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The Delphi method as a research tool: an example, design considerations and applications

In this paper they used the “ranking-type” Delphi method. They wanted to find critical success factors for e-commerce in Sub-Saharan Africa (SSA), for that they wanted to find responses for 3 questions.

RQ1: What kinds of physical, economic, and sociopolitical infrastructure are necessary for the establishment of viable e-commerce in SSA?

RQ2: What forms of e-commerce practices in SSA have the most potential for implementation in a period of 3 to 10 years for maximal economic benefit?

RQ3: What practicable solutions are available for challenges in economic policy and managerial strategy regarding viable and beneficial e-commerce in SSA?

They build four different perspective form by the mayor stakeholders in the matter: Practitioners, government officials, officials of NGOs and academics.

The first step is to select the experts, for that task they first split the experts into 4 different panels, base on the type of experts, each panel is 10-18 members, half the members of a panel are from people from SSA. To choose these experts they first identify relevant institutions, organizations, from those they find individuals and build a list of all these individuals. They will ask those individuals to propose new one’s base on their experience. From that list they will find as much biographical information as possible of each member, such as number of papers published, years involve in e-commerce in SSA… At this point their list contain 200 experts, at this point they rank the list based on the skills and qualifications. From the ranked list they will start choosing the experts based on the panel they belong to and start inviting them to participate on the Delphi study. Now they have 4 different panels compose of 10-18 members.

The study will be composed of 6 questioners for a total time of 1:30 hours, over a period of 1-3 months.

Since the research is following the “ranking-type” Delphi method, it will be form of 3 phases, Brainstorming, narrowing down, and ranking the list. For phase 1 they sent the first questioners asking the experts to build two different set of: 6 factors affecting the establishing and growth of business use of the internet in the countries of SSA. And 6 e-commerce applications, practices, or features those practitioners could feasibly implement with beneficial effect within the next ten years in SSA. As well as comments justifying their responses.

Once the researchers got the responses from the questioners, they will eliminate duplicate answers and build a list of all response items with the number of experts that indicated that item, as well as the comments on the experts.

The second questioners will be to send these full lists back to the experts, in order to verify that they have identify correctly the experts’ responses, and to verify that the new list and categories make sense.

Phase 2 is about narrowing down the factors, for this task questioner 3 will be sent asking the experts to choose at least 10 factors from each list. From the experts’ responses the researchers will choose the factors will at least 50% of experts agree on, this yields a list of 20-23 items.

Phase 3 is for ranking the factors in each list. For this questioner 4 will be used, each expert will rank the items in each list with comments indicating their reasons.

Based on each expert rank, the researchers used the Kendall’s W coefficient (0-1, 0 indicating no consensus, and 1 indicating perfect consensus) If the W was above 0.7 it will be consider completed. But if it is less than 0.7, they will resent the ranking questioner, with additional information, the mean rank, the panelist ranking for the previous round, the W value, and a summary of the experts’ comments.

This is kept going until consensus is achieved, or 6 questioners are sent (If this is the case, they will ask the experts if they wanted to continue), or if the mean ranking of two successive rounds doesn’t significantly changes.

From all this they will end with 8 ranked lists, 4 panels and 2 questions.

We can see that they have followed all the steps from the Delphi method:

They choose the panel of experts in the field, although since they asked their first list of experts for recommendations, some experts know the names of other ones in the study, even thought they only used 10-18 experts for each panel, there is a chance that the one they recommended is in the study, so they could ask their friends/colleges if they are indeed in the study. But this will be a rare case event, and overall, the anonymity is kept.

They asked the experts to make a forecasting task, in this case they asked two different lists, and they also asked for comments on the experts’ thoughts,

They gave feedback to the experts during all the process, and they make it iterative until a consensus was reached.

The final forecast is build using all experts forecast.