

Redefining Customer Engagement through Digital Transformation

Samuel Tsien

Group CEO

24 September 2018



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Digital Transformation is an integral part of our Corporate Strategy

DEEPEN PRESENCE IN CORE MARKETS

A leading, well-diversified Asian financial services group with a broad geographical footprint in North and Southeast Asia, well-positioned to ride on global mega trends to deliver sustainable business growth. A resilient and responsible business that generates long-term value for customers, employees, investors and the community.

SMEs in Asia

CORE MARKETS GREATER CHINA MALAYSIA INDONESIA SINGAPORE Entrenched and well-Extensive national presence Strong presence with **Dominant** market established banking and with comprehensive financial dominance in cross-border position at home insurance franchise services offering trade, wealth and capital flows **CORE BUSINESSES** BANKING WEALTH MANAGEMENT **INSURANCE** Comprehensive retail and commercial "Asia's Global Private Bank" with integrated Leading insurance presence in banking franchise across wellregional and wealth platform, across private Singapore and Malaysia, and connected business and geographical banking, premier banking, bancassurance, growing franchise in Indonesia network securities and asset management Digital **Transformation** CORE COMPETENCIES **➤** Investment in Technology Disciplined Risk Management Diversified Funding Base & People FutureSmart SUSTAINABLE BUSINESS PRACTICES **Talent** Responsible **➤** Fair Strong Community Inclusive **Financing** Development Workplace **Dealing** Governance **KEY GLOBAL MEGA TRENDS SHAPING ASIA'S GROWTH** Growing Intra-Asia **Rising Asian** Urbanisation and **Increasing Economic Advancements** Trade and Cross-Border Wealth **Continued Rise of** Presence of China in Technology

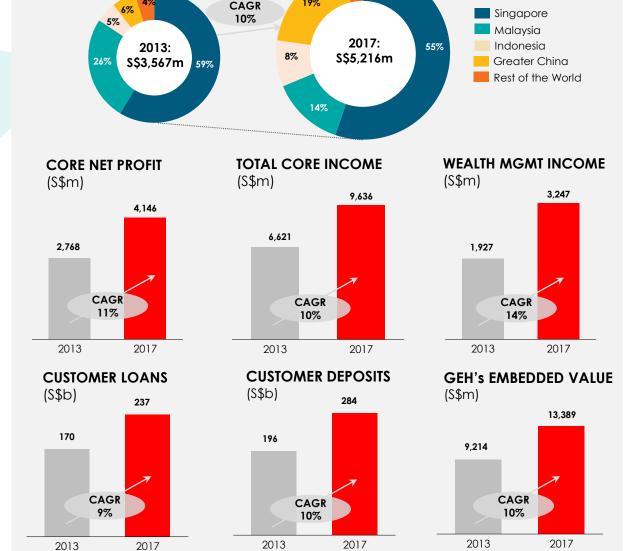


We achieved significant growth in the last 5 years...

OVER 550 **OUR BRANDS BRANCHES AND** REPRESENTATIVE OFFICES IN **OCBC** Bank 18 **OCBC** Securities **COUNTRIES AND REGIONS** OCBC AL-Amin **MORE THAN OCBC NISP** 9м **CUSTOMERS OCBCWING HANG BANKOFSINGAPORE** \$\$46.3B \$\$465B MARKET TOTAL ASSETS **CAPITALISATION *** Eastern AA-Aa1 AA-FITCH MOODY'S S&P RECENT SUCCESSFUL ACQUISITIONS

PROFIT BEFORE TAX

(S\$m)







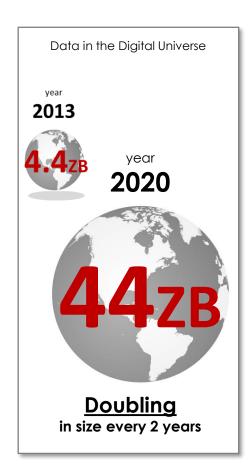
BARCLAYS Wealth & Investment Management (in HK & SG) in 2016



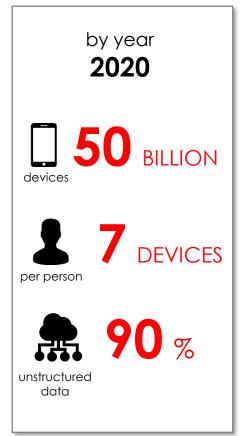


With the current trend of

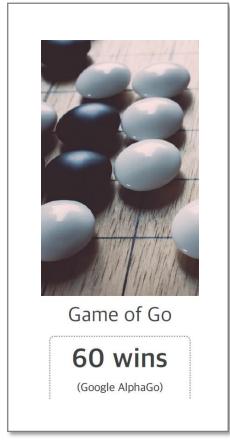
Data Explosion



Connected Devices



Artificial Intelligence



We Economy



Regulations



... leading to changes in customer behaviour and expectations



We have long started our digital journey and seen results



V14% Number of branches#

V15% teller headcount*

Sales

▲3X Improvement in sales leads conversion*

2,700

Sales and service staff digitally enabled#

Digital

87% Financial transactions

are on digital#

70%

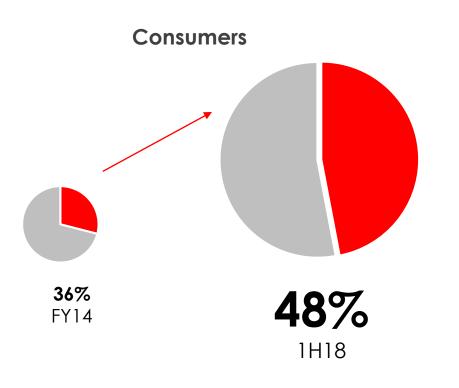
Remittances performed on digital channels#

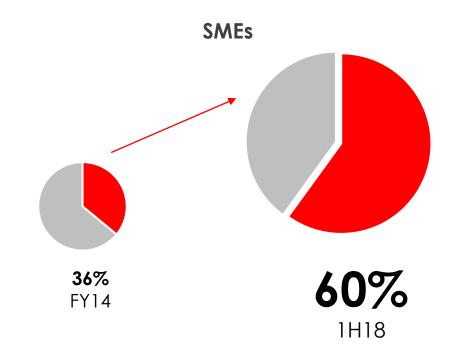


Significant Increase in Digital Customers

- Definition: Digital customers are customers who have used internet / mobile banking at least once in 3 months

<u>Singapore</u>



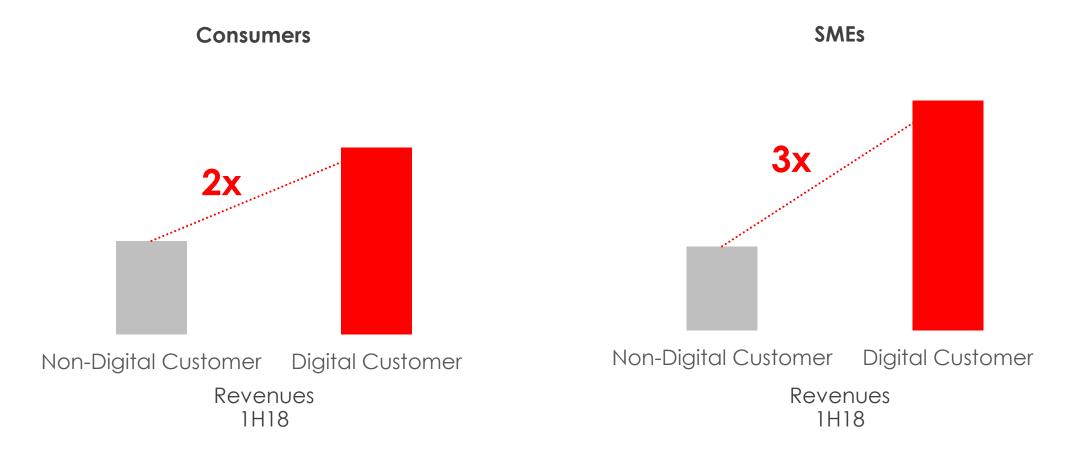


Digital customers



Higher Revenue for Digital Customers

<u>Singapore</u>





CUSTOMER ALWAYS AT THE CENTRE



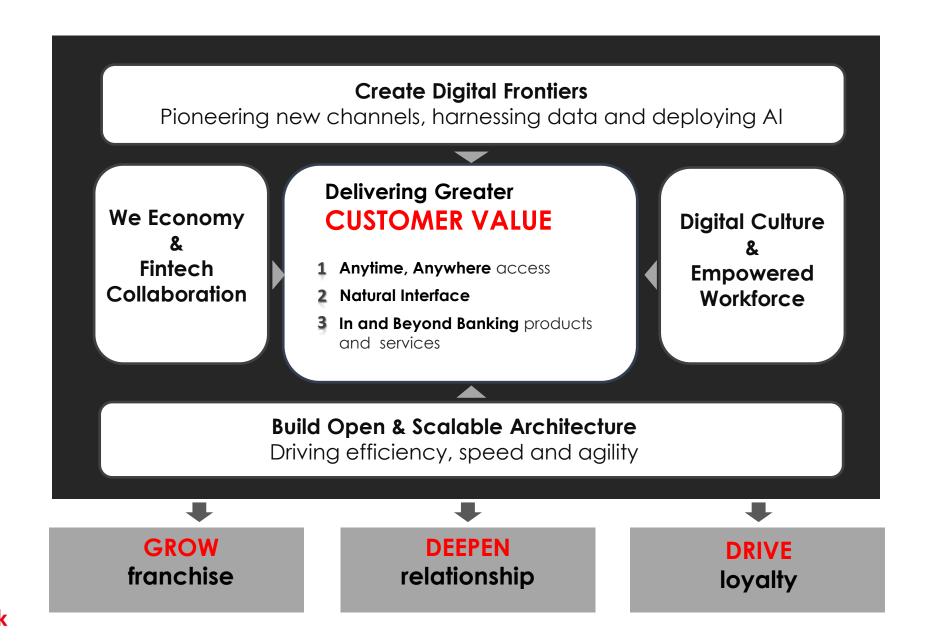








Redefining Customer Engagement through Digital Transformation





Extending Digital Transformation Regionally



Dedicated Digital Transformation Team in Indonesia

Regional Analytics Team in Core Markets

Regional IT Hub in Greater Bay Area

Scalable Digital Transformation in Malaysia



Digital led solutions to grow and deepen customer segments

Consumers

Leading digital engagement



Winning the relationship opening "moments of truth"











Creating greater value for Consumers through digital transformation Ching Wei Hong, Chief Operating Officer

SMEs

Business Banking on the go



 Beyond banking services through ecosystems







Creating greater value for SMEs through digital transformation Linus Goh, Head, Global Commercial Banking



4 Key Pillars to drive Digital Transformation

Digital Frontiers Infrastructure **External Resources Internal Resources Fintech Digital Culture** Open, Modular & **Data & Artificial** Collaboration & Empowered Scalable Intelligence Workforce & We Economy Driving Pervasive & Sustainable Digital Transformation Pranav, Head, Fintech and Innovation Group Powering the Foundation for Digital Transformation Lim Khiang Tong, Head, Group Operations & Technology



Digital Frontier

Leverage AI to redefine all aspects of our business

AML machine learning

4.5x more efficient



Improve core processes by detecting patterns missed by humans

Create
Sales
Opportunities

+35% in identifying intent



Using social media data to obtain new sources of insights

Real-time Contextual Offers

3x more relevance



Sense & respond in real-time to customer needs

24x7 Virtual Chat-bot

136,000 enquiries



Augment human resources to improve customer service



Digital Frontier

Al will start delivering significant benefits over the next 5 years

Create <u>Customer</u> Intimacies



Drive Business Scalability



75%

of customer service requests to be Alassisted, resulting in faster turn around **75%**

of employees' jobs to be augmented with Al

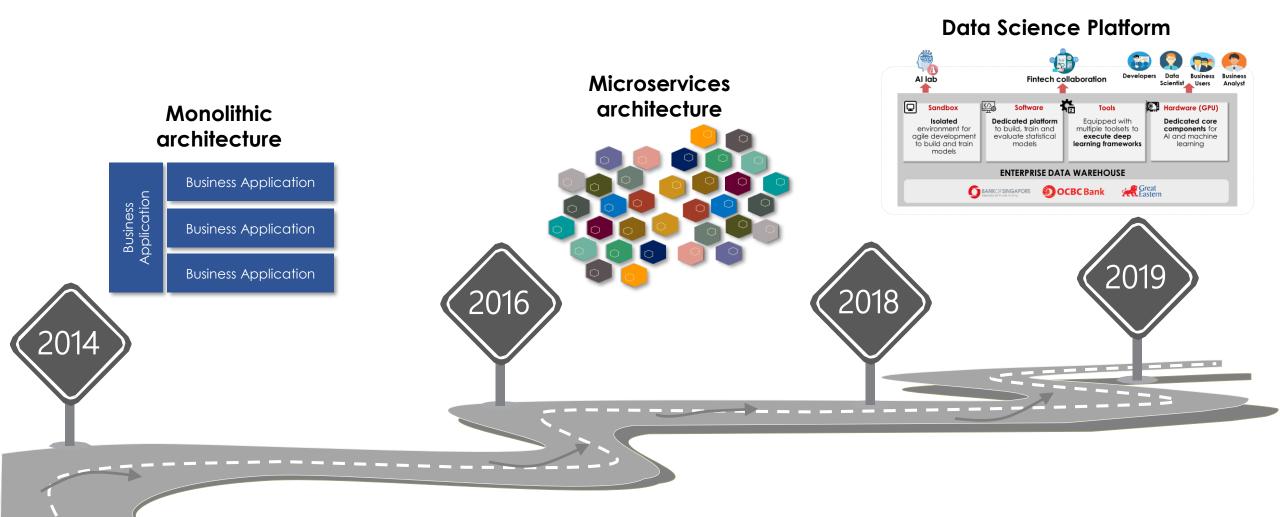
20%

lift in staff productivity expected or man-hours saved to complete a task



Infrastructure

Supported by Agile Technology and Data Science Platform





External Resources

The Open Vault has accelerated innovation through Fintech collaboration





External Resources

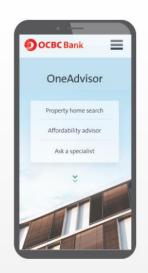
Deepen We Economy Partnerships to Engage Customers Beyond Banking

Consumer "Extending into relevant journeys"

Business "Beyond Banking"

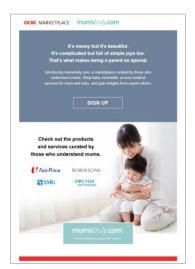
OneAdvisor

Home buying expertise on one digital platform



Mumstruly

Leveraging existing partnerships to deepen relationships with core segments



OCBC & Starhub

Data partnerships for engendering loyalty

Business Dashboard

Providing SME business owners with a business dashboard to operate and manage their business







Internal Resources Empowering our People....

Agile

Adapt to fast changing trends. To learn, and unlearn and relearn

Open culture

Room for experimentation – failures for improvement.

We Economy and being open to changes and feedback



Innovation

Disruption thinking:
Al bots in recruitment

..... Creating FutureSmart Talents

Core values

Must drive our behaviours and the way we work



Internal Resources

FutureSmart – a committed \$\$20 million initiative





Measurement of Progress

GROW franchise



Digital Activity

Digital Customers

Users & growth rates

Digital Transact

Digital transactions & services

% New-to-Bank

DEEPEN relationship



% Digital Contribution

Revenue per digital customer

DRIVE loyalty



Customer satisfaction and engagement

Internal metrics
External studies



Our targets

Consumer Digital Customers

60%

for all core markets at steady state

1H18 SG CFS 48%

SMEs
Digital Customers

70%

for all core markets at steady state

1H18 SG SME 60%

Group
Cost-to-income ratio

≈ 40%

at steady state

Annualised 1H18 Cost-to-income ratio: 43.0%



In Summary

Digital Transformation is an integral part of OCBC's Corporate Strategy

- Customer-centric services and seamless customer journey
- 4 key pillars of our Digital Transformation
 - Digital frontiers in data and AI deployed across the Organisation
 - Open & scalable architecture with new enterprise data science platform to drive efficiency, speed, agility and advanced data analytics
 - Strategic collaborations with Fintechs and ecosystem partners to deliver seamless In and Beyond Banking solutions
 - Entrenched digital culture and empowered workforce to move the Organisation forward





Creating Greater Value for Consumers through Digital Transformation

Ching Wei Hong

Chief Operating Officer

24 September 2018



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2010 Consumer Financial Services Strategy Offsite

Create Wealth Halo

Customer
Centricity
&
Segmentation

Wealth & Simplicity

Lifestyle - Unsecured

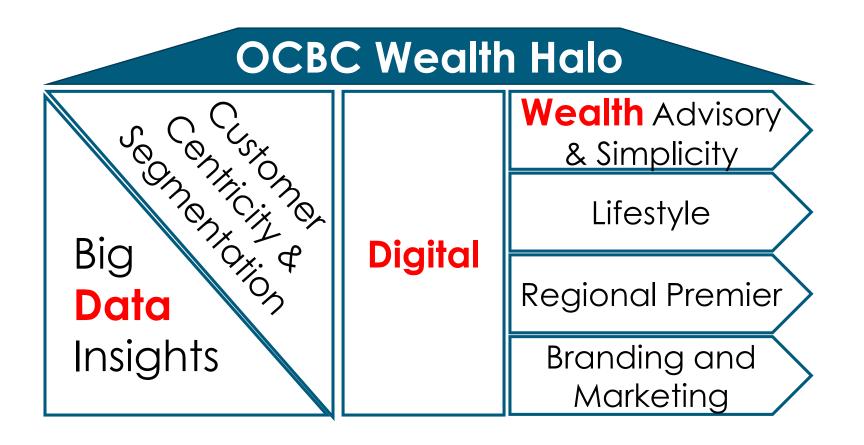
Regional Premier

OCBC.com

Branding & Marketing



2018 Strategic Thrusts





Structural digitalisation of core business model complemented by ecosystem led growth





IT IS ALL ABOUT THE CUSTOMER











This is Mary

Age 30, recently married

Travels 4 times a year to Japan

Has been **browsing for homes** in the East

Time-starved, needs everything **fast**, **automated** and with **minimal intervention**

Enjoys using mobile banking and **dislikes calling in to contact centre**

Wants to purchase her first property and retire by 55



Mary isn't our only customer



Credit; ST PHOTO: JOYCE FANG

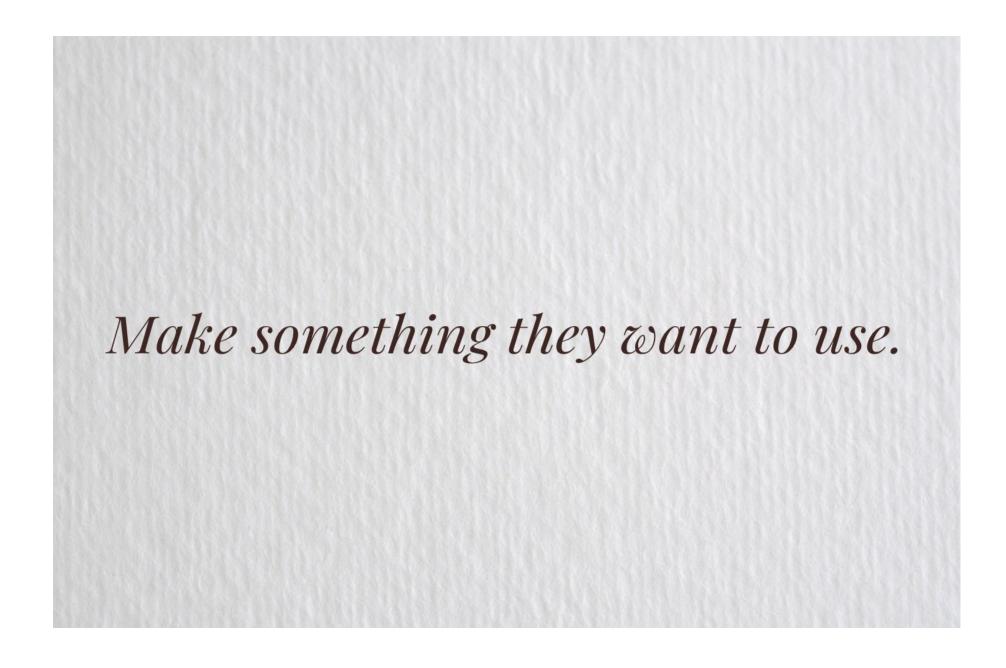










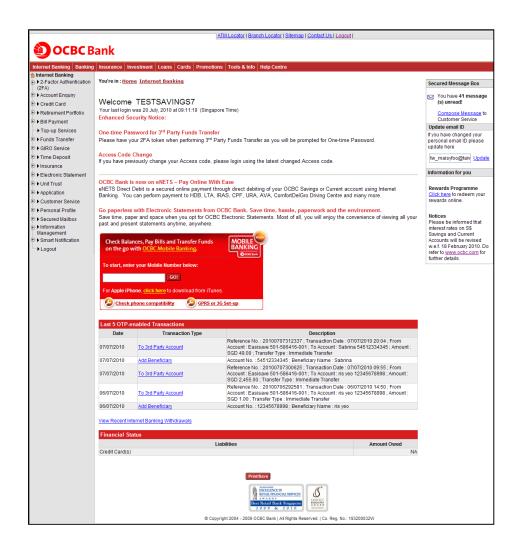




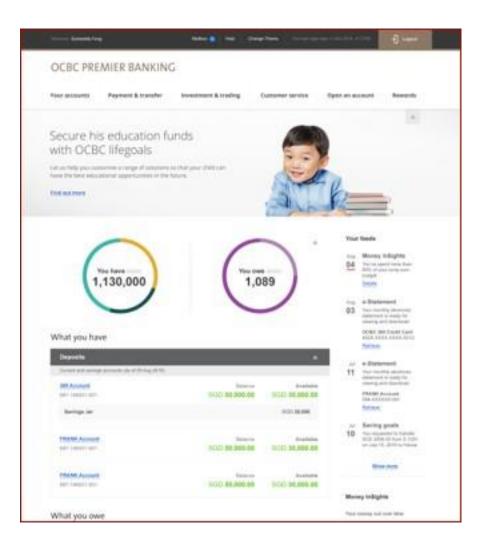




Then...



...Now





Structural Digitalisation



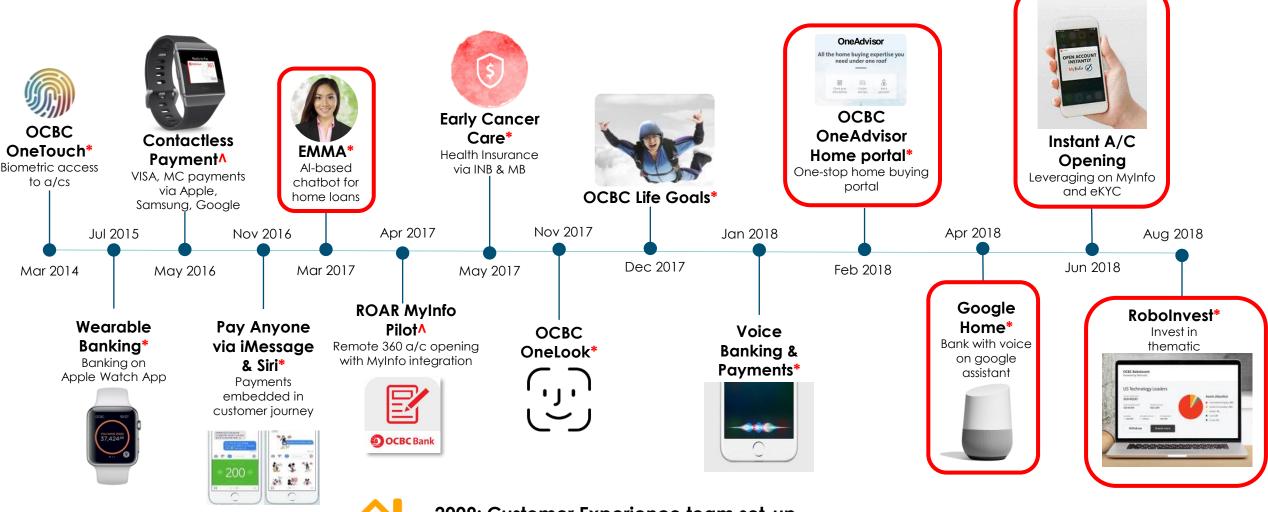
Credit: Jannoon028 - Freepik.com



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Consumer Bank Singapore: Early and leading adopter of structural digitalisation – "First in Singapore" milestones





2009: Customer Experience team set-up2010: Digital Team rewired\$150m investments in Data/ Analytics since 2005

Leading the digital engagement

OCBC – banking on your mobile...



...and beyond



on digital

Note:

1. Digital customers are defined as customers who have used internet / mobile banking at least once in 3 months

mobile

2. Financial transactions refer to fund transfers and payments which are non-cash in nature



Digitising the branch







26% teller transactions migrated to ATMs#

15% teller headcount reduction*



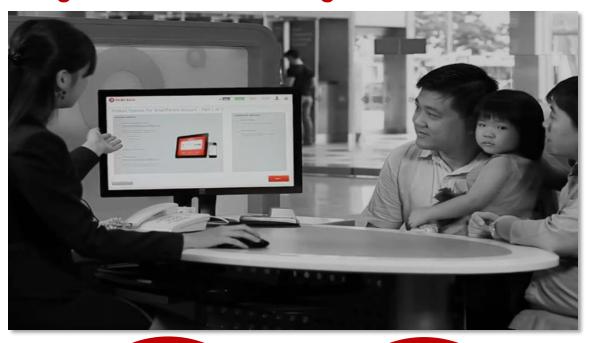
Winning the relationship opening "moments of truth"

Digital Direct to Customer



30% 360 accounts opened digitally

Digital Assisted – enabling Sales & Services



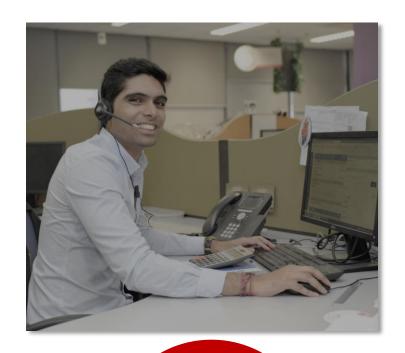
100%
relationships
started at branch
digitally

95%
Financial Needs
Analysis
digital-assisted



Singapore; 1H2018

Delivering Customer Delight; Driving productivity with digitally enabled & Al assisted agents





3X
improvement in sales leads conversion

30% requests handled STP

2,700 sales & service staff digitally enabled

18



Singapore; 1H2018





Consumer Bank Singapore: digital driving structural shift

Grow Franchise

leveraging digital for scalability

- Pivot away from staff centric service model: 7pp higher
 Sales staff: staff mix^*
- Pivot sales staff to advisory and drive productivity: 1.4X
 revenue per staff*



Deepen Relationship

with leading digital experiences

- Grow engaged digital customer franchise – 48% digital customers#
- 63% revenue generated by digital customers, 1.6X products per customer# (digital customer vs others)

2X
revenue per
digital customer
vs others#

Drive Loyalty

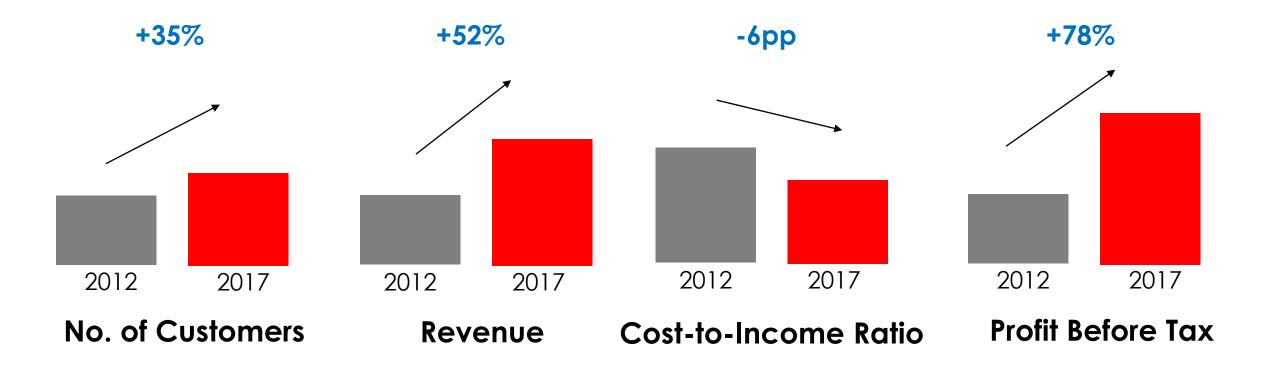
delighting customers

- Ranked 1st in Customer Loyalty in Retail Banking: Global Edition
 2016 by Bain & Company
- Ranked Highest in Singapore
 Retail Banking Customer
 Satisfaction: 2017-2018 by J.D
 Power

#1
customer
satisfaction
in SG



Consumer Bank Singapore: Scalable growth





Structural digitisation journey continues...





Mobile-first Omni-channel



Market-leading digital sales



Democratic & personalised wealth access





- Simple, Convenient, Relevant, Instant & Secure
- Mobile not just for customers
- Clicks -> Tap -> Talk
- Elimination of Tellers/ Reduction in service staff
- Augmented Intelligence Personal & Contextual
- Online origination of all simple products
- Efficient & Institutionalised Advisory process for complex products
- Unlock new segments with simplified and accessible products
- Scale personalised research & advisory
- From products to advice (day-to-day financial insights, goal-oriented)
- Embed digital payments in lifestyle to drive loyalty preempting disruption
 - Automation of processes



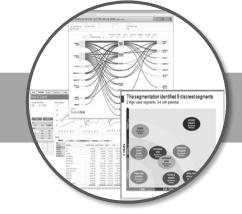
Augmented with new capabilities around AI/ML



(customer profile, transactions)

Ecosystem data (telco, retail)

External data (credit reports, social media)



Analytics & Insights

\$110million

~30% of overall new product sales



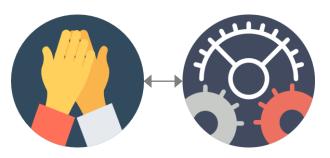
Campaigns & Offers

1,600 campaigns

30 million



Embedding in Process Transformation/ Value Proposition



Creating
Customer
Intimacies





Money In\$ights



Emma chatbot



Using AI as a competitive differentiator - E.g.
AML/KYC

23



Singapore; 2017

Going beyond banking... to get closer to the customer through Ecosystem partnerships





















Starhub Ecosystem partnership already delivering benefits. Beyond Marketing - more advanced use cases in development

CO-MARKETING



1,000
new accounts
opened
per month

+33%
customers with recurring payment for Starhub bills

IN DEVELOPMENT











ALTERNATIVE CREDIT

Using Location, call circle, browsing data









PREDICTIVE UNDERWRITING

Using activity levels, sleep timing, shopping behaviours









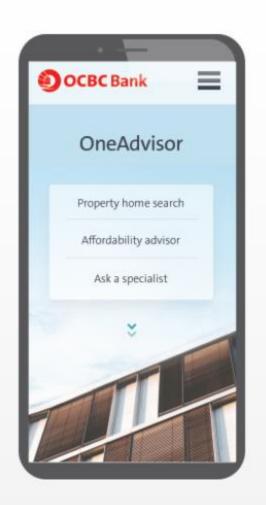
Singapore; 1H2018

Mortgage Origination

LOAN TO VALUE (LTV) LOAN TENURE **RESALE HDB** 2ND PROPERTY ADDITIONAL BUYER'S STAMP DUTY (ABSD) **SELLER'S STAMP DUTY (SSD)** 1ST PROPERTY AGE 65 MINIMUM OCCUPATION PERIOD CASH COMPONENT MORTGAGE REDUCING TERM ASSURANCE (MRTA) MARKET VALUATION 75% LTV IN-PRINCIPLE APPROVAL (IPA) PRIVATE PROPERTY TOTAL DEBT SERVICING RATIO (TDSR) WITHDRAWAL LIMIT MORTGAGE SERVICING RATIO (MSR)



Moving from 'Mortgage sale' to one platform for end to end 'Home purchase journey'





Check affordability and total cost needed for your dream home

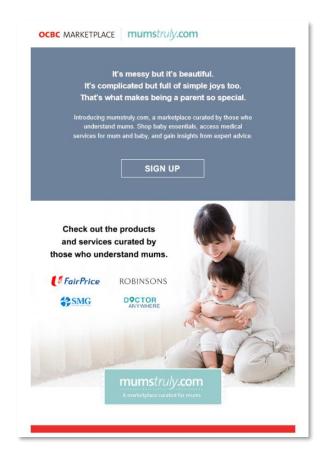
Search for homes within your price range

Contact a Mortgage Specialist



27

Strengthening loyalty with partnerships



Digital Marketplace



ROBINSONS





Loyalty Exchange



DIGITALISATION DESIGN DATA









Creating Greater Value for SMEs through Digital Transformation

Linus Goh

Head, Global Commercial Banking

24 September 2018



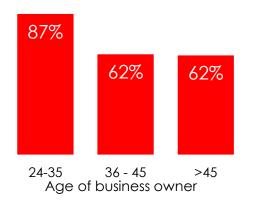
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SMEs The new battleground in digitalisation

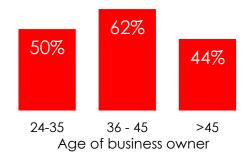


SMEs – The new battleground in digitalisation

65% SMEs* believe going digital is necessary to stay relevant in business and 50% have begun implementing their digital initiatives.



Going digital is necessary



Implementing digital initiatives



Top areas of digital initiatives

* Jan 2018, Poll of 400 OCBC SME customers from Singapore, Malaysia, Indonesia and Hong Kong



OCBC Global Enterprise Banking

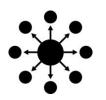
Serving start-ups, SMEs and mid-cap corporates



Helping entrepreneurs get their business started ...



... helping them grow and succeed across the SME lifecycle

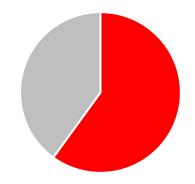


... and supporting the digitalisation of their business



Dominant SME Market Position in Singapore

with over 125K small business* customers



Serving more than 1-in-2 SMEs in Singapore



Acquiring over 40% of bank accounts for newly-incorporated businesses each year



^{*} Sales turnover of less than \$20m

First-to-market service innovations for start-ups and small businesses in Singapore



Business First Loan, 2014

Unsecured loans for SMEs as young as 6 months in business. Market leader with close to 50% market share today.



Mobile Branch Specialists, 2016

Quick help from Business Banking specialists at retail branches for business accounts & solutions, with significant lift in customer satisfaction.



Virtual Account Opening, 2017

Remote business account opening for OCBC Group relationships, halved cycle time.

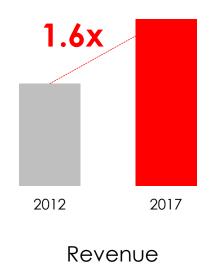


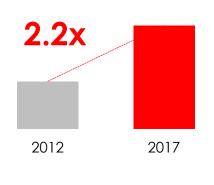
Business Revolving Short Term Loan, 2018

Flexible short term financing solution to meet SME working capital needs.



High Growth SME platform in Singapore for start-ups and small businesses







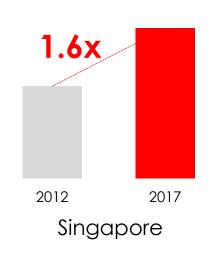
Net Profit

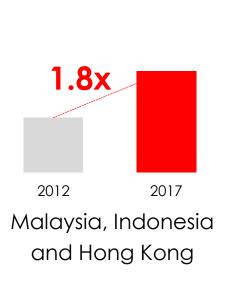
Cost-to-Income Ratio

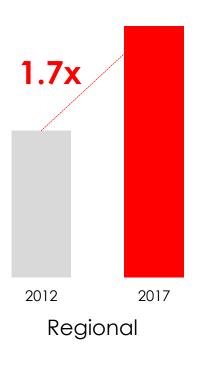


Expanding into Malaysia, Indonesia and Hong Kong with strong customer and revenue growth

Revenues









Digital priorities for SME Banking

Redefining customer engagement

Delivering greater customer value for SMEs

DIGITAL WORKPLACE

WORKPLACE

COSYSTEMS

CUSTOMER JOURNEYSDATA ANALYTICS & ARTIFICIAL INTELLIGENCE



Best SME Bank

For its efforts in digitising its SME business by offering an increasing number of products and services <u>online</u> to its SME clients, and by <u>simplifying</u> its digital account opening, this bank not only achieved more accounts being completely sourced digitally but also a high digital active SME base.

It developed a highly differentiated <u>data-driven</u> strategy to grow its SME business to compete effectively against its peers, and new <u>innovative</u> cash financing solutions.

Small Business Bank of the Year 2018
The Asian Banker

Small Business
Bank of the Year
2012 & 2018
The Asian Banker



Asia's Best Bank for SMEs 2016 & 2017 Euromoney



ASEAN SME
Bank of the Year
2011 to 2018
Asian Banking & Finance



Best SME Bank in Southeast Asia 2015 to 2018 Alpha Southeast Asia





Digital priorities for SME Banking

Redefining customer engagement

Delivering greater customer value for SMEs



CUSTOMER JOURNEYS
DATA ANALYTICS & ARTIFICIAL INTELLIGENCE



Our SME customers at the heart of our innovation

Data-driven behavioural insights in Customer Journeys to design differentiated service experiences for SMEs across the life cycle



Customer Experience & Co-Innovation

CX labs, customer journeying and innovation workshops, supported by regular E-B* surveys



Data Analytics & Artificial Intelligence

Customer needs and preferences across our services and touch-points, and across the lifecycle

* Exceed Expectations minus Below Expectations, Net Promoter Score-format customer survey



Redefining Customer Engagement through Digital Transformation

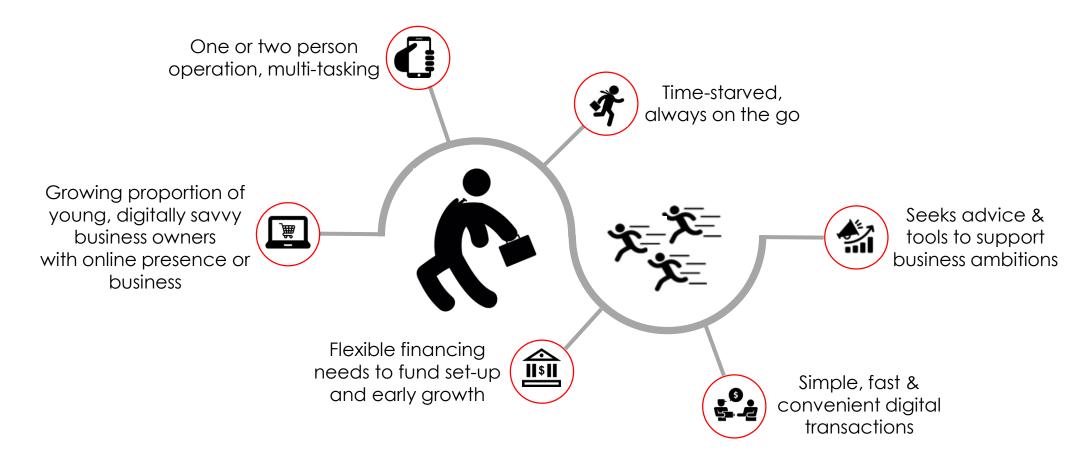
Delivering greater customer value for SMEs





Serving the "Born Digital"

> 95% new customers are "Born Digital", signing up for digital banking from day one, driving the demand for mobile and digital-everything

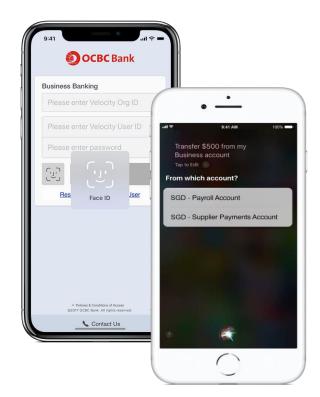




Business Banking on the go

Bank-in-the-pocket for SME business owners who are time-starved, constantly on the move and multi-tasking

- Simple, fast, convenient information, alerts, approvals
- First to market with natural interfaces
- Shifting to omni channels, integrated with award-winning Velocity internet platform
- Growing from banking to beyond banking





First in Singapore with biometric authentication – OCBC OneTouch, Apr 2016



First in Asia with Voice recognition for funds transfers and account enquiries,
Oct 2017



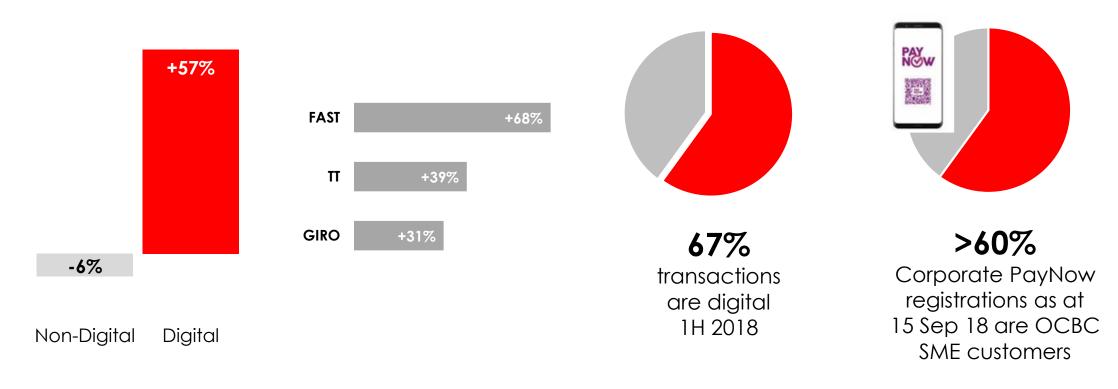
First in Asia with Face ID recognition for mobile business banking, OCBC OneLook,
Nov 2017



Rapid shift to Digital Transactions

Digital transactions in Singapore grew by 57% since Dec 2016 and account for 67% of total transactions

Transaction Value

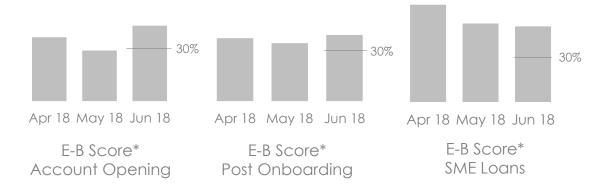




Transforming digital engagement

Expanding mobile, self-help services, targeting to shift 90% new business accounts and 40% business loans to digital in 2019.

Designing differentiated services to cater to customer needs and preferences for high-tech and high-touch experience, maintaining high customer satisfaction.







Tablet



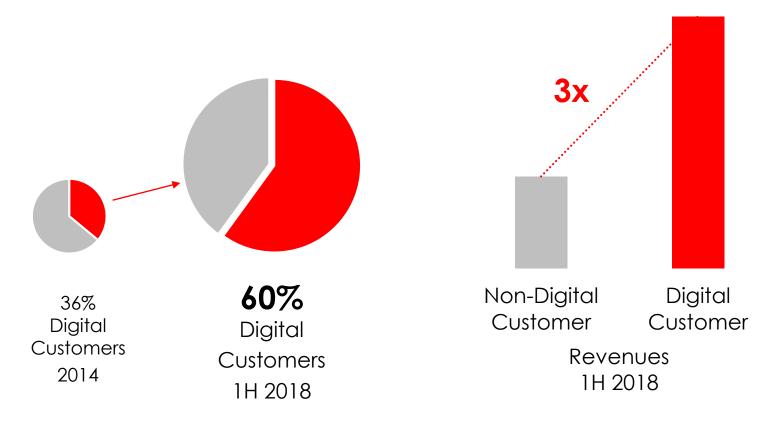
Online



^{*} Exceed Expectations minus Below Expectations, Net Promoter Score-format customer survey

Growing Digital Customers

60% of SME customers in Singapore are digitally active* with 3x revenues of non-digital customers



^{*} Digital customers are defined as customers who have used internet or mobile banking at least once in 3 months. Data as at 30 June 2018



Redefining Customer Engagement through Digital Transformation

Delivering greater customer value for SMEs





Leveraging Data Analytics and AI to Transform Jobs



Sales Leads Management



2X increase in conversion of sales leads from propensity modelling analytics for loans



Relationship Dashboards



Customer
behavioural
insights from
transaction and
data analytics to
trigger product
cross-sell and
deeper share of
wallet



AML & Compliance

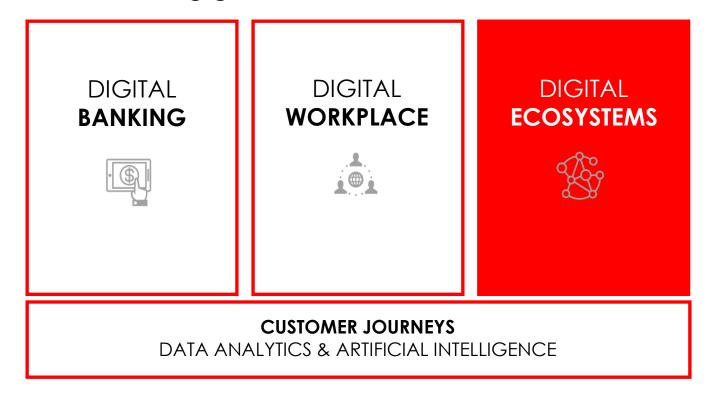


Al solutions to strengthen and automate customer and transaction screening



Redefining Customer Engagement through Digital Transformation

Delivering greater customer value for SMEs





Going beyond banking in ecosystems

Partnering Fintechs to deliver customised solutions, connecting SMEs with value chains and emerging ecosystems.

Building on our first-to-market API solutions beginning with Singapore government agencies such as IRAS and CPF as a foundation for B2B and B2B2C connectivity.





Accounting, HR and Compliance Reporting

Building on OCBC's long-standing partnership with Association for Small & Medium Enterprises (ASME) and supported by Enterprise Singapore.

Integrated solution to handle accounting, HR and compliance, designed with local regulatory requirements.

- Seamless generation and filing of financial statements, corporate tax and annual reports to ACRA, IRAS and CPF Board
- Data hosted in Singapore for added security and protection
- Rollout by end 2018





Resources



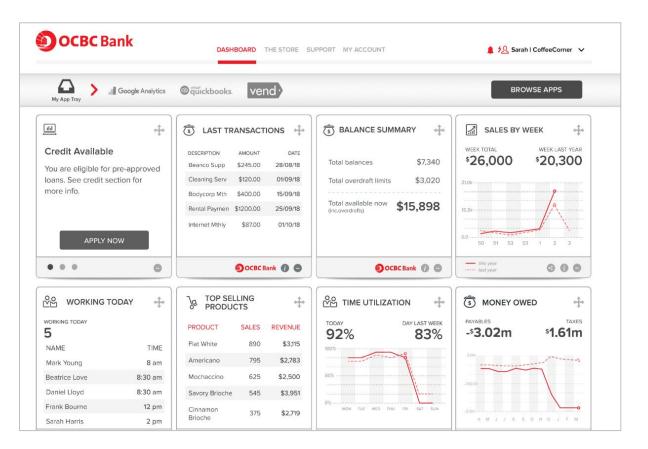


Business Owner Dashboard

Equipping SME business owners with a smart business dashboard to stay on top of key performance indicators.

Integrating banking with beyond banking services to enable better financial management.

- Relevant apps for key "buy-selloperate" functions of the business
- Customizable industry-based views
- Rollout by end 2018







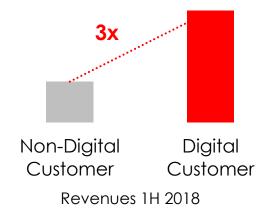
OCBC Digital Strategy Outcomes





Continued momentum in customer and revenue growth in core markets from expanded reach through digital channels and ecosystem partnerships.

DEEPEN **RELATIONSHIPS**



Leveraging data analytics and AI capabilities to deliver new, tailored solutions in working capital and beyond banking solutions.

DRIVE **LOYALTY**



E-B Score* Post Onboarding

Maintain high
customer satisfaction in
our E-B scores, while
strengthening our
differentiated service
model for customers.



^{*} Exceed Expectations minus Below Expectations, Net Promoter Score-format customer survey



Driving Pervasive and Sustainable Digital Transformation

Pranav Seth

Head, E-Business, Business Transformation and Fintech and Innovation Group

24 September 2018



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1

Transforming
the core with
Fintech
Collaborations

2

Building an
Al-First future
while harnessing
immediate
benefits

3

Digital Culture and Empowered Workforce







A Natural Partnership

TRUST

BANKS'
NATURAL
ADVANTAGE

END-TO-END CAPABILITIES

DEEP CUSTOMER RELATIONSHIPS

AGILITY

NO LEGACY BURDEN

EXPERIMENTATION& RISK TAKING

TYPICAL FINTECH ADVANTAGE





Becoming a Fintech commercialisation partner of choice

Platform to leverage Open Innovation & the Fintech Ecosystem to accelerate transformation



Sharp problem & opportunity focus

aligned with transformation strategy

API access & real anonymised data

Sandbox / API gateway

Codified Risk

Management approach

to enable Speed



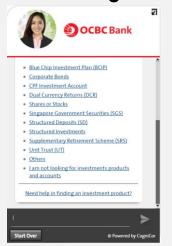


Not only to accelerate transformation across business lines...

Consumer & **Private Banking** **SME & Corporate Banking**

Great Eastern

Emma Digital Concierge



Launched Q1, 2017

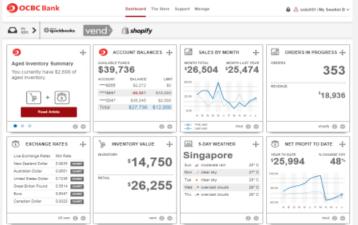
Robo-investment Service



Launched

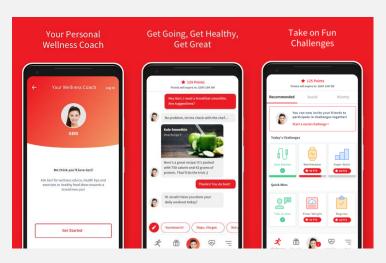
Q3, 2018

SME business intelligence & operational management



Launching 2018

Al Health Assistant



Launched Q2, 2018









Some of our other co-innovation initiatives



















But to fundamentally transform the core of the business

Strengthen moats on core capabilities – Best at basics

Codify, Automate, Embed organisational intelligence

Scale efficiently

Transformation agenda (Fintech solutions WIP / Completed)

Regulatory Compliance

- AML
- KYC
- Embedded compliance

Credit

- Alternative data
- Machine Learning based credit models
- Overall end-toend credit process

Operational Risk

- Staff fraud detection
- Customer fraud detection

Branding & Comms

 Insights-driven customer communication

Audit

- Predictive audit
- Continuous audit

Human Resources

- Smarter talent management
- Smarter employee services



Combating financial crime effectively and efficiently

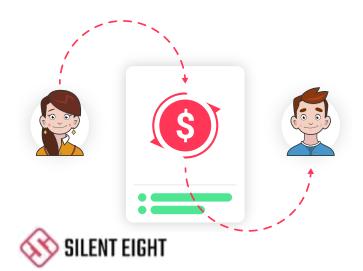




Transaction Monitoring using Unsupervised Learning

- New patterns uncovered
- 4.5 times more efficient
- 35% less false positives

Staged integration: 2018 to 2019



Automated AML Compliance Analysis

- 6 times faster
- 38% cases fully automated

Staged integration: 2018 to 2019



Intelligent Name / Entity Screening

85% reduction in screening hits –
natural language based processing
with intelligent naming conventions
with cultural context

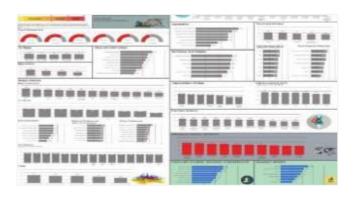
Live - 2018





And innovating across all functions of the Bank - internal & customer facing





Understanding Stay Factors (culture, development & benefits)



Prediction of Staff

Attrition

Automated Resume Screening

 80% accuracy in shortlisting suitable candidates in job functions with high volume

Insights-driven Customer Communication

- 7 times more relevant messaging
- 261% increase in conversion rate and purchases

Employee Attrition Management

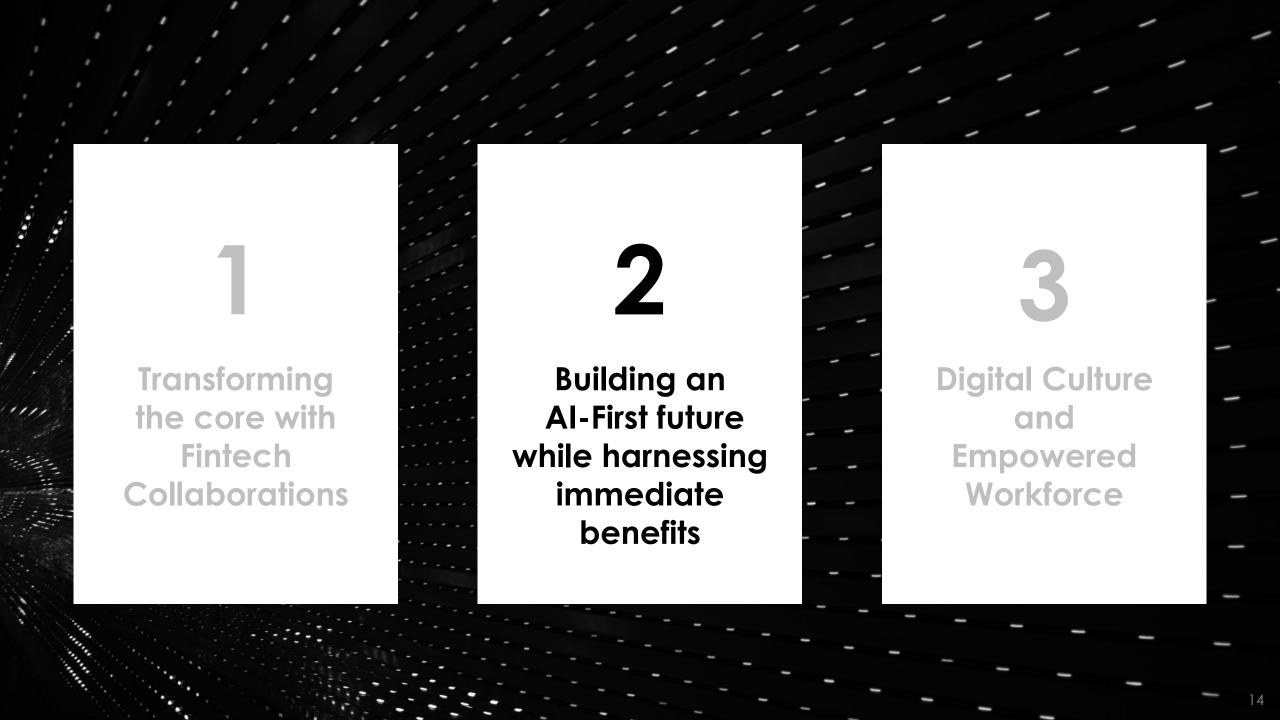
- Internal analytics capability to analyse staff hiring and performance patterns
- 75% accuracy in predicting likelihood of staff attrition

Live - 2016

Live : Q3, 2018 Live - 2018



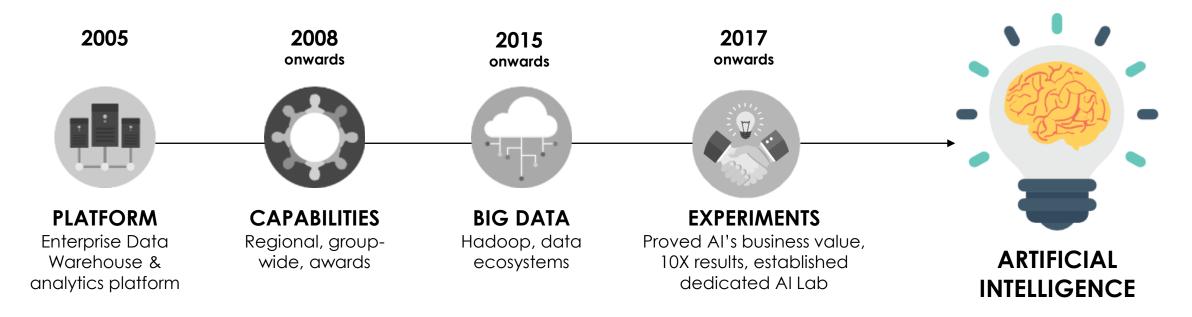
Pervasive. Purposeful. Energised.





Establishing an early lead in Al

Adopting AI as our core competitive differentiator



Using AI as a competitive differentiator

we recognise that laggards will struggle to catch up



OCBC launched Singapore's First FI-focused AI Lab

Complement our existing analytical / data functions

Why do we need an Al Lab?



Al will be fundamental

in refining our core processes and transforming our Bank



Allow rapid creation of proprietary models

across a wide spectrum of business problems



Build in-house AI talent

with knowledge transfer to BAU, avoid dependencies on vendor's AI black-box

Objectives of the AI Lab







Build AI applications

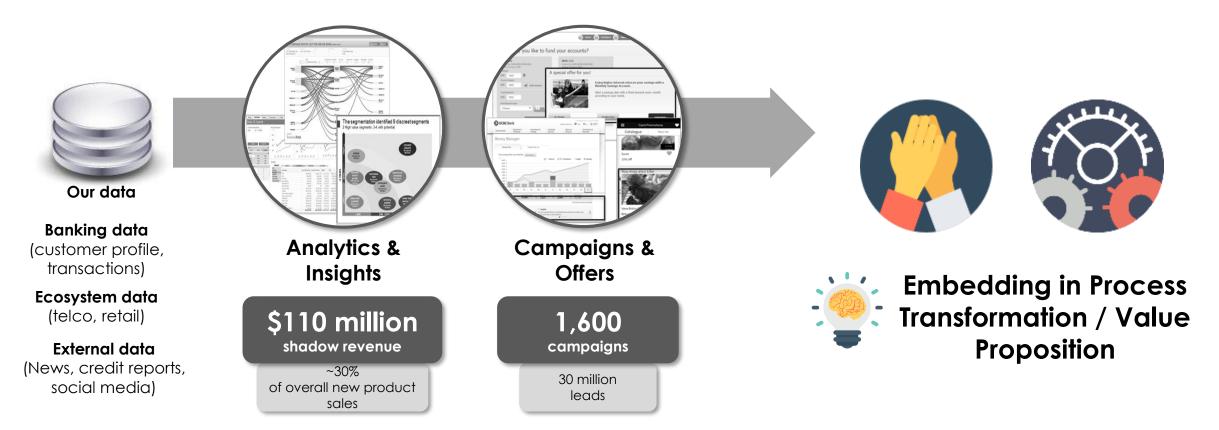
Define the architecture

Develop Al skillsets



Building on our strong data-driven capabilities

Harnessing AI's transformative technology to create new opportunities



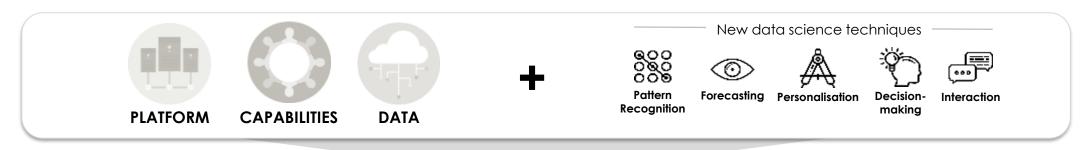
Note: Data based on FY 2017



Transforming how we deliver banking services

Enabling OCBC to deliver new customer values and business efficiencies

ARTIFICIAL INTELLIGENCE



Creating <u>Customer</u> Intimacies

Tailored products & services

Personalising interactions to meet the unique needs of each customer

Ubiquitous presence

Making interactions natural and frictionless, providing always-on services

Driving Business Scalability

Smarter decisions

Using data science to derive better insights and optimise business outcomes

Intelligent automation

Automating routine tasks and processes, while maintaining or improving quality of experiences



Examples of AI use cases that we are working on



Creating Customer Intimacies



Voice Banking with Google Home

transactions capabilities soon

400

users daily



Real-time Location-based **Marketing Offers**

personalised & contextualised

3x

more relevant



Next-Best-Action Recommendations

after every customer interaction

+80%

accuracy in identifying customers' needs



Insights for Corporate RMs on **Potential Deals**

using AI to derive insights from news



Deliver relevant insights on customers' investments

for smarter investment decisions



Driving Business Scalability



Al-Powered Automation

(multiple processes including loan repricing, service requests, financial reporting, merchant invoicing, etc.)



Filtering of Adverse News for **Anti-Money Laundering**

auamenting human analyst efforts

50%

volume reduction

Bank-wide

units & functions

adoption across different



AI-Powered Virtual Service Agents

auto-response to service enquiries

starting with customer email enquiries



Augmenting Analysts for Credit Research

using AI to analyse earning reports

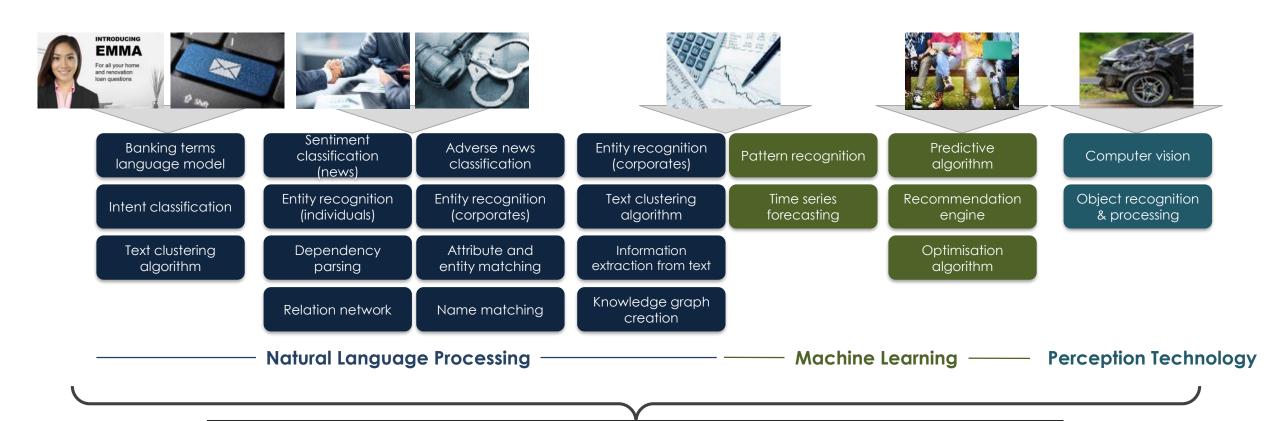


Instant Approval of Motor Insurance Claims

using AI to analyse damage from photos



While building "modular AI" foundation required for longer-term fundamental transformation



Al Foundation blocks that can be re-used for other use cases



We believe that AI will start delivering significant benefits over the next 5 years

Create <u>Customer</u> Intimacies



Drive Business Scalability



75%

of customer service requests to be Alassisted, resulting in faster turn around **75%**

of all employees' job to be augmented with AI, resulting in less manual efforts and errors 20%

lift in staff productivity or man-hours saved to complete a task



Committed to being ethical and responsible

To both our customers and staff in our pursuit of being an AI enabled organisation

Ethical use of data & Al

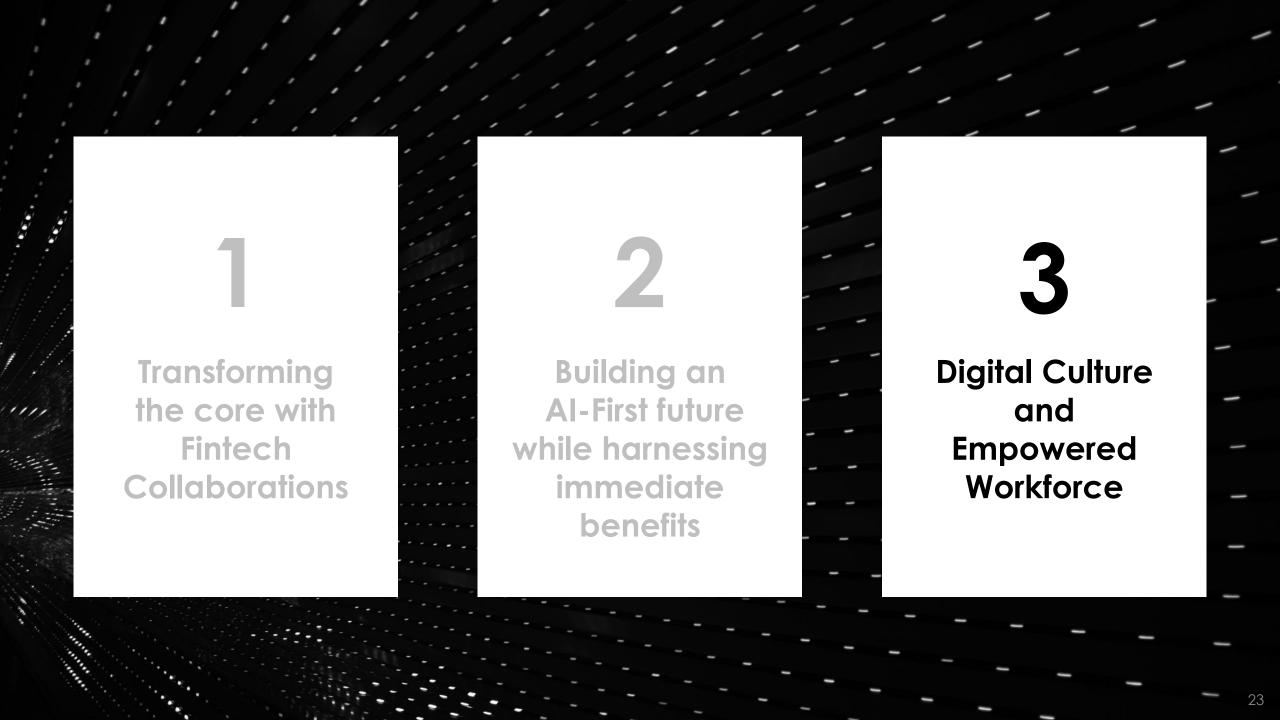
ocbsc is founding member of the MAS' committee to promote responsible and ethical use of AI

Committed to fair and transparent practices

People & skillsets

OCBC's FutureSmart program trains and develops the digital skills of all employees of the OCBC Group

Committed to developing our staff





Augmenting our roles as advisors & custodians

With new ways of thinking and working across the entire bank

Customer obsessed

Focusing on customer needs and wants

Rapid experimentation

Creativity, Adaptability, Fail Fast, Fail Smart.



Trusted Advisors & Custodians
Human Touch, Prudent Risk
management, Security...

Organisational agility

Breaking down silos

Continuous learning



Transforming bankers into innovative tinkerers!





Empowering our staff to thrive in the future workplace

Through enabling them with new innovation skills







Ignite the Geek



Speaker Series



Workplace by FB



LinkedIn Learning



Live updates from key conferences





Outside perspectives



Scaling staff insights

Build battle scars



Tackle real business problems



workshops





TOV Challenge



Ideas to Products

Celebrating the #Rebels



CEO Innovation **Award**



Celebrating Innovation success & failures



#OCBCRebels



Building a #Rebel community



Breaking traditional banker roles with #OCBCRebels

OCBC offers safehouse for 'rebels' to hatch breakthrough ideas





Front page feature for #OCBCRebels

Solve problems differently

#OCBCRebels evangelising to our newcomers



And embedding our 10 year design journey into our DNA

Transforming product and channel managers into journey managers

2008

Longest-running
Customer Experience &
design team established
in a Singapore bank



Design embedded into every channel and product



Branch

2018

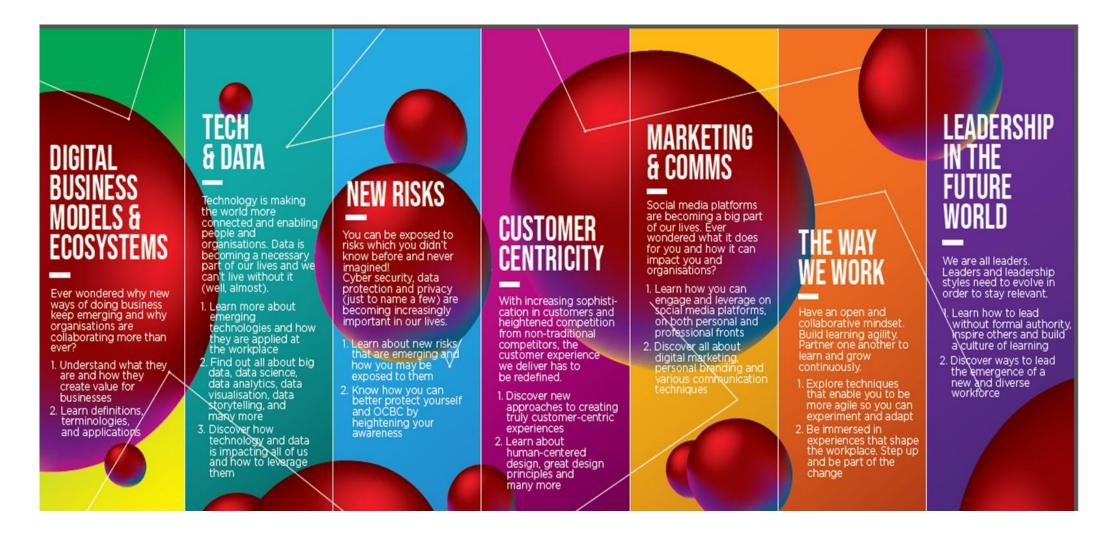
Basic design training +
Certification for all product & channel managers

OCBC 600D GREAT DESIGN BOOTCAMP





While building deep digital skills









Pervasive. Purposeful. Energised Transformation

across customer and core support functions

Pervasive & Scalable Transformation



to leverage the external Fintech ecosystem



Long term data & Al-led transformation

building for the future and reaping medium term goals

Innovation & Digital culture

widely embedded in large sections of the bank and growing





Powering the Foundation for Digital Transformation

Lim Khiang Tong
Head, Group Operations and Technology

24 September 2018



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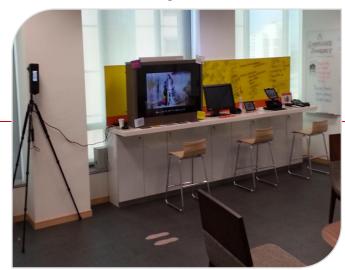
Started with a clean slate....

20 First-in-Market 17 awards

389 ideas implemented

5,518 ideas generated

2012



It all began in 2012 where we needed a place to house innovations

2015 Carpe Diem O&T Innovation Lab was established



Our first innovation, **OneTouch** was born here and we grew rapidly...











Digital Transformation – Foundation

Technology as a cornerstone for digital business capabilities



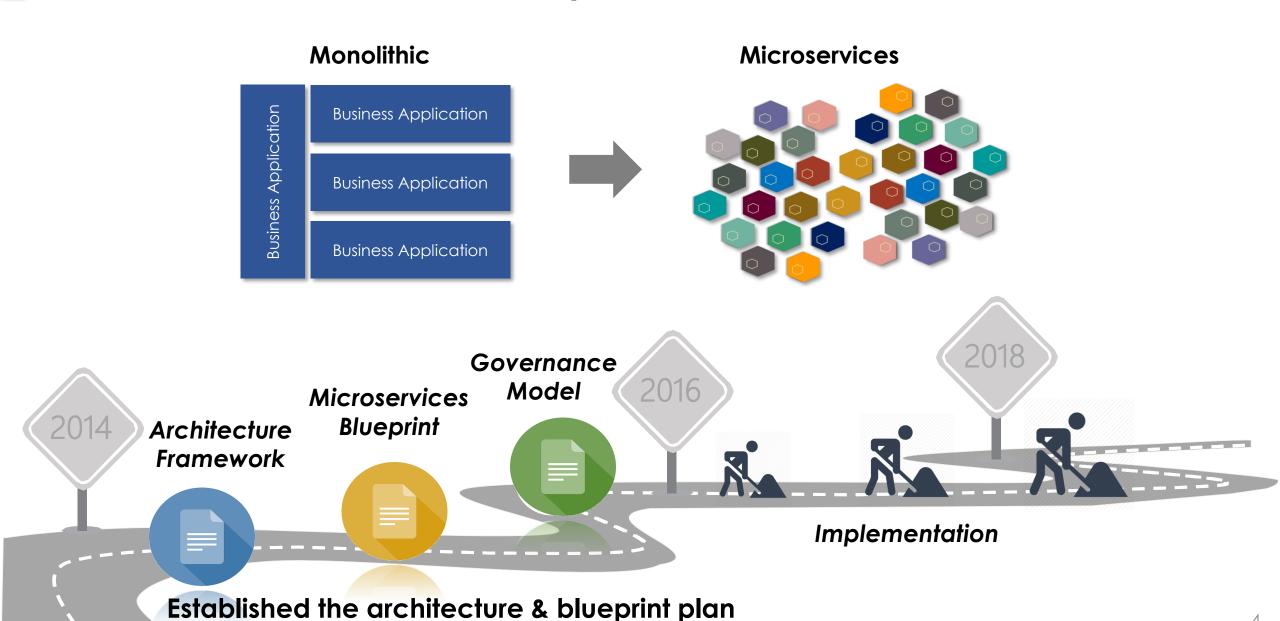








Redefine & transform our core processes to microservices...



...to achieve a consistent and seamless experience across all channels



MODULAR

Stand-alone services for flexibility to build as required

SCALABLE

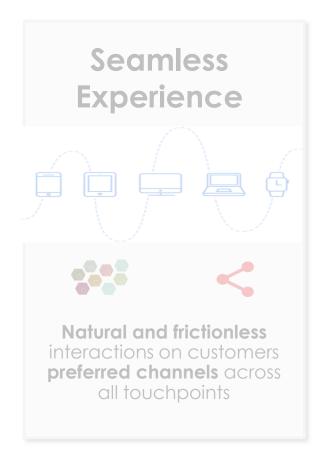
Ability to quickly accommodate growth

REUSABLE

Can be used repeatedly across many applications



Digital Transformation – Foundation





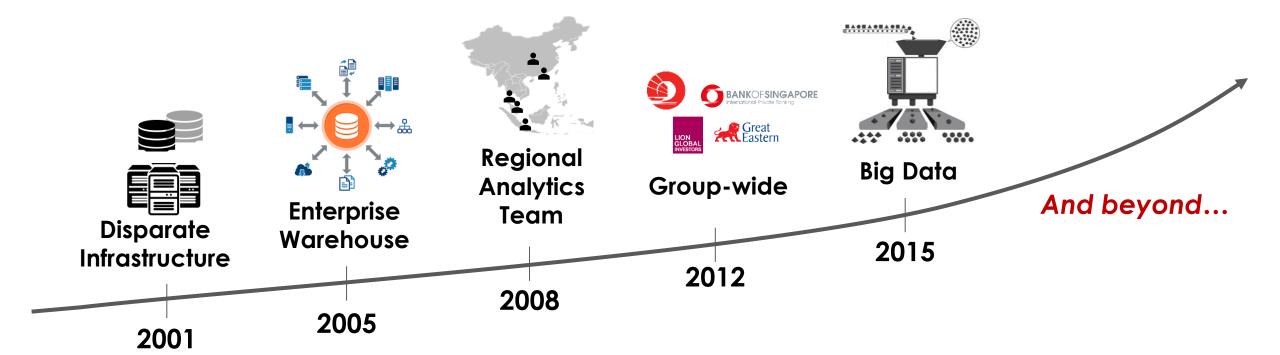




Our Al journey...



Building capabilities through **investments in enterprise platforms**, **group analytics**, **big data** and experiments





...has allowed us to reap significant benefits

Driving Operational Efficiency



AML Screening Launched: 2017



Smart ATM Cash Replenishment Launched: 2017



Augmented Credit Risks Decisions

Creating Employee/Customer Intimacies



Ask Buddy Launched: 2017



Ask EmmaLaunched: 2017



"Ok Google"...
Launched: 2018



Robolnvest Launched: 2018

Enhancing Risk Management



Unified Analytics
Threat Management

Launched: 2016



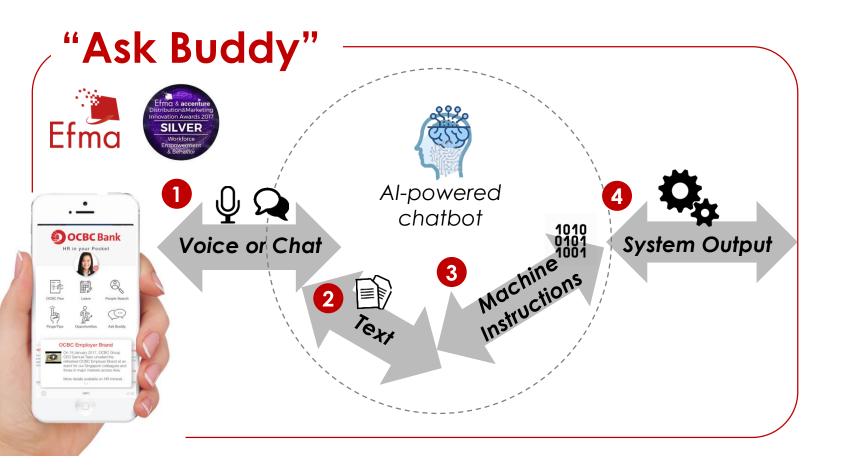
Cheque Frauds
Launched: 2018



Al-motor ClaimsWIP



Delivering superior employee experience & operational efficiency



Address 90% of HR-related questions

50% savings in manpower

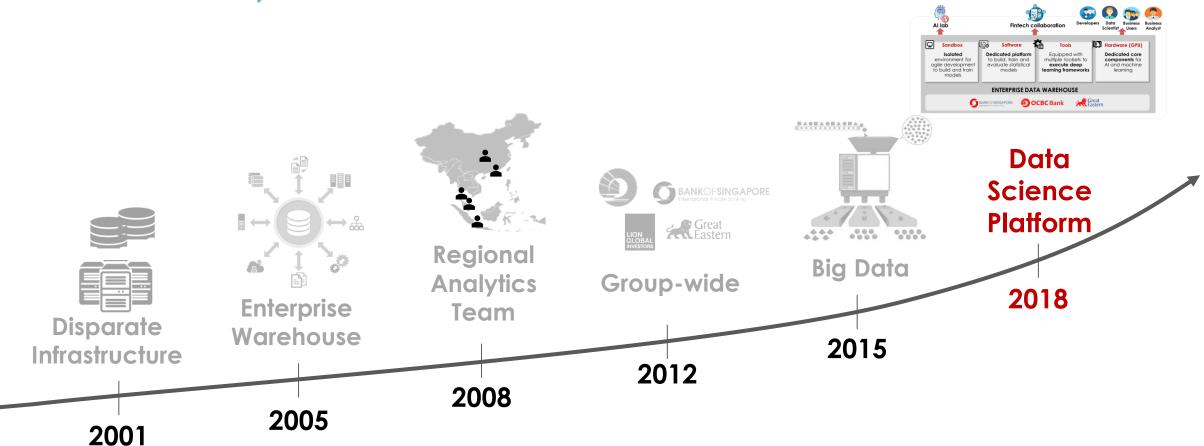
Increase and improve employee engagement through a chatbot, and provide on-the-go access to a suite of HR resources



Continue to deepen our AI capabilities with a Data Science Platform...



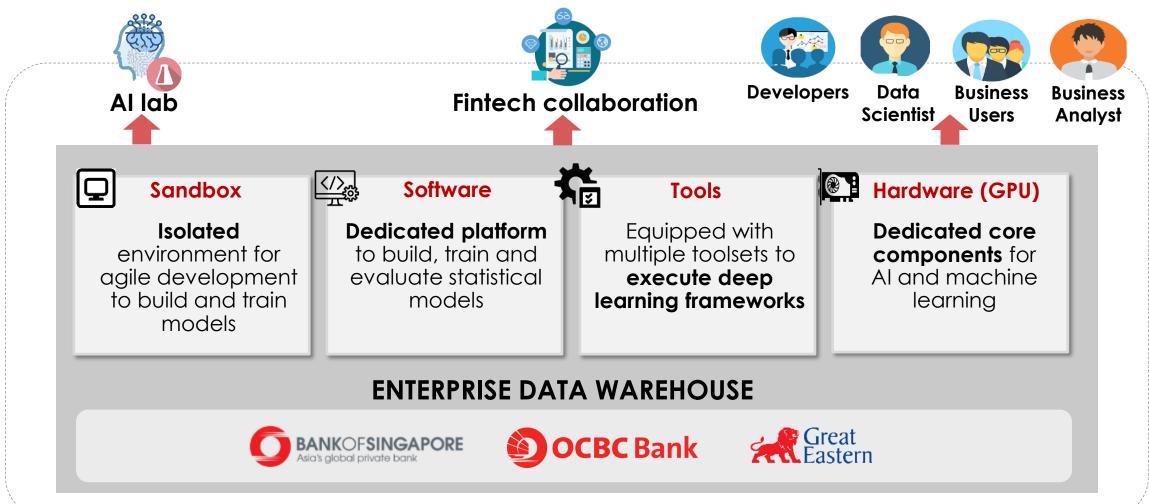
Drive adoption of advanced analytics technologies and enable business capabilities with Al





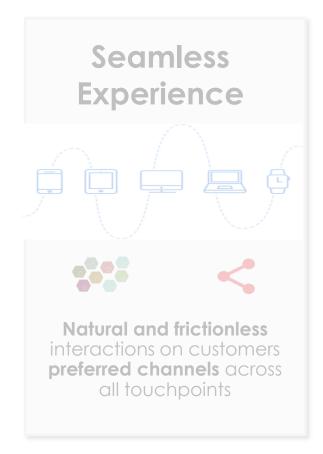
... to harness new opportunities

Enabler for business capabilities to redefine our core processes and allow rapid creation of analytical models by retrieving and processing data from multiple sources

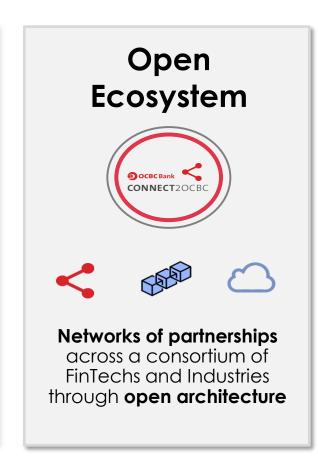




Digital Transformation – Foundation

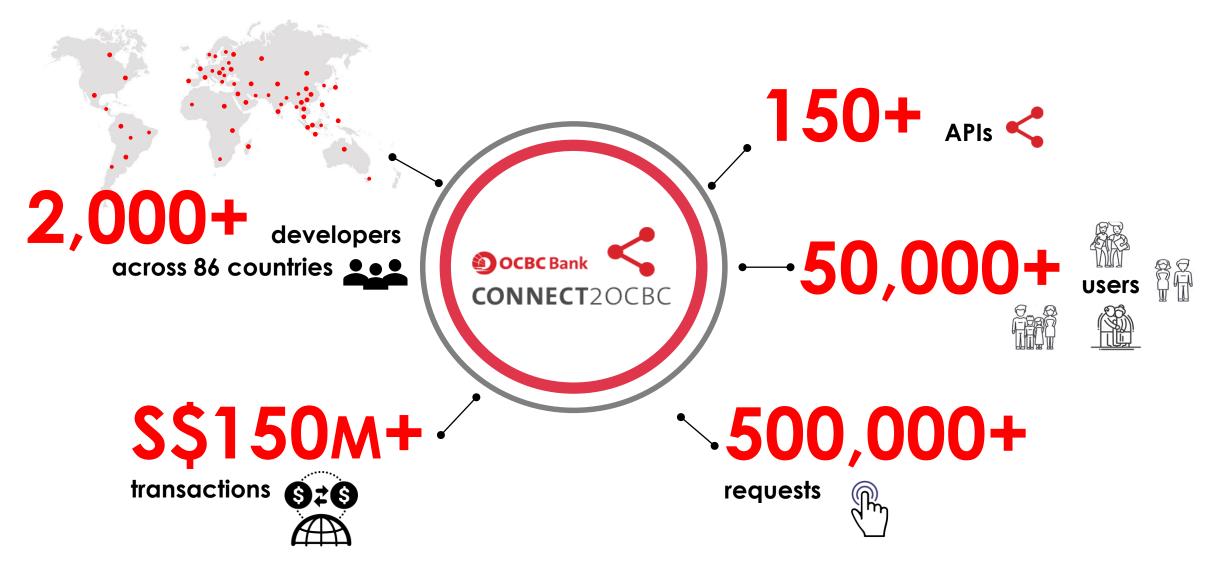






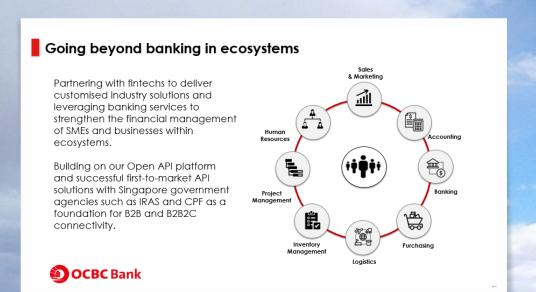


First bank in Southeast Asia to launch open API platform





Going beyond banking through API





more to come...



- Same-day CPF withdrawal
- Instant CPF Top-Up



Instant Giro set-up for tax payments



Easier disbursement of 151.

Awards to student



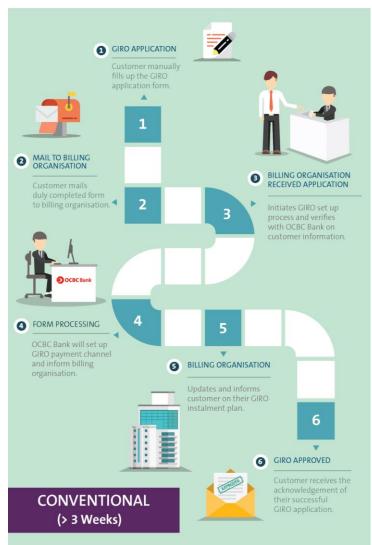


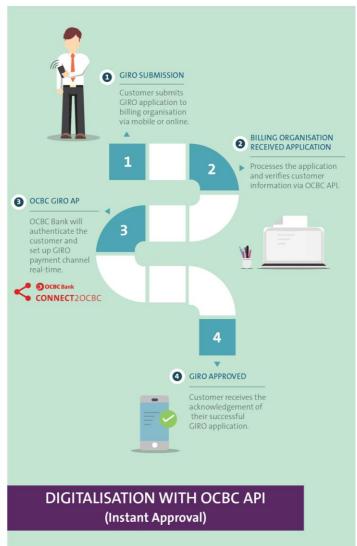






OCBC's GIRO sign-up API - Seamless, Paperless, Instant & Hassle-Free





From 3 weeks to instant approval

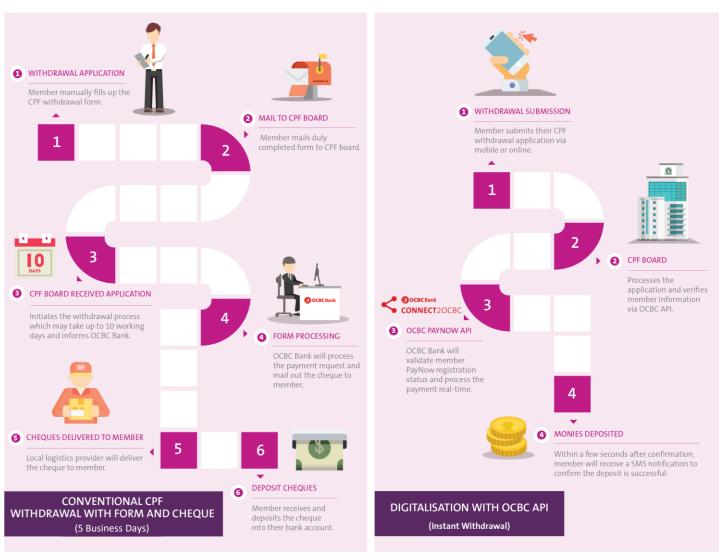
Paperless GIRO application makes up 60% of total applications

20% increase in new business

Launched: Nov 2017



OCBC's CPF withdrawal API - Seamless, Paperless, Instant & Hassle-Free



From 5 business days to same day withdrawal

\$\$150M+ payment made via API

20% reduction in cheque volume

Launched: Mar 2018



Multi-cloud strategy as a key pillar

Scalability to deliver business capability

Agility to explore new technology solution

Accelerated infrastructure provisioning

Risk Mitigation from single vendor









35% applications on cloud (2018)

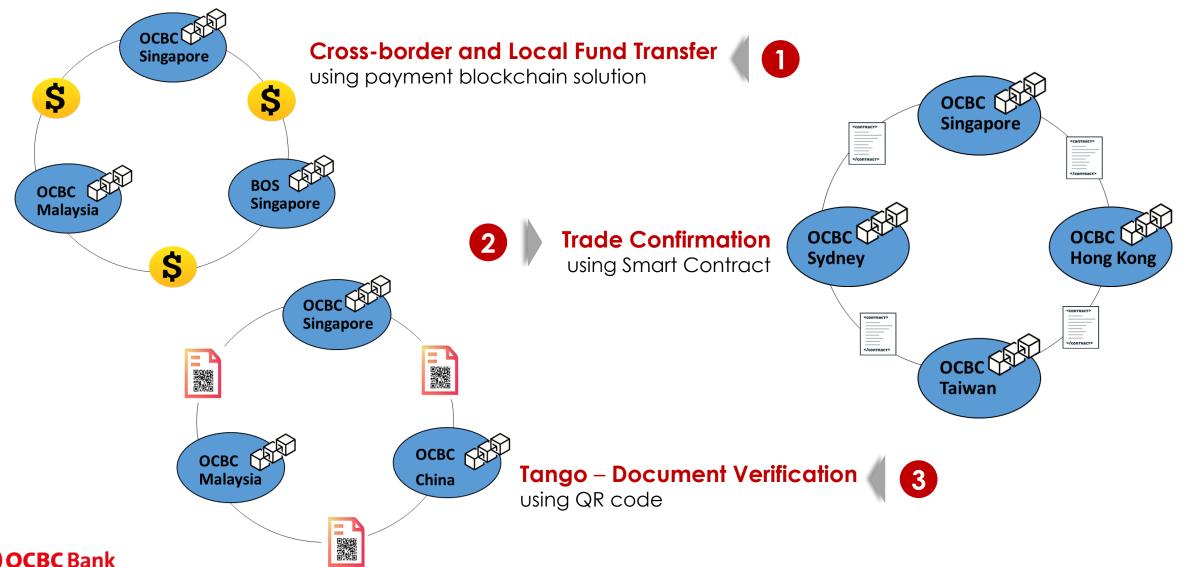
85% applications on cloud (Future state)

V 50% reduction in manpower

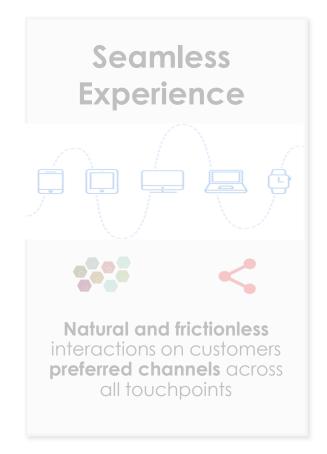


Pioneering in Blockchain technology

Applications of Blockchain within the Group:



Digital Transformation – Foundation

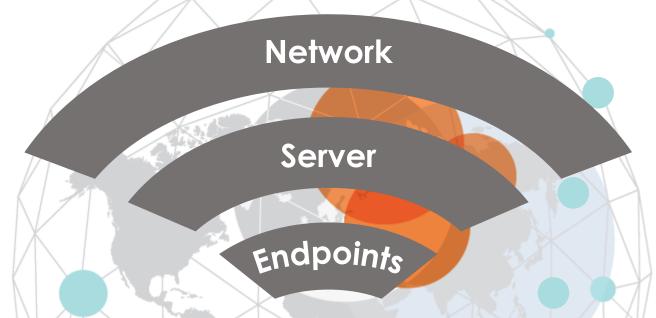








Multi-layered Cyber Defence strategy



Centred on people, processes and technology



CyberQUE™ partnership with start-ups to harness new cybersecurity solutions



Unified authentication engine to provide secure and frictionless banking



CyberQUE™ partnership with start-ups to harness new and emerging cybersecurity solutions

Innovate and bring diverse expertise to fast track capability building

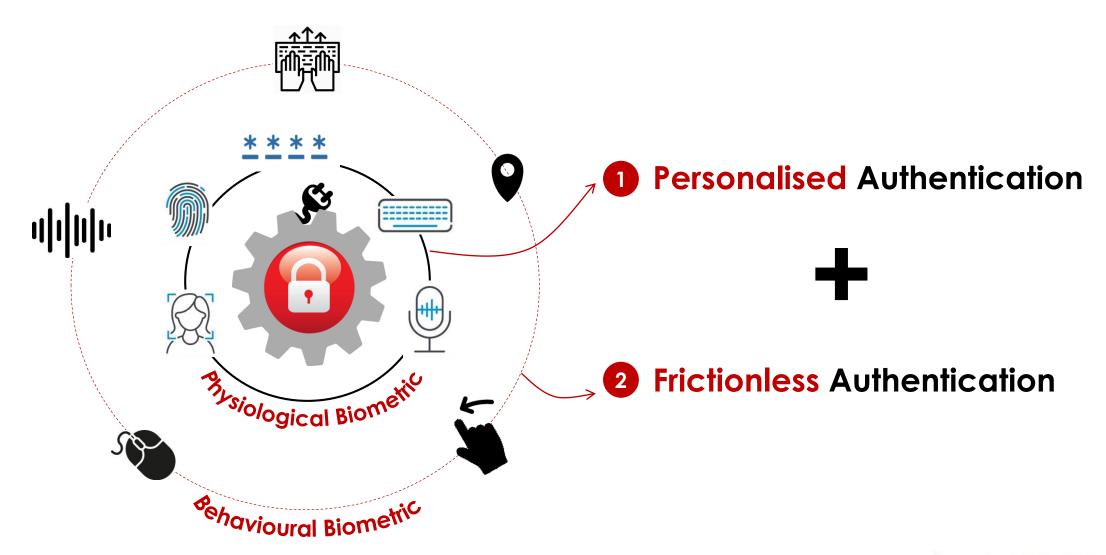
Search for niche cybersecurity solutions



Partner with homegrown and overseas start-ups



Unified authentication engine to provide secure and frictionless banking







Never forgetting our people at the heart of the digital transformation –

A Digital Culture & Empowered Workforce

An agile workforce and a collaborative environment has enabled us to innovate in the right direction



Open workspace to fuel greater collaboration and improve productivity



Modern infrastructure & paperless environment to enable



Close partnership with Business partners



1,000 Digital sessions held

90% +
O&T staff involved in Digital sessions

16 awards

20 First-in-Market

389 ideas implemented

5,518 ideas generated



Continue to cultivate our digital culture and empower our workforce to accelerate innovation

Move towards

BUILD STRATEGY

60%
Agile projects

GROW DIGITAL SKILLSETS



Deepen core skillsets and upskill in emerging technology



Target for all Project Managers to be trained in Scrum (currently >70%)

INCREASE TECHNOLOGY WORKFORCE





LEVERAGE ON GLOBAL IT TALENT





Our Digital Transformation journey

