Increasingly powerful and user-friendly technologies are creating opportunities for governments to offer new ways to interact with citizens in order to respond to their needs more effectively and with their integral participation. Taking advantage of the introduction of devices such as smartphones, interactive voice response systems, digital television, and self-service terminals, the private sector has been making use of multiple channels for a long time.¹ Such initiatives encourage citizens to envision new forms of interaction with the desire that service providers – public and private – be as accessible and responsive as modern technology allows. Although many governments are aware of this trend, few developing countries are exploiting the full potential of multichannel service delivery to serve their constituents.

Multichannel service delivery is the provision of public services by various means in an integrated and coordinated way. Citizens can make selections according to their needs and circumstances and receive consistent information and services across channels resulting in an increase in their satisfaction and trust in government.²
Traditional channels can include face-to-face contact, telephone or postal mail. Digital channels encompass websites, mobile-based services and public access points such as kiosks. Public agencies can also make use of existing physical and virtual networks managed by private sector or non-governmental organizations. To facilitate higher penetration of e-government and to advance efficiency and effectiveness in public service delivery, it is necessary that the use of all available channels be considered.

Multichannel service delivery can contribute to sustainable development by delivering public services to those who most need them, that is, for the people. Poverty and isolation are closely related in many parts of the world and result from the lack of access to markets, emergency health services, education, the ability to take advantage of government services and so on. Multichannel service delivery supports the provision of accessible services needed by the poor and increases the inclusion and participation of socially disadvantaged groups in government policies and decisions. For example, public access Internet points in rural areas, supported by intermediaries, can bring the benefits of public services to poor people who would otherwise need to make tremendous efforts to reach them, such as travelling to the nearest city.

Multichannel public service delivery can also be used to deliver sustainable services to socially excluded groups. Research shows that these groups require an intermediary person or organization to enable them to benefit from a combination of information and transactions to meet their highly specific and complex needs. In multichannel delivery, public services can be delivered by using a mix of channels, complemented by human interaction and networks. The intermediaries can be from any sector—public, private, or a social enterprise or community support group. Multichannel service delivery is thus defined as involving the organizational interactions that make up the network, rather than just a collection of access routes for delivering the service.

Among the channels within multichannel platforms, mobile-based technologies hold tremendous promise, especially in developing countries, and can be expected to play a leading role in multichannel constellations going forward. Research suggests that the economic and social benefit of mobile technologies will be highest in rural areas, which currently have less telephony services. Mobile phones allow rural citizens access to information, whether for business, medical, or educational purposes. For those without fixed addresses and without bank accounts, a cell phone provides a place where they can be contacted and a means through which they can pay bills. Unlike other forms of communication, including most web technologies, mobile phones do not require literacy, although they can play a role in its development, at the same time contributing to a kind of sustainable development that is people-centred and inclusive.

This chapter reviews the usage of multichannel service delivery mechanisms by national governments and specifically highlights mobile-based technologies, due to their pervasiveness and agility. It then presents some of the major challenges and opportunities that are faced by public officials responsible for implementation of multichannel service delivery platforms and concludes with major findings and policy recommendations.

### 4.1 Global and regional trends

The 2012 Survey finds that the majority of countries are not fully utilizing the opportunities provided by multichannel delivery mechanisms. Australia, Bahrain, Canada, Denmark, France, the Netherlands, Qatar, the Republic of Korea, Saudi Arabia, Singapore, Sweden, the United Arab Emirates, the United Kingdom, and the United States rank high in multichannel service delivery because they provide services in various channels such as traditional ones supported by intermediaries, free access to public services through kiosks or WiFi, and mobile-based channels such as mobile web or applications. As seen from the list, these are all high-income countries, suggesting that financial capacity is one of the main factors in implementing multichannel service delivery mechanisms.
Chapter Four
Supporting multichannel service delivery

4.1.1 Channel selection

As seen in figure 4.1, 190 countries are using web channels to deliver public services, which are by far the most common means used across United Nations Member States. Seventy-one countries utilize public-private partnership, 32 use kiosks and 60 provide services via mobile-based channels. There are 19 countries which utilize all channels listed in figure 4.1, 15 being high-income countries and, the remaining four (Chile, China, Malaysia and the former Yugoslav Republic of Macedonia), upper middle income economies.

Figure 4.2 Breakdown of channels by region

Partnerships in which public services are provided using private infrastructure are increasingly common in low and lower-middle income countries where many people cannot afford or do not have access to the Internet.
Mobile devices are among the most widespread personal technologies in the world yet m-service delivery lags behind web channel development in many countries.

4.1.2 Integration of mobile services

Mobile phones are becoming the most rapidly adopted technology in history and the most popular and widespread personal technology in the world. Mobile government (or m-government for short), as one of the channels in multiservice delivery, has tremendous benefits for public agencies. M-government can help modernize the public sector organizations – hence the business process, work and interactions between citizens and government – using mobile-based services. Mobile phone penetration extends outreach and access to often difficult-to-reach groups such as seniors, people with disabilities and persons living in rural areas. Citizens have access to government information and services anytime and anywhere using wireless networks through their mobile and wireless devices. As mobile phones are typically personal, the possibility of locating an individual’s exact physical location ensures that governments can directly provide services to each person. Empowerment of field workers and cross-agency interactions can reduce requirements and costs for time, travel and staffing, as well as eliminate redundant data entry. Mobile crews with mobile devices can increase unit availability. Real-time and location-based processes result in quick and easily accessible data and communications, information consistency, responsive case management and seamless information exchanges.

Figure 4.4 summarizes the findings of the 2012 Survey on selected mobile channels. Compared to the 2010 Survey, there is little difference in the number of countries that provide SMS notification services. In 2010, 25 Member States provided SMS service while in 2012, 27 out of 193 Member States had initiated the service of sending messages and alerts via SMS to citizens’ mobile phones. The 2012 Survey started looking at the availability of a separate m-government site in 2012 and noted that 25 Member States have a website specifically designed for mobile phones. Noticeable increases in mobile applications (from 14 Member States in 2010 to 29 in 2012) and in mobile payment transactions (from 17 countries in 2010 to 33 in 2012) were also noted. Bahrain, Qatar, the Republic of Korea, Saudi Arabia, Singapore, the United Kingdom, and the United States are the only countries utilizing all channels depicted in figure 4.4.

Figure 4.5 shows the regional breakdown of mobile-based channels. As seen, there is little information about mobile-based channels in the national portals of countries in Africa. While there are many innovative and widespread uses of mobile phones by the private sector in Africa, the finding above implies that African governments are running behind compared to the private sector in utilizing mobile-based channels. Madagascar is the only country in Africa – and
also the only low income country – with a website offering a service to send SMS messages to the citizen’s mobile phone.

Asia is the leading region in utilization of mobile-based channels, specifically in providing mobile applications and a separate mobile government site. In Singapore,10 citizens can receive timely and personalized SMS alerts and notifications for various services such as passport renewals and road tax renewals. In Malaysia,11 the Ministry of Agriculture and Agro-based Industries enables farmers to lodge reports on problems of paddy attacks, including assaults by pests and diseases, through SMS, which will enable fast and immediate action to be taken by the Department of Agriculture. The Republic of Korea provides a national mobile portal service (http://m.korea.go.kr) through which citizens can use the m-government services of each government organization and receive customized national policy information at once. Bahrain’s mobile portal, a mobile version of the national portal, enables anyone with a mobile phone to communicate with all government entities and access their services, in addition to other services, via text message.

Figure 4.6 shows the breakdown of mobile-based channels based on income level. As seen in the figure, high income countries are much more active in delivering public services through mobile-based channels compared to other countries. It is also important to note that payment transactions via mobile phones are the mobile channel functions most utilized by high income countries. Less than 5 per cent of lower middle-income and low income countries provide public services through mobile-based channels while the ratio hardly exceeds 10 per cent in upper middle income economies.

4.1.3 Public service access points

Public agencies are using public-private partnership, kiosks, and free wireless access to services to provide additional access points to citizens.
As the private sector can bridge the gap between public agencies’ offers and citizens’ wishes and requests, public-private partnerships can result in both increased efficiency and better customer-oriented service delivery. An important role private organizations can perform is to create multifunction access points for citizens (e.g., when a citizen purchases a car, the dealer does all the necessary work instead of the citizen having to visit different government offices). The private sector’s comparative advantage can be its flexible labour force, lower cost through competition, and wide distribution network, which results in services that are more accessible and acceptable to citizens. However, it should not be forgotten that the nature and scale of private sector provision is often greatly dependent on how well public sector services are performing.

A review of cases suggests that more and more governments are now using public-private partnership to provide services. In India, citizens can visit 51 e-seva centres (community one-stop-shops) with 400 service counters spread over the state of Andhra Pradesh where they can pay taxes and utility bills, register births and deaths, and apply for driver licenses and passports, among other transactions. The e-seva centres are formed as a result of partnerships between the government and private firms with government providing staff and firms providing hardware and software in return for transaction announcement related to their case needs to be sent. Thanks to this system, the parties no longer have to go to the courts to collect this information. This service also provides improved access for the disabled and elderly and enhances overall e-accessibility. The SMS service does not replace official notifications, as it only intends to provide up-to-date basic information.

**Box 4.2 Turkey: UYAP SMS information system**

The SMS judicial information system, developed by the IT Department of the Ministry of Justice of Turkey, provides a legal notification service for its citizens and lawyers. This system automatically informs all related parties who have cases before the Turkish courts by short message service (SMS), also known as text message, when any legal event, data or announcement related to their case needs to be sent. Thanks to this system, the parties no longer have to go to the courts to collect this information. This service also provides improved access for the disabled and elderly and enhances overall e-accessibility. The SMS service does not replace official notifications, as it only intends to provide up-to-date basic information.

**Box 4.3 Italy: Reti Amiche for multichannel public service delivery**

In Italy, Reti Amiche (User-friendly Networks) is an initiative adopted with the aim of bringing the public administration closer to the citizen by offering as many channels as possible that provide access to the various services and by adopting a user-friendly rationale in interacting with the citizens. The Reti Amiche utilizes the networks and channels existing in the private sector (Post Office, Tobacconists, large-scale retail trade outlets, ATMs, etc.) to provide information and deliver services through points of access that are easily found and close to the citizens.

More than 70 per cent of the front desks are Lottery and Betting Offices and Tobacconists, activated by Reti Amiche on the basis of memorandums of understanding signed with the Italian Tobacconist Federation and with Lottomatica. Two types of transaction that are the most frequently used are requests for the issuing of documents such as passports, birth, marriage and death certificates and residence permits; and payment transactions such as social contributions for domestic help, taxes, and fines. Reti Amiche is an initiative of the Ministry for Public Administration and Innovation.
fees. In Mexico, delivery of public services such as social subsidies in remote areas is achieved through banking correspondents.16

The 2012 Survey assesses the availability of free access to government services through kiosks or free wireless networks and finds that 24 countries provide free access. In Estonia, free WiFi implemented by public agencies not only provides wider access to government services but also helps the economy by attracting global conference and event organizers.17 In the United States, San Francisco’s Department of Technology is expanding public WiFi in a variety of neighbourhoods as part of the city’s community broadband network. In Mexico, digital community centres aim to reduce the digital divide among adults, while also offering advanced tools, training and entrepreneurial support to younger generations who are already “wired.” In New Zealand, the city of Wellington has launched cbdfree,18 which is a public access WiFi network that allows WiFi enabled devices to freely connect with the Internet from anywhere outdoors within the designated area. It is important to note that there is no low income country offering free access to government services and that only three lower-middle income countries do so: El Salvador, Guatemala, and the Republic of Moldova.

4.1.4 Channel coordination

While previous sections analyzed availability of multiple channels, it should be noted that multichannel public service delivery means more than just using multiple channels. In multichannel service delivery, all channels are integrated and coordinated. Front office applications communicate to each other and support the service provision with centrally stored and accessible data. Citizens always receive the same response and see the same information no matter which channel they use to access public services. They can select their preferred channels given their needs and circumstances and, especially with the availability of mobile channels, they can reach governments anytime, anywhere, anyhow. Central data storage and reuse of data increase governments’ performance and responsiveness on the supply side. Storing data centrally means that data need to be collected only once and that they can be accessed (reused) by back office applications.

The 2012 Survey assesses whether countries are coordinating delivery of public services across channels. In order to do this, the Survey checks availability of payment transactions in different channels. As seen in figure 4.7, 26 Member States allow citizens to complete payment transactions by calling the respective agency. There are 33 countries that accept payments via mobile phones and 71 countries that accept payments via government portals, and 32 countries have implemented self-service kiosks for citizens to complete payment transactions. For a positive user experience, it is important for public agencies to unify information delivery and transactions across channels and deliver the same message in all channels regardless of citizens’ channel preferences.

4.2 Challenges and opportunities of multichannel service delivery

While there are tremendous benefits associated with multichannel public service delivery, realizing these benefits is not easy. Multichannel provisioning requires substantial institutional change as well as coordination within government agencies and in some cases with outside organizations. The complexity of multichannel projects further increases when considering the challenges that public agencies
4.2.1 Strengthening service delivery frameworks

Public officials responsible for multichannel service delivery have a variety of channels at their disposal. Once government agencies can answer why they want to offer new channels, they can make properly motivated choices in terms of which channels to implement and how to redesign services to reap the optimal benefits from them.\(^{20}\) It is also important that these channels be part of a multichannel strategy and that their impact and role are assessed within the context of that strategy overall. Introducing new channels without clear goals may result in separate channels that are neither integrated nor coordinated. Channels that “do not talk to each other” would result in negative user experience and eventually cause project failure due to low utilization.

Allocating adequate resources for multichannel public service delivery projects is a must. Initial costs can be quiet high since undertaking these projects would require a review of existing systems and infrastructure, including legacy applications. Introducing new channels in the front office would also require creating a back office that is able to handle these new channels in an efficient way. Since multichannel provisioning requires collaboration within and between agencies, it is important to create a fair financing methodology to accommodate each agency. This can be achieved by taking into consideration agency size, budget and referrals for its services. Although a multichannel approach can, in principle, enable an “anytime, anywhere, anyhow” policy of e-service delivery and increase efficiency, most government agencies, especially those operating on a shoestring, may not be able to afford to develop and maintain such sophisticated networks. Multichannel public service delivery can contribute to sustainable e-government development by enhancing the allocative efficiency\(^{21}\) of public administration. It is naive to assume that new channels will always lead to cost savings and increased efficiency for public agencies. Instead, new

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**Box 4.4 ServiceOntario of Canada\(^{19}\)**

ServiceOntario is currently a programme within the Ministry of Government and Consumer Services. It has the support of the Cabinet, the Minister, a Board comprised of Deputy Ministers from other ministries providing service, and key corporate stakeholders. ServiceOntario delivers information and transactional services through four channels: online, in-person, kiosk, and telephone. Mechanisms used to encourage the use of the online channel are service guarantees (e.g., a two-day service guarantee for an electronic master business license), and expedited services. ServiceOntario has built partnerships with the private sector to assist with service delivery (e.g., Teranet, a private sector company, provides access to the Ontario land registration system).

The historical roots of ServiceOntario go back to the year 2000, when the Integrated Service Delivery Division was created within the Ministry of Consumer and Business Services. The focus of the organization was on working with ministries to develop a multichannel service delivery system, with particular emphasis on the electronic channel. The involvement of partner ministries was on a voluntary basis at that time. However, in 2006, the Cabinet approved a revitalized vision and mandate for ServiceOntario, which then became the government’s primary public-facing service delivery organization. Ministries then ceased providing those services that are delivered on their behalf by ServiceOntario.◆

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channels should always be introduced to deliver a better quality of public service to citizens. If a personal ID can be issued within one hour on the basis of new channels, whereas before it took 30 days and required citizens to queue up for two days in different public agencies, the allocative efficiency may be considerably higher even if the government spends more on the delivery of that specific service.22

Competencies of the personnel involved in multichannel service delivery projects are extremely crucial. Strong project management and coordination skills as well as technical knowledge are required. To address these needs, implementing a training and development plan in conjunction with all the agencies involved in multiservice channel delivery would be helpful. The plan needs to start with different job streams, skill sets and competencies required for successful delivery of public services in a multichannel platform. Programmes may be implemented where skills and behaviours essential to service excellence are emphasized. Staff members working in different channels need to be trained in the specifics of that channel, such as telephone skills for call centre agents and cash handling and dealing for front-office agents. Once new technologies are used in the new channels, increasing personnel comfort with the new technology and increasing their perception of its ease of use are the best ways to prepare staff for technology acceptance.23

Public officials need to take into consideration access and affordability issues while designing multichannel service delivery platforms. Age, gender, income, educational background and level of disadvantage affect citizens’ attitudes towards their channel choice. Public agencies can tackle these challenges in different ways. Implementing a regulatory policy that favours competition can bring the prices down so that more citizens can afford access to the Internet. Implementing social coverage policy, which can aim at providing basic telephony and Internet access to the disadvantaged groups, can be another effective measure.

Internet access and cellular subscription continue to rise worldwide but the existence of the digital divide is also well documented. While governments encourage the use of electronic and mobile channels over traditional channels for efficiency gains, many disadvantaged groups do not have access to these channels. According to the ITU, in 2011, 73.8 per cent of the population in developed countries, 26.3 per cent in developing countries and 34.7 per cent of the entire world population were able to access the Internet. This means that nearly 65 per cent of citizens worldwide do not use the Internet at all. There is no access for 99 per cent of the population in Ethiopia, 95 per cent in Eritrea and Iraq, and 90 per cent in Mongolia, Nicaragua, and Angola. While mobile subscriptions have increased dramatically in recent years, mobile broadband subscriptions are still very low even in developed economies and less than 5 per cent in most of Africa.24

Many citizens worldwide still cannot afford to access e-services. Fixed broadband prices have dropped significantly in recent years but there are still huge differences among countries when it comes to affordability. ICT services continue to be more affordable in high income economies and less affordable in low income economies. According to ITU, the cost of ICT services averaged 1.5 per cent of GNI per capita in developed countries, compared with 17 per cent of GNI per capita in developing countries in 2010. This obviously has significant implications for the uptake of ICT services for people in developing countries.25

4.2.2 Responding to changes in technology

Fast moving technology creates another challenge for public officials implementing multichannel platforms. Web 2.0 technologies such as social media, e-participation tools and recent paradigms such as open data have only added to these challenges, and public agencies have been slow to adjust to these new concepts of openness and interaction. There are also growing numbers of available devices, especially mobile ones such as smart phones and tablets that citizens are using. Finding the right balance between applications and devices and investing wisely on technical platforms in an era of rapidly changing technology is a difficult task that public officials face in the design of multichannel service delivery systems.
Public officials tasked with designing multichannel service delivery systems must have knowledge of the availability of different devices and their bandwidth requirements. For example, the proportion of mobile phones to personal computers can be a deciding factor on the type of channel to be implemented. In countries with low computer penetration, public agencies can consider providing services through kiosks or mobile-based channels.

Limitations of mobile devices and adaptation of information and services that can be provided by these devices should also be considered while designing new channels. During the assessment of government portals, it has been noted that many portals are laid out for presentation on desktop-size displays and exploit capabilities for desktop browsing software. Accessing such a web page on a mobile device often results in a poor or unusable experience. Contributing factors include pages not being laid out as intended. Because of the limited screen size and the limited amount of material that is visible to the user, context and overview are lost. Mobile phones, therefore, may not be appropriate for submission of long forms such as those needed for filing taxes. Instead, phones can be used for provision of emergency and other time-critical public information to citizens.

To overcome limitations of mobile devices and offer a better user experience, it is important for governments to utilize mobile-based technologies such as SMS, a separate m-government site or mobile applications.

SMS is one of the most widely used data applications in the world. Research shows that the main reason why citizens use SMS-based e-government services is because they believe that these services are easy to use. The total number of SMS sent globally tripled between 2007 and 2010, from an estimated 1.8 trillion to 6.1 trillion. In other words, close to 200,000 text messages are sent every second. In developing countries, seven out of ten people have access to SMS, which means that people are more familiar with SMS than the Internet. As simple and cost-effective as it is, SMS is not widespread globally. SMS can complement e-government services where it is deemed that they are more appropriate, for example, providing a channel for reaching people in areas with only mobile phone access.

A new wave of development is happening in mobile technologies with the use of smart phones and web enabled phones. Mobile phones have begun to turn into do-it-all devices that can act like portable computers. This is completely changing the way in which citizens interact with governments. People now can access public services by using applications in their smart phones that are downloaded from commercial platforms. As additional channels, these applications offer a variety of useful tools, from finding the nearest tax office to reporting problems.

4.2.3 Expanding delivery options through partnerships

Multichannel public service delivery can be used to deliver sustainable services to socially excluded groups. Technology alone cannot guarantee that the benefits of multichannel service delivery will reach large – and eventually all – parts of society. Disadvantaged groups maintain a strong preference for face-to-face channels and they are the biggest users (and people most in need) of public services. In order to include these citizens in public service delivery, public agencies may consider utilizing and revitalizing traditional channels. Intermediaries such as those in the private sector and NGOs, supported by a robust layer of technology, can provide services to disadvantaged groups on behalf of, or in partnership with, government agencies. Intermediaries can assist citizens who cannot, or do not wish to access services themselves, but have access to them through these third parties, whether on an informal, professional or commercial basis. This would also offer opportunities for advisers and caretakers to offer personal services online and offline and use ICT support systems to improve the quality of service, either where a personal approach is more appropriate or to fulfill the needs of specific target groups.

Multichannel platforms require a sound coordination framework in the public and third party organizations involved in service delivery. Services, information and processes in different channels
need to be coordinated in such a manner that information is available on every channel. A corporate culture with excellent coordination skills and a cooperative mind set is required for multichannel service delivery projects. Achieving this harmony without strong policy leadership and political support is nearly impossible.

4.3.4 Channel steering and e-government marketing

While physical access to ICT infrastructures is important for utilization of new channels, research shows that access alone is not enough. Motivation and desire to use electronic and mobile channels, as well as having the necessary skills and confidence are other factors that prevent people from using online channels. Once new channels are implemented, certain user groups may need to be motivated to give up traditional channels in order to accomplish both a more efficient government and better user experience. Influencing citizens to use the most cost-effective channels may not always be straightforward. Raising awareness of citizens via communication campaigns about more cost efficient channels can help to influence citizen perception. In other cases citizens may need to be trained on how to effectively utilize the new channels. Frequently used channels can be used to inform the client on what other channels are available to satisfy their needs. For example, if somebody telephones a government call centre and the answer is on the web, the caller could be directed to the Internet via an interactive voice system before a contact is established between the citizen and the call centre agent.

Citizens are not homogeneous and they all have different needs. In order to increase user satisfaction, it is important that public services be tailored to the needs of individual users to the extent possible. Public agencies are in a better position to provide tailored services if they segment user populations, subdividing them into more or less homogeneous, mutually exclusive subsets of users who share an interest in the service(s). In order to identify homogeneous subgroups such as younger clients who heavily use e-channels or less technically oriented older people who rely on traditional channels, public agencies need to analyze their constituents in detail. This requires understanding the social preferences of citizens, their habits of information consumption, as well as accessibility requirements, including people with disabilities.

Monitoring the usage of new channels is equally important for citizen uptake once new channels are implemented. Officials need to be able to answer questions such as how many people are using the new channel and through which types of devices; how much it costs the agency to run the new channel; how well the devices operate and under what conditions; what the basic usage trends and satisfaction levels of users are; and the demographics of citizens accessing the new channel. For instance, Directgov (http://www.direct.gov.uk) in the United Kingdom is available through the government’s website, through any Internet enabled phone and through digital TV. It has been found that users of the Directgov TV service are more likely to be older (63 per cent over 35, 40 per cent over 45, and 17 per cent over 55, respectively); the majority are not working (67 per cent); and half (48 per cent) rarely or never use the Internet. Such analysis would give further insight to public officials about the future direction of multichannel provisioning.

4.3 Conclusion and recommendations

Multichannel public service delivery and specifically usage of mobile-based channels will continue to be high on the e-government agenda in the coming years. Success factors in multichannel public service delivery depend on a vast range of parameters; there is no single formula or generic solution that fits all situations. In some circumstances, a wide variety of channels may be needed, whereas in other situations, a limited number or even a single channel will suffice. While designing multichannel service delivery systems, public officials should pay particular attention to the issues listed below:
Supporting multichannel service delivery

Chapter Four

Have a well-established coordination framework across stakeholders involved in multichannel service delivery

Multichannel public service delivery is a complex process. It demands interrelated, intersectoral and integrated service delivery from the many sectors and government departments involved. Collaboration and coordination within and across government agencies are needed for success. All channels need to share a set of common principles and their data and a culture of cooperation among agencies must be in place. Effective coordination and cooperation call not only for technical interoperability but also strong political and top level management support. (See Chapter 3, Section 3.1.2 Public sector interoperability.)

Devote adequate resources to planning before implementing new channels

When new channels are designed, it is important that their impact and role be assessed within the context of an overall strategy. Seamless connectivity of different channels needs to be considered as part of service delivery and is increasingly important as an enabler of public sector productivity. New channels should be developed complementary to existing ones wherever possible. Therefore, an evolutionary approach which tries to align new channels with existing practices is more suitable.

Utilize the potential of all possible channels

Research shows that a combination of contact channels works best to increase e-government service adoption and public agencies should therefore provide multiple contact points. The existence of one channel and its applications alone does not guarantee results. Each channel should focus on exploiting its specific characteristics, usually those that they possess as a comparative advantage to other channels, to reach larger groups of citizens. In this respect, traditional channels can focus on reaching a higher number of citizens by increasing access via kiosks or free wireless access points; mobile channels can target mobile citizens as a complementary channel for e-government; and e-channels can further strengthen their reach by using the latest web technologies. While designing their e-government systems, public officials need to clearly define the objectives of each channel and proactively consult with citizens and stakeholders for successful multichannel public service delivery implementation.

Ensure that all groups and individuals, particularly those disadvantaged in some way, can access combined and flexible services using multichannel delivery systems

While aiming for high efficiency and effectiveness, public officials need to keep in mind that all citizens have equal rights to access public services, that is, all citizens should be able to access services even if they do not own or have access to the newest and most innovative platforms, such as a smartphone or tablet. Disadvantaged groups are the largest and most in need users of public services but also the least likely to be able to access or afford electronic and mobile channels. Public agencies can tackle access and affordability issues in different ways. Implementing a regulatory policy that favours competition can bring the prices down so that more citizens can afford access to the Internet. Implementing social coverage policy, which can aim at providing basic telephony and internet access to the disadvantaged groups, can be another effective measure. Kiosks and public access points are effective measures to overcome the digital divide and reach out to segments of the population that are entirely unfamiliar with Internet applications. (See Chapter 5, Section 5.1 for factors influencing e-service access and use.)

Pay particular attention to mobile-based services

Mobile government gives public agencies an opportunity to address the digital divide, especially in developing countries. M-government is expected to continuously expand due to the high penetration of mobile services, especially in developing countries. As a result of convergence, mobile devices such as tablets will become the primary and maybe the only connection tool to the Internet and therefore to e-government services. Hence, the enormous potential of mobile devices is still largely untapped
and more innovative applications will be seen as mobile phones become powerful enough to run a full desktop operating system that can do virtually everything a computer can do.

**Use existing networks and services of third party organizations in multichannel public service delivery**

Technology alone cannot guarantee that the benefits of multichannel platforms will reach large – and eventually all – parts of the population. Technology needs to be socially and culturally embedded and understood in order to be used effectively to create value. Traditional channels, ideally supported by a robust layer of technology, are still the only option in most parts of the world. Public-private partnership and use of existing private sector channels can help governments to include more citizens in service delivery. Intermediaries can assist citizens who cannot, or do not wish to access services themselves, but have access to them through these third parties, whether on an informal, professional or commercial basis. The best recipe for success is a healthy mix of technology and services.