Results	Yes	No	N/A
Question A	89%	11%	-/-
Question B	100%	-/-	-/-
Question C	2%	98%	-/-
Question D	13%	77%	10%
Question E	91%	9%	-/-
Question F	12%	8%	80%
Question G	16%	84%	-/-
Question H	72%	3%	25%
Question I	10%	82%	8%
Question J	56%	44%	-/-

Results			
Question H	77%	5%	-/-
Question I	45%	55%	20%
Question J	67%	13%	-/-

Results			
Question H		88%	-/-
Question I	12%	-/-	-/-
Question J	100%		

THREE THINGS TO KNOW BEFORE CONDUCTING YOUR OWN SURVEYS

By James Houran, PHD

Questionnaires are popular tools for measuring many outcomes, yet their usefulness can be hugely affected by three key factors of which organizations are typically unaware of – with regards to the people put in charge to develop and conduct a survey, what is their:

(a) prior experience in data analysis;
(b) knowledge of market research and testing;
(c) understanding of unconscious bias in surveys and questionnaires.

Companies should really know the answers to these three points in order to understand and be aware of any potential pitfalls. This special Q&A with a noted survey expert provides insider knowledge to help organizations turn their questionnaire projects into powerful business tools.

Dr. James Houran speaks with Dr. Rense Lange about the importance of getting it right from the get go, understanding the type of data you are after and the best way to obtain it. Dr. James Houran and Dr. Renze Lange raise the importance of being aware of any potential biases when designing surveys or questionnaires – those might be coming from participants, they might be triggered by the structure of the survey or the way questions are asked or they might be caused by the actual way information is collected and/or analysed – and they talk about recent trends and developments that may improve the effectiveness of surveys and questionnaires.

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For many organizations, questionnaires in their various forms are effective and efficient tools for gauging internal and external performance – particularly with the current ease and access to data like never before thanks to new forums such as social media.

It is understandable that organizations aim to save money on survey initiatives, but collecting employee and market data with poorly designed tools wastes money in the short- and long- terms. In the short-term, poor questionnaires are a waste of development time and money. In the long-term, organizations risk making incorrect and costly business decisions based on corrupted data from poorly designed questionnaires. It is unfortunate that many organizations create, conduct and analyse questionnaires on their own – without any guidance from specialists. This can be a costly business mistake.

Readers here are being privileged to a rare insider conversation with one of the world's most prominent experts in psychological testing, measurement and questionnaire research, who also happens to be an exclusive consultant to the AETHOS team. Meet Dr. Rense Lange, a pioneer and highly sought-after expert in applying modern testing and statistical methods to business analytics. In addition to serving on the faculty of the University of Illinois, the Southern Illinois University School of Medicine, and Central Michigan University, Dr. Lange worked for 15 plus years as the lead psychometrician at the Illinois State Board of Education. Now he heads the Psychometrics and Statistics Laboratory at the Lusofona University of Humanities and Technologies, In addition to consulting with governmental clients world-wide.

Being an exclusive part of the 20|20 Assess℠ survey and assessment team (www.2020assess.com), Dr. Lange recently fielded some pointed questions from AETHOS Consulting Group about the pitfalls of questionnaire studies of which organizations should be aware in order to ensure optimal outcomes.

Developing surveys and questionnaires

"Is survey and question design a science?"

Question: Designing surveys and questionnaires is often regarded as something anyone – even non-specialists – can do. Have you seen this attitude mirrored in the hospitality industry?

Dr. R. Lange: Definitely, yes – it is true that many companies are of the opinion that developing surveys can be done by pretty much anyone within their organisation. Unfortunately, I know that too many surveys are constructed based on "instincts" and whatever else seems important to untrained people. But, this really is not the way to good survey design, especially when trying to understand people's attitudes and then predict their behaviours. But, unfortunately, all too often questions are selected based on how interesting or appealing they sound or based on the favourite insights of ones' superiors in the organization.

Instead of a haphazard approach, one needs a systematic, explicit, and reliable theory about people's behaviours that include factors like respondents' beliefs, attitudes and intentions. Even when dealing with the simplest and shortest of questionnaires one has to know all these issues so that the right ones can be included or omitted. I usually follow Fishbein and Ajzen's seminal Theory of Reasoned Action. This approach is very general, while giving excellent validity, especially in combination with Rasch scaling.

"Better leave it to the expert you say?"

Question: Are you saying that letting professionals develop questionnaires should be the preferred route as it not only ensures relevant and valuable data collection but because it also safeguards against potential biases?

Dr. R. Lange: Leaving questionnaire design to 'amateurs' is definitely not a good idea and all kinds of bad reasons. There is a common notion that since we can all talk, we can also all write good questions. This reasoning has the same flaws as saying that since we all went to school we are educational experts, or since we have all been sick we all have medical qualifications.

This will not work for serious questionnaires. I find it amazing to see how million-dollar decisions are quite often made based on shoddy questionnaires, guided mainly by questionable subjective insights and once popular theories that have long been discarded in the scientific psychological literature.

Maybe this is because people do not know how behaviours can be predicted quite reliably from the right indicators. Also, people tend to over-emphasize their own pet explanations and insights based on anecdotal evidence or mistaken media reports. I have even seen cases where making a questionnaire was mostly seen as a matter of typing - so, they just had the secretary do everything.

"What is the biggest mistake when designing questionnaires?"

Question: Expert or not, what are the potential pitfalls one should be aware of when developing questionnaires?

Dr. R. Lange: The main lesson is to be humble. In other words, what the question writer thinks is important should be completely secondary to what the intended respondents think. Do not assume that you already know what people think and why they think so. If you really did, then making a survey would be superfluous, right? So, instead, try to really listen and keep an open mind.

For one thing, this means that one should always do a pilot study before doing the main study. Believe me, no matter how well you think you know people, you will be surprised!
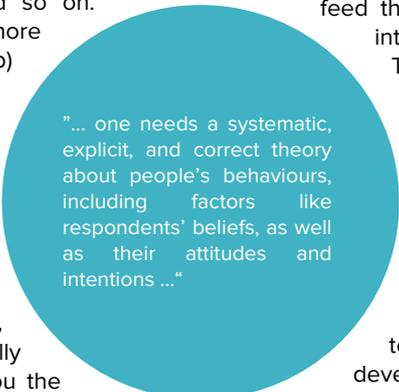
Analysing surveys and questionnaires

"Number crunching"

Question: Most people – even many survey vendors – analyse questionnaire and survey data with traditional approaches like raw-score sums, percentile rankings or percentages. What is wrong about these standard approaches?

Dr. R. Lange: Standard design, analysis and reporting are often wrong and incomplete at so many levels. For instance, take the use of rating scales such as "agree completely," "agree somewhat," and so on. Here it is often assumed that (a) using more answer categories is always better, (b) some "neutral" category is needed to allow people to be non-committal. Both of these "insights" are wrong. Most people cannot handle more than six pieces of information at a time, so do not give them more response categories than that. In fact, to be on the safe side, four categories are probably fine. Also, neutral categories are usually counterproductive; they rarely get you the information you want. Often, neutral categories do not reflect uncertainty or indecision, but instead they hide socially undesirable answers. Many respondents use the middle to say in effect "I do not want to say" or "does not apply."

"… one needs a systematic, explicit, and correct theory about people's behaviours, including factors like respondents' beliefs, as well as their attitudes and intentions …"

The preceding is a direct consequence of the use of poor methods of analysis. I believe that our method of analysis should tell us whether middle categories are used inconsistently - just like they should tell us whether someone is giving valid data in the first place. Second, middle categories are often seen as a panacea for encoding missing data that would otherwise foil standard statistical procedures that are used by most vendors today.

For these reasons, I rely almost exclusively on the use of Rasch scaling. It is infeasible to go into great detail here, but this approach is unique in that (a) missing data are inherently acceptable, (b) we can clearly judge the quality of the data and the questionnaire from the responses, (c) one obtains linear (i.e., interval-level) measures and (d) it can be determined whether (and if so, how much) the data are biased by factors such as age, gender and other demographics. Such information allows organizations to make more targeted and valid business decisions, whereas traditional approaches like raw-score sums, percentages and percentile rankings are severely limited and can even be misleading.

The future of surveys and questionnaires

"Upping the game"

Question: Are there any exciting developments in the field of assessment, surveys and questionnaires?

Dr. R. Lange: First, the increasing use of Rasch scaling. Academic researchers have started recommending, and some advanced large businesses have started exploiting this approach. The business advantage for those who apply these methods in their analytics is huge.

My personal favorite development is the application called "Action Plans." Here we build a mathematical model of the data and this allows us to identify statistical outliers in respondents' answers. We then feed this into our software to generate an interpretation for any observed misfit. The result is a person specific and tailor-made diagnostic profile that can be used in a variety of ways.

For instance, "Action Plans" form the basis for the highly successful 20|20 Skills™ HR assessment. Also, we have applied it to educational testing where experts now tout it as a form of "curriculum sensitive" testing. These are both breakthrough developments.

Our researchers have recently completed the theoretical work to apply the preceding approach to whole groups as well as individual test/questionnaire takers. Thus, we can now segment markets, organizations, etc and provide mathematically correct profiles for entire groups and subgroups.

Second, the use of computer analysis of linguistic data has revolutionized market research. The reader probably knows about the work on Facebook profiles, etc. but there is more. For instance, by extending our work in computerized essay-grading, we found that open-ended written responses correlate highly with Rasch-scaled questionnaire data. These two sources of information can now be combined in a single

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coherent picture. In fact, one can be used to validate and extend the other. In addition, we have found ways to derive important predictor variables, such as personality traits, from people's reactions to generic stimuli that are both easier to obtain and less obtrusive (e.g., their verbal reaction to colorful images).

Today, data gathering, data mining and analysis are an exciting area indeed!

I n conclusion, the insights from our conversation with Dr. Lange can be summarized in three key points:

- **Writing surveys is a skill that requires a specialist to provide proper wording of questions and the collection of valid data.** Most people lack this expertise, so seriously consider investing in professional assistance.
- **Do not assume you already know what your intended audience thinks** – maintain an open mind and have the patience to make evidence-based, not belief-based, business decisions.
- **Proper questionnaire analysis is as important as proper questionnaire design.** The most specific and valid findings derive from modern test theory methods, like Rasch scaling. Raw-score sums, percentages and percentile rankings are severely limited and can motivate wrong business decisions.
- **Large scale computerized text analysis can be used in isolation, or in combination with survey methods.** These two approaches have become complementary as one can be used to validate and extend the other. We have not seen the full impact of this development yet.

Keep these points in mind to extend your approach, while avoiding pitfalls in your survey initiatives. Doing so will transform your questionnaires and other data mining efforts from uncertain exercises to highly effective business tools.

Three Things To Know Before Conducting Your Own Surveys

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About the author: **James Houran** is a founding member of AETHOS Consulting Group and an industrial workplace psychologist. "Dr. Jim" Houran is a 20-year veteran in applied psychological research and a published expert on peak performance, online testing and interpersonal and organizational compatibility. He has authored over 100 articles, and his award-winning work has been profiled by a myriad of media outlets and programs including the Discovery Channel, A&E, BBC, National Geographic, NBC's Today Show, USA Today, New Scientist, Psychology Today and Forbes.com.

He remains a member of the American Psychological Association, the American Psychological Society, the Hospitality Sales and Marketing Association International and the American Hotel and Lodging Association, and serves as Research Professor in the Psychometrics and Statistics Laboratory at the Lusofona University of Humanities and Technologies (Lisbon, Portugal).

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About us: **AETHOS Consulting Group** is a hospitality consulting firm specializing in executive search, compensation consulting, business strategies and transformation as well as psychometric testing and talent management.

We are a group of hospitality experts that value and embody:

- Global citizenship in our perspective and recommendations
- Honesty and transparency in our communications
- Open-mindedness and flexibility in our thoughts and conclusions
- Resiliency in difficult times and situations
- Humility and servant leadership in our dealings with others
- Collaboration and the collective wisdom of groups
- Innovation in helping our clients become market leaders
- Hospitality in our lives and actions
- Sustainability in our personal and professional endeavours
- Optimizing every interaction with each other, our clients and communities

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