Strategy Development for Building Digital Collections of the University of Cape Coast Library, Ghana: A Case Study

Nesba Yaa Anima Adzobu

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Abstract

Strategic planning is a critical issue for higher education academic libraries, especially in developing countries like Ghana, due to limited financial resources and the rapid change in the information environment during the last several decades. Theory-testing case study methodology was used in this thesis to examine strategy formulation and implementation in building the digital collections of the University of Cape Coast Library (UCCL) in Ghana. The main question the study attempted to answer was how did the DL strategic formulation and implementation processes used by the UCC in building its digital collections compare with the Mintzberg’s strategic formulation and implementation framework? The instruments used for data collection were the key informant interview technique and document reviews. The results showed that, during the formulation phase, two aspects (resources and aspirations of senior management) were emergent. During the implementation phase, five aspects (achieving results, processes and behaviour, standards, motivation, and personal) were emergent. All other elements of building the UCC digital collections were planned during both the formulation and implementation phases. Although the basic technical architecture for the digital library is in place, inconsistency between organizational objectives and the values of the management group was identified as a problem in strategy formulation. Digital library staff reported that cost of using Information Communications Technology (ICT) facilities, frequency of power outage, obsolete digitization equipment, interconnectivity problems, and high cost of internet connectivity inhibited their work and regular student access to digital collections. Although the emphasis on students and learning is laudable and apt, there seems to be lack of focus on research support beyond digital collection building, despite the fact that research excellence is one of the UCC’s key priorities. Opportunities exist for improving feedback mechanisms between the users, digital library staff and the university management; and inclusion of social media tools in the digital library project.

Keywords: case study; digital collections; Ghana; interviews; Mintzberg; strategic planning; UCC
Declaration

I certify that all material in this dissertation which is not my own work has been properly identified and that no material is included for which a degree has previously been conferred upon me.

Nesba Yaa Anima Adzobu

................................ (Signature of candidate)
October 2012
I owe tons of gratitude to all the people who have made this thesis possible. First and foremost, I sincerely thank Professor Elena Maceviciute, my supervisor, for all her tremendous support, guidance, understanding, patience, and most importantly, confidence during my Master’s studies at the University of Borås, Sweden. She never gave up on me when I was struggling with several conceptual and practical issues on the thesis and for that, I am most grateful.

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<tr>
<td>CABECA</td>
<td>Capacity Building for Electronic Communication in Africa</td>
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<td>CARLIGH</td>
<td>Consortium of Academic and Research Libraries in Ghana</td>
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<td>DL</td>
<td>Digital library</td>
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<td>DLs</td>
<td>Digital libraries</td>
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<td>GSM</td>
<td>Global System for Mobile communications</td>
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<td>HEFCE</td>
<td>Higher Education Funding Council for England</td>
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<td>IGF</td>
<td>Internally Generated Fund</td>
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<td>IR</td>
<td>Institutional Repository</td>
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<td>ICT</td>
<td>Information and Communications Technology</td>
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<td>KNUST</td>
<td>Kwame Nkrumah University of Science and Technology</td>
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<td>MDGs</td>
<td>UN Millennium Development Goals</td>
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<td>NCA</td>
<td>National Communications Authority</td>
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<td>NITA</td>
<td>National Information Technology Authority</td>
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<td>TALIF</td>
<td>Teaching and Learning Innovations Fund</td>
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<td>UCC</td>
<td>University of Cape Coast</td>
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<td>UCCDL</td>
<td>University of Cape Coast Digital Library</td>
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<td>UCCL</td>
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CHAPTER 1
Introduction

Developments in the digital age have resulted in institutions, especially universities, developing policies to guide them in the establishment of Institutional Repositories (IR) as well as other e-contents, which have become essential infrastructure for scholarship. All over the world, the digital revolution has affected the way scholars create, communicate, and preserve new knowledge, and the development of IR has emerged as a new strategy that allows universities to apply serious, strategic plans to accelerate changes taking place in scholarship and scholarly communication. Most libraries have dual modes for the reason that they are not fully digital libraries (DLs) or fully traditional libraries. Instead they are hybrid libraries, holding printed and digitized materials and also allowing access through subscriptions to larger digital collections. The emergence and expansion of DLs suggest that these resources will significantly contribute to the learning and information across the world. Today’s library is developing into comprehensive collection of digital content worldwide. Collection development of a digital library involves a strategy to link the information and knowledge divides through library digitization (Ayanbode, 2011). In the developed world, DLs are well established in many institutions of higher education. These libraries are made up of several components with collection development policies guiding selection, acquisition, access, storage, and preservation of content. In order for digital libraries to maintain high quality services, they must deliver and expand services to their end users, rotate staff in reference services, communicate with partners and address legal issues related to their establishments and operations. Strategic planning is a tool that helps to set and link all these elements of DLs in a long-term perspective for effective collection management and integration. This chapter provides the rationale for this research and it starts with background information for this case study and presents the main goals and objectives, and problem statement. The significance of the study is then discussed followed by limitations and scope of the research.
1.1 Background to the study

According to Greenstein (2000), the digital library extends the breadth and scale of scholarly and cultural evidence and supports original research and lifelong learning. Thus, in developing a digital library service environment, the library becomes accountable for managing and securing access to a world of information, which it owns or manages only a part. In an attempt to aid the fast flow of information and knowledge, academic institutions and countries worldwide, especially in the developed world are developing their own digital libraries (DLs). The modern library no longer consists of only of books but has information in digital format and maintains a hybrid collection of print-based materials along with digital resources. A hybrid library faces numerous issues in the management of networked digital collections (Cohen, 2004), given that all the resources that make up its collections have to be brought together through the help of experts working by guidelines and policies prepared by the institution itself or the adoption of guidelines from research organizations in DLs elsewhere.

Developed countries have become models for most developing countries in the latter’s quest to establish and maintain DLs. Several developing countries are implementing DL projects with the aim of establishing a fully functional DL for their users (Mutula, 2004). Ghana is no exception and is making efforts to find a place in the digital world (Martey, 2004a). Delays in DL projects in developing countries can be attributed to lack of information and communication technologies (ICTs) since DLs thrive on the use of ICT (Martey, 2004b). In developed nations, ICTs are the common means of retrieving information or communicating it while in most developing countries, especially in Africa this is not so. This is due to poor ICT facilities or lack of them. Access to digital technology for education, communication, and information is thus inadequate. These shortcomings are especially seen in academic libraries and allied institutions. The library is supposed to be the centre of ICT use for effective library services; for quick retrieval of information by patrons and disseminating of vital information by them (Igun, 2011). Mobile broadband or Global System for Mobile communications (GSM) is Africa’s most promising broadband access technology. There is evidence of increased access to mobile networks. According to Igun (2011), access increased from 25% population coverage in 2000 to 58.5% in 2008. This helps in the dissemination of information as users of these mobile phones can have
access to DLs when they are connected to the Internet. In the West African Sub-region, Ghana is said to be in the lead, especially in the area of telecommunications; 50 percent of the population is likely to access the Internet. This is well ahead of the target for the UN Millennium Development Goals (Nyarko, 2007). According to Ghana Internet Usage and Telecommunication Report (June, 2009), with the population of about 23,887,812, it has 997,000 Internet users. This means that 4.2% of the population use the Internet and this number is still growing.

The university environment in Ghana is changing as a result of the upsurge in technologies, which have brought about recognition of the role that universities play as drivers of national development. In order to enhance the quality of higher education in the universities and make them accessible to more candidates, major investments have been made in electronic infrastructure such as Internet connectivity and e-learning tools (Rosenberg, 2005). Other projects, for example, Capacity Building for Electronic Communication in Africa (CABECA), which aimed to provide low cost electronic communication to African countries for full attainment of Internet connectivity, have been implemented.

In recent times, many eligible university applicants have failed to gain admission to universities in Ghana because of limited space. Only 25% of applicants are admitted every year. This space constraint has created a backlog of qualified applicants. In turn, this backlog has made it imperative to deliver teaching and learning services by the distance mode. Digital libraries are central to the achievement of this need. However, distant education students, lecturers, and researchers in universities in Ghana are faced with technological challenges. In Ghana, even though the technologies may exist for scholars to manage their own digital content, this is not usually done: academics are typically best at creating but not preserving new knowledge. Consequently, most faculty members, at a point in time, lose the content they create on their Personal Computers (PCs), pen drives, and even those in print (Martey, 2004a). The fact is, if the University truly values the content that the academic staff and post-graduate students create, as well as other available e-sources of data, it is important that it takes full responsibility by harnessing content and creating access for it. The University of Cape Coast library (UCC) has
digitized most of the University’s publications as a way of building a digital repository with the ultimate aim of building and maintaining a digital library. However, the project is fraught with many challenges. The Digital collection is an important part of the collections of any modern university library. Collection development and management is also an important aspect of digital library development. Every library, therefore, has to develop clear policies on acquisitions material preservation and co operations with other institutions. These policies would be informed by the need of the institutions and its constituents as well as access requirements. A strategic plan is central to the achievement of such a collection development policy. These issues motivate this research on the strategies of digital collection building of University of Cape Coast Digital Library.

1.2 Statement of the problem

Digital libraries are not only about technologies but are made up of producers, documents and users. The planning of DLs must be done with this complex and dynamic social and technical environment in mind (Arms, 2000). Strategy formulation and implementation ensure that academic digital libraries remain at the forefront of information delivery within their communities by targeting resources to areas that require critical attention, supporting equitable access to information through Internet technologies; encouraging further collaboration among libraries; and promoting partnerships between libraries and the education system, the private sector, and all levels of government to improve service delivery. From theoretical and practical perspectives, academic digital libraries are among organizations that are most likely to make use of all types of strategic planning (including strategy formulation and implementation) at different decision-making levels in order to enhance service delivery. This is because academic libraries not only make access to information more equitable; they manage and monitor resources to ensure that citizens get quality information in an orderly, relevant, and useful manner. As digital libraries are not built overnight, the successful building of digital library collections will be composed of several different elements, such as collection development and its associated policies, technical processing, software and hardware issues, access, human expertise, funding, integration of collections as well as their management. These elements essentially require
strategy formulation and implementation, which has been theorised by a number of scholars including Mintzberg. The theory of Mintzberg et al. (2003) is regarded as one of the most important theories of strategy process. It deviates from the planning school with authors like Ansoff (1965) by saying that all strategy isn’t planned but may be emergent strategies. The primary determinant of realized strategy is what Mintzberg terms emergent strategy – the decisions that emerge from the complex processes in which individual managers interpret the intended strategy and adapt to changing external circumstances. Emergent strategies can be seen as responses to unexpected opportunities and problems and are usually developed from the locations at which organisational-level strategies are usually implemented, i.e. within organisational units and not at corporate headquarters. The pure definition of emergence requires the absence of intentions (McGee, Thomas and Wilson 2005:11). The steps involved in strategy formulation and implementation influences transparency of the processes and outcomes of projects designed to build digital collections in academic libraries. Yet, no study has probed the processes involved in strategy formulation and implementation in the context of African academic libraries in the complex, digital environment of today. The present study will identify the strategies used for building digital library collections of the University of Cape Coast library (UCCL) using Mintzberg et al.’s theoretical framework as a reference. It is interesting to apply this theory to an academic library to ascertain which aspects of the processes involved in building digital collections are deliberate (planned) or emergent. The knowledge gained from this study can potentially serve as a model for other institutions and organizations of higher learning in Ghana regarding plans to include DLs in their traditional library systems. Also, insight gained from such a study would be useful for academic libraries in particular, and for library and information science in general.

1.3 Aim of the study

The aim of this research is to test the Mintzberg theoretical framework of strategy formulation and implementation using the strategic steps employed by the UCC in building its digital library collections as empirical material. The UCC as a multi-layered institution of higher learning is complex with various hierarchies of organization that require the allocation of limited human and financial resources to various projects. Therefore, in practice, UCC is among the organizations
that are most likely to make use of all types of strategic planning (including strategy formulation and implementation) at different decision-making levels. The digitization project at the UCC is a specific project that requires allocation of limited time, human, and financial resources; therefore, the building of digital collections constitutes a most-likely case scenario for the use of the Mintzberg theoretical framework as applied to strategic planning.

1.4 Research questions

The following research questions were formulated to guide the study:

- What are the current conditions of the digital library project at the UCC?
- Who are the users and what are their needs?
- What are the priorities set by the University/library leaders at the UCC?
- What is the state of technological readiness in place and what are needed at the UCC?
- What is the extent of collaboration by interested parties?
- How does the digital library strategic planning processes at the UCC compare with the Mintzberg theoretical framework of strategy formulation and implementation?

The research questions above can be explicitly categorised into two: those that relate to monitoring of the digital library project (questions 1 to 5) and one question, which elicits the planned and emergent aspects of the steps involved in strategy formulation and implementation in relation to building digital collections of the UCC library. The information the research questions seek to produce is of great interest and relevance to many users of digital collections, university administrators and librarians in academic libraries. It is important for assessing current conditions, identifying problem areas, developing forecasts, formulating policies and action plans, and evaluating policies and actions regarding the digital library project. The information can also be incorporated into analyses that result in major public and private decisions on digital libraries with significant scientific, economic, and social impact.

1.5 Significance of the Study
The research project contributes to knowledge on the development of DLs in Ghana. It will serve as a model for other universities and organizations of similar structure and function. The study
also demonstrates how strategic planning can help academic libraries manage, control and formulate policies regarding their digital collections in building DLs.

1.6 Limitations of the study

This study seeks to identify the strategies used for building digital collections at the University of Cape Coast Library and it is limited by the following:

- The research is limited to one African institution of higher learning, that is, the University of Cape Coast in Ghana.
- Other stakeholders particularly students who are the main beneficiaries of the DL were not considered.

1.7 Definition of Key terms

It is important, at this juncture, to put some of the key terms in this thesis into perspective. There appears to be explicit conceptual differences between the terms *institutional repository* and *digital library* in the literature. McCord (2003) considers the term *institutional repository* as a specific concept – a centrally managed collection of institutionally-generated digital objects designed to be maintained in perpetuity. It can be viewed “as a natural extension of academic institutions” (McCord, 2003:2) as generators of primary research seeking to preserve and leverage their constituents intellectual assets; and as one potentially major component in the evolving structure of scholarly communication. According to Parker (2003), a *digital library* is an online collection of digital objects, of assured quality, that are created or collected and managed according to internationally accepted principles for collection development and made accessible in a coherent and sustainable manner, supported by services necessary to allow users to retrieve and exploit the resources. A digital library may, thus, be considered as a type of institutional repository that houses digital collections. Similarly, there are clear differences between the term *digital library* and the actual digital collections, contained in it.

In practice, the UCC has situated the development of its digital library within its institutional repository policy. However, in the institutional repository policy, the UCC does not distinguish
between an institutional repository and a digital library. In fact, they are used interchangeably in the policy as in other official documents of the university. Actually, a digital library may either contain collections digitized internally by a particular institution. In certain instances, some of the collections may have been digitized internally or externally. The UCC does not decouple the two types of collections (those digitized internally or those digitized by externally sources). The digital library of the UCC essentially contains both sets of digitized collections. The term *building digital collections*, as used in thesis, must be understood to mean the processes involved in a) digitizing collections internally by the UCC and b) adding already digitized material from external sources to the internally digitized collections in the digital library. Thus, the UCC does not discriminate between strategies for digitizing collections internally or strategies for incorporating already digitized material into the digital library though in theory such strategies might differ. Either way, the issue of strategic planning would still be relevant. It is in this perspective that this thesis must be read. In the context of the UCC, any discussion on building digital collections will be meaningless if the ambiguities surrounding these conceptual issues are not underscored or made explicit.
CHAPTER 2

Literature Review

The aim of this literature review is to present a structure for this study on strategic development and planning. This review begins with a summary of various definitions of strategic plan and planning by several authors of the field. Next, attention is drawn to some steps involved in, and approaches to the strategic planning process. The review then narrows the focus to literature on strategic planning and higher education, academic libraries and DL collections. It then focuses attention on strategic planning in DL development by exploring the success factors in this field. Finally, the specific context of the University of Cape Coast is discussed.

2.1 Strategic Planning

Strategy formulation and implementation is intrinsic to strategic planning. This thesis is concerned with strategy formulation and implementation so it is useful to situate it within the broader research theme of strategic planning. Strategic planning — which can be considered as a review of current and past performance, an assessment of possible short-term impacts, and a plan for creating the best possible future — can be a rigorous process. According to Corrall (2009), strategy is the path and range of an organization over the long term, which achieves gain for the organization through its arrangement of resources within a changing environment, to meet the needs of markets and to fulfill collaborator’s expectations. This represents the overall objective for an organization or what it aims to do. Strategy is also used to describe how an organization will achieve its objective or aim. At this level, strategies are defined sets of actions or emerging patterns of actions and tasks that take the organization toward its goals and targets. Mintzberg, Lampel, Quinn, Ghoshal, and Summantra (2003), define strategy as plans, ploys, patterns, positions and perspectives of an organization. They introduce the idea that strategies can form in an organization without being consciously intended, that is, without being formulated.

Strategic planning has become popular because authors of the field and researchers have devoted much time and attention to defining strategic planning and its related process that seem best for
profit and non-profit organizations. This gives rise to different organization-specific definitions and models of strategy and strategic planning. Corrall (2009) fundamentally sees strategic planning as deciding and shaping organizational objectives and working consistently and steadily to convert those objectives into actions and outcomes. He indicates that insight and prudence are required to interpret past events and present trends to determine future directions. Bryson (2004) defines strategic planning as a closely controlled effort to produce fundamental decisions and actions that shape and guide what an organization is, what it does, and why it does it. Mintzberg (1994) contends the key to understanding planning is the concept of formalization. He defines strategic planning as an authorized course of action to produce an articulated result, in the form of an integrated system of decisions. Aamot (2007) “views strategic planning as a structured process intended to help an organization determine where it is, where it wants to be and how to get there and that it requires broad-scale and effective information gathering, clarification of mission and issues to be addressed, exploration and development of alternative strategies and an emphasis on the future implications of present decisions. Thus, Strategic planning typically involves a process of planning, which results in the organization’s strategic plan.

2.2 The Strategic planning process

Literature on strategic planning deals with the idea of a system or a process for planning to achieve set objectives in diverse phases of organizations. Authors commonly identify the steps involved in the planning process and treat planning as a very deliberate process that ends in a precise plan. Bryson (2004) provides a simple structure for the strategic planning process by defining the ABC’s of strategic planning. According to Bryson, A is where an organization is, B is where it wants to be in the near or nearest future, and C is what it has to do to get there. The vision, mission, and goals of the organization help it move from its current state to where it wants to be. Strategy formulation connects A to C and strategy implementation connects B to C. Bryson’s more complex planning process is a 10 step “strategy change cycle.”

These 10 steps include the following:
1. Initiate and agree on a strategic planning process.
2. Identify organizational mandates.
3. Clarify organizational mission and values.
4. Assess the external and internal environments to identify strengths, weaknesses, opportunities, and threats.
5. Identify the strategic issues facing the organization.
6. Formulate strategies to manage issues.
7. Review and adopt the strategies or strategic plan.
8. Establish an effective organizational vision.
9. Develop an effective implementation process.
10. Reassess the strategies and the strategic planning process.

Bryson also cautions that the planning process, is a universal approach but it should be tailored to fit the specific situation of the organization in order to be most effective. Mintzberg (1978) identifies strategy formation in most organizations as three basic forces that act together. One force is the environment, which has a characteristic of continuous and irregular change. The second is the organizational operating system, or bureaucracy, and the final force is leadership, which plays a role of mediation between the two forces in attempt to balance the two other forces by maintaining “the stability of the organization’s operating system while at the same time insuring its adaptation to environmental change. Mintzberg et al. (2003) single out the importance of strategic planning and formulation as an “emerging” idea in that strategies may also evolve and that not all strategies are intended, deliberate, and developed in advance. This is an important distinction because much of the literature treats strategic planning as a deliberate and explicit process and fails to recognize the notion that some strategies evolve through daily decision making. Bryson (2004) echoes this sentiment as he supports the use of strategic planning to help organizations develop and implement effective strategies but also encourages them to remain open to unforeseen opportunities.

An implementation of emergent strategies involves the allocation of resources even though an organization has not explicitly chosen its strategies. According to Kettunen (2007), the concept of strategy map developed by Kaplan and Norton (2001, 2004) helps to communicate emergent strategies in libraries. The efficient communication of strategic objectives is important,
especially in a network strategy, which is planned and implemented by many libraries. The diverse backgrounds of libraries underline the need for enhanced communication. The strategy map helps the personnel of the libraries to create a shared understanding about the strategic objectives. The approach translates the strategic plan into objectives and measures and groups them into four different perspectives namely: customer, finance, internal process and learning (Kaplan and Norton, 2004).

Minzberg et al.’s (2003) process of formulating a strategic plan has three main components: formulation, deciding what the organization intends to do; corporate strategy, the pattern of purposes as well as policies of the organization; and finally, the implementation stage. These have sub-activities that correlate with each other and also serve as feedback to the organization regarding the choice of resources, decisions, personal values, relationships among other channels that help determine the overall achievements. These sub-activities are detailed in the theoretical framework of this thesis. Scanning the environment is an important part of the strategic planning process as most literature on strategic planning requires organizations to anticipate what opportunities and threats may exist in the future. Organizations that plan effectively are then able to match these opportunities and threats with their own strengths and weaknesses. According to Paris (2004) the process by which the academic library strategic plan is developed strongly influences how fully it is implemented. Strategic planners believe environmental problems are not just societal or biological problems, but organizational problems. Strategic planners remind administrators that the institution's short-term goals can defeat its long-term goals (Swenk, 1999). Ferguson (1992) writes that strategic planning for libraries in developing countries is affected by basic factors, namely the socio-economic characteristic and purpose of the organization, the values and philosophy of management and the organizations’ strengths and weaknesses in the light of the external and internal environments.

Political considerations have also emerged in strategic planning models for academic libraries. The difficulty with this approach is that personalities from core groups may resist any change by opponents; thus, collaboration and gaining consensus can be time consuming (Brown & Gonzalez, 2007). State owned universities in Ghana use strategic planning tools. The emergence
of strategic planning in Ghanaian universities answers the need to have clearly spelt-out visions, missions and objective statements of these institutions. Administering these universities through strategic planning helps to attain standards of those in the global market place. Besides, the government of Ghana has charged them to come out with strategies to generate their own funds to complement what is offered by government (Edu-Buandoh, 2010).

There is scant literature on strategic planning in university libraries in Ghana. Badu and Loughridge (1997) discussed factors affecting strategic planning and the uncertain environment of Ghana’s university libraries. Case studies were done in the public universities in Ghana. These revealed in the Ghanaian external environment, that economic and political factors have a greater impact on the country’s university libraries than socio-cultural, international and technological environmental factors (Badu, 2002; Badu & Loughridge, 1997). Dougherty (2002) outlines some planning processes that help organizations improve their quality of work so as to achieve preferred future goals. Dougherty insists that whatever planning a library chooses should encompass these characteristics:

- The strategic planning process should respect the past and acknowledge the present before it focuses on the new future in order not to find it difficult to move ahead.
- The planning process should involve all levels of staff from the top to bottom of the organization.
- The process should tap the expertise of the staff.
- The process should identify and prioritize initiatives and
- The process should examine the entire system.

He also added that an organizational transformation process must always be malleable so that new ideas can be easily and effectively introduced.

These characteristics imply the process could be time-consuming and costly when the level and extent of participation of relevant collaborators in the process are considered
2.3 Strategic planning and Higher education

Higher education institutions have several goals and responsibilities, including enriching quality of academic programs and scholarship, improving institutional effectiveness and accountability, achieving financial stability and sustainability, infrastructure development, and enhancing local community service (Reddy, 2004). Strategic planning is central to the fulfilment of these obligations as each responsibility requires deployment of limited financial and human resources. Therefore, strategic planning is very important for assurance of the quality of higher education. In particular, the goal of enriching quality of academic programs and scholarship in higher education, particularly universities, is intricately linked to the digital library strategies adopted by various institutions of higher learning. The procedure for building digital collections in higher education is usually embedded in digital library strategies (Proffitt & Schaffner, 2008). In fact, the quality of digitised collections has an impact on teaching and learning in higher education (Proffitt & Schaffner, 2008).

According to Swenk (1999), universities are being hard-pressed to move out of their traditional role as teachers of post-secondary youth into a quite diverse role as educators of populace of all ages after puberty. He added that in light of both the sheer size and rapidity of transformation predicted for the future, the importance of strategic planning as a method for coping with change has been underscored repeatedly and forcefully in the past two decades. Thus, colleges and universities in the USA, for example, tend to be decentralized and driven by consensus decision-making, so they have been able to adjust rapidly to changing environments (Goodman, 2009). The purpose of strategic planning is to give colleges and universities tools with which to manage the process of change, whether expected or unexpected. There is no single right way to undertake strategic planning: the most important is what works for the institution, taking account of its cultural needs. Higher Education Funding Council for England (HEFCE) considers consultation is an important part of strategic planning; however, to be effective this process has to be well managed. The formats of institutions’ corporate plans vary greatly, reflecting their intended audiences (HEFCE, 2000). Recently, higher education institutions in the UK had been moderately free to follow their own individual strategies on the assumption that their combined
effect would add up to a national strategy for higher education (Cowburn, 2006). Administrators are able to direct the actions of their institutions more successfully because flexibility and foresight have been incorporated into the institutions’ decision-making processes (Swenk, 1999).

Many institutions of higher education have the dual mission of providing instruction and advancing knowledge through research, each of which may require a different set of strategies. The strategy can be seen as the direction and scope of an organisation in the future and the strategic plan is holistic and shared understanding of how the organisation achieves the preferred future position (Kettunen, 2006). This means educational institutions need to adjust their activities to education policy and a changing environment by using appropriate strategy in order to get their desires met. Libraries play a critical role within this environment as they ensure the community’s continuing access to information resources that sustain research and learning. Conceptual frameworks, as well as practical tools, enable libraries to understand and then manage the torrents of information (Hazen, 2010). This has created a tendency for colleges and universities to plan for a large number of strategic initiatives regardless of whether they have the resources to achieve them (Hazen, 2010). Many colleges and universities develop successful strategic planning processes that acknowledge that those institutions are in the business of higher education, and compete for tuition dollars or research grants with similar colleges and universities. They develop strategies for attracting and retaining students or recruiting faculty (Swenk, 1999).

On the basis of funding provided to institutions of higher education, the government and funding bodies inspect or analyse these institutions expecting them to exhibit accountability and to attest that they can continue to function and provide the necessary services to its users (Cowburn, 2006). Conway (1994) contends that the mission statement in strategic planning in higher education plays an important role. It gives the academics and practitioners a vital starting point for strategic considerations, as it serves as a tool in directing the formulation and implementation of strategy. Strategic planning is an integrative process during which university leaders can comprehensively analyse the institution's missions, goals, and programmes.
2.4 Strategic planning and academic libraries

Strategic planning in academic libraries dates to the late 1960s (Hipsman, 1996) and became much more popular in the mid-1980s as a response to the complexity of issues facing academic libraries, such as budget reductions, the introduction of new technologies, and the expectation that libraries had to do more with less. According to Nawe (2004), the development of academic libraries in Africa in the post-colonial era was characterized by rapid development with assistance from donors in the 1960s and 1970s, akin to the post Second World War era in the USA and Europe where there was enormous government support. In post-independence Africa, there was a parallel interest of getting qualified human resource to replace the colonial masters. Thus, libraries, as units of institutions of higher education which enjoyed support from both the government and donors, enjoyed relative stability in terms of funding. New approaches in management and modern innovative information technology evolved as part of higher education development, and institutions started drawing strategic plans in order to cope with new developments and to shape their future.

According to Nawe (2004), there is an increasing concern in the higher education world of Africa, over who should fund higher education in the new millennium, as the state can no longer be the sole source of higher education funding in the face of other compelling responsibilities. This mounting political concern over who should finance higher education has a strong bearing on financing libraries as components of higher education institutions. This is more so because investments in libraries are very expensive and returns are not directly visible. Libraries are considered as the heart of universities, but the attention they obtain when it comes to funding is normally not proportionate with the status accorded to them (Greenstein, 2010).

Libraries cannot succeed without aligning their workings directly to the core mission of their host institutions (Dillion, 2008). Funding pressures in the higher education sector over the last two decades have made strategic planning a managerial necessity and many institutions now have elaborate and sophisticated systems to meet internal needs and external requirements.
Some academic libraries are experimenting with the new processes and methods in order to create more effective strategic plans.

Strategic planning in academic libraries is generally linked to that of their parent institutions. As a service organization, it is important for academic library planning to be in line with the overall institutional plan in order to ensure that library support is placed where it is needed. Priority-setting provides an opportunity for libraries to achieve this alignment. Due to the overall reduction in funding for higher education and the increased demands for more expensive services, such as technological support, academic libraries are including fundraising as a central strategic object (Brown & Gonzalez, 2007).

Among the strategic action items that a plan usually lists are ways for the library to contribute to the enrollment goals of the university, as well as to address the information literacy needs of upper level undergraduates. It also establishes a mechanism for the library to share in the planning and academic mission of the institution through its review of the local environment and formulation of strategies to deal with issues that impact the library as strategic planning is a natural and necessary activity for an organization to pursue (McClamroch, Byrd, & Sowell, 2001). Strategic planning techniques also allow an organization or institution to review its internal strengths and weakness in relation to the external opportunities and the risk it faces (Dougherty, 2002). According to Wayne (2011), a balanced strategic planning process and plan tailored to a specific library can be a valuable tool that help the library through times or periods of technological changes. The planning process will need to reflect a fluid definition of an academic library, including of clients, library professionals, and a constantly shifting information environment.

### 2.5 Strategic planning and digital library collection

During the last decade, digital library issues have become part, probably the dominant part, of strategic planning in higher education libraries, or perhaps more correctly, a pervasive contextual
issue that affects planning. In many universities, the strategic planning of library and information services is seen as mission-critical for the institution and occurs within its overall strategic planning (Collier, 2006). Universities have diverse strengths, and each organization or institution should be confident enough to play to its strengths although few organizations can truly claim to stand out in every aspect of its strategic plans (Cowburn, 2006).

The planning process used for digital library development varies significantly from library to library. In some libraries, a well-developed and strictly followed process may be in place, while in other libraries a more laissez-faire approach may be taken where the project just develops as things go along. In reality, neither approach is appropriate in every situation. Conditions will change and opportunities will arise that make it impossible or unwise to follow a rigid, formal process (Cervone, 2009).

Significant shift in academic publishing has occurred from print to digital, although the difference in degree of shift between subject areas and types of publication is quite marked. With this shift towards digital there have been notable implications for strategy and management (Collier, 2006). In addition to understanding the information world it is important for strategic planning that we also understand the role of our own library, its place within the organization and how it then interacts with the wider environment. Libraries are obviously not all the same and the strategic thrust of libraries will differ considerably, depending on whether the focus is on research or teaching and learning and whether the focus is on the sciences or the humanities but to get most out of strategic planning efforts (Sennyey, Ross & Mills, 2009). This can be seen in the various strategic plans of institutions and organizations running digital library projects.

An evaluative study of strategic plans of five American academic medical libraries, which had been engaged in strategic planning for at least 15 years, was conducted using the Bryson (2004) model of strategic planning. The findings confirm that some academic medical libraries find strategic planning to be an important management tool and that strategic planning provides
direction and focus to them. Also, such evaluations relied on informal communications among students, faculty, staff, community leaders and organization to measure impact (Piorun, 2011).

Another study carried out by Kettunen (2007) on strategic evaluation of academic libraries used the balanced scorecard approach as a framework for organizations to communicate and implement their strategic plans. This involved shared strategic plans of the consortium of the libraries of the Finnish universities of applied sciences. The purpose of the study was to analyse the system strategies of academic libraries and present an approach to the evaluation of strategic plans and their implementation. The findings of the study confirmed that the balance scorecard approach can successfully be used to create strategic awareness among the personnel of the libraries and align the defined objectives with the network and the home institution, as well as better understand the objectives and their causal relationships. This systematic approach helps the efficient use scarce resources and increases the cost-efficiency of the libraries, which makes the university adapt their strategy to education policy and changing environment.

The use of a strategic planning framework helps institutions think strategically concerning new opportunities and services that arise so they upgrade their digital collections in order to better their services (Collier, 2006; Aamot, 2007).
CHAPTER 3
Theoretical Framework and Methods

This chapter is divided into four parts: strategic planning frameworks and institutional success, strategy formulation, strategy implementation, and the methodology of the study. First, the significance of strategic plans to institutional success will be discussed during which various definitions of strategic planning will be mentioned. Next, Mintzberg’s approach to formulating strategic plans will be outlined. Third, Mintzberg’s model of strategic planning is then examined. Finally the methodology of the study will be delineated.

3.1 Strategic planning frameworks and institutional success

There are many definitions of strategic planning, likewise theoretical frameworks, processes, and schools of thought regarding strategic planning. For example, Bryson (1995) based strategic planning on the principle that leaders and managers of public and non-profit organizations must be useful strategists if their organizations are to fulfill their missions, meet their goals, and satisfy constituents in the years ahead. He further outlined the benefits of strategic planning, that is, it aids in communication and participation, accommodates divergent interests and values, fosters wise analytic decision and promotes implementation of organizational goals and interest.

Different models or processes have been proposed by various experts in the field of strategic management and each framework accommodates different definitions of strategic planning. Yet there is no consensus on a single definition of the term. This thesis uses Mintzberg et al.’s theory of strategy formulation and its implementation to compare and identify the strategies used for building the digital library collections of the University of Cape Coast library. This theoretical framework was chosen because their ideas on organizational configuration and design provide a particularly solid foundation for organizational research as they show different parts of organization and its relatedness at every stage.
A second major advantage of using Mintzberg et al.’s strategy formulation and implementation is that they recognize that not every organization has the same structure; some are very “structured” while others seem to have almost no structure, but the sequence of activities when compared is similar. They introduce the idea that strategies can form in an organization without being consciously intended, that is without being formulated. In this context, there is a clear distinction between deliberate and emergent formulation. There are two extreme types of organizations, the ones that have only deliberate strategies and those that have only emergent strategies. These two pure forms are very rare, and perhaps there is no organization that has one of these pure types of processes. For a pure deliberate strategy, the organization must have pure intentions with a relative concrete level of detail. This plan has to be carried out exactly as intended. For a strategy to be perfectly emergent, there has to be consistency in action over time but without any intentions (Mintzberg & Waters, 1985:257-258)

An individual’s strategy depends on his or her assumptions and perspectives. Mintzberg et al. (2003) calls it an emergent formulation. A realized strategy can emerge in response to a developing situation and not only by purposeful formulation, or systematic analysis. An implementation of emergent strategies involves the allocation of resources even though an organization has not explicitly chosen these strategies. Emergent or deliberate strategy implies that an organization is learning what works in practice. Mixing the deliberate and the emergent strategies in some way will help the organization to control its course while encouraging the learning process. Organizations may practice the general strategies using broad outlines that are deliberate while the details are allowed to emerge within them (Mintzberg, 1994). This is an important distinction because much of the literature treats strategic planning as a deliberate and explicit process and fails to acknowledge the notion that some strategies evolve through daily decision making. Bryson (2004) echoes this belief as he supports the use of strategic planning to help organizations develop and implement effective strategies but also encourages them to remain open to unexpected or unanticipated opportunities. Remaining open to uncertainties could even be considered as a useful adaptation strategy. This is akin to planning for the unknown.

Thirdly, Mintzberg et al.’s concept of organizational structure is not structural in the classical sense, but functional as it aims at prescribing effective organizational design. Mintzberg et al. (2003) further contend that organizations as well as planners ought to be very careful about how
they engage in strategic planning because their success will depend at least in part on how they fit the process to their specific situations. The next section evaluates the processes of strategy formulation and implementation of strategy.

3.2 Strategy formulation

The formulation stage includes the following:

1. *Identification of opportunity and risk* – planning must include a scan of the environment and an assessment of the impact of environmental changes on the organization. For this purpose one needs to investigate the relationship between resources and organizational capabilities. That is, the measurement of their strength and weakness in relation to the current project of building a digital library.

2. *Determining the libraries material, technical, financial and managerial resources* – This takes a look at the resources available specifically at the university library and the university in general that will aid in the realization of its intended course of action. These include library materials, like digitized books and access to some e-sources of books and journals, the technological readiness in terms of modern computers, software, plus other equipment that are needful for the full operation of the digital library programme and the financial status of the library are drivers that must be considered when deciding to build a digital library.

3. *Personal values and aspirations of senior management* – the values and aspiration of high rank staff in management positions in the university may have an effect on the type of digital library.

4. *Acknowledgement of non-economic responsibility to society* – Noneconomic responsibilities to society include improving the quality of life in a given community, fighting poverty, and promoting key social causes (e.g., literacy), among others. The formulation of the strategy process depends on the pattern of purposes and policies defining the University and the library, as well as other influences like socio-political and personal considerations.
3.3 Strategy implementation

The implementation process that leads to the achievement of set goals of achievement also depends on these factors:

1. *Organization structures and relationships* — which includes structures of activity or patterns of how the organization works toward the achievement of its goal. They include
   - Division of labour
   - Coordination of divided responsibility
   - Information systems

2. *Organizational process and behaviour* — this also looks at the
   - Standards and measurements
   - Motivation and incentive systems
   - Control of systems
   - Recruitment and development of managers

3. *Top leadership*;
   - Strategic
   - Organizational
   - Personal

In Figure 1, there are different links among formulation, corporate strategy and implementation forming a loop. Whereas formulation and implementation are uni-directionally linked to corporate strategy, formulation and implementation are linked by a bi-directional arrow. These suggest that after implementation, the results achieved inform reformulation to address any identified gaps between targets and outcomes. This indicates that the process is iterative. Again, under the formulation stages, steps 1 through 4 are iterative. The feedback between various steps is important as it indicates that the formulation stage is neither linear nor static but dynamic.

The material resources of organizations change, as do personal values and the aspirations of management. Hence, corporate strategy eventually changes to reflect the dynamic relationship among interested parties. In this model, corporate strategy and its implementation influence the organisational structure and relationships, organisational process and behaviour as well as top leadership. This suggests that these variables change in time in response to changes in corporate
strategy. This model is very relevant as a framework to examine the UCC digital collection case study as it takes to account emergent strategies providing the necessary steps of activities that organizations may do in relation to work activities that are performed by the in the organizations as well as their effects and relationships.

Figure 1: Model of strategy formulation and implementation (Source: Mintzberg et al. 2003)

Figure 1 was originally developed by Andrews (1971). Details on how the model of strategy formulation and implementation will be used in this research are indicated in the methodology section below.
Weaknesses of the strategy formulation and implementation model

Although useful, the theoretical framework has been severally critiqued. McGee, Thomas, and Wilson (2005) argue that the act of creating strategy is an extremely complex process demanding sophisticated cognitive and social skills that researchers have only begun to understand; strategy-making certainly cannot be formally programmed by organizational theorists. It has also been argued that the model is too rigid and impedes flexibility (McGee, Thomas and Wilson, 2005). If the future does not unfold as anticipated then it may invalidate the strategy taken. Also, there are some implementation decisions that do not fit the model. They include specific project implementations. In these cases implementation is exclusively tactical and often routinized. Strategic intent and dynamic interactions influence the decision only indirectly. Also, the framework does not explicitly address the ‘why’ and ‘how’ elements of strategy formulation. The framework appears to apply to large organisations and belong to developed western countries. Therefore, the usefulness of the model in understanding strategy formulation from the context of small organisations in the developing world is largely unexplored.

3.4 Methodology considerations

Theory-testing case study as an appropriate research design

This thesis addresses the following research questions:
What are the current conditions of the digital library project at the UCC?
Who are the users and what are their needs?
What are the priorities set by the University/library leaders?
What is the state of technological readiness in place and what are needed?
What is the extent of collaboration by interested parties?
How does the digital library strategic planning processes at the UCC compare with the Mintzberg et al.’s theoretical framework of strategy formulation and implementation?
The goal of this section is to situate the research questions above within a specific research method. This section seeks to delineate the steps taken by the researcher in gathering empirical material and to explain the broad methodological issues that informed the design of the study. Further, the tools, approaches and steps used in analysing the data will also be considered. According to Bryman (2008) research by nature is a multifaceted process; therefore, it is very important for the researcher to stick to certain methods in collecting, analysing, and interpreting data in order to make best use of the legitimacy of the findings.

Case study research, with its applicability across many disciplines, is an appropriate methodology to use in library studies. In library and information science, case study research has been used to identify reasons why library school programmes close (Paris, 1988), to examine reference service practices in university library settings (Stake, 1995), and to examine how questions are negotiated between customers and librarians. There are several reasons why case study is a suitable format for researching the questions posed in the present study. First, with a limited number of potential cases, statistical analysis of causal effects would generally have low power. Second, even when it is a feasible option, conducting a survey of few respondents may be extremely vulnerable to low response rates. Third, descriptive and conceptualizing work has to be done first in any case, and no researchers have, to my knowledge, described the UCC strategies for building digital collections in particular. In addition, the only publicly available information on the topic is data, such as press releases and annual reports. A key strength of the case study method involves using multiple sources and techniques in the data gathering process. The researcher determines in advance what evidence to gather and what analysis techniques to use with the data to answer the research questions. Tools to collect data can include surveys, interviews, documentation reviews, observations, and even the collection of physical artifacts. In this study, the main data collection tool used was interviews, and this was supplemented by reviews on official documentation of the UCC. Close study of the strategic processes involved in the building of digital collections at UCC requires case study methods, like in-depth interviews, that can provide ‘thick descriptions’ and asking follow-up questions (George and Bennett, 2005).
Case study has been defined as: ‘a spatially delimited phenomenon (a unit) observed at a single point in time or over some period of time. It comprises the type of phenomenon that an inference attempts to explain’ (Gerring, 2007:19). Similarly, Yin defines the case study research method as an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used (Yin, 1984: 23). According to Yin (2003) a case study design should be considered when: (a) the focus of the study is to answer “how” and “why” questions; (b) you cannot manipulate the behaviour of those involved in the study; (c) you want to cover contextual conditions because you believe they are relevant to the phenomenon under study; or (d) the boundaries are not clear between the phenomenon and context. Case study is an evidence-based, practical approach that is centred on deep investigation of a single system or a group of systems, and the purpose of the case study is to provide an in-depth description, examination, or rationalization of a particular system or phenomenon through quantitative and/or qualitative data collection and analysis methods (Lee, Mishna & Brennenstuhl, 2010).

The specific type of case study method chosen here for investigating the research questions in this thesis is theory-testing case study. In contradiction to Gerring (2007), Yin (2009) emphasizes that theory testing should be a goal for case studies, as the most ambitious way of applying empirical material to theory. Theory-testing case studies usually take the form of either most likely case or a least likely case format, to give maximum leverage to the conclusions (Eckstein, 1975). However, a given case may also be analysed against two rival theories – although that is not the approach chosen here. To test a theoretical perspective (Mintzberg et al.’s framework), this study uses the congruence method (pattern matching), which proceeds by formulating a range of observable expectations from the theory, and then testing the degree of compliance between these expectations and observable outcomes (George & Bennett, 2005:181; Gerring, 2007:45). In this study, the range of observable expectations relate specifically to the components of the Mintzberg framework. This means that findings of the study (empirical material) will be applied (compared with) to the components of the Mintzberg et al.’s framework (theory).
When theories are tested in case studies, this is typically conducted to refine and nuance our understanding of them, or how ‘the scope conditions of competing theories should be expanded or narrowed’ (Lijphart, 1971; George and Bennett, 2005:115). The theoretical perspective will therefore only be strengthened or weakened, not ultimately refuted by the analysis which follows.

This thesis makes an enquiry of the strategic process used in building the digital collections of the University of Cape Coast Library, which is a single case so generalizations cannot be made to other universities in Ghana. I chose this approach because case study method will enable me closely examine the facts of how the organization or institution (UCC) develops its digital library in relation to its strategic plan and processes that were deployed or are being deployed within its academic environment. This study is conducted using a model of strategy formulation and implementation by Minzberg et al. (2003) as a reference frame. In essence, this thesis is testing the Mintzberg theoretical framework, which involves emergent strategies; where organizations or institutions do not develop strict or intended strategic plans but rather developments run within the organization as a result of day-to-day decisions.

If the Mintzberg framework is shown to have low explanatory power for understanding strategies used by the UCC in building its digital library collections, the scope conditions of the whole theoretical perspective should probably be narrowed. However, as Lijphart (1971:693) and George and Bennett (2005:116) note, one disconfirmation in a most-likely case study will rarely be enough to discredit an entire theoretical perspective. For example, as an organization, the UCC’s strategic planning process in relation to digital collection building could be a deviant case.

A basic criticism of the case-study approach is the problem of representativeness (Gerring, 2007). How can we know whether a limited case study is representative, and what it is representative of? One fruitful way of resolving this could be to see case studies as the source of what Yin (2009) refer to as analytical rather than statistical generalizations. Analytical
generalization implies that inferences are drawn to a broader universe of cases which is theoretically and conceptually defined. Strategy development for building digital collections, in this sense, could be seen as having a set of general characteristics; yet there are also specific forms of strategy development or planning to which a given theory pertains and which thereby define the scope for analytical generalization. In the present study, it is strategic planning of digital collections by a university in a multi-level academic system in response to certain specified policy processes that is the analytical focus. This means that the findings may perhaps be generalized to understand strategy development for building digital collections in similar cases – but not, for example, strategic planning at the global level (George and Bennett, 2005). The concluding section of the thesis will offer some generalizations of this sort, which could be taken forward in further research on strategy development for building digital collections.

**Case selection**

One institution of higher learning in Ghana (UCC) constitutes the case. More than one case could have been selected for comparison in order to elicit a nuanced understanding of strategic processes involved in establishing digital collections in Ghana, however; at the time of the research only the UCC had established a formal library for housing already digitized collections and had also begun actual digitization of new material. Therefore, interviewing digital library stakeholders at UCC was not only the most appropriate but indeed the only feasible approach, given the scope of this study. This is in line with George and Bennett’s (2005:83) recommendation that a case should be selected on the basis of its relevance to the research objectives.

I have chosen the UCC rather than other public or private universities in Ghana, for several reasons. First, the staff members of UCC are probably more open and willing to provide information than are the other universities, because as a staff member my rapport with interviewees is excellent. This rapport is necessary to elicit open and accurate responses from interviewees. In the same vein, I have easy access to the key informants by virtue of the fact that I am also employed in the same institution. Second, unlike the UCC, the University of Ghana (UG) and the Kwame Nkrumah University of Science and Technology (KNUST) have only very recently (2013) initiated steps to digitize collections or house collections already digitized from
Design challenges
Choosing only university management, library management and library staff as respondents involves several possible drawbacks. Such groups may be specialized in representing their sectorial interest (Friedman and Miles, 2006), so this approach might not capture the views of other important interests in the strategic planning process, including students who are the main intended users and beneficiaries of the digital collections or the alumni of the university who make periodic material and financial donations to the library. To rule out this possibility, I asked interviewees specifically about this. Without any exception, no interviewee mentioned any strongly dissenting voices among students or alumni members regarding the building of the digital collections. These responses might, of course, not reflect real lack of disagreement on what strategies to use in building the digital collections. For example, due to the political nature of the matter, some of the interviewees might have presented themselves as more united than was actually the case. Such positive self-representation is typical in elite interviews (Berry, 2002:680); although on substantial issues all my interviewees seemed to answer as accurately as possible. Still, the fact that not all interest groups are included here gives reason for caution in analysing and interpreting the empirical material, and might constitute a weakness in the research design. Therefore, the analysis will distinguish clearly between the two main groups of interest (staff and students) in order to achieve analytical clarity.

Choice of methods
Since very little systematized information on my topic was available, interviewing university management and representatives of library staff became the main method of data collection. Interviews allow a researcher to enquire into why organizations or institutions act in the way...
they do something that most quantitative research cannot. Interviewing, unlike other methods of data collection, allows a researcher to receive an instant response to a question, and resolve any ambiguities, which may result in significant delays in the data collection process and as it allows both parties (interviewer and interviewee) to investigate the meaning of questions posed (Gorman & Clayton, 2005).

The research interviews were semi-structured with open-ended questions, to allow respondents to answer in their own ways (Bryman, 2008). Open-ended questions enable the interview to be more natural, flexible and conversational, and it is helpful in gathering detailed and comprehensive data (Pickard, 2007; Bryman, 2008). This also led the interviewees to elaborate in greater detail and be open. On the other hand, I occasionally had to intervene when they began talking extensively about issues not relevant for this study. As Berry (2002) and Gerring (2007) recommend, method triangulation was used to ensure best-possible reliability and internal validity of data. Different methods were used simultaneously, such as process tracing and document studies combined with interviews (Gerring, 2007:217). Process tracing enabled me to map certain decision-making processes. For example, I cross-checked interview data from each interview with written sources and other interview data, and written sources were checked against each other and interview data. In this particular way, I was able to identify consistencies and inconsistencies in the priorities that university administrators alluded to during the interviews and the priorities that have been set out in the press releases and annual reports of the university.

A range of different sources were scrutinized, including press releases, annual reports, newspaper articles and research studies. All sources were critically evaluated, and first-hand sources were used as much as possible to ensure correct interpretations of the strategic planning processes (George & Bennett, 2005:90). Further, prior to the actual interviews, I studied the UCC and researched on the topic closely to become familiar with the context and have qualified expectations as to the answers. I also used other methods to enhance the validity and reliability of the study. For example, I contacted the very top level university management. Unfortunately, they either declined or did not respond to my proposals for research interviews. However, they
delegated subordinate members also at management level in the university to attend to my requests for interviews. All interviews were recorded and transcribed; in addition, I made notes about my main impressions from the interviews the same day that they took place. Last, the interviewees were allowed to read through, check quotes and comment on the presentations of their respective views. One possible drawback with this approach is that respondents might withdraw quotes that they realized might put them in an undesirable light. On the other hand, this procedure increased validity, as misunderstandings and inaccuracies were cleared up. The interview guides in English are presented in the appendixes.

According to Gorman and Clayton (2005), interviewing is a face to face event resulting in the loss of anonymity. This may affect results especially if potentially sensitive or embarrassing data is sought. Since my research topic can be perceived as sensitive (e.g., some respondents felt responsible for the challenges encountered so far in the actual digitization process), all respondents were guaranteed anonymity so that they could be more open about the strategies. On the one hand, this might have provided more extensive and more honest answers. On the other hand, transparency is always an ideal in research (Nygaard, 2008) so publishing the interviewees’ names is a way of enhancing the reliability of a study.

The interviewees were contacted in June, July, and August 2011 with a formal research proposal per e-mail in English, in line with Goldstein’s (2002) recommendations. If they did not answer, I also phoned them. At least one week in advance, I sent the respondents a list of key words or the interview questions to aid them in recollecting exactly what had happened, since the actual strategic planning processes had unfolded some two to three years earlier.

Respondent’s memories are often weaker on events in the distant past than with more recent incidents, which also might decrease the reliability of their answers (Bryman, 2008). This enabled them to have time to discuss with others, look up documents and reflect upon what happened back then – although they might also have been influenced by people they talked with in the meantime. Under the interviews, I used probing actively in order to ensure that the information was correctly understood, and check that the interview object provided correct
information (Berry, 2002; Bryman, 2008). This strategy proved very useful strategy, as respondents had to specify what they meant and I could test my understanding of the subject matter.

**Threats to validity and reliability**

There were considerable differences in the level of experience the interviewees had with the strategic planning processes leading to the building of the UCC digital collections. Some respondents were the main responsible figures in the organization, and were thus key informants. Others were not (especially technical staff concerned with the actual digitization of the collections). Such respondents are of course probably less able to provide valid and reliable information than the first, since they did not participate in the strategic planning process themselves. For example, a few times during the interview with one of the technicians handling the digitization of collections, I realized he was providing slightly inaccurate information about the strategic planning processes, but that need not have been deliberately done. More probable was that time had weakened his memory since the processes some two to three years earlier – a factor that might also reduce the reliability and validity of the other answers in general (Bryman, 2008). This interpretation is supported by the fact that this particular respondent agreed with my perception of ‘the story’ when I explained that information in the library newsletter gave a somewhat different story in a few details. However, the technical staff also provided most useful information on the state of technological readiness in place which some of the key informants particularly those at management level could not provide. This means that the information provided by different interviewees in this study is complementary and when viewed jointly generate a more comprehensive account of different aspects of the study.

The interviews with respondents were conducted in English, on the assumption that interviewing in the working language or most natural for the interview objects would probably produce better answers. Then they logically could speak more freely. Therefore, this factor also possibly enhanced both the reliability and the validity of their answers.
Some of my interviewees, especially those at the top-level university management, can be considered as elite informants. They also seemed to have their own political agendas, as many of them tried to convince me about which strategic planning processes were better. This made me particularly cautious when interpreting the findings, in line with the recommendations of Berry (2002) and Bryman (2008). Both underline that interview subjects are not obliged to tell the truth, and that it is common to exaggerate their own importance. A further factor that could potentially have impaired the validity and reliability of the data is that it is always harder to obtain the best-quality information and understand the political contexts in foreign cultures, as pointed out by e.g. Hantrais (1999:103). However, the fact that information gathering was conducted in a culture of my own (I have lived and worked on the UCC campus my entire adult life) might also be an asset, because I automatically got an ‘insider’s perspective’ on the strategic planning processes.

**Identification of Key Informants**

Given the need for in-depth descriptive data for testing the Mintzberg theoretical framework, qualitative key informant interviews were conducted. A purposive sampling strategy (Miles & Huberman, 1994: 27) was used to identify key informants, selecting individuals most likely to generate productive and in-depth discussions related to the digital library project at the UCC. The selection criteria and recruitment strategy was developed in consultation with the University of Cape Coast Librarian, the Head of the Digital Library Project, and the UCC Library management team. The selection criteria used included identifying key informants who were:

- deemed knowledgeable about the digital collection strategies and processes
- involved in decision-making at the management level in the university
- involved in the operation, and monitoring and evaluation of the digital library project

These criteria were used with the 6 research questions in mind. Specifically, the key informants were selected purposively by virtue of their position and on the knowledge they possess regarding the planning, establishment and operation of the UCC digital library. Key informants who satisfied criterion 1 were deemed to be knowledgeable on research question 1 and those who satisfied criterion 2 were deemed knowledgeable on research questions 3 and 5. Similarly,
key informants who satisfied criterion 3 were considered to have sufficient knowledgeable on research questions 1, 2 and 4. The key informants included senior members in the library, members of library management board, senior members on the digital library project, staff of digital library project, a deputy registrar, and members of various strategic planning committees who were thought to be influential in matters that affect the university library. In order to assess the extent of collaboration among interested parties, frequency of feedback and meetings were determined. Research question 6 is unique because it can only be answered by juxtaposing the responses of key informants on the DL strategic planning processes used at the UCC with the Mintzberg framework.

**Data Collection Process**

The interview questions were grouped so that university administrators, senior members in the library, library staff, and senior members on the DL project had different sets of questions. Background information on informants’ section, committee participation, current roles and/or titles, and relationship to the digital collection process were recorded in a chart, ensuring there was appropriate coverage according to the selection criteria listed previously. Each interview question was evaluated with respect to its relevance to the research theme. Interviews were scheduled for approximately one hour, and ranged in length from just less than an hour to two full hours. On average, interviews took 68 minutes to complete, with all interviews totaling approximately 38 hours of interview transcript. The interviews were carried out between 13th September, 2011 and 12th January, 2012. Key informants were provided with a copy of the interview guide in advance of the interview. Key informants were interviewed either in-person or via telephone by researcher. Mostly, telephone interviews were the preferred option of senior management who were seldom in their offices due to official duties outside the UCC. All interviews were digitally recorded and transcribed verbatim.

A total of 25 respondents were identified for interview. Twenty-three (92%) planned interviews were completed as part of this work. Two key respondents (top-level university administrators) either declined to participate or did not respond to at least four requests to be interviewed. Among the 23 interviews conducted, three interviewees did not have sufficient background in the subject matter (since they were employed by the UCC only 2 months prior to the interview) to
comment in-depth, and hence the interviews did not result in a rich enough data to warrant transcription. On several occasions, some of the 20 key informants chose to be interviewed with a supervisor or colleague for the purpose of providing a more fulsome interview, thus providing a total of 16 separate interviews including interviews with a senior member in the registrar’s office, one senior member each in the main library and on the DL project, digital library staff (7) and library committee members (6). Thus, coding and analyses were carried out on 16 interviews. All interviewees willingly participated but some preferred writing down their answers to being interviewed face-to-face.

**Document Review**

The review of documents is an unobtrusive method, rich in portraying the values and beliefs of participants in the setting of a particular study (Hodder, 2000). Interviews were supplemented with the review of official documents of the UCC in this study. This was done to partly elicit knowledge on the history and context surrounding the specific setting within which the building of UCC’s digital collections occurred. The documents reviewed included hard copies of the UCC Library Handbook, the UCC Annual Report, the Vice-Chancellor’s Annual Report, the UCC digital Library user needs scoping report, and the UCC Library Newsletter. Descriptions of articulated funding priorities by policymakers was corroborated (or not) through an analysis of budgetary allocations in the UCC annual report.

**Coding and Analysis**

NVIVO 8 (QSR International), a qualitative analysis software package, was used to code the data and assist with analysis. There are several reasons why I chose to use NVivo to organize and analyze the data. First of all, it increases the 'transparency' of my research outcomes — for example, I was able to demonstrate the evolution of my ideas in memos and models inbuilt in NVivo. Key advantages of NVivo include a single location for storage that provides easy access to material and the ability to handle large amounts of data with consistent coding schemes. I was able to document my early preconceptions and biases (in the memo) and to demonstrate how these were acknowledged and tested. NVivo easily also allowed me to find illustrative quotes.
Besides, it allowed me to always return to the original context of my coded material. NVivo allows a single project file that can be easily transported and shared with others. Furthermore, I could save and revisit the queries and visualizations that helped me to arrive at my conclusions.

The interview transcripts were imported into NVivo 8 as separate sources and initially segmented based on the questions posed during the interview. ‘Segmenting’ is viewed as an analytic action that can be directly mapped onto certain portions of text, which allows the researchers to define “the boundaries of a narrative or segment” (MacQueen & Guest, 2008:14). This process allowed all responses to be initially segmented according to their interview question, with responses corresponding to the specific areas of inquiry for this thesis.

Following the initial segmenting activities, I analyzed each question posed in the interview (all responses provided by informants) for key themes pertaining to the interview question specifically (e.g., personal values and aspirations of senior management). The interview questions each related to the research questions (e.g., the priorities set by the university). Certain key transcripts and/or nodes were examined further for relevant themes, and the first set of categories for data reduction was identified.

Finally, I separately reviewed the textual data within the coded themes, and emerging categories and confirming examples were selected using a consensus validation approach. The researcher examined rival and/or competing themes (Miles & Huberman, 1994: 269) as applicable, considering each in the context of the major themes that emerged from the data. Then, I identified illustrative quotations – as applicable – at this stage of analysis. Additional codes were generated as themes or ideas emerged within the collective responses of each item and by contrast across the interviewee categories (e.g., administrator/senior management, senior member on the DL project).
**Pattern Matching of Empirical Material to the Theoretical Framework**

After transcribing the interview data and analysing using NVIVO 8, the empirical material was compared with the Mintzberg et al.’s (2003) framework of strategy formulation and implementation. The congruence method used was in the identification of similarities between the strategic planning steps used by UCC in building digital collections and the components of Mintzberg et al.’s framework: Identification of opportunity and risk, Determining the libraries material, technical, financial and managerial resource, Personal values and aspirations of senior management, Acknowledgement of non-economic responsibility to society, Organizational structures and relationships, and Organizational process and behaviour.

**Methodological limitations**

**Data Quality**

One of the challenges raised in qualitative research is the issue of data quality and rigour, including validity and reliability of the data. Criticisms include concerns about self-reporting from the key informants and potential issues of bias. For this thesis, various measures were taken to ensure the data used were accurate and reliable, including:

- Ensuring an adequate number of interviews were conducted and that they were representative of stakeholders involved in the building of digital collections (Miles & Huberman, 1994: 264)
- Developing clear guidelines on interview transcription and having the interviews transcribed by one person (Maxwell, 2005: 208, 211)
- Clearly outlining the process used for coding, analysis and making conclusions from the data (Morse, 1995), including outlining an audit trail of steps taken and decisions made (Miles & Huberman, 1994: 286)
- Triangulating the data, both in terms of using multiple data sources and having multiple analysts code and analyze the data (Creswell, 2007: 208; Miles & Huberman, 1994: 267) and
Making the data accessible for others (interviewees) for additional analyses and potentially to confirm the results (Miles & Huberman, 1994: 278).

Other Limitations

In terms of scope limitations of this thesis, this research mainly focuses on internal stakeholders (university staff) and their perceptions regarding the building of the digital collections in the UCC library. Fifteen (15) external stakeholders were also interviewed; however, there was a lack of external participants who had a sufficient level of awareness of the UCC’s strategies for building digital collections. A comprehensive evaluation of external stakeholders is out of scope of the current study as the intent is to gather information to influence the continued implementation and further development of the digital collections at UCC. As well, interviews were conducted with key informants who had a certain depth of knowledge about the strategies. Hence, the thesis does not capture the full breadth of responses, in particular from those informants who have less in-depth knowledge of this work though they may be internal stakeholders (e.g., students). This research, by necessity, takes on the characteristics of a point-in-time examination of planning and implementation strategies while establishing the possibility of follow-up work in support of the consolidation and expansion of digital collections at the UCC Library.

I conducted this thesis as an internal researcher (since I am a staff of the UCC). However, I was not involved in the strategy development or implementation of the digital collections at the UCC. While some may argue that external researchers are more “objective” than internal researchers, this is not supported by the literature (Conley-Tyler, 2005). Hence, an internal researcher is not a limitation of this research. A final limitation was that there was no existing valid assessment tool to adopt or adapt for this thesis. Hence, an interview guide was developed specifically for the purpose of this thesis. However, to help to overcome this limitation, the interview guide was pilot tested with three experienced internal respondents. Hence, while there are a number of limitations in this research, mechanisms were put in place to address these limitations where possible.
Ethical Considerations

According to Bryman (2008) ethical issues cannot be ignored as they relate directly to the integrity of a research and the disciplines that are involved. The researcher took into consideration moral principles and beliefs governing social research. The participants or key interviewees were assured of anonymity and confidentiality, and in all cases voluntary participation was applied in collecting information from digital library project staff as university management. Each participant voluntarily signed a consent form to indicate willingness to be part of the study. The study also took into consideration codes of practice and guidelines for doing research. Permission was sought from and granted by UCC management for this case study to be undertaken.

Research Setting of the University of Cape Coast

The University of Cape Coast (UCC) was established in October, 1962. Among its strategic plans that relate to the UCC Library are the following;

- To promote research, teaching and outreach that will position the University of Cape Coast as a centre of excellence.
- To attract and retain high academic and administrative staff.
- To pursue distance education, develop new relevant programs and periodically review the existing ones.
- To provide integrated and modern information and communication technology facilities.
- To improve upon physical infrastructure and support services to enhance teaching, learning and research. As part of its mission, the University through distance learning also extends its expertise and facilities to train professionals for the education enterprise and business by employing modern technologies. The University constantly seeks alternative ways to respond to changing needs. In response to the changing needs of society and those of the entire Ghanaian education enterprise, the University of Cape Coast has, over the last several years, progressively added to its traditional functions the
following: the training of educational planners, administrators, agriculturalists, actuarial scientists, optometrists, information technologists, biochemists, environmentalists, laboratory technologists and experts in commerce, management, tourism, population and family life education, water and sanitation, molecular biology, biotechnology, computer science and livestock system managers. These are found in the various schools and faculties, which have various departments under them. The school/faculties are as follows:

- Faculty of Arts
- Faculty of Education
- Faculty of Social Science
- School of Business
- School of Biological Sciences
- School of Physical Sciences
- School of Agriculture
- School of Medical Science
- School of Graduate Studies and Research
- Centre for Continuing Education
- Institute of Education

These faculties and school are given the mandate to provide various degree programmes to improve quality of life for the university community, the nation, and worldwide at large. Apart from these, some schools and faculties also run sandwich diploma, graduate and postgraduate programmes.

The University of Cape Coast Library (http://ucc.edu.gh/library/)
The University of Cape Coast Library (UCCL) is one of the largest academic libraries in Ghana. It has the capacity for holding 750,000 volumes excluding pamphlets and journals and has a seating capacity of 2,000 users at a time. It is the most frequently utilized resource in the university with approximately 5,000 visits per day. It is a hybrid library with approximately 227,414 hard copies and a substantial number of e-books and databases that can be accessed via the internet. The Library also supports Faculty, Schools, Departmental, and Hall libraries of the University.
The UCC library’s mandate is to assist in the advancement of learning and dissemination of knowledge. It meets the information needs of the University and its communities, by creating access to information resources within and beyond its walls, balancing services while stressing its role as a centre of learning and discovery. The Library functions to support the teaching, learning and research pursuits of the University. The UCC Library has a range of services for its users, among which are internet services for research purposes, the electronic unit for the visually impaired and physically challenged, inter-Library lending and document delivery, ICT centre, Online access to databases on campus, Online Public Access Catalog (OPAC), and UCC space (digital repository). Also, there is the digital library (workroom) where the digitization of rare collections and theses of the institution are made accessible to students and lecturers on-line (Library Guide, 2011/2012 academic year).

Current state of digital collections at the University of Cape Coast Library

As stated in the introduction, the UCCL has taken some steps towards providing electronic services to its users. The library has implemented an automated library system so that its resources can be accessed through its online public access catalogue. In addition, it has subscribed to a number of electronic resources, mainly databases, and has a digital repository of which most are online. The new UCC library website marks a new era in the digital services that it provides. Registered students and faculty members will be able to login with their university username and password, but other users will be required to purchase materials on pay-per-download model.

A miscellany of items has specifically been digitized by the University of Cape Coast Library. However, the digitized materials are not linked and can be broadly categorized into three groups; that is, cultural collections, teaching and learning resources, and research collections.

Collections of cultural and historical significance to the University including content from the University Archives and the Library’s Special Collections. These include high resolution images
of historical buildings on campus, photos of past principal officers of the UCC, such as Chancellors, Vice-Chancellors, Pro Vice-Chancellors, Registrars, and Librarians. Also included are photos of memorable events including sod-cutting ceremonies for the construction of various faculties, attendance of matriculation and congregation by past presidents of Ghana and other dignitaries, and conferment of doctoral degrees on distinguished personalities in the international arena.

Teaching and learning resources for subjects taught at the University, including readings and exam papers, which includes readings online for various courses taught at the UCC, examination papers from 2000 to present that are searchable either by year or subject, audio resources, video resources, and off-air recordings. Also included are data monitor research library case studies.

The Research Collections includes research output from University students and staff, such as graduate theses and research publications. So far, 1120 graduate theses have been digitised.

The staff members of the digital library department work with digitized materials. However, the Digital Collections Library staff members provide production equipment and instruction on various hardware and software applications. The most common training and production requests in the digital library are for video editing, audio editing, DVD burning, text scanning and slide scanning. Instruction is available to faculty, staff and, graduate students who wish to explore new modes of research and presentation. Additionally, the Digital Collections Department provides an assortment of audio-visual equipment for checkout to UCC faculty, staff, and graduate students. Hardware used at the digital library work station includes an Artiz Book Drive DIY scanner and two Canon EOS/600D Rebel T3i/EOS Kiss X5.
CHAPTER 4

Results

This chapter focuses on the findings of the study in relation to the Mintzberg et al.’s strategy formulation and implementation framework. The central theme, here, is to identify the main achievements, shortcomings, problems and the future perspectives on the digital library project. The identification will be done according to the key informant interviews. The presentation of the empirical material is structured according to the flow of the Mintzberg model. By comparing the empirical material to the Mintzberg model, I intend to draw out the planned and emergent aspects of the DL strategy formulation and implementation process at the UCC. This chapter ends with a summary of the components of the Mintzberg model that were either supported or negated by the empirical material.

Comparing the empirical material to the Mintzberg et al.’s theoretical framework

Formulation phase

What to do (goals)

Users of the digital library

A fundamental goal of the DL is to target specific users and to meet their needs. Indeed, the user needs drive what to do. The respondents mentioned academic staff, undergraduate and post graduate students, research fellows, and administrative staff as the main users of the digital library. In terms of undergraduate students, one staff said “both traditional and non-traditional students are users.” Traditional students are those studying fulltime, and follow a traditional pattern of higher education that is built around lectures and tutorials. The non-traditional students, on the other hand, include matured students, part time students as distance learners who access education via new routes, such as access courses. In the case of UCC, it is envisaged that the non-traditional students will be one of the main users of the digital collections. Thus, they need not come to the campus to meet their library needs.
The UCC identified users and their needs through an internal needs assessment and scoping survey in 2010. The needs assessment report, invariably, sought to understand user needs, find problems, identify desired features, and assess overall user satisfaction with the UCC digital library.

Obviously, from the report, the users of the UCC digital library have varied backgrounds and, therefore, varied needs, expectations, and satisfaction. Despite the range of backgrounds, the assessment indicates that the user community uses the Internet daily. The information delivered digitally is often critical to their work. Some (particularly faculty) rely on their department’s web site or Intranet in addition to the Internet. Most, however, are using freely accessible information and would like to have better access to more. In the scoping report, almost all respondents mentioned using databases — most of which are probably restricted to institutions with subscriptions or other forms of access.

In the report, the UCC broadly categorized users of the digital library into researchers and students. However, this categorization is rather problematic for obvious reasons. Fundamentally, researcher and student is a loose division of the user community as a whole. There are numerous types of researchers from myriad professional disciplines. Similarly, students are pursuing different facets of academic programmes. Researchers studying disasters and hazards, on the one hand, and biomedical researchers, on the other hand, have entirely different user needs and expectations. Thus, the design of digital libraries has to take consideration of users’ preference, experience, and knowledge structure. It seems impossible to design a one size fits all digital library to satisfy all types of user needs.

The findings of this study identified some dilemmas, such as simplistic versus attractive interfaces, default versus customized interfaces, general help versus specific help, individual collection versus cohesiveness of entire collection, traditional services versus unique services, searching across collections versus searching specific collections, etc. These dilemmas are caused by users’ diverse preferences, experiences, and knowledge structures.
Also, the UCC categorized users into heavy, medium and light users; that is, those who use the digital library at least one daily, at least one every three days, and at least once a week, respectively. This categorization could also be problematic. It is possible that frequency of use of the digital library may remain constant for certain segments of the user community but this is rather unlikely given that user needs and intensity of use of the digital library are dynamic. Based on a particular need in time, a user light user may easily switch to become a heavy user. For instance, generally, most students at the UCC use the digital library more during examination periods.

An important issue identified in the scoping document relates to site navigation, accessibility and usability. Bad content, bad navigation, and dead links are the three most frequently mentioned problems by the UCC digital library user community. Poor usability in terms of searching and locating is deterring access to quality information at the same time as poor quality information is becoming more available. The replication of reports and information across numerous sites in the digital library was also considered frustrating.

Several gaps between currently available digital collections and user expectations were identified in the UCC digital library user needs assessment report. There are literature collections but accessibility to these collections is limited. The user community desired up to date literature collection. Respondents in the scoping report indicated that looking for these materials is still difficult though some respondents indicated that resources for these materials are increasing. Current information is often available although difficult to find in the digital library. This includes flood data sets. Historical information is available but to a very limited extent. Language issues and availability only in non-digital format makes this type unavailable to most of the research community. There is increasing amounts of data and literature though much of it is not deemed “quality information” by the user community. Most respondents also wanted links between online and print resources, which are not currently widely available. Part of the user community desired peer reviewed information—both data and literature, with access to print and digital information.
There are some multi-media tools in development but not enough. Access to those that are available is limited. The user community desired multi-media collections – equally pertaining to analysis and modelling information and active/interactive materials for outreach and education. The needs assessment is a prerequisite for knowing the goals of the DL and tailoring it to meet the DL user needs. Given the UCC carried out a needs assessment in order to conform to what the users actually need, it can be argued that what to do in the Mintzberg model is supported by the empirical material.

**Opportunities and Risks**

**Factors that influenced the establishment of the UCC digital library project**

The university management ascertains that the digital library is part of the university’s corporate strategic thrust, which includes developing and strengthening the integrated technology infrastructure and facilities that support teaching, learning and research, and creation of the digital library will enhance teaching and research. The digital library project helps the university to introduce more distance programmes, it increases the prestige of the university when it comes to it ranking, provides information to faculty and students doing research, and serves as a model for other universities in Ghana. The development of the UCC digital library has enhanced the technological infrastructure of the university. University management has been making efforts at increasing the internet bandwidth from (4Mbit/s to 45 Mbit/s) and established campus-wide Wi-Fi on to enable easy access to the collection. This upgrade has come at a great financial cost to the university when viewed against the limited financial resources available. However, it is also an indication of the university’s commitment to the DL project and to deliver quality education.

According to a senior member on the DL project, the need to build a digital library collection came up because the Library leadership wanted to create electronic copies of theses so that students could have easy access to the information and to reduce pressure on the print copies in order to preserve them. This is an internal factor. Another reason, as he put it:
“...was in our bid to conform with current trends in the information world, that is, the shift from print to electronic materials...”

This assertion points to an external influencing factor. From the foregoing, it implies that the driving factors for the establishment of the DL were both internal and external. These factors were also driven top-down from the university management through the library leadership to the library staff. According to a senior member on the DL project, in terms of specific top-down or external factor, the development of the DL became necessary when the Association of African Universities (AAU) asked its member institutions to compile databases of all their theses and abstracts of documents. This was to emulate the creation of institutional repositories and the move of most printing houses, publishers, and authors from print format only to creating databases of their publications. These internal and external motivations precipitated the DL project. The desire to have a DL project was pervasive: university management, library leadership, and library staff readily embraced its development from the beginning despite the initial and potential future challenges. Therefore, there was no disagreement on its establishment. The university and the library management were fully aware of the strengths and the weaknesses of the DL project when the project commenced. Management decided to handle challenges as and when they came up. Initial critical challenges were funding and the limited competence in IT of the library staff involved in the project; these were surmounted by seeking external funding and staff training, respectively.

The UCC was clear about the reasons for embarking on the digitization project from the outset. According to the library leadership, four questions were uppermost in their minds regarding the actual building of the UCC digital collections and these are:

Is the digitization being performed simply to increase access, or to serve some form of archiving/preservation role (or both)? For example, the library committee of the UCC is, first and foremost, interested in reducing casual browsing of the original documents. Therefore, the collection would greatly benefit from having an on-line ‘access quality’ searchable image catalogue to reduce handling of the originals, and allow the user to get quickly to the actual document they are interested in. This, in turn, has important implications regarding the
‘preservation of access’, i.e. you need to preserve the electronic version to provide continuing access.

Will the digital objects be made accessible widely and freely (e.g. on a stand-alone workstation, or via the World-Wide Web)?

Are the digital objects (in the case of text or graphics) being made available in order to be outputted to another format (e.g. microfilm, etc.)?

It has been noted that, academic institutions in their bid to improve their services to users have taken advantage of the upsurge of technological advancement to bring vast quantities of information and knowledge to their users worldwide. Digital Library through the internet is now a medium of information access and retrieval for researchers and various other users. In this context, this is what one top management member had to say:

“…the university saw the usefulness of having a digital library, and long had plans to also, develop a digital collection as a way of increasing access to library resources for the purposes of teaching and research for students as well as the entire university staff...In a sense, we considered the establishment of the digital collection as an opportunity”

The DL development is important to the university community as it enhances reference and information retrieval services and improves the university’s competitiveness in attracting research, students, and grants. Other University management staff also view the future development of the DL as indispensable as the globalized world requires knowledge to be gathered and shared; the traditional library system alone, cannot efficiently provide this. This notion was shared by other interested parties, including digital library staff, library committee members and senior members on the DL project. For instance, one committee member said that “...we cannot allow ourselves to be left behind. If we are to remain competitive in the digital age we must go digital to increase our student base...”

However, as noted by some interested parties, the digital library project was not entirely about opportunities. It also presents significant challenges and risks, which must be addressed in order
to ensure its success. Another issue identified by respondents as a risk is the fact that the DL project did not have any previous local examples to learn from. One way to reduce the risk associated with the implementation of the project is to constantly monitor and evaluate the project and its staff and in order to ascertain the progress, achievements and pitfalls in the DL project. Generally, from the foregoing, it can be argued that opportunities and risks in the Mintzberg model are supported by the empirical material.

Determining the libraries financial, technical, material, and human resources

Building and managing digital library concerns the way resources are mobilized, allocated and used toward the production and distribution of digital library services. Any consideration of a mechanism for building a digital library and for delivering digital library services should consider three dimensions simultaneously: availability, allocation and utilization of resources. Such resources include financial, technical, material, and human resources. In particular, these considerations have to be translated into decisions concerning the ways to generate the resources required, the volume of and mechanisms for resources to be allocated to digital library activities, and methods to maximize cost-effectiveness in digital library investment. Financial resources, for example cost of training of staff or acquisition of requisite technology, can be limiting in the context of the UCC. In fact, availability of financial resources underpins acquisition and capacity building of human resources (e.g. training of digital library staff and recruitment of experts). It also influences the procurement of technical resources (e.g. acquisition of hardware and software and accessories). Furthermore, financial resources are required to garner material resources (e.g. building of physical infrastructure to house the digital collections). This means that financial resources (cost implications of the decision to build the UCC digital library) affect all other resource sectors-technical, material, and human. In this regard, one university management member remarked:

“...But we realized that limited funding, inadequate and weak internet infrastructure and networks could derail the project. Without funding it won’t be possible to develop the digital library collection as an institutional digital library though we know the collection is beneficial to the university community because it can get instant access to unlimited information services from
across the world for the purpose of education. The sustainability of the project is, therefore, linked to the availability and constant allocation of funds to support it…”

This realization was not limited to only the university management. In fact, other interested parties, particularly the DL project staff, also agreed with this assertion. The following comment by one of them typifies this realisation:

“…given the limited financial and other technological resources available to us, we have cause to worry about its sustainability ...especially when we have precedent on some projects on campus that have stalled or have been completely abandoned due to lack of funds... I only hope that the digital library project will not suffer the same fate...”

Initially, financial support for building the UCC digital library was granted by the World Bank through the Teaching, Learning and Innovation Fund (TALIF). This fund was medium term instrument of tertiary education policy meant to raise the quality of tertiary level teaching and learning. Currently, students support the digitization project and contribute to its sustainability by paying library development fees as part of tuition fees, and this is goes into an Internally Generated Fund (IGF). Apart from this, there are no external agencies or special university funds that support the DL project. Some organizations, such as the National Information Technology Authority (NITA), National Communications Authority (NCA) and the Consortium of Academic and Research Libraries in Ghana (CARLIGH) have supported the project in various forms; the latter in the form of staff training through state Universities, the University of Ghana (UG) and the Kwame Nkrumah University of Science and Technology (KNUST) assist the project by providing IT services in the areas of equipment installation and testing. Communications with these collaborators take the form of face to face meetings, emails, workshops, and seminars. Progress made as well as challenges faced by staff are periodical sent back as feedback to management. The existing basic material resources for the DL project were rated by staff as inadequate; however, one senior member on the DL project rated them as “above average” some of the equipment such as book scanners, cameras, and software require upgrading.
Budget of financial resources to the UCC Library

The results of this study show that the budgetary allocation to the UCC library is woefully inadequate. Antwi (1998) states that, although the Ghana Universities Rationalization Committee stipulated 10% of total recurrent expenditure, it was found out that university libraries in Ghana were on the average being allocated meagre 2.02% of the universities’ resources. It appears that the observation made by Antwi (1998) continues unabated at the UCC. For instance, for the period 2008 to 2012, the UCC Library, on the average, received 3.55% of the university's annual budget of which personnel emoluments component constituted about 60%. Till date, public universities and in particular the UCC continue to struggle with the implementation of the recommendation by the Universities Rationalization Committee as shown by the findings of this thesis. What is more, even the percentages given in the various university libraries have been declining. In this context, the UCC library leadership had this to say:

“...Each year, we realize that the budgetary allocation to the university library has been dwindling. This situation is unfortunate given the fact that each year student numbers increase without commensurate increase in our budgets. Yet, we are expected to effectively perform our role of delivering quality education...”

Allocation of Resources

The financial allocation of technical, material and human resources to building the UCC DL from 2005-2010 are shown below.

Allocation of technical resources

Technical resources, as used here, refer to the hardware, software, and digitizing equipment used in building the digital collections at the UCC. Table 1, shows the cost incurred in the supply, installation, and configuration of digitalization equipment. Table 2, shows the shows the cost incurred in the supply, installation and configuration of the PC systems and accessories.

<table>
<thead>
<tr>
<th>List of Items</th>
<th>Purpose</th>
<th>Cost Old Cedis</th>
<th>Cost New Cedis</th>
<th>US dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Book Scanners</td>
<td>To facilitate and enhance the digitization</td>
<td>69,150,900</td>
<td>6,915.09</td>
<td>7,599.00</td>
</tr>
<tr>
<td>List of Items</td>
<td>Purpose</td>
<td>Cost Old Cedis</td>
<td>Cost New Cedis</td>
<td>Cost US$</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>----------------</td>
<td>----------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Slide Scanners</td>
<td></td>
<td>24,897,600</td>
<td>2,489.76</td>
<td>2,736.00</td>
</tr>
<tr>
<td>Digital Cameras</td>
<td></td>
<td>11,284,000</td>
<td>1,128.40</td>
<td>1,240.00</td>
</tr>
<tr>
<td>Network Access Storage</td>
<td></td>
<td>8,554,000</td>
<td>855.40</td>
<td>940.00</td>
</tr>
<tr>
<td>Colour Laser Printer</td>
<td></td>
<td>54,554,500</td>
<td>5,455.45</td>
<td>5,995.00</td>
</tr>
<tr>
<td>Monochrome Laser Printer</td>
<td></td>
<td>30,030,000</td>
<td>3,003.00</td>
<td>3,300.00</td>
</tr>
<tr>
<td>CD Duplication Unit</td>
<td></td>
<td>40,404,000</td>
<td>4,040.40</td>
<td>4,440.00</td>
</tr>
<tr>
<td>Labour cost</td>
<td></td>
<td>45,500,000</td>
<td>4,550.00</td>
<td>5,000.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>284,375,000</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| **Exchange rate**           | **1$ = 9,100 Cedis**                                                   |                |                |           |
| **Dollar equivalent of Cedi** | **Total**                 | **$31,250**    |                |           |

**Total value of proposal budget in US dollar** $136,875
Allocation of material resources

Material resources as used here refer to the physical infrastructure (e.g. electrical fittings in the physical building that houses the DL) and other materials installed in the digital library work station. Table 3 indicates the costs involved in supplying and installing network infrastructure in the digital library work station. Table 4 shows the costs involved in supplying and installing electrical infrastructure in the digital library work station. Table 5 shows the cost involved in the acquisition of air conditioners and internal furnishes for the digital library workstation.

Table 3: Supply and Installation of Network Trunking and Cable Wiring (2005-2010)

<table>
<thead>
<tr>
<th>List of Items</th>
<th>Purpose</th>
<th>Cost Old Cedis</th>
<th>Cost New Cedis</th>
<th>US $</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trunking and Cabling of Hybrid area Network</td>
<td>The purpose is to set up a network that will make it possible for all user to share resources like printers, scanners and information</td>
<td>57,421,000</td>
<td>5,742.10</td>
<td>6310</td>
</tr>
<tr>
<td>Trunking and cabling</td>
<td></td>
<td>57,421,000</td>
<td>5,742.10</td>
<td>6310</td>
</tr>
<tr>
<td>Patch cabinet and accessories</td>
<td></td>
<td>47,875,100</td>
<td>4,787.51</td>
<td>5261</td>
</tr>
<tr>
<td>Labour</td>
<td></td>
<td>91,000,000</td>
<td>9100</td>
<td>10,000</td>
</tr>
<tr>
<td>Total:</td>
<td></td>
<td>196,296,100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Exchange rate: 1=9,100

Dollar equivalent of Cedis total: $21,571
Total value of proposal budget in US dollars: $136,875

Table 4: Supply and Installation of Electrical Trunking and Cable Wiring (2005-2010)

<table>
<thead>
<tr>
<th>List of Items</th>
<th>Purpose</th>
<th>Cost Old Cedis</th>
<th>Cost New Cedis</th>
<th>US $</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trunking and Cabling</td>
<td>Facilitates the distribution of power to all points in the network. It detects faults in the network by automatically triggering off</td>
<td>15,925,000</td>
<td>1592.5</td>
<td>1750</td>
</tr>
<tr>
<td>Distribution Board and Accessories</td>
<td></td>
<td>2,912,000</td>
<td>2,912</td>
<td>320</td>
</tr>
<tr>
<td>Installation Materials</td>
<td></td>
<td>44,044,000</td>
<td>4,404.4</td>
<td>4840</td>
</tr>
<tr>
<td>Labour Cost</td>
<td></td>
<td>45,500,000</td>
<td>4550</td>
<td>5,000</td>
</tr>
</tbody>
</table>
Table 5: Supply, Installation of Air Conditioners, Carpeting and fixing of Window Blinds (2005-2010)

<table>
<thead>
<tr>
<th>List of Items</th>
<th>Purpose</th>
<th>Cost Old Cedis</th>
<th>Cost New Cedis</th>
<th>US $</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Conditioners</td>
<td>These items are needed to create a congenial atmosphere for working, teaching and learning</td>
<td>47,000,000</td>
<td>4700</td>
<td>5164.84</td>
</tr>
<tr>
<td>Carpeting and Window Blinds</td>
<td></td>
<td>27,500,500</td>
<td>2750.05</td>
<td>3022.03</td>
</tr>
<tr>
<td>Labour Cost</td>
<td></td>
<td>4,550,000</td>
<td>455</td>
<td>500</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>79,050,000</td>
<td>7905.05</td>
<td>8686.87</td>
</tr>
</tbody>
</table>

Exchange rate: $1=9,100

Dollar equivalent of cedis total: $8,686

Total value of proposal budget in US dollars: $136,875

Allocation of human resources

Human resources in this context refer to the skills, knowledge, and motivation of staff needed in building and managing the UCC digital library. The cost of training and upgrading the knowledge base of staff in relation to building the UCC digital library is shown in Table 6. Though important, the issue of recruitment of new expertise on digital library building and management is missing in Table 6. Due to limited funds, the approach used by the UCC was to first train existing library staff and thereafter, in the event of insufficient recruit new expertise.

Table 6: Cost of Staff Training and Upgrading (2005-2010)

<table>
<thead>
<tr>
<th>Training</th>
<th>Purpose</th>
<th>Cost in Cedis</th>
<th>Cost New Cedis</th>
<th>US $</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resource persons</td>
<td>They will teach the selected staff how to use and maintain the digital equipment</td>
<td>45,000,000</td>
<td>4,500</td>
<td>4945.05</td>
</tr>
<tr>
<td>Stationery</td>
<td>Trainees will need notebooks, files, pens, to record and keep lessons</td>
<td>500,000</td>
<td>50.000</td>
<td>54.95</td>
</tr>
<tr>
<td>Total:</td>
<td>45,500,000</td>
<td>4,550.00</td>
<td>5000</td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>------------</td>
<td>----------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>Exchange rate:</td>
<td>$1=9,100</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dollar equivalent of cedis total:</td>
<td>$5,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total value of proposal budget in US dollars</td>
<td>$136,875</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

It is important to put the information in Tables 1-6 into perspective. Each table covers duration of six years from 2005 to 2010. The total amount of money allocated is US$ 136,875, which translates into US$ 22,812 per annum. This per annum amount is woefully inadequate. In fact, the UCC library leadership indicated that for the DL to operate in a sustainable manner about ten times the amount currently allocated annually to the DL is actually needed. Perhaps, this aspect of the empirical data is the weakest link in the formulation stage of the strategic planning process of the DL at the UCC. The empirical material indicates that the UCC considered the allocation of resources to the DL library project. But this resource allocation is inadequate and indicative of poor planning. It is not enough that this aspect of the Mintzberg model was present or considered in the DL strategic planning process. It is important to critically examine the quality and quantity of resource allocation. On the basis of limited quality and quantity of resource allocation alluded to by the interviewees, the empirical material does not fully support this aspect of the Mintzberg framework. It is possible that some of the challenges hitherto encountered in the implementation phase of the UCC digital library emanates from this weak link of resource allocation.

**Personal values and aspirations of senior management**

On a personal note, the registrar considers the future of the digital library as bright because it increases the students’ educational experiences as it makes available to them a wide array of sources of information for their academic work. In his own words management also “aspires that the DL project upon completion would meet the standards of other institutional digital libraries in the developed countries” These values are shared by other interested parties such as the digital library staff and library committee members. However, some of the DL staff were of the view that it takes more than these personal aspirations for the project to succeed. It is their
assertion that university management has to go beyond these aspirations if the project is to succeed. For instance, one DL project staff remarked:

“...the best way for management to demonstrate that they hold these aspirations is for management to adequately resource the digital library project, both financially and logistically and to personally engage in the process...”

It appears there are discrepancies in the responses of the senior management members and the digital library project staff regarding the values of the former. While senior managers argue that they have sought every occasion to prioritize the DL, the project staff refer to the reality of harsh working conditions. Furthermore, the latter group indicated that it seems the senior managers consider the DL as business as usual and that perhaps, the DL is not really regarded as an essential part of the UCC and its Library. This thesis did not find any evidence in the interviews to show that the senior management members in the UCC personally engaged and did something to ascertain their values. This element of the Mintzberg model was not present in the UCC strategy for the DL. Thus, the empirical material does not seem to support this element of the Mintzberg model.

Acknowledgment of non-economic responsibility to society

As a corporate entity, UCC recognizes it has both economic and non-economic considerations that inform their institutional action. In terms of the latter, one top management member had this to say:

“...UCC is located within a cluster of local communities, in which most individuals have low educational attainment. Most of these communities have high proportions of potential non-traditional students. By focusing on such students, we are, invariably, fulfilling our social and non-economic responsibility to society. Our non-economic motivation is, especially, true when viewed against the background that we have reduced our fees so that this group of students can easily afford our fees...”
According to another top University management staff,
“...regardless of whether one believes that UCC should adopt non-economic goals as well as profit maximization as ultimate goals, or whether one believes that the profit motive is sufficient to encourage UCC to act in socially responsible ways, there is still an important role for us to play in these local communities, nonetheless, given that some of our traditional students even reside in such communities...”

Acknowledgment of non-economic responsibility is the final element of the formulation phase of the Mintzberg model. Interview data showed that this element was a central theme and major consideration in the strategic planning process of the DL. Thus, the empirical material supports this element of the Mintzberg model. The formulation and implementation phases of the Mintzberg framework are linked by the corporate strategy (pattern of purposes and policies), which is the focus of the next subsection.

*Corporate strategy- pattern of purposes and policies defining the university and its business*

When asked about availability of guidelines in the digitization of the library collection, five out of six library committee members said the library was using specific guidelines: these are scanning methods, software to be used, formats for the resultant scanned documents etc. These specific guidelines are captured in the policy document submitted to the Academic Board. Since 2005, the UCC has sought to expand access to information through distance learning mode to students. This led to the development of the digital library and the institutional repository (IR) document. These steps underscore the importance of the library within the university’s medium to long-term strategic goals.

The digital library project had a time line concerning its development and completion. According to some senior members in the library, there are short to medium term plans of 1-2 and 3-5 years duration respectively for its development. However, the digital library project staff had no idea
about this time line. In fact, all project staff interviewed did not know how long the project was expected to take from commencement to completion of the digitization. One of the staff said:

“...we have no idea about the duration of the project all we do is work on the project”. Another member put it: “our superiors have not mentioned to us or told us how long this project is to run or finish. I have no idea…”

One senior member on the DL project indicated that the long term plan considers the maintenance and sustainability of the project including upgrading the systems from time to time, re-training staff as well as maintenance of equipment etc. The phase one of the short term goal or plan was “somehow” achieved based on the proposal submitted to the World Bank under TALIF.

**Implementation Phase**

*Achieving results*

Although there is a mechanism to monitor the achievements of the project through time, it is rather informal. In order to achieve results, a senior member on the DL indicated that university monitors and evaluates the progress of the DL project through reports from; the librarian, library committee and visits by university management including the Vice Chancellor (VC), pro-Vice Chancellor, and the Registrar. However, this assertion was not fully corroborated by the digital library project staff. One project staff member said that,

“...although management and other senior level participators visit us often, their monitoring and evaluation is not formal, documented or institutionalized....Mostly, feedback given to us is via verbal rather than written communication...”

Obviously, this type of evaluation of the staff and the project is not sustainable. As it stands, it is difficult to track the sequence of evaluation and to correct previous mistakes from time to time. Thus, the empirical material does not support this aspect of the Mintzberg framework.

**Organization structures and relationships-(division of labour, coordination of responsibility, information systems)**
The findings point to division of labour and coordination among relevant internal participants in the DL project. At UCC there is a library committee that has general oversight responsibility for the management of the library. It provides suggestion and direction on library policy, projects, introduction of new services and improvements on existing ones. This committee is made of representatives of: the library, faculties and departments, university administration and students. The committee meets quarterly. The librarian provides a progress and situation report on the DL and other activities and needs of the library. The committee makes inputs into reports pertaining to the library which have come before it, collates them and submits these to the academic board of the university; the library committee is a subcommittee of the Academic Board. Projects accepted by the Academic Board are budgeted for implementation by the university management. Thus a consensus building approach through the committee system enables coordination among all interested parties of the DL project. So far, no conflicts have emerged among interested parties. Thus, it can be argued that the empirical material supports this aspect of the Mintzberg model.

*Work and organizational management*

The work schedules of the DL staff interviewed include: maintaining accurate records of the collection; configuring the integrated library system; importing data from cataloguing department; training of staff; and data input and converting data into formats needed. Monitoring the progress of the project is important therefore library management holds meetings with the DL once a semester. Seven DL staff were interviewed concerning these meetings and two of them averred that “their contributions were not taken into consideration”, while one asserted that his/her suggestions concerning the project at meetings are sometimes taken into consideration. The other four stated they “hardly made any suggestions at meetings”.

Staff training is an important facet of the DL project. Majority of staff (5 out of 7) were of the view that training was done anytime the need arose: the rest (2) thought training were not frequent enough. Some of the staff were not satisfied with the progress and pace of the project because the project lacked “sufficient resources”. Other reasons were that the documents
available for retrospective cataloguing are many and therefore management should employ more hands, and encourage and motivate staff to increase the pace of work. In addition three other staff proposed the “purchase of more scanners, computers and electronic books in their bid to make work faster and easier for us”.

Organizational process and behaviour (standards and measurements, motivation and incentive systems, control, system of recruitment and development of managers)

In the case of the UCC, incentive measures, such as salaries, secondary benefits, and intangible rewards, recognition or sanctions may be used to motivate digital library staff to increase performance. However, apart from regular salaries the digital library staff have not benefited from any other incentive. Although qualified personnel may be in place at the UCC digital library office, appropriate work environment and incentives need to be present. These include appropriate remuneration, the needed software and hardware that will enhance their output. One of the project staff said:

“…we understand that our pay has to be negotiated by our leaders with government but our desire is once a while they should give us bonus packages in the form of money…”

Another staff said:

“…verbal praise and occasional lunch provided for staff for work done is not always the best; we need variations…”

Evidence, from this study, points to a range of de-motivating factors besides pay levels and non-material incentives that can have a significant impact on staff motivation and organisational performance. In the context of UCC, the digital library staff drew attention to three critical de-motivation factors: limited number of staff to digitize the huge amount of data, limited equipment for achieving the purpose, and staff retention. Regarding the former, one member of staff said that:

“…we work tirelessly for long hours in order to meet digitization targets. I was thinking that aside the annual benefits to all library staff, we (digital library staff in particular) will get additional benefits from management. Yet, this hasn’t happened to date…”
Regarding the latter, a digital library staff remarked:

“...no matter our skill levels, if equipment are lacking there is no way we can meet the target set for us by management. In such a case, who is to blame for non-performance...?”

Staff retention is also a problem as staff leave for better job offers and new staff have to be recruited and trained; this increases the budget of the project and delays output. Two of the staff gave the same answer saying:

“...hmmm it’s complicated but lack of computers plus incentives for staff allowance is a factor of high staff turnover...”

Digital library development is costly but worthwhile; managers of the project need to find ways to expedite output and positive outcomes. The project would be successful but the challenges of staff recruitment and retention, inadequate remuneration in relation to qualification levels and the lack of appropriate incentives to staff should be overcome quickly. From the foregoing, it can be argued that the empirical data does not support this element of the Mintzberg framework.

**Top leadership (strategic, organizational)**

According to a senior member on the DL project, a former Librarian at UCC held a holistic view to strategic thinking, and it is this kind of strategic thinking that influenced that Librarian to initially give direction to the establishment of the digital library project. Strategic thinking, a unique competency of leadership, is understanding that the world may not always work in linear, methodical way’s, that organizations and those working within them must become agile, flexible, friendly and wise as they continually adapt plans to meet emergent, even, ambiguous situations (see Mintzberg et al., 1998). In this context, senior member on the DL project said that;

“...Such a holistic and non-linear perspective to strategic thinking is a defining characteristic of effective leadership...”

The senior member on the DL project, further, said that
“... the former Librarian believed that leaders must be flexible, collaborative, able to leverage subject matter expertise, and be willing to continue their learning...therefore he allowed us the latitude to collaborate and synergise instead of controlling us...”

In many ways, this ‘big picture’ perspective is closely associated with Mintzberg’s thesis, and begins to reflect a substitute for (or perhaps a complement of) the traditional scientific, reductionist approach to organizations. It is a systems approach recognizing the benefits of a holistic view of organizations. The findings indicate that this is the worldview of leadership at UCC. Thus, empirical material supports this aspect of the Mintzberg framework.

Table 7 gives shows in detail the aspects of the Mintzberg framework that was either supported or negated by the empirical material. The entries in Table 7 are categorical (either yes or no). This means that the entries are mutually exclusive. However, this categorisation may be problematic. For instance, on the face of the interview data and cursory glance at official UCC documents, it appeared that the UCC had considered resource allocation in the DL strategic planning process. However, further critical scrutiny indicated otherwise. Resource allocation by the UCC to both the main library and the digital library was inadequate for achieving their mandates. In another instance, senior management members indicated they were personally engaged in the DL but I could not find evidence to support their supposed involvement. Besides, the responses of the DL staff did not seem to corroborate the assertions of the senior managers. This ambivalence is difficult to enter into Table 7 since the entries are categorical.

Table 7: Summary of empirical material in relation to components of the Mintzberg theoretical framework

<table>
<thead>
<tr>
<th>Phase</th>
<th>Purposes and Policies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Supported by</td>
</tr>
<tr>
<td></td>
<td>the empirical data</td>
</tr>
<tr>
<td><strong>Formulation:</strong></td>
<td></td>
</tr>
<tr>
<td>What to do goals</td>
<td>Yes</td>
</tr>
<tr>
<td>Opportunities and risks</td>
<td>Yes</td>
</tr>
<tr>
<td>Resources</td>
<td>-</td>
</tr>
<tr>
<td>Aspirations of senior management</td>
<td>-</td>
</tr>
<tr>
<td>Non-economic responsibility</td>
<td>Yes</td>
</tr>
</tbody>
</table>
### Implementation:

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Yes</th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achieving results</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organizational structure</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>Division of labour</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>Coordination</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>Processes and behaviour</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Standards</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Motivation</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Top leadership (strategic</td>
<td>Yes</td>
<td>-</td>
<td>Yes</td>
</tr>
<tr>
<td>involvement)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal</td>
<td>-</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

From Table 7, it can be seen from the empirical data that two aspects (resources and aspirations of senior management) of the formulation phase were emergent. In the implementation phase, five aspects (achieving results, processes and behaviour, standards, motivation, personal) were emergent. All other elements were planned in both the formulation and implementation phases.
CHAPTER 5
Analysis and Discussion

This chapter positions the findings of the study in relation to the extant literature by comparing the results with previous research on strategic planning in academic libraries. Broad observations are, first, presented followed by specific issues identified in the study.

5.1 The current condition of the UCC digital library development

A finding of this research is that resources like computers, software upgrade and generators to sustain the project due to recent power outages that are needed to speed up the digital collection development are lacking. UCC relied heavily on external sources as the internal generated funds were not enough to cater for the digital project needs. Also, lack of or retention of trained library staff and experts in the field hinders the smooth implementation of the digital project. This finding is consistent with the results of Rosenberg (2006). Staff retention makes the digitization project difficult to complete because new staff needs to be recruited, and if he/she is not an expert there is the need to train the person at an additional cost. Already, funding of such project is costly as institutions are finding ways and means to minimize the cost or solicit for funds from other partners and institutions. Rosenberg (2006) again, drew attention to limited and obsolete equipment, software, and limited management skills to handle e-resources. These issues are relevant in the specific context of UCC, and warrant the need to fill these gaps to help speed up the project.

Tritt (2008) describes the University of Cape Coast Digital Library as the most impressive example within the West African context. The acquisition, organisation and circulation by electronic means of library materials are a primary feature of the UCC digital library. This has so far been accomplished by use of a specialized library management system or software, with modules for cataloguing, acquisition, loans, serials, online public access catalogues (OPACs), etc. The resources currently in use by the UCC digital library project staff include computers,
WIFI, back-up power supply, volumes of academic and literary material, and ICT platform. Other resources include access to free and licensed databases, inter-library lending services, printers, digital cameras, back code scanners, and external hard drives. Digitization of materials is progressing steadily with over 1400 books mainly graduate theses digitalized since the exercise began in 2005. According to the library committee, so far, a variety of university publications, including departmental journals, conference proceedings, speeches, and university bulletins, as well as teaching materials, such as faculty lecture notes and course syllabi have been digitized. However, until recently (August 2012), the institutional repository policy, which was originally supposed to drive the establishment and operation of the digital library, was not in place. The study found that it had been submitted to the Academic board for consideration and subsequent approval. In fact, this document (the institutional repository policy) has now been approved and, is published at the University of Cape Coast website.

The library has developed a website in preparation of the digital library, but the time line for the project completion is unclear as management, as well as project staff could not give a specific date for the completion of the project. This state of affairs holds several implications for monitoring and evaluation. For instance, how can UCC know if the project is ahead, on, or behind schedule when no implementation phases and timelines are non-existent?

The library also subscribes to e-resources through the Consortium of Academic and Research Libraries of Ghana (CARLIGH) and these are protected by publishers using a variety of authentication technologies to ensure that only authorized links can gain access to the full-text content. Access to the e-resources is restricted to staff and registered students of UCC, as well as visiting scholars and retired staff who are still engaged in University activities.

Governance is one of the critical issues regarding current conditions of the digital library project identified in the study, which are the processes and practices through which the UCC library organizes to achieve its mandate. It is broadly concerned with the structures and procedures for decision-making, accountability, control, and codes of conduct in academic libraries. It is expressed through legislation, policies and by-laws, and informal norms. In the case of the UCC digital library project, monitoring and evaluation were not effective as stated by the digital
library project staff. Furthermore, policies (e.g. on copyright issues and IR) were not fully implemented. These issues are related to governance and may affect the outcomes of the digital collection building process. Several authors argue that governance issues are important in academic libraries (see Nfila & Darko-Ampem, 2002; Scheppke, 1991; Welchi & Mozenter, 2006). The UCC Librarian oversees the daily operation of the project and reports to the library committee, which meets once or twice in a semester.

5.2 Challenges to setting up digital repositories in the context of Ghana

The establishment and operation of digital libraries in the West African context is recent and reflects the digital divide between the global north and south (Herselman & Britton, 2002; Ondari-Okemwa, 2004; Parker, 2003). Therefore, few studies on strategic planning in digital libraries in the West African region exist for comparative analysis.

Broadly, from this study, it can be argued that the stages and processes involved in developing the digital library suggest it is a complex endeavour. There are various stages along the path towards developing a digital library, and these were identified in this study. These include information held in electronic format, listing the contents of a discrete collection, and developing an electronic catalogue of all library materials. Networking catalogues, so that users not only in the library but also from elsewhere can access it, goes a step further. Then there is the digitization of locally produced information and the establishment of institutional repositories to provide access to the scholarly materials produced by members of the University of Cape Coast community. Digital library development needs constant monitoring and evaluation, as well as the materials, equipments, skilled staff, and experts in the field. Also, the deployment of funds is critical as without it, it would not be possible to sustain the digital library. Effective strategic planning in academic digital libraries must necessarily account for these issues to ensure the delivery of high quality digital library services.
5.3 Usefulness and importance of strategic planning in academic libraries

Strategic planning in academic libraries has become useful as it helps libraries in allocating funds to the projects, and the general management of the library. The findings in this study suggest that, from the perspective of the university administration and digital library leaders as well as digital library project staff, strategic planning is an important and useful management tool for academic libraries. This finding is supported by Ofori and Atiogbe (2011) where a study was carried out on the use of strategic planning in public universities. Staff of the universities agreed that strategic planning is extremely useful to the institutions as it helps them manage their limited resources and be able to allocate them to prioritized projects. This will help UCC to stay on top as private universities are springing up to provide better services to prospective students, or be among of the best universities in Africa. However, this finding is inconsistent with findings of Brown and Blake Gonzalez (2007) who questioned the usefulness of strategic planning for academic libraries by stating there was no empirical evidence supporting strategic planning as an effective tool to manage the ever-changing library. However, the UCC library study varies in the degree to which they have applied planned and executed their strategic plans for the digital library.

5.4 The inconsistencies in the strategic planning approach used by the UCC Library

Libraries exhibit heterogeneity, and this implies the strategic thrust of libraries will differ. Thus, the planning process used for digital library development varies significantly from library to library. In some libraries, a well-developed and strictly followed process may be in place while in other libraries, a more laissez-faire approach may be taken where the project just develops as things go along (Piorun, 2011). In reality, neither approach is appropriate in every situation (Cervone, 2009). In other words, one approach does not fit all. Conditions will change and opportunities will arise that make it impossible or unwise to follow a rigid, formal process (Cervone, 2009). The findings of this study show that the UCCL uses a strategic approach that does not have a strict or rigid plan as to what they want to do but rather they keep adjusting and
adapting when new situations arise. This finding confirms the work of Ofori and Atiogbe (2011), and more importantly consistent with Mintzberg’s view of emergent strategy where organizations have no rigid or strict plan that serves as a guide but they work and as conditions change, they also adapt to the change and move on until they reach that desired goal. With the digital library development items were bought when necessary. For example, some scanners were bought to make the scanning of the books faster and also because some of the older scanners were faulty and were not functioning properly. There was no document that specifies the line of activities for the project. When there seems to be problems with the server, printers, scanners, software or any other equipment or when a specialist in the field is needed decisions are made by the project leader as well as the librarian to deal with the problem at hand. Meetings are held to brief management and the registrar on changes made on the project, as well as the financial status. Generally, the debate on strategic planning process in the literature has centred on two extremes; that is, either following a rigid approach or a freewheeling strategy. Given the two extremes are considered unsatisfactory (Cervone, 2009), there is a need to strike a balance or find a middle ground, which is more robust and responsive to changes in the roles of librarians, archivists, and information professionals with time.

This study points to inconsistencies in strategic planning regarding the building of the UCC digital collections. An interesting question that arises from this finding is why such inconsistencies in strategy and what factors are influencing the DL project? Several authors have assigned reasons for inconsistencies in strategy of institutions. Inconsistencies in strategy may be as a result of multiple factors. According to McGee, Thomas, and Wilson (2005), a plethora of factors influence whether strategy formulation and implementation will be consistent or not. These include the external environment (social, political, economic situation) and internal conditions (culture, structure, resources, budgeting, shifting institutional goals, vision, innovation, etc.). Mintzberg also explains why inconsistencies arise in strategies and the factors that influence the strategies. He argues that strategies are not always preconceived, fixed and implemented as formulated since the environment is complex, dynamic and multi-faceted. Besides, the future is unknown. The challenge of making strategy when the future is not known encourages reconsideration of both the processes of strategy formulation and the nature of
organizational strategy. Mintzberg and Waters (1985) mentioned that realized strategy – the actual strategy that is implemented – is only partly related to that which was intended (Mintzberg suggests only 10–30 percent of intended strategy is realized). So, the inconsistencies between intended and realized strategy is to be expected given the complexities of decision-making. The primary determinant of realized strategy is what Mintzberg terms emergent strategy – the decisions that emerge from the complex processes in which individual managers interpret the intended strategy and adapt to changing external circumstances.

Also, learning occurs; so then, the process of strategy formulation can be seen as one of crafting (Mintzberg, 1987:66). Expressing this process in a more practical sense, deliberate and emergent strategies form the end points of a continuum along which strategies are crafted. It is important to note that crafting requires not only control but responsiveness to the material being handled (Mintzberg, 1987:69). Strategies are, therefore, capable of forming as distinct from being formulated. According to Mintzberg (1987), one of the greatest fallacies of conventional strategic planning is the notion that strategy is a process that occurs at the top of an organisation, far removed from the everyday running of the institution. Arising from this reality is the fact that there is no one best way to make strategy. Effective strategies are capable of developing in the strangest places and by unexpected means; management must, therefore, understand and use this fact to their advantage (Mintzberg, 1987:70). Hence, it can be said that the strategy process requires the crafting of thought and action, control and learning, and stability and change. The strategist must not only be a planner and visionary, but also a pattern, recogniser, and a learner (Mintzberg, 1987:73).

A key function of strategy is to provide coherence to organizational action. A clear and explicit concept of strategy can foster a climate of tacit coordination that is more efficient than most administrative mechanisms. Organizational conflict and interdepartmental bickering are often symptoms of a managerial disorder but may also indicate problems of strategic inconsistency. Inconsistency in between organizational objectives and the values of the management group is more of a problem in strategy formulation than in the evaluation of a strategy that has already
been implemented. It can still arise, however, if the future direction of the library requires changes that conflict with managerial values.

5.5 Monitoring and evaluation of the digital library project and staff

The study found that digital library staff placed significant value on the faculty’s comments about the digital library’s services. However, the comments and feedbacks were informal (oral) and the frequency of such comments from faculty was very low. Interestingly, digital library staff reported that they made little to no contribution concerning input to decision-making on the digital library collection development. The need for communication is important, especially in developing digital library projects, and the communication process should be documented. This study revealed that feedback from users, and others including university management was not institutionalised. Thus, if feedback from users are not documented, the intended meaning of comments, suggestions, corrections can be lost or changed and may result in poor impact on the digitization project, especially when evaluation of the project is done. It may affect the patronage of the project when it is finished because users of the DL would have to be satisfied with the services that the institution is providing, and if it is not serving their needs, they would discontinue its usage. This portrays weak institutional memory. In particular, evaluations of UCC library staff were done verbally and these, were not also documented or recorded. The most common vehicle for sharing knowledge within organisations is perhaps oral communication (see Kerssens-Van Dronglen et al., 1996; Bennett & Gabriel, 1999), but it is known that this mode is not necessarily the best medium. Rather, theory predicts that the use of structured written task and responsibility sharing among project team members is far more likely to lead to meaningful and comprehensive flow of knowledge among team members, and hence lead to improved performance (Hauptman, 1986; Brown and Eisenhardt, 1995).

The findings on undocumented oral feedbacks and suggestions on the ongoing project are also consistent with the observations made by Piorun (2011). He evaluated strategic plans in some academic medical libraries and affirmed that staff relies on informal communications between collaborators, students (users), community leaders and organizations. The lack of formal institutionalised feedback mechanisms could be understood against the background that the
UCCDL strategic planning was set up only recently (less than five years ago). It is, however, surprising that in the USA, some libraries that had strategic plans older than fifteen years still resorted to informal evaluation and feedback mechanisms (Piorun, 2011). In fact, UCC digital library leaders indicated that limited financial resources is a challenge to the capacity of UCC to institutionalize formal feedback mechanisms. Similar results were obtained by Piorun (2011) in academic libraries in the USA. Furthermore, Piorun found that some of the libraries did not use strategic planning model or framework but the description of their process maps to each step of the Bryson’s strategic planning model. Similarly, the University of Cape Coast digital library (UCCDL) collection development did not have any strict or laid down plan, but most of the processes were in line with the Mintzberg et al.’s strategy process model.

5.6 Shifting student demographics, users of the UCC digital library collection and their needs

Generally, academic libraries, including UCC, have different categories of users’ namely the academic staff (i.e. lecturers), undergraduate students, post graduate students, research fellows, administrative staff, alumni etc. In the case of UCC, the non-traditional students made up of part time and matured students as distance learners, matured students are the primary focus and users of the digital collections. The non-traditional students, who reside and work in various geographical areas across Ghana do not necessarily have to come to the university campus to access information and meet their library needs as digital collections are insensitive to geographical boundaries (Luciano, 2007).

In many ways, the broad economic, social and financial environments have driven distance education in Ghana. This mode is helpful to teachers and other full-time professionals (non-traditional students) furthering their education. According to Fenner and Fenner (2004), online information delivery is very effective for distance learners, but distance education must not be thought of only in terms of digitized resources and the Internet. In the real world, knowledge is transmitted through discussion as much as by any other means. Simply giving information to a user, either in electronic format or in hard copy does not necessarily give him/her the required
understanding but helps the user to read, explore, understand, and apply information obtained to the area of study. These users may know the proper analytical techniques to apply but miss the implications of the analysis because there is no opportunity for discussion (Fenner & Fenner, 2004).

Usually, the non-traditional students, mostly undergraduates, use the services of library staff to meet their research goals and, in particular, require a lot of attention from the reference librarians. Since many have no experience with online catalogues, the lack of skills needed to either access information from databases or the knowledge to find journal articles, librarians have to spend time teaching them the basics of library use. Characteristically, these students are expected to write term papers that provide a general overview of a subject, rather than polished, in-depth pieces of work. They tend to use materials that give a wide scope of topic areas, "including textbooks, survey literature, and popular press items" (Dow, 1995:105).

Consistent with the findings of Tallman and Fitzgerald (2005) and Carriuolo (2002) in the USA, I found that the new reality of higher education in Ghana contains a fundamental shift in student demographics. More non-traditional students are seeking educational opportunities and traditional students are seeking out and expecting alternative modes of curriculum delivery. Students, especially older, non-traditional ones seek course delivery through distance education formats such as online or videoconferencing that meet the needs of their lifestyles, which allows them enough room to cope with their career, familial and other social responsibilities. As a result, universities are moving to meet the needs of this growing contingency of new atypical student populations. Increasing demand and falling university revenues are also helping to drive interest in off-campus program delivery. While not a new phenomenon, distance education offerings are on the rise at universities across the country. This finding is also supported by Martin (2005).
In Ghana, many non-traditional students are mature students with families and part time jobs, who have returned to university to expand their employment opportunities in a very competitive labour market. These students often attend night courses, and do require the assistance of reference librarians to get their work done (Boulanger, 1991:107). Since these students are older and have a lot of practical experience in other areas of their lives, they may be quite reluctant to admit that they have no idea how or where to find the materials they need within the digital environment. They will probably be unable to use the digital collections without assistance, and have almost no knowledge of journal articles. If they eventually get the courage to ask for assistance, the librarians must try to provide them with the information they need in a caring manner. It could mean the difference between these students staying in school or dropping out in frustration.

5.7 The priorities set by the UCC and library leaders

Strategic planning is inextricably linked to priority setting, especially in developing countries where financial resource is a critical challenge. In the case of the UCC, funds are limited as the project relies on academic user fees paid by students aside other funds from partners and donors. Expectedly, limited funding determines ranking of activities. Priority setting processes can be distinguished by the level at which they occur, their degree of comprehensiveness in terms of the issue addressed, the balance between technical versus interpretive approaches and the partners involved. In the case of UCC, priority setting was driven from the top but involved partners across various levels and disciplines in the university. The study found that priority-setting at UCC is generally considered by management as user-centred. This finding is in agreement with the findings of Kenney (2009) and Perry (2009) regarding some academic libraries in the USA where as well as projects and decisions concerning the library activities are user centred. Henty (1989) and McClure (1993) also obtained similar results for some academic libraries in Australia and Scotland, respectively. According to Montanelli and Stenstrom (1999), the user-centred library will involve students, faculty, and library staff in priority setting. Generally, more successful approaches for considering library priority setting are typically interpretive and engage a range of interested parties. To the extent that some UCC library staff was left out in the
priority setting process, it may be argued that the priority-setting at UCC is not entirely user-centred. This is problematic and suggests a need to address this issue in priority setting at UCC. McNichol (2005) discovered a discontinuity in priority-setting between institutional and library strategic planning in British academic libraries. She found some staff had little involvement in institutional strategic priority-setting. In this study, some of the sentiments expressed by digital library project staff were consistent with the findings of McNichol (2005).

Priorities provide a system for organizations to express the way in which they create value for stakeholders (Verbeeten & Boons, 2009). They establish the sequence and precedence of goals, [and] objectives … to best fulfil an institutions’ mission (Jacob, 1990:114). Institutions that do not set priorities may find themselves in a situation of trying to do too much because the institutional administration fails to understand the actual capacity of the organization, leading to limited patience for results and an unrealistic sense of what their budget can actually accomplish (Linetsky, 2008). One important reason for setting priorities as a part of strategic planning is to determine how to allocate resources (Riggs, 1984). Priorities may simply be listed, or displayed in a more complex arrangement demonstrating a relationship with institutional priorities, as well as dependent action items. Alternately, they may be ranked in order of importance. Setting priorities as a part of the planning process allows organizations to focus on what is most important and can be accomplished in a designated time.

In the case of the UCC, the study could not locate documentary evidence of complete priority setting. Nonetheless, the library leaders and other interested parties (e.g. library committee members) indicated that priorities had already been set, and they were involved in it unlike digital library project staff. The UCC library leaders reported that in consultation with the university administration, they set out to prioritize innovation and collaboration in a rapidly changing and complex environment where information resources and services are delivered to end users in collaboration with multiple participants. This assertion has been corroborated by Ofori and Atiogbe (2011). This prioritization is linked to UCC’s vision in the next five years. In order to boost knowledge of current practices and trends in the use and integration of technology
to deliver information resources and services in an academic and/or research environment, digital library staff received in-service training at least once in every academic year. They further indicated that UCC is strongly committed to user-centred service delivery; and this was demonstrated by the establishment of the digital library. Digital library project staff corroborated the issue of in-service training and indicated they participated in such activities.

The UCC digital library ultimately supports UCC’s strategic priorities – enhancing the student experience and the quality of undergraduate and graduate programs, expanding undergraduate enrollment, increasing research intensity and cross-disciplinary research initiatives. Essentially missing from these priorities is the issue of attraction and retention of digital library professionals. Much as these priorities are laudable, they are largely undocumented, and consequently difficult to implement. Furthermore, tracking the progress of the implementation process of undocumented priorities remains arduous.

5.8 The state of technological readiness in place and what is needed

The basic digital library technical architecture is in place at UCC. These include local networks and connections to the Internet, relational databases that support a variety of digital formats, a variety of servers, such as Web servers and FTP servers, and electronic document management functions that will aid in the overall management of digital resources. However, local networks are not high-speed and connections to the Internet are not very fast.

Availability and access to proprietary software and its updates is rather limited due to cost. According to library leadership and project staff, the UCC digital library is in dire need of funding to expand digital the collection base. They further identified problems with hardware (limited number of computers available for use in the digital library). Digital library staff reported that cost of using ICT facilities, frequency of power outage, obsolete digitization equipment, interconnectivity problems, and high cost of connectivity inhibited their work and regular student access to digital collections. Data migration is costly; there are as yet no standards for data migration. Distortion or information loss is inevitably introduced every time
data is migrated from one format to another. The digital project team contends with this limitation on a regular basis.

Due to the significant infrastructure and funding challenges facing the UCC and other African libraries, some researchers are pessimistic of the success of digital libraries in Africa. For instance, Lor (2005) argues that libraries in Sub-Saharan Africa are incapable of archiving digital collections due to the current funding and infrastructural problems in the region. He, therefore, proposes that repositories in developed countries should lead archiving for the region. According to Kavulya (2007), this suggestion goes against the spirit espoused by several digital information partnerships in the Sub-Saharan region of promoting self-sustainability of libraries in the region. Besides, shifting of archiving responsibilities to the developed countries could reverse the gains made through regional consortia, as well as by individual local institutional efforts. This will only serve to exacerbate the already regrettable North-South digital divide (Kavulya, 2007).

In this study, some digital library staff drew attention to their inadequate technological skills, which challenge their capacity to address day-to-day maintenance of the UCC digital library. This finding is consistent with the results obtained by Rosenberg (2006) and Kavulya (2007) in other African contexts. Bawden (2005), argues that with the exception of the traditional skills of information organisation, the library and information science professionals are expected be firmly grounded in ICT-related competencies, such as core hardware and software skills, web design, internet searching and evaluation of electronic information. However, the situation of some digital library staff at UCC is contrary to Bawden’s expectation.

**5.9 Type and extent of collaboration among the digital library interested groups**

A recurrent theme that respondents highlighted, in this study, is the need for (and the challenges involved in) collaboration within and among educational institutions and research organizations involved in the digital libraries. It is emphasized that without truly effective internal collaboration, external inter-institutional cooperation could not be fully successful. Lynch (2005) argues that digital libraries must be “connect[ed] and integrat[ed] … with broader individual,
group, and societal activities” and must support collaboration. The study identified four types of collaborations within the UCC digital library project. These include collaboration between content custodians (typically digital library staff); collaboration among communities of practice (includes the people with whom project staff discuss the latest developments in the field and troubleshoot one another’s challenges) and information exchange; collaboration with providers of services (internet service providers, ICT centre, the School of Graduate Studies and Research University of Ghana and Kwame Nkrumah University of Science and Technology); and collaboration with capacity builders (TALIF, World Bank). Similar collaborations have also been initiated in countries, such as Kenya and Uganda in the form of consortia with great benefits (Rosenberg, 2006; Kavulya, 2007). This type of collaboration found in this study is also similar to collaborations evident in the works of Anderson (2008) in the USA and Cathro (2009) in Australia.

Extent of collaboration was assessed partly through the general perception (subjective evaluation) of committee members, digital library project staff, university administrators, librarian, and students. These collaborators were asked how often and how recently they have collaborated. However, collaboration with capacity builders was limited and seldom. This is so because, typically, the World Bank interacted with the top-tier library and university administrators rather than digital library project staff. Given that the collaborators of the UCC digital library project operate from different spatial scales, it is difficult to sustain face-to-face interactions. For instance, some of them are local (e.g. library committee members) and others (e.g. the World Bank) are national and international. Perhaps, a mechanism by which synchronous, face-to-face collaboration would not be replaced, but augmented, by a range of asynchronous and geographically dispersed modes of collaboration, promoting learning, research, and engagement is warranted in the case of the UCC digital library experience. These collaboration environments would include widely distributed and accessible high-performance computation and data services, including software, which is now considered to be part of infrastructure, and, additionally, they would include services, personnel, and the participation and collaboration of various organizations.
CHAPTER 6

Conclusion

There has been little previous work on digital library collections in Ghana by means of theory-testing case studies. Further, few studies have scrutinized the strategic planning processes leading to the building of digital collections, and, to my knowledge, no studies have enquired into the reasons for choice of planning strategies and the role of the DL interest groups (users and planners) in the formulation and implementation of these strategies. The design used here is a theory-testing, most-likely-case design. The congruence method/pattern matching has been used to assess how the findings of this study fit with the Mintzberg theory expectations.

Strategic planning is a critical issue for higher education academic libraries due to the rapid change in the information environment in the last several decades. The case study methodology was used in this thesis to examine strategic planning in building the digital collections of the University of Cape Coast Library in Ghana. The University of Cape Coast Digital Library is considered as a useful model within the West African context. The goal of providing access to students by distance learning mode appears to underpin the establishment and expansion of the UCC digital library project. The main instrument used for data collection was the key informant interview technique and documentation. The study attempted to answer five research questions: what are the current conditions of the digital library development; who are the users and what are their needs; what are the priorities set by the university and library leaders; what is the state of technological readiness in place and what are needed; and what is the extent of collaboration by interested parties? Data were analysed using the Mintzberg’s strategic planning framework.

The study found that UCC did not entirely follow the strategic planning process identified in Mintzberg et al. (2003); however, some of the steps were adapted to meet the local needs of UCC. This shows that strategy process is rather complex consisting of intended, deliberate, emergent, and realised strategies that occur in response to changing context-specific needs,
dynamic internal and external environments. Although the basic technical architecture for the digital library is in place, the institutional repository policy, which should drive the digital collection process is not formalized. Digital library staff reported that cost of using ICT facilities, frequency of power outage, obsolete digitization equipment, interconnectivity problems, and high cost of connectivity inhibited their work and regular student access to digital collections. Findings in this thesis indicate that more resources, particularly dedicated staff and increased skills, are required in order to consolidate the implementations gains already made. Also, this thesis highlights the importance of leadership in setting an agenda for institutionalizing feedback mechanisms in the strategic planning process. The study identified four types of collaborations within the UCC digital library project: collaboration between content custodians (typically among digital library staff); collaboration among communities of practice (includes the people with whom project staff discuss the latest developments in the field and troubleshoot one another’s challenges) and information exchange; collaboration with providers of services (internet service providers, ICT centre and the School of Graduate Studies and Research); and collaboration with capacity builders, such as Teaching and Learning Innovations Fund (TALIF), and the World Bank.

In the technological sphere of the external environment, the internet can be considered as the main driver to UCC’s decision to deliver digital library services to students. In the socio-economic realm, the overwhelming number of qualified but non-traditional students (particularly matured students, part time students as well as distance learners) that could not be admitted into the mainstream university system served to drive the decision to deliver digital library services.

The study concludes that although the external environment influenced UCC’s decision to deliver digital library services, it is clear that UCC did not follow any systematic structure in formulating (deciding what to do) and implementing the digital library project (achieving results). The study did not find any documentary evidence indicating that the strategic planning process was systematic. However, some aspects of the formulation and implementation of UCC’s digital library project suggest an ad hoc consideration of some of the key issues and components in the Mintzberg framework.
Although the emphasis on students and learning is creditable and apt, there seems to be lack of focus on research support beyond digital collection development, despite the fact that research excellence is one of UCC’s key priorities. Opportunities exist for improving feedback mechanisms between the users, digital library staff and the university management; and for including social media tools in the project.

**Recommendations for future research**

This master’s thesis sets the stage for further research in the arena of DL development in universities in Ghana given that it only examined the strategic planning process for developing a DL instead of actually developing a DL. The development of digital libraries is a huge challenge, as well as a huge opportunity. There is much research to be carried out to develop the techniques needed, including long-term and applied research, as well as the development of infrastructures, standards, etc., in order to realise these challenges and opportunities, especially in the context of Ghana and in other African university libraries. The economic challenges that the UCC faces is not unique. In fact, it is applicable to universities in Ghana and in other Sub-Saharan African countries. Thus, it may not be economically sustainable for the UCC and, indeed, each African university with enormous financial challenges to develop digital libraries on an individual basis. Economies of scale and the need to synergise DL development efforts of universities in Ghana and in other African countries make international co-operation and collaboration across disciplines and across nations in Africa an imperative. A primary justification for this collaboration is that present and future digital libraries require the integration of all sorts of components and aspects (software, methods, evaluation, content, etc.) that come from different disciplines as well as different geographic origins. A second justification is based on the fact that digital libraries are inherently distributed, which is part of their appeal, and it is crucial to share aspects such as standards to ensure that the functions a digital library provides are useful in a regional, multi-lingual and multicultural environment. A final justification is related to content in that the contents of a digital library should be material whose appeal is not limited to geographic or national boundaries.
It is noteworthy that digital library research takes place within an extraordinarily dynamic environment, where new developments—technological, commercial, and institutional—regularly introduce dramatic structural changes to the operating environment. For this reason, it is doubtful that a research agenda comprising specific questions to be addressed will be very stable. Nevertheless, examples of current questions are perhaps suggestive of possible near-term research achievements, and may provide a useful guide to those setting academic and public research priorities. A number of important issues, such as content scalability, scalable semantic retrieval, intellectual property rights, evaluation, etc. still remain open research problems. There exists much work in the social sciences bearing on the behaviour of researchers, learners, and other users of information. However, studies on valorization of DL information services are virtually non-existent in Ghana and for that matter other Africa universities. The benefit side—that is, the value of DL information services—can be much harder to measure than the costs, especially for African university libraries that are financially constrained. Further research will be required to understand how to translate usage information into more generally applicable measures of value.

Evaluation studies on DLs abound but not within the context of African universities. This is understandable given that DL evaluation usually lags behind DL development. In other words, evaluation of the DL takes place after the DL has been developed and operated for a while. An in-depth understanding of DL systems on a small-scale (as in the case of the UCC) or large-scale (as in the case of a joint DL of universities in Ghana or beyond) – either experimental or actually deployed – requires systematic purposeful evaluation. Novel theories similarly require empirical testing to judge their validity. A major question is what measures to use in evaluating DL systems and theories, and how to translate results into policy and design prescriptions. Evaluation means defining new metrics for components and new combinations of components in order to measure all sorts of performance aspects related to interoperability, metadata and resource discovery, the performance of the multilingual aspects of a digital library and the impact of intellectual property and economic issues. The over-arching rationale for doing this is to build publicly available evaluation infrastructures, which can be re-used.
REFERENCES


Futurists. *Library Philosophy and Practice* 7 (1).


Library Guide (2011/2012). University of Cape Coast, University Press Cape Coast, Ghana


MacQueen, K. M., & Guest, G. (2008). An Introduction to Team-Based Qualitative Research. In Guest, G. & MacQueen, K. M. (Eds.), Handbook for Team-Based Qualitative Research (pp. 3-20). Plymouth, UK: Altamira Press.


APPENDICES

Appendix 1: A Deputy Registrar

Interview Schedule

Name of respondent: _________________________________
Status: _________________________________
Name of Institution: _________________________________
Time Started: ____________________ Time ended: _________________

[To begin with, I’d like to ask you some questions about the University’s policy on developing digital collections.]

1. How did the need to develop digital collections at the University Library arise?

____________________________________________________________________

2. How do you see the digital library collections developing in the future?

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

3. What difficulties do you see that might affect the development of the digital collections?

____________________________________________________________________
4. In general, how do you see the development of the digital collections benefiting the University community?

____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________
____________________________________________________________________

[Now I have one or two questions about the resources available for the project.]

5. Does the government support this project in any way?

   No ___  Yes ___

   5.1 How is the government supporting the project?

   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________

6. Are any other external agencies supporting the project?

   No ___  Yes ___

   6.1 How are they supporting the project?

   ________________________________________________________________
7. Are there special University funds allocated for the development of the digital library?

Prompt- Is there anything else?" or Any other sources of finance?

8. How did the development of the digital library affect the need for the technological infrastructure of the University?

9. Is the digital library development now part of the university’s strategic plan?

8. Has the university given any guidelines on how it believes the digital library should be developed?
   Yes □
   □
How were these guidelines developed and for who?
_________________________________________________________

_________________________________________________________

Can I get a copy of these guidelines, please?

___________________________________________________________________________

___________________________________________________________________________

9. How do you receive feedback regarding the digital library development?

___________________________________________________________________________

___________________________________________________________________________

10. In your position as the academic registrar how do you see the future of the digital library collection?

___________________________________________________________________________

___________________________________________________________________________

___________________________________________________________________________
Appendix 2: Interview questions for Librarian and digital library project officer

Name of respondent: ________________________________

Status: ________________________________

Name of Institution: ________________________________

Time Started: ____________________  Time ended: _________________

[To begin with, I’d like to ask you some questions how the development of digital collections was started.]

1. How did the need to build a digital library collection arise?
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

2. Why was the development of the digital library considered necessary?
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

3. Who was involved in the decision to develop the digital library?
______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

(Getting the names and positions you may ask what was the role of each person and how he(she) affected the decision)

Has everyone agreed on the desirability of the project or was there some disagreement about it?
______________________________________________________________________________

4. Has the library management considered the resources and capabilities of the library before the decision to build a digital library was made?

______________________________________________________________________________
Were they redistributed and used?

(There are some questions about the management of the digital library at the University)

6. Do you develop plans of different duration for the library (longer-term and shorter-term)?

What are the periods covered by these plans?

(If there are several versions ask:
   What are their differences apart from the covered period?)

7. Does the digital library develop as planned?

(What are the reasons that it keeps(does not keep) to the plan?)

8. What is your assessment of the resources available for the project?

9. How the development of the digital library affected the allocation of funds to the library and inside it?
10. What are the main financial sources for the development of the digital library?

Prompt - Is there any other non-financial support to the library?
Yes    No

If yes, of what kind and by who or what organizations?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

Do you have any fundraising activity for the digital library?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

11. Who are your main collaborators in developing digital collections at the library?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

12. What is the role of the collaborators in the project?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

How do you communicate with your collaborators?

________________________________________________________________________
13. How do you communicate with the project staff?

**Prompt:** What are the communication channels and media that you use for communication with people working with the digital collections?

___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________

*Here you can also ask the question about the conflict resolution (if it is about the internal conflicts)*

**Now let us talk about the current state of the library**

14. What has been achieved so far in the digital library?

___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________

14. How did the development of the digital library affect the recruitment of specialists?

___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________

16. How did the development of the digital library affect the resources for training of librarians?

___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________

17. How did the development of the digital library affect the library access for distance learners?

___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________

18. How did the development of the digital library affect the subscription to online journals?
19. How did the development of the digital library affect the need for the technological infrastructure of the University?

___________________________________________________________________________

___________________________________________________________________________

__________________________________________________________________________

20. What technological resources has the library for the development of the digital collection?

___________________________________________________________________________

___________________________________________________________________________

__________________________________________________________________________

What are the greatest unsatisfied needs of the library in this respect (what technology is still lacking)?

This is the last block of questions about the wider context of the digital library.

21. Who are the users of the digital library?

___________________________________________________________________________

___________________________________________________________________________

__________________________________________________________________________

22. Have you conducted any investigation of their needs?

<table>
<thead>
<tr>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>↓</td>
<td></td>
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</tbody>
</table>

If yes, when and who did it? How?

___________________________________________________________________________

___________________________________________________________________________

If yes, how did you use the results of it?
If yes, have you got a report of this investigation?

Yes          No

If yes, can I have it, please.

23. How does the digital library development benefit the university community in your opinion?


24. How has the university policy on library development affected the digital library development?


25. How does the University monitor the progress of the digital library development?


26. Did the university issue any guidelines as to how the digital collection is to be built?


And the final question:

27. How do you see the future of the digital library at the University in five years?
Appendix 3: Interview questions for library committee members

Name of respondent: ________________________________
Status: ________________________________
Name of Institution: ________________________________
Time Started: ____________________ Time ended: _________________

[To begin with I would like to ask you some questions regarding your role as a committee member in this project]

1. What is the role of the library committee in the strategic control of the digital library project?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

2. How often does the committee discuss the project?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

3. Has the committee made any recommendations for future development of the digital library?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

4. Has the committee made any reports to the University on the progress of the project?
   No    Yes
5. Have the collaborators been involved in decision-making and are consultations documented?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

6. Do the committee members meet with digital library staff?
   No                     Yes
   ↓
   if yes answer question
   How often do the committee members meet digital library project staff?
________________________________________________________________________
________________________________________________________________________

7. What has been the coordination between the university leaders, librarian, the digital library project leader and the staff?
________________________________________________________________________
________________________________________________________________________

8. Have you encountered any conflict of interest among members of management regarding the project?
________________________________________________________________________
________________________________________________________________________
   No                     Yes
   ↓
If yes answer question
How has these affected the project?
________________________________________________________________________
________________________________________________________________________

[My next questions are about the libraries material, financial and managerial resources]

9. What are some of the resources the library has to support its collection development?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

10. How does the library or university finance the digital library project?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

11. Who are the users of the digital collection? Are there any specific needs?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

12. What is the current status of the project?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

13. Who are the collaborators?
________________________________________________________________________
________________________________________________________________________
14. What is their level of involvement?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

**Prompt:** in terms of what do they do, how they help, what are their functions

15. In your opinion what are some of the resources that is lacking in the digital library development?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

16. How has the university policy on library development affected the digital library development?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

17. How does the University monitor the progress of the digital library development?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

18. Does the library have any guidelines as to how the collection is to be built?
19. How does the University monitor the progress of the digital library development?
Appendix 4: interview questions for digital library project staff

Name of respondent: ________________________________
Status: ________________________________
Name of Institution: ________________________________
Time Started: ________________ Time ended: ________________

[To begin with, I would like to ask you some questions regarding your work and organization management processes]

1. What is your role or responsibilities in the project?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

2. In your opinion how do you see the development of the digital library project? Is it important?

If yes why?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

If no why?

________________________________________________________________________
________________________________________________________________________
3. What are some of the advantages of the digital library project to the University?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

4. What are some of the advantages of the digital library project to the users?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

5. How many times do you meet with management regarding the project?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

6. Are your suggestions concerning the project taken into consideration?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

7. How often does the University organize training for the staff of the project?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

8. Do you get feedback concerning the digital library project from management? If yes, in what form do you get this feedback?

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
9. Do you get feedback concerning the digital library project from users?
   If yes, in what form do you get this feedback?
   ___________________________________________________________
   ___________________________________________________________

10. Do you get feedback concerning the digital library project from sponsors?
    If yes, in what form do you get this feedback?
    ___________________________________________________________
    ___________________________________________________________

11. Are you satisfied with the progress and pace of the digital library project?
    If yes why?
    ___________________________________________________________
    ___________________________________________________________
    ___________________________________________________________
    If no why?
    ___________________________________________________________
    ___________________________________________________________
    ___________________________________________________________

12. Is there anything that management could do to make your work easier?
    ___________________________________________________________
    ___________________________________________________________
    ___________________________________________________________

13. How is your work on the digital library project evaluated?
    ___________________________________________________________
    ___________________________________________________________
    ___________________________________________________________
[The next set of questions is about managerial resources for the digital library project]

14. Does the library have sufficient resources for the completion of the project?
________________________________________________________________________
________________________________________________________________________

15. What are the resources the library has for building digital library?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
Has the library suitable equipment needed to build the digital library?

16. What kind of feedback do you give to the University about the project (if they do not know, then ask about the feedback to the project management)
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

17. What is the goal of digital collection, why the University is building it?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

18. Do you have any idea when the project will be completed/ or the duration?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________