BEYOND 2030: GLOBAL MEGATRENDS AND THE IMPACT ON NEW ZEALAND’S PROSPERITY

Ross Buckley
Executive Chairman, KPMG
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kpmg.com/nz
BEYOND 2030

Period of unprecedented change
Demographics
Rise of the individual
Digital disruption
Enabling technology
Economic shift to Asia
Infrastructure investment
The environment
Customer Centricity
New Zealand’s place in the world
PAST

The New York Times

PeopleSoft

COMPAQ

TEXACO

Kodak

Britannica
PRESENT
THE ADOPTION OF TECHNOLOGY HAS GOT MUCH QUICKER

AVERAGE NUMBER OF YEARS A COMPANY SPENDS IN S&P 500 INDEX*

Source: The Economist, April 16 2011
NZX 20 INDEX – 2015

Air New Zealand
Auckland International Airport
Contact Energy
Fisher & Paykel Healthcare
Fletcher Building
Goodman Property Trust
Infratil
Kiwi Income Property
Mainfreight
Meridian Energy
Mighty River Power
Port of Tauranga
Precinct Properties
Ryman Healthcare
SkyCity Entertainment
Sky Network Television
Spark
Trade Me
Xero
Z Energy
NZX 20 INDEX – 2015, LISTED PRE 1995

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VOLATILITY IS THE NEW NORM

Source: Bloomberg Finance L.P.
FUTURE STATE 2030

INDIVIDUALS
Demographics
Rise of the individual
Enabling technology

PHYSICAL ENVIRONMENT
Climate change
Resource stress
Urbanisation

GLOBAL ECONOMY
Economic interconnectedness
Public debt
Economic power shift
DEMOGRAPHICS

Half of all people ever to reach 65 years are alive today

By 2035, 1.1bn people will be above 65 years

Population to be 8bn by 2030, mostly growing in Asia

By 2035, Japan will have 69 retirees for each 100 of working age
SUPER AGED SOCIETIES

More than 20% of the population is 65 years or older

TODAY
Germany
Italy
Japan

2020
France
Netherlands
Portugal
Sweden
Slovenia
Croatia
Finland
Greece

2030
New Zealand
USA
UK
Hong Kong
Singapore
Korea
Canada
Spain
AN EXPLOSION IN SLOW MOTION

NZ and Australian population projection 85yrs+ (000s)

- **Australia**
- **New Zealand**

<table>
<thead>
<tr>
<th>Year</th>
<th>Australia</th>
<th>New Zealand</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>420</td>
<td>73</td>
</tr>
<tr>
<td>2031</td>
<td>843</td>
<td>147</td>
</tr>
<tr>
<td>2051</td>
<td>2,153</td>
<td>329</td>
</tr>
</tbody>
</table>

4-5x increase from 2011 to 2051.
RISE OF THE INDIVIDUAL

1.8 billion 2009
3.2 billion 2020
4.9 billion 2030
THE MIDDLE CLASS IS GROWING

GLOBAL POPULATION BY INCOME

1965
3,267,422,420 PEOPLE

6,820,730,223 PEOPLE 2012

2030
8,011,521,525 PEOPLE
GROWTH IN MIDDLE CLASS CUSTOMERS

NUMBER OF PEOPLE (IN MILLIONS) IN THE POPULATION CATEGORISED AS MIDDLE CLASS

Source: Organisation for economic cooperation and development
THE IMPACT OF TECHNOLOGY

75% of the world’s population has access to a mobile

47% of phone users in Asia will have smart phones by 2018

Data use will grow by a factor of 11 by 2018
COMPUTING IS GETTING CHEAPER
PROCESSING POWER OF AN IPHONE

UP TO 50x FASTER

Source: iamwire.com
## DIGITAL DISRUPTION

<table>
<thead>
<tr>
<th>INDUSTRY</th>
<th>OLD WORLD</th>
<th>NEW WORLD</th>
<th>EXAMPLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Real Estate</td>
<td>Classified adds in newspapers, physical real estate agent offices</td>
<td>Specialist real estate websites connect buyers and sellers (still predominantly real estate agents), e.g. REA, Domain</td>
<td>[Domain]</td>
</tr>
<tr>
<td>Music</td>
<td>Purchase CDs in music stores such as HMV and Virgin</td>
<td>Physical CDs widely obsolete. Access music by downloading using services such as iTunes or stream using Spotify or Pandora</td>
<td>[iTunes]</td>
</tr>
<tr>
<td>Books</td>
<td>Purchase physical copy of a book at a bookstore</td>
<td>Download to read on mobile device such as iPad or Kindle</td>
<td>[amazon, kindle]</td>
</tr>
<tr>
<td>Recruitment</td>
<td>Classified ads in newspapers, speak to recruitment agents</td>
<td>Specialist recruitment websites connect jobseekers and employers, such as Seek</td>
<td>[seek.com.au]</td>
</tr>
<tr>
<td>Newspapers</td>
<td>Purchase hard copy of newspaper</td>
<td>Read news online at newspaper website or receive news or other social media source</td>
<td>[twitter]</td>
</tr>
</tbody>
</table>

Source: KPMG, Macquarie Research
BARRIERS TO ENTRY FOR DIGITAL DISRUPTORS ARE FALLING

THE COST OF ESTABLISHING A START-UP HAS FALLEN CONSIDERABLY

Source: Reinventure
ENABLING TECHNOLOGY

B2C ecommerce sales to hit USD1.5 trillion in 2014 (est)

Asia Pacific ecommerce market will be the world’s largest from 2014

Yet penetration of ecommerce will be less than 17%

By 2020, 5 billion internet users, 80 billion connected devices
THE IMPACT OF THE DRONE
THE RISE OF THE ROBOTS
Oxford Martin Institute have a forecast that of 702 occupations in the United States, 47% of jobs could be automated within 20 years.

Source: "The future of Employment: How Susceptible are Jobs to Computerisation?" by C. Frey and M. Osborne (2013)
## Probability that computerisation will lead to job losses within the next two decades

<table>
<thead>
<tr>
<th>JOB</th>
<th>PROBABILITY</th>
<th>JOB</th>
<th>PROBABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telemarketers</td>
<td>0.99</td>
<td>Health technologist</td>
<td>0.40</td>
</tr>
<tr>
<td>Accountants and auditors</td>
<td>0.94</td>
<td>Actors</td>
<td>0.37</td>
</tr>
<tr>
<td>Retail salespersons</td>
<td>0.92</td>
<td>Firefighters</td>
<td>0.17</td>
</tr>
<tr>
<td>Technical writers</td>
<td>0.89</td>
<td>Editors</td>
<td>0.06</td>
</tr>
<tr>
<td>Real estate sales agents</td>
<td>0.86</td>
<td>Chemical engineers</td>
<td>0.02</td>
</tr>
<tr>
<td>Work processors and typists</td>
<td>0.81</td>
<td>Clergy</td>
<td>0.008</td>
</tr>
<tr>
<td>Machinists</td>
<td>0.65</td>
<td>Athletic trainers</td>
<td>0.007</td>
</tr>
<tr>
<td>Commercial pilots</td>
<td>0.55</td>
<td>Dentists</td>
<td>0.004</td>
</tr>
<tr>
<td>Economist</td>
<td>0.43</td>
<td>Recreational therapists</td>
<td>0.003</td>
</tr>
</tbody>
</table>

WORLDWIDE INDUSTRIAL ROBOT INSTALLATION
Despite these threats, KPMG research reveals that “53 per cent of consumers trust their banks the most when it comes to making financial transactions.”
CHANGING CONSUMER BEHAVIOUR AND DEMANDS...

...are putting greater pressure on traditional providers

- Consideration of non-traditional alternatives
- Growing advice from peers
- Willingness to adopt new technology
- Reduced information asymmetry
- Personalised services
- Less loyal

MILLENNIAL DISRUPTION INDEX

- 85% Banking most at risk of being disrupted
- 49% Innovation will from outside of the industry
- 73% Excited by financial offers from global Internet giants
MORE AND MORE COMPANIES WILL COLLABORATE IN THE FUTURE

Some partnerships will be less obvious
Europe currently has 7% population, 25% GDP, & 50% of welfare. Savings rates are highest in Asia where social protection is comparatively low. Accessing food, water, and energy will cost more. 1.3m People will move to cities each week until 2050.
"THE WORLD ECONOMY IS CHANGING" – PERCENTAGE SHARE OF GLOBAL GDP

Source: NZ National Infrastructure Unit, OECD 2012
## TOP 10 LARGEST ECONOMIES BY 2050

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>2014</th>
<th>2030</th>
<th>2050</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. China</td>
<td>18</td>
<td>36</td>
<td>61</td>
</tr>
<tr>
<td>2. India</td>
<td>7</td>
<td>17</td>
<td>42</td>
</tr>
<tr>
<td>3. USA</td>
<td>17</td>
<td>25</td>
<td>41</td>
</tr>
<tr>
<td>4. Indonesia</td>
<td>3</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>5. Brazil</td>
<td>3</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>6. Mexico</td>
<td>2</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>7. Japan</td>
<td>5</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>8. Russia</td>
<td>4</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>9. Nigeria</td>
<td>1</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>10. Germany</td>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
</tbody>
</table>

Outside top 10: UK 11th, South Korea 17th, Italy 18th, Spain 26th, Australia 28th

Source: IMF World Economic Outlook database
By 2030, 37 cities will have populations of > 10m

Urban population in Indonesia has tripled in the last 20 years

China will have an urban population of 1bn by 2030

Two thirds of ASEAN urban population will live in 5 mega cities by 2020
GLOBAL INFRASTRUCTURE INVESTMENT 2010 – 2030

US$TRILLION | CONSTANT 2010 DOLLARS

Rocks: 16.6
Rail: 4.5
Ports: 0.7
Airports: 2
Power: 12.2
Water: 11.7
Telecom: 9.5
Total: 57.2

Source: 'Global Infrastructure: How To Fill A $500 Billion Hole,' Standard & Poors, 2014; 'The credit fund opportunity,' Citi, 2013; Financial Times; KPMG analysis
# NZ INFRASTRUCTURE – 10 YEAR OUTLOOK
$NZD BILLION

<table>
<thead>
<tr>
<th>Category</th>
<th>CENTRAL GOVT</th>
<th>LOCAL GOVT</th>
<th>PRIVATE SECTOR</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social</td>
<td>30.1</td>
<td>6.0</td>
<td>0.3</td>
<td>36.4</td>
</tr>
<tr>
<td>Transport</td>
<td>16.5</td>
<td>15.6</td>
<td>4.7</td>
<td>36.7</td>
</tr>
<tr>
<td>Water</td>
<td>-</td>
<td>11.3</td>
<td>-</td>
<td>11.3</td>
</tr>
<tr>
<td>Energy</td>
<td>-</td>
<td>0</td>
<td>5.9</td>
<td>5.9</td>
</tr>
<tr>
<td>Environment</td>
<td>-</td>
<td>1.6</td>
<td>-</td>
<td>1.6</td>
</tr>
<tr>
<td>Land</td>
<td>-</td>
<td>0</td>
<td>-</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td><strong>46.6</strong></td>
<td><strong>34.7</strong></td>
<td><strong>10.9</strong></td>
<td><strong>92.0</strong></td>
</tr>
</tbody>
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# of projects

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<tr>
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<th><strong>TOTAL</strong></th>
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<tr>
<td>260</td>
<td>2,833</td>
<td>100</td>
<td>3,153</td>
</tr>
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</table>

Source: NZ National Infrastructure Unit
ANNUAL RENEWABLE WATER SUPPLY MILLION LITERS PER CAPITA

- Americas: 26.5
- Europe: 10.4
- Africa: 5.6
- Asia: 3.5
- China: 2.1
- India: 1.6
- AUS: 22.5
- NZ: 75.6
- USA: 10
- Malaysia: 20.8
- Indonesia: 8.5
- Brazil: 42.6
THE ENVIRONMENT

- Cup of coffee: 140 L
- Cotton Shirt: 2700 L
- Rice (1 kg): 3400 L
- Chicken (1 kg): 3900 L
- Beef (1 kg): 15,500 L
CALIFORNIA DROUGHT

The drought has drained California’s reservoirs, like Lake Oroville, seen here in 2011 (top left) and 2014 (bottom right).
WHAT IS DRIVING CUSTOMER PURCHASING DECISIONS

The Top 6 purchasing attributes – based on the views of KPMG agribusiness professionals in 15 countries

01 / Price of the product

02 / Certified safety of the product

03 / Security of supply

04 / Eating attributes of the products

05 / Personal market relationships

06 / Traceability of product
NEW ZEALAND’S PLACE IN THE WORLD

STRENGTHS
- Easy to do business
- High education participation
- High quality of life
- High transparency
- Low corruption
- Geographical location

WEAKNESSES
- Dependence on primary sector
- Weak innovation system
- No ‘international’ city
- Low education attainment
- Low incomes
- Churning not creating wealth
NEW ZEALAND’S PLACE IN THE WORLD

RISK: NZ’S SMALL SIZE RESULTS IN THE COUNTRY BEING SQUEEZED IN THE FUTURE BECAUSE WE ARE TOO SMALL TO BE RELEVANT

A Prescription for New Zealand’s Prosperity

- World class infrastructure
- High broadband connectivity
- Focus on educational attainment
- City strategies
- Scrutiny of government spending
- Greater co-ordination with West Island
- Asia focused education
- Innovation ecosystem
- More collaboration
SOME HOPES FOR NEW ZEALAND 2030

We zig when the rest of the world is zagging

New Zealand companies are born global

Our young people see a world without boundaries

Every company acts like a start up

New Zealand is home to the world’s delicatessen

A nation connected to its future but valuing its past
TOP TEN QUESTIONS TO CONSIDER:

01. What will your clients of the future look like?

02. How will the industry value chain be impacted and what role do you want to play?

03. How will your proposition and service model need to change to meet evolving client needs?

04. What are the implications for your brand and market profile?

05. What opportunities are available to extend or reshape your existing geographical footprint to take advantage of emerging market developments?

06. Have you got the right operating model for the future?

07. How are you capturing and leveraging internal and external data to help you better engage with clients and remain relevant?

08. How are you ensuring that a risk focus is embedded within your organisation?

09. What people skills and capabilities will you require in the future?

10. Where do you see the key risk of market discontinuity coming from?
DISCUSSION

THANK YOU

Ross Buckley
Executive Chairman