How important are these factors in deciding to switch mobile carriers?



May not equal 100% due to rounding.
Source: KPMG, *Consumers & Convergence IV*, 2010

7 Positive Forecasts for the Cloud

There is a growing acceptance among consumers of all age groups willing to use online, cloud-based services to store information. The latest *Consumers & Convergence* survey reveals that two thirds (66 percent) of individuals globally currently use cloud services ranging from storing personal data to using shared applications.

The survey explored the most common cloud services including hosted email, photo-sharing or printing services, or video sharing sites (Fig. 13).

Most of those services do not explicitly involve sensitive PII content. However, some, such as email or online file backup services, can contain personal information of significant importance to consumers. Still, more than one-fifth of those surveyed indicated they have personal medical and financial information stored in the cloud.

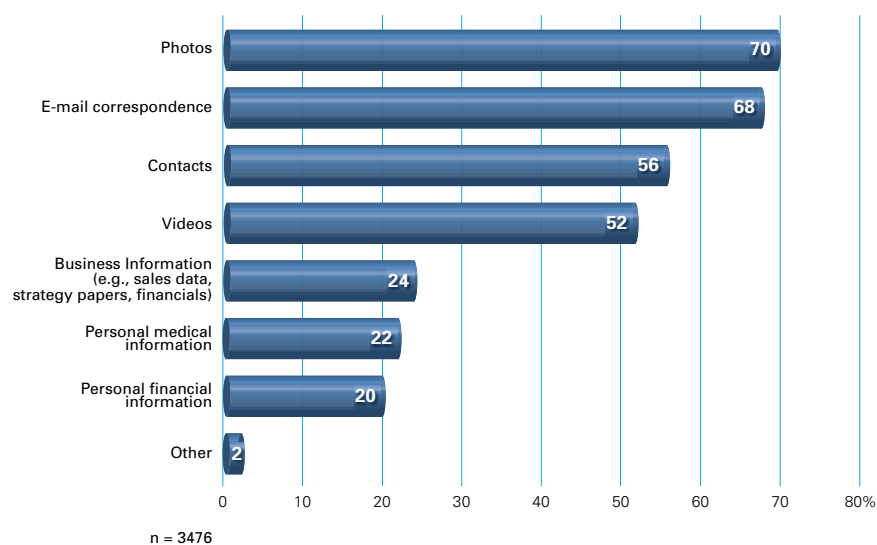
There are significant differences in the penetration of cloud services by country. In India, for example, 88 percent of those surveyed say they use technologies run in the cloud and in South Africa 79 percent say they do so. However, just half (51 percent) of U.S. consumers have adopted them and a scant 32 percent of those in the Czech Republic have signed up for cloud services.

Although younger users prefer their mobile phone to their PCs for many tasks than do older groups, it was surprising that in 2010 only nine percent of those 24 and under said their mobile device was their favorite device for accessing social networks in the cloud compared with only five percent in 2007.

The opportunity for cloud service providers is that the primary barrier to using the cloud is lack of awareness (38 percent) followed by a perceived lack of need (33 percent) indicating there may be significant growth opportunities ahead for consumer cloud services.



Figure 13: How consumers are using applications and services in the cloud

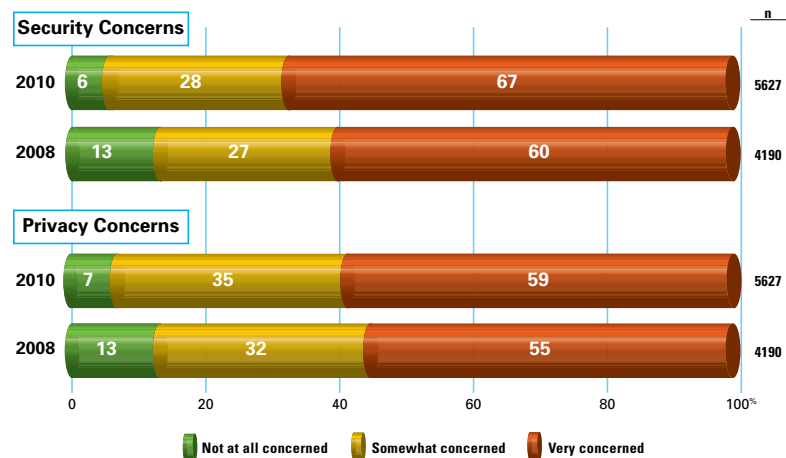


Source: KPMG, *Consumers & Convergence IV*, 2010

Security and Privacy

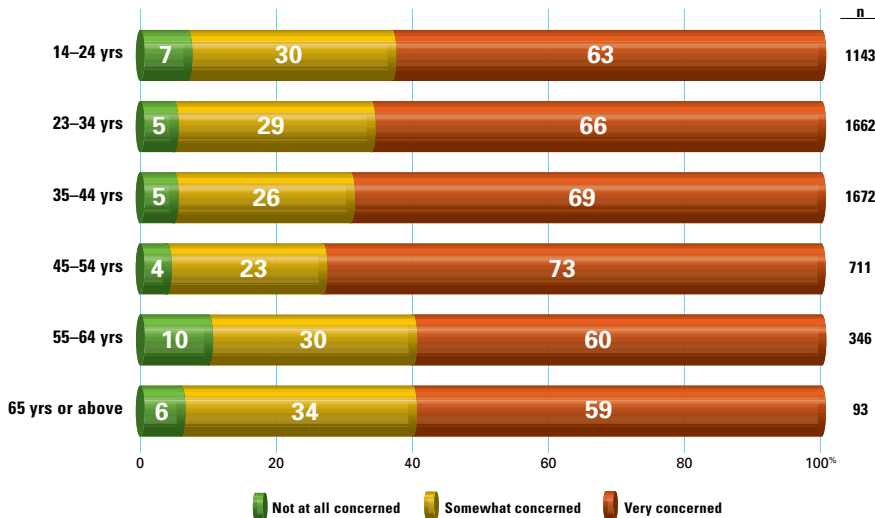
If there is a constant overriding issue confronting online and mobile carriers, advertisers, and applications and content providers, it is the high level of lingering security and privacy concern among consumers. Security and privacy are issues that cut across regions, age groups, and geographies. They are global concerns.

Figure 14: There have been no significant improvements in consumer concerns about security and privacy from 2008 to 2010. In fact, they actually have risen.



Source: KPMG, *Consumers & Convergence IV*, 2010

For example, more than 90 percent of users across the globe are somewhat or very concerned about both security and privacy when using a mobile device, with more than half being very concerned (Fig. 14). And when asked which specific areas are of most concern, consumers' anxieties have risen across the board between 2008 and 2010 (Fig. 1). In sum, consumers are becoming more, not less concerned about their information's security and their personal privacy.

Figure 15: Age is not a factor in consumers' concerns about security when using a mobile device

May not equal 100% due to rounding.
Source: KPMG, *Consumers & Convergence IV*, 2010

Again, contrary to conventional wisdom, security and privacy concerns are felt as deeply by younger consumers as they are by older consumers in this survey (Fig. 15).

The data shows that these concerns are highest among users who are the most comfortable using their mobile devices. In the ASPAC region, for example, consumers were most comfortable using a mobile device to conduct personal, retail, financial, and banking transactions. Yet, it was this region where people worried most about their security when using a mobile device, with 74 percent saying they were very concerned about security.

Chinese consumers, in particular, show the most sensitivity to privacy and security regarding their use of mobile devices with 78 percent saying they are very concerned about security and 70 percent about privacy. Perhaps more telling, while globally six percent of consumers surveyed say they are not at all concerned about security and seven percent not at all concerned about privacy, less than one percent of mobile users in China are not at all concerned about security and two percent feel that way about privacy. In other words, they show a far greater awareness of the risks and potential problems.

Given ASPAC consumers' broader use and higher comfort levels with mobile devices, it might appear paradoxical that they also feel higher levels of concern about their personal privacy and data security. However, it is quite logical. They have a greater dependence on mobile devices and, therefore, have the most at risk.

Despite continued apprehension about the security and privacy of their information, there is still an increasing willingness to share PII with trusted service providers in exchange for free or cheaper services or premium content. Also, there is a sense among consumers that more information about them will ultimately be available online to be accessed by their mobile devices. For example, 42 percent of those surveyed say they would be willing to have their personal health information accessed from a mobile phone in just three to five years.

Despite continued apprehension about the security and privacy of their information, there is still an increasing willingness to share PII with trusted service providers in exchange for free or cheaper services or premium content.

Security vs. Privacy: A Definition

While often used interchangeably, security and privacy are generally considered distinct concepts.

Security relates to the systems and processes used to contain, control, and access vital information within an organization. Security is about protecting information so only authorized individuals will have access throughout the information lifecycle. A typical security breach might involve a hacker getting through a provider's firewall to steal data.

Privacy relates to how personally identifiable information (PII) is managed by organizations that obtain it from consumers who authorize its use for specific purposes. Privacy is about what specific personal information is collected and what is done with it. For instance, a consumer might be willing to register for a discount from a pharmaceutical provider, but would consider it a breach if that provider shared prescription information with a third party without getting the consumer's permission.

You can have security without privacy, but cannot have privacy without appropriate security.

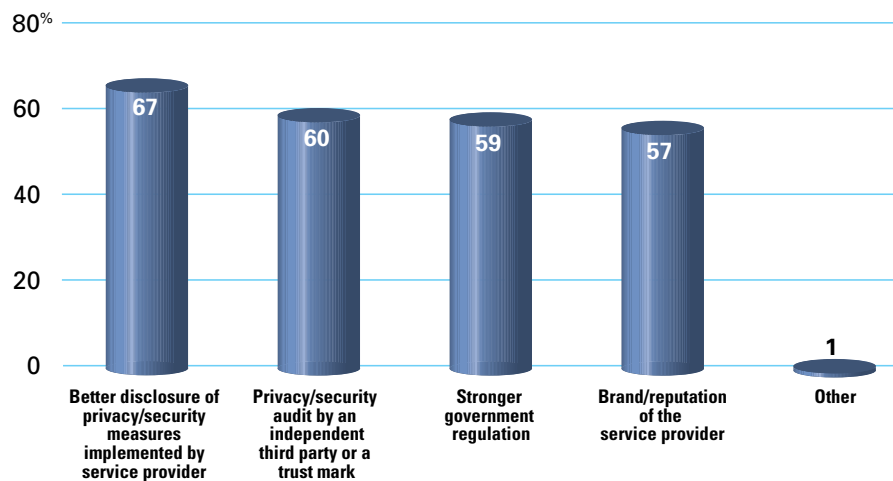
A multi-pronged approach

Still, a willingness to share and accepting the inevitability that data about them will be online and available does not mean users expect data protection capabilities to stand still. In fact, to mitigate their concerns, increasingly sophisticated consumers across the globe realize a multi-pronged approach to security and privacy would offer the best protections (Fig. 16).

Security and Privacy – Additional Consumer Insight

More than half of respondents who expressed concerns about privacy and security indicated security and privacy was a problem for all parties involved. Service providers will need to provide better security and privacy disclosures, and should contract with reputable third parties to audit their security and privacy practices. Governments should impose stronger privacy and security regulations. And consumers should consider the company's brand and reputation into account when choosing a service provider.

Figure 16: Consumers say security and privacy concerns would require multiple approaches to resolve effectively.



n = 5141

Source: KPMG, *Consumers & Convergence IV*, 2010

Preferred Technologies and the Rise of Mobile

For the past 30 years the device of choice for the technologically savvy consumer was the personal computer. PC users had it all: advanced desktop applications, personal communication tools, and ultimately access to the internet. Although still the primary digital device for most users for these tasks, there is a dramatic swing happening, led by ASPAC consumers, giving a new primacy to the mobile phone.

Consumers in 2010 have taken significant leaps forward with their mobile devices as their preferred device across a spectrum of activities previously considered exclusive to PCs. Some of this shift can be attributed to a wider use of smart-phones as well as consumers' increasing experiences with mobile technology in general. Also, more applications are available offering a range of activities to attract more users with differing needs.

Figure 17: Consumers are increasingly turning to their mobile devices for many activities

Activities \ Devices	Personal Computer			Mobile Phone			Other Device		
	2007	2008	2010	2007	2008	2010	2007	2008	2010
Chatting or instant messaging	93%	94%	70%	6%	5%	29%	1%	1%	1%
Talking (e.g., Skype)	–	–	70%	–	–	29%	–	–	1%
Accessing maps/directions	–	89%	75%	–	4%	23%	–	7%	2%
Reading a book	–	–	63%	–	–	21%	–	–	16%
Playing games	72%	68%	77%	6%	7%	17%	22%	25%	6%
Accessing news and information	96%	95%	83%	1%	2%	13%	2%	2%	4%
Social networking	94%	96%	88%	3%	1%	11%	3%	3%	1%
E-mailing	–	–	89%	–	–	10%	–	–	1%
Banking/personal finance	–	96%	90%	–	2%	8%	–	1%	2%
Browsing the web	–	–	93%	–	–	6%	–	–	1%
Watching TV/movies/videos	58%	63%	77%	7%	5%	5%	35%	31%	18%
Shopping	98%	97%	90%	1%	2%	5%	1%	1%	5%

Source: KPMG, *Consumers & Convergence IV*, 2010

For example, in 2008, when it came to accessing news and information, 95 percent of consumers said they preferred using their PC, and a mere two percent said the same about their mobile units (Fig. 17). Today, 13 percent of those surveyed say their preference is now their mobile phone. Further, the preference for instant messaging and chatting with friends on a mobile device skyrocketed from just five percent in 2008 to 29 percent in 2010. Even reading a book on a mobile phone is now considered preferable to doing so on other devices.

Service providers and developers of mobile applications and content targeted for on-the-go users should take heed of this data as they seek ready audiences with a demonstrated sophistication and experience in adopting new technologies.

Older consumers' attitudes

The preference for mobile phones is similar across all age groups, except those 55 and older, where it falls off appreciably. However, it is possible that this preference is not task-specific, but related to the devices themselves. Older consumers have increased their comfort level for some mobile transactions from 2008 to 2010. As smartphones and other mobile devices, such as tablets, add larger screens and include more user-friendly applications, the device preference trend may include increasing numbers of older users as well.

As noted in previous KPMG surveys, older consumers, have the lowest levels of concerns about security and privacy. One-fifth of older consumers in 2008 and again in 2010 said they had no security or privacy concerns, far greater than any other age group (Fig. 18).

Older consumers' lack of concern about security and privacy could very well be because they do not conduct much personal business on their mobile phones. In this year's study, they were the least likely to make a retail transaction using their mobile device (Fig. 19). But that would not tell the entire story.

Consumers 55 and older *did* increase their comfort level for conducting financial transactions on their mobile devices significantly, with those 65 and older having their comfort level jump from four percent in 2008 to 10 percent in 2010 and those 55-64 years old going up from 13 percent in 2008 to 23 percent in 2010 (Fig. 20). Therefore, as noted previously, it is possible that new devices that better serve an older demographic could increase preference and usage levels further.

Older consumers have increased their comfort level for some mobile transactions from 2008 to 2010.



Figure 18: Older users have fewer data privacy/security concerns

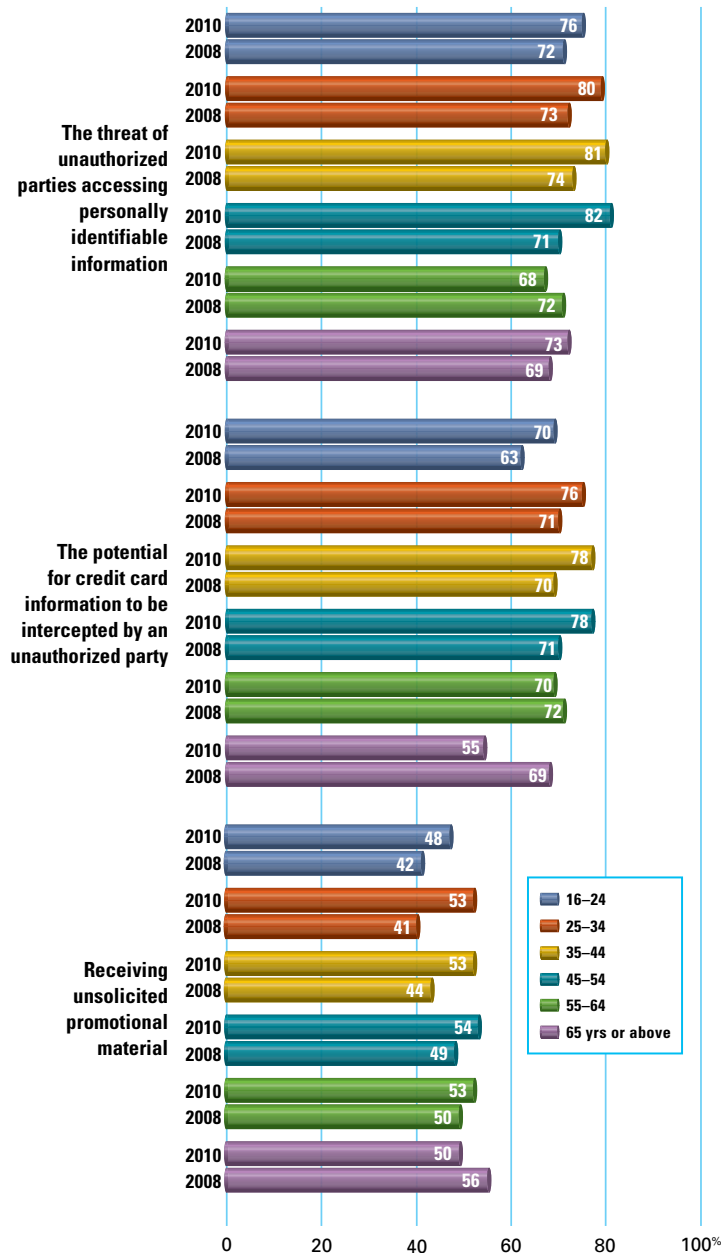
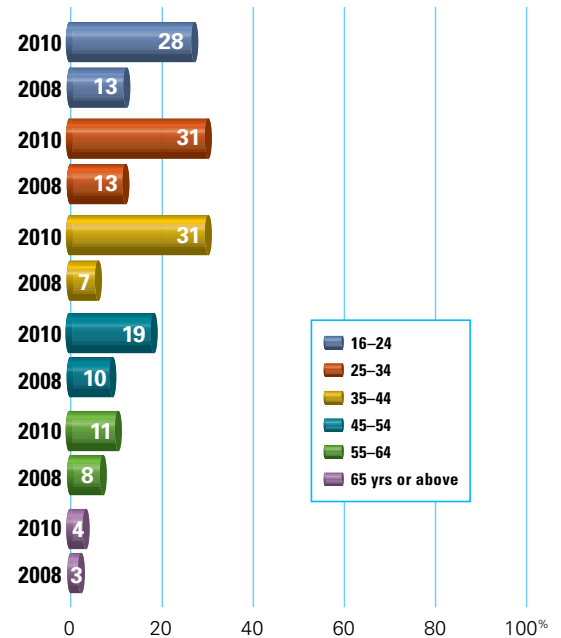
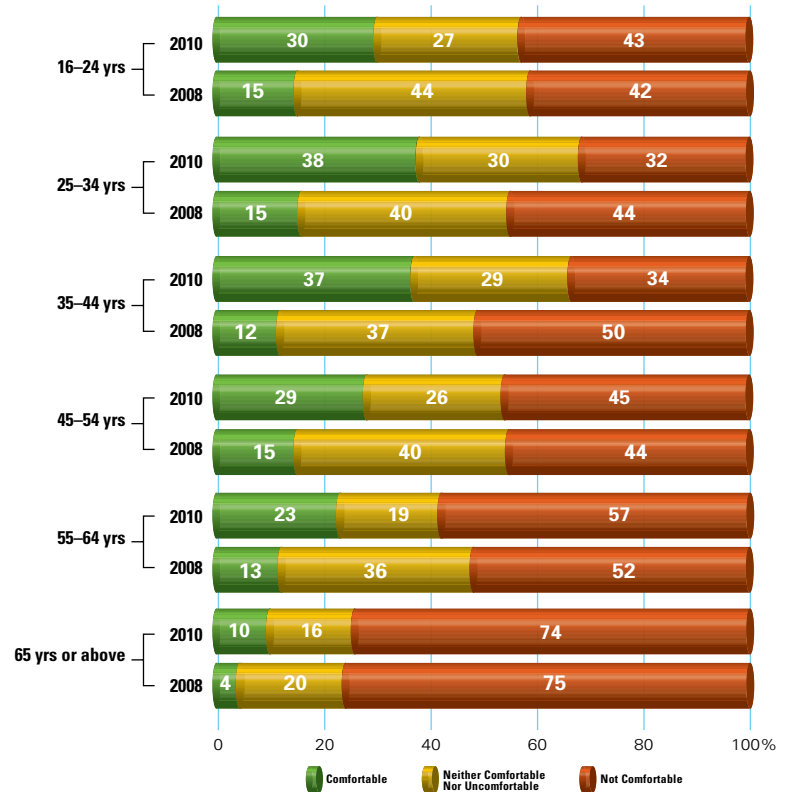
Source: KPMG, *Consumers & Convergence IV*, 2010

Figure 19: Older consumers are the least likely to make a retail transaction on their mobile phones

Source: KPMG, *Consumers & Convergence IV*, 2010

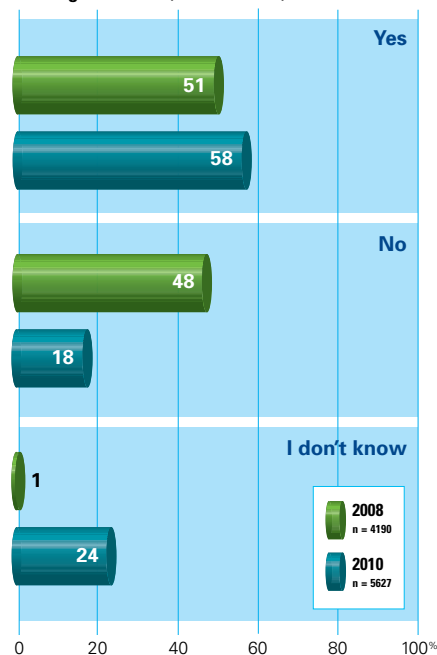
Older consumers' lack of concern about security and privacy could very well be because they do not conduct much personal business on their mobile phones.

Figure 20: Comfort level using a mobile phone for financial transactions, 2010 vs. 2008



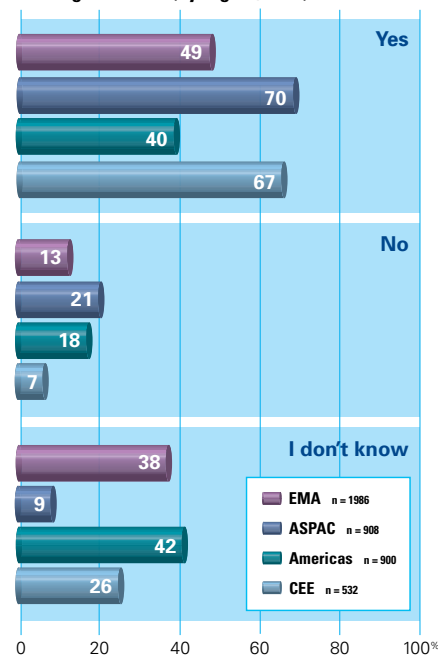
May not equal 100% due to rounding.
Source: KPMG, *Consumers & Convergence IV*, 2010

Figure 21: Are you aware of mobile phone-based banking services? (2010 vs. 2008)



Source: KPMG, *Consumers & Convergence IV*, 2010

Figure 22: Are you aware of mobile phone-based banking services? (by region, 2010)



Source: KPMG, *Consumers & Convergence IV*, 2010

Awareness of Banking by Mobile Phones

Consumers are much more cognizant of banking services available to them from their current bank via their mobile devices than ever before, as shown in Figure 21.

However, by region that awareness level shifts significantly, with ASPAC and CEE ahead of both EMA and the Americas by a significant margin (Fig. 22).

The Sophisticated ASPAC Consumer

Notably, ASPAC consumers lead the way in almost every category in preferring their mobile phones to using a PC or other device for technology-dependent activities. To take one instance; in 2010, in the CEE and EMA regions approximately 14 percent of consumers prefer using their mobile device to access maps while 18 percent say so in the Americas. But in ASPAC the equivalent figure is 30 percent, a significant difference. And if we look at how people prefer to conduct their personal banking, all regions except ASPAC are in the low single digits as a percent of those surveyed, while ASPAC is at 11 percent.

Although it is clear that mobile phones are rapidly becoming the digital tool of choice for a great many consumers across the globe, ASPAC is leading the trend. There are logical reasons for this. For example, a wired telephone infrastructure is not as widespread in some ASPAC nations, particularly China and India, as it is in Europe and the Americas. The post-Soviet CEE region similarly lacked a robust wired infrastructure. Both ASPAC and the CEE have developed a higher dependence on mobile technology than Europe and the Americas. But ASPAC consumers clearly surpass even the CEE's users in preferring mobile phones to PCs or other devices in almost every activity.



Demographics

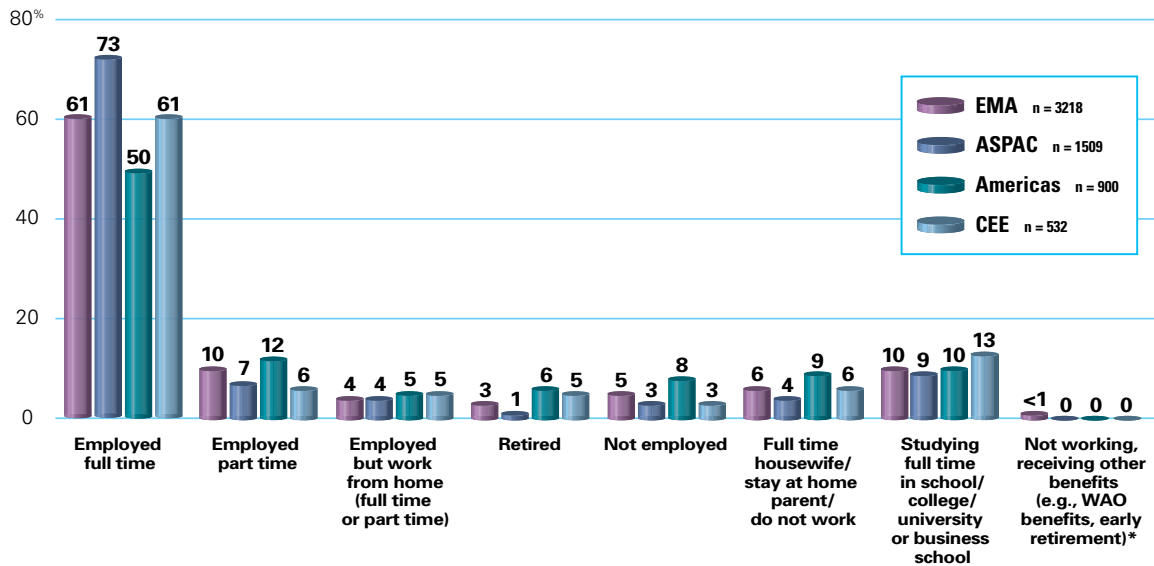
Figure 23: Breakdown of consumers' residence by region and country

Region	Percentage	Country	Percentage	Country	Percentage
ASPAC	51%	China	28%	South Africa	2%
Americas	19%	India	15%	Poland	2%
EMA	29%	US	12%	Romania	1%
CEE	4%	Russia	9%	Australia	1%
		Brazil	7%	Canada	1%
		Japan	5%	The Netherlands	1%
		Germany	5%	Czech Republic	1%
		UK	3%	Hungary	1%
		France	3%	Sweden	<1%
		Spain	2%	Slovakia	<1%
		South Korea	2%	Ireland	<1%

Global (n = 5627)

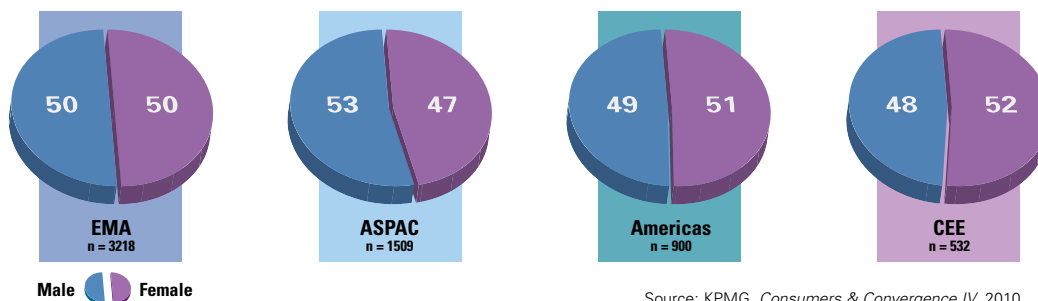
Source: KPMG, Consumers & Convergence IV, 2010

Figure 24: Consumers employment status by region

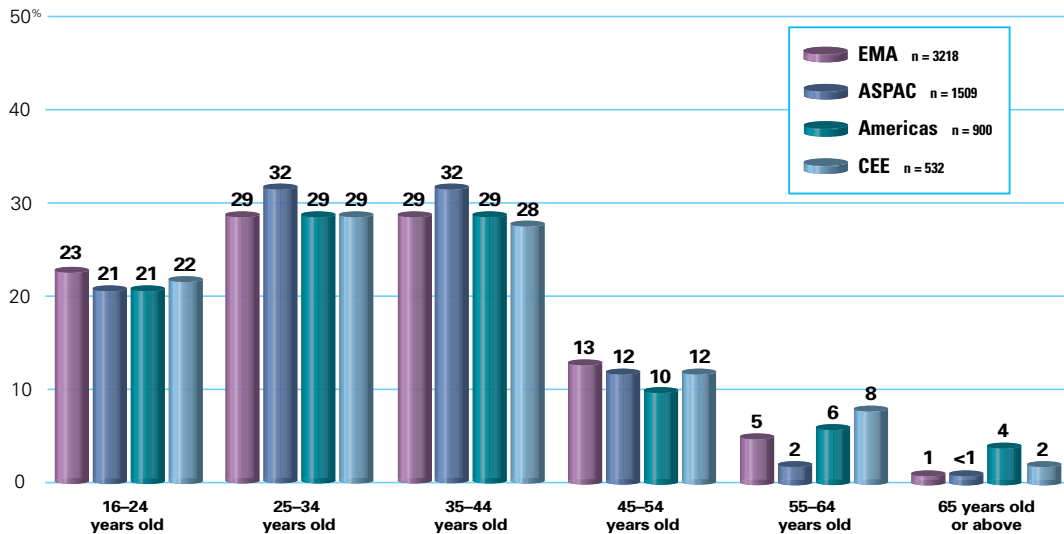
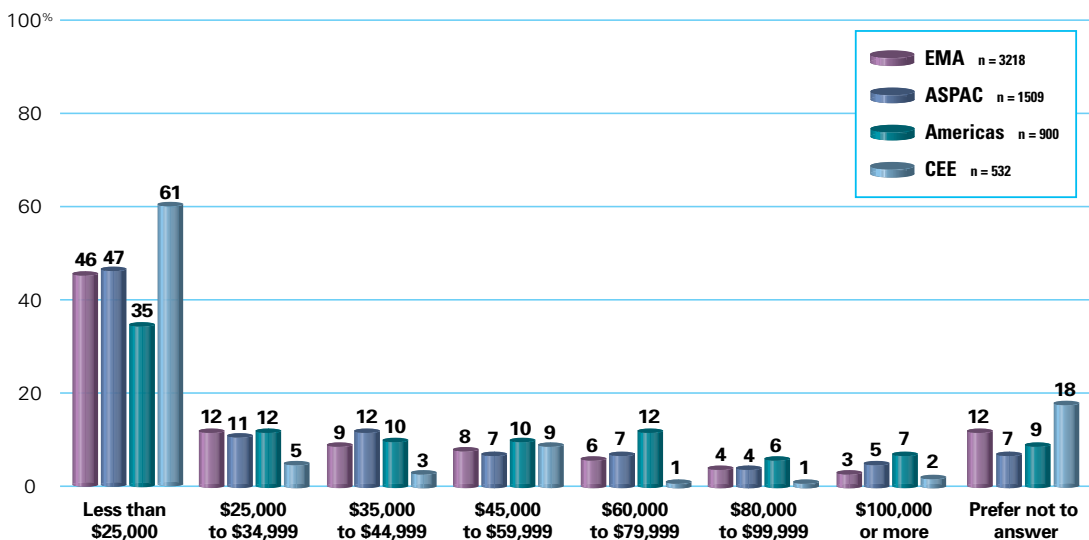


Source: KPMG, Consumers & Convergence IV, 2010

Figure 25: Gender by region



Source: KPMG, Consumers & Convergence IV, 2010

Figure 26: Age by regionSource: KPMG, *Consumers & Convergence IV*, 2010**Figure 27: Annual income level by region (in USD)**Source: KPMG, *Consumers & Convergence IV*, 2010

Methodology

This survey was conducted in the spring of 2010 among 5,627 consumers in 22 nations. All surveys were conducted online, except in Slovakia and the Czech Republic, where it was done by telephone. All respondents had to own either a mobile phone or PDA/smartphone. Data was weighted based on estimates of the mobile phone subscriber base in each country surveyed. Results have been compared across regions, age groups, and to prior year surveys, where applicable.



Banks and other financial-services companies have an opportunity to generate new business, attract or retain customers, control costs, and gain other advantages by deploying applications for mobile phone users.

Conclusion

KPMG's fourth *Consumers & Convergence* study confirms that consumers are continuing to embrace a broad range of mobile and cloud-computing applications. It shows that across the globe people are increasingly ready to use their mobile phones for important financial transactions and to purchase goods and services. They also show a willingness to accept advertising in exchange for cheaper basic services. Convergence is becoming a reality.

Before business executives celebrate the opportunities these changing attitudes may bring, the tripwire of security and privacy continues to be an important issue. Consumers perceive that they have a choice among service providers and if they lose trust in a provider or feel that the service is subpar, they will move to a competitor. So, while the market opportunities are expanding quickly, the business landscape remains fiercely competitive.

The results of KPMG's *Consumers & Convergence IV* survey suggest:

- Consumers are increasingly concerned about the privacy and security of their information online and when using their mobile phones. However, consumers are willing to offer their personal information in exchange for something of value from trusted vendors.
- Consumers are open to the idea of cloud computing and are willing to use more web-based applications, but they are reluctant to store personal financial or medical information with cloud services.
- While many more consumers are comfortable using their mobile devices for banking and retail, the majority still are not. This provides an opportunity for financial services providers to reach and convert this audience influencing mainstream adoption of these services.
- Consumers continue to believe most content should be free, but are willing to pay for some premium content such as movies and music.
- Unlimited voice and data service plans are not an unqualified success with either consumers or, it seems, providers.
- Consumers in ASPAC nations and, especially, China and India tend to be more sophisticated users of mobile technologies.
- Banks and other financial-services companies have an opportunity to generate new business, attract or retain customers, control costs, and gain other advantages by deploying applications for mobile phone users.
- Retailers also have opportunities to attract customers with mobile applications.
- Telco and internet service providers with landline, cable, satellite and other connectivity investments might be wise to focus on data services, as it is often a more compelling feature than voice to consumers.
- Global organizations seeking to benefit from consumer use of mobile technologies may find their best opportunities in the ASPAC region or the BRIC nations.
- Marketers and advertisers can find consumers with "Information Sharer" profiles who are willing to exchange PII and accept targeted advertising for better prices on services or premium content.

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