

Domain Knowledge Scan (DKS): Trends in Online Mortgages

June 2014

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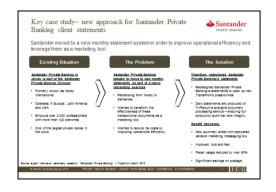
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Domain Knowledge Scans (DKS)





Domain Knowledge Scans

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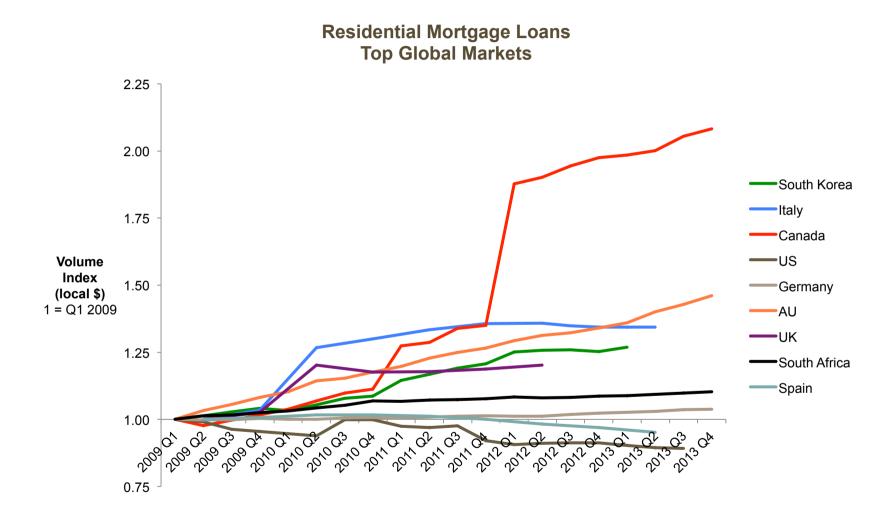
Monthly



Online Mortgage opportunity

Key questions & definition
Global market for Mortgages Potential for growth Flows per channel – brokers are growing
Will there be a fully online mortgage origination capability: Consumer perspective Capability perspective Economic perspective
Australian market for Mortgages
 Competition & differentiation What are the key strategies to capture online mortgage market Potential strategies to shift consumer preference for offline channels towards online Simplified Estimate of size of the prize (Example Australia)

Clear evidence of a multi-speed mortgage market in developed economies



Source: IMF, Financial Stability Indicators

Household debt levels also continue to grow on a number of measures

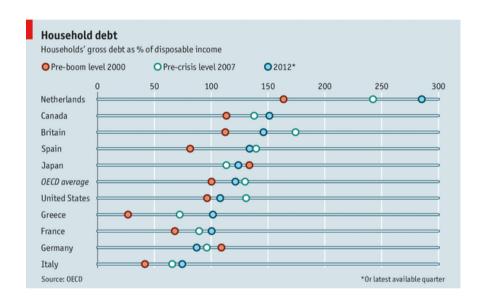
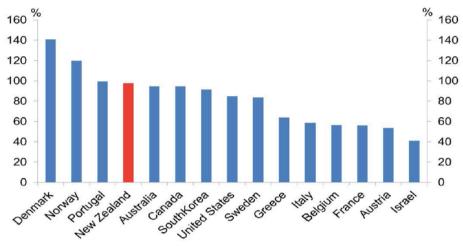


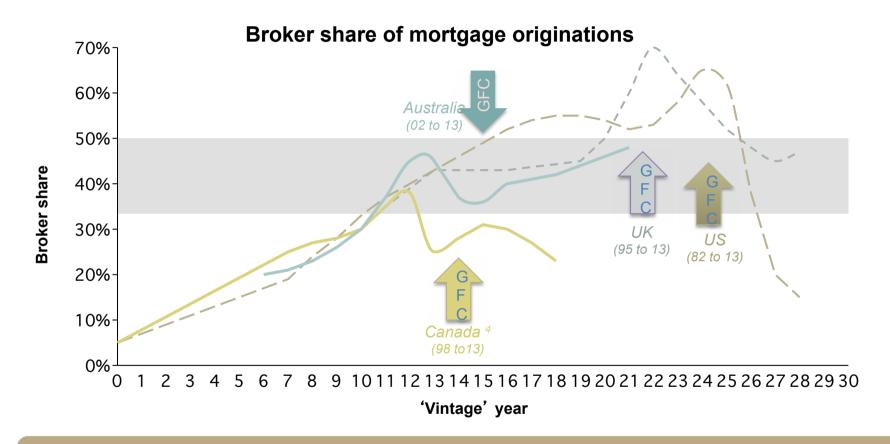
Figure 5: Household debt-to-GDP in advanced countries 2012



Source: IMF Financial Soundness Indicator (FSI) database and RBNZ

Note: Country selection based on data available from IMF.

In most countries, mortgage markets support a significant role for intermediaries who can offer choice, advice & price discovery



Intermediary share of originations in most markets seem to be evolving toward ~50% of market volumes; The exceptions (US & UK) have both been subject to significant regulatory intervention to correct mis-selling & exceptional risk taking

Source: Literature search, Broker associations, National Statistics and independent market research organisations

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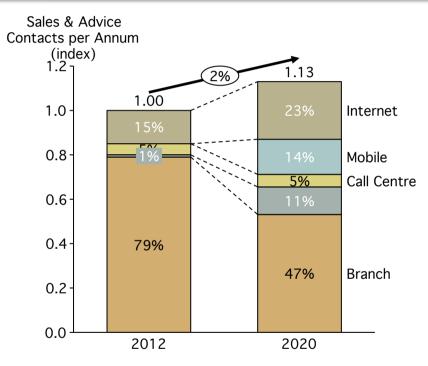
Most forecasts believe that a significant proportion of Sales & Advice conversations will shift towards remote channels (internet, mobile, call center etc.)

EU Mortgage Distribution Channels circa 2007



There is a bias towards internet channels accounting for over 10% of share in all markets and over 20% in Sweden. Mortgage distribution mix is heavily skewed across Europe: in mature mortgage market, such as UK and Netherlands, more than 60% of mortgages are distributed through indirect channels.

Global Sales & Advice Contacts for Financial Services



"By 2020, 40 percent of all sales-and-advice interactions with consumers will be handled through on-line channels. But branches will still be important. Frontline face-to-face and voice-to-voice channels will handle 60 percent of all sales-and-advice interactions by 2020, primarily advising on complex products (investments and complex mortgages)."

Source: EFMA, 2007; BCG Distribution 2020

Source customer survey

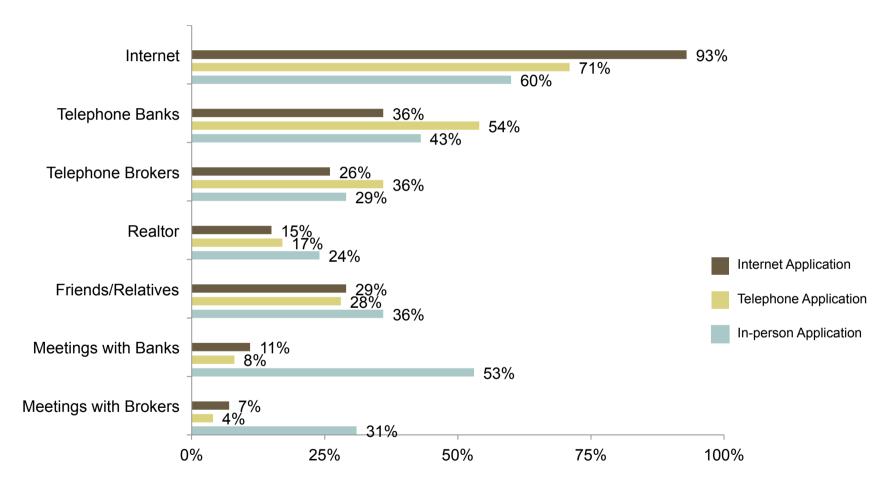
Underlying trends suggest online Mortgages may be inevitable for a significant segment of the market

- Consumers increasingly expect online capabilities
- Both Lenders and mortgage brokers expect online capabilities and competitors
- Consumer behaviour today is moving online
 - Simple transactions have moved highly online or digital
 - Virtually all customers begin their research process online
 - Customers value convenience and speed (best achieved in a fully digital way)
 - Customers are increasingly trialing on-line process
 - Transition of every-day transactions away from branch means that high-value sales (like mortgages) need to manage yield-loss in acquisition process
 - Highest loss are between research to application & application to decision
 - Banks have enough information (if automated) to offer fully online mortgage (for existing customers)
 - Leaders around the globe are already moving online
- However, there are significant constraints to a full end-to-end mortgage experience as it is dependent on digitisation and automation of many 'infrastructure' components
 - Online Identity Verification, Biometrics, Income Verification for non-bank customers
 - Robust continuous credit behaviour bureaux and property valuation services
 - Digitisation of title management and conveyancing
- ... And significant proportion of the market will continue to be too complex to migrate on-line for the foreseable future

Consumers increasingly use the internet as the primary source of information when conducting research for a mortgage

Information sources used before applying

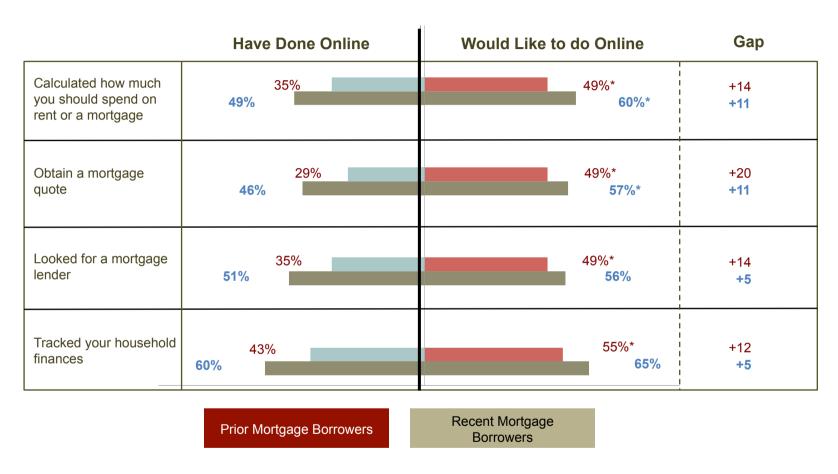
Base = Respondents who used each application method



Note: Percentages do not total 100 because some respondents did not use some information sources\

Source: Deloitte: Turning doubters into Online Believers 2011 – Exhibit 1

In the US, both recent & prior mortgage borrowers are moving online behaviour beyond research



^{*}Denotes a statistically significant difference between "would like to do online" and "have done online" at the 95% confidence level

Source: FannieMae, Online survey 2014

Q: Have you ever done this online? [multiple responses permitted] A: "Yes, using a smartphone" / "yes, using a tablet" / "yes, using a personal computer" / "No" Showing % Yes, have done online using at least 1 device – Mortgage Borrowers

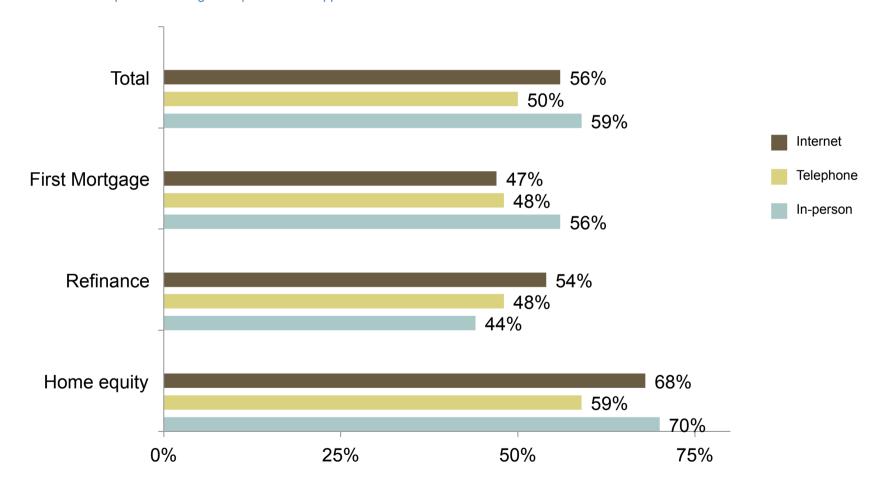
Q: Would you like to do this online in the future? [multiple responses permitted A: "yes, using a Smartphone" / "Yes, using a tablet" / "Yes, using a personal computer" / No" Showing % Yes, would like to do online using at least 1 device – Mortgage Borrowers

Online application process meets customers needs

Satisfaction with application process

Percent of respondents very satisfied (6-7 on 7-point scale)

Base = Respondents using each product and application method

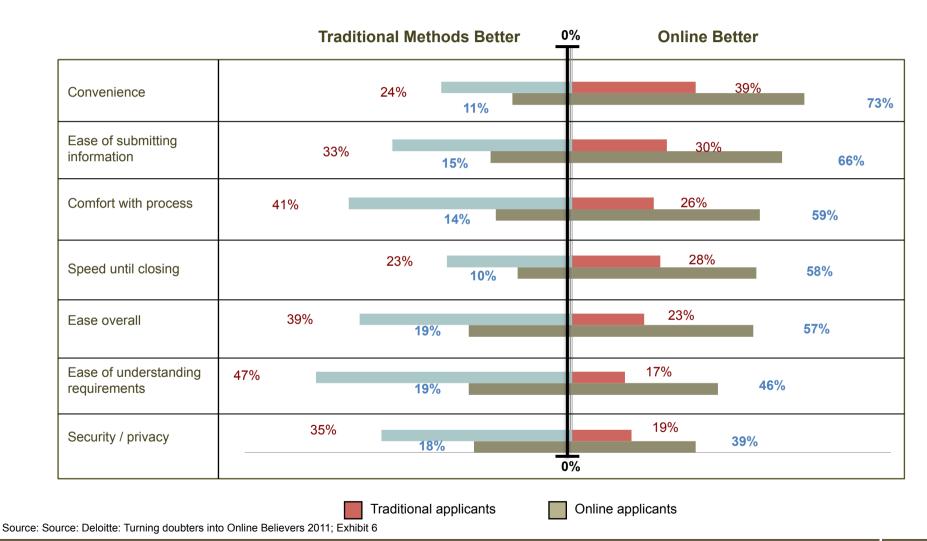


Source: Source: Deloitte: Turning doubters into Online Believers 2011; Exhibit 4

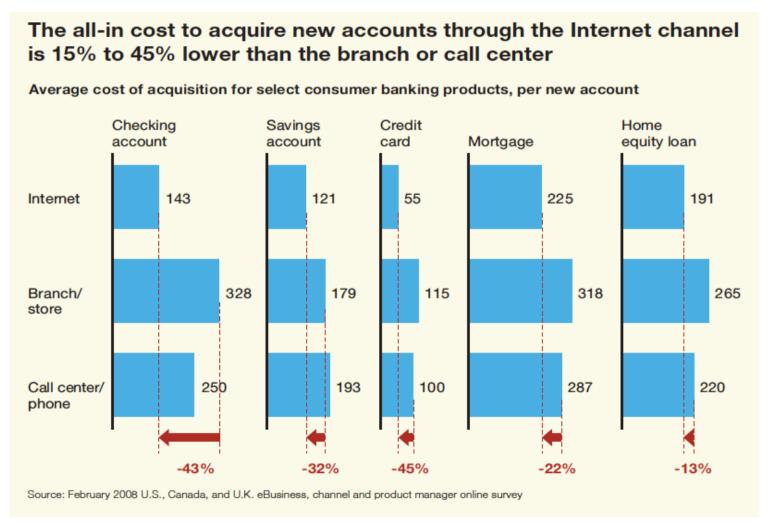
Even doubters are beginning to see value in online methods of application

Two views of online applications: Believers v. Doubters

Traditional application methods = telephone and in-person

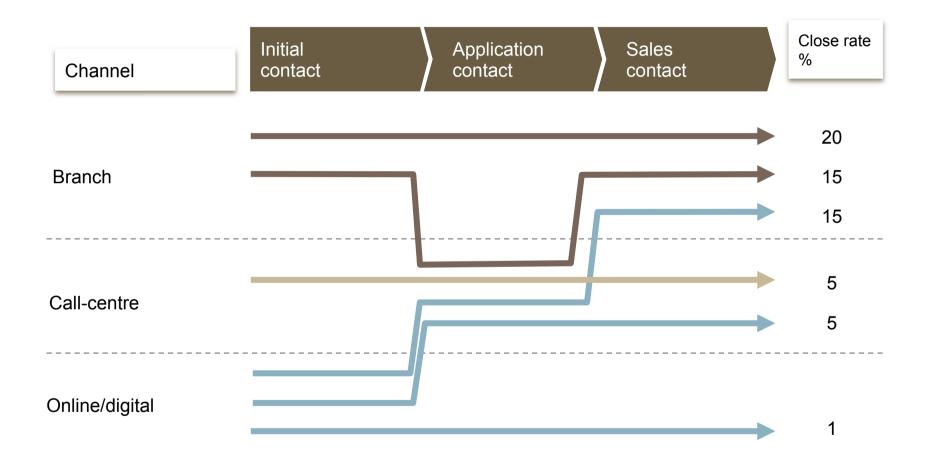


Fact: Pure Mortgage origination is less costly via direct channels *Internet/Call center*



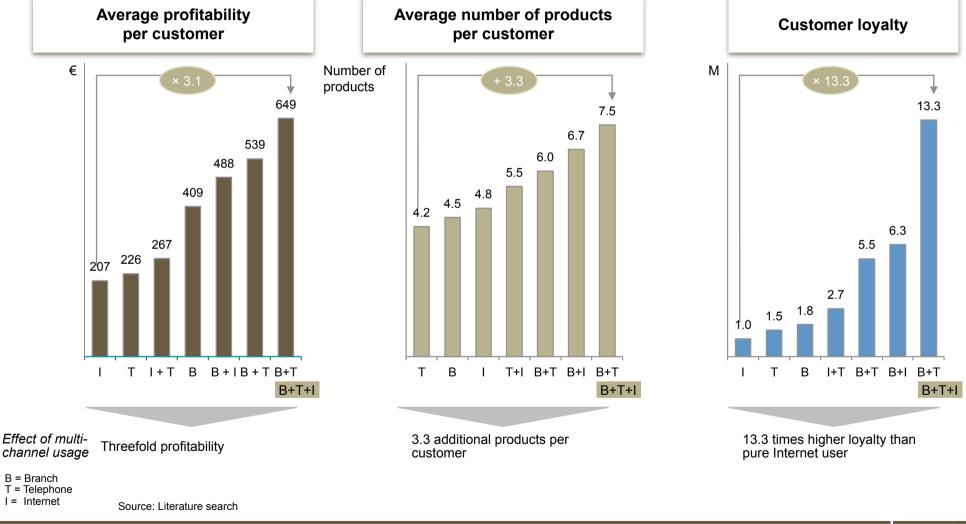
Source: Mckinsey Retail Banking Multi-channel 2010

And... Multi-channel customers are more likely to buy



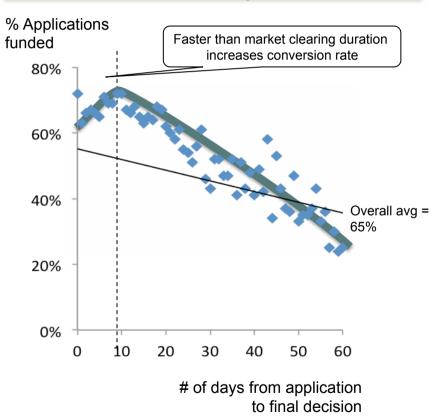
Source: BCG Multi-channel publication

Leading digital banks are showing that multi-channel drives profit, wallet share & loyalty

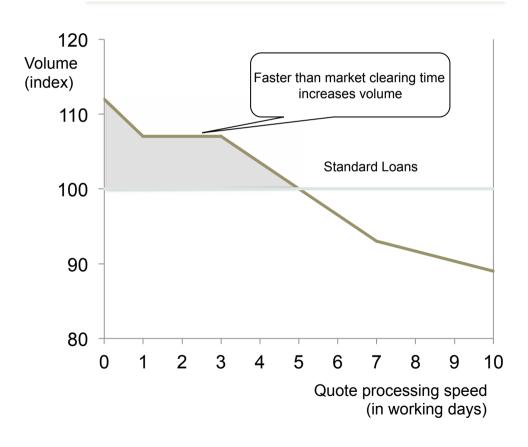


Time is money in mortgages

Speed Increases Conversion *NA Example*



Speed Increases volume *EU example*



Source: ICG experience



In 2004, HBOS introduced 15 minute Mortgage

Halifax mortgage promise

Case examples

~ 15 mins

Can I have a mortgage? How much can I borrow?

Get straightforward answers to your questions by applying for a Mortgage Promise. It will take just fifteen minutes to fill in the form, and immediately you will get an indication of what we are prepared to lend you

We'll confirm this by giving you a Mortgage Promise Certificate, which is really handy if you are buying a home and want to prove you are a serious buyer

What do I need to do?

We'll take you step by step through the Mortgage Promise. We recommend you have the following information to hand, as this will make your application much easier to complete

- Any existing mortgage information, for example, how much vou owe
- Any existing Halifax account information (including roll numbers, sort code, and account numbers)
- · Your income details (and National Insurance number if you can find it)
- Your address and employment history for the last three years
- · Details of any bank accounts, including credit cards and store cards
- · Details of the house you are buying (if this applies/if you have any details to hand)
- Your e-mail address

Branch

Call centre ~ 5-15 mins

Online ~ 60 seconds

Source: Literature search

Simple application process

Minimum customer info requested ('your national insurance number if you can find it')

Available through all Halifax/ BoS-branded channels

Can be completed as a one off promise (minimizes time spent on vague prospects)

Also used as first stage in a formal mortgage interview (60-90 min)

Allows the advisor to start with the good news . . .

. . . but also to identify customers with credit problems early in the process

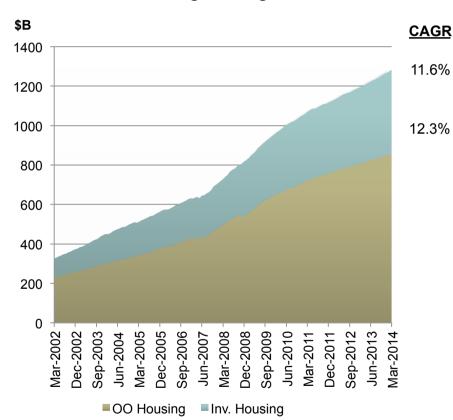
Online Mortgage opportunity

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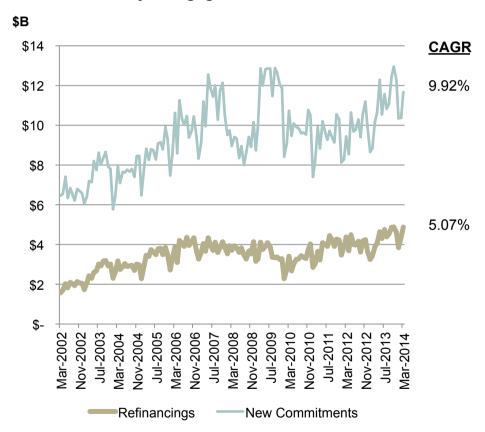
Australian Market Development

Australian Mortgage market is approaching \$1.3T Outstanding, ~2/3 Owner occupied & 1/3 Investment Housing. Monthly commitments exceeding \$16B, 4.9B in Re-financing, & \$11.7B in New Commitments

Outstanding Housing Loans



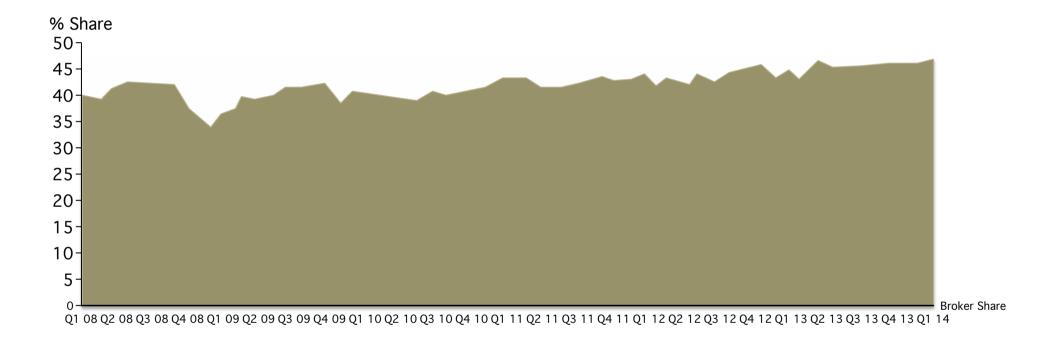
Monthly Mortgage Commitments



Source: Australian Bureau of Statistics; 5609.0 - Housing Finance, Australia, Mar 2014; Table 12

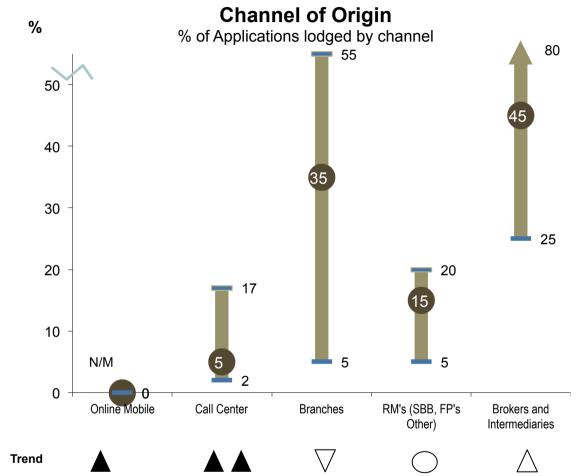
AU Broker share grown to approach 50% of originations

Broker originated loans as a proportion of all new commitments fell post Global Financial Crisis to a low of ~35% as banks tightened credit. Share recovered quickly through 2009 to ~40% and has grown to ~50% of the market



Source: 2012 JPMorgan / Fujitsu Mortgage Market Study; 2012-14; Comparator Report data, Digital Finance Analytics

In Australia, Online share of applications originated & funded is negligible, today...



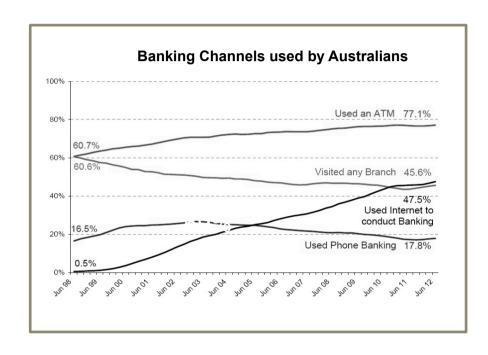
Source: ICG experience
1) Channel of App Lodgement

- Few universal banks around the world provide a fully online end-to-end mortgage process. Those furthest advanced have automated the process from application to decision, these include:
 - Sweden SBAB
 - Spain, Bankinter
 - Canada PC Financial
 - Australia Commbank

In each case, while it is possible to get a decision and mortgage documents online, the post-application submission the process is transferred to an advisor (either in-person, video or online) to handle communications closing and cross-sell activities.

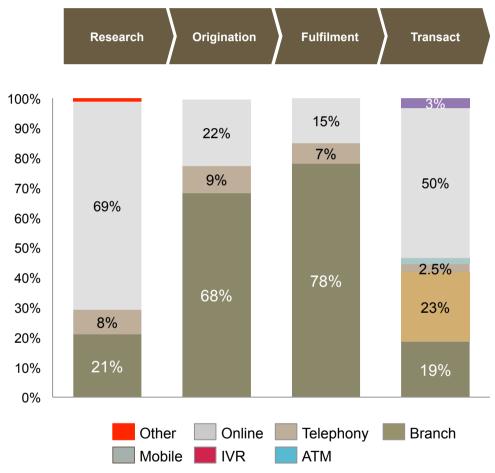
- With declining margins, consumer behavior moving away from branch usage and the prospect for higher capital reserves against the mortgage portfolio, banks are seeking ways to retain shift share away from their most expensive channel – intermediaries towards proprietary staff, in branches, mobile lenders and contact center staffed specialists
- Additional capabilities being built to improve productivity of proprietary channels include:
 - Digital & multi-channel Application capture
 - Analytics & Context sensitive offers
 - Robust referrals and lead management
 - Multi-channel measurement & incentives

Australian customers are already conducting many of their FS product journeys through multiple channels



"This year, for the first time ever, Internet Banking has overtaken branch visits and is now the second most popular channel of banking, behind ATMs"

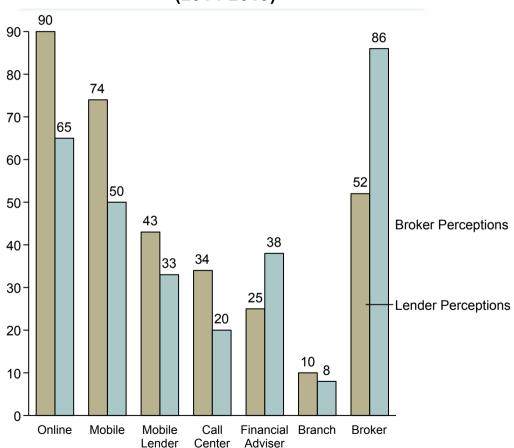
Source: Roy Morgan Single Source (Australia), July 1997 – June 2012



Source: BCG perspective on consumer channel preferences 2012-2017 All Banking Products

In Australia, both Lenders and Brokers alike expect growth in digital channels

Lenders and Brokers expect Online and Mobile to grow relative to traditional channels (2014-2019)



Digital revolution has changed the way lenders interact with borrowers;

- Borrowers will increasingly use online/mobile channels to apply for mortgages
- Growth will come at the expense of Branch (43% of lenders expect volume sold in branch will decrease;
 57% of brokers expected the same)

However the full end-to-end mortgage loan is a long way away;

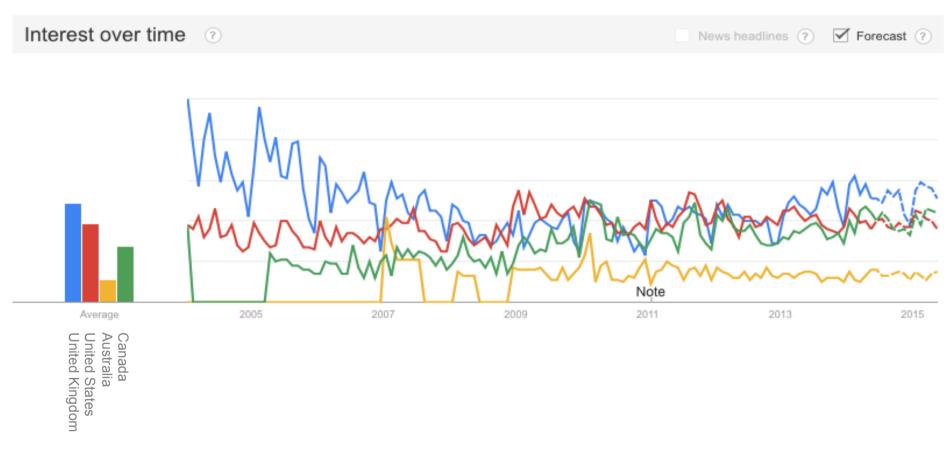
- "Too complicated: Too many variants" Banker
- "Attackers will simplify things and banks will have no choice but to follow suit, changing the shape of market share distribution"

Where the trade-off will happen is... increasingly, transaction-based activities will migrate from branches to digital. The lower value... activities integral to obtaining a mortgage [such as] determining affordability [and] comparing offerings will also increasingly migrate to digital. Strategic advice and aligning suitability of offering to specific customer needs will continue to benefit from human interaction, which will underwrite the longevity of the broker channel." — Lisa Claes, Executive Director at ING DIRECT

Source: Genworth HomeGrown Study 2013

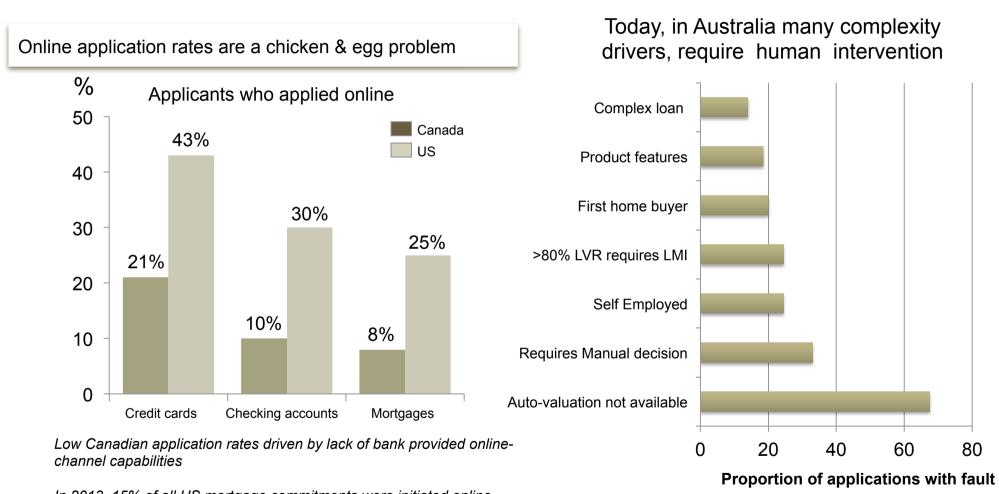
But unlike consumers elsewhere, interest on-line mortgage is not yet increasing

Google Trends: "Online-Mortgage"



Source: Google Trends (May 2005-2014; Forecast of 2015)

Key Constraints = Mortgage complexity & lack of online capabilities in Australia

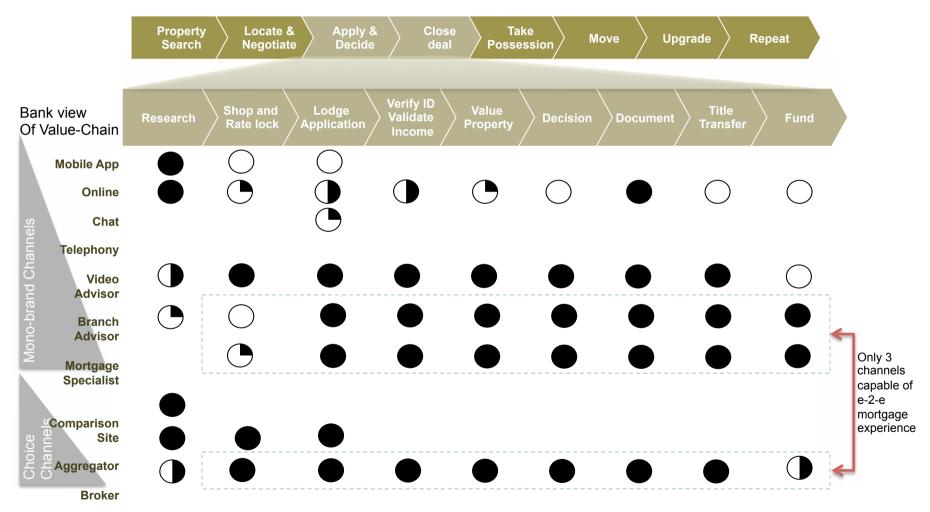


In 2013, 15% of all US mortgage commitments were initiated online

Source: Forrester Research: Canadian Trends in Researching and Applying for Financial Products online, November 2007, Online Mortgage Shoppers' Path to Purchase, June 7, 2006, Online Credit Card Shoppers' Paths to Purchase, October 23, 2006, Who Researches and Buys Current Accounts Online? March 21, 2006, ICG Client Experience 2012

But in Australia, an Online mortgage is constrained by channel capability

The end-to-end mortgage process is challenging and complex; Moving today's process fully to digital channels will likely take many years; Initial efforts will work to improve yield of research to offer, and offer to decision; Full title transfer on-line is not likely feasible in the Australian context until 2015;



Source: Literature search; PEXA website, ICG experience

Infrastructure underlying 'fully' online mortgage: Next 5 years will see fundamental building blocks in place

	Australian Market Capability Status and Challenge	Capability Required	Time horizon estimate
Identity Verification & Income Verification	Low positive match rates today; Requires paper documentation, citing pay slips/ bank statements	>90% positive Identity verification for those borrowers who are approved	Up to 5 years
Underwriting Capabilities	Credit decision focused primarily on affordability, and valuation coverage; Significant use of LMI to cover event risks (divorce, loss of job); U/W largely focuses on capacity, willingness & security quality	Positive and negative reporting signals/ Fraud data/ & cashflow currency; Implementation of risk-based pricing online	2015+
Property Valuation Capabilities	eVal's & subscriptions growing; increasing use of internal models; Significant proportion of valuations still require physical evaluation	Up-to-date valuations on majority of land values & recent property transactions	Will align with PEXA
Title Verification & Transfer	PEXA has gone live in Victoria and NSW, by 2015 will enable full e-conveyancing process to be completed on-line	Online title verification & transfer to give up-to-date collateral management	2015-2016
Effective aggregation platforms	Aggregators today primarily concerned with capture of underwriting information;	EU markets where lenders are more fragmented have built effective 'utility' aggregators which incent on-line innovation	??

Online mortgage sales is likely to evolve slowly, but transition rapidly

- Banks around the world are focused on driving productivity:
 - Higher sales per staff member
 - Better utilisation
 - Higher cross-sell & retention
 - Lower costs
- As a consequence they are focusing intensely on automating and digitising the customer experience of their most expensive and highest value products (mortgages)
- AND integrating the financial transaction into the customer event (upstream & downstream value add)

Banks are also keen to displace high-cost intermediaries (who offer choice, but also can displace the customer advisory relationship)

The best way to do this is with a differentiated experience (faster, simpler, easier) – the online mortgage can do this

Banks will inevitably offer customers the option to selfservice fully online mortgage transactions, such as:

- Renewals (same customer, collateral & product)
- Refinancing decisions (same risk, different products)
- Top-ups (same customer, same collateral, same product)

The simultaneous evolution of the underlying infrastructure to enable:

- Better Identification/verification,
- Richer underwriting,
- Better collateral valuation.
- Title conveyancing, &
- Real time payments

Naturally will create the opportunity for new digital entrants

Consequently, banks in laggard geographies will have no choice but to take the mortgage online in the coming years, extending servicing transactions to originating new loans, is a modest step, once customers are familiar with on-line transactions

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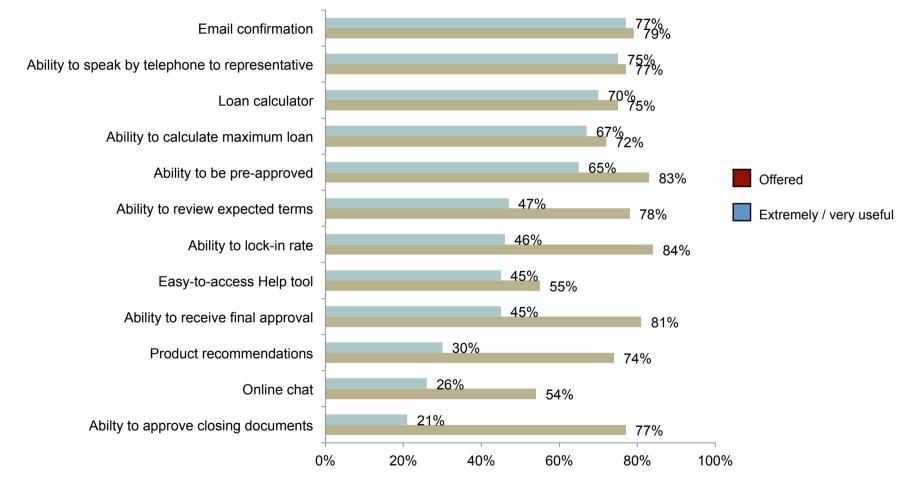
Strategies banks should pursue to enable Multi-channel Competitive Advantage in mortgages

- 1) Integrate financing decision into customer 'housing' journey (eg. CommBank Property App)
- 2) Use online & mobile to reach new markets
 - Provide choice platforms (eg. Comparator, bankinter)
- 3) Make it easy for customer to move directly from research to action
 - Simplify online product & segment role of channel migrating complex customers to assisted channel
 - Build required infrastructure -- Suspend & Resume, Chat, online/assisted integration
 - Simplify adjudication/decision process leveraging existing customer data
 - Provide pre-approval
 - Shift product structure to enable faster lower risk decision making
- 4) Move faster leverage off-the shelf software to increase speed of change and learning

Critical features consumers expect to facilitate a positive online mortgage experience

Features on lender's Web site

Base - Respondents who applied online



Note: Respondents who used each feature were asked to rate how useful they were Source: Consumer Online Mortgage Report -: Deloitte: Turning doubters into Online Believers 2011; exhibit 7

How much is online mortgage origination worth to the innovators: Example: potential size of the prize for Australia

High-level example based on firm with 15% share of flow

Value Drivers

Increased conversion rate

Cost savings & avoided costs

Value pools not estimated

- Ingri-icvoi champic based on limi with 1570 share of how			
Rationale	Calculation	Full Market Potential Value	Example value
 convenience & speed of digital origination capability Converting share of 'interest' into share of applications 	# loans funded per annum x Avg. Value / loan funded ÷ Yield loss approv to funded ÷ Approval rate = Mortgage Volume per annum X improved conversion rate for online applications X Max % of apps eligible for online X Avg. margin = Annual increased flow	~\$332B of unique loans approved ÷ 65% = \$511B of lodged applications X 5-7 day advantage X 1.25-2% better conversion /day 6.25-10% X 40-50% X 90 bps = 1.1-\$3B	\$ 46M per annum; NPV = \$231M for 10 years
 Consumers take on effort of data entry avoiding touch time for mortgage applications ~4-6 hours 	Avoided effort between # of applications lodged, and # approved applications X touch-time \$ per application	 1.7 M applications lodged 1.1M applications approved & funded X \$3-500 per application \$175M – 485M per annum 	\$7M per annum PV = \$35M over 10 years
	on effort of data entry avoiding touch time for mortgage applications ~4-6	X Avg. margin = Annual increased flow Consumers take on effort of data entry avoiding touch time for mortgage applications ~4-6 X Avg. margin Avoided effort between # of applications lodged, and # approved applications X touch-time \$ per application	X Avg. margin = Annual increased flow = 1.1-\$3B Consumers take on effort of data entry avoiding touch time for mortgage applications ~4-6 X Avg. margin X 90 bps = 1.1-\$3B 1.7 M applications lodged - 1.1M applications approved & funded X \$3-500 per application \$175M - 485M per annum

- Revenue benefit of re-deploying Freed up capacity of staff to work on more complex advice activity
- Revenue benefit of improved satisfaction/retention/ cross-sell of better process
- · Growth volume benefit of differentiation

Note: Assumes Profit margin of 90bps on mortgage volume; Cost of Capital 15%; Time horizon for advantage = 10 years;

Source: ICG Experience

Key articles reviewed

Article	Source & contents
World Retail Banking Report 2013	Cap-Gemini / EFMA – trends in customer satisfaction and use of digital channels; Country by country comparison of Customer Experience Index and drivers
Genworth International Mortgage Trends report 2011	Description of mortgage industry trends in industrialised countries
European Mortgage Distribution 2007	EFMA, Fortis, Oliver Wyman; Analysis of all EU countries with a particular focus on channel trends (branches, intermediaries, remot chanels)
Carlisle & Gallagher Consulting	US Mortgage Lending, Strategies to gain share in the new Normal
Submissions to the Financial Systems Inquiry	ABA, Westpac, ANZ Bank, NAB, ING Direct Others (mortgage & Finance Association of Australia, RateSetter, SocietyOne)
Mobile Banking around the world; BAI Retail 2012	Profiled of Hana Bank Korean Mobile bank; Bankinter: Spanish direct channel leader
Mortgage Market Review: UK Financial Services Authority 2010	Review of the role of intermediaries (face-to-face vs. Direct)
Winning Strategies in the Brokered Mortgage Market, Deloitte 2010	Reviw of the role of broker intermediation in Canadian Mortgage market
International Monetary Fund: Financial Stability Indicators of major countriews	Staticstics on debt & other financial services penetration rates by country
European mortgage Markets, What can we learn	Study by Hypostech Management consultancy; Review of product, distribution & processing for Dutch, UK, Belgian, German, Danish & Swedish markets circa 2007
Assoc'n of Mortgage Intermediaries: Value of Mortgage advice	Review of the role of brokers in the UK market
Fannie Mae Online Mortgage Survey 2014	Detailed survey of mortgage behaviour and shopping patterns in US
Genworth Homgrown report 2013	Includes a review of distribution dynamics and role of lenders/intermediaries in Australia

Key articles reviewed

Article	Source & contents
Deloitte	Retail Lending 3.0 Boosting productivity and improving the customer experience Mortgage Report 2014 Silver lining in Lending – turning doubters into online believers
Toronto Retail lending statistics	Mortgage Broker Association, Broker channel Market share data
ABA Statistics	Housing Loans
The Residential Mortgage Market in Canada: A Primer	Crawford, Meh, Zhou; for Bank of Canada
Mckinsey & Co	Banking on Multi-channel
BCG	Multichannel retailing
EFMA 2007: A new deal in mortgage distribution	Summary of study with Oliver Wyman on distribution of mortgages across various EU Markets
Mortgage distribution channels: Extimates of Lending (2001)	Journal of Housing Finance, Study on evolution of channel strategies and channel landscape across various countries
Quicken Loans (disclusures)	More than 2M loans originated; second largest retail lender in the US, closing \$80B in home loan volume in 2013 (up 9% from 70B in 2012 which itself was up 133% over 2011 volume of 30B; Also entering the servicing business servicing over 100B of loans; Its technology is used exclusively by Charles Schwab Bank and JP Morgan Chase



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