

Developing a Theory in Academic Research: A Review of Experts' Advice

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ABSTRACT

Despite the number of developed theories, it still remains a difficult task for some established and emerging scholars in various academic fields to clearly articulate new theories from research studies. This paper reviews and collates the views of scholars on what a theory is and how a good theory can be developed. It explains the concept of a theory, and the different components that make up a theory. The paper discusses the different processes of theory development by emphasizing what theory is and what theory is not. This review found that scholars differ in their definition of a theory, which leads to using terms such as *model*, *paradigm*, *framework*, and *theory* interchangeably. It found the lack of theoretical constructs in a study to be one of the factors which explains why articles are rejected for publication. This paper may be of benefit to established researchers who may be struggling with theory development, and especially younger academics who are the future of scholarship in various academic fields, particularly in information science.

Keywords: Theory Development, Information Science, Review, Developing a Theory

1. INTRODUCTION

Studies with strong theoretical perspectives are often regarded as adding value to any field of learning. It is

therefore essential for scholars and researchers in various academic fields to develop strong skills in theory development. A well-crafted theory supports logical thoughts and helps to make sense of the reality that re-

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searchers struggle to present. Scholars of information science, for example, have developed various theories over the years (Chatman, 1999; Cole, 2011; Dervin, 1998; Kuhlthau, 1991), and new theories that point to new directions in the study of information science have also emerged (Spink & Heinström, 2011; Sin, 2011; Jaeger & Burnett, 2010). Despite the developed theories within this field, it still remains a difficult task for some emerging scholars to clearly articulate new theories from research studies (Pettigrew & McKechnie, 2001). Many researchers and scholars in various fields may be battling with similar problems because there is no one way or an agreed upon pattern of developing a theory. Various scholars provide variations in their methods of developing a theory (Smith & Hitt, 2005). The lack of a clear road map for theory development makes the process “one of the most frustrating and arduous tasks in which a scholar engages” (Cunningham, 2013, p. 3). The main objective of this paper is to bring together different ideas of scholars of theory development in order to help researchers find paths to follow in their process of developing a theory. In addition, in a highly competitive academic environment where *publish or perish* is the norm, it is essential for future scholars to be aware of factors that may increase their chances of getting their work published. The ability to design a study that contributes to theory is obviously a major factor.

This paper reviews literature to collate the different views of scholars on what makes a good theory and how it can be developed. The paper explains the concept of a theory and the different components that make up a theory. It discusses the different processes of theory development by emphasizing what a theory is and what a theory is not. A theory needs to benefit the progression of research. Therefore, this paper examines the role of theories in academic research and their importance to various academic fields, especially the field of information science. It contributes to the understanding of the process of theory development from different perspectives. It is hoped that this paper may be of benefit to established researchers who may be struggling with theory development, and especially younger academics who are the future of scholarship in the field of information science and other disciplines.

2. METHODOLOGY

Various searches were conducted to look for articles on theory development. Search terms such as *developing a theory*, *theory development*, *how to develop a theory*, and *theory development in information science* were used to identify studies conducted on this subject area. Electronic databases such as EBSCOhost, Google Scholar, and other institutional library databases were used in the search for materials. The major sources retrieved and used for this review were journal articles. Some books that contributed to the discourse on theory development were consulted. About 81 sources were collected but only 38 journal articles and 20 books were used for this review because of their relevance to the topic and scope of the paper. However, there was no limit set for the year of publication of the sources to be used because the process of theory development is as old as the research process itself. In addition, widening the scope of the publication period of sources to be included may help in gaining insights into diverse views on the subject and the changes in those views over time. The major sources included in this review were drawn from a variety of disciplines. It must also be noted that this paper is not a review of different theories; rather, it is a review of ideas presented by some scholars and researchers on what a theory is and the process of developing a theory.

3. CONCEPT AND COMPONENTS OF A THEORY

Different researchers have presented different definitions of a theory (Odi, 1982; Silverman, 2006; Vogt, 1993; Babbie, 1992; Schwandt, 1997; Merton, 1957). According to Corley and Gioia (2011), a theory is a relationship of concepts that shows how and why a phenomenon occurs. It is made up of “constructs linked together by propositions that have an underlying, coherent logic and related assumptions” (Davis, Eisenhardt, & Bingham, 2007, p. 481). Garver (2008) suggested that theories vary in their specifications. Some theories are termed as knowledge while others are contrasted with knowledge; some can be tested, others cannot; some theories are idea-based while others are application-based. While some theories help to further

understanding, others can be barriers to understanding, Garver concluded. For Buckland (1991), a strong theory is based on perception; whatever theory matches one's perception becomes a good theory. Davis et al. (2007, p. 481) brought together the views of some scholars of theory development and enumerated four elements of a theory. These are

- constructs
- propositions that link those constructs together
- logical arguments that explain the underlying theoretical rationale for the propositions, and
- assumptions that define the scope of the theory.

In the same vein, Wacker (2004) identified four properties that should characterize a good theory: "formal conceptual definitions, theory domain, explained relationships, and predictions" (p. 631). Wacker defines a theory as a link that creates relationships of concepts. Various researchers define a theory based on their perception of what a theory does. According to Sutton and Staw (1995), the lack of a unified definition among scholars of what a theory is has often made it difficult to develop a strong theory. This is evident in many researchers' use of terms such as *model*, *paradigm*, *framework*, and *theory* interchangeably to denote the same thing. The distinction between a paradigm, a model, a framework, and a theory should be made so that readers can clearly understand the distinctions.

In order to develop a good theory, there are some identifiable features that must be considered in a study. Some of these features could be drawn from Wacker (2004) who proposed that a theory should be unique, in the sense that it should be clearly distinguished from other theories; it should be conservative by standing the test of time, which means it should only be replaced by a new *superior* theory. A good theory should be worthy of being generalized, applicable to other disciplines, and capable of producing hypotheses and generating models. An example of such a theory is the diffusion of innovation theory (Rogers, 1995), which led to developing more superior theories that shaped other theories. Diffusion of innovation theory has also been applied in a variety of disciplines (Durante, 2011; Osareh & Wilson, 1997; Patterson, Shaw, & Masys, 1997).

Schroeder (2008) is in agreement with Wacker (2004) that a good theory should be tested, confirmed,

refined, or even refuted. Glaser and Strauss (1967), however, have a rather stronger position on the elastic limits of a theory. They contend that a theory that is deeply rooted in data cannot be easily refuted or undone by another theory. Such theories stand the test of time regardless of whatever modifications or reformulations they undergo. Glaser and Strauss pointed to grounded theory, in contrast to theories that are based on ungrounded assumption which they referred to as products of logical deduction. They believe such theories are mostly altered by subsequent logic that counters their assumptions. Grounded theory has been used in many studies to develop new theories (e.g., Goodall, Newman, & Ward, 2014; Urquhart & Fernández, 2013; Wolfswinkel, Furtmueller, & Wilderom, 2013).

From the aforementioned assertions, Glaser and Straus seem to be more concerned with building theory using qualitative data rather than quantitative. However, many studies have applied quantitative data to build theories and such studies may not be simply dismissed as based on ungrounded assumptions as Glaser and Straus seem to suggest. Both qualitative and quantitative data can lead to good theories if processes of effective theory development are followed.

4. PROCESSES OF THEORY DEVELOPMENT

In developing a theory various considerations have to be made. The discussion below presents the views of researchers and scholars on the processes of developing a good theory.

4.1. Demonstration of Relationship among Variables

Sutton and Staw (1995) believe a strong theory should be simple and interconnected; it should be able to predict, to explain, and to delight. In other words, theories begin with insights that have to be developed into concepts and relationships. These concepts and relationships are then connected and integrated into a whole. Insight alone, without conceptual connections, cannot make a theory (Rindova, 2011). Therefore, developing a theory is more than merely drawing a list of variables; the relationship between or among the variables should be clearly demonstrated (Whetten, 1989). This means the author needs to have the read-

ers in mind when constructing a theory. According to DiMaggio (1995), for a theory to be considered relevant, the author has to configure propositions that readers can comprehend. Propositions are the statements that help to explain the relationships between the different constructs of a study. Through these constructs hypotheses are drawn. Bacharach (1989) made the distinction between propositions and hypotheses which are oftentimes mistaken to be synonymous. According to Bacharach, “propositions state the relations among constructs, and on the more concrete level, hypotheses (derived from the propositions) specify the relations among variables” (p. 500). Therefore, it is very essential that an author should explain these propositions so that any theory developed can be understood based on the clear statements of its propositions.

Since a theory is a set of concepts, definitions, and propositions used to explain events and situations, Michie and Prestwich (2010) believe that a good theory should draw a systematic relationship. Such a relationship will advance the understanding of the situations and events it claims to explain. This can be done through the development of paradigms. A paradigm is something which makes sense of a particular area of learning. Through a paradigm, areas of studies and the process of carrying out the studies are determined. A paradigm serves as a guide to researchers in their various fields of study (Olsen, Lodwick, & Dunlap, 1992). Olsen et al. (1992) identified two types of paradigms with which theories can be developed: scientific paradigms and social paradigms. The scientific paradigm is the frame of thoughts that guide researchers with scientific perspectives. This paradigm is mostly applied by natural scientists in their intellectual activities. Social paradigms, on the other hand, are used to interpret how people make sense of their social lives in their communities or environments. This type of paradigm guides scholarship mostly in the social sciences and humanities. It must be noted that *paradigm* is a concept that has been used and explained differently by various scholars (Guba, 1990; Kuhn, 1970). There is no one way of defining a paradigm. However, a paradigm, as used here in relation to a theory, is the framework by which a theory can be developed.

Whetten (1989) mentioned four essential elements that are needed to make a theory complete. These elements are the *what*, *when*, *how*, and *why* of the theory.

The *what* looks at the judgments made in including the right factors to make up the theory. Two criteria can be used to determine the *what* of the theory. The first is the comprehensiveness of the theory: Does it contain all the necessary factors such as variables, concepts, or constructs? The second is parsimony: Are there irrelevant factors that add nothing new to the theory? If such factors exist, they must be removed. The *when* describes the factors that are added at the time of creating the theory. According to Whetten, “when authors begin to map out the conceptual landscape of a topic they should err in favor of including too many factors, recognizing that over time their ideas will be refined. It is generally easier to delete unnecessary or invalid elements than it is to justify addition” (p. 490). This means adding more factors such as constructs, variables, or concepts at the beginning of the research process and allowing for the possibility that they may be deleted later is better than adding fewer factors at the beginning, only to realize later that more are needed. Making justifications for such additions at a later stage may prove difficult. The *how* of the theory seeks to determine how the different factors are related. This is sometimes presented in a form of a diagram or by linking terms or variables using arrows. This is also known as a *model*. Graphical representation of thoughts can help to bring clarity to the meaning of concepts. The *why* of the theory will bring out an explanation of the purpose for which the factors were chosen. The big question to be asked here is: *Why should the theory be accepted or be seen as useful by those in the field who look at it?* According to Whetten (1989), the logic behind the creation of the theory is more significant than the data of the theory. The question that anyone developing a theory should ask is: *Do my propositions make sense in this field of studies?* Readers should be able to assess the theory based on the sense it makes, not on the data it presents, Whetten concluded.

Whetten’s (1989) emphasis on the logic behind the creation of a theory rather than the data of the theory is a sharp deviation from the emphasis of the grounded theory of Glaser and Strauss (1967), which lets the data guide the development of the theory. These are two opposing views that present some challenges to researchers in their choice of research method. However, the method to be used depends on one’s research orientation.

In presenting the four essential elements of a theory, Whetten describes variables, constructs, and concepts as factors of a theory but did not explain their meaning. It is unclear whether Whetten assumes that the factors he mentioned all meant the same thing in relation to theory. On the contrary, Bacharach (1989) advised that theorists should avoid using terms such as variables and constructs synonymously. According to Bacharach, “a construct may be viewed as a broad mental configuration of a given phenomenon, while a variable may be viewed as an operational configuration derived from a construct” (p. 500).

4.2. Clear Definition of Concepts

Kuhn (1959) proposed that, in order to understand and create a theory, the theorist must bring together previous knowledge and rearrange it. According to Kuhn, “the scientist must usually rearrange the intellectual and manipulative equipment he has previously relied upon, discarding some elements of his prior belief and practice while finding new significances in and new relationships between many others” (p. 22). This means in the process of developing a theory, some elements of the previous knowledge may be discarded, while newly found concepts are developed into significant relationships. Kuhn believes that new ideas come with some reordering of already known ideas. Therefore, for a paper to exhibit strong theory, it has to begin with a few conceptual statements that are built in a logical manner.

For a theory to be significantly developed using statistical data, for instance, concepts must be measured appropriately. In the process of theory development, attention must be given to the definition and progression of concepts (Wacker, 2004). Conceptual definitions must be given using the appropriate vocabularies which are representative of the field of inquiry. For example, in developing a user-centered theory in the field of information science, the definition of a *user* is necessary to give the perspective of the unique meaning of the word in the field. According to Wacker (p. 630), a good theory should define concepts (who and what a conceptual definition is), domain (the when and where the conceptual definitions apply), causal relationships (how and why the conceptual definitions are related to measurements), and lastly, make predictions (what should, could, and would happen when

formal conceptual definitions are used for measurement). This suggests that for a theory to be described as a good theory the flow of its progression must be consistent and reasonable, applying the rules of deduction or induction.

4.3. The Constituents of a Theory

Mills (1959) believes that developing a theory is an intellectual craft that involves the use of one’s life experience. This means that the theorist enters into the intellectual work by personally getting involved in the product that is worked on. Throughout the process, the theorist will continue to examine and interpret the work by applying the life experience and knowledge acquired. This is to enable the researcher to apply all the necessary elements that constitute a theory. In order to have the elements needed in a theory, Mills presented the following suggestions to theory developers:

1. Make formal theory and build models as well as you can.
2. All facts and details, together with their relationship, should be well examined.
3. All works should be related closely and continuously to historical reality.
4. Make it your task to define the reality without assuming someone else will do it for you.
5. Formulate the problems in their own terms and try to provide solutions to the problems. (p. 224).

In order to highlight the constituents of a theory, Sutton and Staw (1995) outlined five elements of a research paper that are often mistakenly taken as theory while in the actual sense they are not. According to these authors: 1) references are not theory; 2) data are not theory; 3) lists of variables or constructs are not theory; 4) diagrams are not theory; 5) hypotheses or predictions are not theory. They argued that making references to a list of theories in an article is not in itself a theory because there is no explanation of the logical link between these references. According to Sutton and Staw (1995), when theoretical works are cited in an article or in a study, such theories should be shown to have a relationship to the new framework. Mere data presented in a study cannot be termed as theory in themselves. The data should be able to explain certain causal relationships in order to be called a theory. The authors believe that it is not enough to present

data in a study; researchers also have to show what the data represent and explain their meaning.

Sutton and Staw (1995) insisted that when researchers present variables and constructs in a study, they must know that these are not theories. For constructs or variables to become theory, researchers have to show how they emerged and must explain their connections. Many theories are demonstrated through diagrams or models, but diagrams by themselves are not theories. The causal connections the diagrams represent must be explained and the relationships they established must be highlighted. Sutton and Staw concluded that mere predictions or hypotheses are not theories because a hypothesis only explains the *what* rather than the *why*. These authors believe explaining the *why* is the basis of a theory.

The views of Sutton and Staw above spur a debate among scholars on what constitutes a theory. Weick (1995) responded to Sutton and Staw on their assertions of *what theory is not*. According to Weick, the points raised by Sutton and Staw could make sense if one alludes to them as theory due to “laziness and incompetence” (Weick, p. 385). Weick believes that, in the early stages of theory development, the points that Sutton and Staw described as *not theories* are actually very important in enhancing the process. On this note, Weick accused Sutton and Staw of getting “lost in their concern with theory as a product rather than as a process” (p. 385). Weick contended that it is difficult to determine what a theory is by merely examining the product. The context of the product itself, which is the process of the theory creation, needs to be examined as well. In Weick’s view, rather than Sutton and Staw tagging their five proposed assertions as *not theory at all*, they should instead be seen as the road to creating a theory. Weick asserts that developing a theory involves activities such as “abstracting, generalizing, relating, selecting, explaining, synthesizing, and idealizing” (p. 389).

The debate between Weick (1995) and Sutton and Staw (1995) brought out interesting points that express the need for researchers to pay attention to theory as both a product and a process. Therefore, there is a need to articulate clearly the level or the composition of the sample a researcher uses to develop a theory in a study in order to further the understanding of the applicability of the theory.

4.4. Level of a Theory

In building a theory, the levels at which the generalization is made need to be described clearly. Klein, Dansereau and Hall (1994) stated that, in trying to show the level of a theory, members of a group under study need to be either homogeneous, independent, or heterogeneous. This should be part of the prediction of the construct of the theory. If a group is chosen as the level of study for developing a theory, the prediction to be made should be based on the composition of the group. If there is similarity in the composition of the group, all members can be characterized together. The important factor here is the *group as a variable*, and not the individual members of the group. On the other hand, if the specification of the level of the theory is based on the individual, then the prediction should be made looking at the individual as independent of the influence of other group members. On a similar note, Kalnins (2007) also stressed the importance of the selection process in theory development. He argued that sample selection, when carried out appropriately, is capable of explaining the type of empirical relationship that takes place during the process of theory development. Considering selection issues first will help reveal data that are either consistent or on par with the actual cause of relationship observed during the research process.

Emphasizing the importance of sample determination in the process of theory development, Klein et al. (1994) suggested that, in order to add precision to the theory and remove confusion in the process of data collection and analysis, efforts should be made to specify correctly the levels of the theory. They proffered the following suggestions:

1. Theory building is enhanced by explicit specification and explication of the level of a theory and its attendant assumptions of homogeneity, independence, or heterogeneity. Specificity increases the clarity of theories.
2. Theory building may be enhanced by specification and discussion of the sources of the predicted homogeneity, independence, or heterogeneity of the constructs. Attention to these issues increases the depth and comprehensiveness of theories.
3. Theory building may be enhanced by explicit consideration of alternative assumptions of variability, which increases the creativity of theories. (p. 205).

In the field of information science, Pettigrew, Fidel, and Bruce (2001) hold that frameworks in research can be developed through cognitive, social, or multifaceted approaches. Various researchers have developed theories, especially in the area of information seeking behavior research, using these approaches. The cognitive viewpoint concentrates on the individual as the subject of research by looking at the attributes of that individual in order to understand his/her information behavior. By doing this, a framework is formed based on the emotional and cognitive elements that motivate an individual to behave in a certain way when seeking or using information. The social approach for creating a framework centers on the context in which a behavior is observed. Here, the social context is interpreted in order to establish meaning. Examples of such frameworks are those developed by Chatman (1999; 2000) in her formulation of the theories of information poverty, life in the round, and normative behavior. Scholars use the social approach to look at the dynamics of how humans interact among themselves to share and use information.

Due to scholars' dissatisfaction with using either the cognitive or social approach to develop a framework, a multifaceted approach was developed to integrate all approaches in order to better explain human information behavior. A notable importance of the multifaceted approach is that it allows a researcher to develop a theory from the combined theories of others (Pettigrew et al., 2001). The work of Pettigrew et al. is very important in the understanding of how to develop theory in information science research; however, it also uses the terms *frameworks*, *models*, and *theory* interchangeably. This tends to blur the clarity of the meaning of these concepts and how they differ.

5. THE ROLE OF THEORY IN ACADEMIC RESEARCH

Producing a paper that makes a contribution to theory depends on the ability of scholars to develop original ideas that bring something insightful into scholarship, and which can be applied to bring about fresh thinking (Corley & Gioia, 2011). Any work that is worthy of publication should have some theoretical perspective. Sharma (2011) points out that reviewers of

journal articles do not only look at a study's methodology but also what contribution the work makes to the field of study. According to Corley and Gioia (2011), assessment of publications in some top journals such as *Academic Management Review (AMR)* shows that "the idea of contribution rests largely on the ability to provide *original insight* into a phenomenon by advancing knowledge in a way that is deemed to have *utility* or usefulness for some purpose" (p. 15). Corley and Gioia believe that originality and utility are two major criteria for theoretical contributions: "Originality can be categorized as either (1) advancing understanding incrementally or (2) advancing understanding in a way that provides some form of revelation, whereas the utility dimension parses into (1) practically useful and (2) scientifically useful" (p. 16). When a research paper is perceived to make an insufficient contribution to theory, does not appear to fill any gap in the literature, or the connection between the theory that is proposed and the data presented is not properly made, its suitability for publication could be affected (Huy, 2012).

DiMaggio (1995) gives a summary of what different schools of thought consider a good theory in a research paper. These are: 1) the theory should make one or more generalizations that help in describing our world; 2) the theory should have elements of enlightenment that not only generalize but also create insights into new domains; 3) the theory should be able to give a narrative that is plausible, and should present accounts of actions that are used to make predictions; 4) good theory should be able to cause reality to be viewed in a new way (in what DiMaggio refers to as a process of de-familiarization). This process occurs when an individual is able to see his/her world in a new light that is significantly different from his or her preconceived notions because a theory has suggested an alternative mode of thinking. In other words, theory should bring clarity, not distortion. Therefore, Higgins (2004) advised that a theory in development should be cared for like a parent cares for a child. It should not be abandoned at the developmental stage; time should be devoted to its growth through further research.

In their view, Glaser and Strauss (1967) feel that a theory in academic research should help in predicting and giving explanations of behavior in order to make situations clearer and understandable. Similarly, Huy

(2012) felt that reviewers often view research that shows or offers vivid explanation of how data were collected and analyzed, and how the data are linked to concepts in the theory, as a sign of the rigorous application of a good method of data collection and analysis.

Glaser and Strauss (1967), like DiMaggio (1995), also advised that theory should serve as a guide for the selection of the approach to use in academic research. To achieve this, a good theory should be clear in its categories or propositions and hypotheses so that they can be verifiable in replicated research. Glaser and Straus added that theory developers must not try to force categories where there are none. Instead, categories should come naturally and be identified in the data used for the study. When created, the theory should give meaningful explanation to whatever behavior is studied. Thus, a good theory should not only be understood by the professionals in the field of study, but also by nonprofessionals, especially if it is a theory that is based on an observed behavior.

For a theory to make a significant contribution to a field, Whetten (1989) insisted that the study in which the theory is developed should be able to demonstrate what is new about the theory, what makes the theory relevant, and the plausibility of the evidence and logic. Researchers aiming to develop a theory from a study should ask: Is such a study well done, well written, thorough, and complete in thought and composition? Are the ideas presented new? Do they add to existing knowledge, making it so compelling as to be written at the chosen time? These questions are very important factors in the review process for publications. A lacking in these factors may militate against acceptance of papers for publication because they may be regarded as lacking in theoretical constructs.

6. IMPLICATIONS FOR EMERGING SCHOLARS

The inconsistencies concerning what constitutes a theory have shown themselves in the back-and-forth arguments among scholars. This further confirms the complicated nature of theory development. These complications are also evident in the field of information science, where even the definition of *information*

science has been a subject of debate. Several information scientists (Bates, 1999; Borko, 1968; Buckland, 2012; Saracevic, 1999) present different definitions of information science. Such variations in meaning may translate into difficulties in conceptualizing what a theory should be in the field. There are scholars who believe that the field of information science is lacking in good theories (Hjørland, 1998; Chatman, 1992). Consequently, Aspray (2011) acknowledged the ambiguity that comes with the attempt to establish what defines information science. He is of the opinion that, in defining or explaining information science, a single event is not sufficient for use as a perfect definition, since what constitutes information science changes over time. These changes pose some challenges to emerging scholars in the field. They must be conscious of the fact that the future of the discipline lies in the development of theories that explain realities in a new way.

Notwithstanding the lack of agreement about what constitutes a good theory, the lack of agreement over how to develop a strong theory shows there is a need for rigor in the process of developing a theory. The findings of this review show that one reason why studies are not published is their lack of theoretical constructs. There are researchers who try to publish studies that they perceive to have theoretical perspectives, only to find their work rejected. Sutton and Staw (1995) believe that some papers are rejected partly due to various misconceptions as to what constitutes a theory.

The disagreement between Weick (1995) and Sutton and Staw (1995) about what a theory is and what it is not further shows how complicated it is to determine a good theory from a research paper. Disagreements such as these demonstrate a need for researchers and scholars to be consistent in defining what constitutes the acceptable definition of a theory, and what makes a good theory. This idea was also corroborated by Pettigrew and McKechnie (2001), who found discrepancies in the way researchers describe what makes a good theory. These discrepancies may likely influence the decisions of reviewers, who may be divided on their perception of what constitutes a good theory in a research paper. Therefore, emerging scholars have to be cognizant of these divisions and aim toward developing theories based on the many informative processes suggested by expert researchers. They also need to be

familiar with these disagreements because sometimes disagreements and/or varying viewpoints drive a field. Disagreements and varying viewpoints are important aspects of science and discovery.

This paper does not claim to review all work that has been done on theory development. It only concentrates on selected materials, especially journal articles. The aim is to point to the need of paying more attention to construction of good theories among established and emerging researchers, particularly in the field of information science, and to describe different views of experts on what constitutes a good theory. There are many books written on theory development (e.g., Dubin, 1978; Gibbs, 1972) which this review does not reflect. Further research may concentrate on reviewing the published books on the subject of theory development.

7. CONCLUSION

This paper discusses the concept and components of a theory, the process of developing a theory, the role of theories in academic research, and the implications to emerging scholars. It finds that in developing a theory, relationships among variables need to be demonstrated, concepts clearly defined, and elements of a theory explained. It also stresses the need to give more attention to the levels of a theory determined by the sample and population of the study.

The paper shows that scholars differ in their definition of a theory, which has led them to use terms such as *model*, *paradigm*, *framework*, and *theory* interchangeably. The elasticity of a theory has also been a subject of debate. Some scholars believe that good theories should be internally consistent but open to refutation. Others are of the opinion that a good theory, one that is worth its name, cannot be easily refuted or undone by another theory. However, scholars and researchers agree that a strong theory should stand the test of time.

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