Construction of Country-Specific, Yet Internationally Comparable Short Form Marketing Scales

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Marketing scales are often too long. Second, existing scales may not be fully informative in cross-national studies. To address these issues, we propose a new model that yields fully country-specific, yet cross-nationally comparable short form marketing scales. The procedure is based on a combination of hierarchical item response theory and optimal test design methods. Our procedure presents an important step toward resolving the emic-etic dilemma that has plagued international marketing research for decades. In the empirical section, we demonstrated the procedure on the SNI scale. Different items were selected in different countries, and scale length varies across nations.

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EXTENDED ABSTRACT

Using scientific methods of measurement, analysis, and interpretation are the foundation of marketing’s claim to be a science. In the last decades, measurement of consumer behavior and marketing constructs has improved tremendously. Our discipline has also started to systematically catalogue our measurement knowledge in influential handbooks of marketing scales. The popularity of these books is due to marketing science’s strong desire to use measurement instruments that are rigorously validated in previous research, rather than ad-hoc constructed scales. However, at least two important issues remain.

First, existing scales are often too long for administration in non-student samples and applied studies. Long scales are well-known to lead to higher costs of data collection, respondent fatigue and frustration, and respondent attrition. Consequently, researchers have started to develop short-forms of existing scales. Moreover, existing common practice to select high-loading items for a short-form does not allow the researcher to measure particular ranges of the latent construct with varying precision, even if academic or managerial insight dictates otherwise.

Second, while it makes much sense to start scale development in the largest, most advanced economy of the world, it is increasingly recognized that marketing theories and measurement are affected by socioeconomic, institutional and cultural contexts. Unfortunately, international marketing research presents important measurement challenges. Scale length becomes an even more pertinent issue as data collection costs multiply by the number of countries. The educational attainment of non-U.S. respondents is often lower, making respondent fatigue and attrition even more problematic. Moreover, it is not obvious that U.S.-developed measurement items are equally informative in other countries. The scales may contain items that are not informative about the underlying construct in particular countries, while relevant items tapping into local cultural expressions of the construct in question may be missing. Although researchers have acknowledged the problems with standardized scales (also known as “imposed etic scales”), the question is how to compare country scores if the set of items differs across countries. What is needed is a method that evaluates the information content of items for each country, allows for shorter scales and country-specific items, and yields sample-independent item characteristics that can be used by other researchers in new samples, while still enabling substantive cross-national comparisons across countries.

For this purpose, we propose a new model that yields fully country-specific, yet cross-nationally comparable short form marketing scales. The procedure is based on a combination of two powerful psychometric tools: hierarchical item response theory (IRT) and optimal test design methods (OTD). Hierarchical IRT has recently been introduced in the marketing literature, while OTD has not been used to date. IRT-based item parameters are sample invariant, and hence, can be used to score respondents in new samples on the same underlying scale. This allows comparison of new findings with previous findings, whether obtained in the same country or in other countries where the model has been applied before. This is another step towards generating a rigorous bank of marketing data and findings that is characteristic of science. The procedure is flexible in the sense that the researcher can specify various constraints on item content, scale length, and measurement precision. Researchers can either impose that the scale length varies across countries, or impose a fixed length across countries at the expense of cross-nationally varying reliability. Moreover, precision can vary along the trait continuum, dependent on a researcher-specified distribution.

Our procedure can be used to construct a short-form marketing scale in a single country or in multiple countries. Since our procedure allows inclusion of country-specific (or “emic”) items in standardized (or “etic”) scales, it presents an important step toward resolving the emic-etic dilemma that has plagued international marketing research for decades.

In the empirical section, we demonstrated the procedure on the susceptibility to normative influence construct. There is a resurgent interest in social influences on consumer decision making. When making product choices, consumers are frequently influenced by preferences of others, such as family members, friends, neighbors, and so on. The dominant measure for consumers’ susceptibility to normative influences (SNI) is the unidimensional, 8-item scale developed by Bearden and colleagues. It measures the predisposition to being influenced by others when making purchase decisions. This scale has been used successfully to study social influences on various aspects of consumer behavior such as attitudes toward brands and advertising, consumer confidence, protective self-presentation efforts, purchase of new products, consumer boycotts. Our dataset contained 28 countries across 4 continents. We developed cross-national SNI scales for each country. The results indicated that different items were selected in different countries, and that scale length indeed varied across nations. In other words, an item is differentially useful to measure latent constructs and some countries require more items than others to obtain a certain acceptable precision for the latent construct.