



Deliverability in the World of SMS



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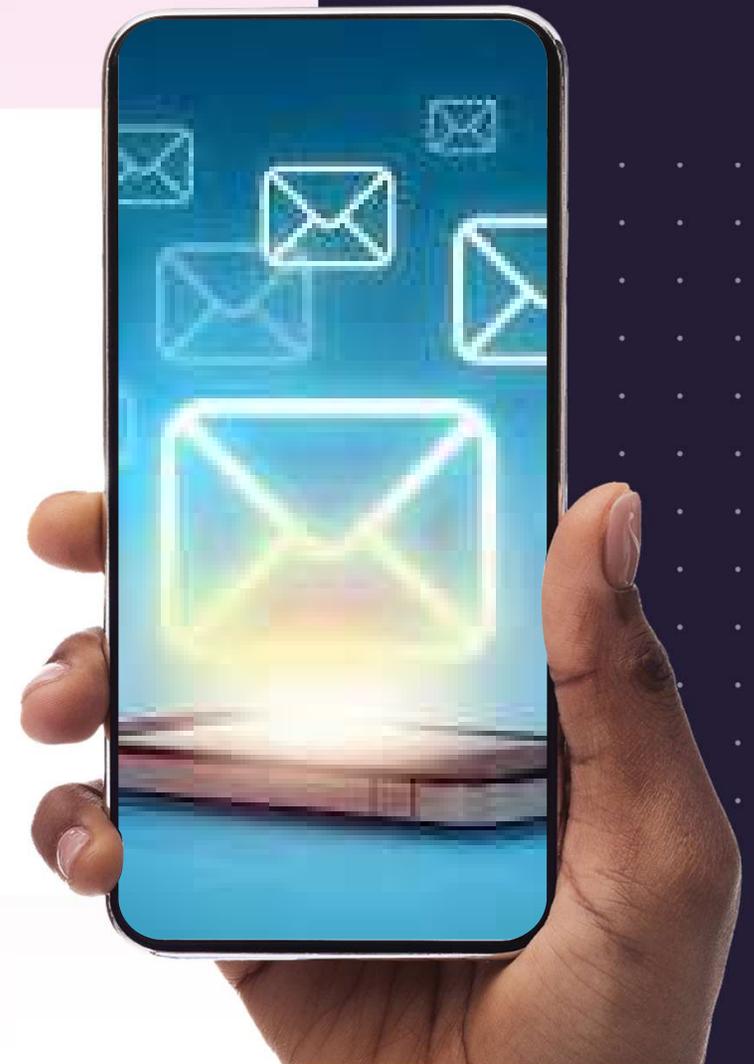
AGENDA

1. Highlights from last time
2. Aggregators, networks and content providers
3. Tips for improving deliverability in SMS
4. Predictions for the future

What did we cover last time?

Our SMS Journey

- **Message creation**
- **Sending number**
- **Network connection**
- **Receiving number**
- **Message -> network**
- **Delivery to handset**
- **Reporting**



Message creation

Sender

- 160(ish) character limit

Both

- Content pre-registration
- Content filtering
- Legislation (e.g. SHAFT)
- Links (shorteners)
- Unsubscribe
- Multipart messages

Content provider

- Segments
- Character set

Aggregator: provides a route to deliver SMS messages

Tier 1 aggregator: the route is a direct connection to the network carrier

Sending number

Email equivalent: from address

Sender

- Best number type for their business model, volume, and where their recipients are

Bind = SMPP connection to an aggregator

TON = type of number

Both

- Type – USA/Canada
 - Shortcode
 - 10DLC
 - Toll free
- Other regions
 - Alphanumeric
 - International long number
- Registration

Content provider

- TON

Type of number

Shortcode

- Most expensive
- Highest TPS
- Brand recognition
- 4-6 weeks setup
- CTIA/TCPA regulations

TPS = Throughput Speed

10DLC

- Monthly fee but lower cost per message than TFN
- No delivery receipts (DR, DLR, ER)
- Geographic US number
- Variable daily send limit
- CTIA/TCPA regulations

Toll free (TFN)

- Slowest TPS
- Faster setup
- Best practice guidance enforced by Zipwhip (Twilio)



Content providers – this is all on you!

Network connection

- Aggregator
 - Tier 1 – direct connection to network carriers
 - Tier 2 – connects to tier 1 aggregators
 - Gray routing – ~~don't do this~~ try to avoid this
- Submission
 - API
 - SMPP
- Throughput Speed (TPS)



P2P = peer to peer/person to person
A2P = application to person

Content providers – this is all on you!

Delivery to handset

- Spam filtering
- Timing
 - E.g. MFA
- Scale
 - E.g. automated conversation aka interactive messages
- Multi-segment messages
- Character set & encoding

Message totally garbled? = encoding issue
A few wrong characters? = character set issue



Content providers – this is all on you!

Reporting

- Delivery reports vary by network
 - Accepted by network
 - Delivered to handset
 - Opened on handset (unicorn!)
- Bounces
 - Incorrect number
 - Handset switched off
 - No credit
 - Roaming
 - Spam filtering



DR/DLR = Delivery Report
ER = Error Report

Abuse: Aggregators, Networks & Content Providers

Friend or foe?

Vectors of abuse



Message trashing



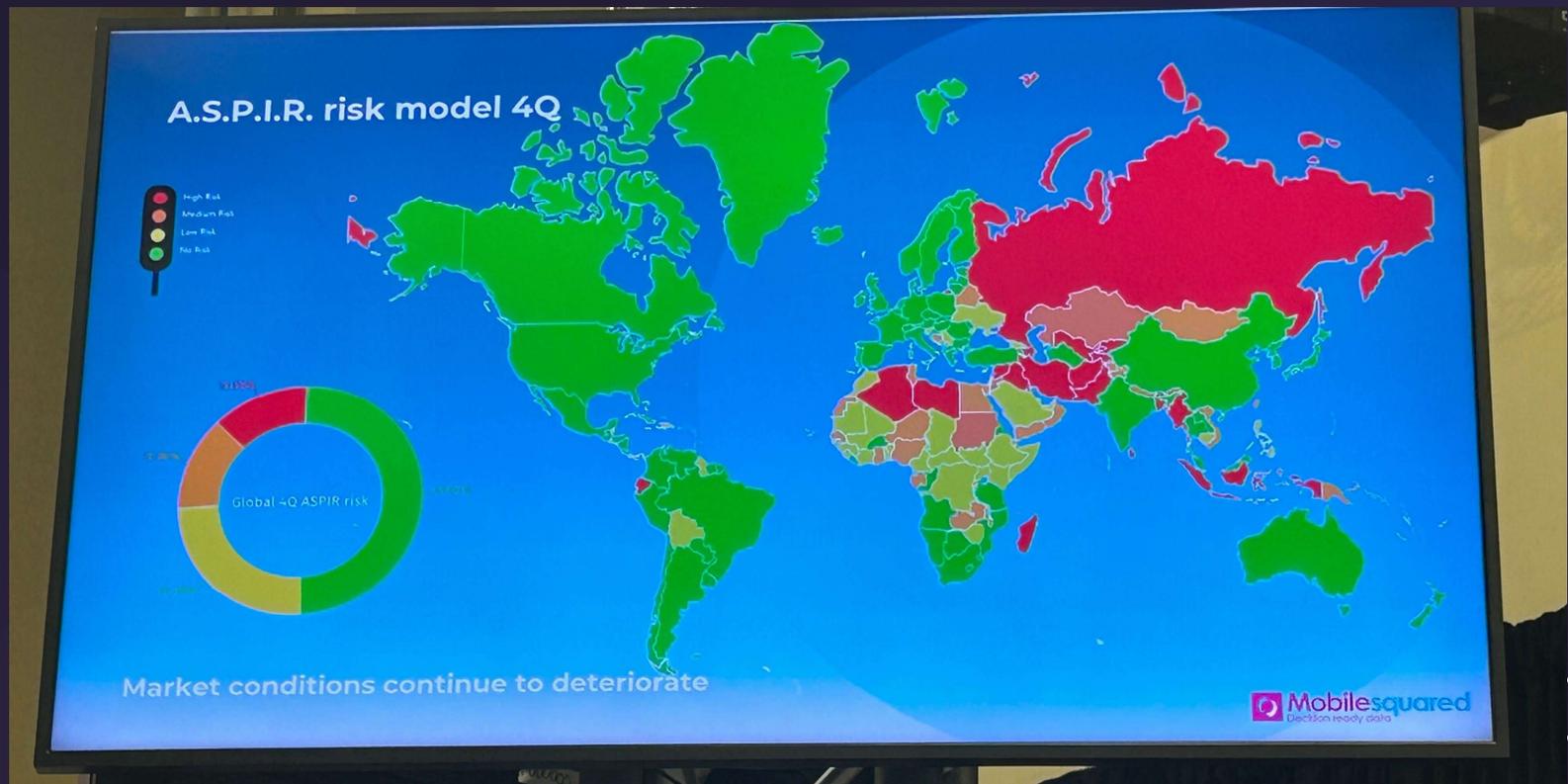
Grayrouting



Artificially Inflated
Traffic (AIT)

Source: MobileSquared presentation ITW May 2024

AIT market risk

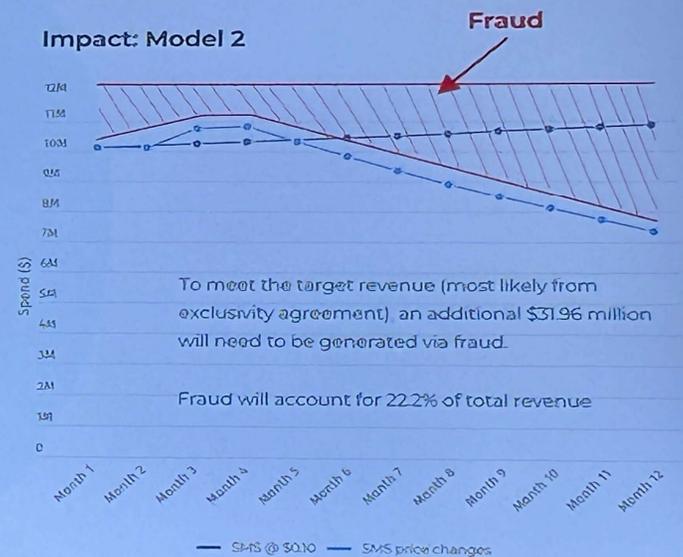
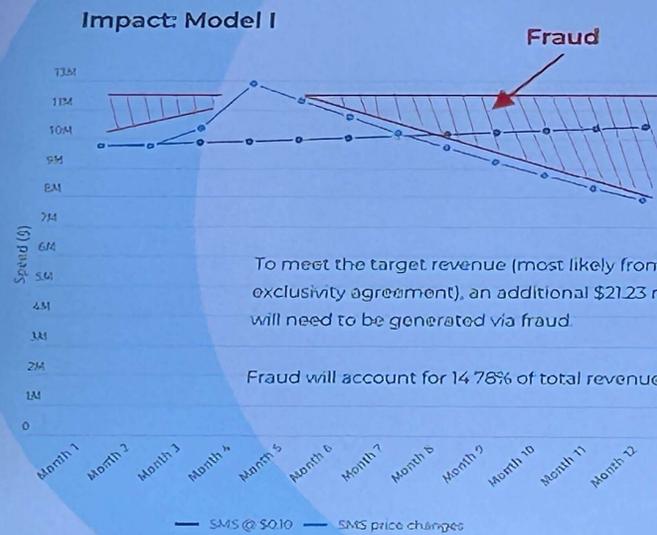


Source: MobileSquared presentation ITW May 2024

Higher prices = more AIT

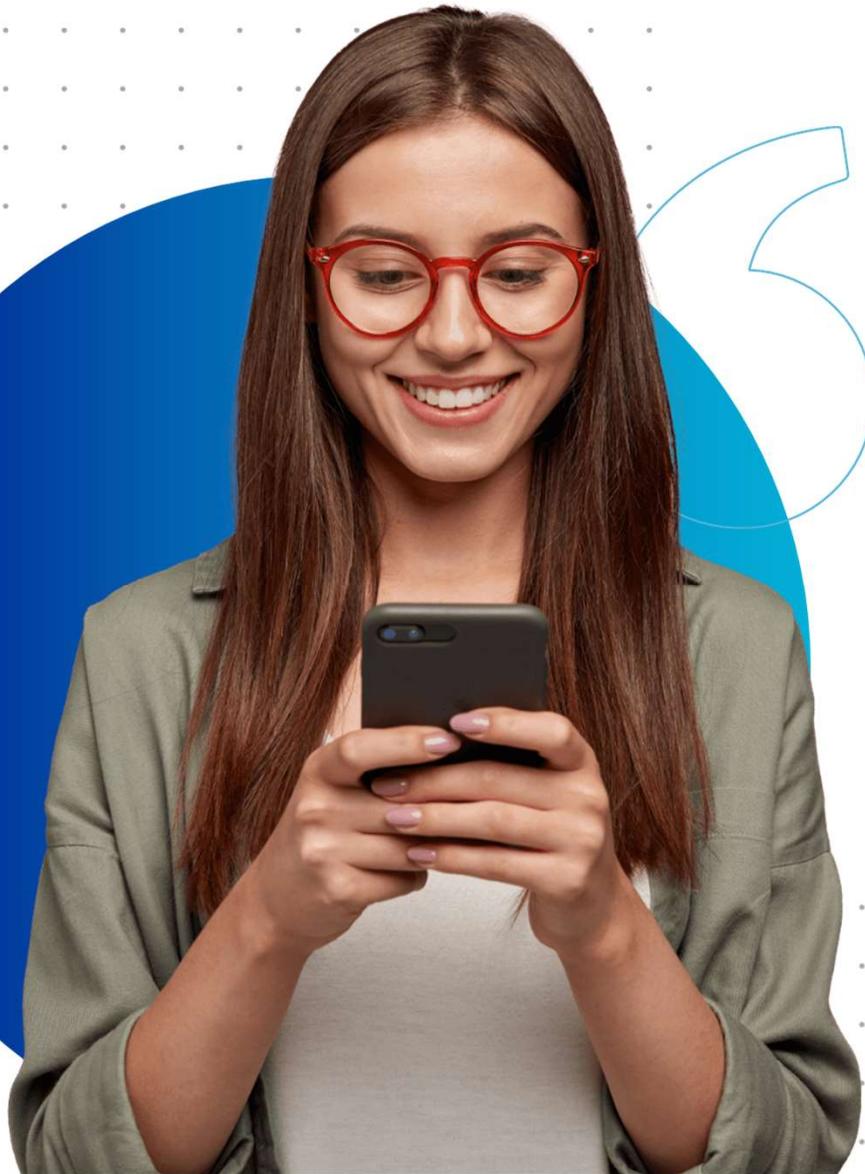
The impact of price increases on A2P SMS revenues: MNO

MNO scenario: Annual revenue target increases to \$12 million per month



Based on MobileSquared research up to April 2024. Data subject to change

SMS deliverability: is history repeating itself?



SMS is not like email - the networks don't tell us their rules for their spam filters. Their idea is that if they told us this, all spammers would be doing everything to not be marked as spam

- April 4th, 2024

Wait – does this look familiar to you?



What have we learned?

Filtering is not very smart

Secrecy

Most spam filtering happens at the aggregator level. Like email, aggregators and MNOs won't reveal their exact spam filter criteria.

Content mis-match

If the content in the customer's application is too vague, actual campaigns may be blocked

Volume sometimes matters

Spam filtering isn't mainly based on volume, but sometimes at least 5 messages need to be sent before filters start blocking them.

Sending patterns

Aggregators and MNOs look for unusual sending patterns – especially unusual volumes and destination country – to spot potential abuse.

URLs and content

Depend on region, content and URLs may be scanned – and the underlying infrastructure of the domain. We've seen filtering for branded bit.ly URLs and this is common.

Spammy words are back

Words like "test" and "order", references to alcohol, cannabis, guns, or adult language.



Actionable tips

Avoid false positives

Test

At least 6 messages,
test with actual content

**Especially important
for TFN senders**

Be specific

During content pre-
registration

Don't be vague – avoid
content mis-matches

SHAFT

Avoid any SHAFT-C
references

Unless you've been
specifically approved

Tip: Testing tools exist!



The image displays a mobile application interface with two main sections. The left section shows a message view for a contact with ID 123432, received 5 minutes ago. The message content is: "Join the future of Cross-Chain Transactions! Unlock \$600 worth of FREE ETH Tokens with LayerZero's Exclusive Airdrop. Hurry, visit <https://layerzero.blog> now". Below the message is a "Locked View" section showing a truncated version of the same message: "Join the future of Cross-Chain Transactions! Unlock \$600...". The right section is titled "Delivery Diagnostics" and lists carriers with their delivery status: AT&T (green bar), Verizon (orange bar), Rogers (orange bar), and Bell (orange bar). To the right of the carrier list are two region selection buttons: "Region United States" (with a green dot) and "Region Canada" (with a green dot).



CSG Assure

CSG Assure Admin Window Help

Home Analysis Test Test Phone No Test History Test Set Task Schedule Query Builder Node Status

Home SMS Templates Test-SMS MT (Running)

Run Test Save Add Test Set Items

Status	Result	Network	Test Node	Supplier	Route	Sent Time	Del. Time OK	Content OK	OA OK	S. TON OK	Alpha OK	Del. Rep. OK	Del. Time (sec)	SMSC	SMSC Owner	Error Msg.	QA (S)
Invalid	The B party test...	UK - Lycamobile	Ascade Test No...	Test	Test												
Successful	SMS delivery su...	UK - EE	UK1.CB_4264 (...)	Test	Test	14/05/2024 09:...	✔	✔	✔	✔	✔	✔	5	+447958879860	(United Kingdom...		LBLambeth
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Successful	SMS delivery su...	UK - Vodafone	UK1.MP4_04 (4...	Test	Test	14/05/2024 09:...	✔	✔	✔	✔	✔	✔	4	+447589805824	(United Kingdom...		LBLambeth
Successful	SMS delivery su...	UK - 3	UK1.CB_4157 (...)	Test	Test	14/05/2024 09:...	✔	✔	✔	✔	✔	✔	2	+447782001809	(United Kingdom...		LBLambeth

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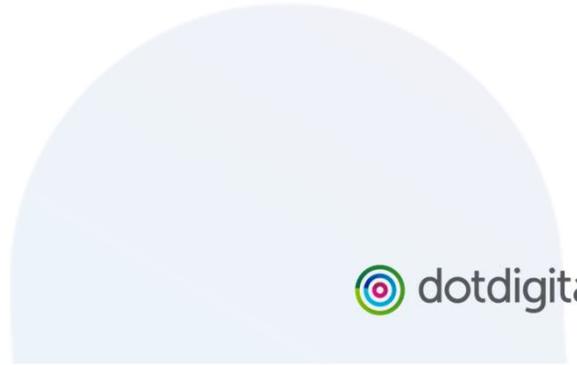
Predictions for the future



What if we could tell the future?

Looking ahead

- Things are going to get harder, not easier
- Whitelists will go away, info will be hard to get
- Trusted relationships will be key
- WhatsApp/RCS



ANY QUESTIONS?

(We still have many)