Use of Debit Cards in Malaysia Survey

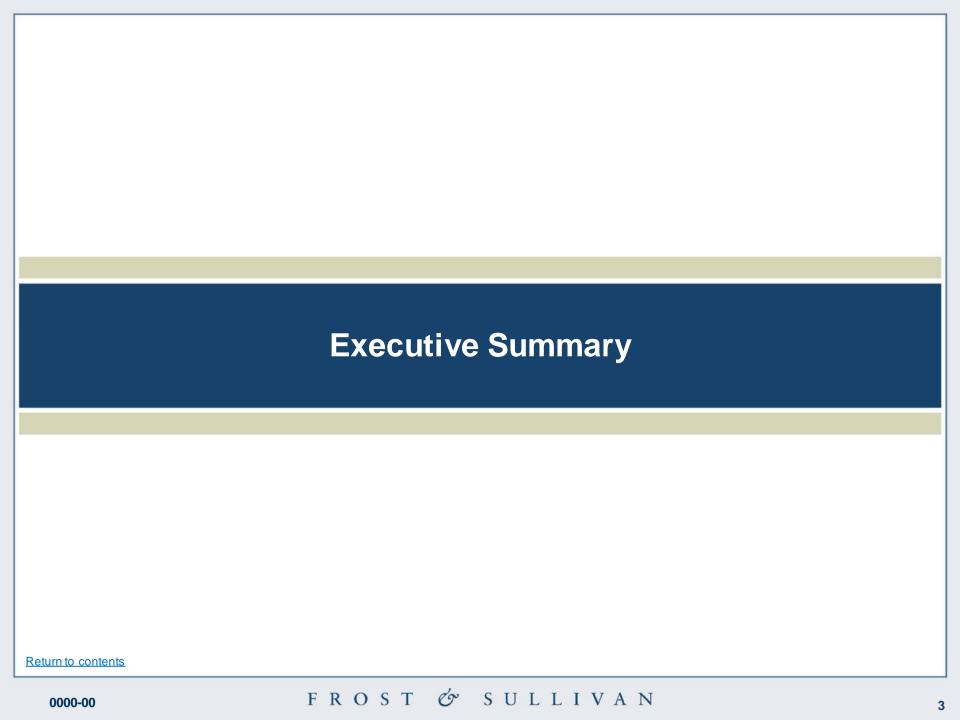
Urgent Action Needed to Reap Potential with Debit Card Use

June 2017

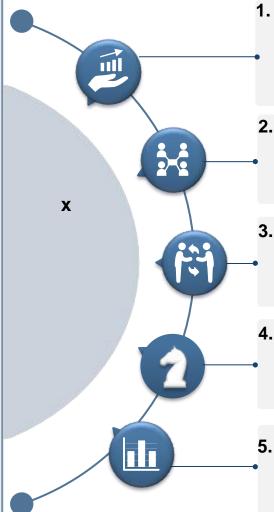


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Key Findings



- The debit card is being leveraged as a key enabler in Malaysia going cashless. Although industry statistics show growth, per capita debit card transaction is still only 3.5, and the impact of the government's national target to increase per capita transaction of debit cards to 30 by 2020 is yet to be felt.
- 2. The survey showed that if the respondent had not used their debit card during Jan-Mar 2017, there is a 50% chance of them not using it again. To ensure success of the national agenda, emphasis needs to be placed on incentivizing first-time use.
- 3. Of the respondents sampled, only 73% had used their debit card during Jan-Mar 2017. Debit cards are used mainly because consumers prefer carrying less cash. This is more so for foreigners. The messaging used needs to evolve to "safer with less cash".
- 4. There will be some replacements of credit cards, albeit minimal, if the user has a Maybank or CIMB debit card. Banks need to take into account that the profile of today's debit card user could be different from that of past users, particularly those in 2010.
- 5. Debit card acceptance is increasing; those that have used their debit card in Jan-Mar 2017 have experienced its benefits. Thus, incentivizing first-time use and solving issues with debit cards, such as during their use at petrol stations and online, will help increase their uptake.

Implications for Industry

Industry Regulator: Bank Negara Malaysia (BNM) needs to drive a change in its key message to consumers. For example, "safer with less cash".

- Consumers using debit cards appreciate their cashless aspect.
- The regulator needs to address the security concerns of users and the increasing use of PIN and PAY as opposed to the contactless feature of the debit car, which mainly stems from lack of awareness of the fact that contactless transactions are covered by insurance through the card schemes.

Banks and debit card acquirers: Debit card acquirers need to invest more in strategizing how to leverage on these cards.

- Although there has been encouraging growth in debit card issuance and use, the fact remains that per capita debit card transaction was still only 3.5 in 2016 and far from the BNM target of 30 for 2020.
- At the current run rate, and taking into account the survey finding that card holders that have not used their cards even once in Q1 2017 are unlikely to do so going forward, the BNM target for 2020 will likely not be met.
- Acquirers should take note that "faster" is no longer a key selling point, but that debit card is a cheaper card option. Banks need to take into account that the profile of today's debit card user could be different from that of past users, particularly those that acquired cards in 2010.

Companies with online presence: Online industries need to leverage more on debit cards as a payment method, as they open up the demographic that does not own a credit card. The market is already seeing demand for debit cards as an online payment method. However, the industry needs to push towards a more user friendly online experience for users.

Acquirers of other payment methods, such as e-Money: e-Money operators need to increase acceptance and innovate faster to stay relevant for users. As debit card use may evolve towards use for smaller ticket items, it may compete with e-Money solutions to offer users a single, non-cash payment method for their everyday payments.

Research Team

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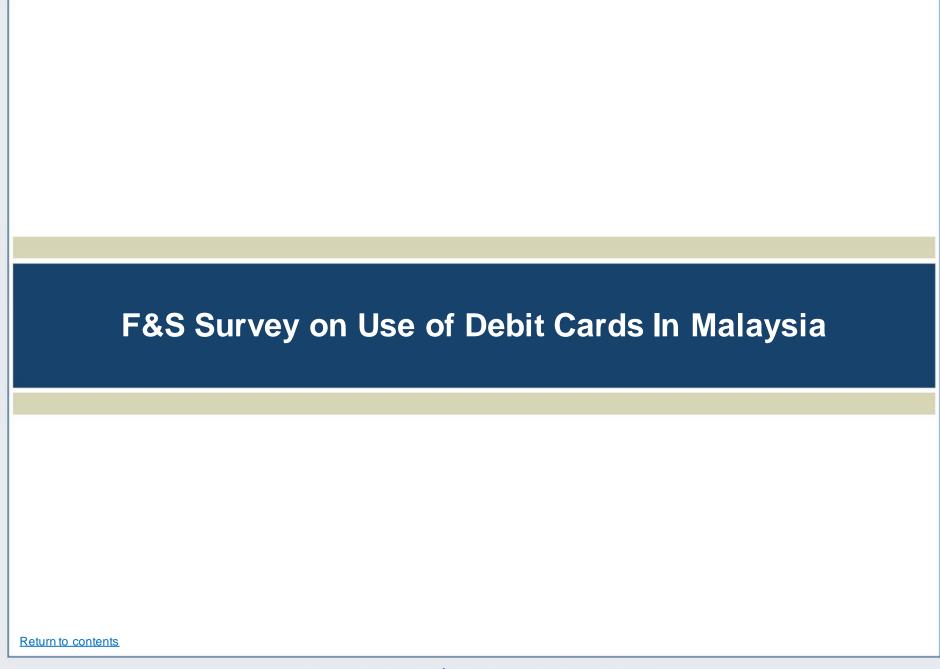
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- ✓ Industry Thought Leader in Mobile Payments and Cashless Societies
- ✓ Former Head of Payments at a Leading Telecoms Operator
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- √ 7-8 years relevant experience in payments
- √ 18+ years industry experience



Debit Cards in Malaysia

The payment industry's transformation is underway, with debit card transactions to increase ten-fold by 2020 and play a key role in Malaysia going cashless.

 A key development took place in the payment industry in December 2014 with BNM, the central bank and financial industry regulator, releasing the Payment Card Reform framework. The framework seeks to accelerate the migration to e-payments as a primary agenda for the country. The changes under the framework were specified as follows:

Acceptance

- Terminals need to be increased from 220,000 to 800,000 by 2020, which means an average addition of 96,000 terminals per year and drilling down into smaller merchants through mobile Point of Sale (mPOS).
- Contactless terminals will comprise 30% of all terminals and the transaction limit will be set at RM250.

Payment Methods

- All debit cards have to be contactless and have to be re-carded by banks by December 31, 2017.
- Debit card transactions are set to increase 10-fold to reach the per capita debit card transaction target of 30 by 2020. To achieve this, debit card interchange fees was dropped to 0.15% for domestic transaction and 0.21% for international transactions from an average of 1%. The interchange fee for credit cards will be fixed at an interim ceiling of 1.1%, from an average of 1.2% until 2020 and will drop to 0.48% by 2021.
- All card transactions will move from being signature-based to PIN-based from July 1, 2017.

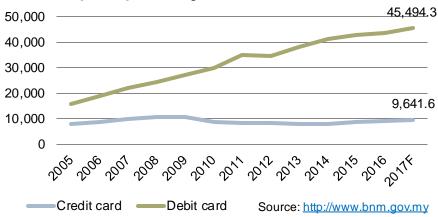


PayNet will direct its focus on promoting MyDebit as a low-cost alternative to displace the use of cash.

Debit Cards in Malaysia (continued)

Use of debit cards growing; total value to reach RM 25.6 million in 2017.



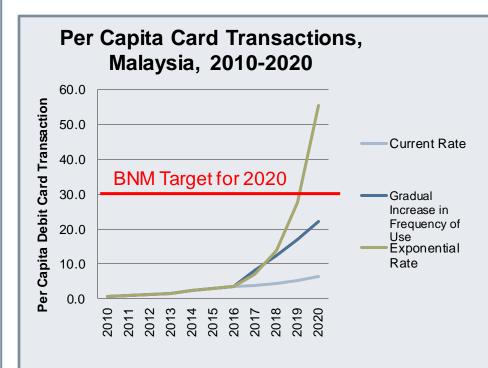


- In Malaysia, debit card usage continues to grow rapidly. Frost & Sullivan forecasts the number of cards to reach 45.5 million in 2017 or an average of 1.41 cards per Malaysian.
- According to BNM, debit card volumes grew from 90.1 million in 2015 to 107.5 million in 2016. Frost & Sullivan forecasts the volume to reach 130.8 million in 2017.
- The total value of these transactions has also increased over the same period from RM20 billion to RM22.5 billion. Frost & Sullivan forecasts the total value to reach RM25.6 billion in 2017.
- The MasterCard Online Shopping Study 2017 highlights the growth in usage of debit cards, which have been ranked as the second most used payment method for online transactions (at 19.4%) after bank-to-bank transfers (at 26.2%), and this is ahead of credit cards (at 19.1%) in 2016. Debit card use has grown compared to previous years (at 16.8% in 2015 and 15.8% in 2014). Similarly, there is also improvement in debit card usage for offline transactions at 12.8% in 2016 as compared to previous years, which were at 11.9% in 2015 and 11.2% in 2014.
- Both BNM statistics and the MasterCard survey show encouraging growth in debit card issuance and use. Comparatively, credit card shows stagnant growth. The number of credit cards in circulation has yet to reach the levels of pre-government tax imposition in 2010 despite the removal of government tax in 2015 when GST was introduced.

Debit Cards in Malaysia (continued)

Although debit card use is growing, the per capita debit card transaction is still 3.5.

- While the market statistics seem to show growth, the fact remains that per capita debit card transaction was still only 3.5 in 2016. BNM's target for 2020 (4 years from now) is 30.
- Progress has been made if we consider that in 2013, the ratio of per capita credit card transaction to per capita debit card transaction was 6.7. In 2016, this ratio was down to 3.6 and on average each debit card was used 2.46 times a year. There is plenty of room for growth, as credit cards were used on an average 41.82 times a year or 3-4x a month.



- If the debit card is to play a key role in Malaysia going cashless, it should be worrying that at the current rate, the BNM target for 2020 will likely not be met.
- Assuming we are able to gradually increase frequency of use over the next 4 years, projections still show that it would still be a stretch to reach the BNM target by 2020.
- Industry needs to invest more in strategizing how to leverage on debit cards. This survey shares insights on usage behaviour and issues.

Survey Methodology

Insights on survey have been validated by industry stakeholders.

Objective and Methodology

- This survey attempted to study why consumers used the debit card in order to help increase the use of such cards in Malaysia.
- The target group for this survey were consumers that possess and use a debit card from a Malaysian bank.
 This survey did not cover consumers that did do not possess, or possessed but did not use debit cards.
- It is known that consumers are likely to be holding more than 1 debit card, and that debit cards can now also be used for ATM cash withdrawals. The survey focused on the most used debit cards and did not include cash withdrawal as a surveyed functionality of the debit card.

Rationale

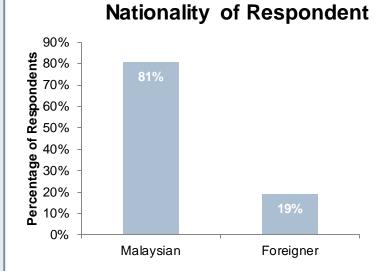
- The methodology chosen took into account that most surveys focused on studying the potential in the market in order to justify rolling out a solution that would meet the market potential. There is usually a gap, resulting in some companies unable to fully tap the market potential.
- A focus on debit card was chosen, as the plan to transition Malaysia to a cashless society seems to leverage on the higher penetration of debit cards at 138% compared 29% for credit cards (as of December 2016).

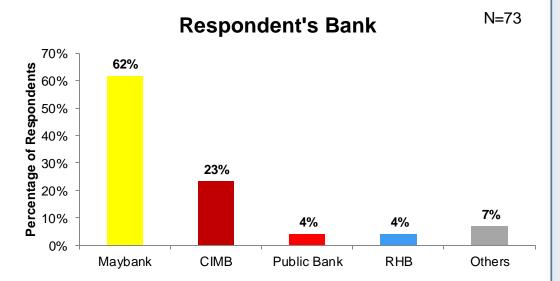
Limitations

- The sample size is relatively low at 73 as a result of measures to keep costs minimal in order to be able to circulate this as a free survey report to industry. The sample took into account consumers in Kuala Lumpur and Johor as well as those working and not working. The outcome presented in this research supports an indication of market trends and was validated by industry stakeholders such as banks and payment gateways providers.
- For organization planning purposes, we recommend a paid customized survey of minimum 1,000 sample size tailored to fit your specific requirement.

Survey by Frost & Sullivan to Study Why Consumers Use Debit Cards





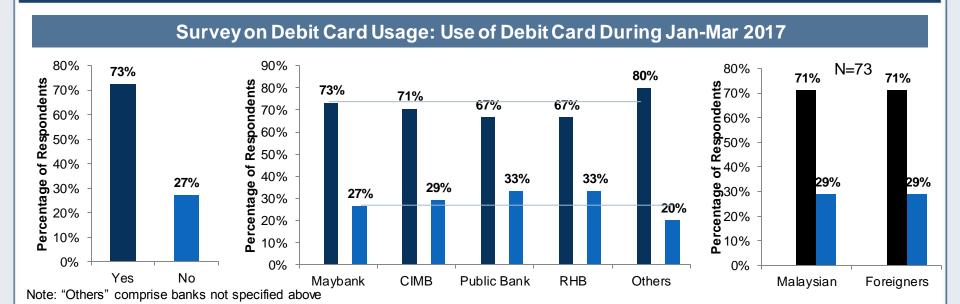


Key Takeaway

- The respondents were mainly Malaysian, with 81% indicating that they were Malaysians that own and have used a debit card; 19% were foreign nationals.
- Maybank had a slightly higher foreigner count at 24% as opposed to an average of 19%. There were
 no foreigners holding a debit card from Public bank, RHB, and others participating in this survey.
- The respondents sampled were mainly using a Maybank debit card at 62%, followed by a CIMB debit card at 23%.

Source: Frost & Sullivan. Primary research with debit card users in Malaysia.

Of Total Respondents, 73% Indicated Using their Debit Card During Jan-Mar 2017

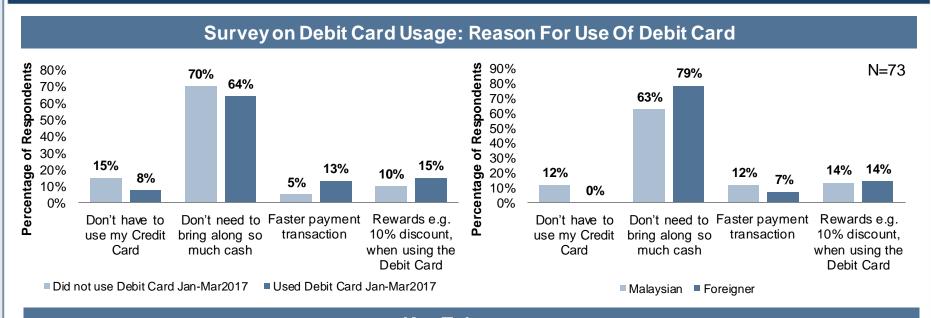


Key Takeaways

- 73% of respondents had used their debit card between January and March 2017, that is, the first 3 months from the deadline of December 31, 2016 for consumers and banks to swap the debit card.
- There is an urgent need to work on encouraging use of debit cards among the remaining 27% of respondents. If they have not even used their cards at least once in Q1 2017, there is a high chance of them not using it going forward. Refer to "Frequency of Use" on P26.
- The likelihood of having used their debit card varies slightly between banks, with users from Maybank and others more likely to have used their debit cards.

Source: Frost & Sullivan Analysis; primary research with debit card users in Malaysia

Carrying Lesser Cash a Key Reason for Use of Debit Cards, Especially Among Foreigners



Key Takeaways

- Overall, 66% of respondents said using debit cards means they carry less cash. Only 11% said it
 offered a faster transaction. The outcome is similar regardless of the nationality of the respondent or
 whether they have used the debit card during Jan-Mar 2017. This positively reinforces Malaysia's
 direction to leverage on debit cards to transition Malaysia towards a cashless society.
- Foreigners prefer not having to carry too much cash more than Malaysians. Having used the debit card during Jan-Mar 2017 brings greater appreciation for faster payment transaction and rewards.
- Rewards, faster transaction, and reducing use of credit card were not key reasons for use of the debit card. The debit card is used for other reasons, not to replace the credit card. More so for foreigners.

Source: Frost & Sullivan Analysis. Primary research with debit card users in Malaysia.

Debit Cards Not Necessarily Faster, but Help to Reduce Amount of Cash Carried by Consumers

Contactless Transactions Amount Limit (CTA) for Maybank Debit and Prepaid Card

Dear valued Cardmembers.

You can now set the cumulative Contactless Transaction Amount (CTA) limit of your new MyDebit and Prepaid card. Your default daily CTA limit is RM250. You may re-set your daily CTA limit or choose to opt-out of this feature i.e. disable the contactless functionality for MyDebit and Prepaid Card by calling Maybank Group Customer Care (MGCC), Maybank Card Centre or nearest Maybank branch.

To turn off the contactless function of Debit Cards / Prepaid Cards.

Customers have the option of turning off the contactless function by visiting any RHB Branch.

To reduce the contactless amount or count for Debit Card / Prepaid Cards.

Customers have the option of reducing the contactless amount or contactless count by visiting any RHB Branch or by contacting our Customer Care Center.

Thank you

Source: http://www.maybank2u.com.my

Source: https://www.rhbgroup.com/

- At supermarkets, such as AEON and Tesco, cashiers ask if the consumer wants to use the contactless feature on their contactless cards. The cashier at Tesco explained that some consumers insist on not using the contactless feature so they have to ask if the consumers would like to use the feature.
- Some reasons for this include:
 - Banks, for example, Maybank and RHB, allow alterations to the use of the contactless function.
 The contactless function can effectively be turned off.
 - With a fall back to PIN and PAY available, the increase in transaction speed with contactless payments is minimal, so minimal that some consumers prefer to trade it off for the sense of security that they get knowing that their transactions are secure with PIN and PAY.
- So, debit cards do not necessarily make transactions faster but they do reduce the amount of cash consumers have to bring along with them. BNM and banks need to take note that consumers are still not aware that their contactless transactions are covered by insurance through the card schemes.

Debit Card Positioning Should Shift from "Faster and Safer" to "Safer with Less Cash" and from Merchant to Consumer



Debit Card Payment at Check-out is Faster and Safer



- Speed up cashier check-out process
- Customers need not fiddle for notes and coins to make payment
- Minimize cashier error when counting currency notes and giving change
- Eliminate risk of accepting counterfeit currency notes
- Reduce internal pilferage and fraud

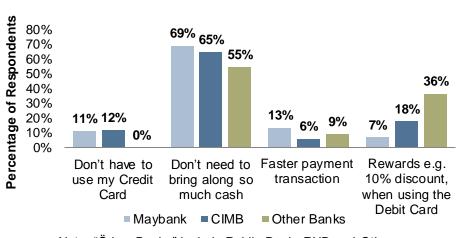
Image Source: MyClear at http://www.bnm.gov.my

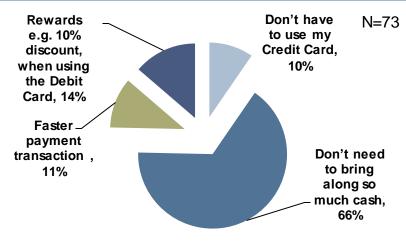
© 2014 MYCLEAR CONFIDENTIAL

- The above image was the earlier justification by MyClear for debit card acceptance at merchant sites.
 Acquirers should take note that "faster" is no longer a key selling point, but it is a cheaper card option.
- Moreover, the emphasis has so far been on getting merchants to accept these cards. Now that the terminals have been upgraded and the new debit cards are in the hands of consumers, the emphasis should shift to justifying why consumers should increase their use of debit cards.
- The key message to consumers could be, for example, "safer with less cash", as consumers that use debit cards greatly appreciate this aspect of the card. We can just explain that debit card payments are like mini ATM cash withdrawals and then either reduce the number of free ATM cash withdrawals or charge to withdraw cash. A pre-requisite for charging to withdraw cash will be the ubiquitous availability of debit card terminals, which has yet to materialize.

Some Replacement of Credit Cards, Albeit Minimal, if User has Maybank or CIMB Debit Card







Note: "Öther Banks" include Public Bank, RHB and Others

Overall Respondent Response

Key Takeaways

- There will be some replacement of credit cards, albeit minimal, if the user is using a Maybank or CIMB debit card, but mainly debit cards will enable the population, that is >71%, without a credit card.
- There seems to be slightly greater appreciation for faster transaction speed among Maybank debit card users compared to that among to CIMB debit card users.
- Similarly, there seems to be a bit more appreciation for rewards amongst CIMB's and Other banks' debit card holders compared to that among Maybank's debit card users. CIMB's promotion does seem more targeted at debit card users and contest participation. This observation was based on the average transaction for debit cards which was.RM209 in 2016. The same for credit cards was RM309.

Source: Frost & Sullivan Analysis; Primary research with debit card users in Malaysia.

Debit Card Promotions—Contests and Rewards

Maybank's approach seems more suited for credit card users than debit card users, while CIMB's approach is more targeted at debit cards and therefore more appealing.



Win Honda BR-V & Cash with MyDebit Card

Spend daily with Maybank MyDebit Card and you can stand to win a new ride or cash prizes.

Campaign Period: 15 February - 15 June 2017

Replace to MyDebit Card here

Not on M2U? Register now!

How to participate?

Spend RM250 and above in a single receipt with MyDebit Card

1X entry MyDebit Cardmembers

5X New MyDebit Cardmembers - card replaced from 15 Feb 2017 entries onwards.

Image Source: ttp://www.maybank2u.com.mv

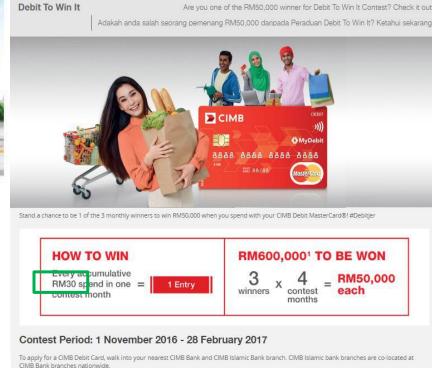


Image Source: http://www.cimbbank.com.my

Banks need to take into account that the profile of today's debit card user could be different from that of past users, mainly those that acquired cards in 2010. The average transaction size for debit cards was highest in 2010 (at RM256), and has since been decreasing to today's level of RM209. It will continue to decrease.

Cash Back Being Used to Promote Use

Cash back is a good way to attract debit card users but the reach seems limited so far.







Maybank Inactive MyDebit CashBack Campaign

Change your ATM card today at nearest Maybank Debit Card Replacement Kiosk or nearest Maybank Branches for free. Don't forget to spend using your new MyDebit Card and enjoy 5% Cashback up to maximum RM20 per month with your every purchase. Terms & Conditions apply.

Note: The campaign is by invitation only through SMS sent to the registered mobile phone number with the bank

Campaign period: 20 April - 19 July 2017

Prizes and offers

Summary of prizes as below:

| Cash | Card Type | Minimum Spend | Capping per | Monthly Cash Back |
|------|-------------------------|-----------------------------|------------------|-------------------|
| Back | | Requirement / Month | customer / month | Funding |
| 5% | Maybank MyDebit Card | Min Spend Required:RM250 | RM20 | RM20,000 |

Image Source: http://www.maybank2u.com.my



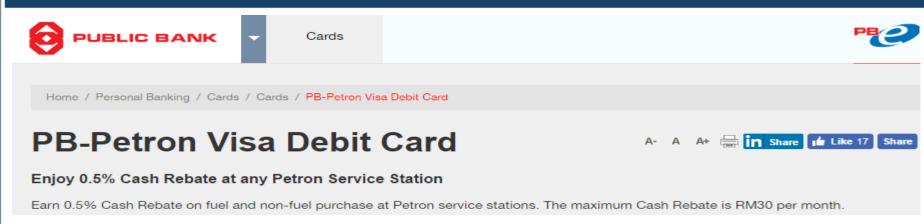




Source: https://www.pbebank.com/

Cash Back Being Offered Selectively on Some Debit Cards

Should banks consider the cash-handling savings in designing debit card products?



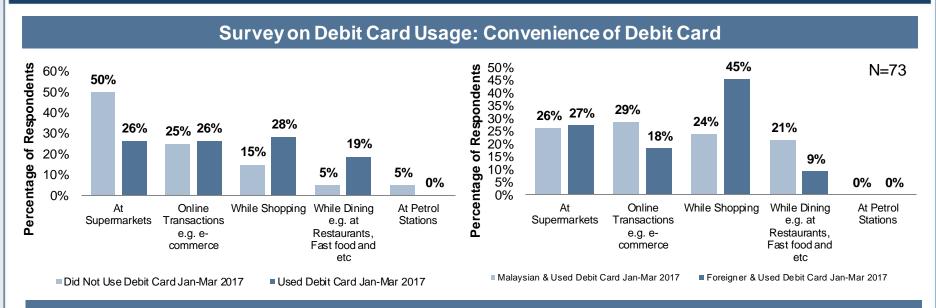
Source: https://www.pbebank.com/Personal-Banking/Cards/PB-Petron-Visa-Debit-Card.aspx



Image Source: https://www.rhbgroup.com/products-and-services/personal/cards/debit-cards/rhb-visa-debit-card

Growing Use with 323k Terminals in 2016; 40% Growth over 2014

Those using their cards in Jan-Mar 2017 have felt the difference in user experience.



Key Takeaways

- Overall, 33% of respondents highlighted that the debit card is most convenient at the supermarket, followed by 26% for online transactions, for example e-commerce, followed by 25% for shopping.
- The outcome is slightly different depending on whether the card was used during Jan-Mar 2017. Of the respondents, 50% that have not used the card during Jan-Mar 2017 said that the supermarket was the most convenient place, whereas those that had used the card during this period seem to have a more balanced view of the card's use overall. Foreigners that have used debit cards during this period used it more for shopping and less for online and dining.
- Petrol stations were consistently the least convenient place for debit card use.

Source: Frost & Sullivan Analysis; Primary research with debit card users in Malaysia.

No Specific Activities Targeting Supermarkets

Supermarkets are perceived as a convenient location by early debit card users, as they were an early target location for contactless payments, that is, before PIN and PAY.





- Supermarkets and grocery shopping are some of the key areas where they see potential to convert in-store cash payments into card payments.
- They have been working closely with leading merchant and industry partners to accelerate use of Mastercard contactless cards by providing cardholders with safe and simple, Tap and Go payment experience. These include collaborations with supermarkets and other retail participants on contactless offers such as:
 - Giant supermarket: RM5 Giant voucher with minimum spend of RM100 using a Mastercard contactless card
 - BHPetrol: Free mineral water with minimum spend of RM30 using a Mastercard contactless card
 - San Francisco Coffee: Coffee of the Day at RM5 only with purchase using a Mastercard contactless card
 - Haagen-Daz: A scoop of ice cream at RM5 only with minimum spend of RM35 using a Mastercard contactless card
- To accelerate contactless usage, they plan to increase their partner network with participants such as Tesco in the months to come.

- On Visa's website, 50% of locations where payWave is available for use is either a supermarket or a shopping centre with a supermarket.
- According to Visa. supermarkets are the leading retail category for contactless payments, where contactless transactions make up more half of Visa's than total followed transactions. by department stores and restaurants.

Source:

http://www.visa.com.my/personal/features/visapawwave.shtml.

http://www.themalaymailonline.com/money/ article/malaysia-breaks-one-million-visapaywave-transactions-monthlymilestone#sthash.c4lrU6JX.dpuf

Source: Interview with Perry Ong, Country Manager for Malaysia and Brunei, Mastercard, 25-May-17; Frost & Sullivan

Debit Card Use for Online Could Use a Little More Attention

There are few promotions for online despite it being the second top location for card use.



3. Why do I need to opt-in to perform CNP and overseas transactions? In line with Bank Negara Malaysia's (BNM) regulation to prevent cardmembers from becoming victims of fraudulent transactions, all financial institutions have to block any debit cardmember from performing any CNP and overseas transaction that are not authenticated via strong authentication method such as dynamic password by using a debit card, unless the cardmember has expressly opted-in to conduct such transactions.

> Source: https://www.pbebank.com/pdf/Cards/UTAR-KTAR/faq_cnp1216.aspx

Source: https://www.pbebank.com/

- 25-26% of respondents cited online as the second top location for debit card use after supermarket/shopping. Moreover, the MasterCard Online Shopping Study 2017 highlighted that debit carde ranked as the second most used payment method for online transactions (at 19.4%). Despite this, there were few promotions that actually encouraged use of such cards online.
- There are also some issues with debit card use for online. These are highlighted below:
 - There is a disclaimer on some websites like TGV, that some banks may need consumers to register for "Verified by Visa" or "MasterCard SecureCode" for security reasons before the debit card is used for online purchases.
 - Further, banks require debit card activation for e-Commerce prior to use of debit card for online purchases. In the case of Maybank, debit card activation is via telephone and the T&C requires the consumer to bear the liability of all transactions whether fraudulent or not, as a consequence of activating their debit card for e-Commerce. To use Samsung Pay, even if only for retail purchases, consumers have to also take this risk.
- Not only within surveys, the industry trend is for e-Commerce to grow significantly in the near future. If the debit card is going to be a key payment method, banks need to start focusing more on online.

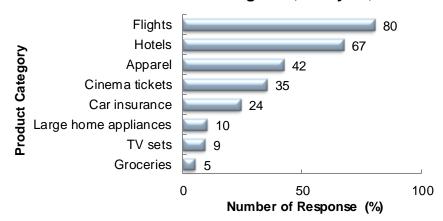
e-Commerce in Malaysia to Reach US\$4.2 Billion by 2020

Online purchases mainly comprise services and physical items.

Top Things Malaysians Buy Online

- The online purchases are mainly services and physical items with the exception of financial products (such as car insurance).
- Apparel and travel-related purchases (air tickets and hotels) remain the top favorites of Malaysian shoppers online.
- Interestingly, buying cinema tickets online is the fourth most popular activity.
- Online groceries are also gaining traction in the market, with 5% of the respondents saying they purchased groceries online.

Most Purchased Product Categories, Malaysia, 2015



Top e-Commerce Websites in Malaysia

E-Marketplace:





"Group Buying" Sales:



Auction Sales:



Source: Analysis of Southeast Asian e-Commerce Market, August 2016, Frost & Sullivan

Debit Card Use at Petrol Stations Inconvenient

Why are consumers not allowed to buy specific amounts of petrol at the pump?

- Only 1% of respondents said that the petrol station was the most convenient place for use of debit cards. The respondent did not use the card between January and March 2017.
- The petrol station is the least convenient place for use of such cards. This is because the self-service pump will need to authorise the fuel transaction before the fuel can be dispensed. This is performed by sending a pre-authorisation amount on the payment card to the card issuer. The amount equivalent to RM200 for VISA and MasterCard, and RM250 for AMEX is placed on a temporary hold and used to verify that the card is active and has sufficient available funds prior to dispensing fuel. The pre-authorisation is only released 3-5 workings days later. If the transaction fails or the consumer replaces the pump before filling up the petrol tank, more funds will be temporarily placed on hold.
- The workaround is for consumers to pay at the petrol station store in the same manner as if paying by cash, that is, having to queue in line to pay for petrol. Alternatively, selected petrol stations such as Petronas state that there is no pre-authorisation at the local outdoor pump.

Para pelanggan yang dihormati,

Jumlah pra-kelulusan RM200 (untuk Kad VISA dan MasterCard) and RM250 (untu Kad AMEX) akan dicaj oleh bank pengeluar kad anda sekirany anda membayar menggunakan kad di terminal pam.

Bayaran balik akan dibuat dalam tempoh 3-5 hari bekerja. Sebagai alternatif, anda boleh membayar dengan kad debit/kad kredit di kaunter bagi mengelakkan apa-apa transaksi pra-kelulusan.

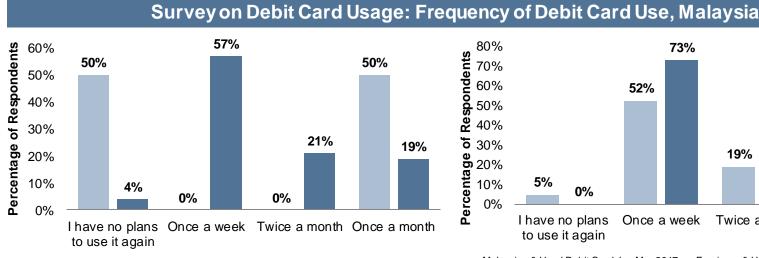
Untuk maklumat lanjut, sila hubungi bank anda.

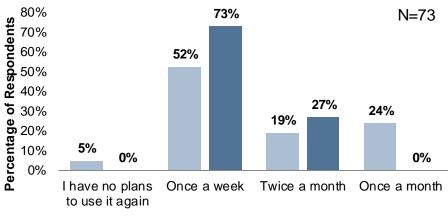
Terima Kasih.

Signage at petrol stations requesting consumers to pay at the store to avoid pre-authorization temporary hold of funds for payment at the pump

41% of Respondents Will Use Debit Cards Once a week

However, if they have not used it Jan-Mar 2017, 50% will likely not use it again.





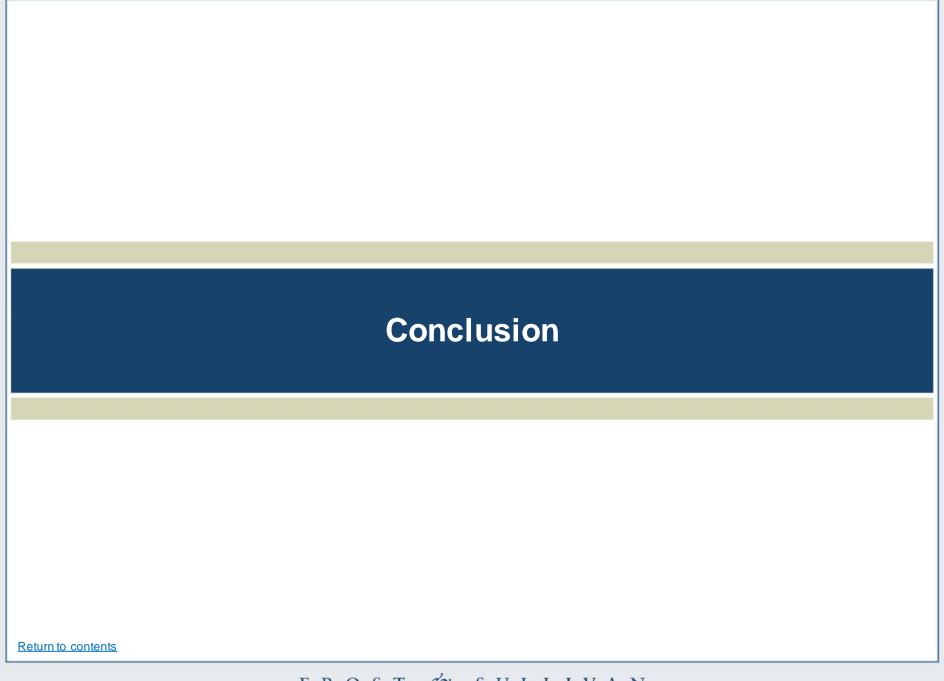
Did Not Use Debit Card Jan-Mar 2017
Used Debit Card Jan-Mar 2017

Key Takeaways

- Overall, 41% of respondents will use the debit card once a week, followed by 27% of respondents that will use it once a month. Foreigners are more open to using debit cards.
- Of the respondents that have not used them during Jan-Mar 2017, 50% said that they had no plans to use it again, while another 50% said that they would use it once a month. This means that more effort needs to be made to encourage use of debit cards from the start of the drive to migrate to epayments or it will be a losing battle later on. To ensure success of the national agenda, emphasis needs to be placed on incentivizing first-time use and then strategizing how to maintain use.
- Of the banks, CIMB had the lowest count of respondents not planning to use debit cards again.

Source: Frost & Sullivan Analysis; Primary research with debit card users in Malaysia.

[■] Malaysian & Used Debit Card Jan-Mar 2017
■ Foreigner & Used Debit Card Jan-Mar 2017



Key Takeaways

1

There is a difference between the perceptions of respondents that have used and those that have not used their debit cards during Jan-Mar 2017. Once consumers start using their cards, they will find it more convenient at more places, especially because the card payment infrastructure has improved considerably over the past year and will continue to improve towards 2020. If they have not started to use the debit card actively, there is a high chance of them not using the debit card going forward.

2

As the debit card is being leveraged as a key enabler in Malaysia going cashless, to reach the KPI of per capita debit card transactions of 30 by 2020, urgent action needs to be taken in 2017 and onwards. This study has highlighted some areas that can result in immediate improvements. Industry participants need to have a concrete plan with regard to meeting their KPI. These plans need to include encouraging first-time use among consumers and then to make them keep using it. Debit card use may evolve towards the use for smaller ticket items and may compete with e-money solutions to offer users a single, non-cash payment method for everyday payments.

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About Frost & Sullivan



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Who is Frost & Sullivan?

Global Growth Partnership Company: Founded in 1961, 50 years of experience

Frost & Sullivan, the Growth Partnership Company, enables clients to accelerate growth and achieve best-in-class positions in growth, innovation and leadership.

Exclusively focused on Growth

All services aligned to growth to help clients develop and implement innovative growth strategies

- Growth TEAM Membership: Annual subscription program for unlimited access to our database
- Growth Consulting: Customized advisory services to accelerate growth in your organization
- GIL Community: A platform for learning and cross sharing of new ideas and innovative thinking
- Growth Workshops: Interactive sharing of best practices and validating of strategies

Global Presence, Perspective, Coverage

- More than 40 global offices to ensure that clients gain global perspective, coverage and service to mitigate risk and sustain long term growth.
- Continuous monitoring of 12 industries and their convergence, giving clients first mover advantage in emerging market opportunities.

360 degree-Perspective Research Capability

- Proprietary integration of 7 research perspectives to optimize growth opportunities
- >Competitive >Technology >Customers >Best Practice >Mega Trend >Economics >Industry Convergence

1,800+ consultants & research analysts specializing in different fields

Market analysts Industry researchers Technology analysts Strategy consultants Economic analysts
Best practices trainers
Financial analysts
Growth consultants

Valued Opinion Leader in Local & Global Media









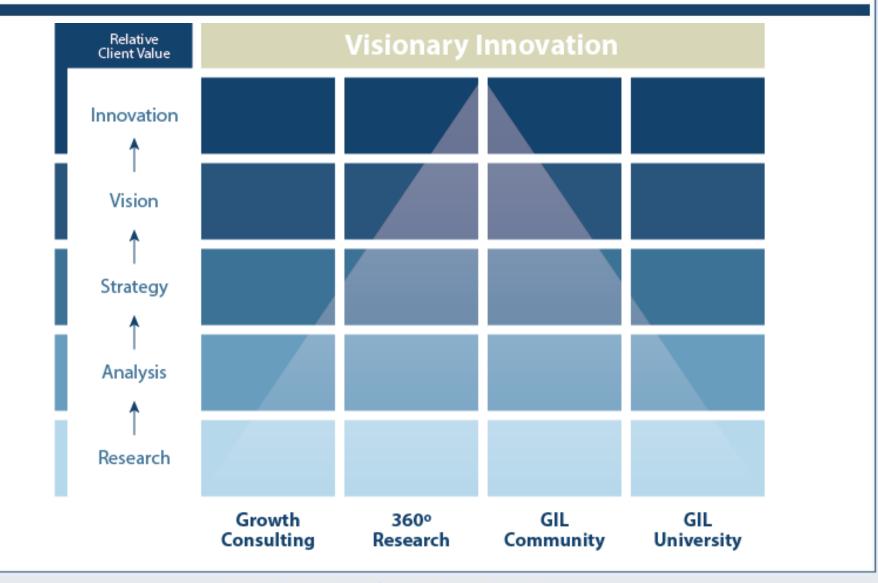


The Frost & Sullivan Story



Value Proposition: Future of Your Company & Career

Our 4 Services Drive Each Level of Relative Client Value



Global Perspective

40+ Offices Monitoring for Opportunities and Challenges



Industry Convergence

Comprehensive Industry Coverage Sparks Innovation Opportunities



Aerospace & Defense

Airborne Platforms & Avionics, Avionics & Platforms, Homeland Security, Modeling, Simulation & Training, Commercial Aviation, Remote Sensing, Airports and ATM



Automotive

Transportation & Logistics

Automotive aftermarket, advanced automotive technologies, telematics, infotainment (including multimedia), remanufactured parts, and safety & logistics markets



Minerals & Mining

Iron and Steel, Aluminum, Zinc, Copper, Tin & Lead, Industrial Minerals, et al under product forms such as Billet, Slabs, Wire rods, Castings & forgings, Extrusion, Pipes & tubes



Measurement & Instrumentation

Test & Measurement, Semiconductors, Sensors



Energy & Power Systems

Power supply components, onsite power, energy management services, oil & gas equipment and services, backup power solutions, and fuel cells



Chemicals, Materials & Food

Personal Protective Equipment and Food & Beverage Ingredients markets, Construction & Utilities and Food, Drugs & Cosmetics



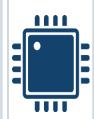
Business & Financial Services (BFS)

Due Diligence (Business Plan Feasibility, Target Profiling, Competitive benchmarking), IPO Advisory, M&A Advisory, Investment Idea Generation, Opportunity Assessment, and Market Monitoring



Environment & Building Technologies

Water & Wastewater, Environmental Management, Waste Management, and Building Technologies markets



Electronics & Security

Electronic Devices, Auto ID and Security, and Surface Mount Technology



Information & Communication Technologies (ICT)

Enterprise communications, communication services, conferencing & collaboration, mobile & wireless, space & communications, IT applications & services



Healthcare

Pharmaceuticals and biotechnology, drug discovery technologies, clinical diagnostics, healthcare IT, medical imaging, medical devices



Industrial Automation & Process Control

Control systems, software, process equipment, motors, compressors, machine tools, and others

360° Research Perspective

Integration of 7 Research Methodologies Provides Visionary Perspective



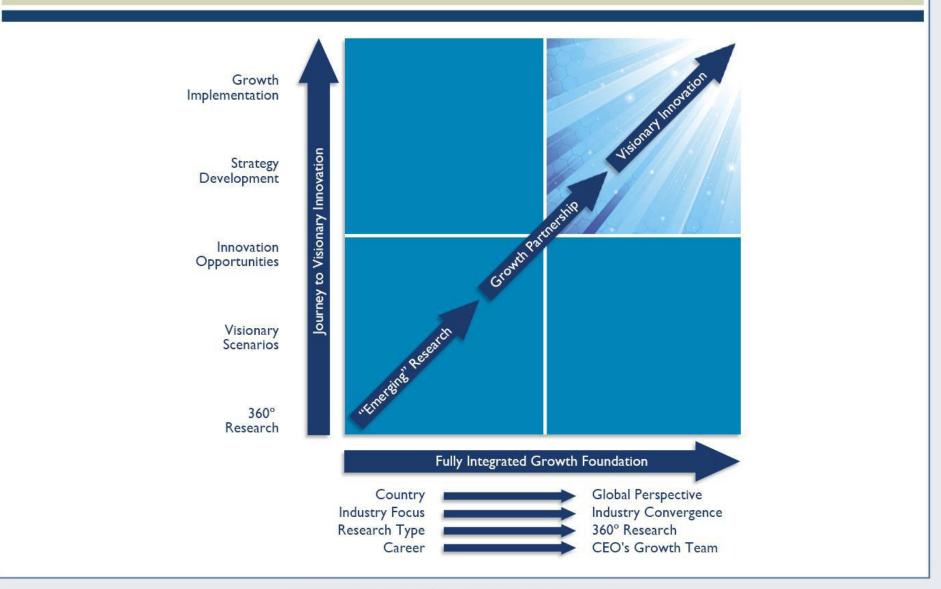
Implementation Excellence

Leveraging Career Best Practices to Maximize Impact



Our Blue Ocean Strategy

Collaboration, Research and Vision Sparks Innovation



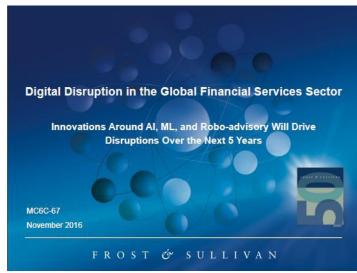
Frost & Sullivan Research Services

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Our Competency 360° Research in FinTech







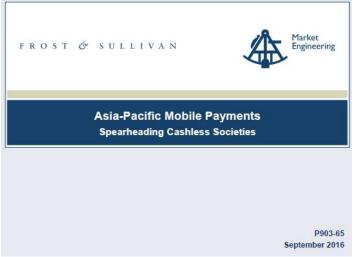


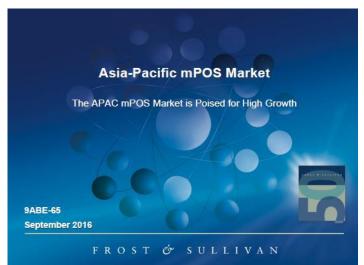
Our Competency 360° Research in FinTech





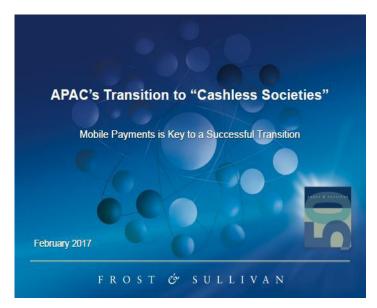
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Our Competency

360° Research in FinTech – Complimentary Material [Partial List]



Complimentary copy available at https://ww2.frost.com/files/8414/8831/10 40/APAC Transition to.pdf

Thought Leadership articles:

https://www.telecomasia.net/content/mobile-paymentskey-enabler-cashless-societies

http://www.enterpriseinnovation.net/article/apacs-transaction-cashless-societies-62160024

Interviews:

http://www.straitstimes.com/asia/growing-demand-for-mobile-payment-services-across-asia

http://www.telecomasia.net/content/cashless-pushstimulating-apac-m-payment-market

http://www.comparehero.my/blog/cashless-to-cardless

http://www.finews.asia/finance/22173-fintech-growth-frost-sullivan-australia

Videos and Briefings:

http://digitaltransformation.frost.com/expertinsights/videos/future-fintech

https://ww2.frost.com/news/press-releases/will-fintech-make-banks-disappear/

Our Competency Sample FinTech Research Project

Project completed for SGX in December 2015







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About Frost & Sullivan—ICT Consulting Practice

Strong end-to-end capabilities

Industry Leading Insights

- Strong research coverage into all key areas of TMT
 - ✓ Telecom services (fixed, wireless, consumer, enterprise)
 - ✓ Infrastructure services
 - ✓ New media and IPTV
 - Cloud and managed services
 - ✓ M2M and cross industry business models
 - ✓ OSS BSS
- Industry views shared at various TV, print and online media
- Keynote speeches at every leading telecom event
- Interactions with all leading players

Envisaging the right strategy, service and technology mix

Cutting-edge Experience

- 5-year strategy and business plan projects for multiple developed and emerging markets
 - ✓ Smartpipe strategy
 - √ Tower business spinoff
 - ✓ Wireless broadband
 - ✓ IPTV Business plans
 - ✓ E-commerce /online portals
 - ✓ Cloud services
 - √ Virtualization
- Go-to-market strategy for new business models
- Geographic expansion of Indonesian & global participants
- Business transformation (workshops)
- Financial due diligence for key acquisitions

Ensuring the right return on investment

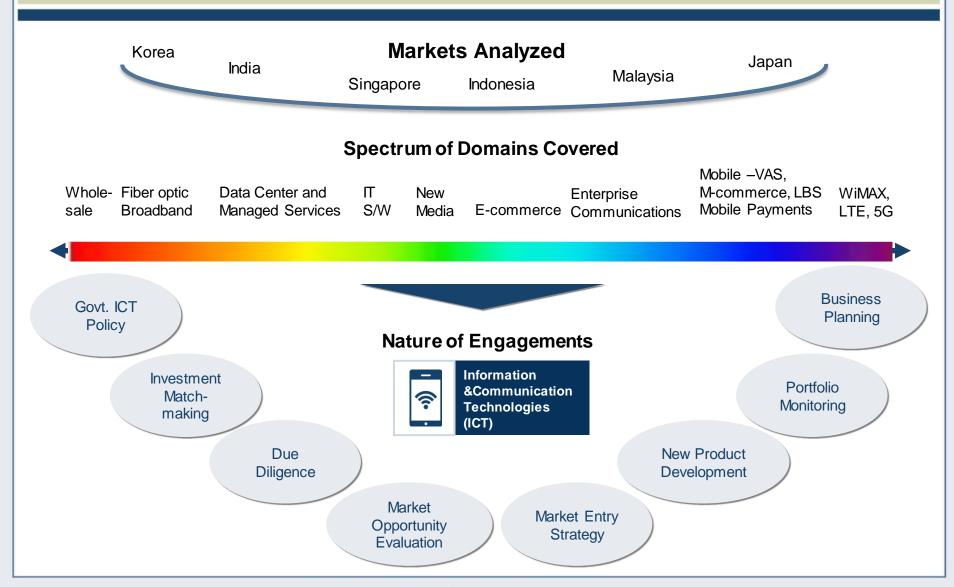
Multi-functional Expertise

- Strong 40-member team of analysts and consultants has a mix of network rollout experience with vendors, strong strategy planning experience with operators, and knowledge of industry dynamics
- Strong presence in all key APAC countries
- Leading consultant to firms like Samsung and SK group in Korea, TM & Axiata in Malaysia, and Telkom group in Indonesia

Enabling the right implementation approach

About Frost & Sullivan—Our ICT Consulting Coverage

Comprehensive coverage



About Frost & Sullivan—Our ICT Value Proposition

A unique mix of deep industry expertise, consulting experience, and go-to-market offerings

1. Provide complete Industry Information & Trends

- 60+ Analysts tracking Enterprise & Telecom Services for 14 Markets in APAC
- Market Size, Forecast, & Demand Analysis by country, vertical and company size, Market Share Analysis.
- Growth Workshops.

2. Solve Unique Client's Challenges

- Largest ICT Consulting Team in APAC backed by in-depth industry knowledge.
- Market Entry Strategy.
- Business Plan, Service Plan.
- New Product Development.

3. Help Meet Client's Marketing Objectives

- In-house Events team (More than 25 summits & banquets in the year)
- Leverage Frost & Sullivan brand to reach out to target customers
- · Case Studies, Whitepapers, Webinars.

A combination of deep industry knowledge and extensive consulting experience enables us to tackle our client's concerns with a unique 360° view.

Research Offerings

Consulting Offerings

Go-To-Market Offerings

Sample ICT Client Study—Market Opportunity Analysis

Wireless Services

Client Details



One of the largest wireless service providers in Japan

Client Situation:

- Client wanted to enter platform solutions for new cross-industry wireless services in Australia and Indonesia.
- It wanted to evaluate the attractiveness of various new wireless services in these market.

Project objectives:

- Research on emerging cross industry opportunities
- Analysis of market trends, technology and broad mobile trends
- Future opportunities in these areas in terms of size and growth rate
- Broad ecosystem analysis in terms of players and competitors
- Opportunity analysis in terms of Technology trends, culture and risk factors if any
- Recommendations on mobile businesses which have potential to grow

.Frost & Sullivan Value Proposition:

- Dedicated research track on telecom services.
- In-depth understanding of Australian and Indonesian markets.

Key Client Benefits:

Detailed understanding of market size, current market growth state, and key players for 10 emerging wireless services including mobile commerce, mobile payment, mobile content & advertisement, m-Healthcare, M2M, content aggregation platform, environment & ecology, and safety & security.

Our Competency Select ICT Clients

All Key Operators

Infrastructure Vendors

Device Participants

























SK telecom

























amdocs

















About Frost & Sullivan—Our BFS Value Proposition

BFS focuses on fact-based, actionable analysis and recommendations



Business & Financial Services (BFS)

Due Diligence (Business Plan Feasibility, Target Profiling, Competitive benchmarking), IPO Advisory, M&A Advisory, Investment Idea Generation, Opportunity Assessment, and Market Monitoring

Investment Banking

- IPO / M&A teams
- Industry teams
- Advisory
- Underwriting

Prof. Services Firms

- M&A Support
- Litigation Support (Law firms)
- Custom Research Support

Corporate Advisory

- M&A Support
- IPO Support
- Custom Research Deliverables

Current Focus Areas

Asset Management

- Market and company monitoring
- Investment ideas
- PM support

Private Equity/VC

- Deal sourcing
- Due diligence
- Exit preparation

Capital Markets

- Equity Research
- Fixed Income Research

Our Competency Select BFS Clients





FROST & SULLIVAN

Frost & Sullivan, the Growth Partnership Company, works in collaboration with clients to leverage visionary innovation that addresses the global challenges and related growth opportunities that will make or break today's market participants. For more than 50 years, we have been developing growth strategies for the Global 1000, emerging businesses, the public sector and the investment community. Is your organization prepared for the next profound wave of industry convergence, disruptive technologies, increasing competitive intensity, Mega Trends, breakthrough best practices, changing customer dynamics and emerging economies? Contact Us: Start the Discussion