

## The future of mobile messaging: Over-the-top competitors threaten SMS

*As a result of the increased penetration of smartphones and OS application ecosystems in developed markets, "over-the-top" (OTT) mobile messaging applications now constitute a significant threat to telecommunications carriers' SMS-messaging revenues. Some markets, such as South Korea and the Netherlands, have already "tipped" – that is, OTT messaging has reached such a high level that it is causing a material threat to SMS volumes and revenues.*

*By James Chavin, Aadil Ginwala and Max Spear*

McKinsey & Company conducted a country-by-country assessment on the relative risk of markets "tipping" due to OTT messaging – an assessment that combines lessons from South Korea and the Netherlands with a diverse set of data on the state of mobile messaging in each nation. The objective of the research is to help telecommunications carriers understand the threat posed by OTT players and to provide companies with a catalyst for devising a strategy to stay relevant in the mobile messaging space.

### STATE OF THE MOBILE MESSAGING WORLD

Consumers' options for text-based communications are growing rapidly, and a number of low-cost and even free alternatives to SMS are experiencing increased rates of use. Two different OTT alternatives have emerged: OS-specific communication systems such as iMessage and BlackBerry Messenger, and third-party applications such as WhatsApp and Kakao Talk, which are often cross-platform. Generally speaking, both sets of applications promise a richer user experience at a price materially lower than traditional SMS messaging.

OTT application uptake can be seen at the global level. Two markets in particular have experienced a dramatic move away from SMS: the Netherlands and South Korea. A major carrier in the Netherlands stated in its Q1/2011 results that "accelerated changes in customer behavior were visible." More specifically, the carrier "saw its SMS revenues fall 'dramatically' in Q1/2011." The year-over-year change in outgoing SMS messages per subscriber fell from a 33-percent increase in Q3/2010 to an 11-percent decline in Q2/2011. Over the same period, WhatsApp's penetration (measured as the number of smartphones with the application installed) rose from an estimated 5 percent to 85 percent<sup>1</sup>.

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<sup>1</sup> Corporate website

In South Korea, a similar trend was revealed but with a different culprit. From January to September 2011, cumulative downloads of the mobile messaging application Kakao Talk increased by a multiple of five (approximately) – from 5.4 million to 25.4 million<sup>2</sup>. Carriers in South Korea indicated a substantial decline in P2P SMS volume in 2011, potentially as much as 55 percent<sup>3</sup>. Carriers are searching for alternatives in order to remain relevant in the mobile communications space.

## LESSONS LEARNED FROM OTHER MARKETS

McKinsey conducted a detailed analysis of the factors that led to the recent results in the Netherlands and South Korea, with the goal of identifying the core drivers behind OTT “tipping” in the market. The research indicates that the risk of a market “tipping” towards OTT can be determined based on the following sets of drivers:

- **Technology readiness:** In general, a base level of technology must be in place for dramatic OTT uptake to take place. Countries with 3G or better networks and high levels of smartphone penetration are the most likely to have a wide distribution of OTT apps.
- **A cost incentive to adopt OTT:** Compared to SMS, OTT alternatives are often very low cost or free. Consumers are given the opportunity to arbitrage data and SMS costs. The high cost of SMS technology in some markets incentivizes the switch to inexpensive OTT technology.
- **The social propensity to adopt OTT:** Our research indicates that the decision to switch to an OTT application often happens at the micro level. The mobile messaging platform utilized by an individual person’s social group is a substantial influencing factor. Specifically, we discovered that youth aged 13 to 24 years may be leading indicators for a more widespread uptake.
- **The strength of the OTT alternative:** The strength of the OTT applications available is a primary indicator of tipping risk. Markets with significant penetration of a single OTT app, or where a single OS platform is highly concentrated, are at the greatest risk of a rapid decline in SMS volume.

Across these 4 groups, 11 distinct OTT tipping drivers were identified (sample drivers, see Exhibit 1). To the extent possible, data was collected at the country level, and fed through a weighted scoring system to determine the overall level of risk inherent in a given market.

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<sup>2</sup> Corporate website

<sup>3</sup> McKinsey interviews  
McKinsey & Company Telecom, Media & High Tech Extranet  
<http://telecoms.mckinsey.com>

EXHIBIT 1 : Drivers of the shift from SMS to OTT messaging

**Multiple drivers triggered the shift to OTT messaging in Korea & the Netherlands – monitoring these drivers can help carriers act prudently**

Driver group	Sample leading indicators of rapid SMS decline	Korea	Netherlands
<b>A</b> Technology readiness	<ul style="list-style-type: none"> <li>3G or better network which enables accessibility and speed of OTT communications</li> <li>Smartphone penetration at a high enough level to enable wide distribution of OTT apps</li> </ul>	✓	✓
<b>B</b> Cost incentive to adopt OTT	<ul style="list-style-type: none"> <li>Consumers given the opportunity to arbitrage data and SMS costs</li> <li>High cost of SMS incentivizes the switch to inexpensive OTT</li> </ul>	✓	✓
<b>C</b> Social propensity to adopt OTT	<ul style="list-style-type: none"> <li>Strength of carrier handset control, indicating the influence carriers possess over applications</li> <li>Relative mix of smartphones in youth aged 13-24 yrs</li> </ul>	✓	✓
<b>D</b> Strength of OTT alternative	<ul style="list-style-type: none"> <li>Significant market penetration by a given OTT app</li> <li>Concentration of a single OS platform with integrated IM (e.g., iPhone or Blackberry)</li> </ul>	✓	✓

**GLOBAL RESULTS**

The results from the risk tool revealed the following (Exhibit 2):

- **High risk:** Countries at immediate risk of OTT tipping (apart from the Netherlands and South Korea) include Japan, Spain, Germany, Switzerland, the United Kingdom, Singapore, and Russia.
- **Moderate risk:** Countries with a material, but less urgent level of concern regarding OTT tipping include Canada, the United States, Italy, Poland, Australia, Austria, France, and Hungary.
- **Low risk:** The remainder of the markets with enough data to allow analysis are low risk. These include major emerging markets such as Brazil, China, and India – all markets in which technology infrastructure lags behind other nations, and in which SMS use is still on the rise.

A deep dive for a high risk market (Spain) is shown in Exhibit 3

## EXHIBIT 2 : Highlight results from the global risk diagnostic tool

Analyzing these drivers across global markets indicates the highest-risk markets, helping carriers decide right response

Tipping risk<sup>1</sup>:  
■ High  
■ Medium  
■ Low

#	Country	Score	#	Country	Score
1	Netherlands	74	17	Hungary	50
2	South Korea	73	18	Czech Republic	49
3	Japan	69	19	Finland	48
4	Spain	68	20	Portugal	48
5	Germany	67	21	Malaysia	48
6	Switzerland	64	22	Thailand	44
7	United Kingdom	62	23	Sweden	43
8	Singapore	60	24	Norway	40
9	Russia	60	25	Denmark	36
10	Canada	57	26	Turkey	36
11	United States	55	27	Indonesia	No risk
12	Italy	54	28	India	No risk
13	Poland	54	29	Brazil	No risk
14	Australia	54	30	Argentina	No risk
15	Austria	52	31	Mexico	No risk
16	France	50	32	China	No risk

<sup>1</sup> Only countries with at least 5 data points were included in this ranking

## EXHIBIT 3 : Deep dive (Spain) results from global risk diagnostic tool

Spain's high risk level is a function of WhatsApp's existing strong penetration and presence of the necessary tipping fundamentals

Key drivers	Spain	Netherlands	South Korea	Spain Score	Implications for the Spanish market
A Smartphone proportion of mobile phone sales	36%	NA	51%	60	
A Network infrastructure quality score	2.98	2.94	3.34	PASS	
B Average cost of SMS	4.0¢	7.6¢	4.9¢	60	
B Carrier fragmentation, measured by inverse HHI	68%	63%	61%	60	
C Smartphone penetration in ages 13-24 vs. 25-64	39% vs. 29%	48% vs. 28%	N/A	40	
D Fragmentation of smartphone OS platforms	0.17	0.15	0.32	60	
D Concentration of OTT apps (std. dev. of market share)	0.21	0.18	0.22	100	
D Market penetration of top OTT app	63%	54%	66%	100	
				<b>SCORE<sup>1</sup></b>	<b>68</b>

<sup>1</sup> Score based on weighted average of 8 drivers, 7 of which are shown here

Source: Mobile messaging tipping diagnostic (support to this deck)

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## ADAPTING TO MOBILE MESSAGING TRENDS

Over-the-top messaging poses a real and material threat to SMS revenues. Carriers are exposed to risk when they react both too slowly and too quickly. Acting too late can be a major strategic mistake. As case examples from the Netherlands and Korea show, when a market “tips” towards an OTT solution, the switch happens virally and quickly (within a year) and the decline is dramatic and hard to reverse. However, acting too soon is also very expensive. SMS messaging generates 50,000 times more revenue per megabyte, on average, than data average revenue per user; as a result, defensive actions that reduce profitability or self-cannibalize the SMS channel to hold off an OTT threat are expensive and should not be taken prematurely.

On a “macro” level, carriers should carefully monitor key drivers of OTT tipping, assess the risk in their market on an ongoing basis, and act accordingly. Based on lessons learned in markets around the world, carriers should consider constructing a mobile messaging strategy that matches the level of risk inherent in their corresponding market:

- **High-risk markets, traditional strategy:** The first, more traditional strategic option for telecoms in countries with a high risk of tipping involves accepting that OTT messaging will experience strong growth, and working to maximize revenues. In this approach, carriers should capture a base level of SMS revenues using fixed-fee bundles, while metering data according to usage. Aggressively bundling SMS with other services (such as data or voice) at a price that makes adding the SMS plan a “no-brainer” for users ensures that, at minimum, a base level of revenue is captured from most users.
- **High-risk markets, aggressive strategy:** An alternate approach is to confront OTT players head-on, a tactic utilized by select carriers in markets such as South Korea. Service providers can launch their own IP communication applications, pre-loaded on handsets with proprietary features, such as privileged access to a carrier’s address book. In conjunction, the carrier can consider metering specific types of data separately (e.g., different cost for mVoIP calls, IP messages, browsing) to deter specific OTT application use, but this runs the risk of overstepping net neutrality boundaries and upsetting customers.
- **Moderate-risk markets:** In moderate risk markets, the carrier should attempt to protect core SMS volumes while sharing in the OTT upside. This can involve bundling SMS and data in tiered quantities to reduce cost arbitrage incentive, while avoiding data-only plans. Further, carriers can consider revenue-sharing partnerships with emerging OTTs, or creating their own cross-carrier IP messaging solution.
- **Low-risk markets:** Carriers in low-risk markets should focus on maximizing SMS revenues before OTT pressure begins to rise. Pricing should be matched to customers’ willingness to pay, which makes pay-per-message an attractive approach. Carriers should also simultaneously improve SMS service features to delay any incentive for OTT switch.

Matching a mobile messaging strategy to the risk level inherent in the market allows carriers to avoid mistiming as well as sacrificing revenues and/or competitive position. Acting prematurely will ensure a mismatch in customers' willingness to pay as well as reduce revenue capture, while acting too late could result in missed opportunities to generate mobile-messaging revenue in the future. The stakes are high.

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*Over-the-top mobile messaging alternatives are growing in popularity and usage. As smartphone use continues to increase, so do consumers' alternatives to the SMS channel. Telecommunications carriers must carefully consider the risk inherent in their markets, and time their reactions to the OTT threat accordingly, in order to remain relevant in the mobile messaging space.*

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