An investigation into knowledge acquisition idiosyncrasies in Ghanaian universities

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Abstract

Purpose – This paper aims to fill the research and knowledge gap in knowledge management studies in Ghana. Knowledge acquisition is one of the unexploited areas in knowledge management literature, especially in the Ghanaian context. This study tries to ascertain the factors affecting knowledge acquisition in Ghanaian universities.

Design/methodology/approach – The study used the quantitative approach. The cross-sectional survey was adopted as the research design. A questionnaire consisting of Likert scale questions was used to collect data from the respondents. The items and the constructs were derived from the extant literature. The questionnaire was sent to 350 respondents, out of which 250 were returned fully completed. Data were quantitatively analysed using descriptive methods and factor analysis.

Findings – This study provides empirical evidence about the factors affecting knowledge acquisition in Ghanaian universities. Findings from the study show that programme content, lecturers' competence, student academic background and attitude and facilities for teaching and learning influence knowledge acquisition in Ghanaian universities.

Research limitations/implications – Although the study seeks to generalize the findings, this should be cautiously done, as some scholars have advocated for large sample size. Nonetheless, there are some studies that have used sample size less than the one used in this study.

Practical implications – The study takes notice of the need for Ghanaian universities to use modern facilities and infrastructures such as electronic libraries and information technology equipment and also provide reading rooms to enhance teaching and learning.

Originality/value – Studies looking at knowledge acquisition in Ghanaian universities are virtually non-existent, and this study provides empirical findings on the factors affecting knowledge acquisition in Ghanaian universities.

Keywords Knowledge, Knowledge management, Knowledge management success factors, Knowledge exchange, Knowledge acquisition, Knowledge stickiness

Paper type Research paper

Introduction

Knowledge acquisition and learning are very significant factors to the success of every individual who wants to be competitive in the job market (Erzetic, 2008). Learning has been defined as the acquisition, distribution, storage and interpretation of information (Huber, 2001). When employees lack knowledge, or want to upgrade their skills, they may use internal sources available or external sources like the universities and

professional training institutions for knowledge. In the universities, both explicit and tacit knowledge may be acquired, and this may create a competitive advantage for the learners and their respective organizations. According to Lavie (2006), external learning or knowledge acquisition from external sources is important for knowledge and capability reconfiguration. The significance of external knowledge acquisition especially in the current business environment cannot be overstated, looking at its changing and competitive nature (Uotila *et al.*, 2009). According to March (1991), knowledge acquisition is a pre-requisite for new organizational capabilities. The efficacy of external learning processes has been noted to be positively correlated with cognitive proximity (Petruzzelli *et al.*, 2009). Henderson and Cockburn (1994) assert that the ability to acquire new knowledge from an external source is a form of integrative competence. Sexton *et al.* (1997) postulate that employees search for knowledge that is capable of solving their immediate problems while allowing them to plan for the future needs and problems. Failure to acquire new knowledge and learn can cause a firm to be unable to keep up with the dynamics within the industry in which it is operating and to anticipate shifts in customer requirements (Sullivan, 2000). Helme and Clarke (2001, p. 138) state that "learners need to have both the zeal and the skill to be successful learners". They also state that "the individual brings to the learning situation numerous characteristics that influence their cognitive engagement. These include: skills, knowledge, dispositions, aspirations, expectations, perceptions, needs, values and goals". Given the importance of knowledge, and its acquisition, it is expedient to ascertain the factors affecting knowledge acquisition. However, it appears the subject has been relegated into a limbo in Ghana. Studies that look specifically at knowledge acquisition are virtually non-existent. Although some studies have been done in the area of knowledge management in Ghana (Narteh, 2008, 2010; Boateng *et al.*, 2009; Gyensare and Asare, 2012; Yahaya, 2012), they do not consider knowledge acquisition in university settings. This study therefore tries to fill the research and knowledge gap in this regard. The objective of this study is to ascertain the factors affecting knowledge acquisition in universities in Ghana.

The rest of the study is divided into four sections. The first section focuses on review of pertinent literature, while the second section addresses the methodology used. The third section entails the data analysis and discussion of findings. The fourth section provides the recommendations and the limitations of the study.

Knowledge acquisition
Knowledge management has been classified into three different processes, namely:

(1) knowledge acquisition;

(2) knowledge sharing; and

(3) knowledge utilization (Tiwana, 2001).

Knowledge acquisition is the process of bunching up information from different external sources and embedding it within individual's existing knowledge (O'Leary, 2002). Knowledge acquisition is sometimes used interchangeably with knowledge assimilation (O'Leary, 2002). Knowledge may be acquired from within or without an organization. Lei and Slocum (1992) assert that knowledge acquisition activities may include sharing of manufacturing know-how, exchange of design technology, tacit knowledge and market and customer information. However, in this study, the academia

is considered as the source of knowledge for the student to acquire. Student may assimilate knowledge to update an existing knowledge base (a finite set of formulas), that is to add new formulas to a knowledge base or to remove formulas from a knowledge base (Klaas, 2004).

Several factors affect knowledge acquisition from the academia. These include the lecturer, students, facilities, programme content, etc. The stickiness in the knowledge acquisition process can be due to the lack of perceived reliability of the source. Jusoh *et al.* (2004) define reliability as the degree to which the knowledge, information and skills learnt are correct, accurate and up to date. According to Szulanski (1996), if the source unit (lecturer) is perceived as not reliable and is therefore not seen as trustworthy or knowledgeable, initiating a transfer from that source will be more difficult and the source advices and examples are likely to be challenged and resisted. This resistance may also affect the application of that knowledge. The competence of the lecturer can also affect the knowledge transfer process (Jusoh *et al.*, 2004). Competence refers to sufficiency and highly qualified academic staff and the capabilities to render good image and strong attraction in teaching. On the other hand, if the knowledge is not perceived to be useful or does not have an established record of usefulness, it will also be difficult to motivate the recipient to assimilate (Wasko and Faraj, 2000). Another factor that can also affect knowledge acquisition is facilities available in the learning environment. Parasuraman *et al.* (1985) refer to facilities as tangibles that have been provided by the institution to facilitate service to their customers. In this context they are the equipment that the academia must provide to facilitate the knowledge transfer process. These may include information technology (e.g. computers, projectors), furniture, etc. Sambamurthy and Subramani (2005) note the crucial role that information technology plays in leveraging knowledge resources in organizations. Kwan and Cheung (2006) mention that the technological hardware is applicable for supporters of the knowledge transfer, because the efficacy of the transference of the knowledge can be improved to increase the transfer and diminish the costs due to time and distance (Albino *et al.*, 2004). In contrast, a study by Beets and Lobingier (2001) on comparative effectiveness of three instructive techniques (use of a chalkboard, use of an overhead projector and use of computer-projected software) showed no differences in student acquisition of knowledge among the three methods. The nature and characteristics of the knowledge being acquired have also been recognized as an important factor that impacts on knowledge acquisition success (Al-Salti *et al.*, 2010). Scholars have classified knowledge based on its tacitness and explicitness (Nonaka, 1994; Nonaka and Takeuchi, 1995). Narteh (2008) makes a similar classification by distinguishing between managerial and technical knowledge. Blumenberg *et al.* (2009) studied knowledge transfer process in information systems outsourcing projects and found that knowledge acquisition success is affected by the tacitness of the knowledge or how easy or difficult it is to codify and articulate the knowledge that needs to be transferred. Reed and DeFillippi (1990) define tacitness as the implicit and non-codificable accumulation of skills that result from learning by doing. Nonaka (1994) notes that tacit knowledge cannot be easily communicated and shared, is highly personal, deeply rooted in action and in an individual's involvement within a specific context. Tacit knowledge is hard to be transferred verbally or in writing, as it resides in the minds of people (Hackney *et al.*, 2008). Inkpen (1998) argues that explicit knowledge can be expressed in schemata, diagrams and charts, thereby making it easy to transfer. Narteh (2008) notes that design

capability, though classified under explicit knowledge, is assumed to be tacit because of the difficulty associated with its codification and transfer. Knowledge complexity refers to the number of interdependent routines, individuals, technologies and resources linked to a particular knowledge (Gosain, 2007). Narteh (2008) argues that complex knowledge is likely to involve many interdependent components and may be difficult to be communicated between the source and the recipient. Causal ambiguity is another inhibitor of knowledge acquisition success (Szulanski, 1996). Xu and Ma (2008) define causal ambiguity as the lack of understanding of the logical linkage between action and outcomes, inputs and outputs and causes and effects. Timbrell *et al.* (2001) examine the characteristics of knowledge in information systems outsourcing projects in Australia and found that knowledge with high causal ambiguity is more challenging and much harder to acquire than less ambiguous knowledge. Al-Salti *et al.* (2010) conclude that the greater the ambiguity of the causes and effects of the knowledge, the more difficult it is to identify the related knowledge elements and subsequently the chances of transferring the knowledge are limited. Complex and causally ambiguous knowledge could be inert, in which case its transfer will require re-construction and adaptation at the receiving end of the transfer (Kogut and Zander, 1992). Therefore, it can be concluded that students may find it difficult to acquire ambiguous knowledge than simple and explicit knowledge. Elliot *et al.* (1994) observe that MBA programmes have placed too much emphasis on quantitative skills and neglected human skills and do little to produce managers who are capable of meeting challenges of the global business environment. The role of the student in knowledge acquisition is very critical. They are supposed to attend lectures, undertake assignments and write examinations. Their ability to acquire tacit knowledge from the academia may partly depend on how the student interacts with others (Szulanski, 1996) and imitating what others are doing. In addition, student's analytical skills and his or her willingness to acquire knowledge may affect knowledge acquisition (Liyanage *et al.*, 2009). Students need a concerted effort and a high degree of experience in recognizing and capturing new knowledge (Drucker, 1993). Hijazi and Naqvi (2006) also mention that the acquisition of knowledge by students is a product of socio-economic, psychological and environmental factors such as student academic background and motivation. Students who have, for example, good mathematics background are likely to have the ability to assimilate quantitative methods easily.

Context of the study

In the past two decades, higher education in Ghana has seen a tremendous growth both in the private and public sectors in the quest of providing skilled labour for the industry. Before the year 2000, there were few universities and business educational institutions as well. After this period, there has been a relatively steady growth in the number of universities and popularity of business education in Ghana. The de-regulation of the education sector by the Ghana Government has contributed to the springing up of private universities, most of them offering business education. Most of these universities charge very high fees for their Master in Business Administration (MBA) and Executive Master in Business Administration (EMBA) programmes. One will expect that graduates from these institutions would be fully equipped with the necessary skills and knowledge to solve industrial problems and create competitive advantage for business organizations, but this seems to be lacking. The performance of university graduates in the industry has been a topic in the business environment for

sometime now. Diwan (2011) from the World Bank stated in a conference held in Accra that the high level of unemployment in Ghana should be attributed to the country's educational sector. The universities according to him do not produce the kind of labour that the industry needs. He noted that many graduates being churned out from the universities do not have the skills that are needed by the industry and as such are unemployable (www.ghanaweb.com).

It has been observed that higher education all over the world is facing challenges such as financing, demand and access, equity, diversity, quality, relevance of programmes, employability, etc. (Tagoe, 2009). Universities in Africa especially are still facing a number of peculiar challenges including rapid growth in student numbers, brain drain, frequent labour strife, campus closures, institutional deterioration, inadequate resources, waning relevance and declining educational quality. It is obvious that if the management continues to ignore these challenges, universities will not be able to provide solutions to the socio-economic problems facing our society.

In spite of these challenges, some universities in Africa, including those in Ghana, have introduced measures that will assist them deal with the situation. Some of the measures include efforts at improving governance, infrastructure, quality assurance, faculty recruitment and training, use of the African Diaspora, improvement in ICT facilities and introduction of distance learning, among others (www.ug.edu.gh).

Methodology
This study used a survey research design which has been widely used in many social research works (Saunders *et al.*, 2009). Following Saunders *et al.* (2009), the survey design was used to describe and explore the factors affecting knowledge acquisition in a Ghanaian university. This research design was chosen because it provided a basis for generalization of the findings from the sample to the population. The population for the study consisted of past MBA and EMBA students of the University of Ghana. The rationale for choosing this population was to enable the management of the programme improve the knowledge acquisition process. Questionnaire consisting of close-ended questions was used to collect the primary data. The items and constructs were derived from the extant literature. A total of 350 questionnaires were distributed, of which 250 were received fully filled. Therefore, the researchers relied on only the 250 usable responses. Descriptive and inferential statistics were the techniques for the data analysis. This was to enable the researchers summarize the findings in tables and also perform a multiple regression analysis.

Data analysis and discussions
The respondents consisted of 159 (63.6 per cent) males and 91 (36.4 per cent) females, making a total of 250 respondents. This shows that more males than females were contacted for the study, but this situation did not in any way bias the results in favour of a particular sex over the other. Most of the respondents were offered finance (37.6 per cent) and human resource management (25.2 per cent). Those who were offered marketing constituted 19.6 per cent; accounting graduates constituted 11.6 per cent; and 3.6 per cent of the respondents were offered management information systems. Health service management graduates accounted for 2.4 per cent of the respondents. Thus, finance graduates constitute the dominant group among the students, but this does not in any way suggest that finance is the most patronized programme by the respondents.

Factors influencing knowledge acquisition

The significance of the various variables measuring each of the factors influencing knowledge acquisition is identified using a *t*-test as shown in Table I. In addition, the means and standard deviations of the various variables used show the extent to which the respondents agree or disagree with the statements in the questionnaire. The mean results of the variables show how each statement performed from the perspective of the 250 respondents. The highest mean is 3.88 (You did assignments on your own), while the lowest is 2.86 (University of Ghana Business School or UGBS has sufficient study/ assignment rooms).

The means and standard deviations of the various factors affecting knowledge acquisition are shown in Table II. These figures explain the extent to which respondents agree or disagree with the factors. The factor with the highest mean is the student factor (3.78), while the factor with the least mean is facilities (3.05). This means the student factor is more important in knowledge acquisition than facilities.

Variables	Mean	SD	*t*	df	Sig (two-tailed)
The knowledge you acquired is simple	3.58	1.028	55.010	249	0.000
The programme develops communication skills	3.45	0.998	54.699	249	0.000
The programme develops analytical skills	3.48	1.073	51.361	249	0.000
The programme develops computer skills	3.14	1.087	45.683	249	0.000
The programme develops managerial skill	3.53	1.098	50.795	249	0.000
The lecturers are capable to give presentations effectively	3.54	1.112	50.382	249	0.000
The faculty provides a proper channel for students to give feedback	3.34	1.084	48.791	249	0.000
The lecturers are highly qualified to teach the various courses	3.76	1.130	52.542	249	0.000
Lecturers allow students to ask questions during lectures	3.80	1.002	55.596	249	0.000
You were punctual at lectures	3.80	1.002	59.963	249	0.000
You attended lectures regularly	3.81	1.152	52.343	249	0.000
You did assignments on your own	3.88	1.181	51.903	249	0.000
Your undergraduate programme had an influence on your understanding of the MBA programme	3.74	1.306	45.238	249	0.000
You understood all that were taught on the programme	3.67	0.934	62.062	249	0.000
University of Ghana Business School has sufficient equipment/facilities	3.18	0.766	65.523	249	0.000
University of Ghana Business School has modern and up-to-date equipment/facilities	3.06	0.745	64.967	249	0.000
University of Ghana Business School has sufficient library facilities/textbooks	3.11	0.784	62.800	249	0.000
University of Ghana Business School has sufficient study/assignment rooms	2.86	0.930	48.690	249	0.000

Table I.
Student *t*-test (descriptive statistics)

Note: The means are determined by using a 5-point Likert scale rating from strongly agree (5) to strongly disagree (1)

Exploratory factor analysis

Exploratory factor analysis (EFA) has been described as an orderly simplification of interrelated measures (Field, 2005). EFA has been used to explore the possible underlying factor structure of a set of observed variables without imposing a preconceived structure on the outcome (Child, 2001). At the initial consideration to use factor analysis, the Bartlett test of sphericity and the Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy are measured. The Bartlett test of sphericity obtained is 3.064E3, and the value of KMO measure of sampling adequacy is 0.862. The KMO of value of 0.862 indicates that patterns of correlations are relatively compact and so factor analysis should yield distinct and reliable factors (Table III).

There are diverse views concerning the acceptable variable loadings for EFA. Hair *et al.* (2010) are of the view that, ideally, variables should have loadings greater than 0.5 to be retained for analysis. Velicer and Fava (1998), on the other hand, propose 0.8 or greater as acceptable loadings. They, however, conceded that this is unlikely to occur in actual data. Pallant (2004) recommends 0.3 as "strong loading". The loadings used in the analysis are all high, meaning all the extracted components are true representatives of the variables (Table IV). The loadings of the variables exceeded the acceptable loadings. The Cronbach alpha of all the factors exceeds the acceptable value of 0.65 (Hair *et al.*, 2010).Student has the highest Cronbach alpha (0.882), while lecturer has the least (0.773).

Multiple regression analysis

A multiple regression was used to ascertain how each of the factors predicts knowledge acquisition. Knowledge acquisition was used as the dependent variable, while student factor, facilities, lecturer factor and programme content were used as the independent variables. The results indicate that there is a strong and significant reliability between variables used for the model to represent knowledge acquisition and the factors affecting it ($F = 21.086$, Prob. F-stats < 0.05). The p value (sig $= 0.000$) of the F-statistics indicates that the model is statistically significant (Table V). The R^2 value in the model summary depicts the degree of variance in the dependent variable which is explained by the model. From Table VI, it can be observed that an R^2 value $= 0.671$ indicates a

Factors	Means	SD	N
Programme	3.44	3.898	250
Lecturer	3.60	3.390	250
Student	3.78	4.627	250
Facility	3.05	2.630	250

Note: The means are determined by using a 5-point Likert scale rating from strongly agree (5) to strongly disagree (1)

Table II.
Means of factors influencing knowledge acquisition

Kaiser–Meyer–Olkin measure of sampling adequacy	0.862
Bartlett's test of sphericity	
Approx. chi-square	3.064E3
df	153
Sig	0.000

Table III.
KMO and Bartlett's test

www.manara

Variables	Loadings	Cronbach's alpha
Programme content		0.790
The knowledge you acquired is simple	0.833	
The programme develops communication skills	0.820	
The programme develops analytical skills	0.794	
The programme develops computer skills	0.768	
The programme develops managerial skill	0.647	
Lecturer factor		0.773
The lecturers are capable to give presentations effectively	0.568	
The faculty provides a proper channel for students to give feedback	0.739	
The lecturers are highly qualified to teach the various courses	0.747	
Lecturers allow students to ask questions during lectures	0.820	
Student		0.882
You were punctual at lectures	0.599	
You attended lectures regularly	0.780	
You did assignments on your own	0.814	
Your undergraduate programme had an influence on your understanding of the MBA programme	0.713	
You understood all that were taught on the programme	0.815	
Facility		0.828
University of Ghana Business School has sufficient equipment/facilities	0.776	
University of Ghana Business School has modern and up-to-date equipment/facilities	0.815	
University of Ghana Business School has sufficient library facilities/textbooks	0.837	
University of Ghana Business School has sufficient study/assignment rooms	0.762	

Table IV.
Reliability of factors
influencing knowledge
acquisition

Variables	Beta	Std. error	t	Prob.
Constant	1.549	0.327	4.736	0.000
Programme content	0.284	0.057	5.027	0.000
Lecturer	0.287	0.052	5.511	0.000
Student	0.185	0.041	4.495	0.000
Facilities	0.224	0.040	4.582	0.001

Table V.
Standardized regression
results

Std. Error of estimate	0.621
R^2	0.671
Adj. R^2	0.547
F-statistics	21.806
Prob. (F-stats.)	0.000

Table VI.
Model summary

considerably strong relationship between the dependent and independent variables of the regression model.

Discussion of findings

Following Poon (2008), the factors influencing knowledge acquisition are measured using reliability test. Hair *et al.* (2010) suggest that the accepted Cronbach alpha value should be 0.65 or greater. Four factors are identified as critical to knowledge acquisition; programme content (0.790), lecturer (0.773), student (0.882) and facilities (0.828). The student factor emerged as the most critical factor in knowledge acquisition; this is partly due to the fact that the student must have the willingness to acquire the knowledge (Liyanage *et al.*, 2009). The student must be punctual, do assignments and attend lectures regularly to successfully acquire knowledge from the academia. Drucker (1993) asserts that the student needs concerted effort and a high degree of experience in recognizing and capturing new knowledge. Consistent with Hijazi and Naqvi (2006), the study reveals that student's academic background is very essential in knowledge acquisition. Kwan and Cheung (2006) mention that knowledge acquisition efficacy can be improved with the support of technological hardware. Similarly, the study found that facilities including well-furnished library, stocked with current textbooks, reading rooms and information technology and other modern equipment are essential for knowledge acquisition. Availability of modern facilities and equipment such as computers obtained the highest loadings. Furthermore, qualifications of lecturers and provision of proper feedback channels by lecturers are very important in knowledge acquisition. The findings also reveal that allowing students to ask questions improves knowledge acquisition. The respondents perceive the lecturers to be reliable and knowledgeable. As noted by Jusoh *et al.* (2004), competencies and ability of the lecturer to provide accurate information are very necessary in knowledge acquisition. The study was also consistent with the findings of Szulanski (1996), who notes that the knowledge source's (lecturer) perceived reliability, trustworthy or knowledge base impacts on the knowledge acquisition process. The content of the programme is also critical to knowledge acquisition. The simpler the content of the programme, the easier it is for the recipient to grasp the knowledge. Elliot *et al.* (1994) observe that MBA programmes have placed too much emphasis on quantitative skills and neglected human skills and do little to produce managers who are capable of meeting challenges of the global business environment. Contrary to the findings of Elliot *et al.* (1994), this study reveals that the MBA programme offered by the UGBS provides analytical skills, management skills and computer skills. This may be attributed to the difference in study settings. Respondents are of the view that the knowledge they acquired is very simple and this made it easier for the respondents to assimilate the knowledge (Szulanski, 1996).

Conclusion, recommendations and limitations of the study

The study analysed the factors affecting knowledge acquisition in a Ghanaian university. The main theoretical objective of the researchers was to explore those personal and context-specific factors that motivate individuals to acquire knowledge (Nonaka, 1994). The study not only emphasized the relevance of the individual's actions, motivation and commitment to acquire knowledge as a pre-requisite for successful knowledge acquisition processes, but also demonstrated how stakeholders in the knowledge creation industry can complement these factors for successful knowledge

transfer programmes. The results thus have policy implications in terms of the need to ensure a conducive knowledge environment in academia if attempts to create a knowledge-driven economy in Ghana and other developing countries through knowledge transfer programmes are to be successful. In the light of the findings, the researchers recommend that organizations should support and motivate employees who have the will to upgrade their skills and knowledge, as students' commitment to their academic work is a pre-requisite for knowledge acquisition. Similarly, Ghanaian universities should endeavour to enhance the level of technology and resources for teaching and learning, as technology has been described as very critical for successful knowledge management processes. The findings also have implications for enhancing the quality of human resources that the universities in Ghana churn out, as knowledge transfer especially from academic is of immense significance to the success of organizations in the current competitive business environment. Meanwhile, studies elsewhere in the United Kingdom have found that about 50 per cent of innovative companies believe that the academia is a critical source of innovation (OECD, 2002), while 10 per cent of the innovative companies have official contacts with the academia (Brennenraedts *et al.*, 2006). Therefore, it will be prudent for future research to examine the impact of the transferred knowledge on Ghanaian firms. Although the study seeks to generalize the findings, this should be cautiously done because some scholars have advocated for larger sample size. On a larger scale, Ghanaian universities differ significantly in terms of the mode of teaching, focus of teaching, course content and assessment, among other things. For example, course assessment in Ghanaian universities is examination-based, while in UK universities and elsewhere, assessment is more of project-based, case studies and report writing. These differences can affect how students acquire knowledge in their respective settings; therefore, the findings might be limited to only universities that operate the same similar system as the Ghanaian universities. Given that the sample was chosen from only graduates of MBA and EMBA programmes from only the University of Ghana, the findings may only be generalized to management graduates. The results can thus be generalized, however, with caution to management graduates from Ghanaian universities, as they have similar set-ups in terms of facilities, lecturers' qualification and course content, among others. The result of the study is also limited in terms of the range of factors that can potentially affect the knowledge acquisition process. Factors such as culture, social values, ethnicity, language and even politics which were not considered in this study would be explored in future research.

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