

## Broadcast Technologies, Evolved

Broadcast technologies have always been highly effective communicating and marketing tools. As consumers spend a majority of their time on their smartphones and tablets, organisations need to reach out to them through these devices in order to compete squarely with other digital content providers. Short Message Service (SMS) and Email broadcasting are the traditional means of connecting organisations to their customers and prospects. In the last few years, another form of technology has been added to the arsenal of tools – App Messaging.

App messaging is not based on SMS or Email. It is dependent on the Operation System (OS) running on the mobile devices. The two dominant mobile OS, Android and iOS, are developed by Google and Apple respectively. Google has the Google Cloud Messaging (GCM) server to deliver messages to Android devices (Google n.d.) while Apple has the Apple Push Notification Server (APNS) to deliver messages to iOS devices (Apple n.d.). The technical terminology for such messages is called “remote notifications” and a data connection (e.g. 3G/4G/WIFI) is required for delivery to work. Some apps use alternative forms of protocols to deliver app messages but none of them is able to match the efficiency (speed of delivery and device battery life) provided by Google or Apple, which is no surprise given that their engineers have highly optimised the individual components in their delivery frameworks.

*[May 2015: Updates from Google I/O: GCM server can now deliver app messages to iOS and Chrome devices as well! Diagnostic tools are also introduced so now we can finally check on the delivery of GCM messages!]*

SMS, email and app content can all be readily delivered to portable devices but are all of them equally effective? What should you consider before deciding on the best approach?

### Consideration Factors

Here are some factors you should be looking at.

#### a. Budget

SMS, Email or App service providers charge differently for their broadcast services. Some may offer sophisticated tools and features to justify their prices so it is difficult to compare at the application level. However, if we talk about the basic cost of sending a piece of information, SMS, at 3 – 5 cents per message (140 bytes, equivalent to 160 ASCII or 70 Unicode characters), is the most expensive option. Sending MMS and international SMS add to your costs even further. Email is free because you can just create a free webmail (e.g. gmail) account and start sending your message. App Messaging is considered free too because Google and Apple do not charge developers a fee for delivery of app messages. The current app message size in Android and iOS is 2,048 and 4,096 bytes respectively, which is more than ten times that of SMS!

#### b. Reliability

Assuming coverage is present and the mobile devices are in a state to receive messages (i.e. GPRS/EDGE/3G/4G/WIFI activated), SMS and Email, being far more established compared to App Messaging, score high in this index (Infocomm Development Authority of Singapore n.d.). Delivery of app messages is based on ‘best effort’ and is not guaranteed. Although we have, in

our experience, encountered delays of a few hours for delivery of app messages, we are confident such delays would become negligible in the near future, as Google and Apple continue to strengthen their infrastructures and services.

c. Reach

In the past, SMS would have scored high in this category. It is true that SMS can reach all users of feature phones (non-smartphone phones) and smart phones. However, the number of feature phones in use is declining rapidly as smartphones become more affordable (you can get one for less than SGD 80). Moreover, the reach of SMS is further reduced by the growing popularity of WIFI tablets over cellular ones (Afshar n.d.). These trends, along with the growing number of WIFI hotspots, should enable Email and App Messaging to improve their reach tremendously. In fact, we gave email a slightly higher score because you can even reach laptop users.

d. Responsiveness

Typically, users react more swiftly towards push rather than pull technologies. SMS and App Messaging are based on push so users have been more prompt in reacting to them. Responses from email, being a pull technology<sup>1</sup>, are generally slower. To make matters worse, important emails occasionally land in the spam or junk folder, causing delayed responses and missed opportunities.

e. User Experience

App Messaging scores the highest because it has the potential to integrate seamlessly to the numerous functions available in the mobile devices (e.g. accelerometer, calendar, contacts, GPS, gyroscope, etc.). For example, an app can intelligently determine that a user is driving and hence proceed to read out the received message without any intervention. Another example could be adding a bookmark automatically to the browser whenever a hyperlink is received and launched in an app.

f. Maintenance

Email requires the most housekeeping because users need to manually move mails from the common inbox to designated folders. SMSes are stored and grouped by senders automatically. App Messaging offers the best of both-worlds, giving users the ability to store and group messages by subjects and senders while at the same time, providing features to automatically housekeep older data.

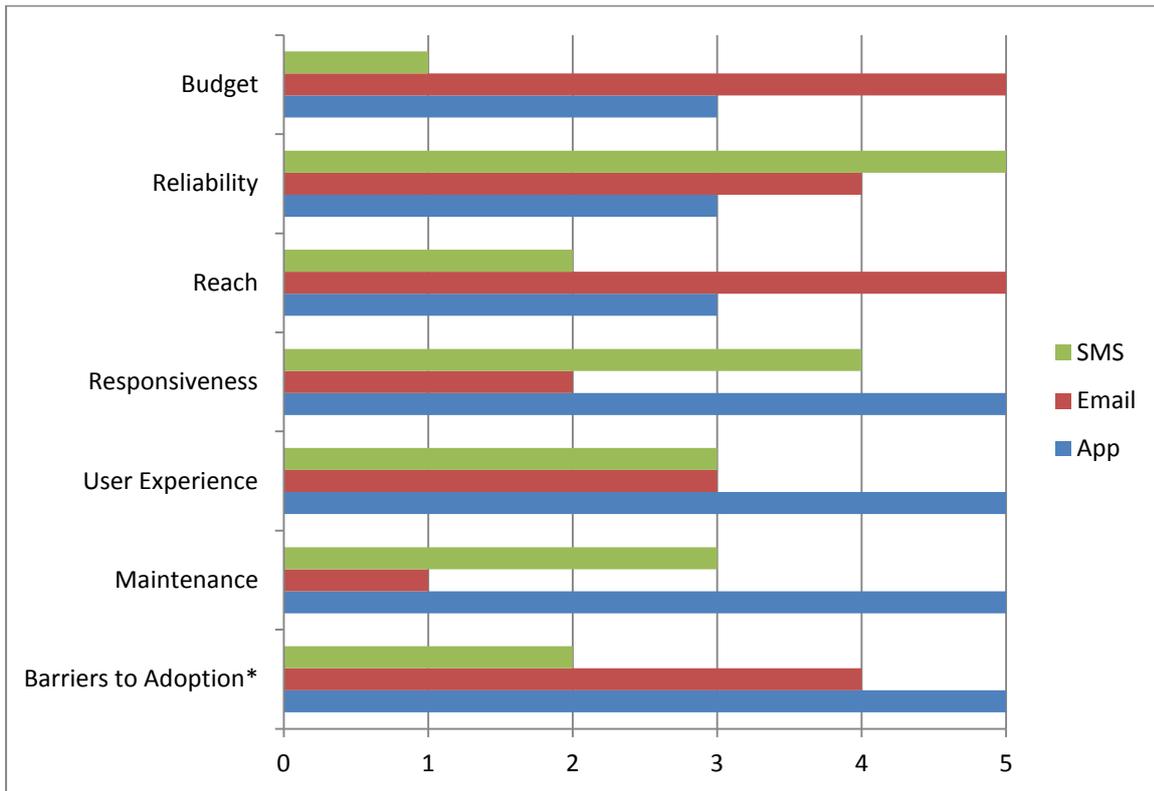
g. Barriers to Adoption

Do your users need to make special provisions or arrangements to receive information? SMS scores high because users need not configure any settings at all – it simply works. Email users have to configure some parameters (e.g. IMAP, SMTP settings, etc.) in order to start receiving or sending mails. App Messaging has the highest barriers to adoption because you have to convince your users to download and install your app(s).

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<sup>1</sup> IMAP and POP3, both based on polling, are the two most commonly used Internet mail protocols for retrieving emails.

A summary of the criteria and scores is shown in Figure 1 below.



\*Lower score is better

Figure 1: Broadcast Technologies – SMS vs Email vs App Messaging

### Hybrids

Interestingly, with the lightning speed of technology developments, you can already see some hybrid services comprising of a combination of the various broadcast means:

Hybrids	Description
<b>App + Email</b>	Messages are sent via Email and/or App
<b>App + SMS</b>	Messages are sent via SMS and/or App
<b>App + Email + SMS</b>	Messages are sent via Email and/or SMS and/or App

Essentially, these services provide greater redundancy and robustness in delivering your message but more importantly, they minimise your business downtime as you make a switch from the traditional mode of SMS or Email to adopt Apps. With Hybrids, you have to reconsider the overall costs benefits, especially when SMS is involved.

### Regulations

Business looking for broadcasting services based on Email, SMS, App or Hybrids for marketing purposes in Singapore should also be aware of the regulations enacted. The Do Not Call (DNC) registry applies to all telephone numbers in Singapore (Personal Data Protection Commission n.d.). There are exceptions<sup>2</sup> but in general, you are required to check your number(s) with the registry for

<sup>2</sup> Read our article [Do Not Call Registry and Your Organisation](#) for the details.

approval before you send your marketing content. The Singapore Spam Control Act (SCA) contains rules to provide for the control of spam and it applies to Email, SMS and MMS (Attorney General's Chambers n.d.). Regardless of the platform you choose, the Personal Data Protection Act (PDPA), which governs the proper collection, use and disclosure of personal data belonging to consumers, always applies (Personal Data Protection Commission n.d.). Here's a summary.

Mode	Regulations
<b>Email</b>	SCA; PDPA
<b>SMS</b>	SCA; DNC; PDPA
<b>App</b>	Depending on what parameter is associated with a mobile device. If a telephone number is used, DNC applies; PDPA
<b>App + Email</b>	SCA; PDPA
<b>App + SMS</b>	SCA; DNC; PDPA
<b>App + Email + SMS</b>	SCA; DNC; PDPA

## Conclusions

With a better understanding of the broadcasting technologies available, you should now be able to choose the best option that fulfils your needs. As you can see, the benefits and potential of App Messaging are enormous, and it should be the first option to consider if your organisation has not adopted any broadcasting avenues yet. Hybrids are good alternatives for ensuring business continuity as you make the transition from traditional SMS or Email to Apps. Although it can be a huge challenge to convince your users to download app(s), remember the golden rule: if your app is useful, consumers will be receptive to it. Quite often, the bigger challenge lies in identifying the actual values your app provides and how they are being communicated to your users.

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