Convergence Monitor

The Digital Home

Understanding the consumer in the new converged world:
Global, Asia Pacific and Thailand trends*

*connectedthinking

PRICEWATERHOUSECOOPERS

Contents

Executive summary

More and more communications and media companies are pushing forward with their triple- and quadruple-play strategies. Enabled by the growth in broadband and Internet Protocol (IP) technologies, new players are intensifying competition and the fight for revenues as the market moves toward lower prices.

For consumers, the possibilities are endless—an unprecedented explosion of choices and new services where they can call the shots. Often they can access content anywhere, anytime, on any device. They can entertain themselves and others and communicate with each other and with content and service providers in whole new ways. They can customize anything, from their music playlists to their television line-ups. They can use Weblogs, create their own content, and share that content on a growing number of social networks. All this points to a consumer who, increasingly, has the power to influence others, the organisation, and the marketplace.

For the organisations that provide the content and distribution services, the growing complexity of their businesses is driven by new revenue opportunities, cost pressures, and a need to be much more transparent while developing offerings to meet consumer demand. Capturing the potential within the complexity requires a new marketing approach and a new mind-set, both reflecting the new expectations of consumers.

Customer focus may very well be the key differentiator in the months and years to come. Such a focus means knowing your customers, offering them the best experience as customers, making sure your organisation truly listens to customers while having the agility to react quickly to their changing expectations. Those companies able to harness this approach almost certainly will be the winners in a competitive and increasingly complex marketplace.

For this survey about the digital home, our first global *Convergence Monitor* survey, PricewaterhouseCoopers surveyed 8,000 of our employees in 17 countries.

As we talk about consumers throughout the report, we stress that we are referring to our survey population as opposed to the general population of consumers at large.

Our survey reveals savvy, security-conscious consumers whose familiarity with and usage of converged services and technologies are well established and set to grow quickly.

They are users of voice over IP (VoIP) who turn to their mobile phone instead of their traditional fixed voice line at home. In the new converged world, these consumers are using the Internet as a place not only to surf or shop, but also to meet people, interact, and build their social networks. Consumers are willing to pay a premium for certain content, based on quality of experience and specific lifestyle interests as well as customer service enhancements. At the same time, they are looking for price-competitive, bundled offerings for increasingly commoditised services such as voice communications.

The survey provides more details concerning such trends and developments, informs readers about existing and emerging consumer preferences, and prompts us to ask ourselves the questions: What does the behaviour of this consumer tell me about my current strategy? Am I part of the conversation with the consumer?

Customer focus may very well be the key differentiator in the months and years to come.

Global and regional trends

Broadband penetration: Deep and growing

According to *PwC's Global Entertainment and Media Outlook: 2006–2010 (The Outlook),* the number of broadband households, globally, in 2006 stood at 233 million and is set to almost double by 2010.

Our *Convergence Monitor* survey found a high global penetration of broadband, with some 84% of respondents having a high-speed connection at home (see Figure 1). Penetration varies to an extent across regions, with the United States, at 90%, showing the highest rate. Broadband adoption is still rising across the board and is most popular with the 16-to-34 age group. Bandwidth of the broadband connection is rapidly developing as operators upgrade and switch to next generation platforms, thus enabling the user access to high bandwidth content and applications.

The penetration of high bandwidth connections is specifically relevant in a 'triple-play' context (with TV distribution requiring speeds of at least 8Mbps and above). From an operator perspective this reflects the fundamental change in communications infrastructure, moving to all-IP scenarios. From a consumer perspective, the survey leads us to expect that the growing interest in downloading digitized music, movies, and other bandwidth-hungry applications, such as gaming, will further increase demand for higher bandwidth beyond entry market speeds.

84%

Respondents who have a high-speed connection at home

Figure 1: Broadband penetration rates
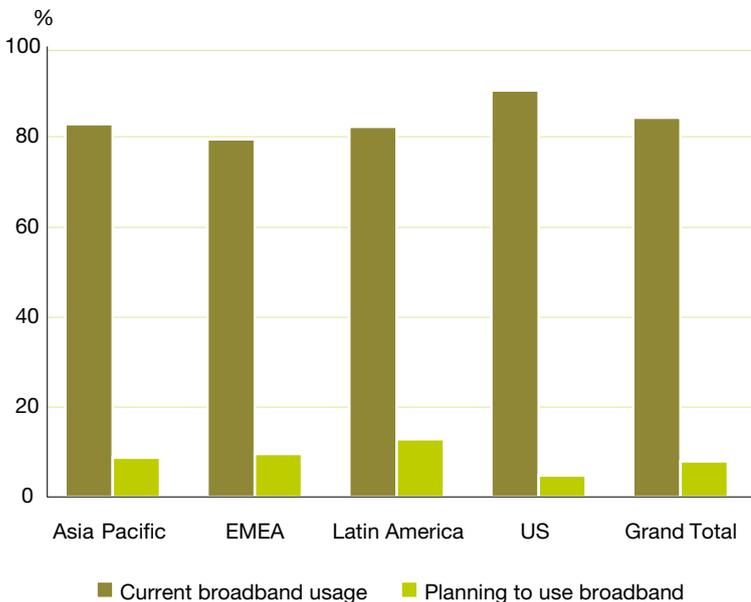
Mobile phone usage is heavily saturated with all regions in the survey having penetration rates over 96%.

Consumers are looking to alternative and convenient means of voice communication.

Consumers' preferences: Changing

Consumers are looking to alternative and convenient means of voice communication through combinations of fixed line, VoIP (either those that are free, such as Skype, or those being offered by the Internet service providers), and mobile.

Mobile phone usage is heavily saturated, with all regions in the survey having penetration rates of more than 96%. Thirty-seven percent of respondents do not have a fixed line, and of these 97% have a mobile line but only 12% are using VoIP. We also found that younger age groups are less likely to have an additional fixed line for voice (half of all respondents in the 16-24 age category do not have a fixed line).

This indicates that these consumers are "cutting the cord" and relying completely upon their wireless devices at home.

In addition our survey reveals that one-third of all respondents globally have used VoIP at least once. Usage is more prevalent among the younger age groups, with 25-to-34-year-olds being the heaviest users (see Figure 2).

Figure 2: Current usage of VoIP

By age
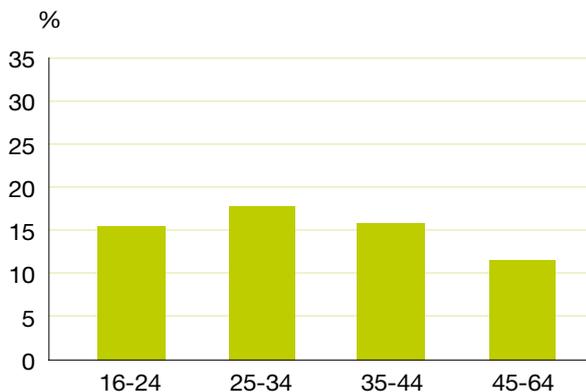
Global and regional trends

The convenience of multiplay

In recent months, the market has seen an abundance of multiplay bundles launched with ranging services.

We found that 42% of respondents take their TV, Internet, mobile, and fixed voice services from only one or two suppliers.

Among the notable regional disparities, 22% of Latin Americans take their services from one or two suppliers as compared to 48% across EMEA. Also, it appears that the youngest demographic group in the survey responds more favourably than other groups, with 49% of 16- to 24-year-olds having one or two providers.

The one-bill approach

A trigger for migrating to an integrated (multiplay) offering is the convenience of receiving a single bill for all multiplay services.

In recent years, operators and media companies have introduced a multitude of billing and payment plans to their customers—pay-per-minute, bundles, subscriptions, pre-pay, per download, per megabyte.

While convergence offers the chance of simplicity through one bill to the end user, operators will have to be able to track the game played, the video viewed, the specific on-demand service accessed, the type of delivery device (TV, personal digital assistant, or mobile phone), the charging mechanism, revenue-share partners and amounts, licenses/royalties due, and billing on behalf of advertising and other relationships. Operators also will have to address the tension that always exists between providing convenience, by combining billings, and the "sticker shock" that consumers experience upon seeing the total price they're paying for their communication services.

Our survey supports the notion that customers are looking for the convenience of a single bill for multiple services when they buy from a multi-play supplier: globally, 67% support one bill for telephony, Internet, and TV (see Figure 3). The survey also indicates that customers are willing to pay US$2.50 to $4 more for the convenience of a single bill, triple-play service package.

42%

Respondents who take their TV, Internet, mobile and fixed voice services from only one or two suppliers

Customers are looking for the convenience of a single bill for multiple services.

Figure 3: Preference for a single bill

■ Strongly agree or agree
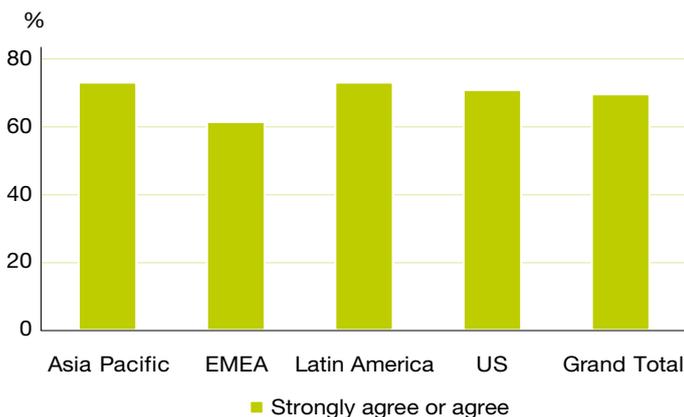
Security and complexity: Remaining a concern

Consumers are apprehensive about such issues as reliability, security, and complexity.

Topping the list of factors that influence choice of service providers is "trust in the service provider's ability to provide a reliable service," with 87% of respondents either in strong agreement or agreement. (See Figure 4.)

Security of personal data is clearly an issue for consumers. When asked whether they were "concerned about the security of personal information on the Internet" (e.g., being lost, stolen or hacked), 80% agreed with this statement (see Figure 5).

Apprehension about this issue may limit the extent to which consumers use the full range of Internet capabilities—although, looking at broadband penetration, it does not stop them from going online. However, the security issue may be a differentiator for providers offering services such as e-commerce.

At the same time, some 34% of consumers worry about the complexity of the Internet and some devices, hardware and software, i.e., PC set-up and modem hook up to the Internet (see Figure 6). An integrated service offering is bound to add to the perceived complexity of the service. So there is an opportunity for service providers to offer quick and easy installation.

Our *Convergence Monitor* found older groups, not surprisingly, more concerned about complexity than are those under 35. This theme was consistent with that of consumer focus groups PwC conducted recently in the US, which found older adults to be more overwhelmed by the choices and challenges of technology than are younger consumers (who are much more inclined to state available time and money as barriers to higher technology adoption).

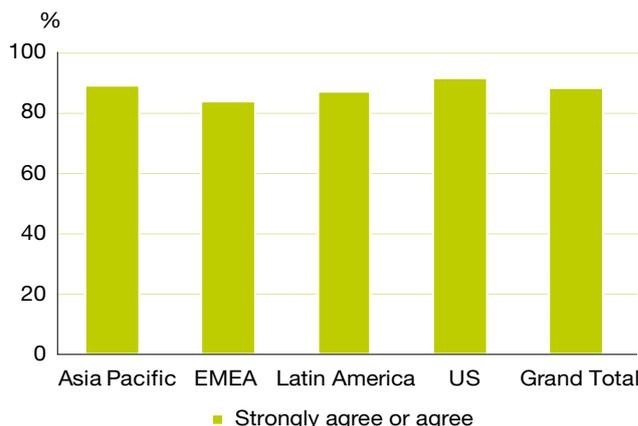Figure 4: Importance of trust in service provider reliability

■ Strongly agree or agree

Figure 5: Concern about security of personal information on the Internet

■ Strongly agree or agree
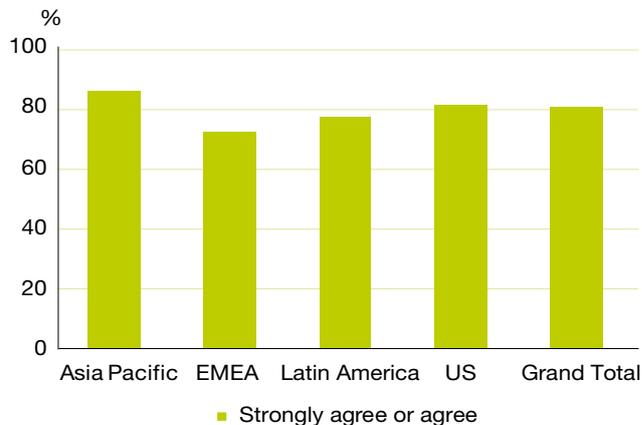
Figure 6: I find the Internet and some devices, hardware and software to be too complex

■ Strongly agree or agree
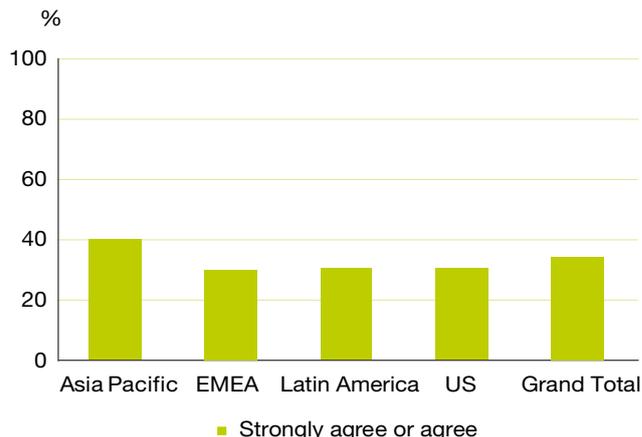
Global and regional trends

What it's all about: Excellent customer service

The myriad of product offerings in the converging digital world are fighting for their share of the consumer's mind and wallet. New technologies are providing new ways of accessing and buying content and opening up new markets; but in the fight for market share, many providers are forced to market their services before they are either technically or operationally mature. Many complexities exist in the converging world, and getting customer service right will become an even more critical success factor for the winning providers as consumers are presented with more options and less time.

The key for providers, therefore, is to make their products simple and seamless for customers to use and to offer a range of efficient and effective options for help when things go wrong.

The *Convergence Monitor* survey reveals a substantial gap between the levels of customer service experienced and the importance that consumers place on service quality. Almost half the respondents indicated that they are unhappy with the level of customer service they currently receive. More interesting, nearly half the respondents indicated they were willing to pay an additional $6 to $9 per month for higher than standard levels of customer service, including service around the clock, quicker response times to fix infrastructure or hardware problems and help with software problems and extended warranty schemes (see Figure 7). This result is consistent with that of consumer focus groups PwC conducted recently in the US, in which the majority of respondents were willing to pay more for such things as a shorter time window for cable installation than the standard four-hour or all-day window.

'Out-of-hours' support

Having customer service available in the evenings and over the weekend is of great importance to respondents, with 82% in agreement or strong agreement, and reflects to an extent consumers' higher expectations of their service providers in relation to customer service. This percentage was broadly consistent across all regions, with perhaps less importance placed on it by the EMEA countries.

Billing quality

Globally, our *Convergence Monitor* indicates that consumers are generally happy with the clarity and accuracy of their billing (73%). However, 53% of respondents cited quality of billing as a key factor in their choice of a new service provider.

53%

Respondents who cited billing quality as a key factor when choosing a new service provider

Figure 7: Approximate monthly amount that respondents would be willing to pay for enhanced customer service within a triple-play package

Country	Local Currency	USD
Australia	11.51	9.04
Brazil	16.64	7.87
India	294.00	6.66
Italy	6.49	8.58
Korea	5,129.00	5.16
Netherlands	6.50	8.60
Spain	6.69	8.85
Sweden	55.68	7.95
Switzerland	9.74	8.01
UK	4.68	9.18
US	6.15	6.15

See page 18 for currency conversions

New ways of watching TV

DVR is the more frequently used of the two technologies on a global basis, with 23% adoption, as compared to VoD with 14%.

Video on demand (VoD) and digital video recorders (DVR) are affecting the way people expect to access content. No longer dependent on location, device, or the times programs are set to air, consumers enjoy visual content when and where they want it (they are defining their own viewing experience). Demand for services such as VoD will increase as the mass market migrates to a digital platform due to availability and functionality of service. We predict that global consumer/end-user spending in the television distribution market (including VoD and Internet Protocol television, or IPTV) is expected to reach $193 billion within the next four years, according to *The Outlook*.

Our *Convergence Monitor* survey reveals DVR to be the most frequently used of the two technologies on a global basis, with 23% adoption, as compared to 14% for VoD. The differences between the age groups in adopting these technologies is not pronounced, with younger generations slightly to moderately more likely to adopt these television-centric devices than are their older counterparts.

Even though new content such as mobisodes may generate incremental revenue, our survey shows IPTV and mobile TV, not surprisingly, to have very low current penetration. This can be attributed mainly to a combination of availability and consumer understanding (see Figure 8).

Figure 8: Global adoption rates of IPTV and mobile TV

Legend: ■ Current use of IPTV ■ Current use of Mobile TV
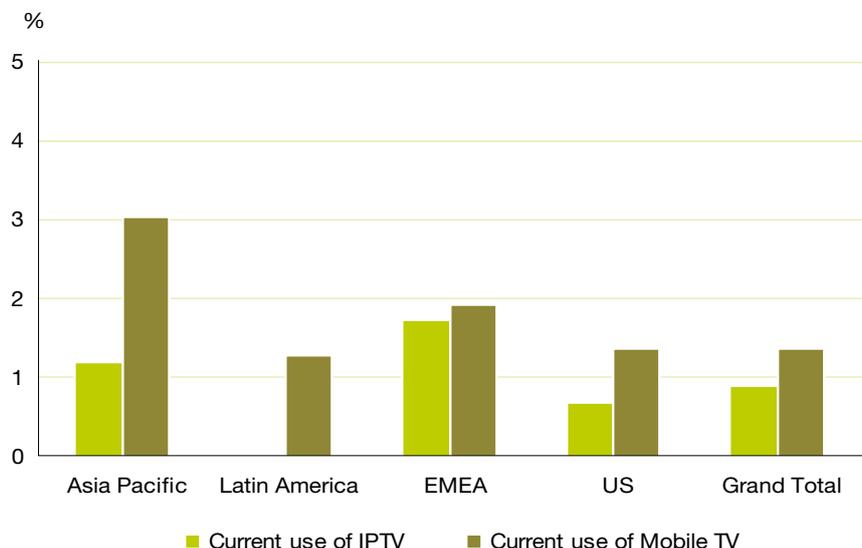
Global and regional trends

What content are consumers accessing?

The Internet has revolutionized the way consumers shop, manage their personal finances, and arrange leisure activities, among other things. The Internet has become a fully accepted retail channel. Consumers pay for services that have personal impact, such as online dating and personal Web site creation/publishing, although few pay for more widely available services such as instant messaging or shopping comparison engines.

The Outlook anticipates that, globally, Internet access will be the fastest growing consumer segment of the entertainment and media industry—at an 11.9% compound annual growth rate (CAGR)—and will be worth $214 billion within the next four years.

Asia Pacific and Latin America: Capitals of social networking?

With such recent big-money deals as Google's $1.6 billion acquisition of YouTube, user-generated content and social networking Web sites have leapt from teenagers' bedrooms to the financial pages of the global press.

Our *Convergence Monitor* survey found that China has the largest number of social networking users, with more than 85% of respondents having engaged in social networking at least once.

China also has the largest number of "power" users (those using the service daily or weekly), with 15.8% of respondents going online daily to their social networks and another 27.3% going online weekly.

More than 80% of Brazilians have used social networks at least once. Brazilian men between 16 and 24 are the largest power-user demographic in the survey, with 51% using the service daily or weekly.

Hong Kong had the highest number of respondents, 15.9%, who use social networks on a daily basis.

In addition to social networking, users in Asia Pacific and Latin American countries are more likely to create their own blog than are their EMEA and US counterparts. Thirty-seven percent of Asia Pacific respondents have "blogged" at least once, as compared to the global average of 21% (see Figure 9).

Figure 9: Blogging and social networking by frequency and region

30%

Respondents who download music tracks on a daily or weekly basis
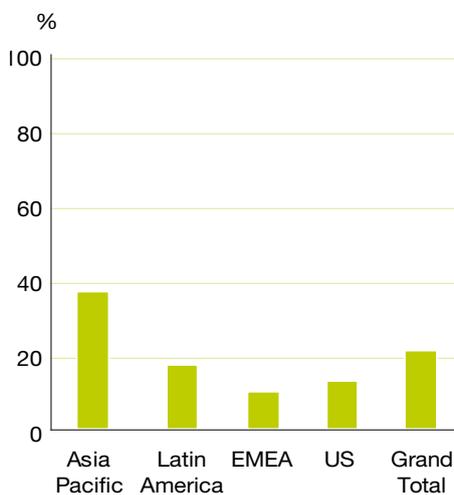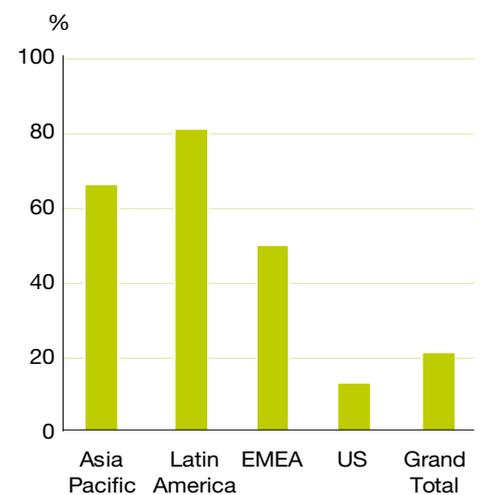
Music and movies: Money to be had

Our survey challenges, to some extent, the belief that although people want music and other media downloads, they are unwilling to pay for them.

The results of the *Convergence Monitor* survey indicate that if the offering and the pricing are right, customers are willing to pay for legal downloads.

As the integration of digital technologies and video players in the home or car stereo/entertainment system develops so too will the need for higher-quality music.

Music demand on the rise

Seventy-four percent of all respondents have downloaded music, and 30% are "high volume" users who download tracks on a daily or weekly basis. The success of Apple iTunes—more than two billion downloads since the launch of the service—further confirms that legal downloads are very much in demand, as does the launch of a number of iTunes competitors such as Napster and Microsoft's Zune.

The Outlook estimates that the global market will grow at a rapid 59.2% CAGR to $6.2 billion by 2010.

The likely growth in demand for music downloads is also indicated by the present and future penetration rates for mobile digital music players. According to our *Convergence Monitor* respondents, MP3 players such as the iPod show very high penetration rates globally. Three-quarters are respondents are currently using portable digital music players. Device adoption is roughly the same across the three major regions.

Further stimulating such development will be the integration of music and video players and mobile phone devices (e.g., the Apple iPhone), as well as larger memory capacity in those devices.
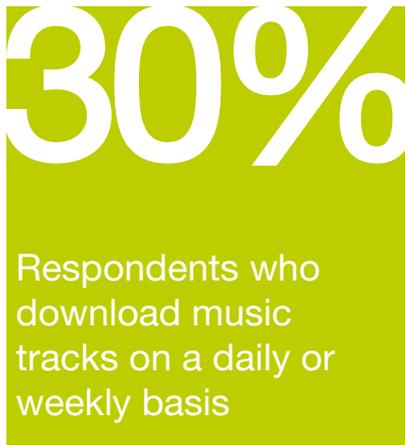
Figure 10: Approximate amount that respondents would be willing to pay for an MP3 music download

Country	MP3 Download	
	Local Currency	USD
Australia	1.76	1.38
Brazil	3.47	1.64
India	42.50	0.96
Italy	1.11	1.47
Korea	1,375.00	1.38
Netherlands	1.19	1.57
Spain	1.18	1.56
Sweden	11.27	1.61
Switzerland	1.77	1.46
UK	0.78	1.53
US	1.31	1.31

See page 18 for currency conversions

Global and regional trends

Saturday night at the movies becoming a thing of the past?

The demand for downloaded movie content is also on the rise. More than 40% of all respondents have downloaded a movie at least once, with Asia Pacific, at 55%, showing the highest numbers. Youth, as well as region, is an important factor. More than half of all 16-to-24 year-olds have downloaded a movie at least once, as have 47% of those in the 25-to-34 age group.

The survey revealed that people are willing to pay for permanent ownership of downloaded content—much like purchasing a DVD or a CD (many of the standard download offerings currently include a right to view for a limited time, for example, 24 hours). Respondents also indicate a willingness to pay a premium for recently released movies (see Figure 11).

The growth in portable video devices, in our view, will drive demand for downloading content. The trend in video extends to user-generated visual content as well. The integration of increasingly sophisticated cameras into mobile phones and the growth of memory capacity will have a large impact on sharing photos and personal videos via mobile networks, and thus on bandwidth requirements. However, speed and limited wireless transfer are still issues.

Figure 11: Approximate amount that respondents would be willing to pay for movie downloads

Country	Movie*		New Release**		Ownership***	
	Local Currency	USD	Local Currency	USD	Local Currency	USD
Australia	7.94	6.24	3.56	2.80	5.56	4.37
Brazil	19.31	9.13	6.39	3.02	10.68	5.05
India	241.00	5.46	117.00	2.65	144.00	3.26
Italy	6.75	8.93	2.23	2.95	3.83	5.07
Korea	8,405.00	8.45	2,865.00	2.88	4,540.00	4.56
Netherlands	6.53	8.64	2.36	3.12	3.68	4.87
Spain	6.44	8.52	2.31	3.06	3.46	4.58
Sweden	54.53	7.78	22.16	3.16	33.06	4.72
Switzerland	9.11	7.49	3.66	3.01	5.32	4.38
UK	3.98	7.80	1.51	2.96	2.35	4.61
US	6.91	6.91	2.42	2.42	3.93	3.93

See page 18 for currency conversions

* the average price respondents are willing to pay for downloading a movie with limited viewing (limited ownership)

** the average premium respondents are willing to pay for being able to download a newly released movie (or show at cinema)

*** the average premium respondents are willing to pay for unlimited ownership of the downloaded movie

40%

Respondents who have downloaded a movie at least once

Conclusions

Our *Convergence Monitor* on the digital home has revealed some interesting behaviours and reinforced some current trends we are seeing in the global markets.

Multiplay scenarios are becoming a reality

Communications operators continue to upgrade their communications infrastructure to better handle data and mobile applications. At the same time, increased use of the Internet is fuelling the demand for broadband access technologies such as digital subscriber line (DSL), cable modem, and fixed wireless. Technology companies are benefiting from this competitive environment as telecom and cable operators race to build a single, unified voice and data network.

Most media and communications companies are developing and organising for multiplay service offerings—and are marketing multiplay in some form. The survey shows us that multiplay strategies are becoming more and more relevant from a customer perspective as well. Customers seem to be warming up to combined offerings, with a lower price, new features, and the convenience of one package and one bill being the primary drivers. In itself, this development is good news for providers. The potential is for significant gains, yet also for dramatic losses.

The battle for the customer continues

The market is highly competitive, with formerly disparate businesses now finding themselves competing for the same converged business. Although convergence potentially will result in new revenue streams, and the opportunities associated with them, existing customers become vulnerable to competitive offerings. This fact will force providers into intense marketing and sales campaigns—even when the underlying technical and organisational infrastructure may not be ready. The short-term gains are clearly offset by longer-term risks. Time to market thus becomes a critical success factor.

The intense competition is expected to lead to further consolidation in the market in order to acquire customers or to achieve the economies of scale necessary for remaining competitive. At the same time, providers face strategic make or buy decisions in order to be able to offer integrated multiplay propositions; such decisions will lead to developing more partnerships and alliances with content providers and device manufacturers, but also to merger and acquisition (M&A) activity in the form of horizontal integration. Examples include regional cable operators merging to be able to offer services on a nationwide level and telecom operators acquiring ISPs. This M&A activity does have additional impact on internal organisation and on streamlining processes and service offerings toward the newly acquired customer groups.

Customer focus is a key differentiator

Broadly speaking consumers' adoption of multiplay services has been quite slow up to now. Many customers are taken aback by the complexity of multiplay service offerings, which limits the adoption of these services. Customers who have purchased multiplay packages have been so disappointed by the associated customer service that they would be willing to pay extra for good customer service. Customers (with the exception of the innovators/early adopters) need to be certain that what they buy is simple, reliable and hassle free.

> Providers across the competitive arena face the great challenge of keeping it simple. In other words:
> - The service has to work.
> - It has to be simple, easy, and convenient to use.
> - If something goes wrong, prompt and effective service should be available.
> - Providers must make good of what they promise.

In fact, there are few other differentiators—and fighting the battle on price alone will not contribute to generating operating margins and shareholder value.

Providers thus need to be sensitive and responsive to customers' wishes and expectations, and have the agility to translate the expectations into their organisation, processes, and portfolio. Succeeding in these areas will both drive migration toward converged services and create competitive advantage over other providers.

Conclusions

The objective is to organise for simplicity

So, the objective is to offer high-quality, integrated services and, at the same time, to keep it simple in the eyes of the customer. Meeting this objective means meeting the challenge of organising the company for simplicity. By no means easy, this change requires mastering the integration of technologies, organisation, and processes.

Migrating from traditional telephony networks and infrastructures toward integrated IP offerings proves to be technically challenging and costly, as is the move from analog to truly interactive digital TV. Many providers are currently struggling with aspects of this technology issue. Signs indicate that the technology is maturing; however, until it is stable, a full-blown marketing offensive comes with inherent risks, and precautions should be taken (and a risk-related budget prepared) to mitigate the risk of dissatisfied customers.

Integrating a service requires integrating organisations as well. The challenge is to create a truly integrated, customer-oriented organisation, which requires:

- Integrating cultures and technologies.

- Integrating marketing strategy (plus developing a market approach aligned with both the convergent strategy and the marketing opportunities that come with convergence).

- Integrating billing.

- Developing customer sensitivity and the organisational flexibility to quickly change service offerings in response to rapidly developing customer preferences (plus reducing time to market).

Also driving the integration issue are the consolidations that both take place and are expected to take place in this sector, which affect internal organisation, and the streamlining of processes and service offerings toward the newly acquired customer groups.

When a service (e.g., a DSL service in the case of a mobile operator) is offered through partners, the main challenge is to integrate the service offering seamlessly and in such a way that the customer experience is that of one service provider, avoiding any suffering from the silo structure inherent in a partnership/wholesale arrangement.

> Customers are integrating technology and the Internet into their lifestyles, significantly affecting business models throughout the value chain.

The increasing penetration of MP3 and video player devices will drive growth in the content market.

Consumers know no boundaries

Consumers integrate Internet services into their everyday life and already spend a significant portion of their media time on the Internet.

Social networking and online gaming (including integration of gaming and social networking, e.g., Second Life, and gaming communities like "World of Warcraft") have developed a significant following. Though some analysts predict that blogging is a fad that will gradually blow over, creating communities and sharing experiences is a social need that, in our view, will continue to grow in one form or the other.

Service providers will have to decide to what extent they will develop their own portfolio of value-added Internet services and content services or decide to remain a channel for other content providers. That being said, the benefits of Internet and digital TV in terms of marketing and advertising, and especially in measuring customer behaviour, are growing rapidly. Advertising models will change—and the market is currently experimenting with how they will change.

Whereas TiVo-type services are gradually becoming commonplace in the US, digital TV penetration is relatively low on a global scale. However, the survey shows that the interest is there, especially in digital video recording/delayed viewing. With the advent of EPG (Electronic Programming Guide) services, these developments will dramatically change viewing behaviour in the not too distant future, and thus will significantly affect advertising revenue models. TV broadcasters and advertisers alike need to create a strategy to take advantage of these developments.

The same goes for mobile TV. Although the numbers are low, the survey reveals interest in it. Our expectation is that the parallel development of the required devices and infrastructure will facilitate significant growth in consumer demand for TV distribution through mobile networks.

Content is important

Although file-swapping arrangements are a reality, the survey indicates a clear case for commercial downloading of content, and quality content at that.

The increasing penetration of MP3 and video player devices will drive growth in the content market. Especially the developing integration of digital technologies and video players in the home or car stereo/entertainment system will create the need for higher-quality music.

Although the survey indicates a price point per downloaded file, the main message is the willingness to pay. Other commercial models, e.g., subscription services, are valid all the same, and we encourage providers to experiment with new propositions.

At the same time, customer—and community—created content is becoming a main impetus for Internet media consumption, and service providers will have to think about how to link into this stream, as interactivity is key in acquiring and retaining customers. The hype surrounding YouTube will develop even further once mobile phones have the video camera functionality and memory capacity to support higher-quality capturing of events.

Invest in satisfying customers; be sure to back up your promise of good service with processes and capabilities throughout the organisation.

Recommendations

Develop intimate customer relationships:

- Invest in measuring and understanding what is really motivating your customers when choosing, buying, and using your service; integrate this information into your day-to-day business operations. New channels to customers facilitate capturing customer data, which will lead to new forms of one-to-one customer marketing and addressability.

- Invest in satisfying customers; be sure to back up your promise of good service with processes and capabilities throughout the organisation. Offer premium customer service at an additional price, but don't forget to make your basic customer service good, too.

- Engage your customers by maximizing opportunities for interacting with them through all available channels (interactivity enhances customer "stickiness"). Make sure that interaction with your customers is a key component of your service (make good use of interactive digital TV, facilitate the creating and publishing of consumer- or community-generated content, invest in creating interaction on your website, etc.).

- Focus on your brand. With the high level of competition and the increasing complexity of converged service offerings, consumers are becoming uncertain. In this situation, strong brands have a better chance for survival.

Build an integrated, agile, customer-focused organisation:

- Make sure your business is able to offer the simple, reliable services that customers value.

- Organise in chains, not silos; create a front-to-back, customer-segment-specific operation.

- Create the organisational sensitivity and flexibility to quickly change service offerings in response to rapidly developing customer preferences. Reduce time to market, invest in reducing product development cycles, and choose simple solutions for complex problems.

- Invest in changing attitudes and mind-sets on all levels of the organisation; change the reward system throughout the organisation to include customer-related key performance indicators.

- In-source critical customer processes, such as customer care if this makes sense for the company.

- Expect integration problems and budget for them in the business cases on which convergence decisions are based.

Develop an open collaboration between value chain partners to drive new products and services to customers:

- Adopt an open business model with partners and customers alike; remove internal and external barriers to create a maximally transparent company or partnership; be proactive in adopting new business models; and don't focus too much on defending existing positions.

- Include customers in R&D processes and content development.

- When growing through M&A, make post-merger integration a key objective, but make sure that the requirements as stated above are part of the plan.

- In partnering, consider transparency in reporting and independent verification to be critical to the continued success of all parties.

Methodology

PricewaterhouseCoopers surveyed nearly 8,000 PwC partners and staff from 17 countries around the globe on their propensity to buy and use converged technologies and services in their personal lives. This is the first in a series of online surveys that we have dubbed *Convergence Monitor*.

We believe that the trends identified from the survey will provide insight into consumers' preferences and attitudes that are of interest to communications, media, and entertainment companies.

The survey represents the following countries: Australia, Brazil, Chile, China, Germany, Hong Kong, India, Italy, Korea, The Netherlands, Singapore, Spain, Sweden, Switzerland, Thailand, the United Kingdom, and the United States of America.

We found the global consumer to be far from homogeneous: The take-up rates of various services and channels in various parts of the world reflect the diversity of consumers as well as the availability and penetration rates of technologies around the world.

Willingness to pay

The willingness to pay element of the survey was derived through conjoint analysis. Conjoint analysis is a multi-variant technique used to understand the dimensions of respondents preferences for different services or products. It is a statistical tool that allows for evaluation of trade off scenarios. The conjoint part of the survey was developed by PwC's Economics Group in the Netherlands.

One $USD to local currency equivalent as of 2nd March 2007

Country		Local Currency
Australia	AUD	1.273
Brazil	BRL	2.115
India	INR	44.170
Italy	EUR	0.756
Korea	KRW	994.707
Netherlands	EUR	0.756
Spain	EUR	0.756
Sweden	SEK	7.006
Switzerland	CHF	1.216
United Kingdom	GBP	0.510

Percentage of respondents by region

- Asia Pacific — 36%
- EMEA — 26%
- Brazil & Chile — 6%
- US — 32%

Percentage of respondents by gender

- Females — 47%
- Males — 53%

Percentage of respondents by age

- 16-24 — 15%
- 25-34 — 56%
- 35-44 — 20%
- 45-54 — 7%
- 55+ — 2%
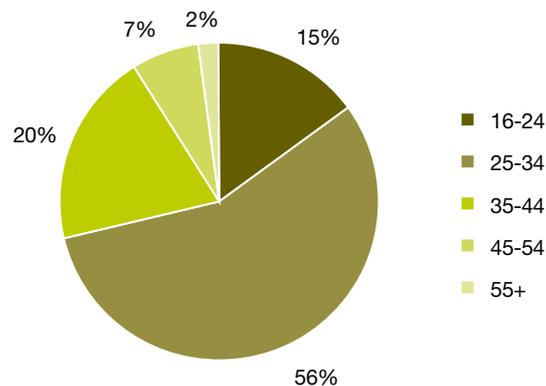
Thailand and
Asia Pacific trends

Convergence Monitor:
The Digital Home

Methodology

The following report focuses on converged technology usage trends in Thailand and the Asia Pacific region, which includes Australia, China, Hong Kong, India, Korea, and Singapore.
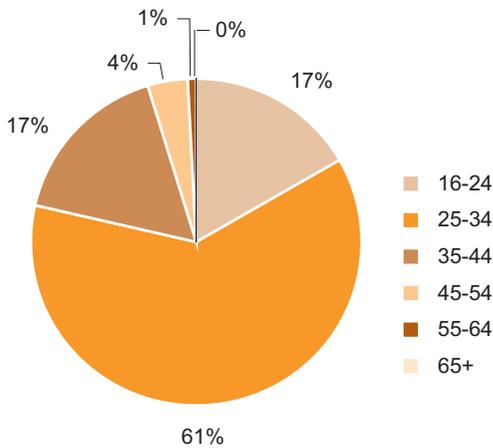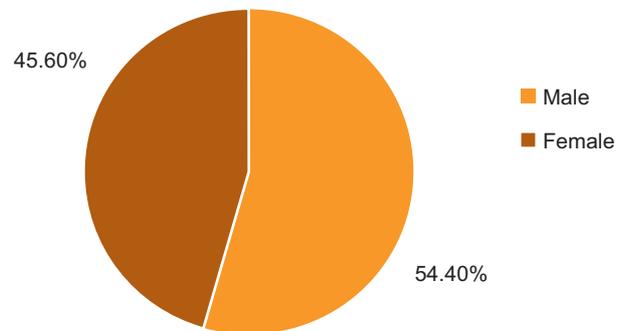
The trends identified in this report are based on the results of a survey of nearly 8,000 PricewaterhouseCoopers' partners and staff, from 17 countries around the world. The survey, entitled Convergence Monitor, aimed to identify the respondents' propensity to buy and use converged technologies and services in their personal lives.

We believe that the trends identified from the survey will provide insight into consumers' preferences and attitudes that are of interest to communications, media, and entertainment companies.

Percentage of respondents by country (Asia Pacific)

Legend
Australia
China
Hong Kong
India
Korea
Singapore
Thailand

6% / 14% / 10% / 8% / 16% / 20% / 26%
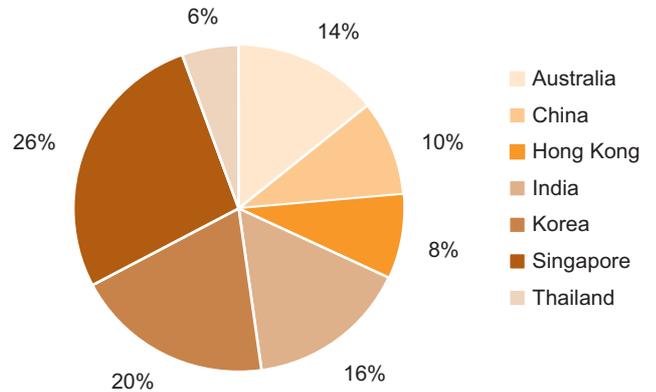
Percentage of respondents by age (Asia Pacific)

1% / 0% / 4% / 17% / 17% / 61%

- 16-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65+

Percentage of respondents by gender (Asia Pacific)

45.60% / 54.40%

- Male
- Female

Percentage of respondents by age (Thailand)

1% / 16% / 34% / 49%

- 16-24
- 25-34
- 35-44
- 45-54
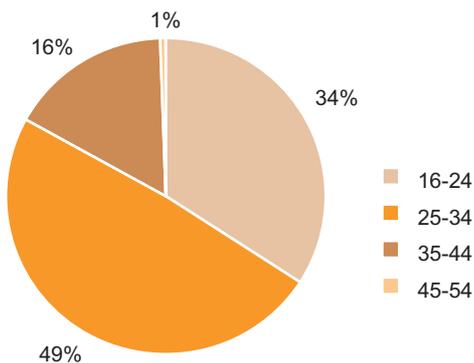
Percentage of respondents by gender (Thailand)

30% / 70%

- Male
- Female
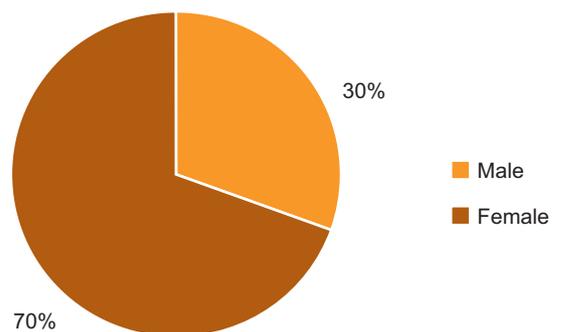
Thailand and Asia Pacific trends

## The move to broadband: Rising across the region

Our survey found a high penetration of broadband throughout the Asia Pacific region, with 83% of respondents having a high-speed connection at home (see Figure 1).

Figure 1: Broadband usage in Asia Pacific

■ Currently using broadband   ■ Planning to use broadband
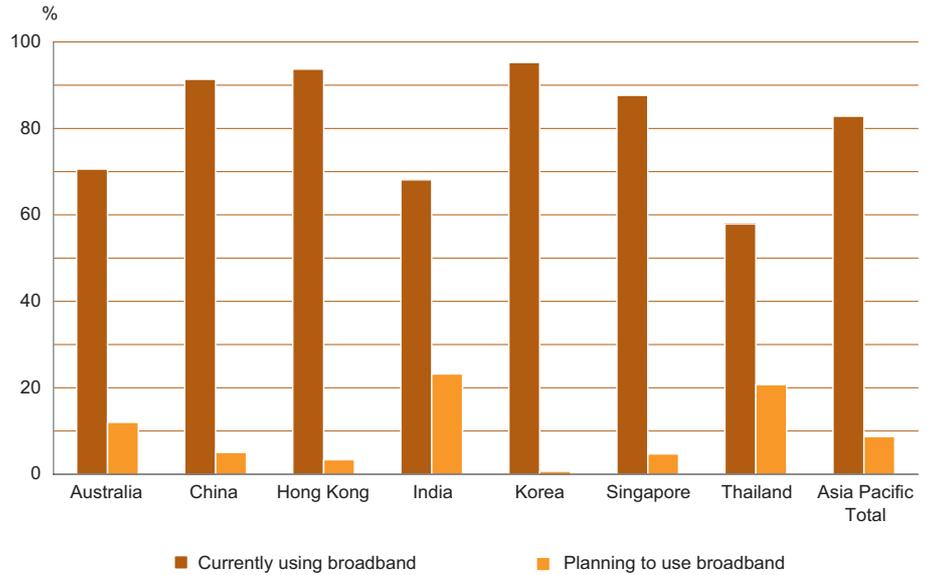
Penetration varies to an extent across region, with Korea, at 95%, showing the highest rate in the Asia Pacific region. Broadband adoption is still rising across the board and is popular with the 16 to 44 age groups (see Figure 2).

Figure 2: Broadband usage by age in Asia Pacific
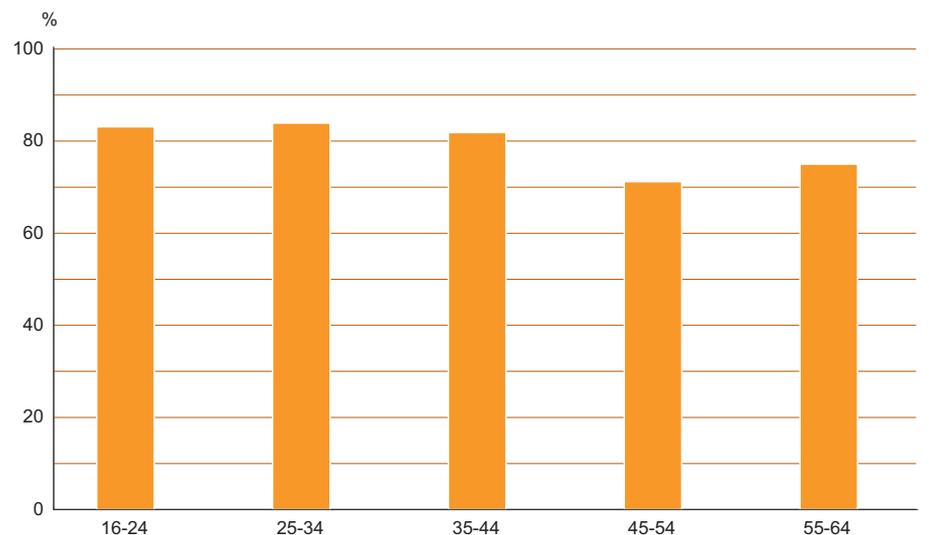
83%

Respondents in Asia Pacific who have a high-speed connection at home

Thailand and Asia Pacific trends

Figure 3: Broadband usage by age in Thailand

Thailand has the largest number of dial-up users in Asia Pacific, with 55% of respondents using a dial-up connection at home.
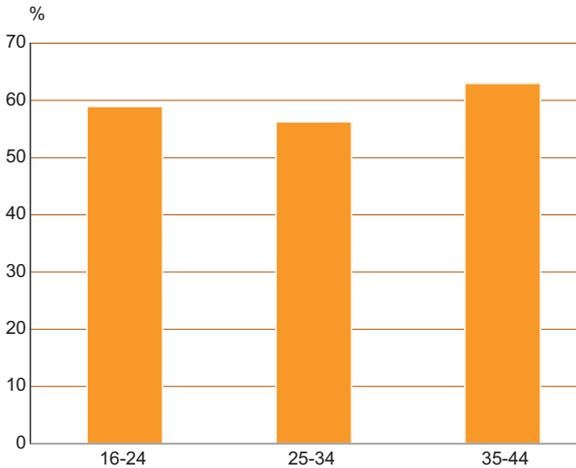
The survey shows that Thailand has the largest number of dial-up users in Asia Pacific, with 55% of the respondents using a dial-up connection at home, compared to the regional average of 19% (see Figure 4). However, the number of broadband subscribers is expected to overtake dial-up customers. The survey shows that more than 20% of Thai respondents are planning to use broadband within one year.

Chatting, instant messaging, and downloading digital music are popular services among Thai Internet users. The survey shows that 90% of respondents have used chatting or instant messaging at least once, and 87% have downloaded music through the internet at least once. This leads us to expect that the growing interest in downloading digital music, movies, and other applications will further increase demand for higher bandwidth beyond entry market speeds. However, some activities and services, such as online banking and online shopping, are not as popular in Thailand as they are in other Asia Pacific countries. For example, while 39% of Singaporean respondents stated that they had used online banking and shopping at least once, only 8% of Thai respondents had done so.

90%

Thai respondents who have used chatting or instant messaging at least once

Figure 4: Dial-up usage

■ Currently using dial-up   ■ Planning to use dial-up
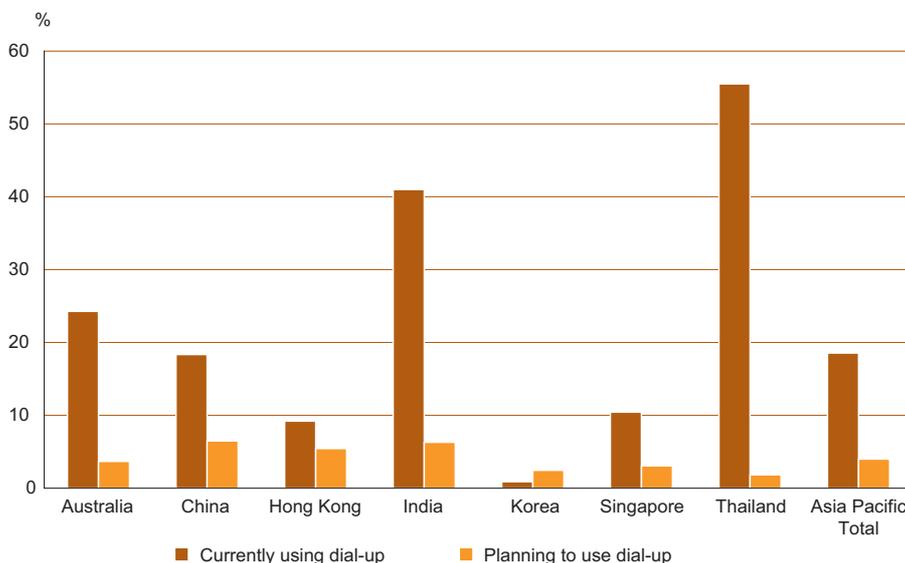
99%

Respondents in Thailand who use mobile phones

Telephone: Mobile or fixed line?

Mobile phone usage is high in most Asia Pacific countries. The survey shows mobile penetration rates of 98%, while 62% of respondents use a fixed line. Nowadays, consumers are looking to alternative and convenient means of voice communication through combinations of fixed line, VoIP, and mobile technology.

In Thailand, mobile penetration is high, with 99% of respondents currently using mobile phones. Forty-five percent of respondents use a fixed line, which is usually in addition to a mobile phone. These results indicate that Thai users may be moving away from fixed line service.

Figure 5: Mobile and fixed line usage

■ Mobile usage ■ Fixed line usage
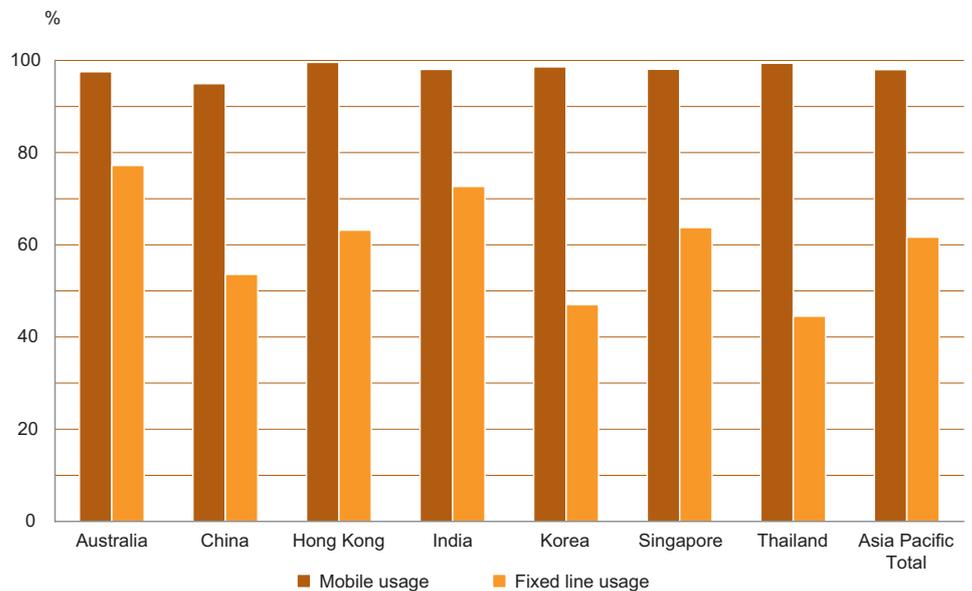
Thailand and Asia Pacific trends

The convenience of multi-play: One bill preference

Our survey reports that customers in Thailand, like other countries in the region, would like to have one bill for all services: 74% of respondents in Thailand prefer to have one bill for telephone service, Internet, and television, compared to the regional average of 70%, and global average of 67%.

Figure 6: Preference for a single bill

Strongly agree or agree
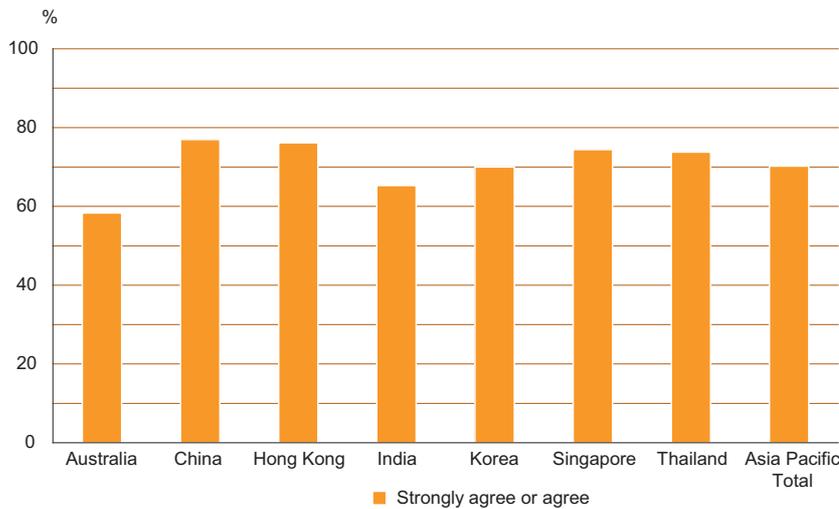
74%

Thai respondents who prefer to have one bill for all telephone, Internet and television services

Customer service: Quality of billing

Our survey reveals that customers are generally happy with the clarity and accuracy of their billing. Sixty-five percent of respondents in Asia Pacific cited quality of billing as a key factor for choosing a new service provider, while 52% of Thai respondents cited this as an important issue.

Figure 7: Quality of billing is important

Stongly agree or agree
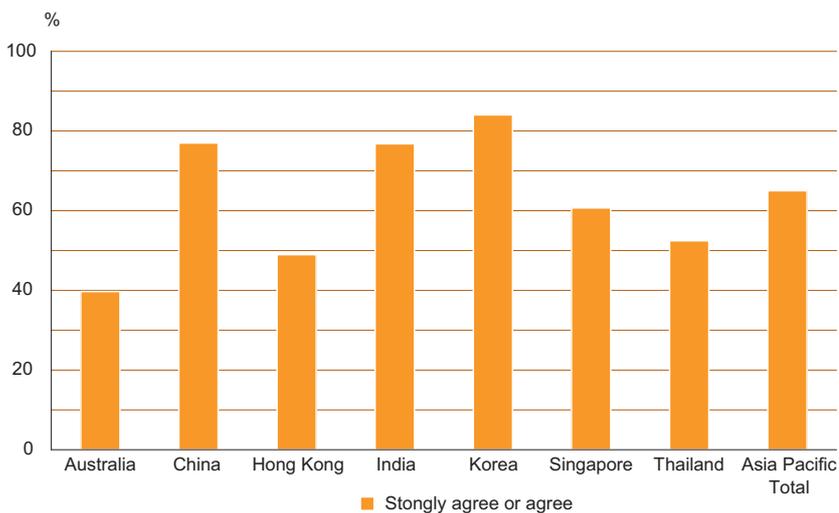
52%

Respondents in Thailand who cited quality of billing as a key factor for choosing a new service provider
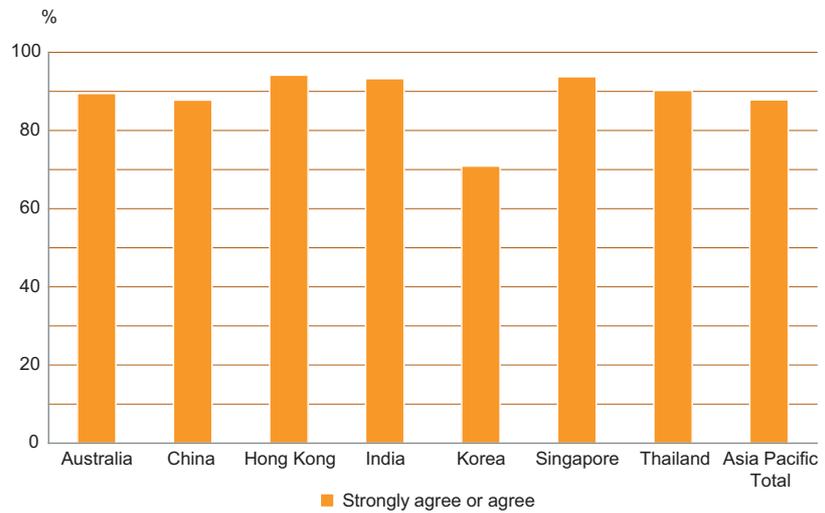
91%

Thai respondents who are concerned about the security of personal information on the Internet

Security and complexity: A concern in Asia Pacific

Our survey reveals that respondents in Asia Pacific are concerned about service provider reliability, with 78% of respondents either in strong agreement or agreement. Among Asia Pacific countries, Korea has the smallest number of respondents who are concerned about the importance of trust in service provider reliability, with 70% of respondents in strong agreement or agreement, as compared to around 90% for other countries in Asia Pacific (see Figure 8).

Figure 8: Importance of trust in service provider reliability

Moreover, the survey shows that the Asia Pacific region has the highest percentage of users who are concerned about the security of personal information on the Internet, with 86% of respondents in Asia Pacific either in strong agreement or agreement, as compared to the global average of 80%. Thai respondents rate security concerns highest, with 91% of respondents either in strong agreement or agreement (see Figure 9).

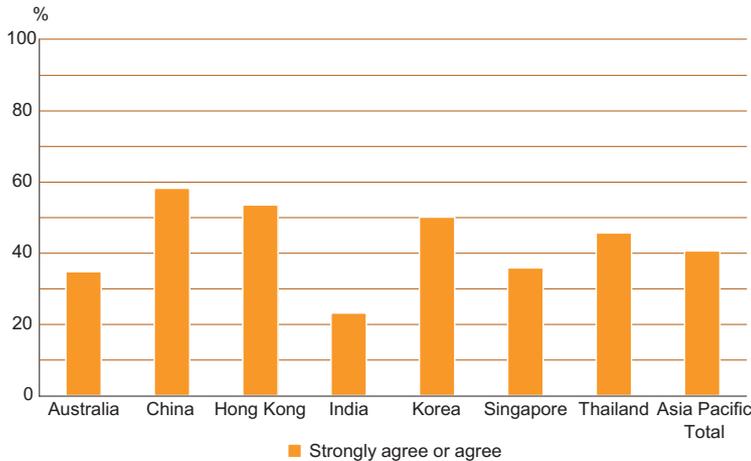Figure 9: Concern about security of personal information on the Internet
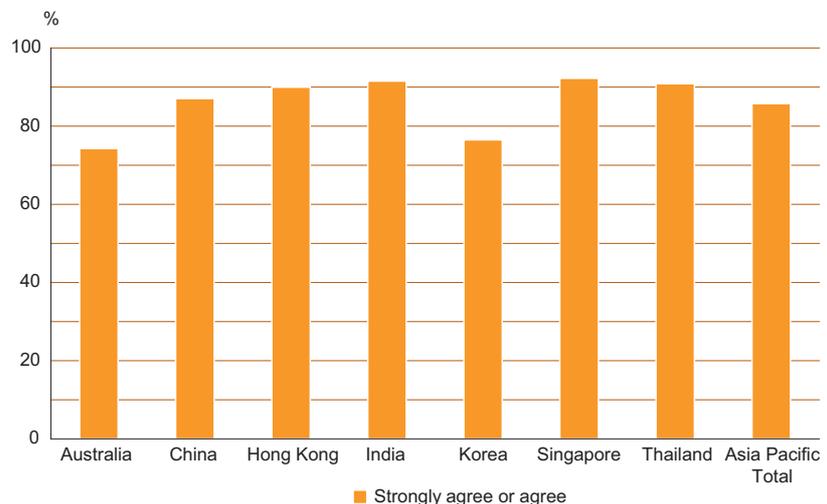
Thailand and Asia Pacific trends

At the same time, Asia Pacific has the largest number of users who worry about the complexity of the Internet and some devices, hardware, and software. Forty percent of respondents were in strong agreement or agreement with the statement "I find the Internet and some devices, hardware, and software to be complex", while the global average was 34%. In Thailand, 46% of respondents were concerned about this issue (see Figure 10).

46%

Thai respondents who are concerned about the complexity of the Internet and some devices, hardware, and software

Figure 10: I find the Internet and some devices, hardware, and software to be too complex.

Strongly agree or agree

TV on the go: Still facing obstacles

Our survey shows that IPTV and Mobile TV have very low penetration rates across the Asia Pacific region, with an average of 1.2% and 3.3% respectively. Hong Kong has the largest number of both IPTV and Mobile TV usage, with a penetration rate of 6.2% and 7.1% respectively. In Thailand, the penetration rate is very low, at 1.8% and 2.4% respectively. The limitation for Thailand to adopt IPTV and Mobile TV is that dial-up users still account for the majority of internet users and network constraints remain a significant problem. In the future, increased broadband penetration, an expanding wireless telephone universe, and upgrades to the next generation of wireless networks will likely foster growth in the IPTV and Mobile TV market.

2.4%

Respondents in Thailand who use Mobile TV

Figure 11: Adoption rates of IPTV and Mobile TV

Current IPTV usage   **Current Mobile TV Usage**

71%

Respondents in Thailand who have used an online social networking service at least once

Socialising in cyberspace:
## The world of virtual networking and blogging

The survey shows that China has the largest number of social networking users, with more than 85% of respondents having engaged in social networking at least once. Thailand has the second largest number of social networking users, with 71% of respondents having used this service at least once. The survey shows that 9% of respondents in Thailand go online daily, 20% go online weekly, 15% go online monthly, and 29% go online occasionally.

In addition to social networking, users in Asia Pacific are more likely to use blogging than users in other regions. China has the largest number of users creating their own blogs, with 68% of respondents saying they have created their own blog at least once.

9%

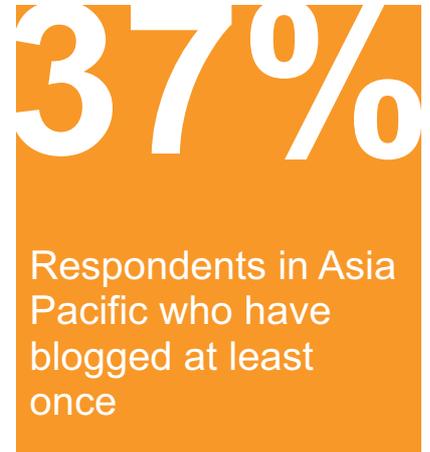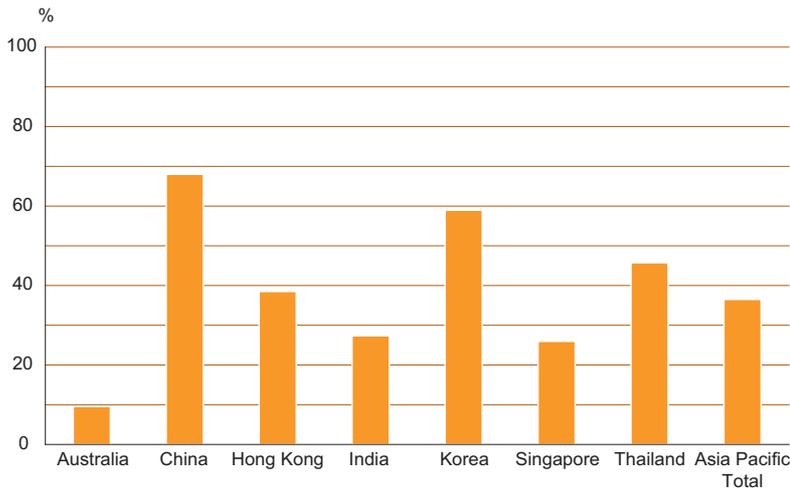Respondents in Thailand who use an online social networking service everyday

Figure 12: Social networking by frequency
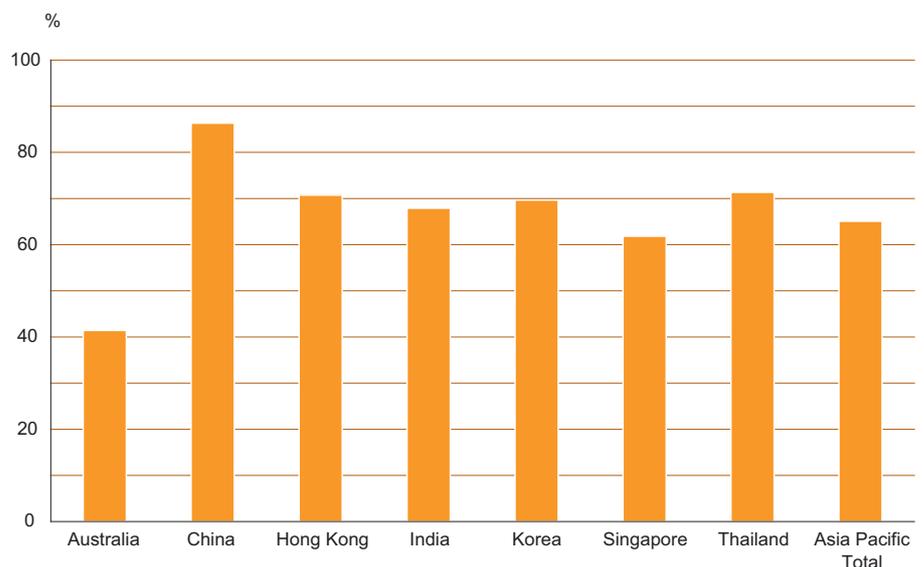
Thailand and Asia Pacific trends

In Thailand, 46% of respondents have used blogging at least once, compared to the regional average of 37%.

Figure 13: Blogging by frequency

37%

Respondents in Asia Pacific who have blogged at least once

The downloading phenomenon:
Growing demand for music and movies

The demand for music downloads is expected to grow significantly in the future. However, the impact of piracy, network constraints, and competition from licensed digital distribution channels will be significant constraints in the growth in demand for music downloads. Rising broadband subscription will continue to fuel digital distribution and demand for music downloads. Our survey reports that 87% of respondents in Thailand have downloaded music at least once, compared to the regional average of 78%.

Figure 14: Music downloads by frequency

87%

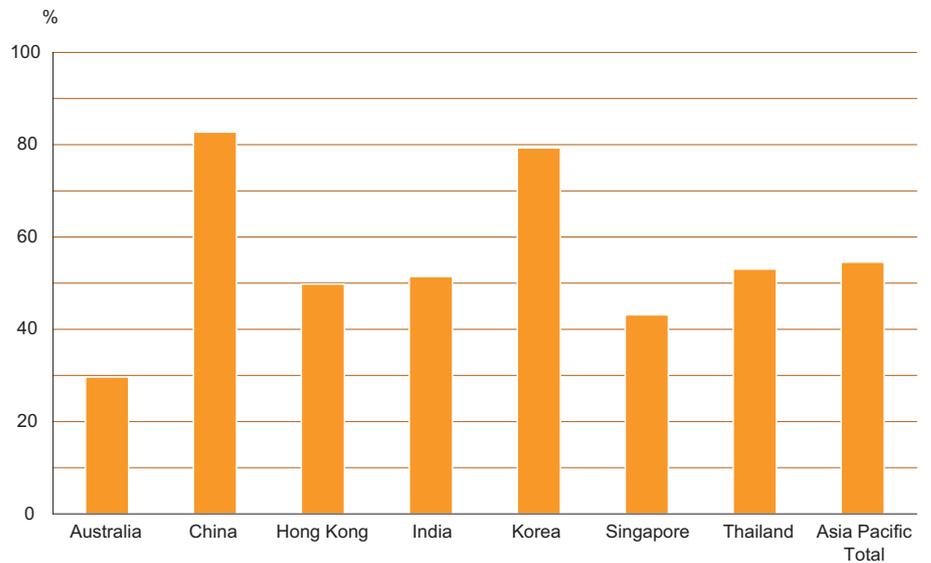Thai respondents who have downloaded music
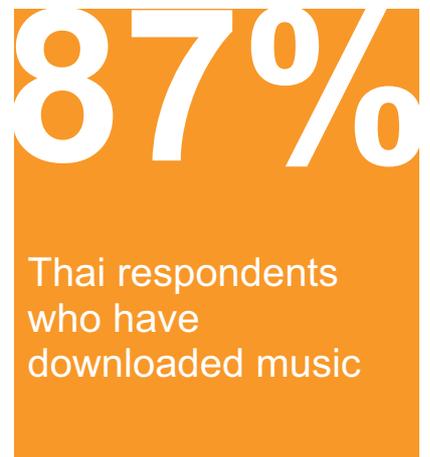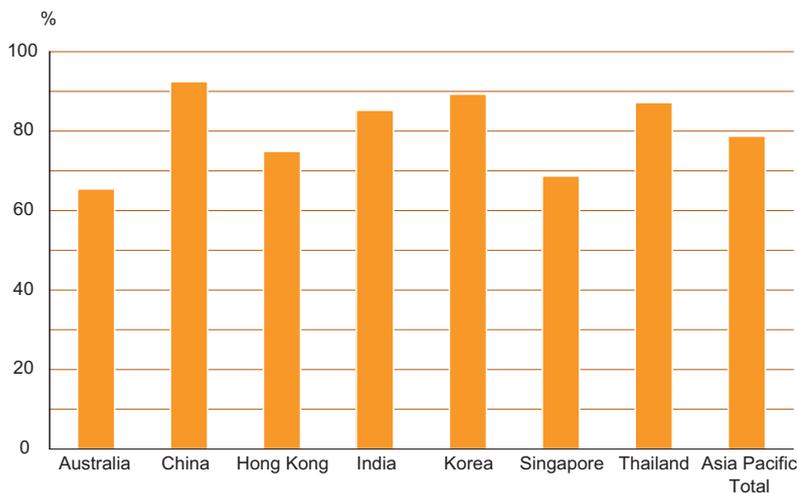
53%

Thai respondents who have downloaded a movie

The demand for movie downloads in Asia Pacific is higher than in other regions, with 55% of respondents having downloaded a movie at least once. In Thailand, 53% of respondents have downloaded a movie at least once.

Figure 15: Movie downloads by frequency

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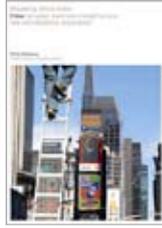| Egypt	Alaa ElSoueni	alaa.k.elsoueni@eg.pwc.com	[20] (2) 516 8201
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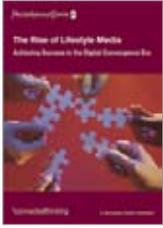
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