Skills Forecasting for Asia

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'I hope that the good work of the **London Skills Forecasting Unit** can be made available across London to the new learning and skills council.'

Lord Harris of Haringey, House of Lords, UK Parliament,
10 February 2000

Regional perspective

- Asian companies increasingly have to compete on quality not price
- Asia needs to broaden base of value-added services
  - More design (and creativity) less call centres
- Quality depends on skills and training

- Most Asian countries need quality secondary and higher education

The training 'environment'

- Innovation and competitiveness – raising GDP and creating jobs
  - It is business that creates jobs & new jobs come from competitive companies that meet demand
- Gaps and shortages – identifying skills needs
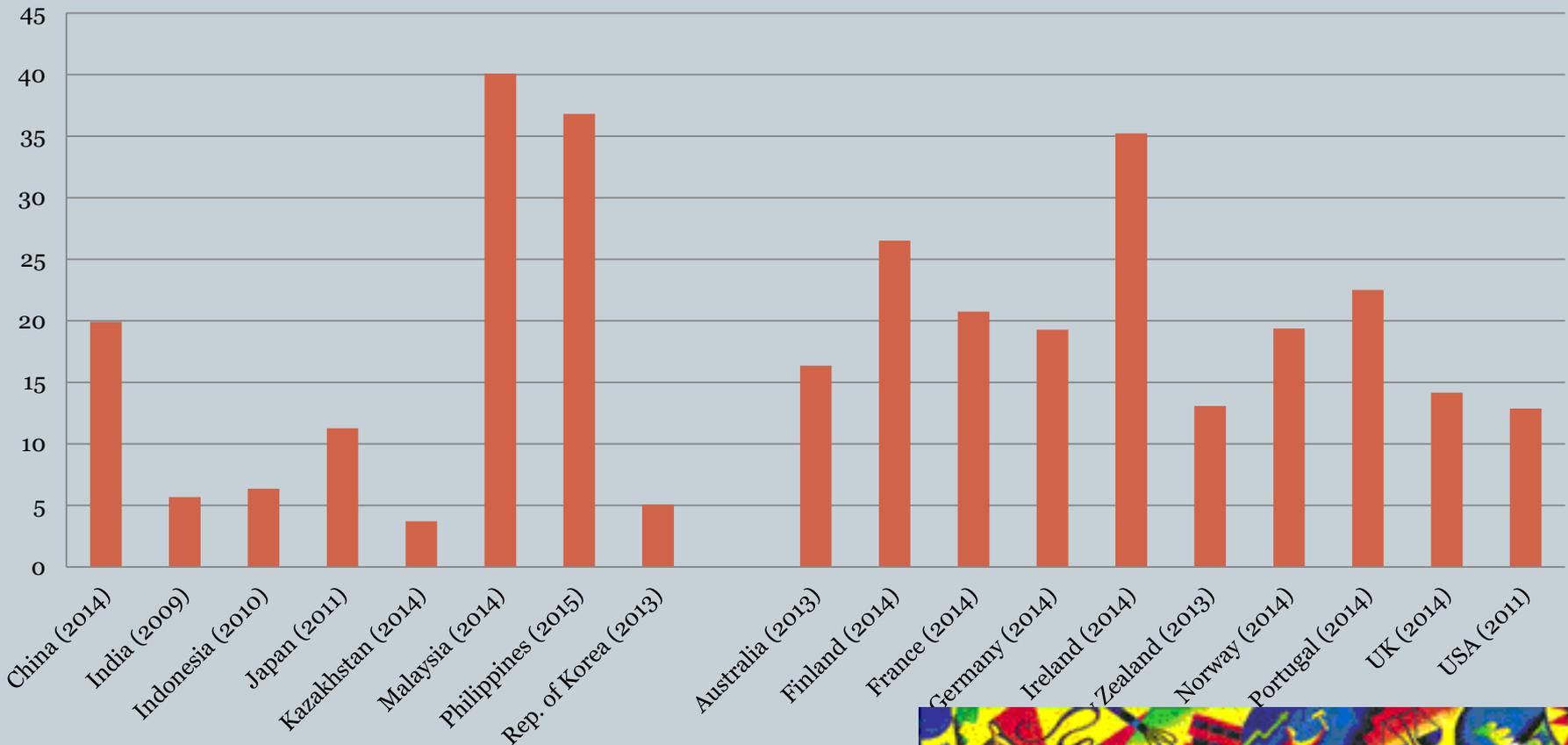- Who does the training?

- These techniques address the *current* situation they do not look at *future* skills needs, which are changing very rapidly

Innovation
Asia tends to lag behind other OECD

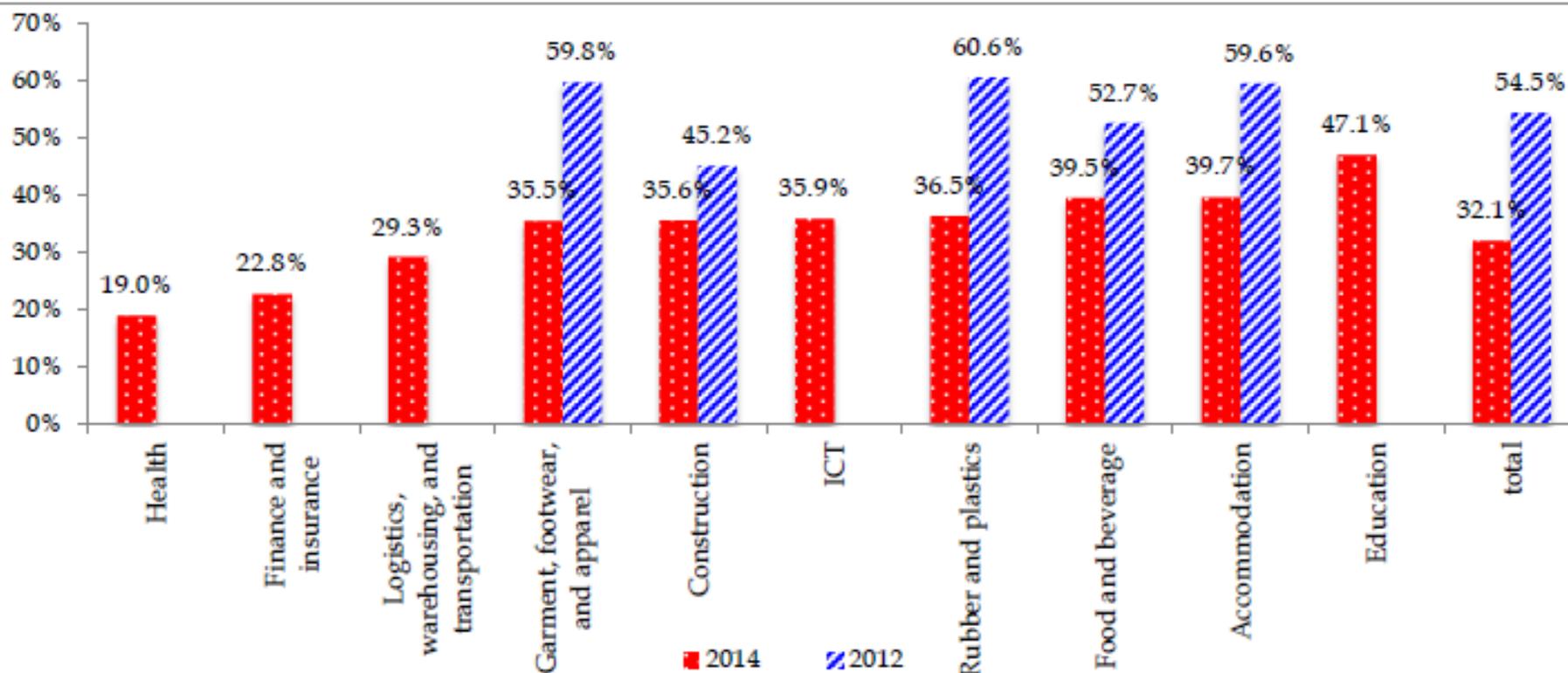**Percentage of Manufacturing Firms with Product or Process Innovation in last three years (latest survey)**

Source; UNESCO (Nov 2017), and Albert (2017) for Philippines
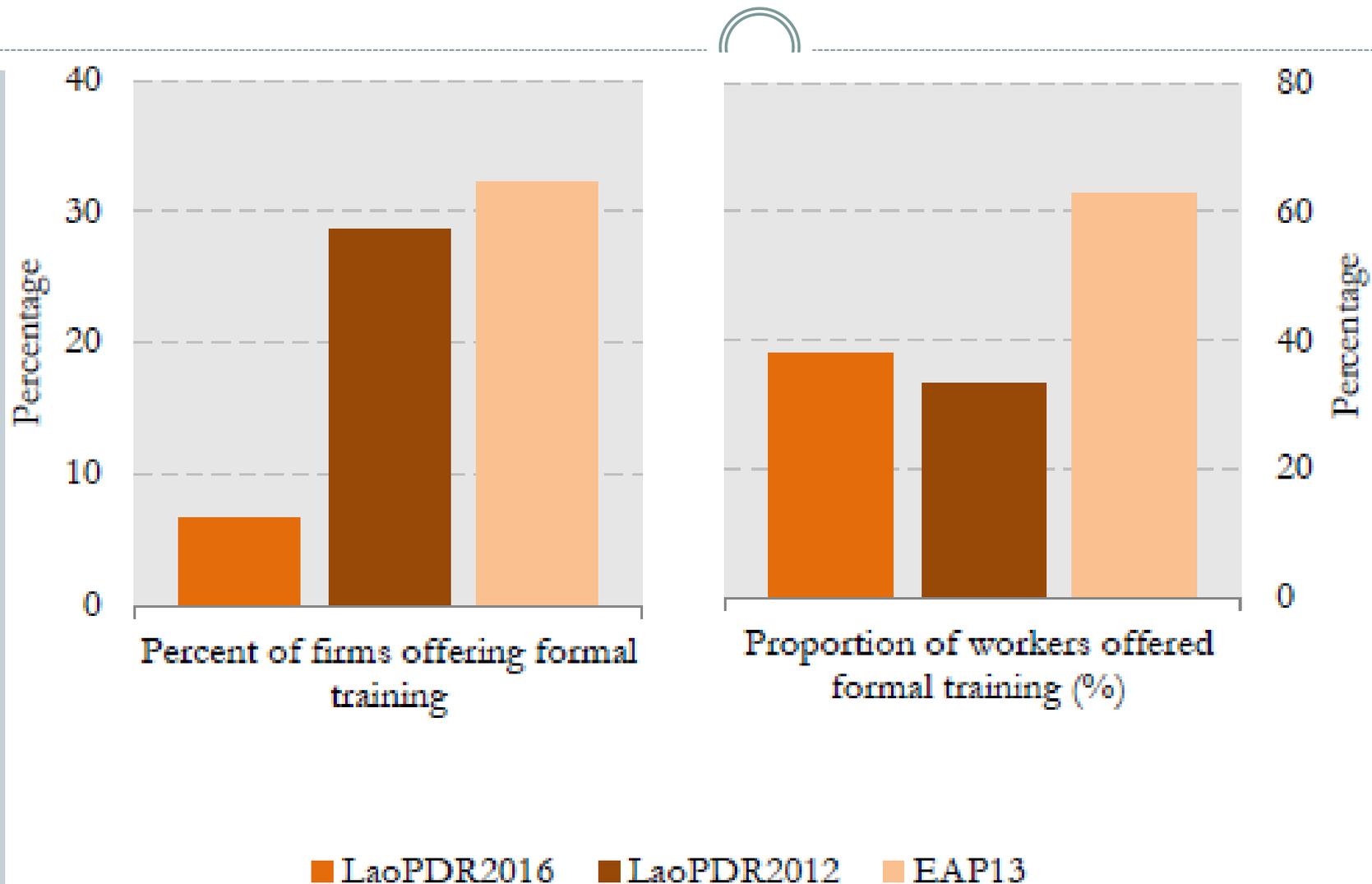
Cambodia; trends in skills gaps

- % of establishments reporting skills gaps

N2014=1,632 & n2012=517

Source: NEA's ESNS 2014

Laos; trends in business provided training

Source; World Bank

Why skills forecasting?

- Economies move so fast that companies MUST keep ahead to survive
    - Eg Printing; 3D digital printing, 'hot metal' is ancient history
- Not enough to assume today's trends will continue
- How can we train for skills we don't know about?
    - A paradox that has to be addressed

The rationale

- Businesses (trainers and government) need to know what skills are coming
- BUT if you know what is coming you need to change curricula and students need to graduate *before* businesses start to recruit
  - Ensures local businesses lead the market and does not need to recruit abroad
- Estimate 2-3 years to change curricula and good numbers of graduates enter the labour market

- THEREFORE need to forecast skills and plan change 3+ years ahead

Elementary process – skills demand

- Take Labour Force Survey occupational profile
  - Requires ISCO 4 digit coding of data, and preferably coding/analysis of 2nd occupations
- Project forward based on model of population change
  - 'under' education and 'over' education > skills mismatch
- Apply economic forecast to obtain sectoral requirements by occupation
- Eg used by CEDEFOP for official EU skills 'projection'
- *Not sufficient to take into account 'new skills'*

- *In almost all countries in the region this approach indicates that there is*
  - *A lack of high skilled workers*
  - *A lack of jobs for low skilled workers*

More 'complete' process skills demand

- Take Labour Force Survey occupational profile (ISCO 4 digit)
- Project foreward based on model of population change
- Apply economic forecast to obtain sectoral requirements by occupation
- Include sectoral intelligence
  - Sectoral forecasts of activity and skills eg construction
    - Where possible breakdown activity y skills needed
  - Focus groups
- Produce adjusted forecast of jobs required by occupation and profession

Assessing changes in the nature of occupations

- US O'net (www.onetonline.org) an online description of every type of job (ie occupation) in the US

- Employers and employees encouraged to comment on the accuracy of the descriptions

- Comments are regularly assessed by committee associated with the occupation/profession and changes are made

- Ensures job descriptions, occupation and skills are up to date with latest trends *but does not predict future changes*

An organisational perspective

Requires

- Co-operation from Ministries responsible for – business, economy, labour, education
- Active involvement of private sector business leaders
  - They must give serious consideration to skills change and their future needs
- Active involvement of training sector and trainers
  - Trainers/colleges/qualification authorities must be willing to change curricula (quickly)
  - Employers must participate in training activities
    - Eg membership of boards, direct teaching, research or other activities

An employer's perspective

- Employers should know what skills they have in their companies eg a skills audit & personnel records
- In the face of a skills gap or hard-to-fill vacancy employers should make rational choices
  - Is it better to retrain or recruit?
- Employers should *invest* in training for their workforce in order to
  - Encourage positive morale and further productivity among workers
  - Prepare for future product development and increase competitiveness through quality
  - Encourage innovation (new products, processes, organisational change)
- Employers need to rely on training providers (in-house or external) to provide skills. Building strong relationships with them will
  - Enable trainers to know the business and skills needs
  - Allow long term business planning

A trainer's perspective

- Trainers who can show they know future skills needs will attract support from employers
- Students will have confidence that training will give them a good job and skills that will be in demand *when they graduate*
- Both students and employers will be encouraged by a forward thinking programme

A student's perspective

- Education is 'for life' TVET is 'for a job'

- Students want
  - confidence that they will have a job on graduation
  - to learn 'cutting edge' skills
  - to feel the college will give them 100% support in career planning
  - to engage with employers *before* they graduate, in the classroom and in the work place

Three levels of forecast

1. Labour Force projections
   - Used for long term changes in balance between jobs
2. Mixed models for looking at more dynamic change
   - Econometric mixes economic/technical change & labour
   - O*net examine changes within occupations
3. Sectoral
   - Used for competitiveness of local labour and businesses
   - Fhi360; Indonesian auto sector
   - LSFU; construction, logistics, retail, manufacture

Example India; labour force projections

S.No	Sector	Employment Base in 2013 (million)	Projected Employment by 2022 (million)	Incremental Human Resource Requirement (2013-22)
1	Auto and Auto Components	10.98	14.88	3.9
2	Beauty and Wellness	4.21	14.27	10.06
3	Food Processing	6.98	11.38	4.4
4	Media and Entertainment	0.4	1.3	0.9
5	Handlooms and Handicrafts	11.65	17.79	6.14
6	Leather and Leather Goods	3.09	6.81	3.72
7	Domestic Help	6	10.88	4.88
8	Gems and Jewellery	4.64	8.23	3.59
9	Telecommunication	2.08	4.16	2.08
10	Tourism, Hospitality & Travel	6.96	13.44	6.48
11	Furniture and Furnishing	4.11	11.29	7.18
12	Building, Construction and Real Estate	45.42	76.55	31.13
13	IT and ITES	2.96	5.12	2.16
14	Construction Material and Building Hardware	8.3	11	2.7
15	Textile and Clothing	15.23	21.54	6.31
16	Healthcare	3.59	7.39	3.8
17	Security	7	11.83	4.83
18	Agriculture	240.4	215.6	(24.8)

- Big decline in agriculture (largest sector) -10%

- Largest expected increase (31 million) construction (2nd largest sector)

- Fastest expanding sector Beauty & wellness, grows by 239%

- Others growing
  - media 225%, furniture 175%, leather 120%, eelctronics 107%, health 106%, telecomms 100%

- What skills are needed?

Example; construction forecast Malaysia
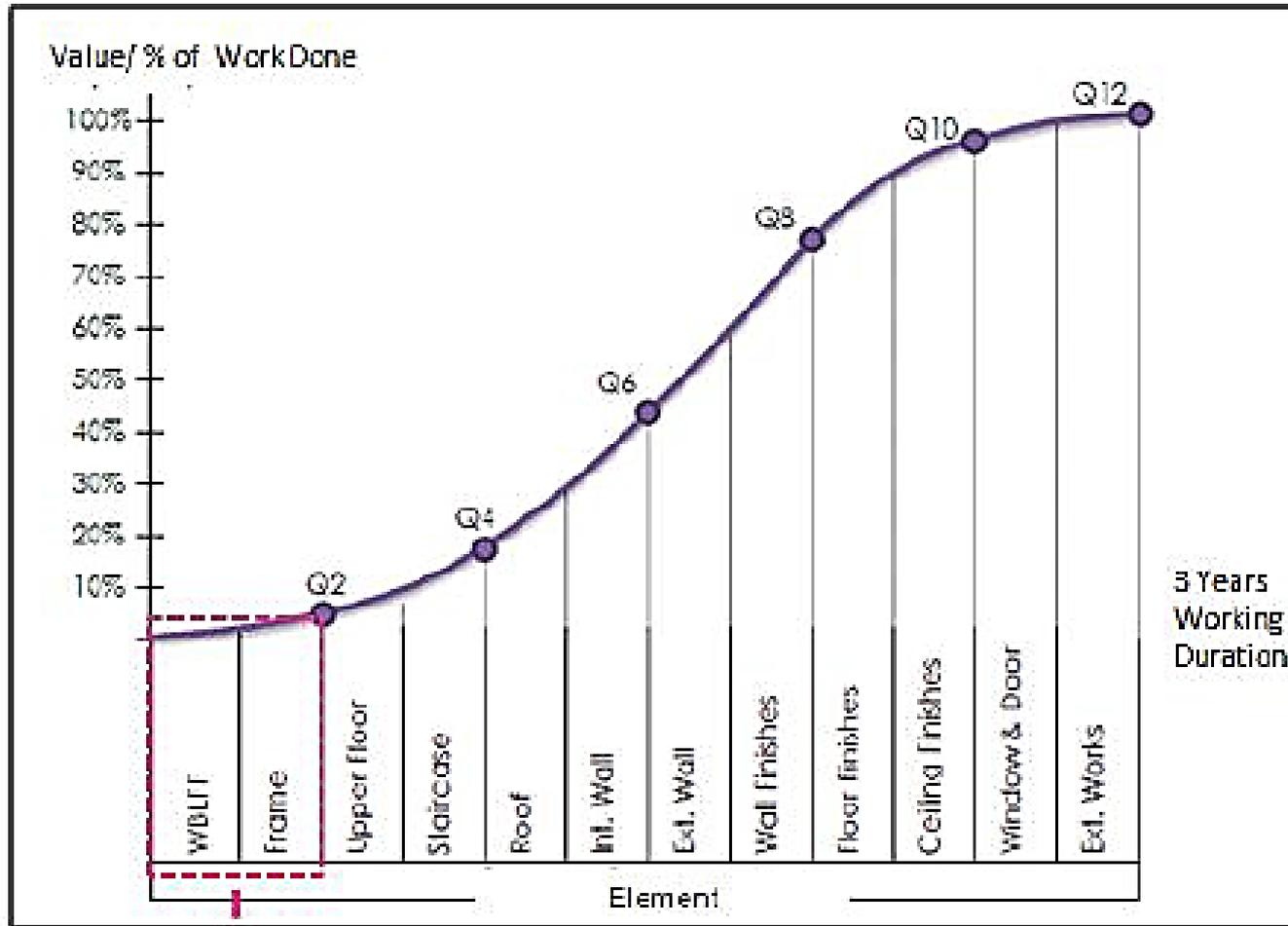
- Covers 7 construction occupations for next 3 years

- Quantification of amount of work by material & building type allows quantification of workers by skill

Example; retailing in Singapore

- *Trend One*: Given the fast-pace adoption of technology in Singapore, more retailers will go 'smart' in 2017 to meet consumers' expectations

- *Trend Two*: Going 'smart' also ties in with omni-channel strategies, the continuing game-changer in the retail scene

- *Trend Three*: Reinvention and redefinition of physical retail space is vital to make it fun and valuable for shoppers to enhance their shopping experiences

Source; Knight Frank, *Q4 2016 Research Bulletin Singapore - Retail*

- What skills are needed to make *your* retail chain *win*?
  - Online v brick and mortar
  - Impact on logistics

Conclusions

- Skills anticipation/forecasting is essential if a country wishes
  - to be competitive in a globalised world
  - to have up to date world class skills
  - to approach full employment
- Skills forecasting requires
  - Strong collaboration between government agencies
  - Engagement with the private sector
  - Understanding and collaboration between all partners especially employers, trainers and learners
- Different approaches to skills forecasting/anticipation may be required for different countries or sectors

Some reference points

- CEDEFOP
  - EU centre for TVET www.cedefop.europa.eu/en/events-and-projects/projects/forecasting-skill-demand-and-supply
- ILO
  - Presentation to come
- Cambridge Econometrics/ Univ of Warwick
  - The ultimate econometric model www.camecon.com/how/e3me-model/

- Countries should *own the process*