Using Theory as a Framework for Research and its Applications in MSc/PhD Theses

Presenter:
Chidi Ononiwu (PhD)
Assistant Professor of Information Systems
School of Information Technology & Computing (SITC)
American University of Nigeria
Passing your MSc/PhD Theses

Your thesis has to satisfy Examiners that you fulfil Ngwenyama's’ Ten claims:
Professor Ngwenyama's 10 Claims of Scientific Research

1. The question(s) that the researcher proposes to investigate is relevant and persisting in the field of study
2. The theoretical framework that the researcher has selected is appropriate for investigating the question
3. The researcher has demonstrated a command of the literature (backing) of the theoretical foundations (framework) upon which the research is based.
4. The researcher has demonstrated a command of the literature of the field of study or discipline in which the researcher is working.
5. The approach/methodology that the researcher has selected is appropriate for investigating the research question given the theoretical framework.
6. The empirical situation appropriate for observing the phenomenon that the researcher is investigating.
7. The approach/method has been applied in a systematic manner (reliability and validity) and is documented to allow for replication or corroboration by other researchers
8. Does the thesis reflect communicative competence? Is it carefully argued in a way that it is understandable to the scientific community?
9. Does the result of the research make a contribution to the researcher's field of study or discipline? Has the theoretical contribution been careful elaborated?
10. Has the research been conducted in an ethical manner; have all sources been explicitly acknowledged? and written in a manner that is understandable to the scientific community? No part of the work has been plagiarized.
Theory Generation Strategies

- **Inductive Approach**
  - Empirical Observations
  - Hypotheses
  - Generalization by Extrapolation
  - Elaboration of Theory

- **Deductive Approach**
  - Theory
  - Hypotheses Generalization by Implication
  - Elaboration of Theory
Theory Generation Strategies

The Abductive Approach

1. Empirical Observations
2. Conjecture a Theory
3. Generate Hypotheses
4. Test Hypotheses

The Retroductive Approach

1. Empirical Observations
2. Conjecture a Causal Mechanism
3. Build Model of Mechanism
4. Test Model
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Common Misconceptions

Research in Business/IS/computer science is fundamentally different from the “hard” sciences.

**NOT TRUE**: Scientific research in IS, Business, computer science, education, psychology, biochemistry, astrophysics, cultural anthropology, mathematics, etc., all:

- Seek conceptual/theoretical understanding;
- Pose empirical and testable and refutable hypotheses/questions;
- Design studies that test and rule out competing counter hypotheses;
- Use observational methods that are linked to theory and can be publicly assessed for accuracy;
- Recognize the importance of independent replication and generalization.
Scientific Research

- A process of rigorous reasoning based on interactions among theories, methods, and findings;
- Builds on understanding derived from the objective testing of models or theories;
- Accumulation of scientific knowledge is laborious, plodding, circuitous, and indirect;
- Scientific knowledge is developed and honed through critique, contested findings, replication, and convergence;
- Scientific knowledge is developed through sustained efforts;
- Scientific inquiry must be guided by fundamental principles.
Fundamental Principles

I. Ask significant questions that can be answered empirically.

- “The formulation of a problem is often more essential than it’s solution, which may be merely a matter of mathematical [Modeling] or experimental skill. To raise new questions, new possibilities, to regard old questions from a new angle, requires creative imagination and marks real advance in science” (Einstein & Infeld, 1938);

- The research questions must be asked in a way that allows for empirical investigation.
Scientific research must be guided by a conceptual model, or theory that generates questions to be asked or answers to the questions posed. Every mathematical or system modeling of any kind must be done in the light of theory to develop local theories (Schwaninger & Groesser 2008). Theory drives the research question, the use of methods, and the interpretation of results.
The importance of theory in research cannot be underestimated. In addition, research requires a sound theoretical basis and strong methodology.

Wacker (1998) provided three reasons why theory is important for research: (a) it provides a framework for analysis, (b) it provides an efficient method for field development, and (c) it provides a clear explanation for the pragmatic/practical world.

However, the definition of what constitutes a theory is debated by researchers (Ononiwu, 2005; Harlow, 2009; Henderikus, 2007)
Simply speaking, theory refers to a particular kind of explanation. Leedy and Ormrod (2005: 4) state: “A theory is an organized body of concepts and principles intended to explain a particular phenomenon”. Thus, theories explain *how* and *why* something functions the way it does (Johnson & Christensen, 2007: 7).

As pointed out by Boss, Doherty, LaRossa, Schumm, and Steinmetz (1993: 20): “Theorizing is the process of systematically formulating and organizing ideas to understand a particular phenomenon. Thus, a theory is the set of interconnected ideas that emerge from this process”.

So What is Theory & Theorization?
As regards empirical research, this is the indispensable tool for developing, verifying and (re)adjusting theories. It can corroborate or falsify theories, or even bring to life new theories. The relation, however, is mutual.

Good theories yield many interesting issues for empirical research. Doing empirical research without a firm theoretical basis is not only lazy research, it can have detrimental effects.
Choosing Theories

- So, a sound theoretical base for our research is of huge importance. But how do we find, let alone develop, such a sound theoretical base?
- There seem to be so many different theories, standing in different research traditions.
  [http://is.theorizeit.org/wiki/Main_Page](http://is.theorizeit.org/wiki/Main_Page)
  [http://is.theorizeit.org/wiki/Top_10_IS_Theories_2014](http://is.theorizeit.org/wiki/Top_10_IS_Theories_2014)
- However, when choosing a theory to use as a basis for our research or practice, we must find its foundation(s) at least plausible and check whether the empirical research it rests on is sound.
- The plausibility of not (as yet) verifiable assumptions can only be safeguarded by good reasoning and probably, in the end, by intuition.
Challenges in the use of Theories

- Researchers relate their work to explicitly invoked theories borrowed from other fields and often do so in rather eclectic or vague ways.

- When using ‘grand’ theory, it can be tempting to apply the theory in a more or less uncritical fashion to interpretation of evidence.

- At its worst, this can resemble the “adulation of great thinkers” (Tooley & Darby, 1998) or what the sociologist Frønes in his report entitles “fashion of the nonsense”.

- What you should rather do is to:
  Engage critically with the theory itself and particularize the theory into the context of your research to develop local theories or engage with the empirical evidence in an effort to test or modify the theory.
Challenges in the use of Theories

- Quite a few researchers have a poor match between the theory they invoke and its relevance for their data set.

- Many researchers who actually do invoke a theory in their publications do not seem to go beyond the mere invocation, and with subsequently a poor fit in applying the theory to their data and the interpretations of their evidence.

- In other words, some theoretical framework may be referred to in the beginning or in the end of a paper without having any presence or bearing on what happens between the beginning and the end.
Choosing Theories

To integrate several different theories can roughly be done in four ways (Tellings, 2001): • reduction • synthesis • horizontal addition • vertical addition

- **Reduction** means that one theory is re-defined in terms of the other theory or is subsumed under another theory. It is said, more or less, “If you really look closely to these two theories, with some corrections and adjustments, they amount to one and the same core theory.” Or it is concluded “…on closer view, the one theory is really part of the other theory”.

- **Synthesis**. the integration of theories leads to entirely new insights. The theories fertilize each other, new ideas originate where the two theories or models meet.
Choosing Theories

- **Horizontal addition.** This type of integration is useful when different theories or models cover different domains or when they cover different aspects of one domain.

- Such different theories and models, then, are rather simply added together so that a complete picture originates from the domain, with all relevant aspects.

- The underlying idea of horizontal addition is that the phenomena described by the different theories or models occur more or less diachronically, in the same cross-section of time.
Choosing Theories

Finally, there is *vertical addition*. In this form of integration theories or models are piled on top of each other. The underlying idea of vertical addition is that different theories or models describe different stages or phases in a development.

1. The close connection between theory and research was implied in the discussion of their functions. Stated explicitly, the initial impetus for research is the search for theory. Theory development relies on research, and research relies on theory. Brown (1977) characterized the relationship between theory and research as a dialectic, a transaction whereby theory determines what data are to be collected and research findings provide challenges to accepted theories.

2. Research, then, is neither more nor less than the vehicle for theory development. It is the method used to gather the data needed for the theory. This is true whether the purpose of the research is to generate a theory or to test one. When the purpose is theory generation, the phenomenon of interest suggests things to
The role of theory in Research

- **Research Question**
  - What am I going to study?

- **Empirical Studies**
  - Who has done research in this area before?

- **Theory**
  - What existing ideas are there about my research problem?
  - Problem / concept definition
  - Findings / conclusions
  - Areas for further research
  - Frameworks for understanding / explaining patterns and relationships
  - Problem / concept definitions

- **Evidence**
  - What data do I need to answer my question?
  - Data generated and relevance to research question

- **Methods**
  - How am I going to generate and analyse this data?
  - Methods / techniques used
  - Problems experienced

**Your Research Model**
Bjorkman, Fey, and Park (2007) used neo-institutional framework to examine human resource management (HRM) practices within multinational corporations operating in the U.S., Finland, and Russia.

The use of neo-institutional theory for this research was based on the premise that organizations are under social influence and pressure to adopt practices (DiMaggio & Powell, 1983).

Bjorkman et al., (2007), posited that employee development is an important source of competitive advantage for organizations and it is important for organizations to adopt HRM practices.
Neo-institutional isomorphic processes offer three distinctive definitions (a) coercive due to government regulations, (b) normative due to dissemination of professional organizations’ patterns, and (c) mimetic where organizations imitate other organizations (DiMaggio et al, 1983).

However, HRM practice is used in this study as a generic construct and neo-institutional theory does not offer a lens for generic organizational constructs but institutional pressure.

Application of Neo-Institutional Theory

- Although the researchers identified local institutional pressures from the subsidiaries of multinational corporation (Bjorkman, Fey, & Park, 2007), there are two controversial issues in the study (a) adoption of HRM practices is not regulatory, and (b) the HRM practices are not defined nor championed by any professional body to justify the presence of normative pressure.

- Neo-institutional theory, then, actually help in the understanding of the determinants of HRM practices, but the theoretical constructs of neo-institutional theory did not justify the phenomenon considered for the research.

- It was difficult to differentiate coercive, normative, nor mimetic influences to justify the application of this theory for a generic HRM practices within a global context.
Parry and Tyson (2009) drew from neo-institutional theory to provide a deeper understanding of the forces that framed how human resource policies and practices were adjusted in response to externally imposed UK legislation against age discrimination.

The theoretical lens examined two factors (a) examination of legislation on HR policies and (b) identification of forces, other than legislation, that affect the introduction of the policies (Parry & Tyson, 2009).

Neo-institutional theory as a theoretical perspective used the three DiMaggio and Powell’s (1983) isomorphic pressures to analyze the forces that HR was subjected to (a) coercive, (b) normative, and (c) mimetic.
The research explained the convergence of these three forces within the HR: (a) coercive pressure introduced by the UK legislation, (b) mimetic pressure, introduced by groups like the “Employers Forum on Age” and “Age Positive” and (c) normative pressure from professional networks such as the Chartered Institute of Personnel and Development (Parry & Tyson, 2009).

Due to the natural attitude of people with diverse agendas and stereotypes, the research seeks to understand how coercive pressure from the new law was perceived within organizations in the UK.

Parry, E., & Tyson, S. (2009). Organizational reactions to UK age discrimination legislation. Employee Relations, 31,
Application of Neo-Institutional Theory

- Although neo-institutional theory is limited in studying the impact of isomorphic pressures within organizations (Suddaby, 2010), this research, through interpretive case study discovered that organizational complexities, preexisting values, sectorial distinction, diverse stakeholders, and interest groups collectively complicated and delayed the implementation of the legislation (Parry & Tyson, 2010).

- Despite internal factors, neo-institutional theory succeeded in analyzing the phenomenon within its theoretical proposition, with evidence of all three isomorphic pressures.

- However, a gap exists for further research on what constitute the definition of pre-existing conditions and other internal HR values within neo-institutional context.
There is no academic study or research that can be undertaken without a theory. Most scholars agree that “theory is the currency of scholarly research” (Corley & Gioia, 2011, p. 12).

A theory provides a framework for analysis, facilitates the efficient development of academic field, and is needed for the applicability to practical real world problems (Wacker, 1998). Theory propels all the ideas that fuel research and practice.

Apart from social sciences, theory has a practical and revealing connection in natural sciences because it gives rise to useful practice, discovery, explanations, and predictions (Gary 2007; Vogel, 2010).
Summary of the importance of theory

- The relationship between theory and practice is an extensive discussion in scholarly literature covering diverse fields of study (Gay & Weaver, 2011; Lincoln & Lynham, 2011; Pendry, Driscoll, & Field, 2007; Vogel, 2010).

- The systematic nature of theory is to provide explanatory leverage on a problem, describing innovative features of a phenomenon, or providing predictive utility (Henderikus, 2010).

- There are three prevailing influential views that hold theories to be (a) reducible to observables, (b) used as instruments to do things in the world, and (c) statements about things that really exist (Henderikus, 2007).
I would like to end with a quote about the mutual relationship between theory and practice.

Immanuel Kant, the philosopher: “theory without practice is empty, practice without theory is blind”.

As Kurt Lewin, the founding father of social psychology: “There's nothing so practical as good theory” (1) – because good theory guides effective action by turning knowledge into wisdom.

As a Dutch pedagogue J. H. Gunning (1859-1951), cited by one of his successors, M.J. Langeveld (1905-1989; 1979, p. 23), too hard of a saying, I don’t really like it, but it just buttresses the great importance of theory in research: “Theory without practice is for geniuses, practice without theory is [for sloppy researchers] ….., but for most educators [there] is the profound, indissoluble union of both.”
The END
Big Thanks and Stay tuned

COMMENTS/QUESTIONS/CONTRIBUTIONS