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Wisdom, Uncertainty, and Ambiguity: A Study of Management Decisions as Based on Theories and Validated by Research Methods

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**Wisdom, Uncertainty, and Ambiguity: A Study of Management
Decisions as Based on Theories and Validated by Research
Methods**

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ABSTRACT

Wisdom, uncertainty, and ambiguity will always exist in management decisions. One danger for firms lies in managers making decisions that are based on faulty theories acquired through personal experience or learned from experience of others. Often, these decisions don't generate the expected outcome and may even put the future of the firm at risk. To avoid this risk, managers are required to become wiser, more discerning, and more appropriately skeptical toward simplistic formulas and quick-fix remedies (as explained by Rosenzweig, 2007). In this paper, the author discusses types of business research and their philosophical assumptions, the strength and weaknesses of qualitative and quantitative research methods, the benefits of combining both methods, and the trustworthiness of research methods in general for validating the management theories used by managers in their decision-making.

Keywords: management decisions, business research methods, risk of faulty theories, wisdom in management decisions

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Wisdom, Uncertainty, and Ambiguity: A Study of Management Decisions as Based on Theories and Validated by Research Methods

In this paper I evaluate several key business research methods (quantitative, qualitative, and combined) in order to determine their adequacy and trustworthiness in validating theories about management decisions and the outcomes of management decisions. Management theories are formed from the individual knowledge of managers and are acquired through personal experience or are learned from examining the experience of others. The validation method that is used to assess the theories on which management decisions are based will determine the degree of knowledge about the outcome, and the wisdom, uncertainty, and ambiguity of the decisions. Wisdom, in the context of management, is the ability to make effective decisions that are based on knowledge. Uncertainty occurs when limited knowledge does not allow accurate prediction of the outcome of these decisions, and ambiguity means that the objective (the problem to be solved or the opportunity to be explored) is vague and the decision alternatives are difficult to define.

Managers acquire knowledge through both direct and indirect business experiences. Direct experiences are obtained through participation in decisions and their outcomes; whereas indirect experiences are learned by studying other people's experiences with decisions. Both direct and indirect experiences with decisions provide the empirical evidence that is essential for verifying theories. This is important, as theories need to be verified to enable decision makers to predict the outcome of their decisions with some degree of accuracy: the degree of accuracy is determined by the method that was used to validate the theory.

The use of theories that were constructed by either deductive or inductive reasoning, and that were drawn from direct or indirect experiences that were not correctly validated, can constitute a major business risk and threaten the future of a firm. In this way, the quality of the decisions made by key managers directly determines the success of firms. Unfortunately, many managers incur in decision-making risk by using their experience with decisions to create personal theories, or to accept theories about decisions from management gurus or even academics without checking if they have

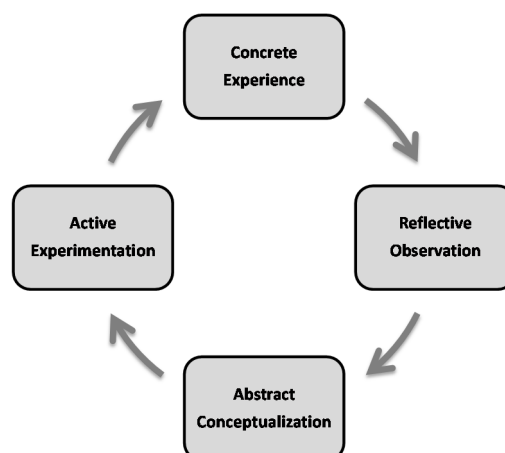
been correctly validated. The consequences of the dissemination of bad theories that have not been correctly validated constitute what Hayek (2008) called the pretense of knowledge.

In this paper, I examine the extent of ambiguity and uncertainty in decision theories. This discussion will assist managers with distinguishing good management decision theories. Furthermore, I analyze the research methods that are used to reduce this ambiguity and uncertainty, and discuss and their shortcomings below.

Personal Experience

Most managers use knowledge acquired from their personal experiences with decisions to build their theories about decisions and the outcomes of decisions. Dewey (1997) identified these as being the most important sources for knowledge. Drawing heavily on the work of Dewey, Kolb (1984) described the principle of knowledge acquisition through experience as what he called an *experiential learning cycle* (Figure 1). The cycle starts with living a *concrete experience* of doing something, followed by *reflective observation* on the experience (stepping back from the task and reviewing what has been done and experienced), before moving into *abstract conceptualization* of the experience (interpreting the events and understanding the relationships between them), and finally *active experimentation* (considering how to put what the new knowledge into practice).

Figure 1: Kolb's experiential learning cycle



Source: Adapted from Kolb, 1984, p. 76

Managers use the knowledge that they have acquired from their personal experiences to make predictions as to what will happen next or to determine the actions that should be taken to refine or revise the way a task is to be handled. However, due to the pressure of day-to-day events many managers do not take the time required for reflective observation and abstract conceptualization of their experience. Thus, they fail to validate their experiences by interpreting the events involved in the experience to understand all the nuances of the relationships between them. However, they easily transform their experiences into personal knowledge and theories that guide their decisions. In many cases these theories become paradigms that are followed by the entire firm.

Personal knowledge that is acquired by experience—like all management knowledge and theories—has to be constantly updated to take into consideration the continuous changes in the business world. Change is ever-present in the universe, as was acknowledged by the Greek philosopher Heraclitus, as far in the past as 500BC with the famous saying: “You could not step twice into the same river; for other waters are ever flowing on to you” (Heraclitus, 2001). The use of theories on decision-making that have been constructed by managers using knowledge that they have acquired by personal experience represents a major risk for firms if these theories are not properly validated and updated as the business environment changes. Unfortunately, there are many instances where key managers have built personal theories based on successful experiences that became paradigms in their firms, such that the firms did not see the changes that made these theories obsolete.

A classic example is the case of the managers of the Swiss watch industry. Swiss firms invented the electronic watch in the 1960s, and because of their success with mechanical watches (at the time they represented 65% of the world market) the managers decided that the technology was not worth pursuing. Japanese companies picked up on the changes to electronic watch technology and took most of the watch market from the Swiss during the 1970s (Tajeddini & Trueman, 2008). The playwright and essayist Bernard Shaw advocates this need to continuously review situations and theories because of change. He wrote: “The only man who behaved sensibly was my

tailor; he took my measure anew every time he saw me, while all the rest went on with their old measures and expected them to fit me" (cited by Cooper & Pamela, 2011, p. 268).

The basic purpose of validating theories about decisions as acquired by managers over time through personal experiences or through other people's experiences is to illustrate the risk of the outcome being worse than planned. Wisdom in management decisions is obtained by using this additional knowledge about the risk imbedded in theories to plan for the eventuality that outcomes do not happen as expected.

Decision-Making in Business

Drucker (2006), whose writings have contributed to the philosophical and practical foundations of the modern management, explained what it takes to make effective business decisions:

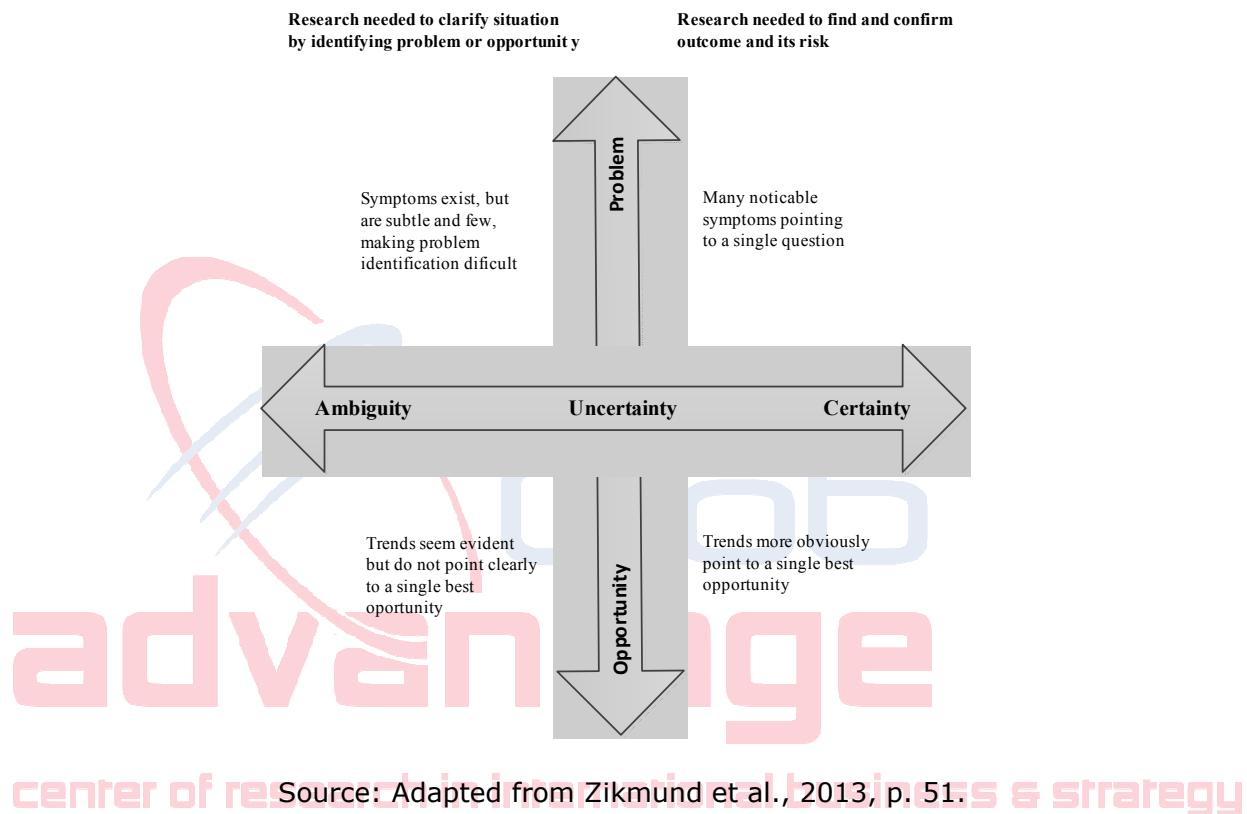
Most books on decision-making tell the reader: "First find the facts." But executives who make effective decisions know that one starts with opinions. These are of course, nothing but untested hypotheses and as such worthless unless tested against reality. To determine what is a fact requires first a criteria of relevance, especially on the appropriate measurement. This is the hinge of the effective decision, and usually the most controversial aspect (p. 143).

In the dynamic and continuously changing world of today, managers are constantly faced with the need to make Drucker's effective decisions. They are responsible for making the right choice for the firm from among alternative ways of solving problems, or between possible business opportunities. Every decision they make can fall on a continuum from absolute ambiguity to complete certainty (Zikmund et al., 2013). For this reason, managers need to research in order to clarify the situation of both problems and opportunities: to determine the best decision and to understand (and possibly measure) the risk of the decisions not obtaining the expected outcome.

The research needed to make management decisions usual focuses on two key aspects: reducing ambiguity of problems or opportunities, and determining the risk of the decision not solving the problems or misjudging

the opportunities (Figure 2). Ambiguity is the greatest risk in management decisions. Without clarity about the problem or opportunity the decisions needed to solve or explore it could be missed, and this would represent a major business risk for the firm.

Figure 2: Describing decision-making situations for business problems or opportunities, the research needed to reduce ambiguity and determine the best decision, and the risk of not obtaining the expected outcome



The use of theories about decisions acquired from experiences that have not been correctly understood and analyzed may induce managers to apply them to the wrong problem or opportunity. For this reason, it is important that managers clearly understand the nature of the problem or opportunity for which the theory was created. This involves correctly interpreting and understanding the events that occurred and the relationships between them, accessing if the circumstances in which these events occurred have changed over time, and reviewing the research method used to validate and determine the uncertainty (or the risk of not obtaining the expected outcome) of the theory before applying the theory to any situation. In this context, it is important to remember that change is inevitable and that only in very special circumstances do the events that occurred to validate the solution of a

business problem or the trends for a business opportunity fail to change over time.

An example of how circumstances that validated a solution to a problem and the trends for an opportunity changed is the case of the QWERTY keyboard that was built-in with the Blackberry. This was optimized for thumbing (the use of only the thumbs to type). Users responded well to this keyboard for writing emails: to the extent that in 2009 the Blackberry had a market share in smartphones of 40% in the United States (Hirsch, 2009). With the introduction and adoption of many new applications writing emails lost its central importance. For these new applications users of smartphones preferred wider screens that did not leave space for build-in keyboards. With this change the Blackberry lost some of its appeal. The managers of RIM (the company that manufactured the Blackberry) were, however, blinded by their successful solution with the keyboard and did not see the change in user's preferences in time. As a result, the current market share of the Blackberry has been reduced to a little over 5% (Comscore, 2013).

Understanding Theory

Theories acquired by managers from experiences are—like all abstractions—used in many different ways to include almost all descriptive statements about management phenomena. The Anglo-Austrian philosopher Popper (2002) expressed this elegantly: "Theories are nets cast to catch what we call 'the world': to rationalize, to explain, and to master it. We endeavor to make the mesh ever finer and finer" (p. 59).

A simple way to think of theories is to consider them as models of reality or simplifications that enable a better understanding of the logic and relationships among different factors (Zikmund et al., 2013). Theories are therefore formal testable explanations of events, and include explanations of how some aspects relate to others. Zikmund et al. (2013) describe the basic building blocks of theories as:

- *Concepts*, which express (in words) various events and objects.
- *Propositions*, which are logical formal statements that assert some universal connections between concepts.

- *Hypotheses*, which are formal statements of unproven propositions that explaining some outcomes that are empirical testable.

- *Empirical data*, which are the data used in the examination of hypotheses against reality in empirical testing.

- *Variables*, which includes anything that may assume different numerical values representing the empirical assessment of concepts.

Concepts and propositions occur at the level of abstraction, while hypotheses and variables operate at the empirical level.

Any analysis and validation of theories about business decision has to start from the abstract nature of concepts and propositions, before moving to the empirical of hypotheses, variables, testing, and validation of hypotheses that constitute theories. An understanding of the concepts, propositions, hypotheses, and variables that where tested and validated is fundamental for the analysis of theories. Only by deeply understanding how the theory was build, tested, and validated can a manager determine the ambiguity and uncertainty of the theory.

Types of Business Research

The research required to analyze and validate management theories, and so reduce ambiguity and uncertainty in decision-making, was classified into three types by Zikmund, et al. (2013), on the basis of purpose:

- *Exploratory research*, which is used to reduce ambiguous situations about business problems or opportunities.

- *Descriptive research*, which tries to “paint a picture” of a given problem or opportunity by addressing who, what, when, where, and how questions.

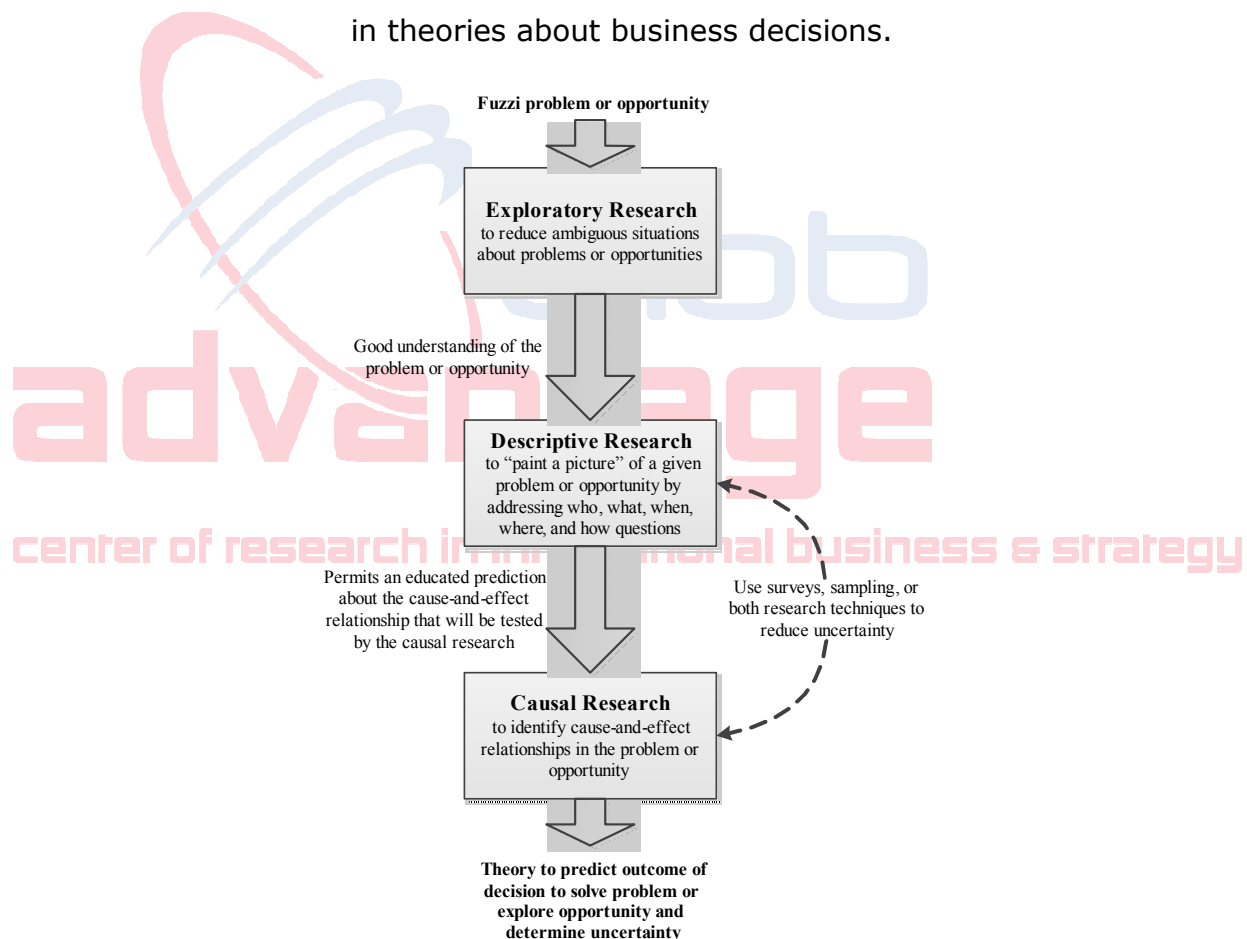
- *Causal research*, which tries to identify cause-and-effect relationships in problems or opportunities.

The process of matching of each type of research to the particular situation is important for obtaining useful results.

These different types of research often form the building blocks of research projects. For example, exploratory research reduces ambiguity about the problem or opportunity and builds the foundation for descriptive

research, which usually establishes the basis for causal research (Figure 3). Thus, before starting causal research to establish how decisions about some things will affect other things that follow, it is important to start with exploratory research (to reduce ambiguity about the problem or opportunity being studied) and then use descriptive research to understand the problem or opportunity by painting a picture (or description) of the problem or opportunity by addressing the who, what, when, where, and how questions. The reduction of ambiguity (or rather, the clarification) obtained by exploratory research and the understanding of the problem or opportunity from descriptive research permits educated predictions about the cause-and-effect relationship, which will then be tested by the causal research.

Figure 3: Types of business research to reduce ambiguity and uncertainty in theories about business decisions.



Both descriptive and causal research can be developed using one of or both of the following research techniques:

- *Survey*, which is the research technique in which a sample is interviewed in some form or the behavior of respondents is observed and described in some way.

- *Sampling*, which is the research technique that draws conclusions based on measurements of a portion of the population.

In business, the most common research technique is the survey, which is used by Gallup and other similar research organizations.

Philosophical Assumptions in Business Research

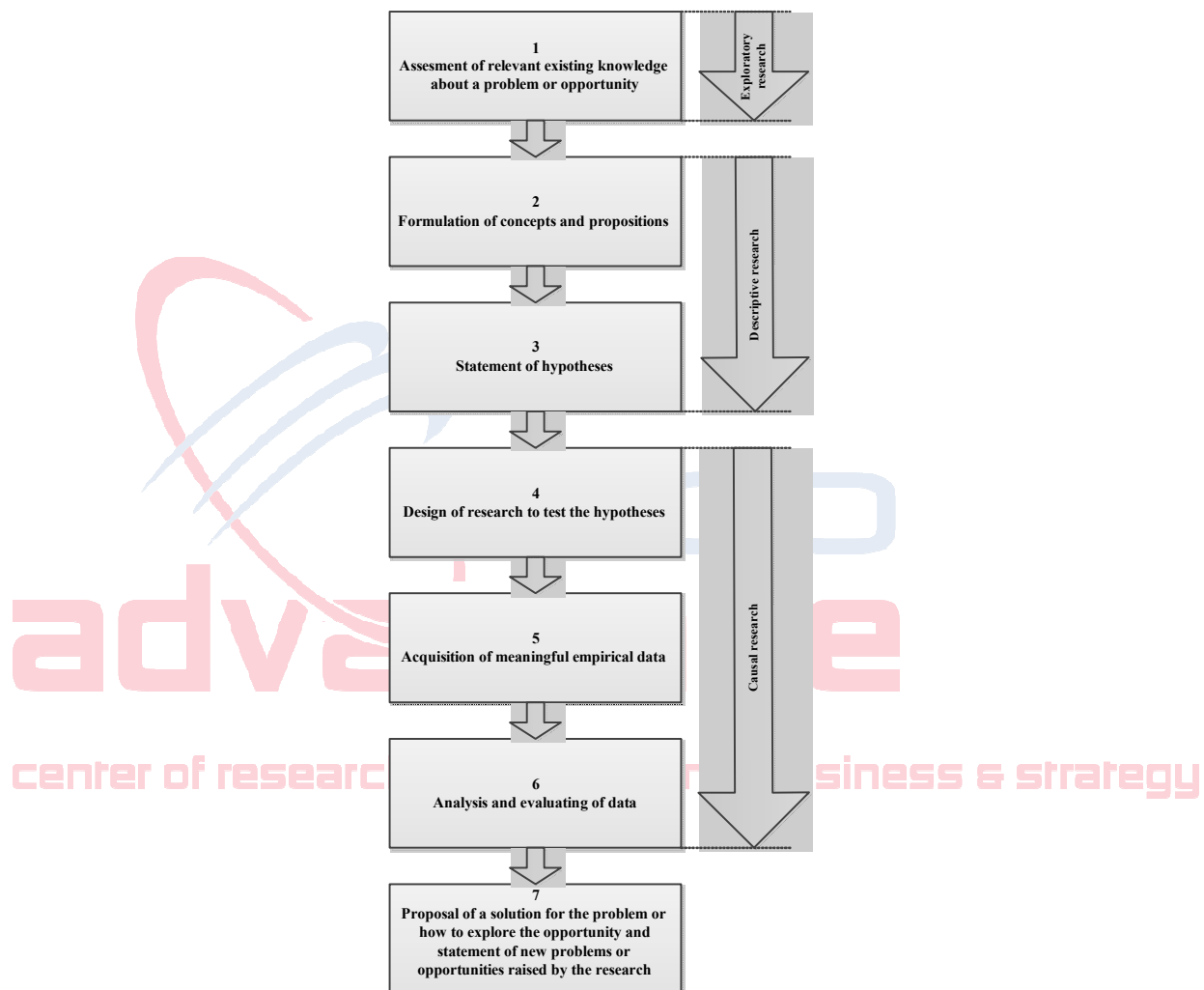
Before we describe the advantages and shortcomings of each method that is used in business research to validate decision theories, it is important to understand the basic philosophical assumptions as these are implied in their use. Creswell (2009) described two predominant philosophical assumptions used in business research. He called these *worldviews*:

1. *Post-positivism* is the deterministic philosophy in which causes will probably determine effects or outcomes. The term post-positivism represents the modern thinking that challenged the traditional positivist notion of absolute truth knowledge, by recognizing that there cannot be such absolute truth when studying the behavior and actions of humans. Thus, decision-making theories validated under the assumptions of post-positivism objectively analyze the causation of the outcomes of decisions. The causations are reduced into small discrete sets of ideas or variables that comprise the hypotheses. These are then tested to validate the decision-making theories.

2. *Social constructivism* is the philosophy that seeks to understand the world in which people live, work, interact, and develop subjective meanings of their experiences with certain objects and things. Thus, decision-making theories validated under the assumptions of social constructivism subjectively analyze the causation of outcomes. The analysis of causations has to consider that people develop subjective meanings of their experiences. These meanings are varied and multiple: leading to a complex interaction of views. These have to be recorded and analyzed by interacting with the people directly, in to subjectively validate the decision-making theories.

The post-positivist assumption is also called the *scientific method* and this incorporates the traditional form of research. On the other hand, the social constructivism assumptions incorporate the search for meanings and understandings that are constructed by researchers as they engage with the people they are interpreting.

Figure 4: The seven steps for the scientific method suggested by Zikmund et al. (2013, p. 44) and the appropriate research methods



Source: Adapted from by Zikmund et al. (2013, p. 44)

Cooper and Schindler (2012) explained that correct adherence to the procedures of the scientific method generates dependable research to support theories that can be used reliably for business decision-making. In contrast, poor research (research that is carelessly planned and/or conducted) will result in theories that cannot be used to reduce decision-making risk. They define nine characteristics of the scientific method that guarantee good research:

1. The purpose of the research is clearly defined to avoid ambiguity.
2. The research process is detailed so that other researchers can replicate it.
3. The research design is thoroughly planned to yield results that are as objective as possible by eliminating all biases of the researcher.
4. High ethical standards are applied.
5. Any limitations are frankly revealed, so that the decision-makers understand the uncertainties of the conclusions of the research.
6. Adequate analysis of the needs of decision-makers is included.
7. The findings that are presented should be unambiguous, comprehensive, reasonably presented, and easily understood by the decision-makers.
8. Any conclusions are justified for the conditions under which conditions they seem to be valid.
9. The researcher's experience is reflected on, to give confidence to decision-makers about the quality of the research and conclusions.

Research to validate theories that have correctly followed the scientific method and that was based on surveys, sampling, or both techniques will use quantitative, qualitative, or mixed methods (a combination or association of quantitative and qualitative methods). Each method has its advantages and shortcomings, and these have to be considered when decision theories are validated. These advantages and shortcomings determine the degree of uncertainty about the theory and the outcome it postulates.

Quantitative Research

Quantitative research attempts precise measurement of a particular phenomenon. For this approach, research objectives are addressed through an empirical assessment that involves numerical measurement and analysis. The most common applications of this approach in business—according to Cooper and Schindler (2012)—are the measurement of consumer behavior, knowledge, opinions, or attitudes to answer questions related to *how much*,

how often, how many, when, and who. The predominant applications of quantitative research involve causal research to identify cause-and-effect relationships in problems and opportunities.

Theories validated under the post-positivist assumptions that follow the procedures of the scientific methods use predominantly quantitative research to measure the underlying concepts and propositions of the theories. This approach uses scales that either directly or indirectly provide numerical values. These values are then used in mathematical and statistical analysis to test and validate the hypotheses that substantiate the theories.

Creswell (2009) explained that quantitative approaches dominated research in social sciences from the late 19th century up until the mid-20th century, and that the interest in qualitative research only increased during the late half of the 20th century, along with the development of mixed methods.

The excessive reliance of quantitative approaches on post-positivist assumptions, the procedures of the scientific method, and use of qualitative research to validate management decisions theories was strongly criticized by Ghostal (2005). He stated that this excessive reliance generated bad theories that formed what Hayek (2008) called *the pretense of knowledge*: that are ideas that destroy good management practices. The basic building block in management—as in all social sciences—is individual decision that is guided by some *intention* (Ghostal, 2005). Intention is mental state of a particular individual making a decision and has no causal or functional explanation. Mental states (like ethics and morality) that influence decisions are excluded from theories that are validated by the scientific method, as this relies exclusively on qualitative research.

Hambrick (2005) agreed with Ghostal (2005) that the adoption of the scientific method by researchers to validate management theories in recent decades has led to what he called *the partialization of analysis* and the exclusion of any role for human intention or choice. However, he disagreed with Ghostal that the pursuit of scientism has squeezed out any role of human choice: suggesting, for example, that decision-making biases deal expressly with choices.

Bennis and O'Toole (2005) were also strong critics of the excessive reliance on the scientific method in business schools. They suggested that business schools have adopted a model of science that uses abstract financial and economic analysis, statistical multiple regressions, and laboratory psychology. Although they conceded that some of the research produced is excellent; they noted because so little of it is grounded in actual business practices, the focus of graduate business education has become increasingly circumscribed-and less and less relevant to practitioners. In their opinion, this scientific approach is predicated on the faulty assumption that business is an academic discipline like chemistry or geology. They argued that business is a profession, akin to medicine and the law, and business schools are professional schools (or should be). Like other professions, business calls upon the work of many academic disciplines. For medicine, those disciplines include biology, chemistry, and psychology; for business, they include mathematics, economics, psychology, philosophy, and sociology. The distinction between a profession and an academic discipline is crucial. In their view, no curricular reforms will work until the scientific model is replaced by a more appropriate model: one that is founded in the special requirements of a profession.

Hambrick (2007) similarly criticized the excessive devotion by academics in the management field to theory. He wrote:

Many nice things can be said about theory. Theories help us organize our thoughts, generate coherent explanations, and improve our predictions. In short, theories help us achieve understanding. But theories are not ends in themselves, and members of the academic field of management should keep in mind that a blanket insistence on theory, or the requirement of an articulation of theory in everything we write, actually retards our ability to achieve our end: understanding. Our field's theory fetish, for instance, prevents the reporting of rich detail about interesting phenomena for which no theory yet exists. And it bans the reporting of facts—no matter how important or competently generated—that lack explanation, but that, once reported, might stimulate the search for an explanation.

Corley and Gioia (2011) extended the criticisms made by Hambrick to include reviewers of top tier academic management journals for favoring pure theoretical contributions over more pragmatic and useful contributions.

Diamond (1999) complained that the image of science is often based on physics and a few other fields that use similar quantitative research methodologies. Scientists in those fields arguably tend to be ignorantly disdainful of fields in which these methodologies are inappropriate and which must therefore seek other methodologies like qualitative research. He noted that the word *science* means “knowledge” (from the Latin *scire*, “to know”, and *scientia*, “knowledge”): knowledge that can be obtained by whatever methods most appropriate to the particular field.

Qualitative Research

Cooper and Schindler (2012) suggested that qualitative research is used in attempts to understand *how* and *why* phenomena happen. Toward this end, users of this approach seek to describe, decode, translate, and otherwise come to terms with the meaning—not the frequency—of certain more or less naturally occurring phenomena in the social world. Quantitative research is suitable if the research objective is only to know what happened, or how often things happened. However, if the research objective is to determine the different meanings that people place on their experiences, this requires qualitative research. Qualitative research can delve more deeply into people’s hidden interpretations, feelings, emotions, understandings, and motivations. Some examples of appropriate use of qualitative research for management decisions are presented on Figure 5.

Figure 5: Some examples of appropriate use of qualitative research for management decisions

Decision Arena	Questions to be Answered
Job Analysis	<ul style="list-style-type: none"> Does the current assignment of tasks generate the most productivity? Does the advancement through different job levels incorporate the necessary training to foster the strongest performance?
Advertising Concept Development	<ul style="list-style-type: none"> What image should we use to connect our target customers' motivations?
Productivity Enhancement	<ul style="list-style-type: none"> What actions could we take to boost worker productivity without generating worker discontent?
New Product Development	<ul style="list-style-type: none"> What would our current market think of a proposed product idea? We need new products, but what should they be to take advantage of our existing customer perceived strengths? Which product will create the greatest synergy with our existing products in terms of ROI and distribution partner growth?
Benefits Management	<ul style="list-style-type: none"> Should our compensation plan be more flexible and customized? How do employees perceive wellness prevention programs as compared to corrective health programs in terms of value?
Retail Design	<ul style="list-style-type: none"> How do customers prefer to shop in our store? Do they shop with a defined purpose, or are they affected by other motives?
Process Understanding	<ul style="list-style-type: none"> What steps are involved in clearing a wood floor? How is our product perceived or involved in this process?
Market Segmentation	<ul style="list-style-type: none"> Why does one demographic or lifestyle group use our product more than another? Who are our customers and how do they use our product to support their lifestyle? What is the influence of culture on product choice?
Union Representation	<ul style="list-style-type: none"> How do various departments perceive the current effort to unionize our plant? Where and what are the elements of discontent?
Sales Analysis	<ul style="list-style-type: none"> Why have once-loyal customers stopped buying our service?

Source: Cooper and Schindler, 2012. p. 162.

Techniques used in qualitative research at the data collection stage include focus groups, individual depth interviews, case studies, ethnography, grounded theory action research, and observation. The techniques used in the data analysis stage include content analysis of written or recorded materials drawn from personal expressions by participants, behavioral observations, and debriefing of observers, as well as the study of artifacts and trace evidence from the physical environment. Generally, when the research objectives are not specific, the qualitative research technique will be more appropriate than quantitative research techniques.

Zikmund, et al. (2013) pointed out that data collection and data analysis is less structured and more researcher dependent in qualitative research than it is in quantitative research. In qualitative research, the researcher must extract meaning from unstructured responses. These may include text from a recorded interview or a collage representing the meaning of some experience, such as skateboarding or using a smartphone. The researcher interprets the data to extract its meaning and converts it to information. For

this reason qualitative research is subjective: the results are researcher-dependent. Different researchers may reach different conclusions from the same experience. This means that qualitative research lacks *intersubjective certificability* (the ability of different researchers following the same research procedure produce the same results).

Tracy (2013) argued that the knowledge and background of researchers could literally serve as instrument by absorbing, sifting through, and interpreting the world through observation, participation, and interviewing. This requires *self-reflexivity*, which is the careful consideration by the researcher of the ways in which past experiences, points of view, and roles impact his interactions with the research. She explained that qualitative research is concerned with trying to make sense of immersion in a context, whether at a management meeting, a consumer experience, or during an interview. Directly related to the idea of context is *thick description*, wherein the researcher immerses in a culture, investigates the particular circumstances of the experience, and only then moves toward grander statements and theories. As a result of this process, meaning cannot be divorced from the thick contextual description.

Criticism of the excessive reliance on the scientific method and quantitative research methods by academics prompted academic journals to encourage the submission of more qualitative research papers. One example is the prestigious *Academy of Management Journal*. Pratt (2009) wrote in an editorial for this periodical stating:

Qualitative research is only one of the methods that are appropriate for our journal, but over the past several years we at AMJ have worked diligently to increase the number and quality of the qualitative research papers we review and publish (p. 817).

Other authors—including Savin-Baden and Mojar (2010), Migiro and Oseko (2010), Bluhm, et al. (2011), Hunt (2011), Bansal and Corley (2012), Sinkovics and Alfoldi (2012), and Tracy (2013)—encourage academic researchers to rely more on qualitative research methods by outlining its advantages and trustworthiness for academic research.

Combining Qualitative and Quantitative Research

The description of key characteristic of qualitative and quantitative research methods by Zikmund, et al. (2013) and illustrated in Figure 5 explain the most common uses of each method in research projects to validate theories about business decisions (see Figure 6). Most exploratory research that aims to reduce ambiguity about business problems and opportunities uses qualitative methods; most confirmatory research (this can either descriptively paint a picture of problems and opportunities or determine the cause-and-effect relationship in the problems and opportunities) uses quantitative methods.

Figure 6: Use of qualitative and quantitative research

Qualitative Research	Research Aspect	Quantitative Research
Discover ideas , used in exploratory research with general research objects	Common purpose	Test hypotheses of specific research questions
Observe and interpret	Approach	Measure and test
Unstructured, free-form	Data collection approach	Structured response categories provided
Researcher is intimately involved. Results are subjective	Researcher independence	Researcher uninvolved observer. Results are objective
Small samples – often in natural settings	Samples	Large samples to produce generalizable results (results that apply to other situations)
Exploratory research design	Most often used	Descriptive and causal research designs

Source: Zikmund, et al., 2013, p. 135.

Zikmund, et al. (2013) suggested that a combination of qualitative and quantitative research methods is often used when researchers have limited experience or knowledge about a research issues. When this occurs, exploratory research using qualitative methods is needed to develop a deeper understanding and develop the ideas that lead to the research hypotheses. Confirmatory research is then used to test these hypotheses with quantitative methods.

Strengths and Weaknesses of the Research Methods

Quantitative and qualitative research methods that are used to validate decision theories are based on different philosophical assumptions about any research objective. Firestone (1987) identified that these philosophical assumptions can simultaneously represent their strengths and weaknesses, depending on the significance of causation in the research objective.

Quantitative research under the assumptions of post-positivism follows the procedures of the scientific method. This accordingly portrays research objectives through empirical assessment of numerical variables, which are used to measure and analyze objectively the causation. This is analysis is used to answer questions related to how much, how often, how many, when, and who. The strengths of quantitative research are its objective results, use of uninvolved researchers, and intersubjective certificability (the ability of different researchers following the same research procedure produce the same results). The main weakness of this method is the partial analysis of the causation in the research objectives by excluding *vertehen* (any human intention or choice).

By contrast, qualitative research under the assumptions of social constructivism portrays research objectives through describing, decoding, translating, finding the meaning of or understanding (or *vertehen*) causation. This method is used to answer questions related how and why some phenomena happens. The strength of qualitative research lies in its ability to probe more deeply into people's hidden motivations, feelings, emotions, understanding, and interpretations. However, this strength is also the primary weakness of the method: the researcher extracts the meaning and interprets the causation based on his or hers past experiences, points of view, and roles in the research. For this reason, the findings about the causation of phenomena by qualitative research are subjective, researcher dependent, and lack intersubjective certificability.

Cusumano (2010) identified another weakness as the necessary limitation of the sample size due to the effort required by the researcher to probe deeply into each sample or case they are researching. As a result of this limitation, the specific cases may be unusual, and random chance may influence what the researcher sees. He explained that studies of cases have great value to generate ideas if selected carefully, but ultimately they are only exploratory and illustrative. Small samples or cases studies do not bring certainty—at least, not statistical certainty—about what might represent and enduring principle or a best practice in management. With limited information, researchers often make assumptions about how an organization

might have made decisions or behaved, and this can produce wrong conclusions about underlying causes.

Cusumano (2010) also pointed out that some best-selling management books, like *In Search of Excellence* (Peters & Waterman, 1982) and *Good to Great* (Collins, 2001) appear more rigorous than they really are: the findings are compromised because of problems in their samples, questions asked, and in lack of statistical control. This evaluation was shared by Rosenzweig (2007). Both authors also noted that the firms highlighted by these books to demonstrate their respective small set of management principles that were deemed fundamental to maintain superior performance did not do so well after the publication of the books. One common characteristic of the sets of principles in both books is that they are subjective, even both Peters and Waterman (1982) as well as Collins (2001) used a specific process to obtain their group of firms.

Cusumano (2010) suggested that the solution for future research is to extend beyond the ideas of these bestsellers through the use of more rigorous methods. He argued for a combination of qualitative and quantitative methods. Qualitative methods would first be used to improve the basic understanding of a problem, and based on this understanding metrics could be devised and data collected quantitatively. This data can be used to statistically analyze hypotheses that were based on theory or careful observation and then drill down through detailed case studies and intensive fieldwork to probe the phenomena in depth. The drawbacks of this type of approach is that it is time consuming and the researchers have to master the two very different skill sets of qualitative and quantitative approaches.

Trustworthiness of Research Methods

Much of the research that has been used to build and validated theories about management decisions raised as many questions as it answered. Cusumano (2010) identified a significant concern that what seems to work for one firm in one time period, industry, or national setting often does not work for other firms in different circumstances, or even for the same firm in another time period or a different industry. For this reason, managers need to form their own assessment as to which theories are potentially enduring

for and applicable to their particular case and so are trustworthy; and which are tinted by particular circumstances or are simply just management fads.

Cusumano (2010) identified another problem wherein many different styles of research exist. Variations that include a selection of the research methods can lead to different insights and conclusions. Each style and research method has its strengths and weaknesses, but usually produces an incomplete picture of a given phenomenon. Sometimes, the academic lens of one philosophical assumption used in business research—as criticized by Diamond (1999), Ghostal (2005), and Bennis and O'Toole (2005)—acts like a “silo” and obscures a broader view of what is really happening. This is not unlike the story of blind men touching and describing different parts of an elephant without realizing the entirety of what is before them.

Rosenzweig (2007) went further than Cusumano (2010) by pointing out that a common error in business research is to infer causality from statistical correlation. He illustrated his point by taking something as basic as the relationship between employee satisfaction and company performance. He noted that, conventional logic suggests that satisfied employees ought to lead to high performance, and that one possible measure of employee satisfaction is the rate of employee turnover. He then posited a circumstance wherein the researcher found a high correlation between the rate of turnover and firm performance. In this situation, the challenge is to untangle the direction of causality. Does lower employee turnover lead to higher performance? Perhaps, since a firm with a stable workforce might be able to provide more dependable customer service, spend less on hiring and training, and so forth. Or does higher performance lead to lower employee turnover? That could also be true, since a profitable and growing firm might offer a more stimulating and rewarding environment as well as greater opportunity for advancement. Knowledge of the causal connection is essential if managers want to decide how much they should invest in greater levels of satisfaction versus other objectives.

Rosenzweig (2007) also identified what he called the *halo effect*. He described this as the tendency to make inferences about specific traits on the basis of a general impression. This is based on the fact that most people find it difficult to measure independently separate features, and that the common

tendency is to blend them together in one general predominant impression. The best examples of the halo effect, according to Rosenzweig, is the relevant and tangible information about the financial performance of firms and the attribution people make about other things like leadership style, customer orientation or even organization effectiveness of firms that are less tangible and objective depending on the performance data. To corroborate this, he cited the case of Percy Barnevik of ABB and John Chambers of Cisco. When the financial performance of the firms was good, both CEOs and their companies were acclaimed by both the business press and academics as examples of outstanding leadership and efficient organizations; a few years later, when the financial performance of the firms declined, they became examples of bad leadership and inefficient organizations,.

Rosenzweig (2010) considered that the bestsellers *In Search of Excellence* (Peters & Waterman, 1982) and *Good to Great* (Collins, 2001) represented nothing more than the descriptions of basic principles of good management and certainly did not represent—as both authors inferred—the secrets of business successes. He explained that the research conducted by the authors simply measured the halo effect of the firms inferred from their good financial performance. Many of the firms that were lauded in the two bestsellers for their management principles, declined, and a few even went out of business after the publication of the books. This indicates that there was no real cause and effect link between the management principles presented in the books and the outstanding financial performance of these firms. Instead, other factors, like those cited by Cusumano (2010) and presented at the beginning of this section, had a greater influence on the financial performance of these firms.

Conclusion

Wisdom, uncertainty, and ambiguity will always exist in management decisions. The danger for firms lies in the possibility for managers to make decisions based on faulty theories that were acquired through personal experience or learned from experience of others, and that don't generate the expected outcome. These decisions may sometimes put the future of the firm at risk. For this reason, I have presented and discussed the types of business research, the philosophical assumption in business research, the strength and

weaknesses of qualitative and quantitative research methods, the benefits of combining both methods, and the trustworthiness of research methods in general in validating management theories used by managers in decision making.

My purpose was to alert managers of the risk of making decisions that are based on theories that have not been validated or incorrectly validated. To avoid this risk, it is important that managers become wiser, more discerning, and more appropriately skeptical to simplistic formulas and quick-fix remedies (Rosenzweig, 2010).

In today's business world managers are constantly exposed to a multitude of business books and an overwhelming influx of articles from management gurus, journalists, and academics who describe the latest prescriptions of management principles for business success. These all claim that if managers follow their advice and implement these principles the firms they manage will be enduringly successful. Managers must understand that there are no "magic silver bullets" to business success and learn to see through some of these delusions. Much of what appears in the business press, in academic research, and in recent bestsellers does not pass any serious validation test. The best approach managers can take is to follow the advice of Rosenzweig (2010) and focus on the basic elements that drive the performance of firms, while recognizing the fundamental uncertainty at the heart of the business world.

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References

- Bansal, P., & Corley, K. G. (2012). Publishing in AMJ - part 7: What's different about qualitative research. *Academy of Management Journal*, 55(3), 509–513.
- Bennis, W. G., & O'Toole, J. (2005). How business schools lost their way. *Harvard Business Review*, 96–104.
- Bluhm, D. J., Harman, W., Lee, T. W., & Mitchell, T. R. (2011). Qualitative research in management: A decade of progress. *Journal of Management Studies*, 48(8), 1866–1891.

Collins, J. C. (2001). *Good to great: Why some companies make the leap—and others don't*. New York, NY: HarperBusiness.

Comscore. (2013, June 4). Comscore reports April 2013 U.S.: Smartphone subscriber market share. Retrieved from http://www.comscore.com/Insights/Press_Releases/2013/6/comScore_Reports_April_2013_U.S._Smartphone_Subscriber_Market_Share#

Cooper, D. R., & Schindler, P. S. (2011). *Business research methods* (11th ed.). New York, NY: McGraw-Hill / Irwin.

Corley, K. G., & Gioia, D. A. (2011). Building theory about theory building: What constitutes a theoretical contribution? *Academy of Management Review*, 36(1), 12–32.

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Los Angeles, CA: Sage.

Cusumano, M. A. (2010). *Staying power: Six enduring principles for managing strategy and innovation in an uncertain world (lessons from Microsoft, Apple, Intel, Google, Toyota and more)*. Oxford, UK: Oxford University Press.

Dewey, J. (1997). *Experience and education*. New York, NY: Simon & Schuster. (Original work published 1938).

Diamond, J. M. (1999). *Guns, germs, and steel: The fates of human societies*. New York, NY: W.W. Norton. (Original work published 1997).

Drucker, P. F. (2006). *The effective executive*. New York, NY: Collins. (Original work published 1967).

Firestone, W. A. (1987). Meaning in method: The rhetoric of quantitative and qualitative research. *Educational Researcher*, 16(7), 16–21.

Ghoshal, S. (2005). Bad management theories are destroying good management practices. *Academy of Management Learning & Education*, 4(1), 75–91.

Hambrick, D. C. (2005). Just how bad are our theories? A response to Ghoshal. *Academy of Management & Education*, 4(1), 104–107.

Hambrick, D. C. (2007). The field of management's devotion to theory: Too much of a good thing. *Academy of Management Journal*, 50(6), 1346–1352.

Hayek, F. A. V. (2008). *A free-market monetary system*. Auburn, AL: Ludwig Von Mises Institute. (Original work published 1974).

Heraclitus. (2001). *Fragments: The collected wisdom of Heraclitus*. New York, NY: Viking.

Hirsch, L. (2009, October 28). Apple iPhone closing in on BlackBerry market share. Retrieved from website: <http://www.tuaw.com/2009/10/28/apple-iphone-closing-in-on-blackberry-market-share/>

Hunt, B. (2011). Publishing qualitative research in counseling journals. *Journal of Counseling & Development*, 89(3), 296–300.

Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice-Hall.

Migiro, S., & Oseko, A. (2010). Qualitative research paradigms: What the novice researcher needs to know. *Proceedings of the European Conference on Research Methods for Business & Management Studies*, pp. 334–341.

Peters, T. J., & Waterman, R. H. (2004). *In search of excellence: Lessons from America's best-run companies*. New York, NY: HarperBusiness Essentials. (Original work published 1982).

Popper, K. R. (2002). *The logic of scientific discovery*. London, UK: Routledge. (Original work published 1935).

Pratt, M. G. (2009). For the lack of a boilerplate: Tips on writing up (and reviewing) qualitative research. *Academy of Management Journal*, 52(6), 856–862.

Rosenzweig, P. (2007). *The halo effect*. New York, NY: Free Press.

Savin-Baden, M., & Major, C. H. (2010). *New approaches to qualitative research: Wisdom and uncertainty*. London, UK: Routledge.

Sinkovics, R., & Alfoldi, A. (2012). Progressive focusing and trustworthiness in qualitative research. *Management International Review*, 52(6), 817–845.

Tajeddini, K., & Trueman, M. (2008). The potential for innovativeness: A tale of the Swiss watch industry. *Journal of Marketing Management*, 24(1/2), 169–184.

Tracy, S. J. (2013). *Qualitative research methods: Collecting evidence, crafting analysis, communicating impact*. Chichester, UK: Wiley-Blackwell.

Zikmund, W. G., Babin, B. J., Carr, J. C., & Griffin, M. (2013). *Business research methods* (9th ed.). Mason, OH: South-Western.



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