APPENDIX # 2. Detailed description of coding related to each aim

1) Broad characterization of the state of the ACM literature

As ACM research is an amalgam of different types of scholarship – ranging from conceptual to the applied – axial coding was undertaken to discern the primary orientation of each item reviewed. An item was thus considered to be theoretical if it was purely conceptual and stated so explicitly, or if it had a strong conceptual flavor drawing on empirical examples, but where these cases could not be considered primary empirical data. The item was categorized as empirical if it relied purely on analysis of one or several cases, presented primary data and stated so explicitly or if it had a conceptual flavor but also presented original evidence.

2) Understanding how ACM is defined

To examine how ACM was defined across items we looked for explicit statements of purpose, or the presence of key terms, such as purpose, aim and intention. Given the systematic review and analysis of the research, consideration was also directed at implicit statements of intent. Implicit statements were interpreted and coded under the label 'purpose' if the item conveyed the intent of the ACM action. Some items mentioned multiple purposes and these were each considered and coded separately.

3) Identifying components of the ACM process

Our query into identifying the components (variables) of ACM began with the open coding of all items. Passages were identified which explicitly labeled or implicitly recognized variables of ACM. After the variables were identified through the process of open coding, axial and selective coding were used in a second pass through all of the items to identify all relevant material associated with the themes and to probe the relationships between them.

4) Identifying which outcomes of ACM are being realized

Our query into clarifying the outcomes from the ACM process began with the open coding of all items. In this initial pass through the data the results occurring as a consequence from the ACM process (either during or afterwards) were identified. These preliminary concepts were used as a basis to affix themes to the text data during the second pass of axial coding. Selective coding was then used to further probe the relationship among the outcomes the emerged.

5) Identifying outcomes – success and failure

Open coding began by identifying passages conveying information on success or failure. Axial coding was subsequently used in the second pass through the data to label text data.

6) Drawing insights on how aspects of ACM relate to outcomes

Selective coding was used to examine relationships between categories. In drawing upon categories previously established through axial coding, the category of successes and failures was first examined in relation to the category of purpose. Open coding was then employed to identify factors contributing to the success or failure of ACM. We define factors as key variables or components as well as contextual elements that influence the success or failure of ACM. Axial coding was used to categorize these factors and then selective coding was used to examine their relationship with the categories of actual success and actual failures. We concentrated on the

'actual' category (as opposed to the more speculative potential category) and set a minimum number required for comparability at five items. This number was an arbitrary threshold, but given the low numbers of items for comparisons we believed it would provide some level of 'robustness' for generalizability of assertions if consistency was evident across the items. For each factor (social networks, social learning, participation, conflict of interests) meeting these criteria, we employed open coding to examine them, then went back to the original data in terms of the definition, measurement and findings associated. For example, how did all the items containing the factor social networks define the term, how did they each measure social networks, and what were the findings of the study? Selective coding was then employed to examine these relationships across all items in which the factor was found to determine if anything could be said with comparative consistency.