

Introduction

There are basically two main research methodologies available to tourism researchers, which include: Qualitative Research and Quantitative Research. Firstly, definitions of these methods will be presented. Then, similarities and differences of the qualitative and quantitative research will be identified. Next, their usual distinctions will be discussed in different perspectives, which will be summed up by the implications of the two major researches and conclusion.

Part 1: Definition of the Research Methods

To begin with, let us define what is qualitative and quantitative research as to ease the understanding of the forthcoming discussions. Although there are dissimilar definitions by different writers, I have summarized the main points as the followings:

Qualitative Research is commonly not concerned with numbers and entails gathering a great deal of information about a small number of people. The information collected is normally not presentable in numerical form and it is used to understand human's behaviour and situation (Veal, 1997). Besides, it generally avoid the workings of objective, scientific research (Cunningham, 1999). In addition, it tends to be naturally explanatory, directional and is designed to bring out issues associated with the subject matter as well as trace you in to the best general direction to proceed (Kyle, 2003). Therefore, this research is designed to investigate specific cases to explore individual's behaviour, experiences or feelings about an issue. Data collection and interpretation proceed in parallel and interact. Usually, it is used to develop hypothesis that may be later subjected to testing through the use of a quantitative questionnaire survey.

Quantitative Research basically involves statistical analysis and relies on numerical evidence to draw conclusions or to test hypothesis. To be reliable, it encompasses large numbers of people and to use computers to analyse the data (Veal, 1997). Furthermore, it is the sort of scientific research with a strict set of rules that govern the use of research (Cunningham, 1999). Also, it is usually designed to be analytical and rigid with statistical accuracy (Kyle, 2003). As a result, it is a research method that data are collected and subsequently analysed. The findings of quantitative research can be verified for accuracy through tests of statistical probability. In general, this research is employed when what is required is a simple count of numbers. For instance, the numbers of people entering a particular attraction or the average spending in a shop or restaurant can be carried out.

In order to conduct an effective research, it is imperative to understand the similarities and differences in between these two methods, since they are useful in different areas.

Part 2: Similarities of Qualitative and Quantitative Methods

No matter which kind of research methodology that we are going to use, it is apparent that we will have to define the problem statement and objectives clearly, then we will also need to identify the sources of information that we will require as well as developing the research plan for both researches. Before discussing the details of qualitative and quantitative research methods, it is necessary to understand the fundamental similarities of the above methodologies.

Table 1 Three Sources of Knowledge of Qualitative & Quantitative Methodology

	QUALITATIVE	QUANTITATIVE
KNOWLEDGE	<ol style="list-style-type: none"> 1. <i>Paradigm Knowledge</i> 2. <i>Qualitative Analysis Knowledge</i> 3. <i>Interpretive Framework Knowledge</i> 	<ol style="list-style-type: none"> 1. <i>Paradigm Knowledge</i> 2. <i>Statistical Knowledge</i> 3. <i>Substantive Theory Knowledge</i>

In function, those three sources of knowledge in the above table are parallel in both methods. You must first understand the strengths and weaknesses of the research paradigm, afterwards, the knowledge of analysis presumes that you have an awareness of how to analyse the information associated with the chosen paradigm. At last, it is preferable to have an interpretative framework to explain and consolidate the analysis result.

Besides, all qualitative data can be actually measured and coded using quantitative methods and quantitative research can be generated from qualitative inquiries too. For instance, one can code an open-ended interview with numbers that refer to data specific references. Moreover, we can sort respondents' open-ended answers into major themes and code the data quantitatively, thus, calculate the correlation of the themes or the respondents. In addition, all quantitative analysis is based on qualitative judgments since numbers in and of themselves cannot be interpreted without understanding the assumptions that underlie them. In detail, all numerical information involves numerous judgements about what the numbers means. Another important point is the assumptions of the two paradigms. Despite, there are some fundamental differences, they lie primarily at the level of assumptions about research(epistemological and ontological assumptions) rather than at the level of the data. Apparently, the heart of the quantitative and qualitative debate is theoretical, not methodological. Many qualitative researchers operate under different epistemological assumptions from quantitative researchers. And for some qualitative researchers, the best way to understand what is going on is to become immersed in it. Many qualitative researchers also operate under different ontological assumptions about the world. They do not assume that there is a single unitary reality apart from our perceptions. Since each of us experiences from our own point of view, each of us experiences a different reality.

Next, the analysis of both methods includes three stages, which are: editing, tabulating and interpreting. Similar methods of analysis can be used in both types of researches, for instance, cross tabulation. Furthermore, both sort of analysis involves inferences founded in empirical data as well as both methods of interpretation are made visible to readers through the research design and attempts to be error free. Instead of either ignoring or defending a particular research paradigm, it is possible and more instructive to see both methods as part of a continuum of research techniques, all of which are appropriate depending on the research objective. Also, both qualitative and quantitative methods may be used appropriately with any research paradigm. Questions of method are secondary to questions of paradigm, which we define as the basic belief system that guides the investigator(Guba & Lincoln, 1989).

Part 3: Differences of Qualitative and Quantitative Methods

The major difference between qualitative and quantitative research stems from the researcher's underlying strategies. On one hand, quantitative research is viewed as confirmatory and deductive in nature by using data to test the theories. In contrast, qualitative research is considered to be explanatory and inductive through gathering the data and leaning what is happening from the data, hence, generating theories. In qualitative research, a hypothesis is not needed to begin research. Yet, all quantitative research requires a hypothesis before research can begin. Grounded theory refers to an inductive process (Qualitative) of generating theory from data, ground-up or bottom up processing, but quantitative relies upon the priori assumptions about the world.

While quantitative research is being more objective, qualitative research tends to have more subjective interpretation and mass detail for later analysis. Moreover, procedure is emphasized in quantitative study, replication and other tests of reliability become easier. Nevertheless, the measures of qualitative research may be taken to make research more reliable within the particular study, such as observer training, objective checklist and so on.

Additionally, there are extreme differences in generalizability for the two paradigms too. For qualitative, the majority of results do not extend much further than the original subject pool whereas quantitative results do. The sampling methods of qualitative research (smaller sampling size when compare with quantitative) determine the extent of the study's generalizability as well as the quota and purposive sampling strategies are used to broaden the generalizability.

In addition, the major disparity between qualitative and quantitative research deals with the underlying assumptions about the role of the researcher. In quantitative research, the researcher is ideally the neither objective observer who neither participates in nor influences what is being studied. In qualitative research, however, it is thought that the researcher can learn the most by participating and, or being immersed in a research situation. These basic underlying assumptions of both methodologies guide and sequence the types of data collection methods employed.

More distinctions will be presented in the subsequent tables and Appendix 1.

Part 4: Different and Unique Characteristics of Qualitative and Quantitative Methods

The following highlights of the qualitative and quantitative methods in different dimensions(i.e. characteristics, data collection, instrument, process, validity and data analysis) are based on the usual distinctions of the methodologies only, which mean that these distinctions are not entirely discrete.

Table 2 Characteristics of Qualitative & Quantitative Research

	QUALITATIVE	QUANTITATIVE
NATURE	<ul style="list-style-type: none"> ✧ Explanatory & Exploratory Research ✧ Subjective & Multiple Reality ✧ Right brain-oriented 	<ul style="list-style-type: none"> ✧ Confirmatory & Conclusive Research ✧ Objective & Singular Reality ✧ Left brain-oriented
RELATIONSHIP	<ul style="list-style-type: none"> ✧ Researcher interacts ✧ Value-laden & biased Facts 	<ul style="list-style-type: none"> ✧ Researcher is independent ✧ Value-free & unbiased Facts
LANGUAGE	<ul style="list-style-type: none"> ✧ Informal ✧ Use of expressive language 	<ul style="list-style-type: none"> ✧ Formal ✧ Scientific & Objective
PARADIGM	<ul style="list-style-type: none"> ✧ Constructivist ✧ Interpretivist 	<ul style="list-style-type: none"> ✧ Positivism ✧ Post-positivism
TYPE	<ul style="list-style-type: none"> ✧ Critical Theorist ✧ Post-structuralist 	
GOAL	<ul style="list-style-type: none"> ✧ Understanding 	<ul style="list-style-type: none"> ✧ Testing
RESOURCE	<ul style="list-style-type: none"> ✧ Costly ✧ Time Consuming 	<ul style="list-style-type: none"> ✧ Cheaper ✧ Quicker
SETTING	<ul style="list-style-type: none"> ✧ Natural Setting as source of data 	<ul style="list-style-type: none"> ✧ Experimental Setting

Table 3 Data Collection of Qualitative & Quantitative Research(Appendix 2)

	QUALITATIVE	QUANTITATIVE
METHODS	<ul style="list-style-type: none"> ✧ Case Studies ✧ Ethnographic Studies ✧ Phenomenological studies ✧ Human Observation ✧ Interviews 	<ul style="list-style-type: none"> ✧ Experiments ✧ Quasi-experiments ✧ Surveys ✧ Mechanical Observation ✧ Stimulation
RESPONSE RATE	<ul style="list-style-type: none"> ✧ Higher 	<ul style="list-style-type: none"> ✧ Lower
DATA DIVISION	<ul style="list-style-type: none"> ✧ Non-numerical(with words / pictures) ✧ In-depth / 'rich' / perceptual data ✧ Individual Behaviour ✧ Desired information focus on participants' perspectives, meaning, but can be guided by interviewer ✧ Specific Coverage of Population ✧ Within a broad social science framework 	<ul style="list-style-type: none"> ✧ Numerical(with numbers) ✧ Less detailed / Top line data ✧ Interval & ratio measurement ✧ Desired information collected determined by researcher ✧ General Coverage of Population ✧ Within Neoclassical economics scope of area

Table 4 Instrument of Qualitative & Quantitative Research

QUALITATIVE	QUANTITATIVE
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	Intensive	Extensive
APPROACH	Intensive	Extensive
WAYS	<ul style="list-style-type: none"> ◇ Group Interviews / Focus Group ◇ In-depth Interviews ◇ Participant / Direct Observation 	<ul style="list-style-type: none"> ◇ Street Survey ◇ Telephone / Fax Survey ◇ Mail / Online / Site Survey ◇ Household / Self Administered Survey
TECHNIQUE	<ul style="list-style-type: none"> ◇ Researcher as key instrument of data collection ◇ Trained Moderator / Interviewer ◇ Checklist of guidelines that can be amended ◇ Transcript, Video, tape ◇ Open-ended Questions 	<ul style="list-style-type: none"> ◇ Psychometric instrument ◇ Survey & Pilot Test ◇ Interviewer / Respondent Completion ◇ Designed & schedule questions that should be followed ◇ Questionnaire ◇ Pre-coded / Open-ended Questions

Table 5 Process of Qualitative & Quantitative Research

	QUALITATIVE	QUANTITATIVE
APPROACH	<ul style="list-style-type: none"> ◇ Inductive ◇ Recursive(Appendix 3) ◇ Mutual Simultaneous shaping of factors 	<ul style="list-style-type: none"> ◇ Deductive ◇ Sequential(Appendix 3) ◇ Cause & Effect(Causation of the relationship)
DESIGN	<ul style="list-style-type: none"> ◇ Flexible ◇ Emerging Design – Categories identified during research process 	<ul style="list-style-type: none"> ◇ Rigid ◇ Static Design – Categories isolated before the study
CONTEXT	<ul style="list-style-type: none"> ◇ Context-bound 	<ul style="list-style-type: none"> ◇ Context-free
CONTROL	<ul style="list-style-type: none"> ◇ Development of patterns & theories for understanding ◇ Evolutionary, ongoing process of data analysis, collection and hypothesis formation ◇ No specific independent variable 	<ul style="list-style-type: none"> ◇ Generalizations leading to prediction, explanation and understanding ◇ Pre-planned, Separate process of data analysis, collection and hypothesis formation ◇ Independent variable is controlled & manipulated
INVOLVEMENT	<ul style="list-style-type: none"> ◇ Active involvement of researcher 	<ul style="list-style-type: none"> ◇ Passive involvement of researcher

Table 6 Validity of Qualitative & Quantitative Research

QUALITATIVE	QUANTITATIVE
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QUALITY	✧	<i>By multiple sources of information</i>	✧	<i>By statistical & logical methods</i>
ASSURANCE				
SAMPLING	✧	<i>Smaller sampling size</i>	✧	<i>Larger sampling size</i>
	✧	<i>Quota / Stratified Sampling</i>	✧	<i>Random / Probability Sampling</i>
	✧	<i>Purposive</i>	✧	<i>Deliberate</i>
FACTOR	✧	<i>Trustworthiness: Credibility, Transferability, Dependability, Conformability(Appendix 4)</i>	✧	<i>Reliability: Internal, External, Consistency, Objectivity</i>
	✧	<i>Authenticity: Fairness, Ontological, Educative, Tactical, Catalytic</i>	✧	<i>Validity: Construct, Content & Face</i>
TOOL	✧	<i>Uses of logical analyses to control / account for alternative explanations</i>	✧	<i>Uses of designs / statistical analyses to control internal viability</i>
	✧	<i>Uses of similar cases to determine the generalizability of findings</i>	✧	<i>Uses of inferential statistical procedures to demonstrate external viability</i>

Table 7 Data Analysis of Qualitative & Quantitative Research

		QUALITATIVE		QUANTITATIVE
TOOL	✧	<i>QSR NUD*IST</i>	✧	<i>Microsoft Excel</i>
	✧	<i>QUALPRO</i>	✧	<i>SPSS</i>
	✧	<i>ETHNOGRAPH</i>	✧	<i>Statistical Methods (e.g. Exponential Smoothing, Regression Analysis, Correlation, Factor Analysis, Significance Testing(t-tests))</i>
	✧	<i>Longman Concordance</i>		<i>Standard deviation, means, median</i>
	✧	<i>Set of Matrices(e.g. cross tabulation) or a network(e.g. tree taxonomy)</i>	✧	<i>Deductive Reasoning</i>
APPROACH	✧	<i>Inductive Reasoning</i>	✧	<i>Numeric analysis using statistical formulae</i>
	✧	<i>Text-based analysis to identify themes and motives</i>	✧	<i>Numerical Interpretation, Estimation by Statistical Testing</i>
	✧	<i>Narrative Description & Constant Comparison by interviewer’s judgement</i>		
TIMING	✧	<i>Analysis begin with data collection</i>	✧	<i>Analysis begins when all data are collected(Coding may begin earlier)</i>
OUTCOME	✧	<i>As process rather than product</i>	✧	<i>Product(e.g. test performance)</i>
	✧	<i>Phenomenon are studied holistically as a complex system</i>	✧	<i>Phenomenon are broken down / simplified for study</i>
	✧	<i>To develop hypothesis about behaviour & attitudes</i>	✧	<i>To verify / refute the pre-set hypothesis</i>
CONCLUSION	✧	<i>Tentative conclusions by reasons – subjected to ongoing examination</i>	✧	<i>Conclusions are stated with a predetermined degree of Certainty by statistical significance(i.e. level)</i>

To sum up briefly, it is clear that there are many peculiarities in each approach as to cope with different research’s purpose.

Part 5: Implications & Conclusion

In my opinion, to understand the specific differences of these research techniques is not the most imperative, but to highlight and grasp the existence of a range of options under both methods are more noteworthy. Besides, there is a need to recognize that both quantitative and qualitative techniques can and should co-exist as potential tools of the research trade. Instead of justifying the less highly regarded method, efforts should focus on understanding why and when to use which method, or both. That both

forms are rather independent of methodology does not imply that they are equally useful for any topics or intentions of research. For psychological (i.e. travelling experience), social and cultural exploration qualitative data, in general, are particularly suitable as they reproduce complex relations and communicate meaning. This is also why they are so successful in everyday communication. On the other hand, quantitative research is appreciated when conducting numerical researches, because of its ability to provide statistical evidences. For instance, the numbers of people participating in the leisure activities in a year, the number of tourist arrivals or the average income of a particular group.

Obviously, careful review of the full spectrum of both major research paradigms will confirm that both methods can be used in less “usual” ways. Consequently, it is possible to quantitatively describe observable events in the real world and to collect qualitative evidence within pre-specified, experimental situations. Alongside recognizing that both methods can be used in these “unusual” ways, it is also important to remember that both methods contain many different approaches. For example, grounded theory and case study are different approaches than those of ethnography or phenomenology, and yet all four approaches are essentially qualitative. The same sort of distinctions apply to quantitative approaches: all trials are not identical in design and therefore use differing techniques for measuring results, and there are many different forms of experimental, quasi-experimental and pre-experimental designs, using equally varied quantitative analyses.

Last but not least, it is actually possible to apply the best parts of each research method and then mixing it together to compensate the weaknesses of a mono-paradigm, which is globally interested recently. Through the simultaneous mixing approaches, the research results can be improved.

(1198 words)

Reference

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