CI TRAINING & QUALIFICATIONS RESEARCH RESULTS SUMMARY[1]

BACKGROUND

The design, role and impact of workplace based continuous improvement training and its associated qualifications is much debated and sometimes a controversial area. This exploratory study aims to start to build a picture of the overall landscape and the impact that CI training has on the effectiveness of CI programmes in organisations. A summary of key findings is outlined below, as well as plans for further studies in this field.

DEFINITIONS

In this study **Continuous Improvement** is used as an umbrella term covering lean thinking, six sigma, systems thinking, operational excellence, etc. **Workplace based training** is training delivered predominantly at the workplace, with most learning done at work and assessment via practical tasks. **CI Qualifications** are largely vocational qualifications (mainly) focused on improving business processes. Note that the words **accreditation** and **certification** tend to be used interchangeably by managers in this arena, which can lead to confusion.

The CI qualifications covered in the study are:

- Six sigma & lean six sigma belts (including white, yellow, orange, green, black, master black)

- Lean certifications (Certificates, Diplomas – often linked to BIT NVQ's (in UK), gold/silver/bronze, master/ expert/ practitioner/champion, etc, numbered levels

- University: Masters programmes (though not strictly 'workplace based')

DATA COLLECTION

Data collection took place from June to August 2015 and involved primary and secondary data collection. Primary data was collected via a web based self-completion questionnaire directed at CI managers in organisations that undertake CI training and 41 responses were received, predominantly from larger organisations, operating in a wide range of business sectors on a worldwide basis. Secondary data was primarily collected from the web.

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[1] Report written by Simon Elias, September 2015

KEY FINDINGS: OVERALL LANDSCAPE

LANDSCAPE DESCRIPTION

- There has been a significant growth demand for CI training and qualifications over the last 25 years, with the rapid acceptance and adoption of CI principles and practices. Motorola certified its first black belt in 1991 and now some 2.2 million people claim to have "six sigma skills" (source LinkedIn).

- Responding to this growth in demand, there has been an influx of suppliers of training and qualifications, which have successfully repackaged CI ideas and concepts, creating a range of frameworks and methodologies for application.

- CI training has become a very competitive environment, with a large number of companies entering the market in recent years.

- A new breed of "CI Professionals" has emerged, many now following a distinct career path in CI.

- Providers of training and qualifications can be grouped into four types: consultancies, employers, professional associations/institutes and universities/further education colleges.

- Provider roles vary:

  - some just deliver training
  - some deliver training with qualifications (either their own or another body's)
  - some act as 'certification bodies' and also offer training
  - a small minority act as certification bodies only.

- Notable six sigma/lean six sigma certifying bodies include the International Association for Six Sigma Certification - claims to be the industry standard, with "165 countries...8,000 exam centres", the Lean Six Sigma Academy, APMG International, Lean Six Sigma Society of Professionals, the Council for Six Sigma Certification, the British Quality Foundation and BSI.

- Notable lean-oriented certifiers include SME (leading an SME/AME/Shingo Institute/ASQ partnership), APICS, Kaizen Institute, Productivity Inc., the International Independent Board for Lean Certification, Lean IT Association and the Lean Competency System.

- In the UK, there are several bodies that provide lean certification, often centred on Business Improvement Techniques NVQs, including City & Guilds, Chartered Quality Institutes, BTEC (Edexel-Pearson), NCFC, EAL, Highfield and the Scottish Qualifications Authority.

- There has been a growth in university based lean masters programmes since the first was launched in 1999 (LERC's MSc in Lean Operations). There are now around eight programmes in the UK and five in mainland Europe/RoI and the US. This does not includes the many Logistics & Supply Chain, Quality management, Operations and Systems MSc's in which there are lean modules.

LANDSCAPE - COMMENTARY

- The landscape (particularly six sigma) is characterised by variance on the descriptive terms used, on the number and use of belts/levels, on the requirements to receive these belts, on the amount of training or projects required and on the role of financial return.

- It is largely unregulated, with no single authorising body setting requirements for lean or six sigma certification, and no definitive body of knowledge. There are potential conflicts of interest where training plus certification is performed by the same organisation.

- The lack of a universally accepted definition of lean is considered a causal factor for the variance and lack of regulation. There are different definitions and interpretations of lean thinking and lean continues to evolve (eg manufacturing -> service -> IT, tools -> system, leadership and people). There are many variations to six sigma that have a different emphases and the growth of "lean six sigma" (from c. 2002) has added further complication.

- Six sigma has received particular criticism from some quarters, which has focused on its supposed rigidity and lack of flexibility for adaptation, with claims that it is merely repackaging of old ideas and the negative role of consultants.

- The overall landscape is generally considered to be under-researched, with a need for empirical studies exploring the key areas.

KEY FINDINGS - SURVEY

USE OF CI IN THE ORGANISATION

37% of respondents use it formally, in one or a few areas/functions, while 42% use it formally, in many areas/functions

LENGTH OF TIME FORMALLY APPLYING CI

- Less than 1 year: 29%

- 2 - 3 years: 29%

- 4 - 5 years: 15%

- 5 - 10 years: 19%

- Over 10 years: 7%

THREE MOST COMMON TERMS USED TO DESCRIBE THE CI APPROACH

- Continuous improvement: 32%

- Lean thinking: 19%

- Operational/business excellence: 19%

CI INFORMATION INCLUDED WITHIN THE INDUCTION PROGRAMME FOR NEW EMPLOYEES

37% said it was included.

ARE CI QUALIFICATIONS REQUIRED FOR JOBS THAT INCLUDE CI ACTIVITY?

22% said it was never required, 46% said in a few and 24% said in most.

DELIVERY OF CI TRAINING

Training takes place is a variety of environments, with classroom based (33%), project based with support (27%) and on the job (25%) being the most prevalent.

FREQUENCY OF TRAINING

Delivering programmes on an infrequent/ad hoc basis was the most popular response (46%), while 27% claimed they had continuous training

DELIVERS OF TRAINING

The organisation's Internal CI department (73%) was the most common delivery vehicle, followed by external consultants (22%)

THE TOP SIX TOPICS COVERED BY TRAINING

Lean thinking, problem solving methods, waste identification, visual management, standard work, value stream mapping

MEASURING THE IMPACT OF TRAINING

Two thirds of respondents do measure this and just over half use formal measures (quantitative or qualitative).

CI SKILLS AMONG STAFF

Two thirds want more staff to have CI skills, while 27% claimed to have specific skill shortages in certain areas. No one thought they had the right CI skill levels.

THE EFFECTIVENESS OF CI TRAINING IN PROMOTING THE USE OF CI PRACTICES IN THE WORKPLACE

68% of the sample said it was quite or very effective, while 17% thought it was ineffective

TRAINING ACCREDITATION

37% of respondents said their training was externally accredited and 80% of these thought it had a positive impact (none thought it had a negative impact).

AGREEMENT AND DISAGREEMENT WITH STATEMENTS ABOUT ACCREDITED TRAINING

- "It provides tangible rewards for staff that they appreciate" - 85% agreement
- "It contributes to overall productivity improvements" - 78% agreement
- "It shifts focus too much towards the qualification & not workplace application of CI" - 51% disagreement, 29% agreement.
- "It provides a clear structure around which CI training can be organised" - 85% agreement
- "It is too difficult to measure its real impact on performance" - 68% disagreement, 24% agreement
- "It incentivises staff to apply CI in the workplace" - 46% agreement, 24% disagreement, 24% don't know
- "Unless it is linked to application, then it has little value" - 85% agreement
- "It helps to foster an improvement culture" - 80% agreement
- "Staff are given time to work on CI activities following accredited training" - 56% agreement, 29% disagreement.

MAIN ADVANTAGES OF ACCREDITED TRAINING

Those with LCS accreditation were asked for its main advantages and the three most popular responses were 1) provides credibility & recognition, 2) it motivates and encourages take up, 3) it provides structure, rigour and guidelines to the training approach.

MAIN DISADVANTAGES OF ACCREDITED TRAINING

Those with LCS accreditation were asked for its main disadvantages. Responses included: people wanting the accreditation for its own sake, too much focus on certification rather than what company needs, the time involved and difficulty in encouraging people to implement post training.

COMMENTARY & CONCLUSIONS

The overall impression is that the CI training and qualifications landscape is confusing, with different standards, systems, approaches being adopted by different groups and organisations. There has been significant growth over the past two decades or so, which shows no signs of abating and a CI profession is now firmly established that will continue to demand CI training and education, along with academic, professional and vocational qualifications. The supply side continues to grow in response to this demand.

While there is less divergence in defining six sigma compared to lean thinking, there is wide variance in the training standards adopted, though one six sigma body is developing a market leadership that may help provide some consolidation. Lean thinking is subject to a wide interpretation regarding its definition and the growth of lean six sigma from the early 2000's has added more complexity. The likelihood of an overarching 'governing body' developing is not considered high at present.

The survey suggests that CI training and qualifications can play an important role in implementing CI, engaging the workforce and fostering an improvement culture, though the results also suggest that there are risks if the training is not clearly aligned with application and there is still some work to go in having widespread, clear and objective measures of their impact on business performance and getting the right incentives in place. While CI managers generally appear to believe training delivers value and can play a positive role, data proving a causal relationship (or not) is not yet available.

FURTHER STUDY

A detailed report of the results will be produced later in the year and further larger scale studies are being considered with CI training & qualifications focus in the following thematic areas:

- Workplace learning
- Organisational learning
- Impact on lean application, sustainability and culture change
- Impact on skills development
- Effectiveness of different models and approaches
- Relationship to the understanding of lean thinking