Cluster Activity Questionnaires: A comparative mapping

Entrepreneurship, Commercialisation and Innovation Centre

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BACKGROUND

In August 2016, UofA met with DTC to develop a questionnaire that evaluated collaborative activities between clustering firms in a cluster. The instrument was a basic questionnaire created by TCI Network Working Group on Cluster Evaluation, which would either be used as is, or amended to suit particular clusters. UofA decided to amend this questionnaire, to encourage a collaborative relationship with DTC so that DTC's information needs could be partially or fully accounted for (where possible), while also attempting to meet TCI's need to standardise a global survey design.

DTC provided a copy of their *Alliance Effectiveness Model* (AEM) with which they sought to evaluate how their clustering firms were effectively using cluster resources for better economic outcomes. DTC used a cyclical process in their model, where specific activities would progress through stages of capability definition as well as creation of connections, contracts and opportunities, which would then repeat. Operational definitions were made of each 'stage', while some metrics measuring activities in these areas were identified. As DTC has reporting responsibilities to the government for continued funding, measures were primarily quantitative.

TCI's questionnaire is also primarily quantitative. Nevertheless, it has some qualitative components in it, such as value statements measured with Likert scales. It's last question was the only open-ended question used as a 'catch-all' mechanism, representing another qualitative component in the survey.

UofA amended TCI's questionnaire for practical reasons. Elements of double barrelled questions needed clarification, as well as minimisation of double-counting bias in particular questions. Additional questions were added to incorporate specific knowledge of cluster activity (from previous research undertaken by UofA) as well as questions to align certain concepts relevant to DTC's AEM (for example, those relating to contract development and security of those contracts).

Finally, but not least, UoFA asked additional questions relating to geographical components as well as questions asking for feedback on the survey design itself, and asking respondents for their willingness to participate in future university – industry research projects.

Meanwhile, DSD had developed an online questionnaire also asking clustering firms about their interest in collaborative activities within a cluster. UofA met with DSD: both shared their thoughts about both questionnaires. Following discussions, a need for a mapping of similarities and differences was identified to determine whether both questionnaires could complement each other or not. This paper describes that mapping, in terms of:

- Objective(s)
- geography
- business relationships
- reasons for collaboration
- frequency of collaborations
- collaboration initiation
- value of the cluster in its operations.

DATA ANALYSIS

Table 1 presents a comparison of items in an online questionnaire prepared by DSD with a questionnaire prepared by UofA.

Table 1 Similarities and Differences: a comparison of two questionnaires

Item	DSD	UofA
Objective(s)	Short standardised quantitative questionnaire applicable to all clusters within South Australia for government funding reporting purposes. Questionnaire seeks to better understand cluster collaboration among clustering firms **and** value of cluster organisation activities from a business point of view. (no differentiation of business size).	Detailed standardised questionnaire applicable to clusters within specific industries and sectors. Questionnaire seeks to better understand cluster collaboration among clustering firms **and** value of cluster organisation memberships from businesses' point of view. There is also an emphasis on understanding relationships in a regional context.
Demographics of the respondent organisation	The survey asks the respondent to provide basic details of their organisation including name, establishment year, primary organisation type, and global main office location (by postcode).	The survey asks general description of the respondent organisation according to industry, sector, and speciality of business. The survey does not ask for the name of the organisation. Other demographics included range tables asking about the no of employees, approximate annual turnover, and economic percentage values of revenue in terms of EBITDA profits, R & D, and exports.
Geography	Limited use of geographical concepts: questions relate only to collaborative activities **inside** and **outside** of a cluster **Postcode** of relevant responding organisation	More detailed use of geographical concepts: questions relate to inside and outside the cluster **and** inside and outside a region. Postcodes were also requested for places where primary decision-making occurred for the company, as well as postcodes of primary ownership of the company. If not Australian, country of origin information was requested instead.
Business relationships	Assumes that respondents understand what a cluster was. Asks respondents to list 3 major organisations that they would collaborate with.	Assumes that respondents understand what a cluster was. Assumes that respondents are formally members of at least one cluster organisation, such as DTC, an alliance or other cluster organisation.

Item	DSD	UofA
Business relationships **(continued)**	For each of the three listed organisations, respondents are asked questions relating to: • reasons for collaboration • frequency of collaboration • initiators of collaboration (brokers of interaction)	Asks the respondent to refer to one cluster manager organisation and answer the rest of the survey in that environment, relating to: • collaborative dynamics • perceived value of collaborative strength • engagement activities as a result of collaboration
Reasons for collaboration	For each organisation listed, respondents are asked to tick as many as applicable, reasons for interaction. This has double counting elements, and no prioritisation of the categories used.	In section E (collaborative dynamics), respondents are asked about reasons why they engaged in particular collaboration activities to a short list of particular collaboration purpose. By using a matrix question to relate the collaboration activity to a specific time frame (12 months), later contingency questions asks respondents to prioritise those reasons in terms of **perceived** returns on investment (ROI - low, med, high, unknown).
Frequency of interaction	For each organisation listed, respondents are asked how often they were likely to interact with that particular organisation (weekly , monthly, yearly, no answer)	Limited to only 12 months before and after the time of survey.
initiators of collaboration	For each organisation listed, respondents are asked to specify who initiated a collaborative activity from within or outside their organisation. Only one category was to be chosen to describe the relationship between the responding organisation and that listed organisation (this was done for all three listed organisations)	A matrix question asks respondents to indicate the number of relationships that were established as a result of collaborative activities within a 12 month time frame. These relationships were specified in three lists associated with specific collaboration purposes ie • non-commercial cooperation • commercial cooperation and new trading relationships • strategic relationships designed to realise or strengthen potential and future opportunities

Item	DSD	UofA
Value of the cluster in its operations	A separate section asks respondents to describe their perceptions of their cluster organisation in terms of its operation. Questions included likert scales measuring : • familiarity with what the cluster 'does' • why they were involved with the cluster (no likert scale) • Satisfaction with the cluster • Potential continued involvement with the cluster • Likelihood of referrals of other organisations to the cluster One open – ended question asks the respondent what one thing would improve the cluster overall.	A matrix question asks respondents to express their values using a likert scale (Agree, Disagree, etc) for value statements about whether: • They identified themselves as being part of a chosen cluster organisation • Working with other member brought long term benefits to their company for specific purposes • There was openness and willingness to share between members of the same cluster • They would turn to this cluster if they needed assistance in some area • They had a common understanding with other member firms of what the cluster's strategic objectives were. An open-ended question asks the respondent to describe in their own words how participation in collaboration benefitted their organisation, with or without a specific example or metaphor.

DISCUSSION

There are relatively more differences than there are similarities between the two questionnaires analysed. Table 2 summarises this comparison further as follows:

Areas of concern	Similarities	Differences
Objective(s)	X	X X
Demographics of the respondent organisation	X	X
Geography	X	X X
Business relationships	X	X
Business relationships (continued)	X	X X
Reasons for collaboration	X	X X
Frequency of interaction	X	X
initiators of collaboration	X X	X X
Value of the cluster in its operations	X X	X X

In general, there are more differences than there are similarities, reflecting different perspectives and objectives of the two questionnaires. Overall, the DSD questionnaire is aims to evaluate the cluster manager contract performance while the UofA questionnaire is targeted toward evaluating business and cluster manager interactions within a cluster organisation.

A significant difference between the two questionnaires is the way respondents were asked to define what type of business they were in. DSD asks respondents to choose from a drop down list of likely business types (including research entities) whereas UofA simply asks respondents to describe what industry, sector and speciality of business they operated in.

Secondly, the DSD questionnaire is a repeat questionnaire (in part) asking the same questions about collaborations between the respondent and three other organisations chosen by the respondent (which also asked for the names of those organisations). The UofA does not ask for names of organisations, but identifies more detailed reasons for interaction and then asking for perceived returns of investment regarding particular collaborative event or activity for that particular 'reason for interaction'.

Thirdly, while both questionnaires were interested in information about the initiation of collaborative events, DSD asks who specifically initiated events between themselves and a specified organisation, whereas UofA asks respondents about the number of collaborative events with any one or more members of the cluster within a specific timeframe (12 months before or after the survey date).

Similarities existed between the two questionnaires regarding the value of clusters in their operations, such as awareness of cluster organisation objectives. Yet how these questions asked for similar information was different, reflecting the different survey styles used, such as the choice of numbers as opposed to words in a likert scale. Both asked open-ended questions to allow respondents to describe collaboration benefits in their own words, yet asks for fundamentally different things – ie *'what one thing would improve a cluster'* as opposed to a free description of *'how being a part of collaborative activities has provided added value to your company. You may want to use an example or metaphor to help describe it/them'*.

CONCLUSION

A mapping of two questionnaires was undertaken to consider whether an amalgamation of questions would benefit a survey targeted to defence sector alliances associated with the Defence Teaming Centre. An analysis of general similarities and differences suggest that relatively more differences exist than similarities between the two questionnaires analysed. While this may provide some options for amalgamation, particular questions may need to be answered before this change could happen. Several questions arise - three are detailed below:

- *Should questions meeting the information requirements of one entity be broad and or specific enough to meet information requirements of another organisation?*
  (UofA, DSD and DTC have very different mandates. Can questions provide enough information for **all three** to progress their mandates?)

- *Are the questions likely to be completed by cluster members who have been already 'screened' and deemed capable of collaboration at a given level?* (this may be an issue for defence sector clustering firms – if so, could more detailed information be gained from a survey targeting these firms?)

- *Completion of many surveys in a small economy like South Australia may induce respondent fatigue or disinterest.* How might collaboration between DTC, DSD, and UofA manage this, given answers to the above two questions?