Analysis and Impact of Bias in Market Research

***(A behavior-centered analysis*)**

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Abstract - *There is no doubt that today almost every product or service available to consumers, retailers and even producers undergo some form of market research and testing. Market research is an essential part of any company or organization, as it enables the firm to understand specific areas to focus on during the development and launch of a new product/service. While market research has been seen to improve the quality of end products and increase product acceptance amongst consumers, there is still an overlapping gap associated with market research. Often categorized as Bias, this overlap tends to alter the results of research and sometimes disrupts the outcome of a product/service. This paper highlights some biases associated with market research, it provides insights to how bias can affect research results, and finally it proffers some best practices that can be adhered-to by industry experts.*

Keywords: *Market research, research bias, Biases*

1 Introduction

Market research is usually carried out in multiple ways and several techniques are utilized. The most common techniques are surveys, focus groups and interviews—these techniques are effective in gathering insights, attitudes, behaviors and perceptions of consumers; however they tend to introduce some form of bias. Bias in research has been defined as "any force, tendency, or procedural error in the collection, analysis, or interpretation of data which provides distortion" (Tortolani)—therefore bias can affect the outcome of a given study. An impending cause of bias in market research is that occasionally researchers use a single technique, mostly surveys in conducting a study. A drawback of using the survey model independently is that it introduces Common Method Variance (CMV). CMV can be described as "the inflation, or in rare instances deflation, in the true correlation among observable variables in a study." (Naresh K. Malhotra, 2007).

Some market researchers often acknowledge the presence of these flaws, and they constantly strive to limit biases and make adjustments as much as they can—but there have been reports that some market researchers tend to induce bias intentionally as a means to uncover findings that may not be revealed by conventional means (Tortolani). Though this method might yield some positive results, it can be unethical and can distort a study completely if uncontrolled. The main focus here is to underline biases often associated with focus groups, surveys, and interviews, as well as provide instances of how they can affect results.

2 Discussion

As mentioned earlier, there are multiple ways in which bias can be introduced in a study. Regardless if it's a survey, a focus group or interview, the tendency for the results to be somewhat biased is relatively high—depending on the conditions in which any of the mentioned techniques' are employed. To some extent it is arduous to categorically list all types of bias in research, however the most common types of biases in market research are method bias, sample bias, self-selection bias and confirmation bias. It is relevant to note that these biases span across sub-categories and sometimes are addressed as such. Certain researchers have recognized shortcomings in their efforts to mitigate bias in market research, as *Roger Dooley*, a Forbes contributor states "when we interpret customer feedback, or data from surveys and focus groups, it's our natural tendency to interpret the data in a way that is consistent with what we believe ourselves. As the data rolls in, we want to blurt out, "I knew it!" or, "I told you so!" Rarely do we look for other ways of viewing the data, particularly explanations that might prove us wrong" (Dooley, 2013).

While misinterpretation of data is an underlining cause of bias in market research, there are other causes like "*the interpreter in your head"*—a notion that people are often incapable of articulating why they do things or how they would behave in the future (Dooley, 2012). Improper wording on questionnaires is also a cause of bias. It is important to state that bias in research is different from errors. There are several types of errors that can occur in a research during data collection and analysis. Examples are sampling error, nonresponse error, and measurement error—the focus here is on types bias, thus it is of little significance to further elaborate on these errors.

2.1 Method Bias

Method bias is very common in market research; it is an empirical cause of measurement error. Method bias or method variance as it is sometimes called "refers to variance that is attributable to the measurement method rather than to the construct of interest" (Philip M. Podsakoff, 2003). The existence of method bias can pose difficulty in grasping the actual phenomenon that researchers are studying because it

changes the actual associations that would be present with the variables (Naresh K. Malhotra, 2007). Sources of method bias includes but are not limited to social desirability, positive and negative affectivity, and consistency motif (Naresh K. Malhotra, 2007). Method bias can occur when respondents provide answers that are socially acceptable instead of providing more accurate and truthful answers—respondents might understand a question in a different way not intended by the researcher. Method bias is hugely present in surveys and it can be damaging to the final results of a study.

2.2 Sample Bias

A sample is a group of research participants selected to represent a larger group or population (Huffman, 2010). Sample bias often arises from not selecting a truly random sample that is representative of a larger population—it is a systematic difference between the groups being studied. For instance, "much research has been done on the increased safety of having air bags in automobiles. Unfortunately, however, the research has been conducted almost exclusively with men. When some car manufacturers apply findings from this research, with no regard for the sample bias, they create air bags sized for men. Tragically, in the event of a crash, these male-sized bags may seriously damage (or even decapitate) small adults (mostly women) and kids" (Huffman, 2010).

2.3 Self-Selection Bias

Self-selection bias occurs when survey respondents are allowed to decide entirely for themselves whether or not they want to participate in a survey (Olsen, 2008). Self-selection bias is almost unavoidable, as researchers cannot necessarily force participants to respond or participate. Some respondents may be less likely to respond for various reasons; others might be uninterested or utterly unwilling to participate. For example, a school program might record high scores on its evaluation and credit the program as excellent but in reality not everyone in the program actually completed the evaluation questionnaires.

2.4 Confirmation Bias

Confirmation bias is especially common in focus groups and interviews, but not excluding surveys as well. As (Dooley, 2013) puts it, confirmation bias is "the tendency that influences all of us to put more faith in information that agrees with what we already believe, and discount opinions and data that disagree with our beliefs." Take for instance, if a researcher believes that price is the most important consideration in respondents' purchasing choice, the researcher might be tempted to structure questionnaires in a misleading way—e.g. "How important was price in your purchasing decision?" (Petri, 2013) in such conditions, respondents' are almost certainly going to reply "very important."

3 Recommendations and Best Practices

Efforts have been made by clinical psychologists to curb biases associated in medical research—one effective method used in drug testing research is administering of *placebos* to research participants. A *placebo* is a fake (inactive) drug given to participants during a drug testing research; it is used to test the effect of the *placebo* on the participant as opposed to the effect of the actual drug administered to a different participant (Huffman, 2010). Very often, a *placebo effect* is recorded during such studies; participants who received the fake drug without any knowledge of it believed the drug relieved them of whatever condition they might have had. This model has been seen to reduce bias in drug testing research. Conversely, in marketing research, there still arises some controversy about the best ways to approach respondents, or the most effective techniques to utilize in a market research.

Completely eradicating bias in market research is a farfetched notion; nonetheless researchers are finding ways to mitigate causes of bias in research. *Roger Dooley*, an advocate for *neuro-marketing*—a model that analysts' use to study the pattern in which the brain responds to sensory and cognitive marketing stimuli; suggests that researchers should develop a more holistic approach when conducting a research. He also recommends that researchers adopt a different outlook and a broader perspective when analyzing certain situations—an example he explains is adopting Warren Buffet's approach to circumventing confirmation bias. An approach in which Buffet first acknowledges that his decisions could be influenced by confirmation bias, and as such he carefully takes into consideration ideas of his critics' which completely contradict his own.

Measuring respondents' actual behavior as opposed to asking them is also an effective way to reduce bias—this can be achieved by adopting the *neuro-marketing* model proposed by *Roger Dooley*.

Furthermore, *Dooley* recommends that researchers look for alternative means to interpret information, while paying attention to nonconforming opinions within the team or company when analyzing customer feedback. Adopting new ways of working differently like employing creative thinking, engaging participants, talking to specialized audiences, sharing ideas and developing a team perspective as suggested by (Frank & Manning, 2007) can help researchers improve the overall output of market research which in turn can reduce bias. Extra care should be taken during interviews with participants—more conventional means should be developed when designing surveys, misleading questions should be avoided; it is imperative for the researcher to understand the strengths and weaknesses of each question type they will be using, this way the question and its' options will not only be chosen correctly but can be tailored in order to provide only the most useful data. (Penwarden, 2013).

Pretesting is an important approach to help reduce bias in market research—it is essential to use pretesting to ensure that there are no issues with the proposed choice of styling. Although pretesting can be a repetitive process, proper precision should be taken when analyzing various pretest results. Meta-Analysis is also a way to elude bias, especially in quantitative research—meta-analysis is a statistical procedure in which data collected with different techniques from different studies are combined and analyzed. Additionally, real-time experience tracking (RET) can be used to collect accurate data, while biometric belts and electroencephalography (EEG) caps are effective tools that could be used by researchers. Likewise techniques, ranging from reading facial expressions to measuring tiny differences in reaction time can also be utilized to minimize bias. Researchers can also adopt "exploring" techniques where they can spend time with consumers in their homes, place of work, and comfort zones—examining behaviors and looking for contradictions.

4 Conclusions

While it is relevant to recognize that bias is ubiquitous and must be seen predominantly as a function in a study design, not of the results, it should be addressed early in the planning and designing phase of the study. Market research has unarguably made enormous advancements both quantitatively and qualitatively. Incorporating technology overtime has helped market research significantly—market researchers and industry experts have now coined the term "Big Data" to connote the enormous amount of data available in real time. Social Media has made it relatively easy to get slightly accurate data from consumers—data mining has been a fundamental technology used by researchers to collect accurate data; data storage has become cheap and easy to access, consequently customers are naively providing researchers with vast information more than ever before.

Finally, it is important to keep in mind that cost can affect the design of a research, hence some small organizations may not necessarily adhere to some of the best practices underlined in this paper, however the future of market research remains progressive.

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