Mobile Customer Experience in the 21st Century
A perspective from the Americas
Customer Experience in Context
Until recently, most mobile carriers were able to control virtually every aspect of the customer experience, from initial subscription through to services, support and renewal or top-up. Each carrier built, owned and operated its own network. Each purchased and provisioned all of the devices that were used on its network. All of the services offered were firmly under the purview of the carrier. Mobile networks were closed ecosystems, and the customer experience was for carriers, and carriers alone, to manage.

Today, the context in which that customer experience exists has changed radically. Carriers increasingly share network infrastructure, and customers connect their mobile devices to a growing range of networks, some of which are beyond the carriers’ reach. Customers use multiple devices, many of which are neither provided nor provisioned by carriers. And those devices increasingly allow customers to use services that are developed and managed by third parties.

The customer experience has therefore become not only more multifaceted, but more difficult for carriers to manage. The customer experience can no longer be viewed as a simple continuum, with a well-defined beginning, middle and end. It has become, and will continue to be, fluid and extremely broad—often extending way beyond the networks, assets, services and solutions of carriers themselves.

Whereas the growing spectrum of the mobile customer experience represents a potential opportunity for carriers, without a detailed understanding of the current and future dynamics of that experience, carriers risk being sidelined. As consumers become more sophisticated and demanding, and competition ever more intense, churn will favour carriers that deliver a customer experience that extends beyond calls, coverage and customer support. The winners will be carriers that embrace the inherent complexity of the contemporary mobile ecosystem. Those carriers will secure a frontline position in helping customers to make the most of that mobile ecosystem. A satisfied customer in the 21st century is one who trusts his carrier to bring him the best of the digital world, in whatever way he chooses to consume it.

Defining and Redefining the Customer Experience
The customer experience is typically defined as the sum of all experiences that the customer has with a supplier of products and/or services, over the lifetime of the relationship with that supplier. There are typically six key components to the customer experience, as set out in Figure 1.

Fig.1 Components of the Customer Experience

In spite of the inherent complexity of the contemporary mobile industry, these components, or phases, are still broadly correct. The customer experience still begins with engagement, and passes through provisioning, management and renewal.

However, beneath the surface, the situation is far more complicated. In today’s mobile industry, there is no longer a simple, unitary relationship between customer and carrier.
The products and services that carriers provide to their customers are only a part of the total customer experience. Today, that customer experience increasingly includes third-party services and content, a growing range of devices, and alternative forms of connectivity. New consumer behaviors and preferences relating to devices, networks, and third-party content and services sit at the heart of the changing nature of the customer experience. The growing importance of these trends need not mean that carriers will be marginalized. If responded to appropriately, the growing range of customers’ mobile activities represent an opportunity to expand and enhance the customer experience, and grow the revenue base.

Three Key Trends Shaping the Customer Experience

The anatomy of the mobile customer experience today is being shaped by three key trends, as illustrated in Figure 2. The simple, straight-line customer experience has been superseded by one in which consumers (1) use multiple devices, (2) connect them to multiple networks, and (3) consume services and content from a multiplicity of “over-the-top” (OTT) providers. Across the Americas and beyond, these trends are changing the way customers use mobile, their expectations of it, and the extent to which carriers can manage the customer experience.

Multiple Devices and the Growing Importance of Mobile

The device landscape is impacting the customer experience in several ways. At the most basic level, comparatively simple feature phones are very rapidly being replaced by smartphones. Across the Americas, smartphone penetration is fast approaching 50% and this trend is expected to accelerate as feature phones are steadily phased out from device manufacturers’ product offerings, and as prices fall.

Growth in smartphone penetration must be set in context. Consumers in the United States (U.S.), Mexico, Brazil and Argentina now own and make use of more than five portable devices. Penetration of devices such as tablets and portable PCs, many of which also connect to cellular networks, is serving to greatly enlarge customers’ perception of the mobile customer experience. Figure 3 illustrates the extent of penetration across a wide range of portable devices.

In an age when consumers can purchase devices as diverse as wrist watches and compact cameras with integrated SIM card slots, the way carriers think about the notion of the customer experience clearly has to change.

Carrier Considerations

1. The number of SIM-enabled products in customers’ device portfolios is expected to continue its upward trend. Carriers should focus attention on the development of multi-SIM tariffs, with inclusive data bundles shared across multiple SIMs. Incentivizing customers to connect a greater number of devices may contribute to revenue growth and help reduce churn.

2. Operators should consider additional services that could contribute to a more positive multi-device customer experience. As customers buy and store more content, the value of their devices will extend way beyond the price of a replacement product. The provision of device synchronisation and back-up services could make for a positive customer experience even in the event of loss or theft of a device.

3. Many devices, especially tablets and portable PCs, are not purchased from carrier stores. With prepaid SIM cards available from a wide range of non-specialist retail outlets, provisioning may become a challenge for the customer experience. Carriers should examine means by which provisioning can be simplified and automated.

Fig. 2 Drivers of the Evolution of the Mobile Customer Experience

![Fig. 2 Drivers of the Evolution of the Mobile Customer Experience](image-url)
Fig. 3 Consumer Device Portfolios in the Americas

Source:
Note 1: Some respondents own and use more than one of each device (e.g., some have more than one smartphone, tablet). Some respondents share devices. 
Note 2: The online research resulted in a higher ownership concentration in developing markets of urban professionals with higher income than the national average.
Navigating a Network of Networks
Cellular network coverage remains the most important issue from the perspective of the customer experience. Customers pay for the ability to connect, and they expect to be able to connect anywhere. When they can’t, they perceive a negative customer experience and react accordingly. Poor voice connectivity is the top reason for churning to another network across three of the four countries included in this report (see Figure 4).

Coverage will likely continue to be the single most important means by which carriers can ensure an optimal customer experience. But there is a substantial difference in the nature of coverage required in order to satisfy customers in the voice market, and those in broadband data. There is a large and growing body of evidence, including our own research, which suggests that the majority of mobile broadband usage is nomadic, not truly mobile. As illustrated in Figure 5, cellular mobile broadband is not the primary means by which customers connect any of their devices, including their smartphones, to the internet. Across all markets surveyed, WiFi—in three key locations (the home, the office and the place of learning)—was the most commonly used connection technology. This type of nomadic use is even more dominant in relation to tablets, phablets and PCs.

The reasons why customers elect to use WiFi instead of cellular data are instructive and, indeed, positive for carriers. The majority of customers use WiFi because it is perceived as being faster than cellular, with lower latency, as illustrated in Figure 6.

Carriers are already on track to address these issues. As 4G networks are more widely deployed, the delta between cellular and WiFi connectivity will likely diminish—though carriers may have to invest substantially in moving consumer perceptions.

Carrier Considerations
1. Coverage is king, but there are different coverage requirements for voice and data. Basic voice coverage will be increasingly viewed as “hygiene factor” and it will no longer be a major source of competitive advantage for carriers; however, those that provide sub-par voice coverage may be punished with higher churn. Data coverage, on the other hand, is likely to become an important source of competitive advantage, and an ever-more important component of the customer experience. Carriers should therefore seek to gain a comprehensive understanding of where, how and why customers use different types of data connectivity. Ensuring a positive customer experience.

<table>
<thead>
<tr>
<th>Why did you leave your last carrier?</th>
<th>U.S.</th>
<th>Mexico</th>
<th>Brazil</th>
<th>Argentina</th>
</tr>
</thead>
<tbody>
<tr>
<td>Voice/messaging tariffs were too expensive</td>
<td>10%</td>
<td>26%</td>
<td>17%</td>
<td>26%</td>
</tr>
<tr>
<td>Internet tariffs were too expensive</td>
<td>11%</td>
<td>19%</td>
<td>16%</td>
<td>13%</td>
</tr>
<tr>
<td>Poor network quality for voice</td>
<td>18%</td>
<td>23%</td>
<td>22%</td>
<td>19%</td>
</tr>
<tr>
<td>Poor network quality for data</td>
<td>9%</td>
<td>21%</td>
<td>15%</td>
<td>18%</td>
</tr>
<tr>
<td>Poor customer care support</td>
<td>8%</td>
<td>15%</td>
<td>17%</td>
<td>12%</td>
</tr>
</tbody>
</table>

experience may require a re-think of network architectures, especially for 4G and WiFi. Blanket, nationwide coverage may be less important than high-throughput, localized coverage, with strong in-building performance. That being the case, it may be necessary to make more widespread and strategic use of WiFi, as a core network technology.

2. Carriers should also seek to identify and understand differences in usage between WiFi and mobile broadband. Such an understanding may help further refine network architecture, and may also inform the development of new tariffs. It may be preferable to incentivize customers to continue using WiFi for some types of data usage, such as video streaming for example.

3. Carriers should seek to understand how usage differs by device. The usage and connectivity requirements of a PC or tablet differ to those of a smartphone. The more carriers understand the subtleties and nuances of this dimension of usage, the more they will be able to create propositions that optimize the customer experience and maximize revenues.

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**Fig. 5 How Customers Connect**

<table>
<thead>
<tr>
<th>How do you connect most commonly to the internet?</th>
<th>U.S.</th>
<th>Mexico</th>
<th>Brazil</th>
<th>Argentina</th>
</tr>
</thead>
<tbody>
<tr>
<td>WiFi at home, work or school/university</td>
<td>58%</td>
<td>67%</td>
<td>59%</td>
<td>49%</td>
</tr>
<tr>
<td>WiFi in a public place (using a hotspot)</td>
<td>6%</td>
<td>7%</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>Mobile, using a 2G, 3G or 4G cellular network</td>
<td>34%</td>
<td>24%</td>
<td>29%</td>
<td>41%</td>
</tr>
</tbody>
</table>

Note: Respondents could select more than one option in answering this question.

**Fig. 6 Reasons for Using WiFi Instead of Cellular Data Connectivity**

<table>
<thead>
<tr>
<th>When you use WiFi instead of cellular data, why do you do so?</th>
<th>U.S.</th>
<th>Mexico</th>
<th>Brazil</th>
<th>Argentina</th>
</tr>
</thead>
<tbody>
<tr>
<td>WiFi is faster</td>
<td>43%</td>
<td>46%</td>
<td>51%</td>
<td>62%</td>
</tr>
<tr>
<td>WiFi has lower latency</td>
<td>37%</td>
<td>45%</td>
<td>39%</td>
<td>55%</td>
</tr>
<tr>
<td>To save money on my mobile phone bill</td>
<td>36%</td>
<td>33%</td>
<td>28%</td>
<td>28%</td>
</tr>
<tr>
<td>To avoid using my monthly mobile internet allowance</td>
<td>35%</td>
<td>30%</td>
<td>20%</td>
<td>21%</td>
</tr>
<tr>
<td>Because WiFi connection is more reliable</td>
<td>33%</td>
<td>40%</td>
<td>34%</td>
<td>43%</td>
</tr>
</tbody>
</table>

Note: Percentages for each country do not sum to 100%. Other options were included in the questionnaire, including don’t know.
For carriers, the opportunity is clear. As 4G networks are deployed, the provision of consistent, reliable high-speed connectivity in a handful of specific locations should contribute to the creation of a highly positive customer experience, as long as the cost of connectivity is deemed reasonable.
Multiple Service Providers and the OTT Phenomenon

The emergence of over-the-top applications, enabled by internet-connected devices based on open or semi-open operating systems, has led to a surge in the availability of, and use of, third-party services. From VoIP and instant messaging through to social networking and connected games, the OTT phenomenon has, perhaps more than anything else, changed the mobile customer experience. However, although the list of OTT apps and services available is almost unimaginably long, customers’ adoption and usage is comparatively focused, as illustrated in Figure 7. Across the U.S., Mexico, Brazil and Argentina, the types of third-party services that consumers use on their mobile devices are largely the same.11

![Figure 7 Top 20 Apps by Category](image)

<table>
<thead>
<tr>
<th>In the last 7 days, for which of the following activities did you use your phone?</th>
<th>U.S.</th>
<th>Mexico</th>
<th>Brazil</th>
<th>Argentina</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email</td>
<td>47%</td>
<td>64%</td>
<td>47%</td>
<td>38%</td>
</tr>
<tr>
<td>Social networking</td>
<td>40%</td>
<td>70%</td>
<td>53%</td>
<td>35%</td>
</tr>
<tr>
<td>Internet search</td>
<td>38%</td>
<td>41%</td>
<td>25%</td>
<td>31%</td>
</tr>
<tr>
<td>Accessing news/sport websites</td>
<td>22%</td>
<td>33%</td>
<td>24%</td>
<td>12%</td>
</tr>
<tr>
<td>Online banking</td>
<td>23%</td>
<td>20%</td>
<td>16%</td>
<td>17%</td>
</tr>
<tr>
<td>Browsing retailer websites</td>
<td>21%</td>
<td>19%</td>
<td>18%</td>
<td>8%</td>
</tr>
<tr>
<td>Playing games online</td>
<td>14%</td>
<td>20%</td>
<td>14%</td>
<td>7%</td>
</tr>
<tr>
<td>Listening to online radio</td>
<td>14%</td>
<td>15%</td>
<td>16%</td>
<td>8%</td>
</tr>
<tr>
<td>Streaming music</td>
<td>12%</td>
<td>23%</td>
<td>3%</td>
<td>7%</td>
</tr>
<tr>
<td>Making online payments</td>
<td>10%</td>
<td>8%</td>
<td>7%</td>
<td>11%</td>
</tr>
<tr>
<td>Buying goods and services online (e-commerce)</td>
<td>7%</td>
<td>6%</td>
<td>6%</td>
<td>4%</td>
</tr>
<tr>
<td>Streaming video/television</td>
<td>6%</td>
<td>8%</td>
<td>5%</td>
<td>6%</td>
</tr>
<tr>
<td>Sending/receiving money</td>
<td>3%</td>
<td>7%</td>
<td>3%</td>
<td>6%</td>
</tr>
</tbody>
</table>

Note: Respondents could select more than one option in answering this question, therefore percentages do not sum to 100%.
The fact that customers use their mobile devices for similar activities suggests two things: firstly, there is a range of services that “naturally” belong on mobile, and which consumers prefer to use there; secondly, there is potentially the opportunity for carriers to play a greater role in this part of the mobile experience. In the recent past, carriers have tended to view the entire OTT phenomenon as a threat to their business model, and their relationship with customers. Looking forward, carriers may need to adopt a different stance. There is a considerable opportunity for mutually beneficial partnerships with OTT providers, that simultaneously deliver a more complete and positive customer experience, drive usage and increase revenues for carriers and OTT providers alike.

The potential for a more symbiotic relationship with OTT providers is perhaps inferred by customers’ views on tariffs. There appears to be substantial appetite for tariffs that are specifically structured to accommodate customers’ OTT service preferences. As illustrated in Figure 8, customers perceive “all-you-can-app” tariffs as being more attractive than unlimited data tariffs.

**Fig. 8 Data Tariff Preferences**

<table>
<thead>
<tr>
<th>Thinking about how you use data on your phone, which of the following best describes how you would prefer to be billed?</th>
<th>U.S.</th>
<th>Mexico</th>
<th>Brazil</th>
<th>Argentina</th>
</tr>
</thead>
<tbody>
<tr>
<td>I’d prefer to pay a fixed amount per month for unlimited access to / use of each of the services or applications that I use most often on my phone.</td>
<td>35%</td>
<td>47%</td>
<td>47%</td>
<td>47%</td>
</tr>
<tr>
<td>I’d prefer to pay for a fixed amount of data, and then pay additional usage charges once I have reached that limit</td>
<td>19%</td>
<td>18%</td>
<td>6%</td>
<td>12%</td>
</tr>
<tr>
<td>I’d prefer to pay more to have unlimited internet access</td>
<td>26%</td>
<td>10%</td>
<td>22%</td>
<td>24%</td>
</tr>
<tr>
<td>I’d prefer to pay per use, on a per megabyte basis</td>
<td>4%</td>
<td>17%</td>
<td>8%</td>
<td>7%</td>
</tr>
</tbody>
</table>

Note: Respondents could select one answer only. Other options included “None of these” and “Don’t know”.
Given that customers’ OTT preferences are comparatively narrowly focused, carriers should be readily able to identify key OTT partners. Importantly, carriers have technical and informational assets that are valuable to OTT providers, as a means of enhancing their services, and as a means of improving performance. These can be exposed by carriers via application programming interfaces (APIs). APIs allow OTT providers to gain access to everything from subscriber location information through to new functionality, such as carrier add-to-bill payment services and speech-enablement, as set out in Figure 9.

Much of the functionality and data that can be exposed via APIs is typically not available to OTT providers under normal circumstances. Access is therefore of value in creating and ensuring a positive customer experience.

**Carrier Considerations**

1. Understanding customers’ OTT usage—in present and future tenses—is critical. Carriers that understand which providers and services are popular, and why, can develop strategies to better monetize customers’ usage, and derive greater influence over the final customer experience. Carriers should seek to understand usage and preferences by generation: not only as a means of informing the structure of tariffs, services and OTT partnerships, but also as a means of ensuring optimal monetization, recognizing that the majority of wealth is controlled by a minority of older consumers.

2. APIs that allow for deeper integration and cooperation with OTT providers, and a more substantial role for carriers in the provision of OTT services, represent one of the most immediate and potentially powerful tools. More broadly, partnerships with key OTT providers will become increasingly essential. The development and exploitation of APIs is intrinsically B2B2C in nature. In some cases, carriers do not yet have the appropriate mix of skills and experience to adequately address this opportunity. Some may need to create new departments, backed by detailed research and dialogue with OTT providers.

3. Carriers should consider new tariffs structures that reflect consumers’ OTT category preferences—offering “all-you-can-app” usage for categories such as email, instant messaging, and social networking.
Fig. 9 Application Programming Interfaces

- **Authentication**: Create strong authentication support for larger in-app purchases or access to sensitive data or restricted virtual locations.

- **Speech Enablement**: Enable speech to text and text to speech via operator to minimise app processing overhead.

- **Location**: Create opt-in location awareness: supports friend proximity functions and location sensitive advertising.

- **Device Specifications**: Allow OTT app provider to interrogate make & model of subscriber device.

- **Add-to-Bill**: Allow in-app purchases to be added to subscribers’ monthly bill or deducted from prepay top-up.

- **Click-to-Call**: Create in-app link to OTT service provider’s customer support line or that of a third party.

- **Call Management**: Allow in-app use of carrier voice services based on subscriber’s phone number or virtual, OTT service-specific number.

- **Messaging**: Create an in-app link to allow SMS/MMS messaging (send messages to non-users of OTT application).

- **Contacts Look-up**: Create opt-in to allow app to search for other users of the OTT service in contacts.

- **Targeted Advertising**: Create opt-in to customer data and attributes for in-app advertising and targeted up/cross-selling.

Source: The state of the global mobile consumer, DTTL, 2013
There are two discrete sides to the future of managing the mobile customer experience—one reactive, the other proactive.

The first, reactive, side relates to getting the basics right. Negative customer experiences—as manifested in reasons for churning—derive most commonly from incomplete network coverage, uncompetitive tariffs and inadequate customer support. These three variables are, in essence, the basic pillars of the mobile customer experience. They are deemed reactive because they are areas over which carriers already have control and can enact change quickly. That does not, however, mean that they are not becoming more multifaceted and subtle. For example, optimizing cellular network performance no longer means simply providing coverage to the largest possible footprint. Carriers must understand the entirety of their customers’ usage, across voice and data, multiple devices and multiple networks. Especially within the realm of data, they must understand emerging patterns of nomadic usage and their possible evolution, with surgical precision. And they must adapt their network architectures accordingly so as to ensure a positive customer experience.

Similarly, tariff structures will have to evolve to match more sophisticated and diverse usage. Whereas “all-you-can-eat” tariffs may appeal to heavy users, the many subscribers who have less disposable income may well appreciate tariffs that more specifically reflect their usage preferences.

The provision of customer care will have to evolve in the immediate short term in order to cope with the growing diversity of SIM-enabled devices, purchased from non-carrier stores, and diverse technical challenges deriving from OTT services and similar. Even though such challenges are often not of the carriers’ making, customers tend to turn to their carrier for support. Carriers that are willing and able to support customers across a wide range of problems are more likely to be viewed as providers of outstanding customer experience (as opposed to simply being bulk connectivity providers). To make such provision sustainable, tariffs may have to be amended to cover the cost of support, and new partnerships may need to be established, especially with device makers and third-party service providers.

The second, proactive, side relates to how carriers position themselves in the broader mobile value chain, as described by the three trends set out in this document—multiple networks, multiple devices and multiple service providers. Though these trends represent a departure from the legacy mobile business model, it is essential that carriers recognize and understand them, and react accordingly. In aggregate these trends represent a multi-tiered opportunity: not only more users (and SIM cards), but also more uses (spanning multiple devices) and more frequent usage (of OTT services).

This proactive side of the equation is about embracing complexity. As the closed mobile ecosystem comes to its natural end, carriers must reorient themselves toward an open, dynamic and multi-dimensional ecosystem.

This represents a substantial opportunity for carriers. It is increasingly clear that 4G mobile broadband users buy larger data bundles and make more substantial use of mobile connectivity than 3G subscribers—with immediate positive implications for revenues. As consumers add more devices to their portfolios, and connect more of them over cellular networks, the centrally important position of mobile carriers in the digital age can readily be enhanced. Making the most of these opportunities requires carriers to have a detailed understanding of customers’ behaviors and preferences, and to develop strategies that reflect them, with the aim of optimizing the mobile customer experience—wherever and however it is expressed. By embracing complexity, carriers will be able to not only reassert their primacy, but also expand the breadth and depth of their revenue-generating activities.
Using digital identity to deliver an outstanding customer experience

One operator in Japan has developed a customer experience strategy that not only unites cross-network connectivity, but also accommodates customers’ preferences for multiple devices, and third-party content and applications. The strategy is built around the creation of a unique digital identity for each customer. The use of identity as the anchor for this strategy means that it has been possible to carefully unify the customer experience across networks and devices.

When customers invoke their identity, they are presented with their own “window” on the digital world—with services and content prioritized to reflect their own preferences. This window includes a suite of operator services. All their subscribers receive 50GB of cloud storage (such that devices can be securely backed up), free access to a range of operator-curated services and content (that formerly would have been considered OTT in nature), and a selection of anti-virus and other security tools pertaining to all devices. This approach has allowed the operator to reaffirm its position as the gateway to the digital world, without becoming intrusive or restrictive.

Further, in doing so, the operator has materially increased its revenues—participating subscribers typically generate higher ARPUs. Thus far, over one third of the carrier’s customer base has chosen to subscribe to this suite of services, in part or in whole. There has been a net positive impact on churn, thereby increasing customer lifetime value.

Clearly, the example from Japan is country- and operator-specific. But it serves to demonstrate that there are means by which carriers can reassert themselves in an increasingly multidimensional market place, and reestablish themselves as a key—if not the key—determinant of the customer experience.
According to data from the Deloitte Global Mobile Consumer Survey in 2012 and 2013, feature phone penetration has declined in all of the markets surveyed.


Smartphone sales now exceed feature phone sales worldwide. See http://www.computerworld.com/s/article/9236752/Smartphone_sales_skyrocket_amid_decline_for_feature_phones

Deloitte Global Mobile Consumer Survey, DTTL, 2013. In Argentina those surveyed claimed to use, on average, 6.6 devices. The figures for Brazil, Mexico and the U.S. were 5.2, 5.9 and 5.2 respectively. Figures for Argentina, Brazil and Mexico were possibly skewed by the use of an online survey, which introduced sample bias toward wealthier urban professionals.

Tablets, PCs and other devices that have a cellular radio are increasingly being connected to mobile networks, although the majority of devices are used only via WiFi connections. For example, see http://www.eewek.com/mobile/tablets-increasingly-connected-to-cell-networks-rpd

For example, an average iTunes user spends $40 per annum on content, much of which will be stored on a portable device. See http://www.asymco.com/2013/06/14/whats-an-apple-user-worth/


Deloitte Global Mobile Consumer Survey, DTTL, 2013. Amongst laptop PC users, WiFi was the most commonly used connection technology for 78% of respondents in Argentina, Mexico and the U.S., and 69% in Brazil.

Based on Herzberg's Motivation-Hygiene Theory, hygiene factors do not give positive satisfaction, but their absence results in dissatisfaction.


For more information on application programming interfaces (APIs) see http://www.webopedia.com/TERM/A/API.html and http://www.digitalinnovationgazette.com/mobile/mobile_app_development_apis/index.html?axzz2trXMGB0

Though OTT providers can typically access location information via other means, such as GPS, carrier location information is typically provided much more quickly, and with a level of accuracy that is sufficient. For more information, see—http://www.differen.com/difference/A-GPS_vs_GPS

See Figure 4.


For more information, see http://www.au.kddi.com/english/content/ and http://www.gsma.com/mobileidentity/kddis-au-id-learning-from-japans-identity-experts
Contacts
Phil Asmundson
DTTL and Americas Telecom Leader
pasmundson@deloitte.com

Marco Antonio Brandao Simurro
Brazil TMT Leader
mbrandao@deloitte.com

Pascal Lamoureux
Canada Telecom Leader
palamoureux@deloitte.ca

Fernando Gaziano
Chile TMT Leader
fpgaziano@deloitte.com

Alberto López Carnabucci
LATCO TMT Leader
alopezanabucci@deloitte.com

Francisco Silva
Mexico TMT Leader
fsilva@deloittemx.com

Craig Wigginton
U.S. Telecom Leader
cwigginton@deloitte.com

Marketing Contacts
Amanda Goldstein
DTTL TMT Marketing Leader
agoldstein@deloitte.com

Karen Hogger
EMEA TMT Marketing Manager
khogger@deloitte.co.uk

Yvonne Dow
Asia Pacific TMT Marketing Manager
ydow@deloitte.com

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