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Making Choices: Developing Digital Research Frameworks for Information Management

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Title

Making Choices: Developing Digital Research Frameworks for Information Management

Abstract

- **Purpose (mandatory)**

The purpose of this document is to suggest a digital research framework that can be applied to many of the areas that encompass the discipline of Information Management.

- **Design/methodology/approach (mandatory)**

This communication proposes a new “Triple A” framework that allows the researcher to progress digital ideas by asking a series of staged questions. This is a progressive model consisting of three stages of Acquaintance; Adaption and Application bounded by three major influencing issues of Culture, Communication and Context. The Triple A framework is aimed to be flexible to apply to most styles of research yet robust enough to offer useful insights.

- **Findings (mandatory)**

The model devised will assist (information management) researchers with choices of research approaches. It may be that early career researchers or those undertaking a postgraduate research will find this framework especially helpful to clarify thoughts and direction. The model aims to be useful and, whilst no doubt will be built on in future research, it is offered as a foundation, an initial starting point, as those who work and study in information management fields endeavor to make new choices in our digitally managed information world.

- **Originality/value (mandatory)**

The originality and value of this work is the proposition of a new model that will allow researchers to impose structure on ideas and encourage the viewing of work from a multi-disciplinary perspective within the growing and evolving digital areas.

Type of Paper: Viewpoint

Keywords: Theoretical framework; information management; digital research framework

1. Introduction

The term “digital” has become part of our 21st century vocabulary as we have become accustomed to life in the “digital economy” and to the use of “digital” communications in everyday life. Yet, in academic terms, research in this digital area is still a foundling, compared, for example, to other disciplines and domains such as philosophy, medicine or law. As such there is a need for research frameworks which will help clarify research in this area. A well-chosen framework can help ensure that research is carefully conducted by suggesting a clear route to follow in terms of structure and contribution. This paper proposes a new “Triple A” framework which allows the researcher to progress digital ideas by asking a series of staged questions. This new “Triple A” framework considers the three stages of research “Acquaintance; Adaption and Application.”

This paper aims to develop a digital research framework that can be applied to many of the areas which encompass the discipline of Information Management. By doing so the paper goes someway towards a suggestion for addressing this increasingly difficult current issue in higher education. As the concerns around the management of “Big Data” become more complex this work aims to provide a model which is applicable to many UK and international environments. Whilst it is planned that later research will demonstrate results based on empirical data, this paper builds on two earlier papers, the first written in 2007 (Burke, M. 2007) which explored the choices in research paradigms for information managements and the second more recent paper (Burke, 2016) which established “ that the lack of a readily available, tested, robust theoretical framework for digital research (as) a problem, as there have no readily available point of reference in order to grasp the true meaning and implications of the subject”. Whilst the 2016 paper considered the potential for Social Exchange Theory to provide some answers, this paper takes a different view and suggests a framework for a single discipline, - Information Management - rather than the larger task of finding frameworks to suit a wider range of digital disciplines.

2. Background

A useful set of relevant framework definitions compiled and researched by Hyman Rodman (1980) include – “ A conceptual framework defined as a special way of approaching a field of study’. Hill and Hansen’s (1960) definition of frameworks as clusters – “clusters of interrelated but not necessarily inter-defined concepts”, - and Klein and Hill (1972), who defined a conceptual framework as a “taxonomy of interrelated but not necessarily inter-

defined concepts and assumptions." Other useful definitions include " a system of concepts, assumptions, expectations, beliefs, and theories that supports and informs research and explains, either graphically or in narrative form, the main (areas) to be studied—the key factors, concepts, or variables and the main relationships" (Miles and Huberman, 1994) Digital Research is more difficult to define, but a generic definition is the "research of all technology related connective matters". Combining digital and information aspects has been undertaken by Gooran-Sieber (2014) who proposed a theoretical framework for digital learners in information management by suggesting a combination of organisational theory and personal knowledge management in order to create a dual perspective and thus a deeper understanding of learning. Information Management as a subject area in its own right has grown and evolved as a discipline and is defined today in 2017 by the relevant professional association CILIP (Chartered Institute of Library and Information Professionals) as "collecting, organising, storing and exploiting information, data, expertise and other knowledge assets which are held within an organisation or network of organisations, ensuring that these assets remain available for future use."

3. Literature

Literature associated with the search for meaningful frameworks tends to be quite domain / discipline specific as each area has its own problems and particular requirements. For example, the discipline of Psychology considered the need for frameworks that supported co-determinants and inter-dependants in order to create a robust contract for studying worker participation (Bruyn and Smokovitis, 1979). Archeologists also searched for an interpretive landscape framework that would fit different types of digital representations (Llobera, 2012). Further back, Vygotski's work in the 1930's considered the needs regarding the discipline of Education in terms of an educational development framework that would allow the researcher to view ideas from cultural, historical and psychological perspectives (Hadi-Tabassum, 2003). Still within Education, Muis, Bendixen and Haerle (2006) grappling with much the same issues as today, searched for a suitable framework and not having found an existing solution, created the now widely accepted Theory of Integrated Domains (TIDE). Within the area of Information Systems an entire special issue was devoted to the questions posed around Digital Infrastructures*:* The Missing IS Research Agenda (Tilson, Lyytinen and Sørensen 2010)

A discussion of digital innovation and competitive advantage was undertaken by Yoo, Henfridsson and Lyytinen (2010) who quote Schumpeter's 1934 definition of what could then be regarded as "digital" innovation as "the carrying out of new combinations of digital and physical components to produce novel products. Our use of the term digital innovation

thus implies a focus on product innovation, distinguishing it from …..process innovation (Swanson 1994)". Although at the time of this special issue there was clearly concern with the future direction of digital research, issues regarding choice of digital frameworks for information systems were left open to future debate. However, this concern was mentioned by Vodanovich, Sundaram and Myers (2010) in their paper on the rise of the digital native as they " suggests that the rise of the digital native versus the digital immigrant along with the growth of ubiquitous information systems, potentially represents a fundamental shift in our "paradigm" for Information Systems research.

Other disciplines such as sociology have also attempted to create original frameworks to help with the analysis of complex issues. For example, Therborn (2006) edited treatise on "Inequalities of the World" attempts, within the introduction, to create a framework which could help with the identification of global and sub-global determinants of global inequalities. He needed to create a robust framework that dealt with all aspects of this multi-layered, multi-discipline topic. Whilst Therborn "admits the framework is provisional," this is a classic example of striving to understand, via the use of a single framework, the richness and diversity of research in this area.

Other disciplines also strive for a way to evolve which maintains a central framework. For example, in the world of (comparative) literature there scholarly debate around an issue that came to be known as the "Death of a Discipline" (Gayatri Chakravorty Spivak, 2003), which caused much discussion and response. These scholars attempted to create a structure, a framework which showed a clear path regarding ways of defining the discipline of Comparative Literature.

Having defined terms and shown that the ongoing search for useful frameworks is important in order to progress a discipline, the next section presents discussion regarding the subject of Information Management.

4. Information Management

Writing in 2006 Buschmann carefully considered Information Management's "struggle with an ongoing lack of a theoretical and epistemological basis." He addresses "the framework that Habermas offers the field in terms of his interlocking work on history, epistemology, and social/economic critique and theory as part of that effort."
Frohmann's (1992) colourful quote paints a rich picture of multiple research choices - "High-flying …..researchers swoop indiscriminately down upon the theoretical terrain, colonising Popperian worlds, or cannibalizing hermeneutics, phenomenology, general systems theory, symbolic interactionism, decision theory, existentialism, structural-functionalism, cognitive

science, or philosophy of language with extraordinary license.

Even since 2006 those who work in information management are still looking for a particular framework, - an all-encompassing epistemological basis that can be used to anchor much of the research in this area. This is never more critical than at this point in the digital era. In order to allow future generations to compare, contrast and discuss the research that is currently undertaken there is a need to make choices, or at least move towards development of a new Digital Research Framework for Information Management.

The main social theory frameworks were outlined in 2006 as follows: -

"The Information Systems discipline is in a better position. It has "borrowed" frameworks from the sociology discipline and one of the most important papers was written towards the end of the 1970's when sociology was a growing and thriving field. This view has now been widely accepted and forms the social theory framework which sets out the major view and contain "fundamentally different perspectives for the analysis of social phenomena". Burrell and Morgan (1979) endeavoured to present the pertinent issues of the 60's and 70's into a single model. They created the framework for four sociological paradigms which are now widely accepted and used to convey a standpoint on a particular issue. The four paradigms are Radical Humanist; Radical Structuralism; Functionalist and Interpretive views. "

However, whilst the classical sociologist views are very useful, in terms of a framework for digital research in Information Management a response is required from our own discipline. This initial suggestion is the Triple A framework – one which is elegant enough to apply no matter what the style of research yet is robust enough to offer useful insights. This is a progressive model consisting of three stages of Acquaintance, Adaption and Application. In addition the areas of Culture, Communication and Context serve as boundary markers around these three stages.

5. The Triple A Model.

In order to successfully apply the Triple A model the researcher needs to be clear regarding the aim and objectives of the research.

Stage 1 (Acquaint) is concerned with a deep acquaintance with the area, with identification of the major discipline in which the research resides, with further identification of the multi – disciplinary and / or the trans-disciplinary nature of the work, with a real understanding of the position of the domain in which s/he is working. Once there is this true understanding of where the research is mainly sited and which (inter) disciplinary boundary fences are

nearby, (and this may some time), then the researcher is ready to move onto the next part of the model.

Stage 2 (Adapt) At this stage, the researcher must then consider the following questions:

> Within the major disciplines in which the research is sited, are there frameworks that could be helpful in order to progress the aim of this work?
> How can these frameworks be adapted for relevance?
> What needs to be added / removed in order to be useful?

These questions will be an iterative process and will take careful thought – they cannot be rushed as a "quick remedy". Once this stage has been completed, the researcher can then move on to the final third stage.

Stage 3 (Application). The researcher needs to carefully apply the newly devised framework to the aim and objectives. Once applied this may result in the framework highlighting new issues which allow the researcher to view the work from different perspectives.
However, in doing so the researcher cannot ignore three other major areas of influence and importance – culture, communication and context.

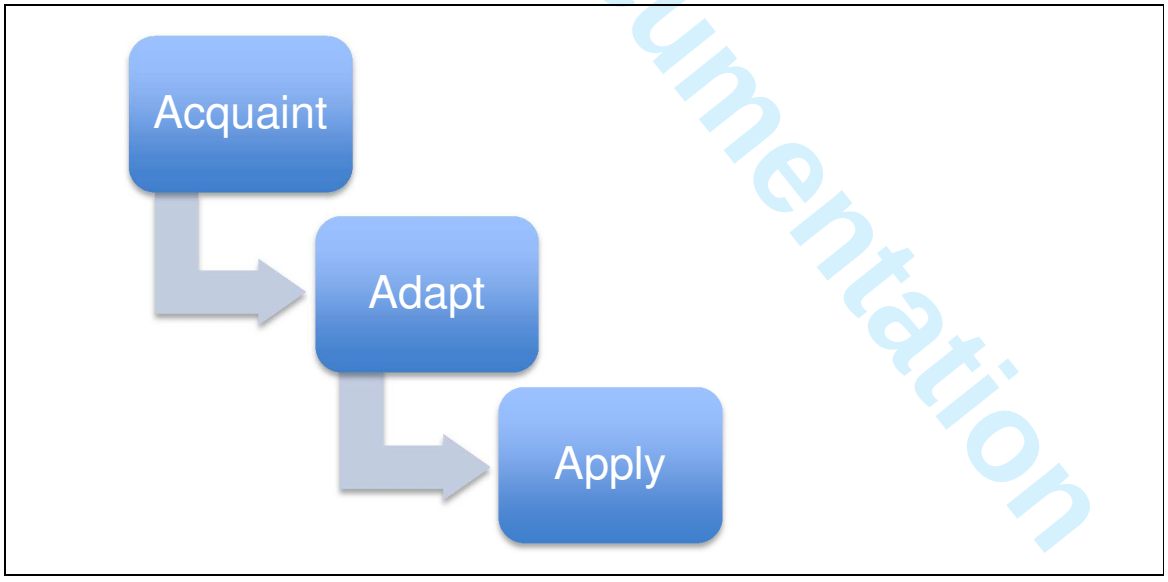

Figure 1 Acquaint, Adapt, Apply

Culture

The culture of the organization and/or of the society where the research takes place must be taken into consideration. Whilst this is a normal part of interpretative research, this argument

is for a deeper consideration – even with those choosing to use a more positivist perspective. The macro level features such as the sophistication of the technology, the type of society, the level of political debate, the legislative frameworks and the environmental considerations affect the research. In addition the research can be affected by micro level cultural issues within the organization such as the underlying assumptions about behavior, values and norms. What is important is to identify all these issues and add them to the model.

Communication

In order for the framework to be helpful, questions must be asked concerning issues of communication with regard to technology. For example, at a macro level, an identification of the level of digitization by country or continent where the research is located can prove to be very useful. Authors such as Sabbagh, Friedrich et. Al. (2012) proposed key attributes that can be used to determine a country's level of digitization such as Ubiquity; Affordability; Reliability; Speed: Usability and Skill. In addition Digitization Indexes have been compiled which outline, by country, the levels of digital choices and acceptance within countries. (e.g the Digital Economy and Society Index, 2017). Other reports have concentrated on digitization such as the McKinsey Global Institute Report 2015 whilst others measure by digitization of specific industries (Ghandi, Khanna and Ramaswamy, 2016).

By comparison, the researcher must take into consideration the more micro levels of communication such as the prevalent types, levels and modes of communication within the community or organsiations that form the focal point for the research. The researcher must be aware of all these communication issues – and the way in which they influence the research in order to usefully apply the Triple A framework.

Context

It is essential for the researcher to be familiar with the context of the research i.e. the setting for the fieldwork and the general environment in which the work will take place. This is important as the labels describing the context need to be added to the framework so that a holistic view can be taken of the entire research framework.

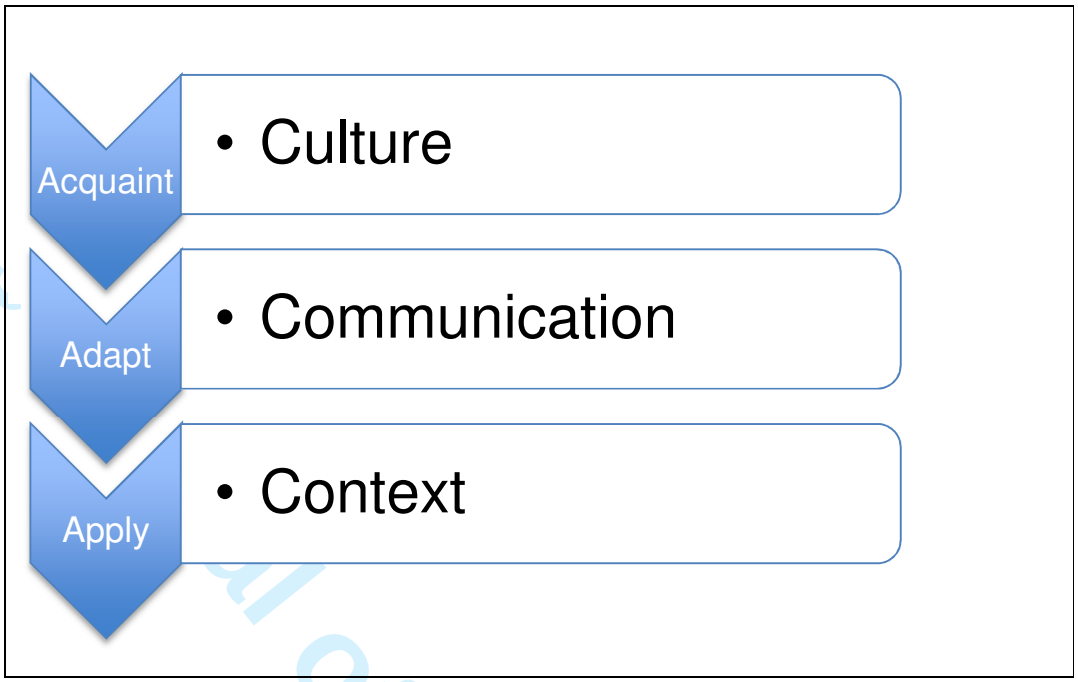

Figure 2. Triple A Framework

6. Contributions and Conclusion

The contribution of this work is the proposition of a new model that will allow researchers to impose structure on ideas and encourage the viewing of work from a multi-disciplinary perspective within the growing and evolving digital areas. Recent reports show increasing interest in the higher education sector of the interdisciplinary perspectives such as the "Landscape Review of Interdisciplinary Research in the UK" (Techno polis and SPRU, 2016) which states that one of the barriers to interdisciplinarity is that of "Discipline-oriented cultures – where disciplinary norms and expectations, as well as discipline-oriented structures… can act as barriers against wider engagement between disciplines. Contrasting interpretations of evidence and rigour as well as different methodological requirements can create friction and misunderstanding within teams. Subtle barriers may also exist because interdisciplinary researchers may have a more ambiguous academic identity rather than one disciplinary home.'" In addition, professional bodies such as the Chartered Association of Business Schools have been keen to run seminars and conferences in the area of the problems of interdisciplinary (Interdisciplinary Research Summit, 2016) which address such points as "the challenges facing early career researchers wishing to undertake interdisciplinary research". The model devised in the paper may assist with making those choices by allowing (information management) researchers to make information choices through the developing digital research frameworks and thus lead towards a clearer route for

multidisciplinary research. It may be that Early Career Researchers or those undertaking a postgraduate higher education research will find this framework especially helpful to clarify thoughts and direction. Whilst this model is general and therefore applicable to both Information Management and a wider discipline base, it is aimed to be useful in particular to Early Career Researchers. There is clearly a need for model of this kind as shown by the very useful model offered by Vitae – known as Researcher Development Framework (RDF – Vitae, 2010). The aims of the RDF framework are, in essence, to assist "researchers to evaluate and plan their professional development and to help managers to support the development of researchers". The RDF consists of four main domains; knowledge; engagement; research governance and personal effectiveness. The knowledge domain is particularly useful as it offers a framework of phases for the Early Career Researcher to follow. However, there is still a need for a model such as that outlined in this paper which is aimed in particular to assist those working in areas of digital research.

Plans are underway for this model to be tested and whilst no doubt the model will be adapted and developed in future research, this communication is offered as a foundation, a starting point as those who study and work in the field of information management endeavor to make new choices in our digitally managed information world.

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