CHAPTER 6
THE METHODOLOGICAL FRAMEWORK: ROLE OF MODELS IN THEORY CONSTRUCTION

1 INTRODUCTION

While the theoretical foundation for the conceptualisation of the corporate reputation, corporate trust and other related corporate constructs has been laid in Chapter 2, the methodological foundation for the conceptual research approach followed in this study is presented in this chapter. Existent literature suggests that conceptual research methods play a significant role in theory building, which is aimed at expanding or generalising knowledge (Greca & Moreira, 2000:2; Heemskerk, Wilson & Pavao-Zuckerman, 2003:8; Lenker & Pacquet, 2003:1; Meredith, 1995; Puth, 1981:18; Reisman, 1988:215; Van de Ven, 1989:486; Weick, 1989:516; Whetten, 1989:491).

Theory building forms an integral part of the normal cycle of research, which is aimed either at building or testing theory. This research cycle moves from description to explanation to testing with continuing iteration through this cycle. Throughout this iterative process, descriptive models are expanded into explanatory frameworks which are tested against reality until they are eventually developed into theories as research study builds upon research study (Emory, 1980:7). “The result is to validate and add confidence to previous findings, or else invalidate them and force researchers to develop more valid or more complete theories.” (Meredith, 1993).

In the process of exploring the meaning of the phrase ‘empirical research’, Meredith (1995) observes an increasing common-sense tendency to equate empirical research to being the opposite of theoretical research, which in turn is increasingly incorrectly viewed as “… not having to do with the practical, in other words ‘abstract’ or perhaps even ‘academic’ and as such ‘irrelevant’” (Meredith, 1995). While Meredith (1995) associates this tendency with the distinction that exists between basic and applied research, he emphasises that empirical research does not *only* have something to do with practice or application. Since the word ‘theory’ usually means a coherent group of general propositions used as principles of explanation, all research is oriented either

towards generating/building or testing/proving theory, and as such all research is regarded as empirical.

Similarly, a number of scholars challenge the view of many researchers that research is comprised almost entirely of theory testing and that proactive theory building constitutes only a minor role in the process, or even more perplexingly that theory-testing research is actually theory building. Since hypotheses that are being tested, proven or disproven need to come from somewhere, there is a clear difference between theory-building and theory-testing research – the one cannot do without the other (Bacharach, 1989:512; Emory, 1980:7; Van de Ven, 1989:487; Weick, 1989:519; Whetten, 1989:491).

All the stages in the research cycle process are important. Research in a field that simply iterates between description and testing, ignoring the explanation stage, will not achieve the development of sound frameworks and theories that can create a more holistic and systematic understanding of the phenomenon being researched. Similarly, if the research iterates between description and explanation, ignoring the testing stage, there will not be sufficient opportunity to evaluate and build on earlier models, frameworks, or theories and the field will never progress, as each new explanation will take the field in a new direction. Likewise, if the research iterates between explanation and testing, ignoring the description stage, the research findings will become more and more disconnected from the real world and irrelevant to the reality of the problems facing managers (Emory, 1980:7; Meredith, 1993; Van de Ven, 1989:487; Weick, 1989:516; Whetten, 1989:491).

However, while all the stages in the research process are important, Meredith (1995) offers his personal view (with which this researcher agrees) that the most interesting research is concerned not with theory testing, but with theory building.

As this study is a conceptual study aimed at clarifying existing theory and providing a new theoretical perspective on the nature of and relationship between corporate reputation and trust as a contribution to theory building the nature and dimensions of theory, as well as the role of models in theory construction in particular, need to be discussed in preparation for the presentation of the research results in the next chapter.

2 OUTLINE OF CHAPTER CONTENT

In outlining the key methodological considerations applicable to this discussion, the difference between basic (theoretical) and applied (practical application) research is first delineated, before an overview of the meaning, functions, elements and dimensions of theory is provided.

The role and importance of theory-building research and some key characteristics of the theory-testing versus the theory-building research strategies are then discussed. This is followed with a review of three dimensions of research, namely the breadth, height and depth dimensions, and a brief overview of the four general modes of theory construction.

The role of models in theory construction is then discussed in more detail. An overview is provided of the meaning, functions, different types, benefits and limitations of models as well as the criteria for evaluating models. The different conceptual research methods, based on their levels of explanatory properties, are then reviewed.

This chapter is concluded with a summary of the role of models in theory construction. This discussion forms the foundational guideline to formulate a conceptual model of the relationship between corporate trust and corporate reputation in the next chapter.

3 KEY METHODOLOGICAL CONSIDERATIONS

3.1 BASIC VERSUS APPLIED RESEARCH

In the introduction to this chapter it was stated that all research – both theoretical and practical application research – is regarded as empirical research (Bacharach, 1989:512; Emory, 1980:7; Meredith, 1995).

Before discussing the meaning and nature of theory construction, it is prudent to make a clear distinction between these two types of research and delineate the terms to be used when reference is made to theoretical versus practical application research, since

the term 'empirical' that is often used in literature to *only* refer to practical application research is held to be inaccurate. Instead, it is posited in this study that the distinction should be made using the terms basic or theoretical versus applied or practical research.

Applied or practical application research examines a specific set of circumstances and its ultimate goal is relating the results to a particular situation; in other words applied research uses the data directly for real-world application (Emory, 1980:7, 52-53; Stanovich, 2007:107). The primary goal of applied research is description – to answer the question of what (Weick, 1989:498). In applied research the focus is on practical problem-solving, which is used to guide management's decision-making and predict specific behaviour in a very specific setting (Emory, 1980:52; Stanovich, 2007:106).

Basic or theoretical research on the other hand focuses on investigating fundamental principles of a social phenomenon. The primary goal of basic or theoretical research is explanation – to answer the questions of how, when, and particularly why (Bacharach, 1989:498; Emory, 1980:7; Stanovich, 2007:107; Whetten, 1989:492).

Since theory can be defined as *a statement of relationships between units observed (variables) or approximated (constructs) in the empirical world*, basic or theoretical research focuses on explaining the relationships between the variables. With sociological system theory's emphasis on examining and explaining the relationships between an organisation and its stakeholders, the methodological choice of basic or theoretical research fits the macro-theoretical foundation of this study, and as such there is a worldview fit between the purpose of this study and the methodological choice.

While the use of the terms 'applied' and 'basic' makes the distinction between the practical application and theoretical types of research more succinct, it should be noted that practical application research is not the only research that provides practical *value*. This is in line with the view offered by Stanovich (2007:107), when he argues that "… [i]t is probably a mistake to view the basic-versus-applied distinction solely in terms of whether a study has practical applications [value], because this difference often simply boils down to a matter of time. Applied findings are of use immediately. However, there

is nothing so practical as a general and accurate theory." (Stanovich, 2007:107). As such, basic as well as applied research is regarded as important and of value to the scientific process (Bacharach, 1989:512; Bromley, 2002:42; Van de Ven, 1989:486).

3.2 THE MEANING AND NATURE OF THEORY CONSTRUCTION

3.2.1 The meaning of theory

Theory is a complex topic. Theory is defined in this study as *a set of systematically interrelated concepts, definitions and propositions that are advanced to explain and predict phenomena* (Emory, 1980:35). Puth (1981:19) notes that even though the term 'theory' is frequently used in everyday conversation, most of the popular uses of the term are of limited use in scientific enquiry. As such, he outlines four major ways in which the term can be used within science: theory as a conceptual process, theory as explanation, theory as law and theory as summary statements.

'Theory as a conceptual process' refers to the general meaning of the term, which is used to denote any aspect of the formal conceptual and inferential processes of science, which attempt to organise and order empirical data. A second manner in which theory can be used in science is as a generalised explanatory principle, which usually consists of a statement of functional relationships among variables. In the third place, theory is used to refer to a group of logically organised laws, which is more pertinent to the more established sciences. The fourth meaning, which "… is also the most restricted one, refers merely to summary statements which give order, in an essentially descriptive manner, to the cluster of laws which have been empirically [through applied research] developed in some subject matter" (Puth, 1981:20-21).

The first and second meanings, namely theory as a formal conceptual and inferential process as well as theory as an explanatory principle regarding the relationships among the variables, apply to the usage of the term in this study. A good theory is held to be one that goes beyond merely establishing empirically observed patterns, and tries instead to explain what caused those patterns – to address the why, rather than the what (Bacharach, 1989:498; Van de Ven, 1989:486-487; Whetten, 1989:490,492).

Meredith (1993) cites five requirements for a theory, namely that it:

- allows for prediction or increased understanding;
- is interesting, that is non-trivial;
- includes attributes or variables and their interactions;
- does not include 'composite' variables or attributes that are undefined; and
- includes boundary criteria.

Any conceptual model that includes epistemic propositions or explanatory elements and which meets all five theory requirements is classified as a theory, whereas it is regarded as a framework if it meets only a few of the theory requirements (Meredith, 1993; Whetten, 1989:491).

A framework is essentially viewed as a pre-theory, which may well substitute for a theory in many ways, since it, like theory, may identify relevant variables, classify them, describe their interactions, and allow a mapping of items (such as the existent literature or research studies) on to the framework. However, a framework only consists of data, qualitative or quantitative, that merely characterises or describes the social phenomena of interest. A framework therefore only provides answers to the 'what' and 'how' questions; in that it describes the variables, constructs and concepts that are being studied, and it describes the relationship between these factors. A complete or 'good' theory on the other hand describes as well as explains – it provides an explanation for the characteristics as well as the relationships in the data (Meredith, 1993; Whetten, 1989:490-493).

3.2.2 The functions of theory

Theory tends to be both a tool and a goal. Good theory is practical because it advances knowledge in a scientific discipline; can be used as an aid to assist in directing applied research investigations; and can guide research by generating new predictions; or it can be used as something valued as an objective in its own right, in that it can integrate and order existing laws stemming from applied research (Emory, 1980:35-36; Van de Ven, 1989:486). Theory is also regarded as useful because it provides an efficient means of abstracting, codifying, summarising, integrating and storing information (Puth, 1981:21).

Fisher (1978) provides a more detailed classification of the functions of theory, namely that of heurism, justification, explanation and causation. The function of heurism refers to the expectation that theory should be able to generate hypotheses or new research ideas, whereas justification suggests that theory should be able to corroborate or confirm hypotheses. The explanation function is described as theory being used to assist in understanding phenomena that do not have discernible explanations; typically, to answer a 'why' question. This is the key function of theory applied in this study.

The last function according to Fisher (1978) is the capability of scientific theory to 'account' for – that is to explain or predict – the causal relationships among or between phenomena. While causation requires that a relationship be temporarily distinct and meet the requirements of sufficient condition for the effect to occur, it needs to be noted that social science theories, in contrast to the natural sciences, cannot consistently satisfy the criteria for causation. Social explanations are often atemporal and only employ sufficient but not necessary conditions (Puth, 1981:23). In the sense that this study has the objective of investigating and conceptualising the relationship between corporate trust and reputation, this function of theory is also applicable to some extent.

In summary, the general functions of theory (Puth, 1981:24) can be described as follows:

- A theory is a set of logically related general propositions permit the deduction or conceptualisation of certain outcomes.
- A theory provides a unifying explanatory mechanism that can be used to impose and prompt coherence on numerous, diverse behavioural outcomes.
- A theory provides a means for predicting future behavioural outcomes.

3.2.3 The elements of theory construction

The four essential concepts in theory construction include variables, concepts, constructs and relationships. A variable is defined as *an observable entity that is operationalised by measurement*. A concept is defined as *an abstraction of meanings or characteristics from reality associated with certain events, objects, or conditions to which some word or words are assigned in order to be able to communicate about it*.

Some examples include table, dog, hot, money, electric light and conference (Bacharach, 1989:498,500; Emory, 1980:24-26,152; Meredith, 1993; Puth, 1981:24).

A construct is defined as *an abstract form of concept that cannot be observed directly or indirectly, but can be inferred by observable events* or as an image or idea specifically invented for a given research and/or theory-building purpose. Even though there is no distinct demarcation between a concept and a construct, the latter is regarded to be more complex than a concept. By its very nature, constructs such as culture, satisfaction, motivation, intelligence, trust and reputation cannot be observed directly, and can therefore be described as specialised concepts. Constructs may then be applied on the basis of that which can be observed (i.e. its variables), and refer to the relationships among the constitutive variables of a phenomenon. A construct is then viewed as a broad mental configuration of a given phenomenon, whereas a variable may be viewed as an operational configuration derived from a construct (Bacharach, 1989:498,500; Emory, 1980:26-27; Meredith, 1993; Puth, 1981:24).

Bacharach (1989:496) describes theory as a statement of relations among concepts within a set of boundary assumptions and constraints, and notes that it is "… no more than a linguistic device used to organise a complex empirical world". A theory is then a system of constructs and variables that are related to one another. On a more abstract level constructs are related to each other by propositions while on a more concrete level hypotheses (derived from the propositions) specify the relations among variables (Bacharach, 1989:500).

In this study the constructs of corporate reputation and corporate trust and the relationship between them, also in relation to corporate identity, trustworthiness and sustainability, are conceptualised.

3.2.4 The dimensions of theory

The dimensions of these four key elements are determined by positioning them on a continuum, where one extreme on the left represents the everyday, non-scientific world (literature, arts, etc.) and the other extreme on the right represents the scientific world. It

is held that scientific progress is marked by a progressive shift from left to right on the continuum for all the elements of theory construction (Puth, 1981:27).

The element of construct is placed on a continuum of operational specificity, with extremes of surplus meaning on the left and explicit meaning on the right; where operational specificity refers to the clarity of the stated relationship to its empirical basis. Hypothesis as an element is positioned on a continuum between 'intuitive' (left) and 'rigorous' (right), which relates to the testability of the hypothesis and the extent to which adequate empirical or observational tests can be performed. A hypothesis is defined as *an anticipatory verbal conjecture or surmise that states a relationship among variables and observation* (Puth, 1981:26).

Observation as an element, which involves the purposeful perception of the relationships among variables with a view to testing stated hypotheses, is localised on a continuum relating to the control of the variables, from everyday, ambiguous observations on the one extreme on the left to experimental control on the right, which allows for the reduction in the ambiguity with which variations in the dependent variables may be assigned to the influence of the independent variables (Puth, 1981:27).

The constructs of corporate trust, reputation, trustworthiness, identity and sustainability as conceptualised in this study are held to be positioned closer to the right on the continuum of operational specificity, since these constructs have been clearly defined and their meaning and relationships have been made explicit based on empirical data research.

3.3 ROLE AND IMPORTANCE OF THEORY-BUILDING RESEARCH

In contrast to the natural science process that is mechanistic and precise, and where validation of results is key, the social science process is often more intuitive, blind, serendipitous and creative (Weick, 1989:519). Even though a social scientist can make use of either applied or basic research strategies, the validation of the theory and results is not his key task. The contribution of social science is held to lie not in validated knowledge, "… but rather in the suggestion of relationships and connections that had

previously not been suspected, relationships that change actions and perspectives" (Weick, 1989:524).

3.3.1 Role of theory-building research in social sciences

The fact that valid knowledge is difficult, if not impossible, to attain in social science, puts basic or theoretical research in a different light, and highlights both its role and importance. "Theorizing is no longer just a preliminary to the real work of verification, but instead may involve a major portion of whatever verification is possible within the social sciences." (Weick, 1989:524).

Theory building is not done in a vacuum, but is based on the practical experience of the social sciences researcher. In defence of the argument by some researchers that empirical theory-building research is 'weak', Meredith (1995) argues that it in fact requires to be conducted in a rigorous and careful fashion, based on practical experience: "Thus, good theory building [theoretical research] is based not on intuition or hearsay, but on rigorous, careful, practical experience; that is, 'empirical research'."

According to Meredith (1993:3), the repeating research cycle of description, explanation and testing in building theory does indeed include experience, and as such he holds that the description of the phenomenon of interest through that experience is certainly legitimate research, since it allows for the formation of hypotheses, frameworks, typologies or even simple taxonomies with descriptions based on experience.

Whetten (1989:492-493) also emphasises that most researchers generally work on improving an existing theory rather than generating a new one from scratch. However, he maintains that a simple addition or subtraction of factors to or from an existing model does not constitute theory. Good theory needs to substantially alter the core logic of the existing model, by for example identifying how this change affects the affected relationships between the variables. As such, it is held that the domain of theory is relationships. Therefore "… theoretical insights come from demonstrating how the addition of a new variable significantly alters our understanding of the phenomena by reorganizing our causal maps" (Whetten, 1989:493).

In this study the knowledge base that is known in the communication and reputation management field has been used and expanded. However, it is believed that the development of the conceptual model to clarify and explain the relationship between corporate reputation and corporate trust will result in a paradigm shift (Bramoullé & Saint-Paul, 2007:3). In line with Whetten's (1989:493) description of a good theory, this researcher also believes that this study's contribution to theory development will significantly alter academics' and practitioners' understanding of the relationship between corporate reputation and corporate trust, which in turn will influence how these corporate processes are managed and open up new avenues for further research.

3.3.2 Some approaches to theory building

Reisman (1988:215) also supports the contention that conceptual theory-building research is important, and as such he calls for "… more research which is unifying in nature and which would compress knowledge while significantly expanding it". In delineating a number of taxonomic approaches to classifying knowledge and in emphasising the need for yet higher order contributions, "… namely those which embed that which is known in more generalized theoretical frameworks", a number of alternative strategies for that type of research are offered. These include the ripple, embedding, bridging, transfer of technologies, creative application, structuring, and empirical validation strategies. According to Reisman (1988:219), these strategies are not mutually exclusive: "In fact, some of the better studies invoke two or more of the above approaches."

These different ways in which the expansion of knowledge can be pursued are not discussed in detail. However, a brief overview is provided of the first three, since it is believed that the approach followed in this study corresponds with the description of the embedding strategy, as well as some elements of the ripple and bridging strategies. This also provides a link for a discussion of the characteristics of the different research strategies being applied, which follows in section 3.4.

Reisman (1988:216-217) observes that the most common way in which management science research is done is the incremental approach, which he refers to as the ripple

strategy, as this approach typically takes what is known for (n) dimensions and develops a model, solution, or theory for (n + 1) dimensions of the same type of problem domain. On the other hand, the embedding strategy or process applies when several known models or theories are embedded into a more generalised formulation or a more global theory.

If the incremental approach designation is used synonymously with ripple process then, correspondingly, the 'big leap forward' approach can be used for the embedding process designation. The third type of process, called the bridging strategy, involves the bridging of known models or known theories. The key difference between these three strategies and the rest as identified by Reisman, is that these – especially the embedding and bridging processes – tend to 'explode' knowledge, whereas the others are more imploding in nature (Reisman, 1988:218).

This is also in line with the distinction made in the study of scientific progress by Bramoullé and Saint-Paul (2007:3) between extensive and intensive research. These authors note that studies of technological changes have long stressed the difference between improvements of known processes and innovations leading to new products. Likewise, they argue that it seems that some scientific contributions are pioneering and open up new avenues for future research, while others mainly refine or extend previous work. Bramoullé and Saint-Paul (2007:3) hold that this distinction lies at the core of Kuhn's influential theory of scientific evolution, which holds that science alternates between periods of normal science and scientific revolutions. Under normal science progress is gradual, building up on past achievements. In contrast, scientific revolutions correspond to paradigm shifts during which scientists qualitatively change their focus and assumptions.

3.3.3 Plausibility as a substitute for validation

The generic selection criterion that is most often used in theoretical or basic research and acts as a substitute for validation is the judgement "… that [something] is plausible" (Weick, 1989:524). The centrality of plausibility to the theorising process rests on the past experience of the theorist, which has been 'edited' down into assumptions that the

theorist makes in his research. “The assumption is a distillation of past experience. When that assumption is applied to a specific conjecture, the assumption tests the conjecture just as if an experiment had been run.” (Weick, 1989:525). The theorist’s reaction to the plausibility of his conjecture is regarded as the equivalent of a significance test, and as such it serves as a substitute for validity.

Since basic or theoretical research is driven by concerns of plausibility rather than concerns of validity, a number of selection criteria can be used to assess the judgement of plausibility, including reactions that indicate that the theorist finds that the results of his research are interesting, obvious, connected, believable, beautiful or real. Since the first selection criterion (interest) is the one that is regarded to be of most use in this study, it will be briefly discussed.

Interest as a selection criterion is very closely tied to past experience and previous tests or knowledge. According to Weick (1989:525), a reaction with the feeling *that’s interesting* is a clue that current experience has been tested against past experience, and the past understanding has been found inadequate. An assessment of interest represents “… the terminal stage of a substantial comparison between previous experience summarized into an assumption and a current experience summarized into a conjecture which questions that summary. The reaction *that’s interesting* essentially signifies that an assumption has been falsified.” (Weick, 1989:525).

This study started off questioning the general assumption that corporate trust is an antecedent of corporate reputation, as is reflected in much of the existent literature. Following the basic research, the researcher’s inference is that the relationship between these two constructs is actually an inverse relationship, and that the process has clarified the critical difference between trust and trustworthiness. This has led to disconfirming the original assumption.

3.4 RESEARCH STRATEGY CHARACTERISTICS

According to Reisman (1988:218), empirical (applied) research that is done in order to validate or test theory is, in the spectrum of research strategies, characterised as being

the most labour-intensive process, as it takes much effort to design and pretest the proper data-collection instrument and extensive effort to collect, mechanise and analyse the data. Reisman notes that this kind of research is very important in providing a real-world underpinning to a theory or in reducing theory to practice. However, it is still – within the spectrum of strategies discussed earlier – the process which is most prone to inconclusive results and all that this implies. Conversely, Reisman observes, also within the spectrum of his identified strategies, that "… this type of research requires the least creativity and the least need for a breadth of vision" (Reisman, 1988:218).

On the other hand, Reisman holds that generalisation/unification empirical (basic) research of the 'big leap forward' variety is the least labour intensive, as this approach typically does not require much computerisation, if any; it does not particularly get involved with the development and testing for effectiveness or for efficiency of any algorithms; it typically requires no data collection; and validation is easily obtainable in as much as published works have served as the basis of and the stepping-stones for the generalisation.

"Therefore, the generalized framework [basic or theoretical research] should reduce to all of these known and published models or theories as special cases by a process of simplification. Although it may appear that this is circuitous-type reasoning, in fact it isn't. This strategy is the most prone to result in significant contributions within the shortest time span and the least effort but it requires the most creativity and breadth of vision." (Reisman, 1988:218-219).

With regard to the other strategies discussed earlier, Reisman points out that these fall somewhere between the two extremes discussed above. For example, bridging disciplines may require validation that the resulting theory is meaningful and/or useful, and while the levels of creativity required in this process are not as great as they are in the 'big leap forward' approach, they are still greater than what is required for the more mechanistic ways of incremental approaches. He also holds that the incremental process, or the ripple process, is probably "… one of the more difficult ways of getting a breakthrough of any significance as it typically requires an extension of a well-developed body of theory where the 'cream' has already been 'skimmed off'" (Reisman, 1988:219).

However, Reisman also maintains that while the embedding process is most prone to result in significant contributions within the shortest time span and the least effort, this strategy may result in much criticism, especially from those who are most comfortable with analysis as opposed to synthesis or design, and that 'so what?' reactions will be common.

Reisman (1988:219) observes that "… the surest way of securing a publication in today's flagship management science journals, which are basically by and for the academic community, is to follow the ripple process". Nevertheless, he warns that "… by not paying sufficient attention to the phenomenologic basis for our research we risk ... having analytic development so far ahead of empirical observation and description ... that we may not be developing the analytic tools that will be most helpful for modelling and studying actual phenomena." This comment of Reisman ties in with Weick's observation about the importance of theoretical research made earlier in this section.

3.5 DIMENSIONS OF RESEARCH

In briefly outlining the different dimensions of research, Puth (1981:31-35) notes Van Leent's (1965) systematisation of social psychology and the proposition that research in this field manifests in three dimensions, namely breadth, height and depth.

3.5.1 The breadth dimension of research

Research on this dimension is generally directed at the 'natural' occurrence of phenomena, at social problems as they are manifested in everyday life. Survey research, where the focus is on an accurate representation of phenomena and the relationship between these phenomena in society, is the most general type of research conducted on this dimension. In this instance, the key requirements of the research being done include operational accountability, standardisation of observations, reliability and randomness of sampling.

Puth (1981:32) observes that research on this dimension provides invaluable groundwork preceding and initiating more sophisticated research. However, Puth

(1981:32) also highlights that researchers operating on this dimension unfortunately do not always adhere to the requirements of embedding their research in relevant theory, which leads to "… a mere verbalising of tabulated data".

3.5.2 The height dimension of research

Research on the height dimension is generally primarily and explicitly directed at theory construction, in contrast to providing solutions to social problems, and it is noticeably concerned with causation rather than explanation. Experimental research is the most general type of research conducted on this dimension. The foremost concern of experimental research designs is the requirement of internal validity, which requires the isolation of dependent and independent variables as well as the control of all other variables, in order to be able to prove that the researcher has measured what he set out to measure.

Puth (1981:33) notes that the most preferred approach to theory construction on this dimension is a hypothetical-deductive approach, "… where a theory is constructed from a limited number of constructs by way of systematic testing of a series of hypotheses". Puth (1981:33) also holds that research conducted on this dimension will contribute to or establish theories of the middle range.

3.5.3 The depth dimension of research

Research on the depth dimension differs fundamentally from the other two dimensions. Where the breadth and height dimensions are aimed at identifying and describing the variables of a phenomenon, and at deductively constructing an applicable theory through experimentation, neither of these two dimensions is instrumental in describing the depth of the phenomenon.

According to Puth (1981:33), the key question to be resolved on this dimension is: "What are the fundamental and universal properties of the phenomenon being studied? After the constitutive variables have been identified and the relationships between them described, what can be said of the phenomenon in its totality?" Since these questions

"… are indicative of the difficulty to precisely describe the methods of research on the depth dimension", most scientists operating on this dimension find it difficult to account for the process and method of their work. Research on the depth dimension is then characterised by the utilisation of intuition and introspection based on a wide understanding of the empirical context of the phenomenon and by the use of descriptive examples (Puth, 1981:33-34).

Puth (1981:34) observes that researchers with a preference for this dimension "… generally seem to demonstrate a dissociation from the (natural) scientific approach of causation, a scepticism about the value of experimental methods and a rejection of statistical means as the only way to valid and reliable results". Puth (1981:34) also asserts that there is an intimate relationship between theory and research on the depth dimension "… even to the extent that it is sometimes difficult to distinguish between the two components".

As a conceptual study aimed at conceptualising the corporate reputation and trust constructs (and the related constructs) as well as the relationship between these two constructs, in order to provide a more holistic conceptualisation and understanding of these constructs and how these processes can effectively be managed in an organisation, this study is firmly positioned on the depth research dimension.

3.6 MODES OF THEORY CONSTRUCTION

Theory construction can be described as the concurrent development of concepts, propositions that state a relationship between at least two properties, and contingent propositions whose truth or falsity can be determined by experience. This implies that one cannot equate theory with the mere development of conceptual definitions (Weick, 1989:517), but that the theory that is being constructed should be designed to highlight relationships, connections and interdependencies in the phenomenon of interest (Bacharach, 1989:500; Van de Ven, 1989:486; Whetten, 1989:492).

Theory construction can be described as a sense-making process, since a theory tries to make sense of the observable world by ordering the relationships among elements

that constitute the theorist's focus of attention in the real world (Bacharach, 1989:496; Weick, 1989:519; Whetten, 1989:491). According to Weick (1989:519), the problem of sense-making for theorists occurs precisely because the correspondence between concepts and observables is so loose; the system being studied is open rather than closed; and the dissemination of earlier sense-making alters the relationships that theorists are trying to order.

There are numerous ways in which to develop theory. In order to describe how best to develop sound theory, the framework developed by Marx (1963) is used as a guideline to describe four general modes of theory construction, namely model, deductive, functional and inductive. These will be briefly discussed, before the role of conceptual research, and the role of models in particular, is discussed.

3.6.1 Model development construction

There are a number of ways in which a model can be defined, a few of which will be discussed in section 4.3, when the different types of models are discussed. For the purpose of this discussion of conceptual models as one of the forms of theory construction, it is important to highlight that the purpose of a conceptual model is defined in this study to be *a representation of the relationships between or among concepts, based on a conceptual scheme* (Bacharach, 1989:500; Emory, 1980:38; Van de Ven, 1989:486; Weick, 1989:517; Whetten, 1989:492).

According to Puth (1981:35), a model, described as a conceptual analogue, is used to suggest basic empirical (theoretical) research, where the flow of influence is from the conceptual to the data (applied) level.

A model then structures current knowledge, offers a perspective for examining new problems and facilitates the integration of new parameters and relationships as a field evolves. Lenker and Paquet (2003:2), in citing Edyburn, provide a succinct description of a model's function: Models help practitioners and researchers to understand key variables, relationships and systems, which then stimulate advancements in theory,

research and development, policy and practice. These authors then argue that models provide a sound basis for advancing professional practices and scientific knowledge.

This form of theory construction refers to the process where theory is built on the depth dimension, in other words to basic research, and presented to the field for testing. A model is then used on the basis of its own heuristic value, and most of the applied research derived from the model is conducted by researchers other than the one who formulated the model. This form of theory construction is used in this study.

3.6.2 Inductive theory construction

Inductive theory construction refers to a process where a conclusion is arrived at based on the available evidence plus an inference that is drawn from this evidence. The reasons (or evidence) are alleged to be factual, and the conclusion explains them. “Inductive conclusions are tentative inferential jumps beyond the evidence presented. That is, the conclusion is suggested by the evidence plus some other insight that occurs to us.” (Emory, 1980:38).

Puth (1981:37) observes that inductive theory essentially consists of summary statements of empirical (applied) relationships and contains a minimum of inferential commitment and deductive logic. He describes this form of theory construction as positivistic (i.e. the theory that knowledge can be acquired only through direct observation and experimentation and not through metaphysics or principles), in that it leads to the progressive development of theory.

3.6.3 Deductive theory construction

Deduction is also a form of an inference process, but here the conclusion is suggested only by the evidence (or reasons) given and as such it purports to be conclusive. The conclusion must then necessarily follow the evidence. The reasons provided are then said to imply the conclusion and represent a proof. Deductive theory construction aims at arriving at a conclusion that is both true and valid (Emory, 1980:38). This form of theory construction refers to the process where a researcher uses the data from applied

research, and then modifies the underlying theory based on deductions made from the data.

3.6.4 Functional theory construction

This term is used to refer to the utilisation of organised conceptualisations, with more explicit emphasis on the provisional and tool character of the theory (Puth, 1981:37). With this form of theory construction, the interaction between basic and applied research is two-way. “This kind of theory encourages the most intimate and continuing interaction of data and conceptualisation. Both kinds of activity, empirical [applied] and conceptual [basic], are emphasised and they are given equal status.” (Puth, 1981:37).

In conclusion, Puth (1981:37) highlights that while these four modes are “… salient types of theory construction procedures, not all actual theoretical endeavours would in practice conform exactly to these modes”.

4 THE ROLE OF MODELS IN THEORY CONSTRUCTION

4.1 THE MEANING OF MODEL

A conceptual model is a simplified, logical, systematic and clear representation of reality; of real objects, phenomena or situations, which are made explicit in some abstract form. A conceptual model, depicted in words and/or charts and/or diagrams, is then intended to help build mental models of the system being studied (Greca & Moreira, 2000:2; Heemskerk *et al*., 2003:8; Mayer, 1989:43; Meredith, 1993; Puth, 1981:47-48, Turban & Meredith, 1981:20-21).

A key benefit of a conceptual model, in contrast to computer simulation or empirical models, is that it requires few resources and little prior modelling experience. Conceptual or qualitative models are typically drawn as diagrams with boxes and arrows that show the main elements and flows of material, information and causation that define a system (Heemskerk *et al*., 2003; Whetten, 1989:491). Mortensen (1972)

describes the key function of a conceptual model as being designed to make abstract experience concrete and meaningful to others.

According to Greca and Moreira (2000:2,5), modelling, understood as the establishment of semantic relations between theory and phenomena or objects, is the fundamental activity in the sciences. They distinguish between mental and conceptual models. Mental models are internal, personal, idiosyncratic, incomplete, unstable and essentially functional. In contrast, a conceptual model is described as a precise and complete representation that is coherent with scientifically accepted knowledge, and as an external representation specially created by researchers to facilitate comprehension of the system being studied.

A conceptual model, one with explanatory power, then highlights the major objects and actions in a system as well as the causal relations among them (Mayer, 1989:43; Whetten, 1989:491). As such, a conceptual model can be thought of as a special kind of comparative advance organiser or a special kind of text illustration, "… that is, as an organizer or illustration that shows how the parts and operations of a system fit together" (Mayer, 1989:61). Johnson and Henderson (2002:26) also describe a conceptual model as a high-level description of how a system is organised and operates, and they hold that as such it specifies and describes inter alia the major metaphors and analogies employed in the system, if any; the concepts of the system and the relationships between these concepts.

A conceptual model is thus a set of concepts, with or without propositions, used to represent or describe (but not necessarily explain) an event, object or process. Meredith (1993) emphasises that although any propositions identified in a conceptual model are merely logical statements rather than epistemological relationships, conceptual modelling is still more an interpretative than a formally rational research method: "... a mental model of the suspected relationships is posited, which may then be evaluated by means of a framework that captures the essence of the system under investigation".

According to Heemskerk *et al*. (2003:8), model building consists of determining system parts, choosing the relationships of interest between these parts, specifying the

mechanisms by which the parts interact, identifying missing information and exploring the behaviour of the model. “The model building process can be as enlightening as the model itself, because it reveals what we know and what we don’t know about the connections and causalities in the systems under study.” In the light of this, modelling can both suggest fruitful paths of study and help pursue those paths.

4.2 THE FUNCTIONS OF MODELS

The general objective in designing conceptual models is to construct a model that most accurately and usefully shows what is fundamental to the phenomenon it represents (Puth, 1981:48). Models are then useful to explore systems and processes that cannot directly be manipulated. The representation of systems or problems through models can be done at various degrees of abstraction (Turban & Meredith, 1981:21). Models can be more or less quantitative, deterministic, abstract and empirical. They help define questions and concepts more precisely, generate hypotheses, assist in testing these hypotheses and generate predictions (Heemskerk *et al*., 2003:8).

4.2.1 Models provide a frame of reference for scientific enquiry

The first function of a model within the context of any discipline is to provide a coherent frame of reference for scientific enquiry. Models are necessary to formalise a discipline and indicate its distinctive and characteristic boundaries (Puth, 1981:50). As such a model should provide both general perspective and particular vantage points from which to ask questions and interpret empirical observations.

4.2.2 Models clarify the structure of complex phenomena

The second general function of models is that they clarify the structure of complex events or phenomena, by reducing complexity to simpler, more familiar terms. This is held to be particularly important when dealing with a system or activity encompassing a vast and seemingly countless number of influences (Puth, 1981:51). A model, as a simplified and systematic representation of reality, fosters systematic thinking and enhances understanding (Mayer, 1989:57).

As Johnson and Henderson (2002:26-27) put it, a well-designed and refined conceptual model of a system will help the users of the model to more quickly 'figure it out'. Since a conceptual model is much smaller and simpler than the actual system, it is something that can be held in mind and worked on (Johnson & Henderson, 2002:32). Models can then reveal what to look for, how to identify levels of analysis, and how to separate the idiosyncratic from the common (Puth, 1981:51).

However, Mortensen (1972) cautions that the aim of a model is not to ignore complexity or to explain it away, but rather to give it order and coherence. Puth also notes that "… [b]y looking for the underlying structure of a phenomenon, the model builder decreases the danger of becoming side-tracked by irrelevant particulars. With the aid of a high-powered model, isolated pieces of information can assume meaningful patterns… In short, a useful model is a starting point for moving from description to explanation to prediction." (Puth, 1981:51).

4.2.3 Models provide new ways to conceive ideas and relationships

A third general function of a model is its heuristic nature, in that it provides new ways to conceive hypothetical ideas and relationships. Mortensen (1972) notes that this may well be regarded as the most important function of models, in that a good model lifts the researcher above the conventional modes of thought, enabling the researcher to study a phenomenon by transcending its immediate confines.

This is possible, since the initial context is transferred to a new perspective on the same phenomenon as the particular attributes of a phenomenon are adapted to more idealised modes of representation. "Ideally, any model, even when studied casually, should offer new insights and culminate in heuristic experiences." (Puth, 1981:52).

4.2.4 Specific functions related to theory construction

While the functions described above can be regarded as general functions in any discipline, Hawes (1975) identifies those functions that are specifically related to the process of theory construction, namely a descriptive, explicative and simulative function.

Although the descriptive function is the most conservative function of modelling since its range of generalisability is narrow and its assumptions are restrictively simplistic, it is regarded as fundamental to all models. This is because a model can be constructed to describe a particular phenomenon of which either no theory exists or the existing theory is inadequate. “In such an instance the purpose of the model is to describe the subject of study with more precision and specificness by using a model to represent the underlying structure of the phenomenon.” (Puth, 1981:52).

The explicative function applies when the objective is to explicate one important but poorly developed concept in an existing theory. “In this instance the purpose of modelling is not to describe and thereby make the phenomenon more amenable to theoretical explanation. Rather, it is to define more rigorously a concept central to relatively well-developed theory, thereby rendering that theory more testable.” (Puth, 1981:53).

Both the descriptive and explicative functions of models usually represent structural relations among concepts of a theory, whereas the simulative function represents functional or process relations among concepts. Hawes (1975) notes that not all models serve a simulative function, just as not all models serve a descriptive or explicative function. He observes that the decision whether to build a model to describe a phenomenon, explicate a concept or simulate a process, depends upon what immediate steps need to be taken to further develop the specific theory.

It is posited that both the explicative and simulative functions apply to the conceptual model that is developed in this study to explain the relationship between corporate trust and corporate reputation. The explicative function is applicable since the constructs of trust and trustworthiness, in relation to corporate reputation, are more precisely defined, and the functional or process relationships between these constructs are simulated.

It is believed that this model will make a meaningful contribution to the field, in that it will assist in clarifying this aspect in the theory, thereby enabling the more effective management and measurement of corporate trust and reputation.

4.3 THE DIFFERENT TYPES OF MODELS

There are a number of classifications as far as the description of different types of models is concerned. According to Turban and Meredith (1981:21), models describe, reflect or replicate a real event, object or process, but not all models necessarily explain the event, object or process that they represent. These authors identify three major types of models, each with increasing degrees of abstraction. Iconic models, which are the least abstract and most basic, are physical replicas of a system or situation. As such, they have no explanatory power. This type of model is usually on a different scale from the original, such as a scale model of a bridge, building, photograph or Tinker-toy version of a molecule.

An analogue model, which presents the next level of abstraction, is also a physical model, but its shape differs from that of the original system. This type of model does not physically look like the original system, but it behaves like the relevant portion of it. These are usually two-dimensional charts or diagrams, such as an organisation chart, a colour map, the blueprints of a house, an oil dip-stick or an hour-glass. Mathematical models are the most abstract. Since the complexity of relationships in some systems cannot be represented physically, symbols are used to represent the relationships. These symbolic models allow the greatest manipulation for purposes of experimentation, prediction and analysis, such as Boolean logic statements, stochastic simulations or mathematical equations (Turban & Meredith, 1981:21).

Greca and Moreira (2000:5) distinguish between different types of models, when they note that conceptual models as external representations can materialise as material artifacts, analogies or mathematical formulations. “An artifact that indicates the functioning of a water pump, an analogy between Rutherford’s atom and the solar system, or the mathematical formulations of the shell model for nuclear physics are examples of conceptual models.”

Cappella (1977:38) makes use of a differential logics approach, and distinguishes between models based on verbal logics, pictorial logics, mathematical logics and algorithmic logics. However, Puth’s discussion of the classification of scale models,

conceptual models and mathematical models is regarded as more applicable in the context of this study, and as such these models will be briefly discussed.

4.3.1 Scale models

There are two distinct attributes that identifies a scale model, namely that it represents similarities among objects or processes with a physical substance, and that it retains the relative proportions and salient features of the object being modelled (Puth, 1981:58).

This is similar to the term ‘iconic model’ used by Meredith (1993) and the term ‘material artifacts’ used by Greca and Moreira (2000:5). As the social sciences are less concerned than the natural sciences with physical objects and processes, the importance for theory development in the social sciences is minimal (Puth, 1981:59).

4.3.2 Conceptual models

Whereas scale models usually involve no substantive change in medium, conceptual models are characterised by a change in medium. Rather than representing the outward appearances of the phenomenon being studied, conceptual models represent as accurately as possible the internal structure or network of relationships in the original object or process. This type of model then has an explanatory or explicative function (Emory, 1980:38; Mayer, 1989:44; Puth, 1981:53).

Puth (1981:59) highlights an important implication, namely that the same conceptual model can be used to represent similar processes or structures in different contexts. “A model of small group communication can, for example, represent an informal friendship circle, or a committee meeting or a panel discussion. But a model aircraft can only be a model of an aircraft.”

Rules of correspondence apply to both symbolic and conceptual models, but where scale models are judged by their external or physical similarity to the object, conceptual models are assessed by their degree of internal or structural similarity to the object or process they represent. This means that where a scale model is the least abstract, a

conceptual model is more abstract, that is further removed from the physical world. “In fact, typically a conceptual model represents a conceptual similarity amidst physical dissimilarities.” (Puth, 1981:59).

4.3.3 Mathematical models

One of the differences between a conceptual and a mathematical model lies in its construction process. In the case of the former, another object or process, supposedly sharing a common structure, is used as an analogue. However, in constructing a mathematical model, an equation or set of equations is the analogue.

Another difference lies in the level of accuracy and precision. “The advantages of constructing mathematical models for social processes lie in the resulting precision with which testable relations can be formulated and tested, the ease of deducting hypotheses by using mathematical transformations, and the clarity of structures revealed by the model.” (Puth, 1981:60). The main disadvantage, on the other hand, is the need for drastic simplifications to be made in the object being modelled before it can be expressed as an equation or a set of equations, which sometimes requires for very stringent assumptions to be made to make the simplification possible.

4.4 THE LIMITATIONS OF AND MISCONCEPTIONS REGARDING MODELS

4.4.1 Oversimplification

Oversimplification can be regarded as the most general limitation of models. While the aim of science is always to simplify, to only formulate what is essential for understanding, prediction and control, care needs to be taken to find the line separating simplification and oversimplification. The fact that a model is simpler than the subject matter that is being explored, “… is as much a virtue as a fault, and is, in any case, inevitable” (Puth, 1981:54).

A model that ignores crucial variables and recurrent relationships is open to the charge of oversimplification, whereas a model that includes essential attributes or particulars of

the phenomenon can be credited with the virtue of parsimony. While the key objective of a model is to simplify, care should be taken not to oversimplify.

4.4.2 Confusion with reality

A model is frequently confused with reality, when it is incorrectly assumed to be synonymous to the phenomenon that it represents. Puth (1981:54) emphasises that in actual fact "… a model represents a phenomenon, but [it] does not constitute it … [n]or is it a literal description of reality". However, Puth also observes that the model-reality problem is to a large extent due to faulty interpretation on the user's side, rather than to any inherent liabilities of models as such.

4.4.3 Premature closure

Since the very nature of a model induces the model builder to "… strive for a closure or completion of the system, [i]t inevitably implies the inclusion of some factors while others are ruled out as extraneous" (Puth, 1981:55). This last limitation of models then deals with the peril that while the process of abstraction may bring a complex event into manageable proportions, it may still be a liability in that crucial factors can be left out when the model is 'closed' too soon. Mortensen (1972) argues that the less is known about a subject, the greater the danger of premature closure becomes.

4.4.4 Misconceptions or misuse of the term 'model'

Puth (1981:55) outlines a few general misconceptions about models or misuse of models. The first misconception is that the term model is often used to refer to an untested or untestable theory, particularly in the case of theories that lack empirical support. An instance where a model is defined as a theory when it consciously neglects certain variables is noted as a second misconception or misuse of the term. Thirdly, it is held that the term model is being misused when it refers to a theory incorporating idealised parameters. A final misconception is to refer to quantified theories as models. "Simply because a theory is clearly enough defined and thoroughly enough investigated to quantify its central concepts, does not make it any less or any more a theory."

4.5 CRITERIA FOR EVALUATING MODELS

There are a number of criteria that can be used to evaluate what constitutes a 'good' model. As a point of departure, a brief overview of the characteristics as identified by Mayer (1989:59-60) will be presented. According to Mayer a good model is:

- Complete, in that good models contain all the essential parts of the system as well as the key relations among them, so that the user can see how the system works.
- Concise, in that a good model is presented at a level of detail that is appropriate to explain the essential characteristics of the system being investigated.
- Coherent, in that good models make intuitive sense to the user so that the operation of the system is transparent; the model or analogy used is a logical system that contains parts and rules for how the parts interact.
- Concrete, in that good models are presented at a level of familiarity that is appropriate for the user, including physical models or visual models.
- Conceptual, in that good models are based on empirical material accepted in the scientific community.
- Correct, in that a good model corresponds at some level to the actual events or objects it represents – the major parts and relationships in the model correspond to the major parts and relationships in the actual object or event.
- Considerate, in that good models are presented in a manner that is appropriate to the user, using vocabulary and organisation that is appropriate to the field.

Johnson and Henderson (2002:27) emphasise that a good conceptual model is one that is as simple as possible while providing the required functionality. According to these authors, an important guideline for designing a conceptual model is: "Less is more."

Whetten (1989:494-495) identifies seven key questions that can be asked to judge the value of a conceptual paper, but this can equally be made applicable to judging a new contribution to theory development or a conceptual model. His overview is used as basis, but views from other scholars are added where appropriate. The four most important criteria are briefly discussed.

4.5.1 What is new?

This criterion does not necessarily refer to an expectation of a totally new theory, but rather to an expectation that the theory or model should make a significant, value-added contribution to current thinking (Whetten, 1989:494). Two criteria that can be used to judge the value of a theory or model are scope and degree.

Scope refers to the level of theorising (i.e. general versus middle level theories). According to Puth (1981:56), this criterion refers to the range of phenomena to which the model is applicable, as well as the number or extent of facts and data that may be derived by use of the model. Puth notes that a model does not necessarily have formal limits, and that the scope of applicability is empirically determined. At the same time, the delineation of the scope of the model provides the guidelines and incentives for subsequent theorising, either in the form of changes to the initial model or in the construction of a more comprehensive system. As the second criterion, degree reflects the radicalness of the proposal (Whetten, 1989:494). Puth (1981:56) refers to this as deployability, the level to which the model can impact the field.

Whetten (1989:494) notes that scope (or how much of the field is impacted) is in general less important in determining the value of a theory or model than is degree, which refers to the level to which the new contribution differs from current thinking.

4.5.2 So what?

This criterion refers to the likelihood that the theory or model will change the practice of science in the related field. Some of the criteria that can be used to judge this likelihood include the presence of proposed solutions to remedy alleged deficiencies in current theories as well as clear statements about the value of using the new theory or model and explicit indicators of follow-up research. In essence, the purpose of the theory or model should be to alter practice, not simply to tweak a conceptual model in ways that are of little consequence (Whetten, 1989:494).

According to Puth (1981:57), heurism is probably the most important criterion by which a model can be judged. The heuristic value of a model requires that sufficient information

about the functional and structural properties of the phenomenon be made available to produce insightful questions and hypotheses. “The purpose of the model is thus to use a known analogue to provide heuristic insights into a relatively unknown phenomenon. If no more is known about the theory functioning as an analogue than about the phenomenon being modelled, the effort is a futile exercise.”

4.5.3 Why so?

This criterion refers to how compelling the underlying logic and supporting evidence being offered in the new theory or model are. Criteria that can be used to judge this factor include: how believable is the author’s views; are the author’s assumptions explicit; does the author offer convincing argumentation and reasonable, explicit views of human nature and the practice in the related field (Whetten, 1989:494).

Weick (1989:517) maintains that a good theory is a plausible theory, and notes that a theory is judged to be more plausible and of higher quality if it is interesting rather than obvious; obvious in novel ways; provides a source of unexpected connections; is high in narrative rationality; or corresponds with presumed realities.

4.5.4 Well done?

This criterion refers to the level to which the proposal and presentation of the new theory or conceptual model reflect seasoned thinking, conveying completeness and thoroughness. The criteria applicable here include the level to which multiple theoretical elements (what, how, why, when, where, who) are covered, in order to give the proposal a conceptually well-rounded (not superficial) quality; as well as the degree to which the arguments being presented as part of the proposed new theory reflect a broad and current understanding of the subject (Whetten, 1989:494).

4.5.5 Other factors to be considered in judging the merits of a theory/model

According to Whetten (1989:494-495), three other factors that can be considered in evaluating the merits of a theoretical contribution are:

- the quality of the proposal, specifically with regard to how well it is written; how logical the flow is; how accessible the central ideas are and how interesting the arguments are to read;
- the timing of the theory or model, specifically with regard to how current it is to contemporary interest of academics and practitioners and how likely it will advance and stimulate discussions in this area; and
- the audience of the proposed theory or model, specifically the range of academics and practitioners that will be interested in the topic.

Puth (1981:56-58) offers two additional criteria that can be used to evaluate a model, namely isomorphism and correspondence, which respectively relate to:

- the isomorphic quality of a model, meaning that there should be at least a partial similarity between the model and its referent. “Isomorphism refers to the degree of similarity in the structures and functions of the two phenomena or processes. The smaller the degree of isomorphism, the greater becomes the probability of inappropriate questions and hypotheses being generated from the analogue”, and
- the rules of correspondence between the model and the modelled phenomenon, which means that the procedures of the model construction must be specified. This is necessary for two reasons: so that others are enabled to assess the adequacy of the model construction process, and secondly so that the model can be made clear and unambiguously interpreted. According to Puth (1981:58), the rules of correspondence in model building fulfil the same function as operational definitions in theory construction. “If one is to test the adequacy of an explanation (i.e. model), the procedures leading up to its present form must allow for independent verification.”

5 CONCEPTUAL RESEARCH METHODS

Meredith (1993) argues that conceptual research methods, building primarily on description and explanation, lead to a better balance between theory-building and theory-testing research. Reisman’s classification of different research strategies discussed earlier is, according to Meredith (1993), only one of the “… few attempts at classifying the different types of conceptual research methods”. He then identifies seven

different types of conceptual research methods, based on their level of explanatory properties, namely conceptual description, taxonomies and typologies, philosophical conceptualisation, conceptual induction, conceptual deduction, conceptual systems and meta-frameworks.

According to Meredith (1993), the first three conceptual research methods are examples of a basic conceptual model, defined as *a simplified representation or abstraction of reality,* which describes, reflects or replicates a real event, object, or process but does not 'explain' it. The second three – conceptual induction, conceptual deduction and conceptual systems – are examples of an explanatory conceptual framework, which is defined as *a collection of two or more interrelated propositions which explain an event, provide understanding or suggest testable hypotheses*. Meta-frameworks as the last conceptual research method constitutes the final objective of conceptual method theory, and is defined as *a coherent group of interrelated concepts and propositions used as principles of explanation and understanding*.

These conceptual research methods, as classified by Meredith (1993) and ranked based on their levels of explanatory properties, will now be discussed in more detail. Starting with conceptual description, which is the method with the lowest level of explanatory properties, each subsequent method has incrementally more explanatory properties than the one mentioned before it.

5.1.1 Using a basic conceptual model as a research method

In this subsection the first three conceptual research methods will be discussed, as examples of the use of a basic conceptual model, which has descriptive but no real explanatory or explicative properties. These include conceptual description, taxonomies and typologies, and philosophical conceptualisation.

- ***Conceptual description***

The first type of conceptual research is principally descriptive in its modelling of an event or a phenomenon, with the least explanatory power of all the research methods identified here. The conceptual model just describes the relevant concepts or elements

and propositions (or relations) but it does not explain why things happen. The conceptual model can range widely in its structure (from well-structured, e.g. a Gantt chart, to ill-structured, e.g. a fish-bone diagram or a textual report); its description may be highly simplified or extensive; and it may represent the interest of the researcher or that of the participant, depending on the purpose of the description.

- ***Taxonomies and typologies***

Taxonomies are listings of items along a continuous scale, where all the items have a relative position on the continuum which allows them to be 'ranked' in order, although they may be classified under different headings and subheadings. Meredith's ranking of the types of conceptual methods in order of least explanatory power (conceptual description) to most explanatory power (meta-frameworks) serves as a taxonomic example. For ease of understanding Meredith subdivides the methods according to categories such as 'frameworks' and 'models'.

Typologies are two- or higher-dimensional taxonomies, where one dimension is inadequate to classify an item properly and one or more additional measures are then needed. The universal 2 x 2 matrix is an example of a typology. Again, the classification here simply describes the situation more accurately than other descriptions but it does not explain the relationships.

- ***Philosophical conceptualisation***

According to Meredith (1993), this type of theory building results from inductive philosophical reflection. It basically integrates a number of different works on the same topic, summarises the common elements, contrasts the differences, and extends the work in some fashion by for example identifying an overall concept or construct or by adding concepts or propositions to an existing body of knowledge. At the more common, less insightful level this activity results simply in a 'tutorial' on some particular topic (e.g. shift scheduling).

At the more creative, theory-building level, the researcher has an 'ah-ha' experience, as he "… suddenly sees connections and patterns in what was heretofore just a series of

inexplicable events or studies". Meredith emphasises that, in order to pull the commonalties and patterns into a unique, insightful perspective, the researcher must be thoroughly immersed in the topic under consideration.

5.1.2 Explanatory conceptual frameworks

The distinction between frameworks and the simple conceptual models described above is not the complexity of the model but rather its explanatory power. Meredith's three types of frameworks that will be described here are conceptual induction, conceptual deduction and conceptual systems.

- ***Conceptual induction***

In this approach, Meredith (1993) observes that a number of occurrences of a phenomenon are analysed to infer the nature of the system or treatment which produced them. In some situations, the 'system' might simply be a human interpretation or conceptualisation for which explicit rules have never been clarified. The main objective with conceptual induction then is to explain a phenomenon through the relationships observed between the system's elements. That is, the goal is not only to describe the phenomenon accurately but also to explain how it occurs. Meredith (1993) argues that the accuracy of the description is in fact usually based on the consistency between the explanation inferred and the description of the phenomenon, particularly its elements and relationships.

- ***Conceptual deduction***

With conceptual deduction, a framework is postulated and its consequences or predictions are detailed for comparison with reality, as well as to provide guidelines for managers since it explains the relationship between the elements in the process of the phenomenon being studied. Meredith (1993) clarifies that while the researcher may well be integrating a number of instances, using conceptual induction as a method for the formation of the original conceptual framework in the first place, induction stops with the conceptual framework and deduction begins with the consequences and predictions of the framework, regardless of whence it came or how it was formulated.

Meredith (1993) also notes that deduction is not necessarily from the singular to the many, "… as Sherlock Holmes was famous for his ability to make a single deduction from many fragments of evidence. The critical difference is that deduction leads to inescapable conclusions, whether one or many, based on either one or many elements. Induction is a process of inference, which may well be incorrect. Of course, deduction may be incorrect also, but then the framework was invalid in the first place."

- ***Conceptual systems***

This type of framework is characterised by the many interactions occurring among the elements of the conceptual framework. The conceptual system then consists of multiple concepts with many interrelated propositions, and while the system is typically as complex as a theory, it fails to satisfy at least one of the five requirements for a theory.

Meredith (1993) distinguishes between a theory and a framework, based on whether all the requirements of a theory are met. A theory may then be as simple as a straightforward framework, yet satisfy the five requirements. He cites some well-known examples from management, such as Weber's theory of bureaucracy, Herzberg's two-factor theory of motivation, and Maslow's theory of human needs.

5.1.3 Final objective of conceptual methods theory: meta-frameworks

Meredith (1993) describes meta-frameworks as "…the final objective of conceptual methods theory, namely a coherent group of interrelated concepts and propositions used as principles of explanation and understanding". He describes a meta-framework as the process of theory construction that involves the compilation and integration of previous frameworks (thus a 'meta-framework'), while avoiding composite variables and clearly defining the boundaries of the theory.

5.1.4 Conclusion of conceptual research methods

The credibility of the model, framework or theory in many research situations is gained through its plausibility, its simple face validity (the intuitive recognition of its correctness), which can be both advantageous and disadvantageous (Weick, 1989:524). On the one

hand, it provides for more immediate acceptance, particularly in the managerial community. On the other hand, if the model, framework or theory is wrong, it reinforces incorrect assumptions or beliefs and may lead to highly erroneous managerial decisions. Building valid theories then requires empirical theory testing and reiteration of the research cycle (Meredith, 1993; Meredith, 1995).

However, while both theory building and theory testing are important, it is critical to start building useful, empirically derived theories in the first place. Since conceptual research methods lead naturally to synthesising previous research, thus building on earlier studies, and since these methods depend heavily on real-world description, thereby serving as a check on the external validity of research findings, the use of conceptual research methods offers a significant improvement in researchers' ability to build valid theories (Bacharach, 1989:512; Emory, 1980:7; Van de Ven, 1989:487; Weick, 1989:519; Whetten, 1989:491).

6 CONCLUSION: ROLE OF MODELS IN THEORY CONSTRUCTION

In concluding this chapter, a summation of the role of models in theory construction is provided from a more comprehensive viewpoint.

A model is not a substitute for concrete research, but its descriptive and explicative properties delineate the complex elements of the system more clearly. Models then facilitate the derivation of operational constructs, they provide simplified predictions about usage and impact and they prescribe the set of operations by which the predictions can be tested (Lenker & Pacquet, 2003:2; Puth, 1981:61). Driessel (1967:101) also notes that this pattern that typifies models is in reality a method of validation. "It is the decision-making part of theory construction which 'brings abstract theory to terms with reality and translates conceptual advance into concrete progress'."

Hawes (1975) describes the use of models in theory construction as a mapping process, and he uses three key terms – analogue, structure and model – to explain the mapping process. "An *analogue* is a relatively well-developed theory which is used to assist in the development of a theory presently less developed than the analogue… For an analogue

to assist in the development of a theory, the substance (i.e. the conceptual material) of the analogue must be stripped away leaving only its *structure*. The mapping process involves projecting the substances of the less developed theory onto the structure. The result of this procedure is a *model*."

A model is therefore the structure of an analogue onto which a different substance has been mapped, and "[I]f the same derivations or deductions hold for the new substance as did for the stripped away substance, the new substance is said to be explained by the old substance, now functioning as a model" (Puth, 1981:61-62). The implication then is that a model ceases to exist once the explanation is satisfactorily completed and it should then be thought of as a theory that is partially isomorphic to the original theory.

In this chapter some key methodological considerations applicable to the role of models in theory construction, including the nature and meaning of theory, the dimensions of research and modes of research have been discussed. In particular, an overview of the role of models has been provided. The meaning, functions, limitations and types of models as well as the evaluation criteria for models have been outlined. A more in-depth overview of the different conceptual research methods, ranked on their levels of explanatory properties, has been offered.

These issues will be used to serve as a guideline to formulate a conceptual model of the relationship between corporate trust and corporate reputation in the next chapter.