This essay was written to honor Professor Edoardo T. Brioschi for his many years of university teaching, research, and service. He has generated and transferred useful new knowledge about international marketing to many students, business managers and government officials.

INTRODUCTION

The purpose of this paper is to provide information to academic and business researchers on the use of the translation/back-translation process to conduct cross-cultural marketing research that will yield reliable and valid results. Such information was acquired from studying the research literature and from conducting cross-cultural research projects. Additional details from the author’s experience, beyond those presented in this paper, can be gleaned from a few of his publications that described or used cross-cultural research methods in England, Germany, Japan, Korea, Norway, Thailand and the USA, e.g. Choi and Miracle (2004), Miracle and Bang (2002), Miracle, Bluhm, Bluhm, Choi and Li (1998), Taylor, Wilson and Miracle (1997), Taylor and Miracle (1996), Miracle and Chirapravati (1995, 1994), Taylor, Miracle and Chang (1997), Taylor, Miracle and Wilson (1994), Miracle, Maenaka and Chang (1993), Miracle (1992), Miracle, Taylor and Chang (1992a, 1992b), Miracle (1991), Miracle, Shimamura and Lew, (1990), Miracle (1990), Miracle, Chang and Taylor (1990), Miracle (1988). The author’s research experience was augmented by university teaching or other professional experience in Austria, Belgium, Canada, Denmark, Italy, Malaysia, Netherlands, Spain, Switzerland, Turkey and Ukraine.

This paper is limited to discussion of the use of the translation/back-translation process in international marketing research. However, the references in this paper also contain information on other research methods that are necessary to conduct cross-cultural research, e.g. sampling methods, pre-testing the several aspects of the research design and materials, training supervisors, recruiting and training coders or interviewers, reliability testing procedures, and statistical analysis.

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International marketers produce products and services in one country for sale in one or more other countries. Markets in different countries often have diverse cultures, economies, legal systems, political conditions, social organization and structure, and technological sophistication. International marketers need reliable and valid information on these diverse market conditions, as well as on the specific effectiveness of marketing activities under such varying conditions. Information is needed not only so that marketers may operate profitably, but also so that the market system may function properly and thus benefit society as a whole.

Marketing research can provide many kinds of information, especially to define the size, extent and scope of markets in socioeconomic or psychographic terms, or to explain and predict the behaviors of individuals and organizations that are important actors in the marketing process. Often the behaviors of consumers, marketing employees, and marketing organizations, differ widely from country to country. Such behaviors must be understood by international marketers if they are to serve customers and society successfully in multiple countries.

Not only do international marketing researchers in business need to know and use appropriate research methods to obtain reliable and valid information for decision making, but academic researchers also need appropriate research methods in order to generate and transfer new knowledge about international marketing. In particular, academic researchers have the responsibility to develop useful new theories and new research methods and to disseminate them to: (1) students, to help them to prepare for careers, (2) business managers, to help them to make improved decisions, and (3) government officials, who make public policy or regulatory decisions.

International marketing research by academic and business researchers takes many forms including collecting, analyzing, processing and interpreting existing statistics or other information from published sources. Such information includes socio-economic data and information on laws, government regulations and political conditions. International marketing research also includes qualitative studies such as focus groups or in-depth interviews—to obtain tentatively useful information or to formulate hypotheses for testing on larger representative samples. International marketing research also includes content analysis of advertising messages in the several media, surveys of consumers or marketing intermediaries, and experiments. Experiments include the use of test markets as well as experiments dealing with the behavior of individual business customers or consumers.

International marketing research methods encompass not only the entire range of problems encountered when doing research within one country, but also problems that arise from the differences in international markets. Research decisions include sample selection, preparing data collection instruments and other research materials, recruiting and training supervisors and research personnel to collect the intended data, and selecting methods to process, analyze and interpret the findings. Many of the research methods that are useful in one-country studies can be adapted for use in multiple countries. But cross-cultural research also requires a number of additional methods, including selecting comparable samples from different kinds of populations, selecting different data collection methods in some of the countries when some types of methods might be possible or practical in some countries but not in others (e.g. the internet, mail, personal interviews, telephone interviews), preparing translations and back-translations of
research materials (e.g. research instructions, data collection instruments), selecting sources of translators and research personnel, and training and supervising them.

**THE CONCEPT OF CULTURE**

Cultural diversity underlies many of the problems associated with doing international marketing research that yields reliable and valid research results. The diverse attitudes, beliefs and behaviors of respondents and of research personnel are related to cultural diversity, and are reflected in the effectiveness of communication that is essential to the research process. It is important to define culture and to explain the nature of the lack of equivalence between cultures, since such knowledge is essential to understand how to use translations effectively to achieve reliable and valid results from cross-cultural marketing research.

The concept of culture is elusive. Although culture has been defined in many ways, for our purposes it seems suitable to use Hofstede’s (1984) definition: «...culture is the collective programming of the mind which distinguishes the members of one group or society from those of another... culture is reflected in the meaning that people attach to the various aspects of their life; their way of looking at the world and their role in it; in their values, that is, what they consider as “true” and as “false”; in their artistic expressions, what they consider as “beautiful” and as “ugly”». From the standpoint of marketing, an important question is how culture influences consumer purchasing behavior or the behavior of the marketer’s personnel or marketing intermediaries.

*The Emic-Etic Distinction*

An emic generalization is one that is valid only within a single culture. An etic generalization is one that is valid in two or more cultures. Cross-cultural research is concerned with identifying and distinguishing emic from etic generalizations. Etic generalizations depend on the equivalence of culture between two or more societies. If the international marketing research is to produce reliable and valid results, the language of the cross-cultural research materials must be equivalent and contain no emic material.

*Equivalence*

Cultures have both differences and similarities in the ways in which language is used to express ideas and information. These differences and similarities can be grouped into functional, conceptual or linguistic characteristics of a culture and language.

*Functional* differences and similarities of cultures relate to behavioral phenomena. For example, it may or may not be customary to eat a particular food for breakfast, or to use a bicycle for the same purpose (e.g. for pleasure, or for basic transportation). Functional differences or similarities among cultures can influence many details of the marketing plan, for example, what products or product lines should be marketed, or what selling points should be employed.

*Conceptual* differences and similarities of cultures relate to the existence or non-existence of certain ideas or ways of thinking. For example, certain colors may or may not have the same the same meaning: white may signify purity in one country and death
in another. The concepts of «ethnic» and «foreign» may be different in the USA, but virtually identical in Korea. What is humorous in one nation may not be at all humorous in another. Conceptual differences or similarities among cultures can influence, for example, the brand name, logo or design on a package; or the creative strategy and execution of the advertising.

*Linguistic* differences and similarities refer to the richness of a language and translatability of functions and concepts from one language into another. Some languages are richer than others in that they have more nouns, verbs, adjectives, adverbs or other parts of speech, or more metaphors, similes, or idioms available to convey nuances in meaning. For example, French has been the traditional language of diplomacy in Europe, since it is said to have more varied and nuanced diplomatic expressions than other European languages. Sometimes it is problematic to translate material from a rich language into a less rich language.

Often words in one language do not have precisely equivalent words in another language, or words are translatable but require lengthy explanation to express the full idea; for example several sentences may be required to explain in English the German word Gemuetlichkeit (sociability/coziness/geniality, etc.), and even then the word may not be fully understood in translation. Meaningful idioms or metaphors in one language may be entirely meaningless in another, for example the US expression: «It is as easy as rolling off a log».

Sometimes the same word commonly used in two languages does not have exactly the same meaning in both languages. The word «marketing», has been incorporated into other languages, but the meaning is much more limited in some languages compared to the meaning of the word in English; the German word «Arbeit» (work) has been incorporated into the Japanese language, but it means «part-time work». Since effective communication between individuals on the marketing staff, marketing intermediaries and customers is essential, linguistic differences and similarities may, for example, influence personal selling activities, sales promotion, or retailer/wholesaler or exporter/importer relationships.

**DETERMINING RELIABILITY AND VALIDITY**

Reliability and validity are important for all research methods, including content analysis, qualitative analysis, survey research, or experiments. Reliability and validity are especially important in cross-cultural studies where the issue of comparability across markets is crucial. Great potential to cause differences in the reliability and validity of research stems from the language of a coder or interviewer, or from a survey respondent’s frame of reference, or more generally from differences in their respective cultural backgrounds. Therefore, special attention should be paid to the emic-etic distinction and to the types of equivalence of the language used in the data collection forms and in the training of coders, interviewers or those who record data from experiments.

Reliability and validity are separate but related concerns. Reliability includes: (1) *stability*, the degree to which a process is invariant or unchanging over time when measured at different times by one observer; (2) *reproducibility*, the degree to which a process can be recreated under varying circumstances at different locations by different coders, interviewers or observers who measure experimental results; and (3) *accuracy*, the degree to which a process functionally conforms to a known standard, or yields what it is designed to yield. Accuracy is the strongest reliability test, surpassed only by
a measure of validity that assumes the known standard must be true (Krippendorf, 1980).

Perrault and Leigh (1989) have provided an index of reliability that is widely accepted and used in marketing research. Other researchers also have provided excellent discussions of reliability, e.g. Rust and Cooil (1994), Taylor and Stern (1994), Franke (1992), and Hughes and Garret (1990).

The translation process is important to create an equivalent research design, data collection forms, and research procedures across two or more cultures. It is widely recognized that poor translations can decrease reliability. But it is also possible, and not so widely recognized, that some problems can occur that increase reliability, for example: (1) Translators may have a shared set of rules for translating certain non-equivalent words and phrases, (2) Some back-translators may be able to make sense out of a poorly written target language version, or (3) The bi-lingual person who translates from the source to the target may retain many of the grammatical forms of the source (Brislin, 1970). Should any of these eventualities occur the result may be high reliability but low validity. In order to secure consistent measures, translations and back-translations should be done by those who are knowledgeable not only about the languages, but also about the subject of the research.

The meaning of validity can vary from study to study, depending on the investigator’s purposes (Holsti, 1969). Generally, validity means whether or not the information is indeed correct. The judgments on validity depend on the care with which a research project is designed and the details of the research methods utilized to carry out a project.

The relationship between reliability and validity is also important. First, if the results are unreliable, they are not likely to be valid. Secondly, a satisfactorily high degree of reliability often fails to guarantee the validity of research results. Reliability is not a sufficient condition for validity. The main thrust of the remainder of this paper is to illustrate translation/back-translation methods to improve reliability and validity.

THE TRANSLATION/BACK-TRANSLATION PROCESS

Data collection instruments and other research materials must necessarily be prepared in one language first, and then translated into other languages. The variables to be studied, or the questions to be asked, also are typically drawn from the literature of the country in which the project is conceived or from the needs of the marketer for information on which to base marketing decisions. But it is also wise to review the relevant literature that is available in other countries in which the research will be conducted. Such literature reviews often yield substantial insights into how to design the project details. For example, the literature in two or more countries may help to determine which items on the data collection forms are emic or etic.

One technique to deal with problems of equivalence is to: (1) use one or more persons to translate materials from the original language into a second language, (2) translate the material back into the original language, and (3) compare the original materials with the back-translated version. Multiple translators may be needed to determine if differences in translations are genuine or just an artifact of a particular translator.

In each translation step, it is important for the translator to translate into his or her own native language. It is not only easier and quicker to translate into one’s own native language, but more accurate. A translator should have a current knowledge of his or her native language from recent experience, since languages evolve continuously and the
translator must be up to date. The cultural, economic and social backgrounds of translators are also important regarding their “view” of functions, concepts and linguistic characteristics of languages. The translators should also be knowledgeable about the topic of the research, especially the technical language of advertising or other topics in marketing, as appropriate. Miracle (1988) reported more fully on the requirements for effective translators.

The translation/back-translation process is simple when only two languages are involved. But it becomes complex when an ideal translation/back-translation scheme is used for three (or more) languages, for example, between English, Japanese and Korean, as shown in Figure 1.

**Figure 1 - An Ideal Translation/Back-Translation Process for a Three-Nation Study**

Sequence one:

E------> K------> E, compare with original E  
K------> J, compare with J in the sequence below  
J------>K, compare with K in both sequences above and below

Sequence two:

E --------> J -------> E, compare with original E  
J -------> K, compare with K in the sequence above  
K-------> J, compare with J above in both sequences

Notes: 1. E = English, K= Korean, J= Japanese; 2. The direction of the arrows shows the direction of the translation from one language into the other.

When a back-translation is compared with the original, it is common to discover many differences. In a three-language study, much is learned from the sequences in lines one and four in Figure 1. But essential information is also obtained from the sequences in lines two, three, five and six. Emic concepts will likely be identified, as well as differences that appear to be functional, conceptual or linguistic non-equivalence. Most of these can be resolved by discussion, and the materials can be revised and again put through the translation/back translation processes. The “problems” that are identified can also serve as useful input for training coders, interviewers or subjects who record the information on data collection instruments. Thus, this process leads to a standardization of the meaning in the data collection instruments and the explanatory materials for coders, interviewers and the subjects of experiments; the instructions to guide the coder/interviewer training process; and other research materials.

**Special Problems of Translations**

Although much international marketing research is done in markets in which the same alphabet or essentially the same language symbol system is used, it is important to keep in mind that the Cyrillic alphabet is used in Slavic languages, and entirely different symbol systems are used in Arabic, Chinese, Japanese, Korean, and Thai, to mention only a few. To the unwary, different symbol systems can cause unexpected problems in the translation and back-translation process.

To illustrate the kinds of unexpected problems that can arise from differences in
symbol systems, the following example occurred during one of the author’s US/Japanese projects. For what appeared to be a particularly «difficult» set of concepts to translate, a translation/back-translation from English into Japanese and back into Japanese showed remarkable agreement between the original English and the back-translated English. This agreement suggested incorrectly that there were no problems of equivalence. But, upon investigation it was found that an unusual kind of error had occurred because of the specialized use of one of the three symbol systems that are used in Japanese. The Japanese language is written with: (1) Chinese characters or symbols known as kanji; (2) indigenous Japanese symbols known as hiragana, and (3) indigenous Japanese symbols known as katakana. All three symbols may be used in the same sentence. The katakana symbols are used for transliterating foreign words so they can be pronounced by the Japanese. If a kanji or hiragana symbol is not available to express a foreign concept, idea or word, the Japanese can write the foreign word in katakana, and they can spell it and pronounce it without understanding the meaning of the foreign word. Thus, the original translator can render the word in Japanese, and the back-translator can render the word back into English, without either one of them understanding the meaning. For example, the word «miracle» becomes a four symbol word mi-ra-ku-ru in Japanese katakana. A translator who knows only limited English could back-translate mi-ra-ku-ru into miracle, without understanding the meaning of the word. Fortunately the principal investigator in this study knew about the uses of katakana and immediately suspected what had occurred.

Virtually all translations from one language into another suffer at least a little from a partial rather than a full correspondence in the meaning of words. Among the many foreign words in Japanese that are normally written in katakana, many of them lose part of the original meaning. For example, the Japanese expression in katakana for «computer graphics» carries only the meaning of a picture, a drawing or a sketch. Likewise, the katakana word for «animation» carries only the meaning of «comics» or «cartoons». On the other hand, some foreign words in Japanese take on new meanings. For example, the main meaning of the katakana rendering of the English word «skeleton» in the Japanese language (se-ke-ru-ton) carries the meaning of «outline» (as used when referring to an outline or table of contents of a book).

Training and Using Translators

Depending on the type of study, research materials that need to be translated may include not only data collection instruments, but also sampling specifications, instructions for interviewers or coders, instructions for administrators to recruit and train interviewers or coders, detailed operational definitions of items or terms on data collection instruments, and sometimes additional related materials. Several general considerations for selecting translators for these many tasks were described above. Now a detailed description of how translators are trained and controlled will be presented.

The initial research materials are usually written in the language of the country in which the research is initiated, say for example in English, and then translated into another language or languages, say Korean and Japanese. In such a three-nation study that begins with English-language research materials, it is desirable that all of the English-to-Japanese and the English-to-Korean translators (but not the subsequent back-translators) should be part of the research team and should meet regularly with the rest of the research team during the planning and discussion of all phases of the project.
They should participate in the pilot studies in order to learn from them, especially to participate in the discussions of probable emic and etic concepts and probable difficulties with equivalence. If the translators participate in the development of the details of the research design, they will be prepared to translate the real meaning of the English language in the research materials into Japanese and Korean. If translators cannot participate in the development of the study in these ways, their later training must include the information that they would otherwise gain from such participation—not an easy task.

After the initial translations from English into the other languages have been accomplished, native English speakers should be used to translate the materials from Japanese and Korean back into English. They should have had no prior connection with, or knowledge of the nature of the study and the materials to be translated. But they should be generally knowledgeable about research and about the general subject of the study. The Korean-to-Japanese and the Japanese-to Korean translators (See Figure 1) should meet the same requirements.

Sometimes it may not be possible to find a native English speaker with the necessary background and language skills to perform the back-translation properly. If so, it may be necessary to devise a substitute process. In one study by the author (see Miracle and Bang 2002), a fully competent native English translator could not be found to translate the Japanese back into English. Therefore a substitute process was devised. Two English-speaking native Japanese non-members of the research team were selected, each to do an independent «rough concept translation» of the Japanese into English. These two translators then met with a native English-speaking non-member of the research team who had the following characteristics: (1) an elementary knowledge of the Japanese language, and (2) a professional knowledge of the subject of the research (advertising) from a 30-year career in that field, and (3) a knowledge of Japanese advertising from a recent four-year employment with a Japanese advertising agency in Tokyo during which he worked with native Japanese to produce advertising for Japanese consumers. The Japanese translators then explained carefully to the native English speaker the full meaning and nuances of their back-translations. The native English speaker then expressed the material in proper English, and put the concepts into appropriate professional language suitable for comparison with the original English. This process also served to overcome the katakana transliteration problem described earlier.

After the back-translation process was completed, the back-translated material was compared with the original, and the members of the research group discussed in detail the problems of equivalence that were found. The research materials in English, Japanese and Korean were then revised. Although this substitute process was not a perfect solution, it served to identify the problems so that they could be corrected. At this point a pilot study was done to test the materials in the English language. This pilot study led to further improvements in the research materials, as well as in the plans for training supervisors and recruiting and training those who would record the information on the data collection forms. These improved research materials were then translated from English into Japanese by one of the Japanese members of the research team, and into Korean by one of the Korean members of the research team (See Figure 1). These Japanese and Korean revised versions were then back-translated into English, and compared with the original English.

The next step was to do the translation/back-translation process between the Japanese and Korean versions of the research materials (See lines 2 and 3 and lines 5 and 6 of Figure 1). The comparisons of the back-translated versions with the first versions of Japanese and Korean respectively provided additional important input into the
next versions of the research materials, and especially to guide the training of the native Japanese and Koreans who would use these materials in the pretests and subsequently in the main data collection processes in their respective countries.

CONCLUSIONS

Although it can be complex and time-consuming, the translation/back-translation process is a practical and useful technique to identify emic and etic generalizations to overcome problems of equivalence and to achieve reliable and valid research results. Any cross-cultural study that does not employ this process, or an acceptable substitute that is adequately explained and justified, should be an immediate candidate to be judged unacceptably flawed.

Translators should translate only into their native languages. When there is no alternative, it may be possible to use multiple translators along with otherwise qualified personnel, as a substitute for this requirement. But less stringent requirements make the results of a cross-cultural study suspect.

Special problems may arise when languages employ different symbol systems and types of alphabets. At least one senior member of a research team should have some substantial knowledge of every language in which the research will be conducted.

Literature reviews of appropriate theoretical and methodological topics should be done not only in the originating nation, but also in each nation in which the cross-cultural research is done. If not done, the research materials are likely to be biased toward the culture of the nation in which the literature was reviewed. The consequences may be coder or interviewer misunderstandings, lack of comparability in recording results on the data collection instrument, large numbers of «don’t know» or «other» answers, and unreliable and invalid results.

In a multiple country study, translations and back-translations should be done between all languages. It is not adequate to design research materials in one language and then only do the process between that language and other languages. Additional problems of equivalence, and the solutions to them, arise when doing the process between second and third (or more) languages.

Always do a pilot study in each language to pretest the research materials. This need for pilot studies is even greater when doing cross-cultural research than it is in one-country research.

Train the multi-country senior research staff together in one country before they work in another country. The reason for this procedure is that some of the modifications in the research materials that are necessary to achieve comparable results may have to be made in the research materials prepared in the originating country, rather than in the materials of other countries. Thus, the senior staff members that are responsible for directing and carrying out the research in each country should participate in the early stages of developing the research materials.

Finally, the research, teaching and service experience of the author in eighteen countries suggests that these conclusions are likely to have applications in numerous countries. However, additional research in other cultures should be done to validate, invalidate or improve them.
REFERENCES


RIASSUNTO

Questo saggio è imperniato sulla natura e sull’utilità del processo di traduzione/retroversione volto ad ottenere dei risultati validi e attendibili nell’ambito delle ricerche internazionali di marketing. Le principali fonti d’informazione del presente saggio sono raviusable nelle esperienze personali dell’autore unitamente alla letteratura del settore. L’esperienza dell’autore si fonda sull’apprendimento di varie lingue, sul fatto di aver condotto e diretto progetti di ricerca nazionali e internazionali in sette Paesi, nonché sull’insegnamento o su esperienze professionali di natura differente in altri undici Paesi. Tale esperienza deriva altresì dallo svolgimento di varie tipologie di ricerca, che comprendevano l’analisi dei contenuti, gli esperimenti, gli studi qualitativi e le indagini di mercato.

Data la varietà dei Paesi, delle culture e delle lingue, oltre che dei tipi di ricerca che sono stati condotti, si può ipotizzare che le conclusioni del presente contributo trovino applicazione in numerosi Paesi. Nondimeno, poiché l’esperienza insegna anche l’umiltà, sarebbe opportuno che altri ricercatori conducessero degli studi in nuovi Paesi e nell’ambito di nuove culture al fine di convalidare, invalidare o migliorare le conclusioni di questo saggio, nonché per sviluppare nuovi metodi atti ad accrescere l’attendibilità e la validità delle future ricerche internazionali di marketing.
RÉSUMÉ

Cet essai est centré sur la nature et sur l’utilité du processus de traduction/retraduction mirant à obtenir des résultats valables et dignes de foi dans le domaine des recherches internationales de marketing. Les sources d’information principales, en ce qui concerne le présent, résident dans les expériences personnelles de l’auteur ainsi que dans la littérature du secteur de la recherche. L’expérience de l’auteur se base sur l’apprentissage de plusieurs langues, sur le fait qu’il a mené et dirigé des projets de recherche soit nationaux soit internationaux dans sept pays, de même que sur l’enseignement ou sur des expériences professionnelles de nature différente dans onze autres pays. Cette expérience lui vient aussi de l’exécution de différentes typologies de recherche, y compris l’analyse des contenus, les essais, les études qualitatives et les études de marché.

Compte tenu de la variété de pays, de cultures et de langues, ainsi que des différentes typologies de recherche qui ont été menées, on peut envisager que les conclusions tirées trouvent leur application dans de nombreux pays. Néanmoins, comme l’expérience enseigne aussi l’humilité, il faudrait que d’autres chercheurs mènent des études dans de nouveaux pays et au sein de nouvelles cultures en vue de valider, invalider ou améliorer les conclusions de cet essai, ainsi que pour développer de nouvelles méthodes aptes à accroître la crédibilité et la validité des futures recherches internationales de marketing.