AN EMPIRICAL COMPARISON OF COMPUTER-BASED CONJOINT VARIANTS IN MULTI-ATTRIBUTIVE PURCHASE DECISIONS

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ABSTRACT

The analysis of purchasing decisions is one of the key challenges in marketing and market research. In this regard, a particularly appropriate method which is widely applied both in research and practice is Conjoint Analysis. However, Conjoint Analysis in its traditional form cannot be recommended for the analysis of complex decision-making processes, as it is only able to integrate a small number of attributes. Complex decision-making processes however oftentimes involve between 10 and 20 relevant purchase criteria which moreover can be based on individual reasons.

Due to the fact that a multitude of buying processes is characterized by complex decision-making situations, numerous conjoint variants have subsequently been discussed that enable a higher number of attributes to be integrated in their study design. Nevertheless, there is no clear evidence on which variant perfoms best in regard to complex purchase decisions, as there is a clear lack of comparative studies among these competing techniques. Our research helps to fill this gap by comparing the Adaptive Conjoint Analysis (ACA) and the Hierarchical Individualized Limit Conjoint Analysis (HILCA). A comparison of these two variants thereby seems of special interest, as both variants – in contrast to the other existing developments – come with their own software to support the interviewing process and thus are easily to apply both in research and practice. Moreover, until now, the older approach ACA constitutes the predominant approach that is used for the analysis of complex purchase decisions. It is thus especially interesting to see, in how far HILCA – which has only recently been introduced in the literature – represents a viable competitor. In this context we express the assumption that HILCA even provides greater value in relation to purchasing behavior than ACA does, since it models complex decision-making situations more realistically. This is due to the fact that the HILCA survey steps match assumptions made in information processing theory about how people handle complex information. As a consequence the survey design in HILCA is individualized. The ACA methodology, in contrast, is not derived from any theoretical knowledge on consumer behavior. The survey design is standardized.

Using a representative sample German individuals who had purchased a notebook computer in the past two years, received one from an employer, or who plan to purchase one within the next six months we conducted 367 HILCA interviews and 387 ACA interviews with the help of the market research institute GFK in order to test our assumption. In an effort to include all attributes relevant to the complex purchase decision of a computer notebook, 19 attributes with two to five levels each were definied in cooperation with a notebook computer producer. In order to be able to compare ACA and HILCA not just based on plausibility factors three choice sets were presented at the end of both conjoint interviews – each consisting of three fully described notebook computers – for which the test subjects had to indicate whether, and if so which of the products he or she would purchase.

Altogether our findings of the first comparative study between ACA and HILCA confirm the assumption that HILCA is superior to ACA in multi-attribute study situations. With regard to both the plausibility of results and internal consistency, HILCA achieved better results than ACA. In regard to the first our study also confirms the widespread critic leveled at ACA that it leads to an assimilation of the relative importances of attributes. In contrast, HILCA yields a more pronounced spread of attribute importances, which – for example when the price attribute is considered – matches real market conditions in a more transparent way. In regard to the latter an internal consistency of 57.96% was found for HILCA and 36.78% for ACA, whereby this difference is significant with an error probability of less than 0.01%.

Nonetheless, it must be stated that ultimately an absolute value of 57.96% accurate decision prediction is still unsatisfactory from a market research perspective and clearly requires methodological improvements. As both ACA and HILCA interviews exceed 30 minutes, one avenue of approach hereby involves efforts to influence cognitive loading and the involvement level of the test subjects within the conjoint interviews. Moreover it should not be overlooked that this was the first comparative study of conjoint variants being applied in multi-attributive decision situations. Thus for HILCA to become an established and well-known market research method both in theory and practice, the method first of all needs to be further empirically verified.

References Available on Request.