Centre for Lean Projects
NTU NOTTINGHAM TRENT UNIVERSITY

highways england

CLeMM: Customer Led Monetising Method

Step 4: Act

Step 1: Define

Step 3: Analyse

Step 2: Survey

User Guide

Saad Sarhan and Christine Pasquire

December 2016

1. Introduction:

To respond to the problem of assessing the monetary value of the human impacts of Highways England's operational services a bespoke **C**ustomer **Le**d **M**onetising **M**ethod (CLeMM) has been developed. CLeMM is simple in concept, easy to use and adaptable to a wide variety of situations enabling Highways England to use it in surveys, focus groups and other customer consultations for the widest range of stakeholders. CLeMM can be used wherever it is important to be able to provide some degree of monetary equivalence for comparison and decision support (See Figure 1 below for guidance).

The developed methodology relies on asking participants (from the customer system) to distribute a fixed sum (*budget) among predefined factors. This results in a method for monetising that is led by customers' preferences and their judgement of monetary value. An initial set of questions have been tested (see CLeMM Report sections 3.2.1 – 3.2.3) but new questions could be inserted to add to or replace the tested ones. Be aware that inserting new questions will limit your ability to compare to previous results.

A *budget of £100 is recommended as the measurement unit for monetising human impact. This sum is chosen primarily because it is an easy figure for people (customers) to visualise allowing their perceptions to lead the evaluation. An added bonus is that evaluations based on £100 easily convert into a percentage assessment and can therefore be scaled up to guide more meaningful financial studies.
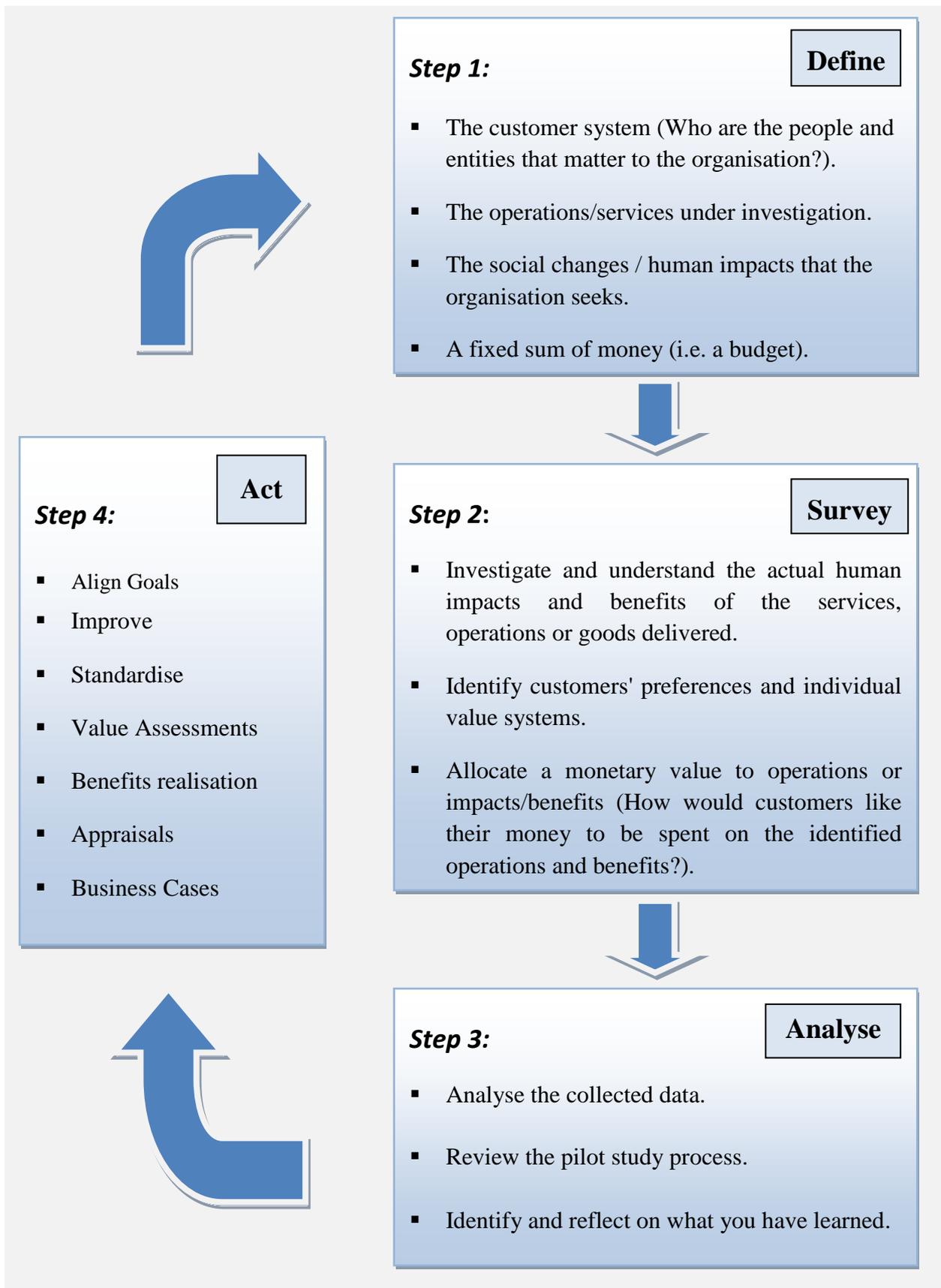
Step 1: **Define**

- The customer system (Who are the people and entities that matter to the organisation?).

- The operations/services under investigation.

- The social changes / human impacts that the organisation seeks.

- A fixed sum of money (i.e. a budget).

Step 4: **Act**

- Align Goals
- Improve
- Standardise
- Value Assessments
- Benefits realisation
- Appraisals
- Business Cases

Step 2: **Survey**

- Investigate and understand the actual human impacts and benefits of the services, operations or goods delivered.

- Identify customers' preferences and individual value systems.

- Allocate a monetary value to operations or impacts/benefits (How would customers like their money to be spent on the identified operations and benefits?).

Step 3: **Analyse**

- Analyse the collected data.

- Review the pilot study process.

- Identify and reflect on what you have learned.

Figure 1: A guide for using the CleMM

2. Using CLeMM

Step 1: Define

i. The customer system – Identify who the people and entities you are trying to understand are, this will be your survey sample. Consider particularly whether you are looking at a cross section or a specific group and why you need to monetise their values and perceptions.

The customer system comprises:

➢ Four million users every day including emergency and rescue services.
➢ Millions of neighbours who live near the network.
➢ Numerous logistic and freight companies.
➢ Industries from all corners of the country.
➢ Thousands of pedestrians, cyclists and equestrians.
➢ Many local communities connected by the road network.
➢ Tax payers (road tax, income tax, VAT) not using or near but fund the SRN.

Based on the 'customer-system' perspective offered by this study, in the context of HE's operational directorate, four groups of customers were defined so as to be targeted for the valuation purposes of the CLeMM (see Figure 2 below and section 2..3.2 in the main report for further details).
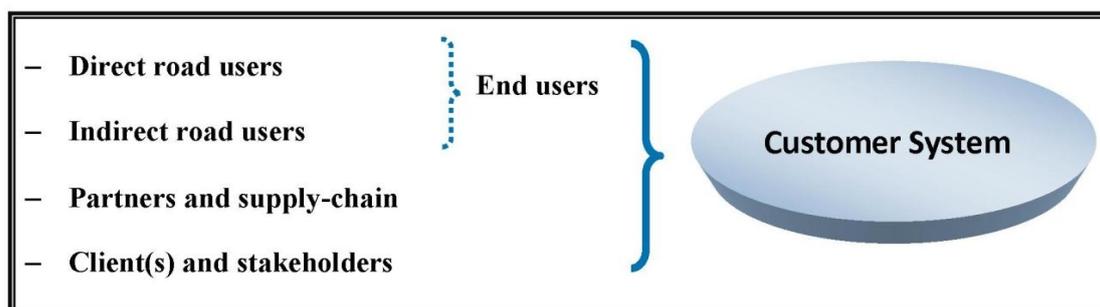

Figure 2. A basic model of the concept of the 'Customer-System'

ii. The operations and/or services under investigation – Identify the aspects of the HE you wish to evaluate and why. The aspects that have already been investigated in a pilot study are illustrated in the main CLeMM report (section 3.2.1 – 3.2.3) and can be used as a starting point.

iii. The desired social changes and/or human impacts – Identify the impacts you wish to investigate. These can be looking to desired future impact, exploratory factors to help understand performance from the customers' perspective, reflect known current performance aspects or a combination of these. Impacts that have already been investigated in a pilot study are illustrated in the main CLeMM report (section 3.2.1 – 3.2.3) and can be used as a starting point.

iv. Ascertain a budget – This is the crux of the developed method and it is recommended that a budget of £100 be used to help the customer system participants to visualise their perceptions of monetary value. However, for large commercial or industrial customers a larger sum may be considered to be more

useful. Care needs to be taken to ensure comparisons can be effectively made between user customer groups if different budget figures are used.

v. Develop a survey instrument – An initial survey instrument was developed and is reported in full in the main CLeMM report (sections 3.2.1 – 3.2.3) along with the questions and first analysis. A web based host was used for the survey and this needs to be copied onto an HE server to allow further surveys to take place. The original questions are contained in the Empirical section of the CLeMM report.

Step 2: Survey

i. Pilot the survey – use a small selected sample to test new survey content before wide distribution. You are looking for ambiguity in content, time required to complete, conflicts and contradictions (unless purposely included) and so on in order to ensure the full survey is made using the best possible instrument.

ii. Distribute the survey – there are several ways to ensure participants in the survey.
   ➢ Random sampling using sample points – An Equality analysis will be necessary to enable HE to meet its general and specific equality duties
   ➢ Publish web link openly – some detrimental impact on sample reliability.
   ➢ Send web link to a selected sample – take care to avoid bias.
   ➢ Request third party to circulate web link e.g. Trade Associations etc.
   ➢ Organise focus groups to complete the survey collectively – allows richer information to be collected through associated discussion.
   ➢ Structured interviews administered using Computer Assisted Personal Interviewing (CAPI).
   ➢ Other methods such as interview at motorways service stations and so on.

iii. If designed and distributed effectively the survey will help you to:
   ➢ Investigate and understand the human impacts and benefits of the services, operations or goods delivered that are to be monetised.
   ➢ Identify customers' preferences and individual value systems.
   ➢ Allocate a monetary value to operations or impacts/benefits (How would customers like their money to be spent on the identified operations and benefits?).

Step 3: Analyse

i. Analyse the results – there are many ways to analyse survey data but this should be driven by the objectives of the study. Are you trying to identify frequencies, averages, trends, tendencies or something more qualitative such as themes or relationships? In all cases there will be bias and context within the study and this needs to be recognised within the subsequent decision making process.

ii. Identify and reflect on what you have learned – all studies contribute to a wider learning within the organisation and it is important to reflect upon this learning.

iii.   Review the pilot study process – part of the reflection and learning process enabling changes to be made prior to the survey proper.

Step 4: Act

i.   Act on the survey results – a range of action can be taken depending on the survey results and the desired outcomes. Potential actions are suggested here but specific guidance is not given as all actions need to follow existing HE policy. The survey results can be used to take the following actions:
   ➤ Align goals (ensure the social changes/ human impacts that the organisation seeks are aligned with the customers' needs).
   ➤ Improve.
   ➤ Standardise
   ➤ Value Assessments
   ➤ Benefits realisation.
   ➤ Appraisals and Business Cases.

3. Empirical Results

A summary of main test results obtained are provided in Tables a and 2 below.

Table1 : How customers would like their money to be spent on the SRN

Rank order	Operation/Service	Distribution of £100 budget
1	Repairing the road surface (potholes, cracks, bumps, patches)	23.77
2	Speeding up the repair process / road works	19.82
3	Investing in information technology (e.g. Smart Motorways, HE traffic information website)	8.91
4	Building new roads / bypasses	8.82
5	Widening the roads	8.41
6	Improving the way accidents / incidents are handled	6.38
7	Improving road signs and markings	4.71
8	Improving lighting	4.2
9	Improving motorway junctions	3.79
10	Keeping the carriageway free from debris	3.09
11	Improving drainage	2.86
12	Making sure the verges are free of litter & trimmed appropriately	2.72
13	Improving traffic and speed camera services	2.52
	Total Sum	**100**

Table 2: Monetising human impacts and benefits

Rank order	Human Impact/Benefit	Distribution of £100 budget
		Average
1	Improved journey time reliability	20.40
2	Reduced stress and frustration	16.30
3	Awareness of the problem causing disruption	13.14
4	Greater perception of safety	12.32
5	Being prevented from having an abortive journey	11.22
6	Confidence that the problem is being looked after	11.11
7	Ability to re-arrange plans	8.47
8	Greater perception of control of your journeys	7.04
	Total Sum	**100**

4. Conclusion

This user guide has been designed to stand alone but is supported by the main research report "Monetising Human Impact – CLeMM Customer Led Monetising Method" published by Highways England at (insert hyperlink to website). This report contains details of the pilot study and the results obtained from the test survey. Here you will also find the original questionnaire and the complete literature review where differing approaches to monetising intangible factors are discussed.

If you would like to find out more about this project, please contact:

Saad Sarhan
Research Fellow,
Centre for Lean Projects,
saad.sarhan@ntu.ac.uk

Christine Pasquire
Professor of Lean project Management,
Centre for Lean Projects,
christine.pasquire@ntu.ac.uk

School of Architecture Design and the Built Environment
Nottingham Trent University,
Shakespeare Street, ,
Nottingham NG1 4FQ
United Kingdom