



# SET COURSE

Activating new opportunities  
in international education

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February 2018  
Product development workshop review



New  
School  
Thinking

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# INTRODUCTION

In response to the rapid changing landscape of education, Education NZ is proactively investigating agile and adaptive processes to rebundle and reimagine our education offering to the international market.

Over the past two decades, we've witnessed a number of well established industries undergo major disruption as a result of their late adaptation to major market and technology shifts. The majority of these disruptions are a result of digital democratisation, a phenomenon education is currently feeling the impact of. While the need for education is not going to change, and is likely to increase, the way education is consumed is in a rapid state of flux.

Over the past decade we have seen the rise in the sophistication and credibility of 'fast education', or MOOCs, offering widespread access to knowledge in bite sized, industry aligned, unaccredited 'nanodegrees™'.

Thought leadership movements such as Singularity U and the MIT Fab Lab Network have effectively and efficiently expanded their influence without accredited degrees, while still retaining the same credibility as regulated institutions.

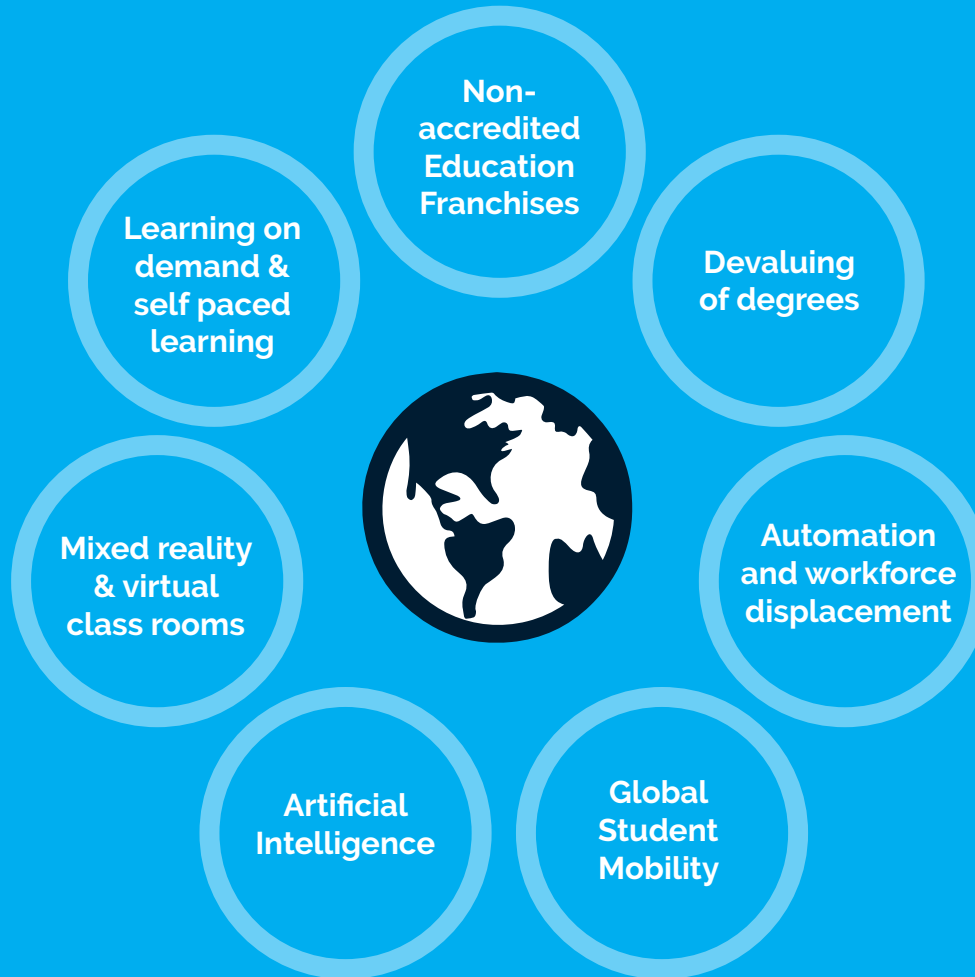
For the workforce, career paths are becoming more unpredictable. Nearly 50% of subject knowledge acquired during the first year of a four-year technical degree is

outdated by the time a student graduates. The average millennial will change their career between 5-7 times over their lifetime, stay in their first job for an average of two years and continue to change their job every 3.5 years. This presents a huge opportunity for retraining but within a more flexible and adaptable delivery model.

Industry too is feeling the pinch of technological disruption and are demanding that students not only show evidence of great foundational literacies and critical thinking, but also transferable competencies and character qualities, such as creativity, collaboration and leadership.

The outcomes focused, two day workshop was designed to unlock latent opportunities in education by repackaging a series of targeted offerings to the international market.

This report outlines Fabriko's findings and offers some next steps to convert the proposed product offerings into Minimal Viable Products.



# UNIVERSAL TRENDS

For a very long time, in fact well over 200 years, Universities have enjoyed relative stability in the way they deliver content.

The model of being the gate-keeper to knowledge via physical people, spaces and resources is now being eclipsed by multiple new technologies that help people in need of new knowledge and skills access it faster, cheaper and more efficiently. As access to knowledge proliferates, the value of robustly accredited degrees is beginning to reduce as continuous learners seek out industry specific courses that help them level up their career journey and remain relevant in an ever changing world.

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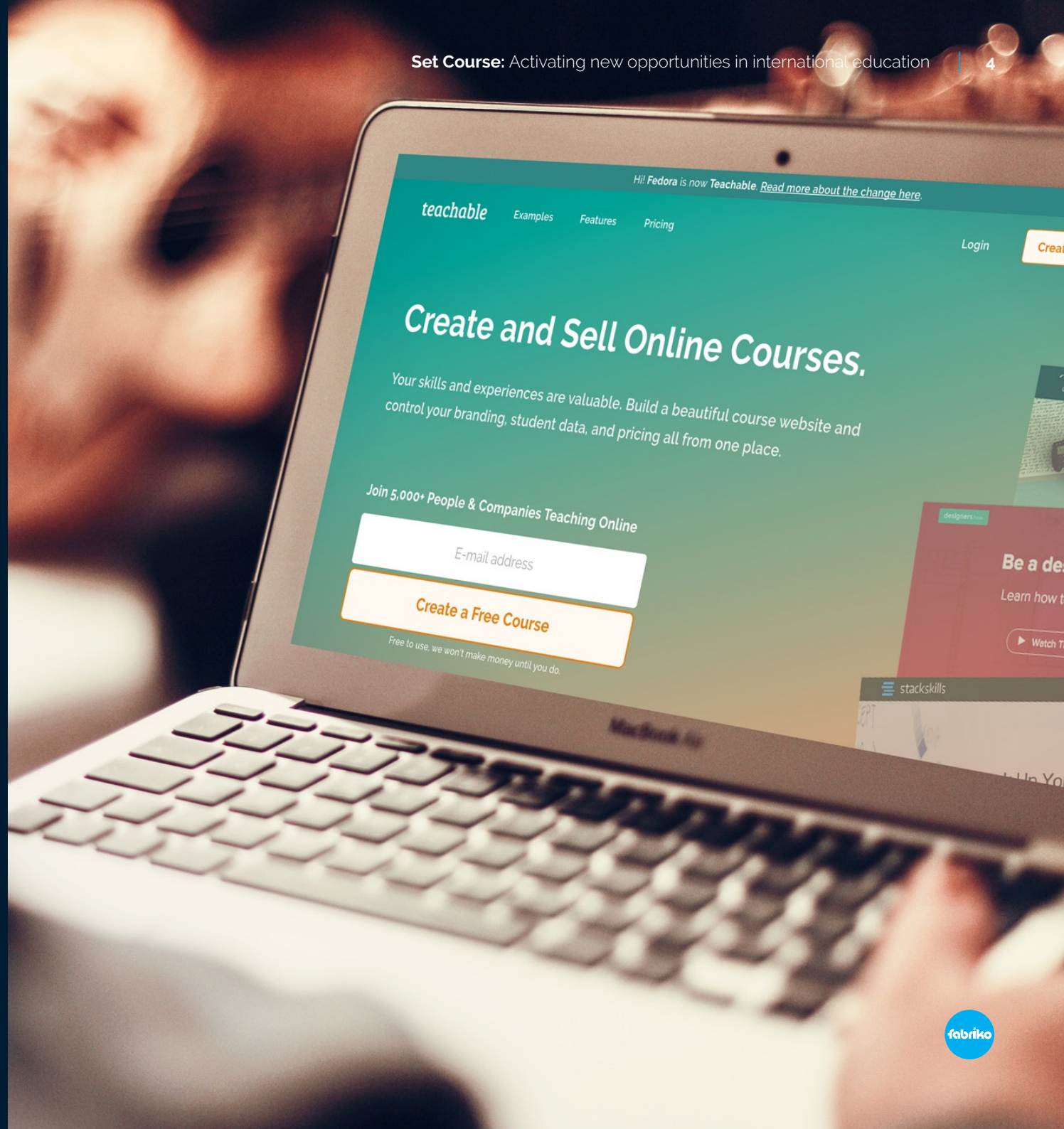
## LEARNING ON DEMAND & SELF PACED LEARNING

With the rapid pace of technological change, continuous learning is vital. MOOCs meet the need for individuals who need to pivot their career and learn new skills aligned with industry needs. They infinitely scalable and open 24/7. Programmes have regular intakes and allow re-trainers to learn at their own pace.

While they provide widespread access to knowledge, they have been criticised for not providing an appropriate level of validation of learning outcomes and for lacking a personal level of guidance or mentorship throughout the student journey.

Forbes: [The Future Of Massively Open Online Courses \(MOOCs\)](#) - Mar 2017

Mission Statements: [Udacity](#) | [Coursera](#) | [EdX](#)





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## NON-ACCREDITED EDUCATION FRANCHISES

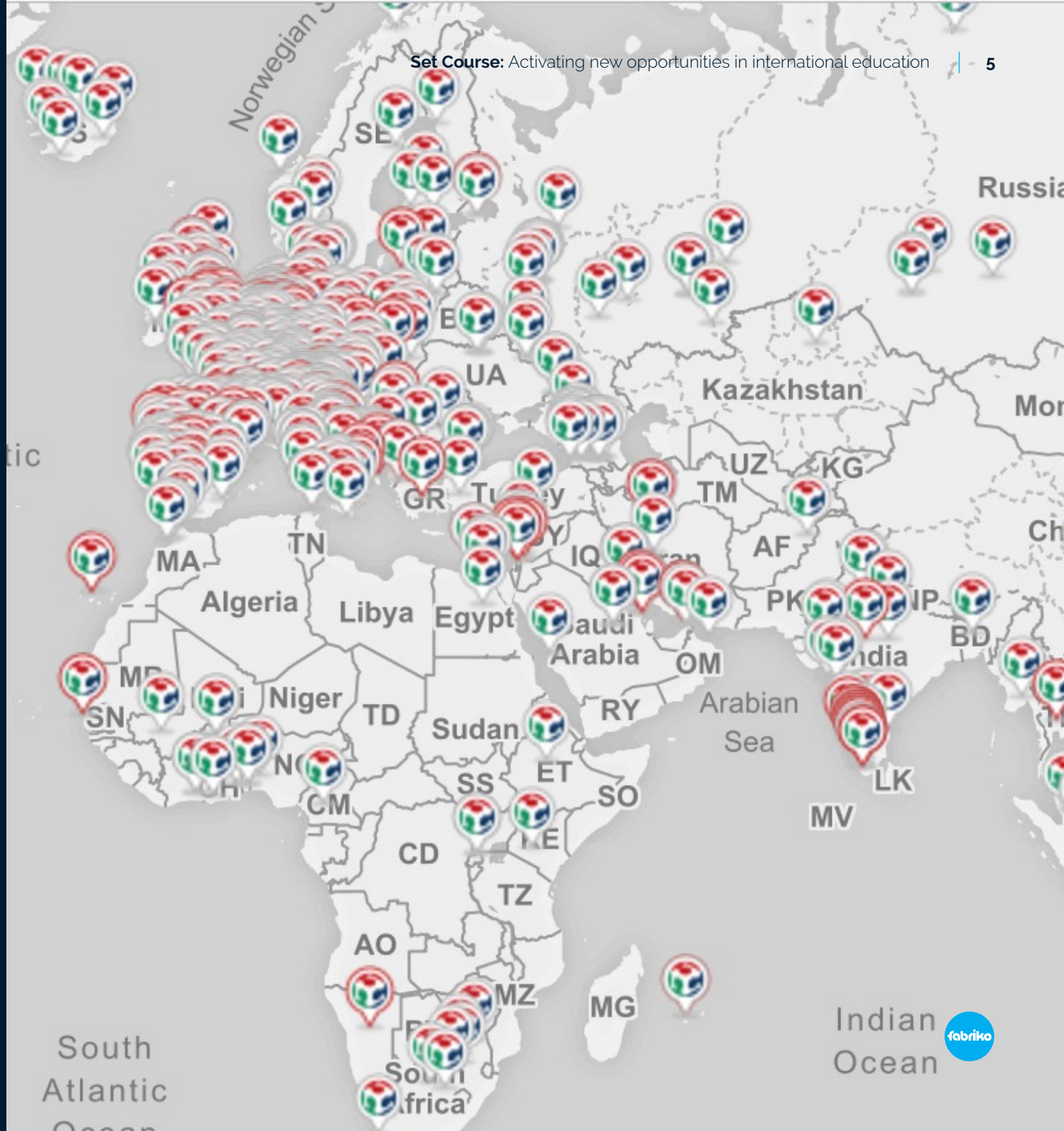
Over the past decade, a number of new international learning networks have emerged. These networks tend to tap into a mindset or belief system that is quickly adopted at a local level.

The likes of Singularity University is a private, non-accredited business that has grown globally to almost 100 chapters since 2009. In a similar model, the Fab Lab Network, which expanded from MIT in 2009 now represents over 1250 Labs and is doubling every two years.

These informal franchises have grown through events, global initiatives and high value (non-accredited) training programmes influencing 1000s of students and prospective students every year.

Singularity U: [Global footprint](#): 2018

Fab Lab Network: [Global footprint](#): 2018





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## DEVALUING OF DEGREES

In the past having a degree offered an exclusive ticket to high value career. Even low-skilled jobs are demanding a level of qualification from vocational or private training establishments. Having a qualification is no-longer exclusive, even arguably no-longer necessary.

A number of high profile CEOs, have publicly questioned the value of a degree. Steve Jobs, Bill Gates and Mark Zuckerberg all left college before they could collect their diplomas. Peter Thiel even encourages talented students to drop out of college by funding a scholarship that awards recipients with \$100,000 if they quit.

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Tech Crunch: ["Peter Thiel: We're in a Bubble and It's Not the Internet, It's Higher Education"](#) - Apr 2011

Harvard Business Review: ["How CEOs without college degrees got the top"](#) - Feb 2018

The Economist: ["Time to end the academic arms race"](#) - Feb 2018

Otago Daily Times: ["Degrees of Difficulty"](#) - Feb 2018





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## MIXED REALITY AND VIRTUAL CLASSROOMS

Although it's still early days for the Virtual, Augmented and Mixed Reality industry, there are already a number of successful virtual training case studies emerging in healthcare, engineering and manufacturing where students are able to 'virtually' interact and operate specialised and expensive equipment. VR collaborative spaces or classrooms are beginning to surface as VR starts to adopt the social element into what, to-date, has been an anti-social experience. With the release of Googles ARCore, Apples ARKit and Microsoft's Mixed Reality operating system, we will expect to see more educational content delivered in Augmented and Mixed Reality. While these platforms will take a number of years to mature, they do represent an entirely new frontier in education, especially when combined with artificial intelligence.

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Forbes: ["The One Reason Why Many Millennials Would Use Virtual Reality Products At Work"](#) Feb 2018

LinkedIn: ["Say Hi to Engage - VR Education Platform"](#) Aug 2016



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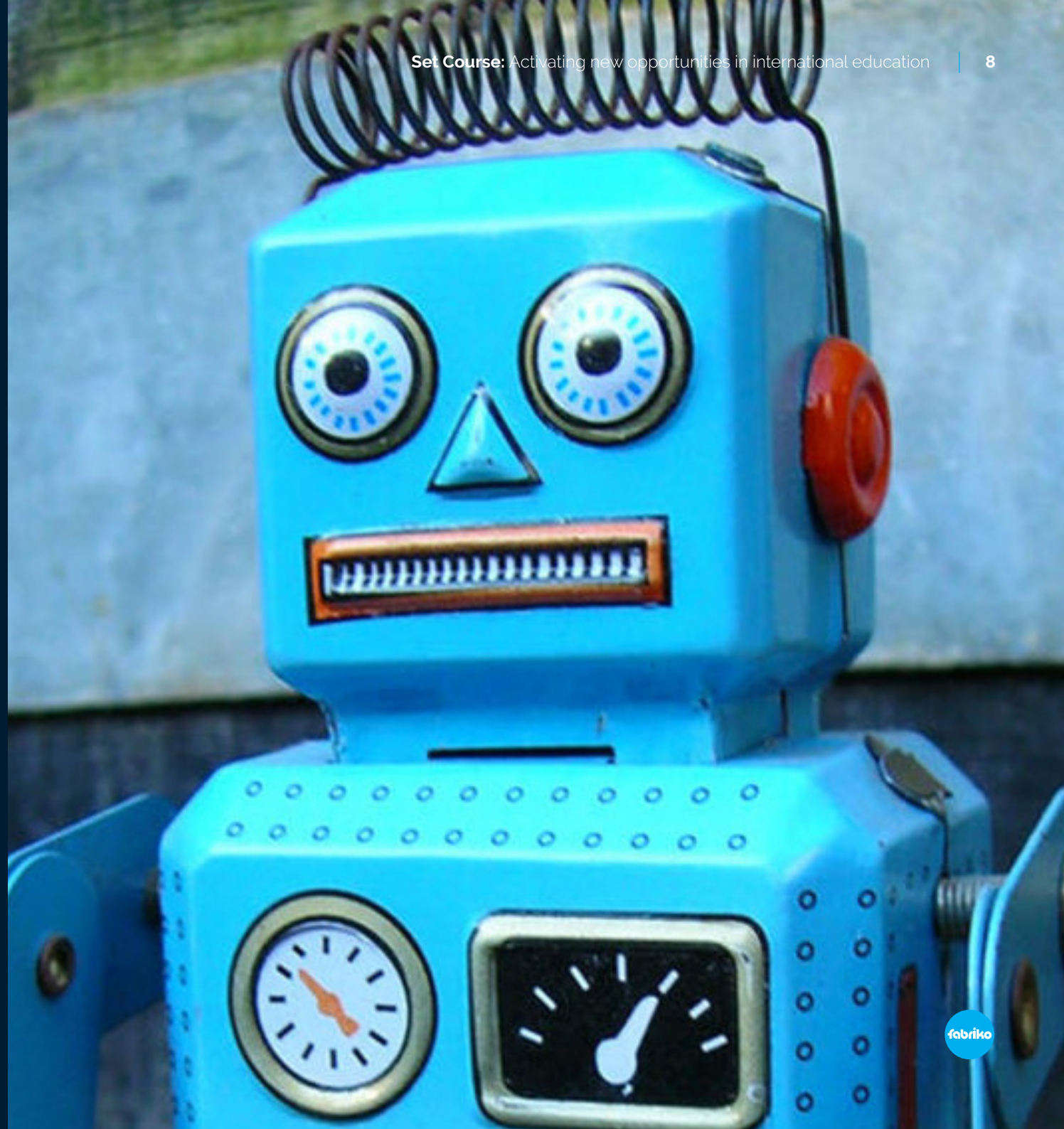
## ARTIFICIAL INTELLIGENCE IN EDUCATION

"Roles that involve high volume transactional activities are a focus for potential automation". This message was recently sent out to employees at Auckland University urging faculties to avoid any new appointments in these areas.

Artificial intelligence and machine learning has already been adopted by the US Navy using digital tutors who have been programmed to replicate behaviours of exceptional tutors to teach IT with exceptional results. AIs are being used to monitor the performance of students and offer more responsive feedback and predict marks so tutors can intervene earlier. The sophistication of AIs means that students get highly personalised answers to their questions from a machine that is continuously trying to understand how they learn and what helps them learn better.

DARPA: [Education Dominance](#)

WEF: ["Artificial intelligence will transform universities. Here's how."](#)  
- Aug 2017





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## AUTOMATION & WORKFORCE DISPLACEMENT

It is estimated that 14 percent of the global workforce will likely need to transition to new occupational categories and learn new skills, in the event of rapid automation adoption over the next decade. While most of the focus of workforce displacement through automation has been on low-level factory work and repetitive manual tasks, robotics, artificial intelligence and smart algorithms are set to transform many traditional high value careers, including law, accounting, health and engineering. Almost all industries, including education itself, will be impacted from automated efficiencies.

Project Syndicate: "[Education in the digital age](#)" - Feb 2018



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## GLOBAL STUDENT MOBILITY

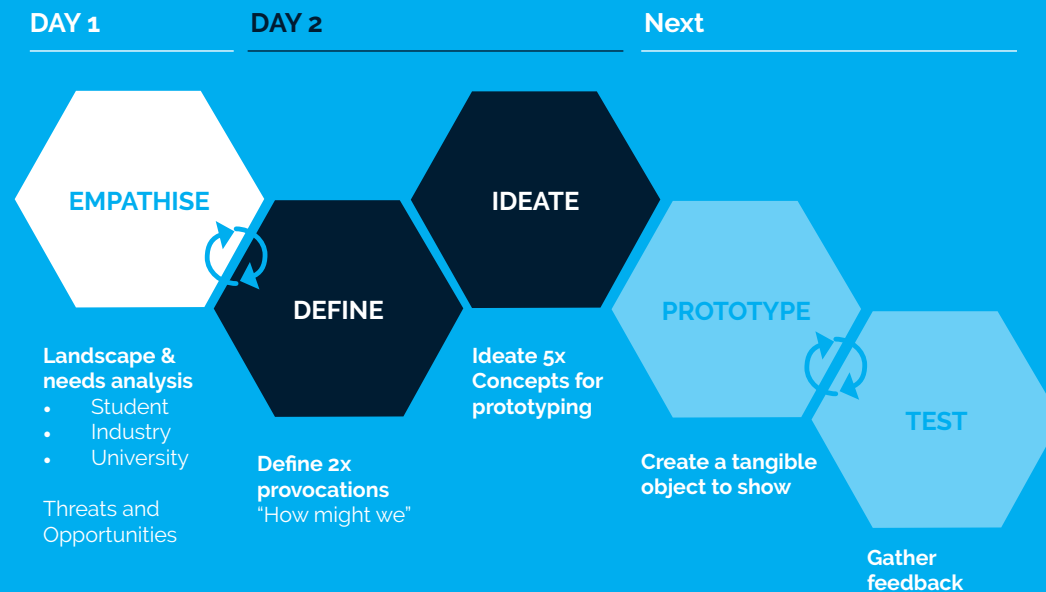
### *Trends 5-10 years*

1. Outbound student mobility will continue to grow from our key markets for 5-7 years but the prediction from there is that it will plateau out and then decline
2. Alternative pathways to qualifications will gain traction - mainly through customer centric product design
3. As cities in our key markets become much more livable the attraction to NZ's will reduce
4. China and India will present more valuable opportunities than NZ can in terms of quality education and also high value employment
5. Nigerian market grows and so does Indonesia but the combination of all market growth will never be as big as China
6. Transnational Education will grow as more high quality foreign institutions teach qualifications offshore
7. Competition for Chinese students will grow even more intensely as outbound mobility decreases
8. Data becomes more freely available to inform both governments and providers to inform their student attraction strategies
9. Traditional recruitment countries become student attractors countries themselves, Korea, Japan, Malaysia etc.
10. Short-term student attraction will be replaced by longer term talent attraction based on skills and global positioning





# THE APPROACH



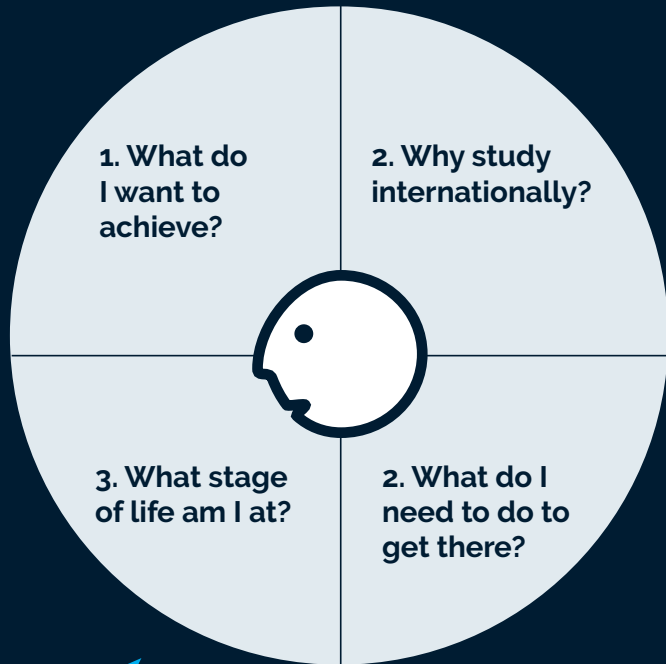
We used a mix of two methodologies. Design Thinking, or otherwise known as Human Centred Design, and an adaptation of the Lean Canvas which we've called the 'Marketplace Canvas'.

Twenty participants from Otago, Lincoln and Canterbury Universities as well as representatives from Education New Zealand, Christchurch NZ and the New Zealand Qualifications Authority dedicated two days to gain more clarity and consensus on new product opportunities in the evolving international student market.

# DAY 1: EMPATHISE

To gain a deep understanding of the problem, we investigated the landscape, which included student needs, industry needs as well as internal and external influences. The aim of the process was to uncover the opportunities within the landscape to help define more specifically the key areas and market needs in order to create product 'fits'.

## Student Needs

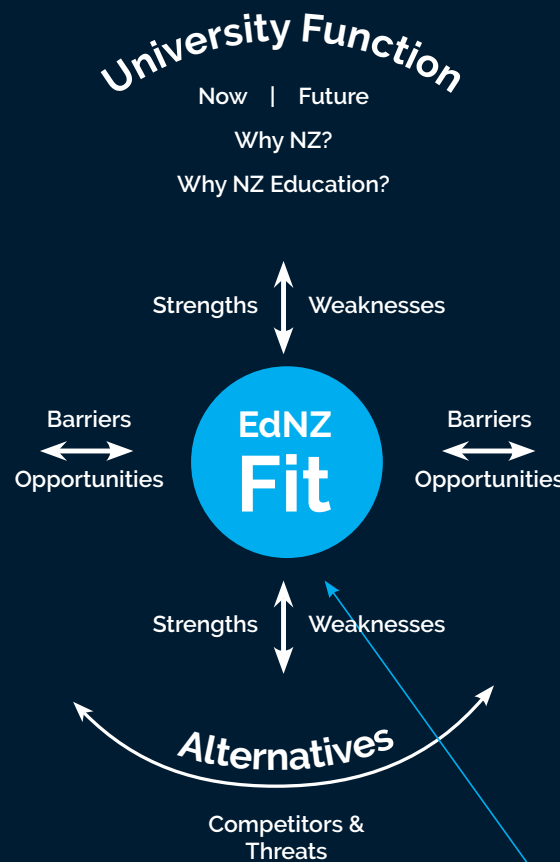


**Objective:** To create a series of profiles & personas from an emerging student's point of view.

## Market Needs



**Objective:** To recognise what the global demands are for graduates.



How do we create the best solution to meet the Student and Market needs?



## LANDSCAPE ANALYSIS

Outlined are key areas of focus that were uncovered during the landscape analysis. They are by no means exhaustive, but were offered by the participants as a foundation of thought to ideate from.

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## UNIVERSITY FUNCTION / CORE QUALITIES

Over and above the value of higher learning and skill development, the core qualities that underpin what a university education offers can be distilled down to two interdependent qualities:

### *Intellectual Independence*

Intellectual Independence requires you to think critically, recognise, embrace, and adapt your thoughts to reality.

### *Problem Solving*

Having the skills and processes to solve problems with new solutions and perspectives.

# STUDENT NEEDS

The students needs were investigated based on optionality and their basic lifestyle and academic needs. New Zealand is not often the first choice for internationals and New Zealand can no longer rely on it's clean green environment and quality of life.

Some of the key areas raised beyond quality, that New Zealand Education can truly own are:

## **Scale**

You will not get lost in a crowd in New Zealand.

## **Access**

If you need to connect with a global expert, they only couple of conversations away

## **Value**

The universal quality of NZ universities represent a very high return on investment

## **Why New Zealand?**

- Safe
- Welcoming
- Best alternative (after US, Can, UK & Aust)
- Quality of Life
- **You can be an individual**
- Active and outdoors

## **Why Education in NZ?**

- Space to think (less stressful)
- **Easier to be recognised**
- **Connections (2 degrees of separation)**
- No bad universities
- Global mobility
- Efficient at producing good outcomes

## **Student Lifestyle Needs**

- Improved Quality of Life
- An adventure / experience
- Improve social mobility / status
- Higher employability profile

## **Student Academic Needs**

- Choice - broad range of options
- Quality - Globally recognised
- **Access - to the best lecturers & experts**
- **Value - less debt**



### What do Employers Need?

- Graduates with **21st Century skills** that can show evidence of:
  - Adaptability
  - Critical thinking
  - Cultural awareness
  - Collaboration
  - Creativity
  - Goal Orientation
  - Social & cultural fit
  - Articulating skills and thinking
- Access to Talent
- Better understanding of what a Tertiary Qualification represents
- Co-curricular transcripts

### What are our future innovation needs?

- **Adaptable, Creative Thinkers**
- **Entrepreneurial Qualities: Perseverance / Grit**
- Multidisciplinary
- Embracing Change
- 70% baseline / 30% specialist

### What Does NZ need?

- Economic connectivity
- Bold Vision
- Access to Leadership
- Cultural Diversity & Awareness
- Economic Awareness
- **Social Progress**
- **Global Entrepreneurs**
- Regional development
- Sustainable and profitable Agri
- **Social solutions for technological disruption**

### What are our global needs?

- Creativity
- Global Awareness
- Conflict Resolution
- Food Science
- Wellbeing
- **Connected Society**
- Lifelong learning
- **Innovative thinkers**
- Environment & Sustainability

## MARKET NEEDS

Mapping out the global, national and industry needs is required to ground any new innovations in the reality of the global marketplace. Given the period of technological change and disruption, 21st century transferable skills are now what differentiates students with similar degrees and skillsets.

Some common threads uncovered:

### **Entrepreneurial Qualities**

The ability to unlock new opportunities and innovate coupled with the perseverance to see them through.

### **Social Minded**

A sense of awareness of what's going on around you.

## **DAY 2:** **DEFINE &** **IDEATE**

From Day 1's session we defined two questions to collectively brainstorm. Concepts were ideated then refined onto the Marketplace canvas. The Marketplace canvas was developed in recognition of the fact that education institutions are effectively a developmental bridge between student needs and market needs.

In the case of Retrainers, further investigation of the student needs was required to unlock new concepts.

The purpose of these canvases is to capture the key concepts and devise the most appropriate next steps towards prototyping and testing a Minimal Viable Product (MVP).

### **PROVOCATION 1:**

***“How might we repackage a globally relevant Masters programme that meets current and future industry needs”***

### **PROVOCATION 2:**

***‘How might we redefine a new product offering for re-trainers and life-changers’***

# PRODUCT CONCEPTS

## PROVOCATION 1

1

### *Elite Masters*

#### OVERVIEW

An Elite Masters degree taught under the guidance of the best academics from South Island's three institutions within a discipline supporting a world leading NZ industry.

#### RATIONALE

Individual institutions in NZ cannot complete with international elite universities, however collectively New Zealand's leading academics coupled with business leaders could create a unrivalled and globally recognised tertiary product.

2

### *Global Challenge Masters*

#### OVERVIEW

Student 'change-makers' work together in multidisciplinary teams to solve a Global Challenges that have been defined by leading NZ Industries.

#### RATIONALE

This Masters is about showing evidence of 21st century transferable skills, including real-world problem solving, collaboration and teamwork. It aligns best international talent with global problems to be solved.

3

### *Micro Masters*

#### OVERVIEW

This short, three paper post-graduate micro-masters, which is delivered after hours to suit re-trainers, is curated by pre-eminent business leaders from disciplines matching New Zealand's world leading industries.

#### RATIONALE

By minimising the scope and providing flexible hours, this product opens the somewhat inflexible doors for individuals wishing to take on the commitment of Post-Graduate study.

4

### *Adaptive Masters*

#### OVERVIEW

The Adaptive Masters is a highly flexible online programme with intakes every six weeks. Students choose from a range of papers to create a personalised, multi-disciplinary qualification which aligns with their careers goals.

#### RATIONALE

This product recognises that industry is evolving quickly, therefore qualification need to be adaptable. By having 6-8 intakes every year, and offering students the ability to adapt their degree as circumstances or industry changes, this product ensures that universities remain relevant.

## PROVOCATION 2

5

### *Skilled Migrant Diploma*

#### OVERVIEW

This product take the pain out of transitioning into New Zealand's high-skilled workforce, by enabling potential immigrants to become NZ accedited in their country of origin.

#### RATIONALE

This product attracts and pre-qualifies candidates to fill out our skills shortage list. By undertaking half of the qualification requirements in their home country, prospective re-trainers can reduce the risk of immigration and integration into New Zealand.



2

# ELITE MASTERS

## High Level Concept

A Masters designed and delivered by key leading academics from all three South Island Universities in the one field.

The calibre of content will make this Masters programme high value, premium and elite.

## The 'Wow' Factor

The profile of the Academics & Industry players

## Minimal Viable Product

Audit existing content from the three universities and rebundle as one elite offering.



### Student Profile

Looking for excellence and striving for the best. These students want to align their careers with a globally 'elite' qualification. They are super passionate about the subject.

### Student Problem

New Zealand currently doesn't have an attractive offering that connects students all the key academics in a single..

Hard to make connection in their field...

Real world problems



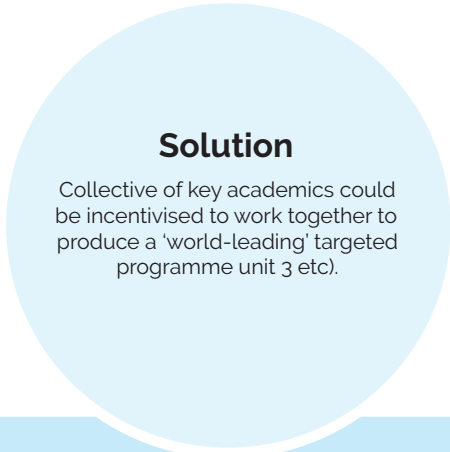
### The Market

Upskilling key, high calibre industry professionals who want to learn from the best.

### Market Problem

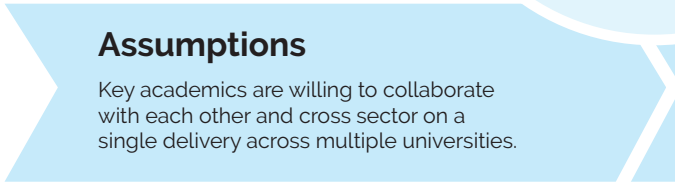
No single NZ University can deliver an elite programme on it's own.

By combining forces, NZ can tap into the elite masters market.



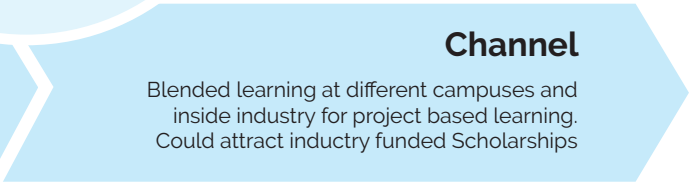
### Solution

Collective of key academics could be incentivised to work together to produce a 'world-leading' targeted programme unit 3 etc).



### Assumptions

Key academics are willing to collaborate with each other and cross sector on a single delivery across multiple universities.



### Channel

Blended learning at different campuses and inside industry for project based learning. Could attract industry funded Scholarships

3

# GLOBAL CHALLENGE

## High Level Concept

The Masters programme seeks to attract the best multidisciplinary teams to work on an industry relevant Global Challenge.

## The 'Wow' Factor

A Masters that shows evidence of real-world, industry focused experience during study.

During the project development process students will become globally connected.

## Minimal Viable Product

Wrap a structure around existing centres of excellence and national science challenges.



### Student Profile

Want to be involved with like-minded people who are applying themselves to meaningful solutions to global problems.  
 Current or future entrepreneurs  
 Who want to be influenced by world leading experts.  
 They are problem-solvers who are interested in starting their own business.

### Student Problem

Ability to contribute to positive change  
 During qualification rather



### The Market

NZ Solutions to Global Challenges that NZ has credibility in:

- Food Safety
- Bio-security
- Agritech
- Ecology
- Civil (EQ) Engineering

### Market Problem

Ability for NZ to attract the talent we need to support and grow our world leading industries.  
 New solutions to big problems require a significant amount of R&D budget. Industry can access a pool of talent working directly on their global problem.



### Solution

Industry can apply to 'outsource' their R&D to Global Challenge teams.  
 Teams work closely with industry, but are also connected to leading experts and mentors



### Assumptions

That there's a growing demand in interdisciplinary programmes

### Channel

Recruitment, Industry, Centres of Excellence, Science Challenges.

4

# MICRO MASTERS

## High Level Concept

Short three paper Post graduate micro-masters products curated by business leaders from a discipline which matches a world-leading NZ industry.

## The 'Wow' Factor

Industry brand aligned post-grad papers.

Industry is the authoritative source of qualification relevance.

## Minimal Viable Product

Create a workshop with 2-3 leading companies and relevant academics to identify best fit papers for their industry.



### Student Profile

Career focused individuals who may be in management roles, but would like to move sideways then up into a more senior position.



### The Market

Senior Management Professionals sector, where niche skills and qualifications are required to migrate into different industries.

### Student Problem

Students are often presented with study options that are not aligned to a specific career. This is okay at an under graduate level, but at post graduate, having a selection of papers endorse by industry will encourage better decision making at enrolment.

### Solution

Existing Papers are endorsed by the industry.  
 Students interested in an industry specific career can immediately identify what industry needs.  
 The evolution of this micro-masters will be co-development of papers.

### Market Problem

Industry find it difficult to connect with Tertiary Institutions. While they're interested in having an influence on the employability qualities they need from graduates, there's no clear process of implementation.

### Assumptions

Industries are willing to align their brand with learning outcomes and potentially start a closer relationship with Tertiaries.

### Channel

Promoted through University websites, and co-promoted by industry.



4

# ADAPTIVE MASTERS

## High Level Concept

Students can select any unit, from any NZ University on the carousel to make up their Masters as per their own interests.

## The 'Wow' Factor

Self-building unit selection: no other offering in market like this at NZQA level 9. Domestic fees  
24/7 accessibility. Can satisfy visa application for post study work immigration

## Minimal Viable Product

Each of the 8 Universities would migrate one of their signature/leading units for online delivery on the LMS.



### Student Profile

Students that want a personalised qualification that is multi-disciplinary and a good fit for their career purpose or a career change.



### The Market

Senior Management Professionals sector, where niche skills and qualifications are required to migrate into different industries.

### Student Problem

Students currently can only enroll on a bi-annual basis. This creates a small window of opportunity to explore options.

Qualifications are restricted into subject specific programmes, and include papers that aren't required, or the student/re-trainer is potentially already qualified or has experience in.

### Solution

All units are available at each intake

There are 6 intakes per annum.

The units don't follow in a sequential flow (i.e. unit 1 must be followed by unit 2 etc) but rather they can select the units at random as the student wishes (e.g. they can start at unit 5, then move to unit 2, then unit 3 etc).

### Market Problem

The mobility of management professionals between industry sectors is often difficult if you don't have sector experience.

Showing evidence of making smart personal decisions on choice of papers within a qualification further extends the independent and critical thinking values 21st century industry requires.

### Assumptions

Award is endorsed by all 8 universities, therefore it is assumed that funding will be split

### Channel

Online. A national body will own the technology (LMS). Will be built up over time to become a library of units from all 8 Universities

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# SKILLED MIGRANT DIP.

## High Level Concept

Pre-arrival skills to improve integration into New Zealand's workforce.

De-risk the immigration process by working on qualification alignment in your home country, before placement in NZ.

## The 'Wow' Factor

Low-risk bridge to the NZ Lifestyle.

## Minimal Viable Product

Focus on the accreditation process for one sector as the pilot (eg Health / Construction / Education)



### Student Profile

Professionals who meet the criteria of the skills shortage list, but their qualifications are not recognised in New Zealand.



### The Market

Attracting internationals to fill the New Zealand skills shortage.

### Student Problem

Making the transition into another country is a big decision. There's a number of risks around finding employment when your qualification and expertise is not recognised.

There's also significant risks and cost associated with study and immigration consultants to secure your visa.

### Market Problem

International Qualifications are not registered in New Zealand.

It's a risk for NZ business to take on international talent and the transition process is often difficult - on top of relevant qualifications, there's also cultural fit.

### Solution

Pre-qualification programme completed online in your home country, placement component completed in NZ.

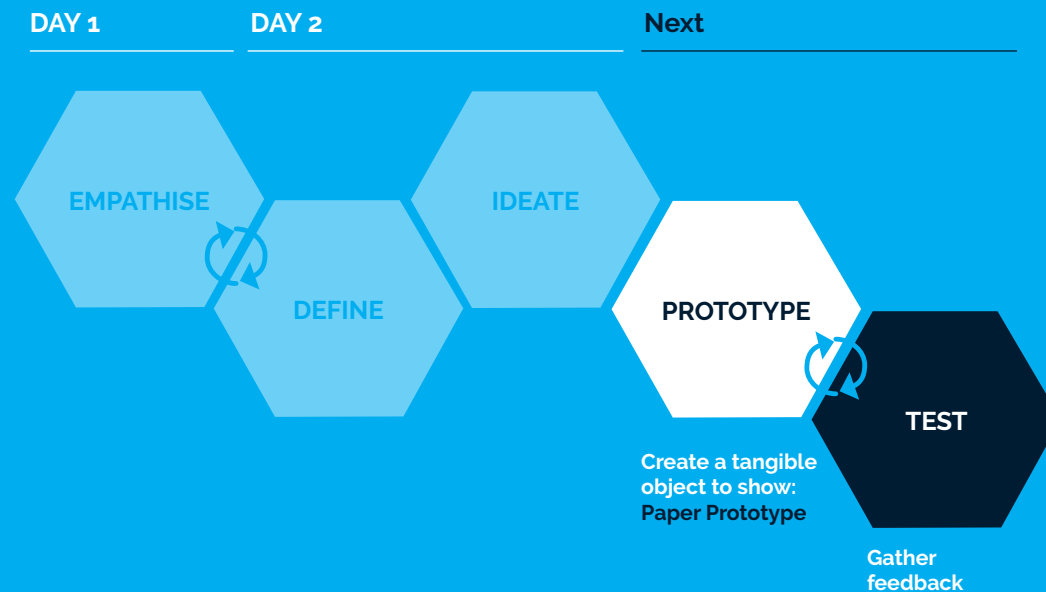
Includes cultural competencies  
Focus on sectors where there's a NZ skill shortage

### Assumptions

Programme development team have worked with immigration and sector industry groups to ensure the retraining programmes are appropriately targeted

### Channel

Online. Repackage existing Professional Development programmes using a LMS. Team up with industry to promote offshore.



# NEXT STEPS

The saying “ideas are cheap, execution is everything” rings true. Due to a number of structural and financial constraints it takes a high level of commitment and time to implement a new education product, let alone an entirely new delivery model.

However, there are a number of proven approaches to incrementally implement change towards a agreed vision, two of which we have utilised during the ideation process. The next steps can be achieved through iterative prototyping and testing, managed using Agile.



# AGILE METHODOLOGY

A basic outline of the proposed product starts the validation process. Lean start-ups use the 'Agile' development methodology to continually improve and iterate new product concepts. Agile breaks a project development into short two-week sprints. Each sprint contains a specific number of tasks that are reviewed by the Product Owner. The priorities of every new sprint is adapted based on the discoveries during the previous sprint.

## Product Owner

Each product idea to appoint a product owner. They hold the vision of what the project seeks to achieve.

## Scrum Master

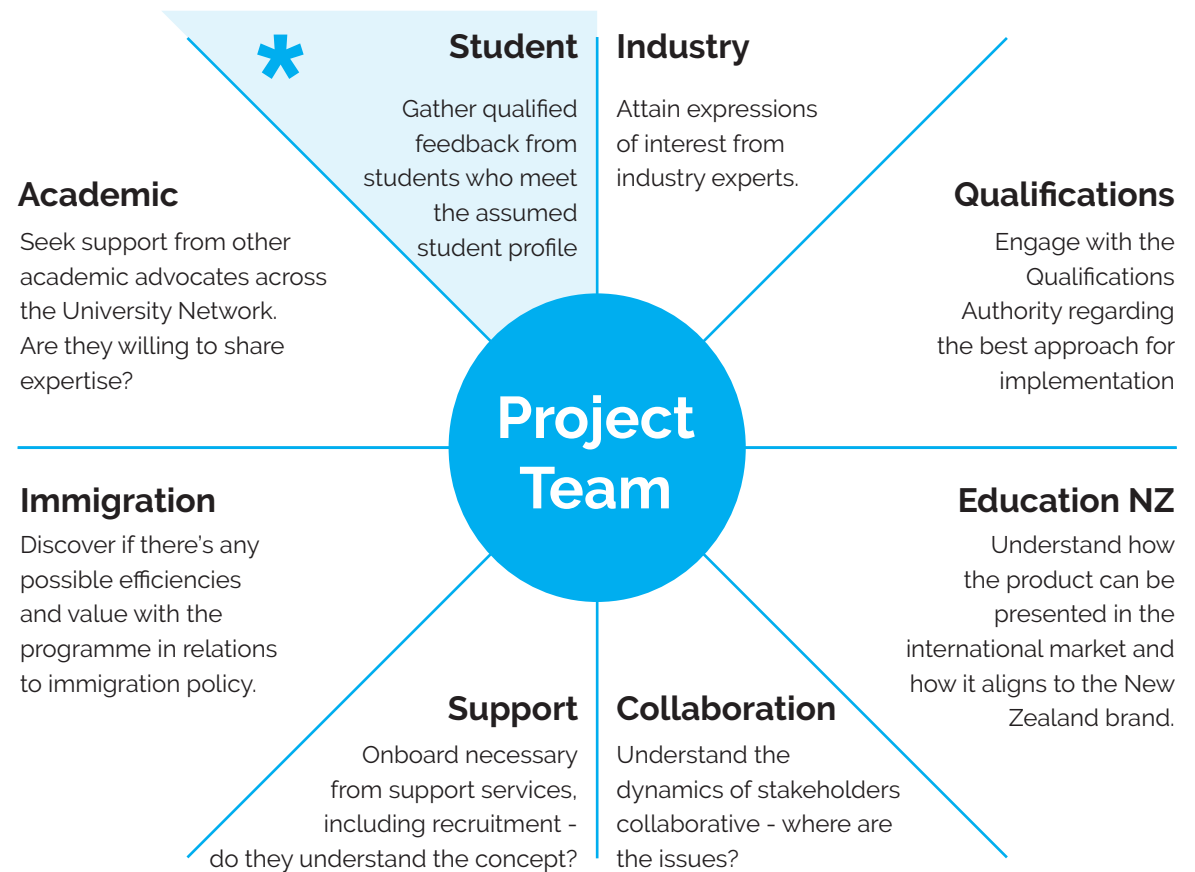
The scrum master manages the process for how information is exchanged during the sprints. Essentially the project manager.

## Project Team

List of stakeholders, influencers and technicians required to deliver the goods.

# VALIDATION: PAPER PROTOTYPE

To paper prototype the concepts, a piece of printed collateral can be produced that 'sells' the vision, as if it's a fully functioning product. This collateral can be tested and evolved based on stakeholder feedback.



\*Education NZ is conducting further market validation from specific international student segments based on the outcomes of the workshop

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