

Do you want ML with that?



When to say yes and why to say no









Xero is a global platform helping small businesses and their advisors grow and thrive

A photograph of two women sitting on a wooden bench outdoors. The woman on the left is wearing a green patterned jumpsuit and glasses, smiling and looking towards the woman on the right. The woman on the right is wearing a dark green top and a light-colored skirt, smiling and looking at a laptop she is holding. The background features a wooden wall, potted plants, and a hanging lantern.

[Orenda Tribe](#) and [CV Ledger](#)
United States



Our purpose:

**Make life better
for people in small
business, their advisors
and communities
around the world**

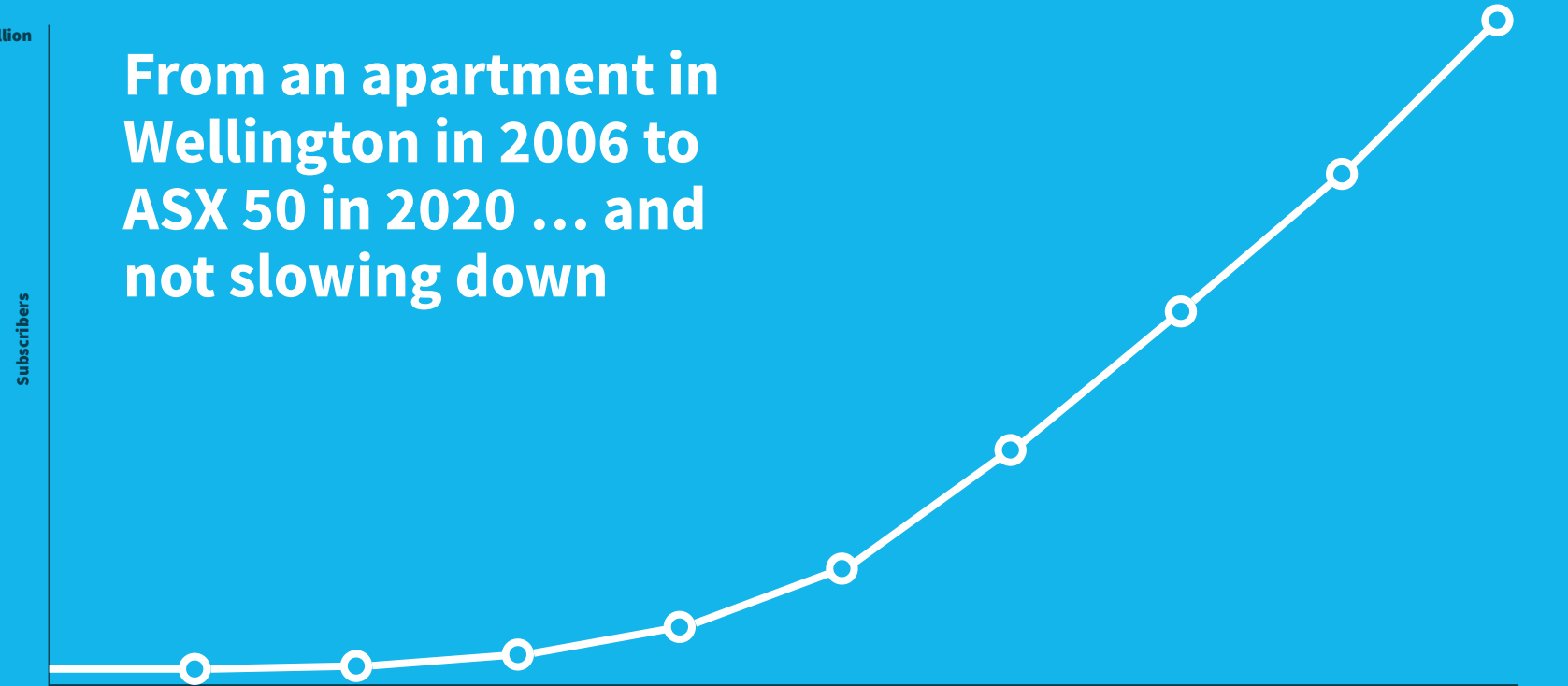
The Little Veggie Patch
Australia



2.453 million

From an apartment in Wellington in 2006 to ASX 50 in 2020 ... and not slowing down

Subscribers



2006

Rod Drury founds Xero & Craig Walker joins, working out of a Wellington apartment

2007

XRO listed on the NZ Stock Exchange (NZX)

2009

First official regional office opened in Melbourne

2011

First US office opened in San Francisco
Mobile version of Xero released

2012

XRO dual listed across the NZX and the Australian Securities Exchange (ASX)

2015

First UK small business cloud accounting solution to pass 100,000 subscribers

2017

1 million subscribers
1,700+ staff

2018

Steve Vamos appointed CEO
US\$300m capital raise
Acquired Hubdoc and Instafyle

2019

Xero achieved positive free cash flow for the first time
2m+ subscribers
2,700+ staff

2020

Achieved full year net profit
Offset 100 percent of our carbon emissions for FY19
Recognised by the IDC MarketScape as a global leader in the market
Acquired Waddle

Xero by the numbers

70,000

users of Xero's API
developer tools

180+

countries where
Xero is used

2.45m

subscribers at
30 September 2020

\$877m

annualised monthly
recurring revenue

\$3.62t*

total value of transactions
through the Xero platform
in FY20

800+

connected apps

200+

connections to financial
service providers

3,220+

Xero staff worldwide

\$6.2b

total lifetime value of
Xero subscribers at
30 September 2020

Do you want ML with that? → **When to say yes and why to say no**

Some dimensions of decision making



Theo, Barista extraordinaire
Xero Te Ara Turoa, Auckland



Nova CPA | HONG KONG

Total Cost of Ownership

- Tightly coupled systems
- Rapidly evolving base technology set
- Fewer established patterns
- Rare skills
- Rapidly rising bar on acceptable harm



Blackbird & Fox | MELBOURNE

Responsible use

- Complexity increases inadvertent harm
- Privacy in tug-of-war with personalisation
- Risk codifying the morals and prejudices of the data collection period



Made in Metal | HAMILTON

xero

Avoiding sledgehammers when cracking walnuts

- Try lookups
- Try APIs
- Try humans

Do you want ML with that? → **When to say yes and why to say no**

Kicking the tyres of an idea

Third Drawer Down
Australia



ML inside 0 to 1 assessments

Assessment Template [COPY AND REPLACE PAGE TITLE WITH PRODUCT NAME]

Created by [redacted] last modified on Apr 12, 2021

ELEVATOR PITCH

FOR <TARGET CUSTOMER>
WHO <STATEMENT OF NEED>
THE <PRODUCT NAME>
IS A <PRODUCT TYPE>
THAT <DESCRIPTION OF WHAT IT DOES THAT'S USEFUL>
AND UNLIKE <AN ALTERNATIVE TO THE PRODUCT>
OUR PRODUCT <DESCRIPTION OF UNIQUE DIFFERENTIATOR>

What is the user experience (from the user's perspective)?

Minimum Loveable Product:

- Describe the minimum loveable product experience

For Later:

- Provide descriptions of future user experiences that would be developed as part of this product

Would anyone pay for it, and if so why?

What is an estimate/description of the addressable market for the product?

What data would we need? Does Xero have this data right now? If yes, where is it?

Describe the data needed to power the minimum loveable product, as well as subsequent iterations. Is it available in production? in XADE?

Will this product allow us to develop reusable technologies, or enable multiple products? If yes, identify these products/consumers and provide a brief explanation.

Does this product build upon existing technologies / capabilities at Xero? If yes, identify these technologies / capabilities and provide a brief description of any extensions that would be required.

Why invest in this now?

Is Xero uniquely placed to have this product? If yes, why?

Are there any ethical / privacy / security risks to be considered as part of this product?

- When we do <PRODUCT FEATURE>, there is a risk that <WHAT MIGHT HAPPEN>, that will <INSERT CONSEQUENCE HERE>

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FAQs

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The purpose of this assessment rubric is to guide the thoughtful consideration of an ML-inside product idea. It provides a reusable and self consistent framework to pressure test where the value lies in a product, and highlight feasibility details and Total Addressable Market considerations often glossed over in water cooler chats / brain storming sessions.

Must I be able to answer yes to every 'potential yes' question?

No. In many cases, ML-inside products are worth building, even if we are unable to pinpoint answers to every question on this assessment in the initial stages. What this assessment allows us to do is clarify *why* something might well be worth attempting.

I don't know how to answer a question - what now?

Scoping an ML-inside product is an inherently collaborative process. Often no one has all the answers — think about who might be able to help you refine the idea, and reach out!

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ELEVATOR PITCH

FOR Xero Advisors & Xero (existing & prospective) customers

WHO are particularly fond of delicious chocolate bunnies

THE *Chocolate Bunny Vendor Recommender*

IS A *Suggestion Service*

THAT *provides personalised recommendations to advisors to connoisseurs of chocolate bunnies (see existing: [Rules Based Algorithm](#)).*

AND UNLIKE *the existing [Rules Based Algorithm](#) for vendor suggestion to chocolate bunny fanciers*

OUR PRODUCT *provides the opportunity to filter based on cocoa content and price per kg*

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Do you want ML with that? → **When to say yes and why to say no**

Reducing uncertainty



Horsetooth Hot Sauce
Colorado





How good does it have to be to be useful?



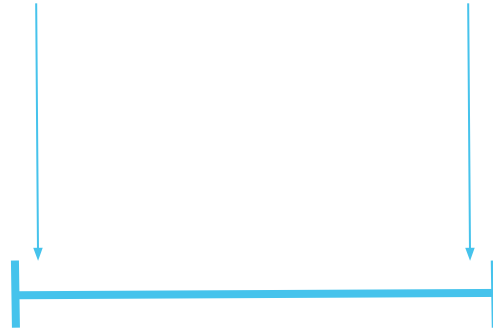
How good can we make it with today's data and workflows?



Bounds on 'can be useful'-ness

Good enough to assist a human

As good as a human



Bounds on 'can be useful'-ness

Bounds on do-ability



- Data coherence / fidelity / completeness
- Processing power / inference time
- Closed feedback loops
- Labelled data availability
- ...

**Bounds on
do-ability**



**Bounds on 'can be
useful'-ness**

**Bounds on
do-ability**



**Bounds on 'can be
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**Bounds on 'can be
useful'-ness**

Do you want ML with that? → **When to say yes and why to say no**

All the overlooked work



Factor 1
Australia



An extraordinary amount of work sits outside the vanilla data pipeline, let alone outside the algorithm.

Closed feedback loop: data quality	Data labeling
Closed feedback loop: label improvement	'Faster horse' syndrome
'Human in the loop' change resistance	Audience splitting

